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GEOSCIENCES
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# WELCOME TO AOGS2018!

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MESSAGE FROM THE AOGS PRESIDENT

Welcome to Hawaii!
Did you know:

- This year, here in Honolulu, is the 15th year of the AOGS meeting since its inauguration in 2004? And the official name of the meeting is AOGS 15th Annual Meeting.

- This meeting is expected to be the largest AOGS gathering ever? The number of registered abstracts is 4003, 842 of which are student papers. We have attendees from 51 countries/regions, 22 of which are Asia-Oceania countries/regions.

- The meeting this year is held as early as early June to “beat the crowd”? Yes, the tourist (and hence expensive) season will start shortly!

- Every other year (like next year) we return to Singapore for the annual meeting? The main reason is that AOGS is registered in Singapore and we hold our general election of AOGS Council (for 2-year term) there. Besides Singapore, we have in the past held the annual meeting in Bangkok, Busan, Hyderabad, Brisbane, Taipei, Sapporo, Beijing. In 2020 we look forward to going to Gangwon, Korea, and we are soon to start the venue selection process for 2022.

- AOGS membership like you are ones who have attended the AOGS annual conference at least once in the past 3 years? The current number of members is 8066.

- The AOGS Council is elected every two years? This team of 13 among eight sections consists of people just like you, volunteering their time and effort to the decision making and execution of AOGS matters.

- AOGS is constantly engaged in outreach/education activities in Earth sciences? Yes, and any volunteering and ideas and thoughts are welcome!

I offer you the following chart, from which you can tell a lot about the growth of AOGS. Behind that success story is the hard work of so many dedicated people, and more importantly the continued support from all or you, over the years.

On behalf of the current AOGS Council, I wish you a nice week on this beautiful island. The current Council will serve until after this meeting, when the new Council led by the new President David Higgitt will be sworn in (while I continue to serve you as the Vice President for another year).

Benjamin Fong CHAO
AOGS President
MESSAGE

THE LOCAL ADVISORY COMMITTEE CHAIR
Gregory F. MOORE Professor
Department of Geology & Geophysics
University of Hawaii

Dear Fellow Participants of AOGS2018,

On behalf of the Local Advisory Committee (LAC) of AOGS2018, it is with great pleasure that I welcome all of you to the 15th annual meeting of AOGS, to be held from the 3rd to the 8th of June, 2018 in Honolulu, the beautiful capitol city of Hawai‘i on the Island of O‘ahu.

Please allow me to express a few words of welcome. This conference addresses the entire field of Geosciences, including Solid Earth Sciences, Ocean Sciences, Atmospheric Sciences, Hydrological Sciences, Planetary Sciences, Solar and Terrestrial Sciences, Biogeosciences and Interdisciplinary Geosciences. During AOGS2018, discussions will range from scientific research to practical applications, on topics including prevention and mitigation of disasters from various geo-hazards, to space weather and future protection of our environment.

I hope this large group of scientists, students and educators with common focus on Geosciences and their application for the benefit of humanity, will review and discuss freely the present and future directions of scientific studies, while respecting the diversity of ideas and approaches. This event is an important forum for all of us to demonstrate our individual and group scientific achievements. It is also an excellent opportunity for us to establish and renew personal relationships. Please enjoy not only this important conference with its extensive scientific programs and technical exhibits, but also the hospitality and the summer scenery of this beautiful region of Hawai‘i, including the various field trips that have been arranged.
2018 AXFORD MEDALIST
Paul TAPPONNIER Professor
School of the Environment College of Science, Nanyang Technological University

The Asia and Oceania Geosciences Society (AOGS) is honored to present the 2018 Axford Medal to Professor Paul Tapponnier, Nanyang Technological University, for his ground breaking contributions to “Continental collision tectonics and Himalayan earthquake faulting”, and for providing unprecedented leadership in developing the field of active tectonics.

Professor Tapponnier is one of the foremost scientists of his generation in Continental Neo-Tectonics. He was the first to recognise the full potential of satellite imagery to study faulting and tectonic processes on a large-scale. His mapping, using the very first Landsat images, of large active strike-slip faults in and around Tibet, implied that they accommodated significant shortening between India and Asia. This revolutionised the understanding of collision tectonics. It contributed to provide a mechanical framework for deformation across most of eastern Asia. That fundamental discovery was later confirmed by fieldwork and supported by innovative analogue modelling.

Paul Tapponnier graduated from the Ecole des Mines de Paris, and started his research career at the University of Montpellier and at MIT, where from he published his first influential papers in the mid-seventies. That early work suggested that India had pushed eastern and northern China eastwards, along several left-lateral faults. Such east-directed extrusion had also led to extension along the Shansi and Baikal rift. That research, in collaboration with P. Molnar, had worldwide impact.

In 1979, P. Tapponnier joined the Institut de Physique du Globe de Paris where he created the Laboratory of “Tectonics, mechanics of the Lithosphere”, a school within which he trained nearly 30 PhD students, many of which now brilliant academics in France and abroad. The group contributed to fundamental discoveries in a range of Tertiary tectonic problems, by combining in depth field studies with laboratory experiments. Plasticine models, whose results are now shown in many high-school/graduate text-books, suggested a broader extent of the Indian collision effects, including the westwards expulsion of Sunda and openings of the South China and Andaman seas. This triggered field studies that showed that the Ailao Shan-Red River shear zone had been an Oligo-Miocene plate-boundary between Sunda and South China, with one of the largest strike-slip displacements known (700 km). Concurrently, a new seafloor spreading reconstruction of magnetic anomalies across the South China Sea, confirmed the intimate link between that spreading and slip along the Red River fault, in plate-tectonic’s fashion. Such combined onshore/offshore research yielded a comprehensive model of Southeast Asia’s Tertiary Tectonics.

Professor Tapponnier and colleagues 20 years-long collaboration with Chinese geologists and geophysicists across Tibet led to first order quantification of present-day, high altitude normal faulting perpendicular to the Himalayas, and to the hypothesis of a stepwise northward growth of the plateau since the early days of the collision. They were also among the first to extensively use cosmogenic isotopes to date, and correlate with climate change back to 180 ka, faulted geomorphic markers, which helped to develop the field of Morpho-Tectonics, and extended deformation rates measurements to time-scales older than the Holocene.

Outside East Asia, Professor Tapponnier and his students/colleagues contributed to clarify rift propagation between Arabia and Africa, earthquake return times and Tsunami sourcing along the Yammouneh fault and the offshore Mt. Lebanon Thrust, and active normal faulting within the Caribbean Arc, consistent with extensional block rotations along a convergent plate boundary.

In 2009, Professor Tapponnier moved to Singapore at Nanyang Technological University, were he actively contributed to develop the Tectonic Group within the newly created Earth Observatory of Singapore, now one of the best academic centres worldwide in earthquake research. In the past decade there, he and his students found the hitherto unrecognized surface ruptures of the great, 1934 and 1950 Himalayan earthquakes, at the front of the Siwaliks in Nepal and of the Abor-Mishmi hills in Assam, respectively. Building on the approach he had kept developing to study the active earth, he also led the way in using ever higher resolution imagery, up to present-day terrestrial and airborne LiDAR surveys, in order to quantify superficial fault offsets of only a few centimetres.

Professor Tapponnier is a fascinating geologist in the field and in the lab, with an encyclopedic knowledge, fed by months-long expeditions to different parts of the world. I was fortunate to work with him on seismic data acquired after the 2004 Sumatra-Andaman earthquake, for which he provided key insights, based on his experience in studying Megathrust on land. Well before the 2011 Tohoku earthquake, he contributed to recognize the importance of “Popup” thrusting at the front of accretionary prisms in generating large tsunamis.
His contributions have been acknowledged by various awards, including: Alfred Wegener Medal, European Union of Geosciences, 1985; Fellow of American Geophysical Union, 1994; Friendship Medal, China, 1998; Lyell Medal, Geological Society of London, 2001; Foreign Member of the US Academy of Sciences, 2005; Member of the French Academy of Sciences, 2005.

Given his pioneering, continuing research across Asia, the 2018 AOGS Axford Medal is a particularly well-deserved distinction.

AXFORD LECTURES

David M. KARL
Victor and Peggy Brandtstrom Pavel Professor of Microbial Oceanography
Director of the Daniel K. Inouye Center for Microbial Oceanography: Research & Foundation, University of Hawaii

Mon – 4 Jun, 16:15 – 16:45
Ballroom A, Level 4

“Station Aloha: A Gathering Place for Discovery, Education and Scientific Collaboration”

The North Pacific Subtropical Gyre (NPSG) is one of the largest biomes on Earth. Despite the global significance of the NPSG for energy and matter transformations and its key role in the ocean’s carbon cycle, it is undersampled and not well characterized with respect to ecosystem structure and dynamics. Since Oct 1988, interdisciplinary teams of scientists from the University of Hawaii and around the world have conducted research at Station ALOHA (22.75 N, 158 W), a site chosen to be representative of this expansive oligotrophic habitat. Three major field programs, the Hawaii Ocean Time-series (HOT; 1988-present), the Center for Microbial Oceanography: Research and Education (C-MORE; 2006-2016) and the Simons Collaboration on Ocean Processes and Ecology (SCOPE; 2014-present), have contributed to the creation and dissemination of knowledge with a focus on microbial processes and biogeochemistry. In Nov 2015, the American Society for Microbiology designated Station ALOHA a “Milestones in Microbiology” site in recognition of historic and visionary accomplishments.

After three decades of intensive study, we now have a new view of an old ocean, with revised paradigms built on the strength of high-quality time-series data, insights from the application of –omics techniques and observations from autonomous gliders. The pace of new discovery, and the importance of integrating this new understanding into predictive models is an enormous contemporary challenge with great scientific and societal relevance.

Sun-Lin CHUNG
Director
Institute of Earth Sciences, Academia Sinica
Distinguished Chair Professor, Department of Geosciences, National Taiwan University

Mon – 4 Jun, 16:45 – 17:15
Ballroom A, Level 4

“Tibet and Beyond: A Geochemical Perspective on Asia Orogeny and Continental Evolution”

Asia that comprises numerous ancient cratonic blocks and young mobile belts is the largest composite continent on Earth. It was enlarged by assembly of dispersed terranes that, in association with opening and closure of the Paleo-Asian and Tethys oceans, led to significant continental growth. The Central Asian orogenic belt (CAOB), for instance, is celebrated for its accretionary tectonics and production of massive juvenile crust in the Phanerozoic or, predominantly, in the Paleozoic. The Tethyan domain consisted of two major oceans, i.e., Paleo-Tethys in north and Neo-Tethys in south, separated by a strip of continents/terrains called the Cimmerian Continent, most of which had begun splitting from the northern margin of Gondwanaland during Triassic time. Elimination of the Tethys oceans by collisions of the Cimmerian continental fragments and subsequent Gondwana-derived terrains with Eurasia resulted in a double, largely over-printed orogenic system, the Alpine-Himalayan or Tethyan orogenic belt.

Here I present a synthesis of geochemical data of collision zone magmatism from Asia, particularly from Tibet and “CIA” (Caucasus/Iran/Anatolia) in the eastern Tethyan orogenic belt (ETOB) that has traditionally been regarded as a typical collisional system. The dataset suggests that, before the terminal collisions, the entire region was characterized not only by Tethyan subductions but also by accretionary orogenic processes that produced a vast amount of juvenile crust from the Jurassic to Eocene or,
in places, to Oligocene. Consequently, both the CAOB and ETOB appear to have evolved through time from an accretionary into a collisional system. The synthesis further indicates that, in contrast to generating massive juvenile crust in the earlier, accretionary stages of orogenic development, crustal recycling plays a more substantial role in the subsequent, collisional stages. The latter involves addition of older continental crust materials into the upper mantle, which in turn melted and caused compositional transformation of the juvenile crust formed in the accretionary stages. Similar features are observed in young volcanic rocks from eastern Taiwan, i.e., the northern Luzon island arc and part of the complex tectonic system in Southeast Asia, where active orogenic processes are operating and thus may evolve one day to resemble the CAOB or ETOB by collision with the northward advancing Australian continent.

SECTION DISTINGUISHED LECTURES

Atmospheric Sciences (AS)

Kaoru SATO
University of Tokyo

Wed – 6 Jun, 12:00 – 12:30
Room 315, Level 3

“Vertical and Interhemispheric Coupling in the Middle Atmosphere”

The neutral atmosphere, which is characterized by a constant mixing ratio, extends to a height of about 100 km above the earth’s surface. The layer above the troposphere, which is the lowest atmospheric region, is called the middle atmosphere. The bulk of the middle atmosphere consists of two main layers, the stratosphere and the mesosphere, which are distinguished on the basis of temperature stratification. Part of the thermal structure of the middle atmosphere is far different from the state of radiative equilibrium. This peculiar structure is maintained through Lagrangian mean circulation driven by momentum and heat transport by Rossby waves and gravity waves. The recent development of satellite observation technology has allowed us to examine the middle atmosphere, including the whole mesosphere, and several interesting and spectacular phenomena have been discovered.

This lecture will focus on two striking phenomena initiated by a well-known event called sudden stratospheric warming (SSW), in which the polar winter temperature rises by tens of degrees in a few days. One of these resulting phenomena is a significant warming of the upper mesosphere of the summer hemisphere, which develops almost simultaneously with or slightly after the SSW of the winter hemisphere. The other one is the disappearance and subsequent re-formation of the stratopause at an unusually high level, which sometimes occurs after a strong SSW event.

Because of a lack of solar radiation, the stratopause, which is defined as the region of temperature maximum at the top of the stratosphere, does not arise through ozone heating in the polar winter. Instead, the polar winter stratopause is maintained by adiabatic heating associated with a downward branch of the Lagrangian mean flow in the mesosphere driven by gravity waves originating mainly from the troposphere. In contrast, SSW is caused by an enhanced downward branch of the Lagrangian mean flow generated via the penetration of strong Rossby waves from the troposphere. The modified temperature field in the stratosphere changes the horizontal wind field in the thermal wind balance, which significantly affects the upward propagation of gravity waves in the stratosphere. The mesospheric circulation and hence the polar winter stratopause are also modified by the modulated gravity waves. The modification sometimes extends to the other (i.e., the summer) hemisphere.

The overall scenario has been discussed in consideration of the processes described above. However, the gravity waves have such a small spatial scale that observational evidence of them is hard to obtain. The timings of the elevation of the stratopause and of the interhemispheric coupling are not constant, and the reason is not clear. Moreover, recent studies indicate that gravity waves do not always behave passively toward large-scale Rossby waves in the middle atmosphere. The interplay of Rossby waves and gravity waves may be a clue for developing a quantitative understanding of these phenomena.

International observation campaigns have been performed in recent years using mesosphere–stratosphere–troposphere (MST), meteor, and medium-frequency (MF) radars; lidars; and imagers that can capture the modulation of gravity waves that occurs when an Arctic SSW event is initiated. These observational results will be interpreted using the results of simulations performed with high-resolution general circulation models. This is an international project called The Interhemispheric Coupling Study by Observations and Modelling (ICSON, PI: KS). The dynamics of vertical and interhemispheric coupling through the middle atmosphere and the recent progress on this issue will be reviewed.
Since the 1950’s, the stable isotope compositions of naturally occurring molecules have been proved to be a strong tool for the study of geological, biological, and anthropogenic processes, and their evolution and effect on biogeochemical cycles of environmental molecules. However, due to technical and conceptual limitations, the complete set of information potentially contained in molecules remains largely unexplored especially in the different modes of isotopic substitution as 1) to 3) stated below. We have developed series of new methodologies that allow analysis of isotopically substituted molecules, through each mode. We are also integrating those in the study of geological, biological and anthropogenic processes which affect the Earth’s environment.

1) Position specific isotope abundance analysis (PSIA): We have pioneered PSIA of nitrogen in N2O and of carbon and hydrogen in organic molecules using classic isotope mass spectrometry and nuclear magnetic resonance. We have shown that PSIA of hydrocarbons and organic acids allows us to differentiate processes as distinguishing between biological and non-biological processes. 2) Mass-independent fractionation (MIF): The discovery of MIF of sulfur and oxygen in terrestrial molecules has revolutionized environmental geochemistry and our understanding of the evolutionary history of the Earth’s environment and life. 3) Clumped isotopes (i.e. isotopologues with 2 or more minor isotopes) provide unique information about the temperature history of molecules such as carbonates or organic compounds.

We are currently developing new and improved tracers of environmental and biogeochemical processes and apply them to the environmental diagnosis. We have established and standardized new methods for the analyses of above 3 higher dimensional modes of isotopic substitution, and unifying them to develop ultimate environmental diagnosis. The development and application of these new isotopic tools to the environment evolution on the Earth, in modern and ancient eras, represents an important conceptual advance in Earth and life sciences. This will open new areas of research about, for example, the geological production of some atmospheric gases, metabolic processes and the biological fixation of atmospheric greenhouse gases, the production and cycling of pollutant gas by industrial processes. As a whole, these new tracers will be integrated together for diagnosis of the Earth’s environment.

The research achievements so far obtained will be reviewed and a perspective will be stated in this talk as I am currently leading a research project “Environmental diagnosis with isotopologue tracers”, a Kiban-S grant-in-aid for 5 yrs until 2022, and co-editing “Handbook of Isotopologue Biogeochemistry”.

**Biogeosciences (BG)**

Naohiro YOSHIDA  
*Tokyo Institute of Technology*

Wed – 6 Jun, 12:00 – 12:30  
Room 304B, Level 3

“The Origin and Process Tracing for Molecules of Biogeochemical Interests Through Isotopologue Analysis Featuring Poition Specific Isotope Abundance of Bioelements”

Uncertainties are prevalent in all phases of hydrological forecasting. For hydrological forecasts to be useful to our society, those uncertainties must be quantified and/or reduced. In this lecture, I will discuss the properties of uncertainties in hydrological forecasting and the various ways to confront them. Depending on their sources, uncertainties manifest themselves differently and require different statistical methods to describe them. There are three different ways to deal with uncertainties in hydrological forecasts: (1) improving our knowledge of the physical mechanisms involved in hydrological processes and building better hydrological models by incorporating this knowledge; (2) improving our ability to observe hydrological processes and developing better data assimilation and model calibration methods to merge observations and model simulations; (3) developing better data learning methods to unearth the intrinsic values in observations and model simulations. Plenty of examples will be used to illustrate uncertainty concepts and some of the state-of-the-art methods in dealing with them. The lecture will end with a perspective on challenges and future directions.

**Hydrological Sciences (HS)**

Qingyun DUAN  
*Beijing Normal University*

Tue – 5 Jun, 12:00 – 12:30  
Room 301, Level 3

“Confronting Uncertainties in Hydrological Forecasting”
Determining the precise timing of the past events is a pivotal step towards understanding mechanisms of environmental change that is relevant to a number of topics including climate, biogeosciences, and geohazards. Methods to analyze radiometric isotopes to determine ages were rapidly developed over the past century. Continued recent work further enables us to conduct increasingly high-precision analyses. Radiocarbon and Uranium series dating are two important methods. The footprint of accelerator mass spectrometers (AMS) continues to decrease without compromising measurement accuracy, precision, and throughput. Ultra small-scale samples (i.e. 0.001-0.05 mg carbon compared to conventional 1 mg carbon) measurements open up the venue to measure compound specific radiocarbon in geological as well as biological materials. While inductively coupled plasma mass spectrometry can provide reliable U-series ages.

In this presentation, I would like to introduce examples of studies that have advanced our knowledge of geosystems using these methods, such as the melting history of Antarctic ice and geohazard studies.

Accurate Antarctic ice sheet history in the past can contribute to a better understanding of the future behavior of the world’s largest freshwater reservoir. Its action and reaction to global climate is pivotal to predicting future changes. The main obstacle to obtaining precise dating is the paucity of foraminifera in sediments. Thus previous studies were forced to rely on bulk sediment to extract carbon to determine retreat history. However relict organic carbon caused results to indicate much older ages than the true sediment age, which confused the view of Antarctic ice sheet behavior. We therefore have developed compound specific radiocarbon dating techniques and applied them to Antarctic sediments. This method successfully reconstructs the timing of the ice sheet and ice shelf retreat, providing insight into the sensitivity of Antarctic ice to climate change.

Understanding of the timing of past events in geohazard areas has also improved due to increased precision and throughput. Radiometric dating of event layers is complicated by preservation state, often producing controversial results. We employ a “big data approach” to overcome these obstacles, and the data can now be treated statistically. This provides uncertainties of events to discuss the mechanisms in a quantitative manner. Our examples include tsunami deposits and volcanic eruption histories. Understanding recurrence of active fault movements also will be discussed.

Ocean Sciences (OS)

James C. MCWILLIAMS
University of California
Thu – 7 Jun, 12:00 – 12:30
Room 324, Level 3

“Oceanic Submesoscale Currents”

This talk is a perspective on the recently discovered realm of submesoscale currents in the ocean. They are intermediate-scale flow structures in the form of density fronts and filaments, topographic wakes, and persistent coherent vortices at the surface and throughout the interior. They are created from mesoscale eddies and strong currents, and they provide a dynamical conduit for energy transfer from the general circulation toward microscale dissipation and diapycnal mixing. Consideration is given to their generation mechanisms, instabilities, life-cycles, disruption of approximately diagnostic force balance (e.g., geostrophy), turbulent cascades, internal-wave interactions, and transport and dispersion of biogeochemical materials. Much has been learned from realistic, multiscale simulations and theory, but at a fundamental level may questions remain open, implicating a program for further research.
Our understanding of the history of the solar system has undergone a revolution in recent years, owing to new theoretical insights into the origin of Pluto and the discovery of the Kuiper belt and its rich dynamical structure. The emerging picture is one of dramatic orbital migration of the planets in the early history of the solar system, driven by interaction with the primordial Kuiper belt, which produced the final solar system architecture that we live in today. I will provide a brief summary of this new view of our solar system’s history, and review the astronomical evidence in the resonant populations of the Kuiper belt.

Donald A. SWANSON
U.S. Geological Survey Hawaiian Volcano Observatory
Thu – 7 Jun, 12:00 – 12:30
Room 314, Level 3
“Volcanoes have Histories, Sometimes Surprising”

Every volcano is different. The laws of physics apply everywhere, but each volcano results from a combination of local, regional, deep, and shallow processes that are seldom if ever the same from one volcano to another. Much will continue to be learned from synoptic studies of volcanic regions and types, but detailed research will always be necessary for proper understanding of individual volcanoes and their hazards to society.

Even a single volcano can change its style of eruption for periods of centuries, perhaps permanently, perhaps temporarily. An example of the latter is Kīlauea Volcano, in Hawai‘i. Until recently, Kīlauea was thought to be dominantly effusive, with brief, rare periods of explosive activity lasting weeks or less that punctuate a rather steady outpouring of lava flows. That notion developed because all eruptions were effusive during the 200-year period of written observations, except for an explosive 2.5 weeks in 1924. It was assumed that the 200-year period was representative of Kīlauea in general and that the 1924 activity was unusual.

My colleagues and I recently demonstrated that this view of Kīlauea is incorrect. During the past 2500 years,

- Measurements at 0.3 AU are generally more nonthermal. This Coulomb coupling relationship can be used to probe the plasma distributions of the inner heliosphere and suggests that the coronal population will be highly nonthermal. Furthermore, measurements of plasma waves at 1 AU suggest nonlinear evolution from a population of intense Alfvén waves in the inner heliosphere. Taken together, these observations suggest that the coronal plasma environment is highly nonthermal and perhaps permeated by impulsive jets or waves. I will also describe the NASA Parker Solar Probe mission which will launch in summer 2018 and orbit the Sun with a final perihelion of 9.8 solar radii, well within the predicted Alfvén surface. Parker Solar Probe will make the first ever in situ measurements of plasma heating processes in the solar corona.

- The solar wind plasma distributions at 1 AU suggest the evolution by Coulomb collisions from nonthermal states to collisional equilibrium. Measurements at 0.3 AU are generally more nonthermal. This Coulomb coupling relationship can be used to probe the plasma distributions of the inner heliosphere and suggests that the coronal population will be highly nonthermal. Furthermore, measurements of plasma waves at 1 AU suggest nonlinear evolution from a population of intense Alfvén waves in the inner heliosphere. Taken together, these observations suggest that the coronal plasma environment is highly nonthermal and perhaps permeated by impulsive jets or waves. I will also describe the NASA Parker Solar Probe mission which will launch in summer 2018 and orbit the Sun with a final perihelion of 9.8 solar radii, well within the predicted Alfvén surface. Parker Solar Probe will make the first ever in situ measurements of plasma heating processes in the solar corona.

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repeated explosive eruptions, principally phreatomagmatic and phreatic, dominated two periods lasting about 1200 and 300 years, respectively. During these periods, the summit apparently had a deep caldera, facilitating interaction of groundwater with magma and hot wall rocks. The supply rate of magma to the surface of the volcano dropped during the explosive periods to only a few percent of that during the intervening dominantly effusive periods. Recognition of this complex history has prompted a rethinking about Kīlauea that involves not only ideas about how magma is supplied to the volcano and what causes its caldera to collapse but also how neighboring communities will have to deal with a return of explosive activity at some unknown future time.

Unraveling Kīlauea’s past continues to involve detailed field work augmented by hundreds of AMS 14C ages. There is nothing magic here—just dedicated old-fashioned field work looking at stratigraphic relations and searching for charcoal to date.

Every volcano deserves such treatment. I am not so naïve as to think that this will happen, but it should be an idealistic goal. Excellent examples of such studies exist throughout the world, and they can serve as templates for more such work in Asia and Oceania.

Detailed knowledge about a volcano’s past is the best way we currently have to foresee its future on a decadal to century scale. Geophysical and geochemical monitoring currently done at some volcanoes provides a basis for short term warnings but is less applicable to the long term. Such monitoring can work together with robust knowledge of a volcano’s history to provide a strong basis to influence long-term societal planning.

**KAMIDE LECTURES BY OUTSTANDING EARLY CAREER RESEARCHERS**

**Atmospheric Sciences (AS)**

Lili LEI  
*Nanjing University*  
Wed – 6 Jun, 11:30 – 12:00  
Room 315, Level 3  
“Vertical Localization for EnKF Radiance Assimilation”

**Biogeosciences (BG)**

Yosuke NIWA  
*Meteorological Research Institute*  
Wed – 6 Jun, 11:30 – 12:00  
Room 304B, Level 3  
“Inverse Modeling with Aircraft Observations for Constraining CO2 Flux Estimates in Asia”

Assimilation of satellite radiances has been proven to have positive impacts on the forecast skill, especially for regions with sparse conventional observations. Localization is an essential component to effectively assimilate satellite radiances in ensemble Kalman filters with affordable ensemble sizes. However, localizing the impact of radiance observations is not straightforward, since their location and separation from grid point model variables are not well defined.

Adaptive localization methods, like global group filter (GGF), can provide a theoretical estimate of vertical localization functions for radiance observations being assimilated for global numerical weather prediction. The GGF uses groups of climatological ensembles to provide an estimated localization function that reduces the erroneous increments due to ensemble correlation sampling error. When the GGF is applied to radiance observations, it can provide different localization functions for different channels, which indicates the complexity and large computational cost of tuning the localization scales for radiance observations. Verification to the conventional observations shows that the GGF outperforms the commonly used Gaspari and Cohn (GC) localization.

Besides the adaptive localization methods in observation space, model space localization for EnKF can be implemented through a modulation approach. The modulation approach generates the modulated ensemble from the raw ensemble and eigenvectors of the localization matrix. The modulated ensemble implicitly contains model space localization, thus the EnKF using the modulated ensemble without localization is equivalent to EnKF using the raw ensemble with model space localization. For radiance observations, only vertical localization in model space is needed, thus the size of the modulated ensemble is approximately 10 times more than the raw ensemble. The performance of EnKF assimilating radiance observations has been improved by use of the modulation approach, i.e., model space localization.
Estimates of carbon dioxide (CO2) fluxes at the earth surface (e.g., between atmosphere and terrestrial biospheres/oceans) have significant uncertainties, which limits our understanding of the carbon cycle. Especially, uncertainties of the flux estimates for the Asian regions are considerable because human activities such as fossil-fuel consumption and land-use changes and frequent biomass burnings complicate the problem.

Globally distributed observations of atmospheric CO2 have been used to constrain estimates of surface CO2 fluxes and a statistical estimation has been often performed by a Bayesian inversion analysis, which employs an atmospheric transport model that links surface fluxes with the atmospheric observations. However, there are many challenges to perform a reliable inversion analysis; for instance, it requires an accurate transport model, a dense observation network, and a sophisticated inversion scheme.

Toward an accurate transport simulation, we have developed the atmospheric transport model NICAM-TM (Nonhydrostatic Icosahedral Atmospheric Model-based Transport Model), which has promising capabilities for mass conservation and a high-resolution simulation. In the inversion analysis with NICAM-TM, we leverage aircraft observation data from the CONTRAIL (Comprehensive Observation Network for Trace gases by Airliner) project to fill the gaps of the conventional surface observation network. Since 2005, CONTRAIL has been continuously operating in-situ measurements of atmospheric CO2 onboard commercial aircraft. Owing to the observations on international flights, its observation network is worldwide and ranges from the boreal high latitudes to the austral mid-latitudes including many parts of Asia. Furthermore, in order to fully exploit a number of CONTRAIL data, we have newly developed an inversion system, named NICAM-TM 4D-Var, by combining the four-dimensional method with NICAM-TM. This system provides high resolution flux estimates with nearly no limitation in the number of observations it can accommodate.

In the inverse modeling with the CONTRAIL data, we have demonstrated great utility of those aircraft data for constraining Asian flux estimates. Especially, the impact of the data is noteworthy for South and Equatorial Asia, where the surface observation network is quite sparse. Over those regions, flux signals are uplifted by convective vertical transport and they are more efficiently captured by the aircraft than by remote surface stations. In 2015, which is the one of the biggest El Niño years for the last two decades, large-scale biomass burnings occurred at Equatorial Asia. Anomalies of the CO2 fluxes induced by those biomass burnings were clearly captured by the high-resolution inversion analysis with NICAM-TM 4D-Var. This study could provide valuable insights on the mechanism of the CO2 fluxes in Equatorial Asia, where a large amount of carbon is stored in tropical rainforests and peatlands and disturbances on those reservoirs have strong impacts on the growth rate of the global atmospheric CO2.

Hydrological Sciences (HS)

Yuting YANG
CSIRO Land and Water

Tue – 5 Jun, 11:30 – 12:00
Room 301, Level 3

“Eco-hydrological Implications of Long-term Vegetation Responses to CO2 Fertilization: More or Less Streamflow?”

Anthropogenic activities are increasing atmospheric CO2 concentrations. Amongst the many observed and expected impacts of this on our climate and biosphere, one is the so-called CO2 fertilization effect. In this effect, the efficiency with which plants can use carbon relative to water increases proportionally with the CO2 concentration. Greater water use efficiency has implications for carbon and water balances, as plants can either capture more carbon for the same amount of transpired water loss or can transpire less water for the same amount of carbon captured (or some combination thereof). The recent historical rise in CO2 concentrations is now large enough that some of these responses can be observed globally and are affecting all vegetated terrestrial ecosystems, with findings that CO2 fertilization altered continental river flows.

How vegetation responds to increasing atmospheric CO2 concentration can impact catchment-level water use in (at least) three main mechanisms. Firstly, directly by reducing stomatal conductance and thus reducing leaf-level transpiration, so changing the soil moisture dynamics in the soil profile. Secondly, indirectly by vegetation adapting to changing resource availability by increasing its above-ground leaf area (i.e., greening). Thirdly, indirectly by vegetation increasing its rooting depth thus allowing vegetation to access more water during dry spells. It is very unlikely that three mechanisms will have the same impact across all landscapes / climate conditions globally. So, how important are these three mechanisms in different landscapes given different limitations to vegetation growth? Using a ‘carbon assimilation-water use’ framework, where water-use efficiency is the linking process between the carbon cycle and the water cycle, we hypothesize that the catchment-level hydrological responses will be different for energy-limited (when precipitation exceeds potential evaporation) vs. water-limited (when potential evaporation exceeds precipitation) landscapes vs. ‘equitant’ where potential evaporation is close to precipitation, with their ratio straddling 1.0 and changing seasonally). Also if
energy-limited due to cold conditions for much of the year (e.g., boreal regions) there may be a different response than if energy-limited due to very high precipitation rates (e.g., tropical evergreen landscapes). Recent findings from satellite vegetation and streamflow data used in the: (i) ‘carbon assimilation water use’ framework; and (ii) statistical models will be drawn together to help unravel the interacting changing processes and provide guidance on how expected hydrological change may vary with landscape / climate type. Knowledge gaps will also be identified.

**Interdisciplinary Geosciences (IG)**

**Andreas F. PREIN**  
*National Center for Atmospheric Research*

**Mon – 4 Jun, 11:30 – 12:00**  
**Room 323A, Level 3**

“North American Mesoscale Convective Systems Under Climate Change”

Severe convective storms in the form of Mesoscale Convective Systems (MCSs) increased in frequency and intensity during the past 35 years in the U.S. causing fatalities and rapidly increasing economic losses. However, future climate change impacts on MCSs are largely unknown because traditional climate models cannot simulate them. A North American-scale convection-permitting climate model allows us to simulate realistic MCSs in the current climate and at the end-of-century under a high-end emission scenario (RCP8.5) by assuming similar synoptic-scale conditions in both periods (pseudo global warming). Using a storm tracking algorithm we show that the model is able to accurately reproduce the main characteristics of current MCSs, such as their size, propagation speed, maximum rainfall, and total rainfall volume in the present climate. At the end of the century, the number of intense MCSs are projected to more than triple in North America during summer due to more favorable environmental conditions. In particular, MCSs have higher cloud tops, increased vertical moisture fluxes, and a significantly deeper warm cloud layer (distance from cloud base to freezing level). Changes in the MCS’s dynamics, thermodynamics, and cloud microphysics lead to a 15-40% increases in maximum hourly precipitation rates and a significant spreading in heavy precipitation areas result in up to 80% higher MCS total precipitation volume. Volume increases are most pronounced in a 40 km radius around the storm center, which is the scale of large cities and mesoscale river catchments. The potential implication on future flood risk will be discussed.

**Ocean Sciences (OS)**

**Jung-Woo PARK**  
*Seoul National University*

**Thu – 7 Jun, 11:30 – 12:00**  
**Room 324, Level 3**

“Chalcophile Element Geochemistry of Arc-related Submarine Lavas Associated with Seafloor Sulfide Deposits”

There are two principal hypotheses for the origin of metals in seafloor massive sulfide (SMS) deposits, the wall-rock leaching and magmatic-hydrothermal hypothesis. In the former the metals are leached from the wall rocks above a sub-volcanic magma chamber whereas the latter requires them to be deposited from magmatic fluids derived from an underlying magma chamber. The SMS deposits forming at arc volcanos or immature back-arc spreading centers are considered to have more magmatic fluid component than those at mid ocean ridge spreading centers. The abundance of ore metals in the magma at the time of volatile exsolution is a critical factor for the formation of a Cu-Au-rich SMS deposit if the latter is true. The behavior of these chalcophile elements is largely controlled by sulfide phases during magma evolution because of their strong affinity with sulfide phases. The platinum group elements (PGE) can be used as a sensitive indicator of sulfide saturation because their partition coefficients into immiscible sulfide melts are several orders of magnitude higher than those of Cu and Au, and they are less mobile than these elements during low temperature alteration.

Recent studies on the PGE and chalcophile element geochemistry of two submarine volcanic suites, the Pual Ridge lavas and Niuatahi-Motutahi (N-M) lavas, which are associated with Cu and Au mineralization, suggest that both magmas have experienced late sulfide saturation during their evolution. This results in them being enriched in chalcophile ore metals such as Cu and Au until the point of volatile saturation and so that they could form Cu-and Au-rich magmatic hydrothermal deposits. The SMS deposits with the highest Au ore grade are often found in arc or back arc settings. This can be attributed to the oxidized nature of arc-related magmas, which increases sulfur solubility in the magma and delays the timing of sulfide saturation.
Planetary Sciences (PS)

“Exoplanets and Planetary Habitability”

Are we alone in the universe? About 25 years ago, the first exoplanet was discovered. Now, more than 3,700 exoplanets have been confirmed. Exoplanets represent a dramatic change in our understanding of planetary sciences, and we are very close to find a second habitable Earth nearby our solar system. The detected exoplanets can be classified to several types, including hot Jupiters, cold giants, lava worlds, ocean worlds, as well as rocky planets. One critical question is to know which of these planets are potentially habitable for life. The next target for exoplanet missions is to characterize the planetary atmospheres and surfaces, especially for Earth-size planets in the liquid water habitable zone. In this talk, I will provide an overview of exoplanet detection and characterization, the concept of liquid water habitable zone, and planetary climates. Planetary habitability is determined by many factors, such as planetary size, distance from the star, atmosphere composition, plate tectonics, magnetic field, ozone layer, etc. I will highlight the possible climates and habitability of tidally locked terrestrial planets around K and M dwarfs.

Jun YANG  
Peking University

Mon – 4 Jun, 11:30 – 12:00  
Room 323B, Level 3

Solar & Terrestrial Sciences (ST)

“Energy Transfer Chain in the Earth’s Magnetosphere”

The Earth’s magnetosphere, extending from 1000 km above the Earth’s surface to 70,000 km toward the Sun or 106 km in the opposite direction, is a region permeated with plasmas and magnetic field. Such region shields the Earth from energetic particles coming from the interplanetary space, and hence is very important to human beings. Although most energetic particles are expelled, some of them can still enter into the Earth’s magnetosphere along a special path and subsequently transferred to the near-Earth space, producing colorful auroras. Understanding the transfer of these energetic particles in the magnetosphere—known as energy transfer chain—therefore is an important topic in the study of space weather. Generally, such energy transfer chain follows the Dungey’s circle: reconnection of magnetic field at the dayside magnetopause, convection of magnetic field toward the magnetotail, reconnection of magnetic field again in the magnetotail, triggering of substorm and then the dipolarization front in the nightside plasma sheet, convection of suprathermal particles toward the Earth, injection of suprathermal particles into the radiation-belt and ring-current regions, acceleration of these particles to relativistic energies via quasi-linear and non-linear wave-particle interactions. However, the details of this circle/chain have been poorly understood. In this talk, we will comprehensively discuss the details of this chain. Particularly, we will show (1) how the magnetic reconnection is triggered at electron scale at the dayside magnetopause, (2) what type of electron distributions and wave activities can affect the reconnection process at the magnetopause, (3) what magnetic topology should be at the magnetopause reconnection site, (4) how the magnetic reconnection is triggered in the magnetotail, (5) how energetic electrons are accelerated during the magnetopause and magnetotail reconnection, (6) how turbulence and magnetic reconnection couple with each other, (7) how depolarization fronts are produced in the magnetotail, (8) what’s the relation between magnetic reconnection and dipolarization fronts, (9) how energetic electrons are accelerated at dipolarization fronts, (10) how these electrons are injected into the radiation belts, (11) how these electrons are further accelerated to relativistic

Huishan FU  
Beihang University

Tue – 5 Jun, 11:30 – 12:00  
Room 323C, Level 3
energies in the radiation belts, (12) whether the quasi-linear process or non-linear process dominates during electron acceleration, (13) how the energy transfer between radiation-belt electrons and ring-current ions happens. From the standpoint of space weather, this talk will cover the entire energy transfer chain in the magnetosphere; from the standpoint of plasma physics, this talk will cover the plasma dynamics at electron scale, ion scale, and MHD scale.

**Solid Earth Sciences (SE)**

Min Sub S1M  
*Seoul National University*

** Thu – 7 Jun, 11:30 – 12:00  
Room 314, Level 3**

**“Sulfur Isotopic Constraints on the Evolution of Earth’s Surface Environments”**

Sulfur occurs in a variety of redox states from the most reduced form sulfide to the most oxidized sulfate, and cycles through environmental and biological reservoirs. Since this versatile element has four stable isotopes, measurements of sulfur isotopic ratios are one of the most powerful tools to study the contemporary sulfur cycle. More importantly, sulfur isotope signatures can persist for a long time in geologic materials; trace sulfate incorporates into marine carbonate rocks, and sulfide precipitates as pyrite. Changes in the global sulfur cycle, recorded in these sedimentary archives, are inherently linked to those of other essential elements such as carbon, oxygen, and iron. For example, one of the most convincing evidence for extremely low oxygen levels in the early atmosphere is the mass-independent sulfur isotope anomalies reported from the sedimentary records older than 2.5Ga.

This presentation will focus on the recent advances in our understanding of the biotic and geochemical controls on the sedimentary sulfur isotope records. Throughout the long-term evolution of Earth’s biogeochemical cycles, sulfur isotope fractionations between sedimentary sulfate and sulfide have increased to reach the modern values at the beginning of the Phanerozoic. Since microbial sulfate reduction is primarily responsible for this isotope fractionation, small isotopic offsets in the Archean sediments have been conventionally interpreted to represent muted biological fractionation with low environmental sulfate concentrations as the root cause. However, a growing body of evidence shows that organic substrates may have been more available to sulfate reducing microorganisms in the Archean ocean, leading to smaller fractionations. Recently, we estimated the sulfur isotope effect by the key enzyme involved in microbial sulfate reduction, providing quantitative support for these qualitative arguments. In short terms, high resolution sulfur isotope records help to understand the global environmental disturbances such as mass extinction events. Patterns of isotopic variability have been linked to the size of seawater sulfate pool, and multiple sulfur isotope analyses can constrain the relative timing and location of pyrite formation. Here, I will present paired sulfur isotope records during the Late Devonian and demonstrate that a larger seawater sulfate reservoir may have promoted the development of sulfidic bottom waters during the ocean anoxic events, increasing physiological stress and potentially contributing to the Devonian mass extinction.

**SPECIAL LECTURES**

Min Sub S1M  
*Seoul National University*

** Thu – 7 Jun, 11:30 – 12:00  
Room 314, Level 3**

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**2018 AXFORD MEDALIST**

Paul TAPPONNIER  
*Professor*  
*School of the Environment College of Science, Nanyang Technological University*

**Fri – 8 Jun, 13:30 – 14:00**  
**Ballroom A, Level 4**

**“Holocene Return-times of Himalayan Mega-quakes: Dating and Lidar-imaging of Uplifted Fluvial Terraces on the Main Frontal Thrust Hanging-wall”**

For the past 40 years, trenching has been the workhorse of Paleo-Seismology. It is particularly useful across strike-slip faults along which, in shallow excavations, sequences of more than 10 large events may be documented. It is also instructive across normal faults, where the deepening footwalls provide traps for post-seismic deposits. But it has been far less informative across thrust faults, due to limited footwall subsidence and near-surface hanging-wall folding (e.g., El-Asnam 1980; Chi-Chi, 1999; Muzaffarabad, 2005...). Typically, the number of paleo-events identified in thrust trenches rarely exceeds 2. Across megathrusts, where individual great earthquakes can produce 15-25 m and 5-7 m of slip...
and vertical throw, respectively, trenching becomes an almost fruitless approach, even with the use of civil-engineering drilling techniques. This has hindered understanding the history of great earthquakes along the Himalayan front. Specifically: rarely more than one large event is exposed in trenches across the Main Frontal Thrust (MFT); the last 4 historical mega-quakes were long deemed blind; and 14C dates in trenches hundreds of km apart have been audaciously inferred to attest to single event rupture lengths > 600-800 km!

As an alternative paleo-seismological tool, we tested the potential of fluvial terrace uplift on the MFT hanging-wall to record repetitive co-seismic throw during great earthquakes. Using 100 km-long, high-resolution (~ 4 points/m2) Airborne Lidar swath’s data along the thrust makes it possible to assess the geomorphic effects of surface faulting with regionally homogeneous, unparalleled precision (< 0.5 m). In eastern Nepal, at 7 different sites along the Siwalik front, 5 to 7 distinct terrace surfaces appear to have been successively uplifted, each time by 5 to 8 meters, to maximum heights of 45/55 m above present-day riverbeds. This implies the occurrence of 5 to 7 great earthquakes with average co-seismic throws of ~ 6.5±1.5 m depending on local thrust dip (20-40°). Radiocarbon and cosmogenic 10Be dating of the terraces suggest that, during the last ~4500 years, great MFT earthquakes with near-characteristic slip returned every ~700-800 years on average. In Assam, along the Abor and Mishmi range-fronts, the same “above ground” approach helps resolve long-standing quandaries on the source and repeat time of events comparable to the great 1950 earthquake. Large-scale Lidar surveys and accurate dating of uplifted terraces may thus be the most promising way to elucidate the long-term history of megathrust earthquakes.

Cross-equatorial atmospheric transport of energy offers a predictive view of how climatic asymmetry develops in response to interhemispheric difference in energy flux into the coupled ocean-atmosphere system. Indeed, anthropogenic aerosols mostly concentrated in the Northern Hemisphere force an interhemispheric Hadley circulation displacing the ITCZ southward. Confusions arise, however, from recent experiments using realistic dynamical oceans; changes in surface heat flux into the Southern Ocean fail to displace the ITCZ. Using a hierarchy of coupled models, here we identify two hitherto unknown factors important for tropical response to subpolar heat flux forcing. First, the northward displaced mean ITCZ creates a strong asymmetry b/w a subpolar cooling in NH and SH. The ITCZ effectively blocks the NH cooling from intruding across the equator with a strong displacement of the ITCZ towards the unforced hemisphere while the SH cooling penetrates across the equator exciting a symmetric response across the equator. Second, the upwelling of deep water in the Southern Ocean mutes the vertical energy flux into the atmospheric column, reducing the response to a SH forcing while the dynamical ocean damping on the flux forcing is much weaker. In addition, Bjerknes feedback amplifies the symmetric, upward-amplified temperature response in the tropical troposphere. These results advance the energetic framework by highlighting the importance of the mean ITCZ asymmetry and dynamical ocean damping on subpolar TOA radiative forcing.

2018 KAMIDE AWARD
Sarah M. KANG
Ulsan National Institute of Science and Technology
Fri – 8 Jun, 14:00 – 14:30
Ballroom A, Level 4
“How Ocean Dynamics Modulate the Climate Response to One Hemispheric Subpolar Cooling?”

Spaceborne observations are crucial for understanding our planet as an integrated system. Satellite measurements form the essential foundation for Earth System Science. Spaceborne data resolve a broad range of time and space scales; only from space can uniformly accurate and stable measurements be made having high spatial resolution.
and global coverage, frequently at each location for long periods of time. By acquiring and analyzing simultaneous satellite measurements of many different quantities, researchers are gaining quantitative knowledge of the connections between ocean, atmosphere, and land processes as well as the individual processes themselves. Crucially, because all humans reside on Earth, the satellite observations, when coupled with understanding derived from research, can be used to improve the decision-making and lives of every person.

NASA’s Earth Science program is composed of 4 elements: a Flight program that develops, launches, and operates a large fleet of Earth-observing satellites and instruments to monitor the planet; an interdisciplinary, competitive, integrative Research and Analysis program covering all aspects of Earth System Science through analysis of domestic and international remotely sensed and in situ measurements and modeling; an Applied Sciences program that builds capacity in user communities, and develops and tests focused information products based on Earth observations and models to support a wide range of decision-makers; and an Earth Science Technology Office that uses competitive grants to advance component, instrument, and data processing technologies as well as conducts in-space technology demonstrations using CubeSats.

The presentation will highlight key accomplishments from NASA’s Earth Science Division program, providing unique insights into key Earth systems and examples of societal benefit from applications including disaster and extreme event response support. Particular emphasis will be placed on the need for free and open data exchange, the use of constellations of spacecraft and integrated analyses of global data from multiple sources, and the abilities of decadal-scale remotely sensed time series to illuminate the existence – and causes – of variability and trends in our planet’s environment.

**INVITED TALKS**

**Tue – 5 Jun, 13:30 – 15:30**

**Room 317A, Level 3**

**SS03 - Science Driven E-infrastructures and Data Management in Support of Geosciences Research**

**Conveners**

Ming-Hsu LI, National Central University
Tsair-Fuh LIN, National Cheng Kung University
Mustapha MOKRANE, ICSU-WDS International Programme Offices
Yue-Gau CHEN, National Taiwan University

**Invited Speakers**

Robert SAMORS, Jean-Pierre VILOTTE, Wen-Tzong LIANG

**13:30 The Belmont Forum E-infrastructure and Data Management Project**
Robert SAMORS, Belmont Forum

**13:50 Science-driven E-infrastructure Innovation for Enabling Transnational Data Use in Interdisciplinary and Transdisciplinary Environmental Change Research: a New Belmont Forum Funding Collaborative Research Action.**
Jean-Pierre VILOTTE, Institut de Physique du Globe de Paris

**14:10 Taiwan Earthquake Research Data Center (TECDC)**
Wen-Tzong LIANG, Academia Sinica

**14:30 Taiwan Climate Change Information and Knowledge Service Platform**
Chao-Tzuen CHENG, National Science and Technology Center for Disaster Reduction (NCDR)

Catherine CHAN, University of Hawaii

**Tue – 5 Jun, 13:30 – 15:30**

**Room 323C, Level 3**

**SS09 - Volcanoes: Nature, Influence, Impact**

**Conveners**

Kazuhisa GOTO, Tohoku University
Florian M. SCHWANDER, Jet Propulsion Laboratory/California Institute of Technology (Caltech)
Fiona WILLIAMSON, National University of Singapore

**Invited Speakers**

Mitchell SCHULTE, Rosaly LOPES, Rebecca CAREY

Steve INGEBRITSEN, Setsuya NAKADA, Alan ROBOCK
13:30 What Life in Volcanic Environments Tells Us About the Emergence of Life and Life Elsewhere
Mitchell SCHULTE, NASA Headquarters

13:50 Lava Lakes in the Solar System
Rosaly LOPES, Jet Propulsion Laboratory, California Institute of Technology (Caltech)

14:10 The Role of the Ocean in Modulating the Dynamics of Silicic Submarine Volcanic Eruptions
Rebecca CAREY, University of Tasmania

14:30 Dynamics of Water-volcano Interactions
Steve INGEBRITSEN, US Geological Survey

14:50 Volcanic Hazards: Improving the Science and Communication to the Public
Setsuya NAKADA, University of Tokyo

15:10 Are Climate Scientists Ready to Observe and Model the Next Big Volcanic Eruption?
Alan ROBOCK, Rutgers University

Wed – 6 Jun, 13:30 – 15:30
Room 319A, Level 3
SS08 - Interdisciplinary Subduction Zone Research Initiatives

Conveners
Gerald BAWDEN, National Aeronautics and Space Administration (NASA)
Jack A. KAYE, National Aeronautics and Space Administration (NASA)

Invited Speakers

13:30 Geophysical Observational Systems for Science and Hazard Reduction
Richard M. ALLEN, UC Berkeley

13:45 Monitoring, Imaging and Modeling Subduction Zones to Mitigate Subduction Zone Geohazards
Shuichi KODAIRA, Japan Agency for Marine-Earth Science and Technology

14:00 Subduction Zone Observatory Initiatives and Opportunities in New Zealand
Nicola LITCHFIELD, GNS Science

14:15 Very Long Term Variability in Interseismic Deformation: A Case Study from the Sumatran Subduction Zone
Emma HILL, Nanyang Technological University

14:30 The SZ4D Initiative: Developing a Comprehensive Approach to Subduction Hazard Geoscience
Harold TOBIN, University of Wisconsin-Madison

14:45 Gs Applications to Monitor, Measure and Study Subduction Zone Earthquakes and Their Resulting Tsunamis
Jeff FREYMUELLER, University of Alaska Fairbanks

15:00 Tsunami Early Warning - Interdisciplinary Collaboration to Save Lives
Laura KONG, International Tsunami Information Center

Thu – 7 Jun, 13:30 – 15:30
Room 319B, Level 3
SS07 - Cascading Hazards

Conveners
Gerald BAWDEN, National Aeronautics and Space Administration (NASA)
Jack A. KAYE, National Aeronautics and Space Administration (NASA)

Invited Speakers

13:30 The 2015 Mw7.8 Gorkha, Nepal, Earthquake: Destruction and Creation
Susan HOUGH, US Geological Survey
WS2: SS12 - Earth Girl Volcano

Earth Girl Volcano is a tablet and computer interactive game that simulates a variety of volcanic hazard scenarios at different levels of expertise. This casual strategy game offers players a variety of strategies and tools to prepare for scenarios that are based on real-life examples. Players can learn about the local knowledge and the past volcanic activity by chatting with the villagers at the market. Earth Girl Volcano presents a variety of single and combined hazards including gas emission, ash fall, rock fall, mudflows and burning clouds (PDCs). The game was developed an interdisciplinary group composed of scientists, game experts, animators and software developers at the Earth Observatory of Singapore. The game represents the cutting edge in games that are engaging and also communicate the science behind the gameplay.

Participants in this workshop will learn how to use this interactive game as a tool for learning and explaining volcanic hazard and risk mitigation. The presenters will demonstrate many of the game scenarios played at different levels of difficulty. Participants will receive a free standalone version of the game to try out and master during the workshop some of the preparedness and evacuation strategies to achieve the goal of zero-casualties. Participants will also learn about some of the design and software development strategies used to translate volcanic hazard complexity into an interactive game of preparedness and risk mitigation. The Earth Girl Volcano game was tested with a mainstream and specialized audiences, and is being launched in 2018 as a free app for Android and iOS tablets as well as Windows and iOS computers. The game will eventually be available in the languages most spoken throughout the Ring of Fire, including English, Indonesian, Tagalog, Japanese and Spanish. Earth Girl Volcano follows in the footsteps of Earth Girl Tsunami, a game already released in eight languages that received over 35,000 Facebook Likes during its initial launch.

WS3: SS10 - International Land Model Benchmarking (ilamb) Package Tutorial

To advance understanding of biogeochemical processes and their interactions with hydrology and the Earth system under changing environmental conditions, new methods are being developed that use observations to constrain model predictions, inform model development, and identify needed measurements and field experiments. The International Land Model Benchmarking (ILAMB) package embodies those methods to provide quick and easy model–data comparison capabilities for multiple Earth system models (ESMs).

ILAMBv2.2 Package assesses model fidelity on 25 variables in four categories from about 50 data sets; produces graphical global-, regional- and site-level diagnostics; and provides a hierarchical scoring system based on model performance for the annual mean, bias, relative bias, root-mean-square error (RMSE), seasonal cycle phase, spatial distribution, interannual variability, and variable-to-variable comparisons (functional benchmarks).

ILAMB is designed for use by individual modelers or model developers for verification and rapid model development cycles, by modeling centers to track the evolution of model performance, and by model intercomparison projects for multi-model analysis. ILAMB is being integrated into the workflow systems at multiple major modeling centers and are being extended for use in high-latitude and hydrology studies. The package is also expected to provide a platform for engaging experimentalists in identifying model
MEETINGS & FUNCTIONS

Sun 3 Jun
11:00 – 14:00, Level 3 – Room 327
Student Volunteer Training
16:00 – 18:00, Level 3 – Room 328
Council Meeting

Mon 4 Jun
12:30 – 13:30, Level 3
Section Meetings (Lunch)

AS 315
BG 304B
HS 301
IG 323A
OS 324
PS 323B
ST 323C
SE 314

15:30 – 18:30, Level 4 – Ballroom A
AOGS2018 Opening, Axford Lectures, General Assembly
18:30 - 20:30, Level 4 - Ballroom B
Welcome Reception/Exhibition Opens
Poster Sessions (AS1, IG, PS)

Tue 5 Jun
12:30 – 13:30, Level 3 – Room 327
Regional Advisory Committee Meeting (Lunch)
18:00 – 19:30, Level 3 – Room 327
AOGS2020 Advance Planning Meeting (Dinner)

Wed 6 Jun
12:30 – 13:30, Level 3 – Room 327
Publication Committee/Editorial Board Meeting (Lunch)
18:00 – 19:00, Level 3 – Room 327
AOGS-NASA Advance Planning Meeting
19:00 – 21:00
Offsite (Dinner)

Thu 7 Jun
12:30 – 13:30, Level 3 – Room 328
Council Lounge (Lunch)
16:00 – 18:00, Level 4 – Ballroom B/C Foyer
Meet-the-Experts Session
19:00 – 21:00, Hiking Hawaii Café
Student Volunteer Night

Fri 8 Jun
12:30 – 13:30, Level 3 – Room 328
Council Lounge (Lunch)
13:00 – 16:00, Level 4 – Ballroom A
AOGS2018 Closing, Special Lectures, Awards & AOGS2019 Meeting Venue
Presentation
16:00 – 17:00, Level 4 – Ballroom A
Farewell Reception
16:30 – 20:15, Convener’s Dinner (Ticketed Event)
16:30 – Coach Departs HCC for Dinner Cruise
20:15 – Coach Returns to HCC/Ala Moana Hotel

Sat 9 Jun
09:00 – 12:30, Level 3 – Room 328
Council Meeting (Lunch)

OPENING/CLOSING
Level 4 Ballroom A

AOGS2018 Opening: 15:30 – 20:30
15:30 – 16:00
• Guest Arrivals (Coffee/Tea Service)
16:00
• Welcome & Opening
• Axford Lectures
17:30
• General Assembly
• Award Presentations: Axford Medal, Y Kamide Early Career Researcher Award
18:30
• Welcome Reception/Exhibition Opens
• Poster Sessions (AS1, IG, PS)

AOGS2018 Closing: 13:30 – 17:00
13:30
• Axford Medalist Lecture
• Kamide Award Lecture
• AOGS2018 Special Lecture
15:00
• Awards & Recognition: Honorary Members, Best Student Posters, AOGS Rotating Out Officers
15:30
• Next Meeting Destination Presentation: AOGS2019 in Singapore
15:45
• Closing Remarks
• Meet the New Council
16:00
• Farewell Reception
17:00
• AOGS2018 Ends
AOGS OFFICERS

2017-2018 Council

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The SLO works closely with AOGS partner societies (AGU, EGU, JPGU, SEG & AMOS) and select individuals on program content that is distinctly different from what is able to be covered under the Regular Sessions.

Regional Advisory Committee (RAC)
The Regional Advisory Committee (RAC) is established to further fulfill the AOGS vision "In Asia for Asia and the World". RAC members are AOGS Advocates who:
- Promote and advise on the allocation of resources and services that will support geosciences research and scholarships in their home countries
- Provide community-based support in planning and promoting AOGS strategic master plan and processes

RAC Mission is to develop AOGS into the largest non-profit, geoscience networking group in Asia and their main goals are to
- Enhance membership and participation from the geoscientists in ASEAN and India
- Promote multi-lateral academic interaction among various research labs
- Identify opportunities that address diversity, equity and inclusion

PRESENTATION GUIDE (Oral)

Presentation Time Slots (Actual may vary – please check session schedules)

| AM1  | 08:30 - 10:30 | PM1  | 13:30 - 15:30 |
| AM2  | 11:00 - 12:30 | PM2  | 16:00 - 18:00 |

Breaks
- AM 10:30 - 11:00
- Lunch 12:30 - 13:30

1. Presentation ID – How to Read

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<tr>
<th>SE27 - D1 - AM2 - 317A - 002</th>
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<tr>
<td>Session Code</td>
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<td>Conference Day</td>
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<td>AM Session 2</td>
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<tr>
<td>Meeting Room</td>
</tr>
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<td>Presentation No. 2</td>
</tr>
</tbody>
</table>

2. Prepare Your Presentation

Length of presentation material should be in accordance with your time allotted. Total duration including Q&A and speaker changeover is 15 minutes for each talk. Please refer to the Final Program for actual presentation schedules. You are kindly requested to be at the presentation room at least 15 minutes before the session starts.

3. Determine Your Audio-Visual Needs

Each meeting room comes equipped with a laser pointer, computer, LCD projector and screen. The computers in the meeting rooms are being provided to Windows-based PC users. The PC will be configured with Windows Operating System. Please bring your presentation files in thumb drives. For MAC-laptop users, please bring your own VGA adapter cable.

4. Create a Backup Copy of Your Presentation

We recommend that you bring at least 2 copies of your presentation to the meeting for backup purposes. Thumb drives are acceptable.

5. Give Your Presentation

Be considerate to the other speakers and audience by staying within your allocated time. The allocated time for your presentation includes a discussion and changeover to the next speaker. Session Chairs will hold you to the allotted time. This is essential to ensure adequate time for questions and discussion as well as adherence to the schedule. Please discuss the same material as reported in your abstract submission. At the end of the meeting, all presentation files will be destroyed.

PRESENTATION GUIDE (Poster)

1. Locate Your Poster Board

Poster presentations will be held from Mon-4 Jun to Thu-7 Jun 2018 at the Exhibition/Poster Hall (Ballroom B, Level 4). Poster boards are pre-assigned and marked with your Abstract ID. Please feel free to approach the Poster Help Desk for assistance.

2. Poster Set-up, Question and Answer (Q & A) Session and Tear-down

Mon-4 Jun
- Sections: AS1, IG and PS
- Poster Set-up: 15:00 - 18:00
- *Poster Q & A: 18:30 - 20:30
- Poster Tear-down: 20:30 - 21:00

Tue-5 Jun
- Sections: HS and ST
- Poster Set-up: 10:30 - 12:30
- *Poster Q & A: 13:30 - 15:30
- Poster Tear-down: 15:30 - 16:00

Wed-6 Jun
- Sections: AS2 and BG
- Poster Set-up: 10:30 - 12:30
- *Poster Q & A: 13:30 - 15:30
- Poster Tear-down: 15:30 - 16:00

Thu-7 Jun
- Sections: OS and SE
- Poster Set-up: 10:30 - 12:30
- *Poster Q & A: 13:30 - 15:30
- Poster Tear-down: 15:30 - 16:00

*Presenter attendance required during Poster Q&A
3. Submitted digital poster files will be uploaded to the Landscape Touch Screen Panels (Digital Boards) placed around the Exhibition/Poster Hall (Ballroom B, Level 4) for visitor viewing throughout the conference but they are **not a substitution** for the actual poster presentation.

4. **Prepare Your Poster**
   Each presenter is provided with a **2.4m wide x 1m high** poster panel. The presentation must cover the same material as the abstract submitted. The poster should be **1 x A0 size in landscape format, measuring 1189 mm length x 841 mm height maximum**.
   - Place your Abstract ID, Abstract Title and Authors' names prominently at the top of the poster to allow viewers to identify your abstract easily. **Presenter's Name must be underlined and in Bold Letterings.**
   - Authors' names, e-mails and address information must be provided in case the viewer is interested in contacting you for more information.
   - You have complete freedom in displaying your information in figures, tables, text, photographs, etc. in the poster.
   - A successful poster presentation depends on how well you convey information to an interested (but not expert) audience. You may wish to structure your poster by including the background of your research followed by results and conclusions.

5. **Set Up Your Poster (See also 1 & 2)**
   - Posters should be set-up by 18:00 (Mon) and 12:30 (Tue-Thu)
   - Posters are scheduled to be on display from 18:30 to 20:30 (Mon) and 13:30 to 15:30 (Tue-Thu). Poster Q & A Session is as scheduled and presenter attendance is required during the session.
   - Adhesive tapes and scissors are available at the Poster Help Desk, nearby the poster boards. If you have special needs for your poster presentation, please bring those supplies with you to the meeting.

6. **Remove Your Poster**
   - Posters must be removed after the viewing time by 21:00 (Mon) and 16:00 (Tue-Thu).
   - After this time, posters remaining on the boards may be removed and discarded by cleaners. AOGS will not be responsible for posters and materials left on poster boards after the stated hours.

7. **Student Poster Competition**
   To qualify for this competition, participants have to submit a digital copy of their poster via MARS. The deadline to upload your digital poster is Tue-15 May. Awards shall be in the form of Certificates, to be signed by AOGS President and the Section President, and Complimentary Registrations for the Winners to attend AOGS Annual Meeting in the following year.
   - One award minimum per Section, and 1 additional award for every 20 student posters.
   - If won, Best Student Poster Award will be awarded to only the Presenting Author
   - Presenter Attendance is Required during the Poster Session (See 2 for your Section’s Poster Session Schedule)
   - The criteria for evaluating poster presentations are
     a. Scientific quality and novelty
     b. Poster design, and
     c. Ability of student presenter to answer question
### Scientific Program

**Day 1: June 4-6, 2018**

**Date, Time & Room**

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<thead>
<tr>
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<th>Time</th>
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<td>HS22</td>
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<td>Mon, 04 June</td>
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<td>Thu, 07 June</td>
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**Day 2: June 5-6, 2018**

**Date, Time & Room**

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**Day 3: June 6, 2018**

**Date, Time & Room**

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</table>

### Venue Information

- **Exhibition Opening**: Welcome Reception, General Assembly & Award Presentations (1800 - 2030) - Venue: Ballroom A, 14
- **Eve**: Exhibition Opens & Welcome Reception (1830 - 2030), Poster Session: ASI, IG & PS - Venue: Ballroom B, 14
- **ASI Posters**: PS Posters (p97), IG Posters (p98)
- **AS Posters**: AS Posters (p97)
- **Eve**: Student Volunteer Night (1900 - 2130), Poster Opening Night (1800 - 2130) - Venue: Ballroom B, 14
- **Eve**: Welcome & Awards Ceremony (1930 - 2030) - Venue: Ballroom A, 14
- **Eve**: Shein Out (1930 - 2030)
- **Eve**: Closing Session:科学 Lephants, Awards, & Recognition, Next Meeting Date/Location Presentation (2330 - 1600), Farewell Reception (1630 - 1730) - Venue: Ballroom A, 14
Presentations

4 JUN, 2018

MONDAY
## Program Overview

### Day 1 - 04 Jun 2018, Monday

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<th>Time / Room</th>
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Sessions & Conveners
* Main Convener

AS09-Aerosol and Cloud Observations from Geostationary Satellites: Breaking the Temporal Barriers
*Pawan GUPTA Universities Space Research Association, Robert LEVY NASA Goddard Space Flight Center, James CRAWFORD NASA Langley Research Center, Steven PLATNICK NASA Goddard Space Flight Center, Mayumi YOSHIDA Japan Aerospace Exploration Agency

AS10-Asian Monsoon Variability in a Warming Environment
*Ramesh Krippalani Indian Institute of Tropical Meteorology, Jaiho OH Pukyong National University, Kyung-Ja HA Pusan National University, June-Yi LEE Pusan National University, Amita PRABHU Indian Institute of Tropical Meteorology

AS11-Impacts of Haze and Dust in East Asia: Mechanism, Observations, and Model Assessments
*Yuan WANG California Institute of Technology, Jianping GUO Chinese Academy of Meteorological Sciences, Chuanfeng ZHAO Beijing Normal University, Yong-Sang CHOI Ewha Womans University, Daizhou ZHANG Prefectural University of Kumamoto

AS12-Data Assimilation for Earth System Applications
*Soyoung HA National Center for Atmospheric Research, Lili LEI Nanjing University

AS17-Land-atmosphere interactions of the Tibetan Plateau and their impacts on weather and climate
*Fei CHEN National Center for Atmospheric Research, Ping ZHAO Chinese Academy of Meteorological Sciences, Yimin LIU Chinese Academy of Sciences

AS19-Impact of Aerosols on Hydro-climate
*Kyu-Myong KIM NASA Goddard Space Flight Center, Yun QIAN Pacific Northwest National Laboratory, Tianjun ZHOU Chinese Academy of Sciences, Maeng-Ki KIM Kongju National University, Teppei YASUNARI Hokkaido University

AS28-Southeast Asian Climate Variability and Ocean-land-atmosphere Interactions
*Renguang WU Chinese Academy of Sciences, Song YANG Sun Yat-sen University, Xiaojing JIA Zhejiang University

AS31-The Science and Prediction of Tropical Cyclones
*Chun-Chieh WU National Taiwan University, Yuqing WANG University of Hawaii at Manoa, Kosuke ITO University of the Ryukyus, Zhuo WANG University of Illinois at Urbana-Champaign, Jeff KEPERT Centre for Australian Weather and Climate Research

AS36-Ocean-atmosphere Coupling: Dynamics, Assimilation, and Predictability
*Stéphane Vannitsem Royal Meteorological Institute of Belgium, Wansuo DUAN Chinese Academy of Sciences, Noel KEENLYSIDE University of Bergen, Fei ZHENG Chinese Academy of Sciences

AS39-Theory, Observations and Modelling of Maritime Continent Convection
*Masaki Katsumata Japan Agency for Marine-Earth Science and Technology, Muhammad Eqeemal Hassim Meteorological Service Singapore, Hanh Nguyen Australian Bureau of Meteorology

AS46-Precipitation Science and Application of Satellite Data
*Yukari Takayabu The University of Tokyo, Gail Skofronick-Jackson NASA Goddard Space Flight Center, Geun-Hyeok Ryu Korea Meteorological Administration, Kenji Nakamura Dokkyo University, Kusuma RAO Indian Space Research Organization

AS48-Earth System Predictability, Prediction and Application
*June-Yi Lee Pusan National University, Andrea Alessandro Royal Netherlands Meteorological Institute, Yoshimitsu Chikamoto Utah State University

AS54-Aerosols, Clouds, Radiation, Precipitation, and Their Interactions
*Xiquan Dong University of Arizona, Teri Nakajima Japan Aerospace Exploration Agency, Byung-Ju Sohn Seoul National University, C.G. Cui China Meteorological Administration

AS55-Observations and Representations of Subgrid-scale Processes for Improving Models
*Chuanfeng Zhao Beijing Normal University, Kuan-Man Xu NASA Langley Research Center, Jonathan Jang Jet Propulsion Laboratory, California Institute of Technology, Xiquan Dong University of Arizona

BG01-Cycling of Carbon and Nitrogen in Terrestrial and Coastal Ecosystems
*Panvasloke Bhadury Indian Institute of Science Education and Research Kolkata, Ajcharaporn Piumsomboon Chulalongkorn University

HS01-Interactions Between Water and Ecosystem - Catchment Dynamics
*Jian-Ping Suen National Cheng Kung University, Ting Fong May CHUI The University of Hong Kong

HS02-Interactions with Water and Ecosystem - Riparian Zone Processes
*Kyungrock PAIK Korea University, Gene Ji Jeong Yun National Taiwan University

HS03-Challenges in Hydrologic Modeling
*Bellie Sivakumar University of New South Wales, Shie-Yui Liong National University of Singapore, Ji Chen The University of Hong Kong, Dawen Yang Tsinghua University

HS04-Hydroinformatics
*Dawei Han University of Bristol, Jeanne Jinhui Huang Nankai University
SE22-35-Earthquakes, Fault Ruptures and Seismic Hazards in
Southeast and East Asia and Selected Sedimentary Basins
*Yu WANG National Taiwan University, Noelynna RAMOS
University of the Philippines Diliman, Myo THANT Monywa
University, Phil CUMMINS Australian National University, Sri
WIDIYANTORO Bandung Institute of Technology

ST03-Wave-Particle Interactions in the Magnetosphere
*Yuto KATOH Tohoku University, Danny SUMMERS Memorial
University of Newfoundland, Yoshiharu OMURA Kyoto
University, Dong-Hun LEE Kyung Hee University

ST06-Cross-scale Kinetic Processes in Magnetospheric
Boundary Layers
*Keizo FUJIMOTO Beihang University, Dongsheng CAI
University of Tsukuba, Bertrand LEMBEGE National Centre for
Scientific Research, Richard SYDORA University of Alberta

ST10-21-Upper Atmosphere Responses to Lithosphere,
Atmosphere and Anthropogenic Disturbances
*Charles LIN National Cheng Kung University, Yang-Yi SUN
China University of Geosciences, Chi-Yen LIN National Central
University, Jann-Yenq (Tiger) LIU National Central University, William SCHREINER University Corporation for Atmospheric
Research

ST11-Use of Nano/microsatellites for Solar-terrestrial Studies
*Kyoung Wook MIN Korea Advanced Institute of Science and
Technology, Koichiro OYAMA National Cheng Kung University, Devi MINAKSHI Gauhati University, Shinichi NAKASUKA The
University of Tokyo

ST20-Fundamental Physics of the Solar Corona and Inner
Heliosphere
*Chadi SALEM University of California, Berkeley, Jiansen HE
Peking University, Beijing, Marco VELLI University of California,
Los Angeles, Leon OFMAN Catholic University of America
AS09 / Aerosol and Cloud Observations from Geostationary Satellites: Breaking the Temporal Barriers
Mon - 04 Jun | MR319A

Time 08:30 - 10:30
Chair(s) Robert LEVY, NASA Goddard Space Flight Center
Mayumi YOSHIDA, Japan Aerospace Exploration Agency

AS09-D1-AM1-319A-001 | AS09-A010 (Invited)
North American Pollution Measurements from Geostationary Orbit with Tropospheric Emissions: Monitoring of Pollution
(TEMPO)
Kelly CHANCE1#
1Harvard-Smithsonian Center for Astrophysics

AS09-D1-AM1-319A-002 | AS09-A020
Algorithm for Retrieval of Aerosol Optical Properties over the East Asia from Geostationary Environment Monitoring Spectrometer (GEMS)
Sujung GO1#, Jhoon KIM1, Mijin KIM1, Omar TORRES2, Changwoo AHN1, Robert SPURR1, Myungjie CHOP1, Hyunkwang LIM1
1Yonsei University, 2NASA Goddard Space Flight Center, 3Science Systems and Applications, Inc., 4RT Solutions

AS09-D1-AM1-319A-003 | AS09-A036 (Invited)
A New Era for Aerosol Products from Geostationary Satellites
Shobha KONDRAGUNTA1#, Istvan LASZLO1, Amy HUFF2
1National Oceanic and Atmospheric Administration, 2Penn State University

AS09-D1-AM1-319A-004 | AS09-A015
GOES-16 ABI Aerosol Products: Revolutionizing Ozone and Particulate Matter Ambient Air Quality Forecasting Associated with Wildfires and Blowing Dust
Amy HUFF1#, Shobha KONDRAGUNTA1, Hai ZHANG2, William RYAN3
1Penn State University, 2National Oceanic and Atmospheric Administration

AS09-D1-AM1-319A-005 | AS09-A005
Aerosol Retrieval and Validation from Geostationary Satellites
Pawan GUPTA1,2#, Robert LEVY3, Shana MATTOO1
1Universities Space Research Association, 2NASA Goddard Space Flight Center, 3Science Systems and Applications, Inc./ NASA Goddard Space Flight Center

AS09-D1-AM1-319A-006 | AS09-A033
Overview of Multi-Sensor Research and Applications at NASA Sport
Aaron NAEGER1#
1University of Alabama in Huntsville

AS09-D1-AM1-319A-007 | AS09-A008 (Invited)
Spectral Variability in Earth’s Global Reflectance as Observed by DSCOVR/EPIC
Alexander MARSHAK1#, Weidong YANG2, Tamas VARNAI3, Yuri KNIAZIKHIN4
1NASA Goddard Space Flight Center, 2GESTAR, 3University of Maryland, Baltimore County, 4Boston University

Time 11:00 - 12:30
Chair(s) Pawan GUPTA, USRA/NASA Goddard
Steven PLATNICK, NASA Goddard Space Flight Center

AS09-D1-AM2-319A-008 | AS09-A001
Retrieval of Ice Cloud Properties from Himawari-8 Geostationary Satellite Measurement
Husi LETU1#, Takashi M. NAGAO2, Takashi NAKAJIMA3, Hiroshi ISHMOTO1, Jerome RIED1, Huazhe SHANG2
1Chinese Academy of Sciences, 2Japan Aerospace Exploration Agency, 3Tokai University, 4Japan Meteorological Agency, 5LOA / Université de Lille

AS09-D1-AM2-319A-009 | AS09-A027
Towards Consistent Water Cloud Optical Property Products from Geostationary and Polar Orbiting Satellite Data: Himawari-8/AHI and GCOM-C/SGLI
Takashi NAGAO1#, Hiroshi MURAKAMI1, Maki KIKUCHI1, Mayumi YOSHIDA1, Takashi NAKAJIMA2
1Japan Aerospace Exploration Agency, 2Tokai University

AS09-D1-AM2-319A-010 | AS09-A031
Progress in Porting NASA VIIRS-Like Cloud Property Algorithms to ABI and AHI Imagers
Steven PLATNICK1#, Kerry MEYER1, Robert HOLZ2, Steven ACKERMAN3, Andrew HEIDINGER3, Galina WIND4, Nandana AMARASINGHE3
1NASA Goddard Space Flight Center, 2University of Wisconsin, 3National Oceanic and Atmospheric Administration, 4Science Systems and Applications, Inc.
Validation and Temporal Analysis of the SEV06-CLD Cloud Product, a MODIS-Like Cloud Properties Dataset from SEVIRI/MSG
Jerome RIEDI1, Galina WIND2, Maximilien PATOU3, Steven PLATNICK4, Andrew HEIDINGER5, François THIEULEUX6, Kerry MEYER7, Jerome VIDOT8
1LOA / Université de Lille, 2Science Systems and Applications, Inc., 3Université Lille 1, 4NASA Goddard Space Flight Center, 5National Oceanic and Atmospheric Administration, 6CMS MeteoFrance

A Study on Improved Thin Cloud Detection Using TOA Reflectance and the BRDF Model-Based Surface Reflectance
Hye-Won KIM1, Jong-Min YEOM1, Sun-Hee WOO2
1Korea Aerospace Research Institute

Common Retrieval of Atmospheric Aerosol Properties Using Satellite Imaging Sensors for JAXA Earth Observation
Mayumi YOSHIDA1, Maki KIKUCHI2, Takashi M. NAGAO3, Hiroshi MURAKAMI1, Tomoyuki NOMAKI2, Higurashi AKIKO3
1Japan Aerospace Exploration Agency, 2Remote Sensing Technology Center of Japan, 3National Institute for Environmental Studies

Understanding of Atmospheric Aerosol Behavior Using a Semi-Regional Model, a Geostationary Satellite and in Situ Measurements over Japan in May 2016
Daisuke GOTO1, Maki KIKUCHI1, Kentaro SUZUKI1, Masatoshi HAYASAKA1, Mayumi YOSHIDA1, Takashi M. NAGAO2, Nobuo SUGIMOTO1, Atsushi SHIMIZU1, Teri NAKAJIMA2
1National Institute for Environmental Studies, 2Japan Aerospace Exploration Agency, 3The University of Tokyo

Application of GOCI Aerosol Optical Properties from Near-Real-Time Air-Quality Monitoring to Long-Term Climatological Analysis over East Asia
Myungie CHOI1, Jhoon KIM2, Seoyoung LEE2, Jaehwa LEE2
1Yonsei University, 2NASA Goddard Space Flight Center

Observing Significant Aerosol Events Using Sensors in LEO and GEO Orbits
Robert LEVY1, Shana MATTOO2, Pawan GUPTA1, Virginia SAWYER1
1NASA Goddard Space Flight Center, 2Science Systems and Applications, Inc.

Next Generation Geostationary Imagers AHI/ABI Processing and Visualization Support at SSEC for NASA Earth Science and Integration into the NASA Worldview Application
Robert HOLZ1, Ralph KUEHN2, Coda PHILIPS1, Ryan BOLLER1, Matthew CECHINI2, Kerry MEYER2, Steven PLATNICK2, Andrew HEIDINGER3
1University of Wisconsin, 2NASA Goddard Space Flight Center, 3National Oceanic and Atmospheric Administration

DSCOVR-EPIC Aerosol Products
Omar TORRES1, Chamgwoo AHN2, Jun WANG3, Xiaoguang XU3
1NASA Goddard Space Flight Center, 2Science Systems and Applications, Inc., 3The University of Iowa

AERONET’s Ground – Based RS Network Measurements for Diurnal Aerosol Assessments
Brent HOLBEN1, David GILES2, Thomas ECK3, Ilya SLUTSKER1,3, Joel SCHAFER1, Aliaksandri SINYUK1, Mikhail SOROKIN1
1NASA Goddard Space Flight Center, 2Science Systems and Applications, Inc., 3Sigma Space Corporation

Asian Monsoon Variability in a Warming Environment
Mon - 04 Jun | MR325A
Time 08:30 - 10:30
Chair(s) Kyung-Ja HA, Pusan National University

Summer Tibetan Plateau Snow Variability and its Influence on Asian Summer Rainfall
Renguang WU1, Zhibiao WANG2
1Chinese Academy of Sciences

Comparative Study of Response of Indian Summer Monsoon to Changes in SST and Snow Depth in a GCM
Sushil Kumar DASH1
1Indian Institute of Technology Delhi
AS10-D1-AM1-325A-003 | AS10-A007 (Invited)
The Nonlinearity in the Indian Summer Monsoon Rainfall Responses to Opposite Phases of IOD
Swadhin BEHERA1++, Venkata Ratnam JAYANTHI1
1Japan Agency for Marine-Earth Science and Technology

AS10-D1-AM1-325A-004 | AS10-A001
Climatic Impact of Tropical Volcanic Eruption: The Role of Background Climate and Volcanic Perturbation
Chaochao GAO1++,
1Zhejiang University

AS10-D1-AM1-325A-005 | AS10-A011
Spatial Patterns of Drought/Flood over Eastern China in the Periods of Anomalous Solar Activity During the Past Millennium
Jingyun ZHENG1++, Zhixin HAO1, Xuezhen ZHANG1
1Chinese Academy of Sciences

AS10-D1-AM1-325A-006 | AS10-A015
Changes in Global Precipitation Associated with Global Warming and Natural SST Modes
Kyung-Ja HA1++, Byeong-Hee KIM1
1Pusan National University

AS10-D1-AM1-325A-007 | AS10-A019
Recent Decadal Change in Surface Air Temperature over East Asia: From Weak to Strong Winter Monsoon
Kyung-Ja HA1++, Junghee YUN1
1Pusan National University

AS10-D1-AM2-325A-008 | AS10-A013 (Invited)
Extreme Precipitation Changes in Global Land Monsoon Regions in a 1.5 Degree Warming World
Tianjun ZHOU1++,
1Chinese Academy of Sciences

AS10-D1-AM2-325A-009 | AS10-A012 (Invited)
Use of APHRODITE Raingauge Based Precipitation Product for Improving Asian Monsoon Seasonal Precipitation Forecasts by the Superensemble Method
Akiyo YATAGAI1++, Vinay KUMAR2
1Hirotsuki University, 2Texas A&M University

AS10-D1-AM2-325A-010 | AS10-A014 (Invited)
Understanding ENSO-Indian Summer Monsoon Teleconnections During Last Millennium with Emphasis on MWP and LIA: A PMIP3 Approach
Karumuri ASHOK1++, Charan Teja TEJAVATH1, Supriyo CHAKRABORTY2, Rengaswamy RAMESH3
1University of Hyderabad, 2Indian Institute of Tropical Meteorology, 3National Institute of Science Education and Research

AS10-D1-AM2-325A-011 | AS10-A023
Addressing on Mechanism of Different Types of ENSO and Related Teleconnections and Solar Influence
Indrani ROY1++,
1University of Exeter

AS11 / Impacts of Haze and Dust in East Asia: Mechanism, Observations, and Model Assessments
Mon - 04 Jun | MR325A

Time 13:30 - 15:30
Chair(s) Yuan WANG, California Institute of Technology
Jianping GUO, Chinese Academy of Meteorological Sciences

AS11-D1-PM1-325A-001 | AS11-A046 (Invited)
Formation and Impacts of Regional Haze in China
Renyi ZHANG1++,
1Texas A&M University

AS11-D1-PM1-325A-002 | AS11-A057 (Invited)
Quantifying Contributions of Natural and Anthropogenic Dust Emission from Different Climatic Regions
Jianping HUANG1++, Siyu CHEN1
1Lanzhou University

AS11-D1-PM1-325A-003 | AS11-A057 (Invited)
A New High Frequency Multi-Satellite Constrained Aerosol Emissions Database, and Associated Impacts on Aerosol Loadings and Radiative Forcing: Missing Sources, Long-Range Transport, and Spatial-Temporal Changes
Jason COHEN1++,
1Sun Yat-sen University

AS11-D1-PM1-325A-004 | AS11-A003
Variation of Bacterial Aerosols in Asian Continental Outflow with Synoptic Weather: Recent Observations at Southwestern Japan
Daizhou ZHANG1++, Kotaro MURATA1, Wei HU1, Hiromi MATSUSAKI1, Hongli YUAN2, Weilin LP1, Makiko KAKIKAWA4
1Prefectural University of Kumamoto, 2National Institute for Polar Research, 3China Agricultural University, 4Kanazawa University
Wintertime Nitrate Formation During Haze Days in Xi’an, China: A Case Study
Tian FENG*, Naifang BEI, Shuyu ZHAO, Jianru WU, Xia LI, Ting ZHANG, Junji CAO, Weijian ZHOU, Guohui LI
1Chinese Academy of Sciences, 2Xi’an Jiaotong University, 3Institute of Earth Environment, Chinese Academy of Sciences, 4University of Chinese Academy of Sciences

Quantifying the Haze Aerosol Optical Depth over East Asia Using Modified MODIS Dark Target Algorithm
Yingxi SHI*, Pawan GUPTA, Robert LEVY, Lorraine REMER, Shana MATTOO, Leiku YANG
1 Universities Space Research Association, 2 NASA Goddard Space Flight Center, 3 University of Maryland, Baltimore County, 4 Airphoton LLC, 5 Science Systems and Applications, Inc. / NASA Goddard Space Flight Center, 6 Henan Polytechnic University

AS12 / Data Assimilation for Earth System Applications
Mon - 04 Jun  | MR302B
Time 08:30 - 10:30
Chair(s) Soyoun HA, National Center for Atmospheric Research
Jerome MONNIER, INSA & Mathematics Institute of Toulouse

DART: An Ensemble Data Assimilation Facility for Earth System Research, Education and Operations
Jeffrey ANDERSON
1 National Center for Atmospheric Research

Impact of Assimilating All-Sky Infrared Radiance on Tropical Cyclone Simulation Using WRF-ENKF
Lei ZHU, Yonghui WENG, Fuqing ZHANG, Zhiyong MENG
1 Peking University, 2 Pennsylvania State University

Adaptive Localization for Satellite Radiance Observations in an Ensemble Kalman Filter
Lili LEI*, Jeffrey ANDERSON, Jeffrey WHITAKER
1 Nanjing University, 2 National Center for Atmospheric Research, 3 National Oceanic and Atmospheric Administration

Multi-Sensor Land Data Assimilation: Toward a Robust Global Soil Moisture and Snow Estimation
Long ZHAO*, Zong-Liang YANG
1 Southwest University, 2 The University of Texas at Austin

Multi-Resolution Outer-Loop for Hybrid Four-Dimensional Ensemble-Variational Data Assimilation
Hyo-Jong SONG*, Ji-Hyun HA, Junghan KIM
1 Korea Institute of Atmospheric Prediction Systems (KIAPS)

Improving Short Term Wind Power Forecast over Southern California Wind Resources Area
Chih-Ying CHEN, Shu-Hua CHEN
1 University of California, Davis, 2 National Central University

Randomized Incremental Optimal Technique (RIOT) for Chemical Data Assimilation and Large-Scale Bayesian Atmospheric Inversions
Daven K. HENZE*, Nicolas BOUSSEREZ, Jonathan GUERRETTET
1 University of Colorado Boulder, 2 European Centre for Medium-Range Weather Forecasts, 3 National Oceanic and Atmospheric Administration

Variable-Resolution Analysis Using the Regional Model for Prediction Across Scales
Soyoun HA
1 National Center for Atmospheric Research

LIDAR Data Assimilation and its Impact on PM2.5 Prediction in Taiwan
Lian-Jie WANG*, Chia-Hua HSU, Fang-Yi CHENG, Sheng-Hsiang WANG, Shu-Chih YANG
1 National Central University

Aerosol Data Assimilation and Forecast Using Multi-Satellite Data and In-Situ Observations
Ganghan KIM*, Myong-In LEE
1 Ulsan National Institute of Science and Technology
Ice-Sheet Bed Topography Estimations from a Reduced Uncertainty Flow Model and Surface Data
Jerome MONNIER\(^1\), Jiamin ZHU\(^2\)
\(^1\)Mathematics Institute of Toulouse, \(^2\)National Institute of Applied Sciences Toulouse

Impacts of the Australian Wind Profiler Network on Global Numerical Weather Prediction
Bronwyn DOLMAN\(^1\)\(^2\), Chris TINGWELL\(^2\), Iain REID\(^3\)\(^4\), Maxime HERVO\(^5\)
\(^1\)ATRAD Pty Ltd, \(^2\)Australian Government Bureau of Meteorology, \(^3\)University of Adelaide, \(^4\)MeteoSwiss

AS17 / Land-atmosphere interactions of the Tibetan Plateau and their impacts on weather and climate

Mon - 04 Jun  | MR325B

Time 08:30 - 10:30
Chair(s) Fei CHEN, National Center for Atmospheric Research
Kun YANG, Tsinghua University
Yaoming MA, Chinese Academy of Sciences

Tibetan Plateau Forcing and See-Saw in Asian Summer Monsoon
Guoxiong WU\(^1\)\(^2\), Bian HE\(^1\), Qing BAO\(^3\)
\(^1\)Chinese Academy of Sciences

APSOs for Whole Atmosphere Observation over Tibet-System Description and Preliminary Study
Daren LYU\(^1\)\(^2\), Weilin PAN\(^3\), Yinan WANG\(^4\)
\(^1\)Institute of Atmospheric Physics, Chinese Academy of Sciences, \(^2\)University of Chinese Academy of Sciences, \(^3\)Chinese Academy of Sciences

Advances in Modeling and Observation of Tibetan Plateau Land Surface Processes
Dennis LETTENMAIER\(^1\)\(^2\)
\(^1\)View West Associates

The Role of Air-Sea Interactions in Regulating the Thermal Effect of the Tibetan-Iranian Plateau on the Asian Summer Monsoon
Yimin LIU\(^2\)\(^3\), Bian HE\(^1\), Ziqian WANG\(^2\), Qing BAO\(^3\)
\(^1\)Chinese Academy of Sciences, \(^2\)Sun Yat-sen University

Can the Tibetan Plateau Snow Cover Influence the Interannual Variations of Eurasian Heat Wave Frequency?
Zhiwei WU\(^1\)\(^2\)
\(^1\)Fudan University

Study of Precipitation Recycling over the Tibetan Plateau Using Evaporation-Tagging Approach
Yanhong GAO\(^1\)\(^3\), Fei CHEN\(^1\), Gonzalo MIGUEZ-MACHO\(^3\)
\(^1\)Chinese Academy of Sciences, \(^3\)National Center for Atmospheric Research, \(^4\)Universidad de Santiago de Compostela

The Performance of Different Time Scale Signal over Tibetan Plateau
Xiaodan GUAN\(^1\)\(^2\)\(^3\), Jieru MA\(^1\), Jingchen LIU\(^1\)
\(^1\)Lanzhou University

The Impact of the Tibetan Plateau Winter/Spring Snow Depth and Surface Heat Source on Asian Summer Monsoon: A Review
Anmin DUAN\(^1\)\(^2\)
\(^1\)Chinese Academy of Sciences

Combining Satellite Data with Atmospheric Boundary Layer Observations for Land Surface Heat Fluxes over Heterogeneous Landscape of the Third Pole
Yaoming MA\(^1\)\(^3\), Weiqiang MA\(^1\), Lei ZHONG\(^2\), Binbin WANG\(^1\), Cunbo HAN\(^1\), Zhikun ZHU\(^1\)
\(^1\)Chinese Academy of Sciences, \(^2\)University of Science and Technology of China

Progress in Understanding Uncertainties and in Improving Land-Surface Models over the Tibetan Plateau
Fei CHEN\(^1\)\(^2\)
\(^1\)National Center for Atmospheric Research
AS17-D1-PM1-325B-011 | AS17-A044 (Invited)
Hydroclimatic Impacts of Multisensor and Multivariate Land Data Assimilation on the Global Scale and for the Tibetan Region
Zong-Liang YANG1++, Long ZHAO2, Peirong LIN1, Qingyun LIAN3
1The University of Texas at Austin, 2Southwest University, 3Chinese Academy of Sciences

AS17-D1-PM1-325B-012 | AS17-A001 (Invited)
The Elevation-Dependence of Meteorological Variables in the South Slope of Central Himalaya
Kun YANG1++, Nicolas GUYENNON3, Lin OUYANG3, Gianni TARTARI3, Franco SALERNO3
1Institute of Tibetan Plateau Research, Chinese Academy of Sciences, 2, 3National Research Council, 4Tsinghua University

AS17-D1-PM1-325B-013 | AS17-A038
Impact of Tibetan Plateau Snowpack Pollution on Precipitation in South and East Asia
Cenlin HE1++, Fei CHEN1, Mike BARLAGE1, Yun QIAN2
1National Center for Atmospheric Research, 2Pacific Northwest National Laboratory

AS17-D1-PM1-325B-014 | AS17-A045
Comparative Analyses of Vertical Structure of a Deep Convective Cloud with Multi-Source Satellite and Ground-Based Observational Data at Naqu over the Tibetan Plateau
Hui WANG1++, Xueliang GUO1
1Chinese Academy of Meteorological Sciences

AS17-D1-PM1-325B-015 | AS17-A043
Lightning Activity over North Himalayas and Tibetan Plateau: Long Term Trends and Their Association with Regional Wind Dynamics
D.M. LAL1, Manoj K. SRIVASTAVA2++, M. MAHAKUR1, Sachin GHUDE1
1Indian Institute of Tropical Meteorology, 2Banaras Hindu University

AS17-D1-PM1-325B-016 | AS17-A023
Impact of Solar Activity on Correlation Between Snow over the Tibetan Plateau and Summer Precipitation in China
Yan SONG1++, 1China Meteorological Administration
Intra-Annual Relationships Among Siberian Wildfire Occurrences, and Meteorological and Hydro-Climatological Conditions
Teppei YASUNARI1*, Kyu-Myong KIM1, Arlindo DA SILVA2
1Hokkaido University, 2NASA Goddard Space Flight Center

Time 13:30 - 15:30
Chair(s) Yun QIAN, PNNL

Global Climate Change Driven by Soot Ejection Following the Asteroid Impact as the Cause of the Extinction of the Dinosaurs
Naga OSHIMA1*, Kunio KAIHO2
1Japan Meteorological Agency, 2Tohoku University

Anthropogenic Aerosols Induced Drying Trends in Global Land Monsoon Area
Tianjun ZHOU1*
1Chinese Academy of Sciences

Xin WANG1*
1Lanzhou University

Long Term Measurements of Aerosol Size Distribution and CCN Concentration in and Around the Korean Peninsula
Seong Soo YUM1*, Minsu PARK1, Naijin KIM1
1Yonsei University

Biomass Burning Aerosol Interactions with Hydroclimate
Charles ICHOKU1*, Xiaohua PAN1, Kyu-Myong KIM1, Gabriel PEREIRA2, Francielle CARDZO2, Luke ELLISON2, William LAU2, Arlindo DA SILVA1, Mian CHIN1, Ralph KAHN1
1NASA Goddard Space Flight Center, 2Federal University of São João del Rei, 3Science Systems and Applications, Inc., 4University of Maryland

Impact of the East Asia Jet Stream on the Interannual Variation of Aerosol over Northeast Asia in Spring
Seunghee LEE1*, Myong-In LEE1, Chang-Koun SONG1, Kyu-Myong KIM2, Arlindo DA SILVA2
1Busan National Institute of Science and Technology, 2NASA Goddard Space Flight Center

Inadvertent Modification of Precipitation by the Severe Hazes in Korea for 2011 to 2016
Seung-Hee EUN1*, Wenting ZHANG1, Sung Min PARK1, Byeong-Gon KIM1
1Gangneung-Wonju National University

Selective Monsoon-ENSO Interaction: Active Role of the Southeast Asian Monsoon
Song YANG1*, Tuantuan ZHANG1, Zhenning LI1
1Sun Yat-sen University

Thermal Configuration of the Bay of Bengal-Tibetan Plateau Region and the May Precipitation Anomaly in Yunnan
Jie CAO1*
1Yunnan University

Inter-Model Warming Projection Spread: Inherited Traits from Control Climate Diversity
Xiaoming HU1*, Ming CAI1, Song YANG1, Yi DENG1, Patrick TAYLOR1, Sergio SEJAS1
1Sun Yat-sen University, 2Florida State University, 3Georgia Institute of Technology, 4National Aeronautics and Space Administration

Diverse Impacts of ENSO on Wintertime Precipitation over the Maritime Continent
Jingwen GE1*, Xiaojing JIA1
1Zhejiang University
AS28-D1-AM1-326A-006 | AS28-A004
Springtime Westward Strengthening of the Western Pacific Convection Modulates Pacific Trade Wind During 1901-2010
Zhenning LI1+, Song YANG1#
1Sun Yat-sen University

AS28-D1-AM1-326A-007 | AS28-A015
Effect of Boreal Spring Precipitation Anomaly Pattern Change in the Late 1990s over Tropical Pacific on the Atmospheric Teleconnection
Yuanyuan GUO1+, Zhiping WEN1+, Ruidan CHEN1, Xiuzhen LI1, Xiu-Qun YANG1
1Sun Yat-sen University, 2Fudan University, 3Nanjing University

AS28-D1-AM1-326A-008 | AS28-A018
Interdecadal Changes in the Relationship Between North Tropical Atlantic SST and Center Pacific ENSO
Xiaoxue YIN1+, Liantong ZHOU1#
1Chinese Academy of Sciences

AS28-D1-AM2-326A-009 | AS28-A014 (Invited)
Numerical Study on Interdecadal Modulations of the Interannual Variability of Spring Rainfall over South China by the Pacific Decadal Oscillation
Jiangyu MAO1+, Xiaofei WU1
1Chinese Academy of Sciences

AS28-D1-AM2-326A-010 | AS28-A006
Intraseasonal Rainfall and SST Variations in the South China Sea Linked to East Asian Winter Monsoon
Renguang WU1+, Xi CAO1
1Chinese Academy of Sciences

AS28-D1-AM2-326A-011 | AS28-A005
Interannual Variations And Prediction Of Spring Precipitation Over China
Xiaojing JIA1#
1Zhejiang University

AS28-D1-AM2-326A-012 | AS28-A023
Tibetan Plateau Heating as a Driver of Monsoon Rainfall Variability in Pakistan
Ziqian WANG1+, Song YANG1, Anmin DUAN1, Kalim ULLAH1
1Sun Yat-sen University, 2Chinese Academy of Sciences, 3COMSATS Institute of Information Technology

AS28-D1-AM2-326A-013 | AS28-A013
Multi-Scale Spatial and Temporal Variations of Thermal Characteristics over the Tropical Western Pacific: A Process-Based Attribution Analysis
Yana LI1#
1Sun Yat-sen University

AS31 / The Science and Prediction of Tropical Cyclones
Mon - 04 Jun | MR315

Time 08:30 - 10:30
Chair(s) Chun-Chieh WU, National Taiwan University
Wei MEI, University of North Carolina

AS31-D1-AM1-315-001 | AS31-A086
Kazuhiro TSUBOKI1+, Hiroyuki YAMADA2, Tadayasu OHIGASHI1, Kosuke IT02, Norio NAGAHAMA2, Kensaku SHIMIZU1, Munehiko YAMAGUCHI2, Taro SHINODA1, Nobuhiro TAKAHASHI1, Tetsuo NAKAZAWA1
1Nagoya University, 2University of the Ryukyus, 3Kyoto University, 4Meisei Electric, 5Japan Meteorological Agency

AS31-D1-AM1-315-002 | AS31-A016 (Invited)
Tropical Cyclone Boundary Layer Momentum Diffusivity from Aircraft Observations in the South China Sea
Ralf TOUMI1+, Nathan SPARKS1, Johnny CHAN2, K.K. HON3, P.W. CHAN3
1Imperial College London, 2City University of Hong Kong, 3Hong Kong Observatory

AS31-D1-AM1-315-003 | AS31-A032
Taiwan-Area Atmospheric and Hydrological Observation and Prediction Experiment (TAHOPE)
Ching-Yuang HUANG1+, Michael BELL1
1National Central University, 2Colorado State University

AS31-D1-AM1-315-004 | AS31-A084 (Invited)
Observation Study for Understanding the Relationship Between Lightning Activity and Tropical Cyclone Intensity in the Philippine Sea
Hisayuki KUBOTA1+, Yukihiro TAKAHASHI1, Mitsuteru SATO1, Kozo YAMASHITA2, Jun-Ichi HAMADA3
1Hokkaido University, 2Ashikaga Institute of Technology, 3Tokyo Metropolitan University
Impact of Horizontal and Vertical Resolutions on a Simulated Tropical Cyclone
Young-Cheol KWON\textsuperscript{1}\textsuperscript{+}, Ki-Byung KIM\textsuperscript{1}
\textsuperscript{1}Korea Institute of Atmospheric Prediction Systems (KIAPS)

Double Warm-Core Structure of Typhoon Lan (2017) Observed by Dropsondes During T-PARCII
Hiroyuki YAMADA\textsuperscript{1,2}, Kazuhiwa TSUBOKI\textsuperscript{2}, Norio NAGAHAMA\textsuperscript{1}, Kensaku SHIMIZU\textsuperscript{1}, Tadayasu OHIGASHI\textsuperscript{1}, Taro SHINOUDA\textsuperscript{1}, Kazuhiwa TSUBOKI\textsuperscript{2}, Munehiko YAMAGUCHI\textsuperscript{2}, Tetsuro NAKAZAWA\textsuperscript{1}
\textsuperscript{1}University of the Ryukyus, \textsuperscript{2}Nagoya University, \textsuperscript{3}Meisei Electric, \textsuperscript{4}Kyoto University

Preliminary Data Assimilation and Forecast Experiments with Dropsondes During T-PARCII
Kosuke ITO\textsuperscript{1,2}, Munehiko YAMAGUCHI\textsuperscript{2}, Hiroyuki YAMADA\textsuperscript{1}, Norio NAGAHAMA\textsuperscript{1}, Kensaku SHIMIZU\textsuperscript{1}, Tadayasu OHIGASHI\textsuperscript{1}, Taro SHINOUDA\textsuperscript{1}, Kazuhiwa TSUBOKI\textsuperscript{2}, Tetsuro NAKAZAWA\textsuperscript{1}
\textsuperscript{1}University of the Ryukyus, \textsuperscript{2}Nagoya University

Time Evolution of Warm Core in Typhoon Lan (2017) Simulated by a Cloud-Resolving Model
Satoki TSUJINO\textsuperscript{1}\textsuperscript{+}, Kazuhiwa TSUBOKI\textsuperscript{1}, Hiroyuki YAMADA\textsuperscript{2}, Tadayasu OHIGASHI\textsuperscript{1}, Kosuke ITO\textsuperscript{1}, Norio NAGAHAMA\textsuperscript{1}
\textsuperscript{1}Nagoya University, \textsuperscript{2}University of the Ryukyus, \textsuperscript{3}Meisei Electric

Modulating Effects of Mesoscale Oceanic Eddies on Sea Surface Temperature Response to Tropical Cyclones
Zhanhong MA\textsuperscript{1}\textsuperscript{+}, Bojiang YANG\textsuperscript{1}, Lijun YU\textsuperscript{1}
\textsuperscript{1}National University of Defense Technology

Influence of the North Atlantic Capacitor on Tropical Cyclone Genesis over the Western North Pacific Following Strong El Niño
Jinhu YU\textsuperscript{1,2}, Ke FANG\textsuperscript{1}, Xinzhong LIANG\textsuperscript{1}, Jie SONG\textsuperscript{3}
\textsuperscript{1}Nanjing University of Information Science & Technology, \textsuperscript{2}University of Maryland, \textsuperscript{3}Northern Illinois University

Predictability of North Atlantic Tropical Cyclogenesis in Different Synoptic Flow Regimes
Zhao WANG\textsuperscript{1}\textsuperscript{+}
\textsuperscript{1}University of Illinois at Urbana-Champaign

Intensification of Landfalling Typhoons over the Northwest Pacific Since the Late 1970s
Wei MEI\textsuperscript{1,2}, Shang-Ping XIE\textsuperscript{2}
\textsuperscript{1}University of North Carolina at Chapel Hill, \textsuperscript{2}University of California San Diego

Sensitivity of Tropical Cyclone Intensification to Axisymmetric Latent Heat Sources: The Role of Microphysical Processes
M.K.(Peter) YAU\textsuperscript{1}\textsuperscript{+}
\textsuperscript{1}McGill University

Tropical Cyclone Intensity Forecast in Northwest Pacific Ocean Considering the Land Effect
Qinglan LI\textsuperscript{1,2}, Lei ZHANG\textsuperscript{1}, Hui LI, Xiaoxue WANG\textsuperscript{1}, Liqun SUN\textsuperscript{1}, Guangxin LI, Jian HUANG\textsuperscript{3}
\textsuperscript{1}Chinese Academy of Sciences, \textsuperscript{2}Shenzhen Meteorological Bureau
AS31-D1-PM1-315-018 | AS31-A043
Introduction of K-MPAS and Verification of its Typhoon Track Prediction
Minsu JOH1, Jin-Hee YUK1, Ji-Sun KANG1
1Korea Institute of Science and Technology Information

AS31-D1-PM1-315-019 | AS31-A029
A Dynamical-Statistical Ensemble Analogue Forecast (DEAF) Model and its Application in Predicting Tropical Cyclone Precipitation
Fumin REN1,2
1Chinese Academy of Meteorological Sciences

AS31-D1-PM1-315-020 | AS31-A028
Improvement of Weighted Analog Intensity Prediction for Different Stages of the Western North Pacific Tropical Cyclones
Hsiao-Chung TSAI1,2,3, Russell ELSBERRY2
1Tamkang University, 2Nacial Postgraduate School

AS36 / Ocean-atmosphere Coupling: Dynamics, Assimilation, and Predictability
Mon - 04 Jun  |  MR303B
Time 13:30 - 15:30
Chair(s) Fei ZHENG, Chinese Academy of Sciences
Stephane VANNITSEM, Royal Meteorological Institute of Belgium

AS36-D1-PM1-302B-006 | AS36-A007 (Invited)
Improved Decadal Climate Prediction Using EnOI-Assimilated Initial Condition
Qingquan LI1,2,3, Min WEI1, Xiaoge XIN1, Wei ZHOU2, Yong LUN1, Zongci ZHAO1
1China Meteorological Administration, 2Chinese Academy of Sciences, 3Tsinghua University

AS36-D1-PM1-302B-007 | AS36-A002
Role of Subsurface Ocean Data Assimilation in Decadal Climate Predictability Over the South Atlantic
Yushi MORIOKA1,2, Takeshi DOH1, Andrea STORTO1, Simona MASINA1, Swadhin BEHERA1
1Japan Agency for Marine-Earth Science and Technology, 2Euro-Mediterranean Centre on Climate Change

AS36-D1-PM1-302B-008 | AS36-A008
Influence of Initial Perturbation Amplitudes and Ensemble Sizes on Ensemble Forecast Skill
Wansuo DUAN1
1Chinese Academy of Sciences

AS36-D1-PM1-302B-009 | AS36-A012
Impacts of North Pacific Subtropical and Subarctic Oceanic Frontal Zones on the Wintertime Atmospheric Large-Scale Circulations
Jing HUANG1, Yang ZHANG1
1Nanjing University

AS36-D1-PM1-302B-010 | AS36-A005
Climate Impacts of Stochastic Atmospheric Perturbations on the Ocean
Jie ZHANG1
1China Meteorological Administration

AS36-D1-PM1-302B-011 | AS36-A016
Seasonal-to-Decadal Prediction with the Norwegian Climate Prediction Model
Noel KEENLYSIDE1,2, Yigu Wang2, Francois COUNILLON3, Ingo BETHKE4, Panxi DAI5, Helene LANGHEAUG5, Madlen KIMMRTZ6, Stephanie GLEIXNER7, Lea SVENDSEN8
1University of Bergen, 2Nansen Environmental and Remote Sensing Center, 3Uni Research, 4Peking University

AS36-D1-AM2-303B-001 | AS36-A001 (Invited)
Changes in Dynamics and Predictability of the North Atlantic Atmospheric Circulation
Davide FARANDA1, Gabriele MESSORI2, M Carmen ALVAREZ-CASTRO1, Pascal YIOU3
1National Center for Scientific Research, 2Stockholm University, 3Euro-Mediterranean Center on Climate Change, 4National Center for Scientific Research/ CEA Saclay/ Université Paris Saclay

AS36-D1-AM2-303B-002 | AS36-A009
Causal Dependencies Between the Coupled Ocean-Airmosphere Dynamics over the Tropical Pacific, the North Pacific and the North Atlantic
Stéphane VANNITSEM1,2, Pierre EKELMANS3
1Royal Meteorological Institute of Belgium, 2Max Planck Institute for Brain Research
Synchronizing Earth System Models in Improving Model States
Mao-Lin SHEN1#+, Noel KEENLYSIDE1, Marion DEVILLIERS5, Francois COUNILLON5
1University of Bergen, 2Nansen Environmental and Remote Sensing Center

Ocean-Atmosphere Coupled Pacific Decadal Variability Simulated by a Climate Model
Fei ZHENG1#+, Hao LIO1, Noel KEENLYSIDE5, Jiang ZHU5
1Chinese Academy of Sciences, 2University of Bergen

Lyapunov Instability Study of High-Dimensional Atmospheric and Climate Models
Lesley DE CRUZ1#+, Sebastian SCHUBERT5, Jonathan DEMAEYER1, Valerio LUCARINI3, Stéphane VANNITSEM5
1Royal Meteorological Institute of Belgium, 2University of Hamburg, 3University of Reading

Diurnal Cycle and the MJO over the Maritime Continent
Chidong ZHANG1#+, Robert JOYCE1, Pingping XIE1, Agie WANDALA3
1National Oceanic and Atmospheric Administration, 2Innovim LLC, 3Indonesian Agency for Meteorology, Climatology and Geophysics

Diurnal Variability in the Maritime Continent: Diabatic Heating, the Land/Sea Breeze Circulation and Precipitation
Claire Louise VINCENT1,2#, Todd LANE1,2, Ewan SHORT1
1The University of Melbourne, 2ARC Centre of Excellence for Climate Extremes

Propagating and Non-Propagating Rainfall System Relate to Cold Surge-Cold Tongue Interaction over the Northern Coast of West Java
Erma YULIHASTIN1#+
1National Institute of Aeronautics and Space, 2Bandung Institute of Technology

The Effect of an Active Phase of the Madden-Julian Oscillation on Precipitation and Surface Winds on the Western Coast of Sumatra Island
Pei-Ming WU1#, Dodi ARDIANSYAH1, Shuichi MORI1, Kunio YONEYAMA1
1Japan Agency for Marine-Earth Science and Technology, 2Indonesian Agency for Meteorology, Climatology and Geophysics

Radar Characteristics of Precipitation Systems Occurring in Different Synoptic Wind Regimes Around Sumatra Island
Biao GENG1#+, Masaki KATSUMATA1
1Japan Agency for Marine-Earth Science and Technology

The Piston Field Campaign: Propagation of Intra-Seasonal Tropical Oscillations
Steven RUTLEDGE1#
1Colorado State University

A Space-Based Four-Year Perspective of Rain and Snow from the Global Precipitation Measurement (GPM) Mission
Gail SKOFRONICK-JACKSON1#, George HUFFMAN1, Walter PETERSEN1, Chris KIDD1
1NASA Goddard Space Flight Center, 2University of Maryland, College Park
Updates to the IMERG Morphing Algorithm
Jackson TAN1, George HUFFMAN1, David BOLVIN2, Eric NELKIN3
1Universities Space Research Association, 2NASA Goddard Space Flight Center, 3Science Systems and Applications Incorporated (SSAI)

Development of A-Priori Database for Precipitation Retrieval Using Multi-Microwave Satellites
Geun-Hyeok RYU1, Eunkyoung SEO1, Hwa-Young JEOUNG1, Jun-Dong PARK1, Jaedong JANG1
1Korea Meteorological Administration, 2Kongju National University

Current Status of the Global Precipitation Measurement (GPM) Mission in Japan
Takuji KUBOTA1, Riko OKI1, Moeka YAMAJI1, Toshio IGUCHI1, Yukari TAKAYABU1
1Japan Aerospace Exploration Agency, 2National Institute of Information and Communications Technology, 3The University of Tokyo

Ground Validation of Satellite Based Precipitation Products in Bolivia
Oliver SAAVEDRA1, Andres VALLEJOS1, Jhonatan UREÑA1
1Universidad Privada Boliviana

Accuracy Verification of a New Rainfall Estimation Data Utilizing Himawari-8 Middle-Level Water Vapor Band in Asian-Monsoon Region
Hitoshi HIROSE1, Atsushi HIGUCHI1
1Chiba University

Bias Correction of Surface Rainfall Based on Precipitation Profiles at Low Levels
Masafumi HIROSE1
1Meijo University

Time 11:00 - 12:30
Chair(s) Yukari N. TAKAYABU, The University of Tokyo
Geun-Hyeok RYU, Korea Meteorological Administration

Enhancing Data Assimilation of GPM Observations
Takemasa MIYOSHI1,2,3, Shunji KOTSUKI1, Koji TERASAKI1, Keiichi KONDO1, Guo-Yuan LIEN1, Kenta KUROSAWA1, Masaki SATOH1, Hirofumi TOMITA1, Eugenia KALNAY2
1RIKEN Advanced Institute for Computational Science, 2University of Maryland, 3Japan Meteorological Agency, 4The University of Tokyo

Multiscale Structure of the MJO Revealed from Long-Term Satellite Observations
Kazuyoshi KIKUCHI1,2, George KILADIS2, Juliana DIAS2, Tomoe NASUNO3
1University of Hawaii at Manoa, 2National Oceanic and Atmospheric Administration, 3Japan Agency for Marine-Earth Science and Technology

Large-Scale Environmental Effects on Precipitation Characteristics Around Japan in Warm Seasons
Yukari TAKAYABU1, Chie YOKOYAMA1, Atsushi HAMADA1, Hiroki TSUJI1
1The University of Tokyo

Future Changes in Precipitation Characteristics Around Japan in Early Summer Reconstructed from CMIP5 Model
Chie YOKOYAMA1, Yukari TAKAYABU3, Osamu ARAKAWA3, Tomoaki OSE1
1The University of Tokyo, 2Japan Agency for Marine-Earth Science and Technology, 3Japan Meteorological Agency
AS48 / Earth System Predictability, Prediction and Application
Mon - 04 Jun  |  MR326B

Time 13:30 - 15:30
Chair(s) June-Yi LEE, Pusan National University
Yoshimitsu CHIKAMOTO, Utah State University

AS48-D1-PM1-326B-001 | AS48-A001 (Invited)
Relating Model Bias and Prediction Skill in the Tropical Atlantic
Noel KEENLYSIDE1,+, Francois COUNILLON2, Shunya KOSEKI3, Teferi DEMISSIE3, Yiguo WANG2, Lea SVENDSEN1, Thomas TONIAZZO2, Ingo BETHKE3
1University of Bergen, 2Nansen Environmental and Remote Sensing Center, 3Uni Research

AS48-D1-PM1-326B-002 | AS48-A011 (Invited)
Seasonal and Interannual Variations of Fire Weather and Wildfires over the Contiguous United States
Kyu-Myong KIM1,+, William LAU2, Charles ICHOKU1, Anton DARMENOV1, Gabriel PEREIRA1, Arlindo DA SILVA1, Luke ELLISON1
1NASA Goddard Space Flight Center, 2University of Maryland, 3Federal University of São João del Rei, 4Science Systems and Applications, Inc.

AS48-D1-PM1-326B-003 | AS48-A006
Mechanisms and Predictability of Multiyear Ecosystem Variability in the North Pacific
Megumi CHIKAMOTO1,+, Axel TIMMERMANN2, Yoshimitsu CHIKAMOTO1, Hiroki TOKINAGA1, Naomi HARADA3
1University of Hawaii, 2Pusan National University, 3IBS Center for Climate Physics, 4Utah State University, 5Kyoto University, 6Japan Agency for Marine-Earth Science and Technology

AS48-D1-PM1-326B-004 | AS48-A019
Development of Nuist Earth System Model for CMIP6 and its Application: Seasonal Prediction over East Asian Monsoon
Young-Min YANG1,+, Bin WANG1
1University of Hawaii

AS48-D1-PM1-326B-005 | AS48-A020
Grand European and Asian-Pacific Multi-Model Seasonal Forecasts: Maximization of Skill and of Potential Economical Value to End-Users
Andrea ALESSANDRI1,+, Matteo DE FELICE2, Franco CATALANO2, June-Yi LEE1, Bin WANG2, Doo Young LEE3, Jin-Ho YOO4, Antje WEISHEIMER5
1Royal Netherlands Meteorological Institute, 2Agence Nazionale per le Nuove Tecnologie, l’Energia e lo Sviluppo Economico Sostenibile (ENEA), 3Pusan National University, 4University of Hawaii, 5Barcelona Supercomputing Center, 6Asian-Pacific Economic Cooperation Climate Center (APCCC), 7European Center For Medium Range Weather Forecasts (ECMWF)

AS48-D1-PM1-326B-006 | AS48-A002
Quantifying the Agreement Between Observed and Simulated Extratropical Modes of Interannual Variability
Ji-Woo LEE1,+, Ken SPERBER2, Peter GLECKLER1, Céline BONFIJ1, Karl TAYLOR3
1Lawrence Livermore National Laboratory

AS54 / Aerosols, Clouds, Radiation, Precipitation, and Their Interactions
Mon - 04 Jun  |  MR303A

Time 13:30 - 15:30
Chair(s) Xiquan DONG, University of Arizona

AS54-D1-PM1-303A-001 | AS54-A027 (Invited)
Reducing Uncertainty in Climate Sensitivity with Climate-Specific Radiometer Calibration and Requirements
Yolanda SHEA1,+, Bruce WIELICKI1, Constantine LUKASHIN2, Gregory KOPP3, Peter PILEWSKIE2, Kurtis THOME3, Gary FLEMING1, Gregory UCKER2, Sunny SUN-MACK2,+3, Patrick MINNIS1, Mark ZELINKA1, Tyler THORSEN1
1NASA Langley Research Center, 2University of Colorado Boulder, 3NASA Goddard Space Flight Center, 4Science Systems and Applications, Inc., 5Lawrence Livermore National Laboratory

AS54-D1-PM1-303A-002 | AS54-A012 (Invited)
The Impact of Clouds on Radiation over Ocean and Land
Baike XI1,+, Xiquan DONG1, Peng WU1, Xiaojian ZHENG1
1University of Arizona
AS54-D1-PM1-303A-004 | AS54-A013
A Revisit of Dust Radiative Effects in North Atlantic with Recent Measurements of Dust Physical and Optical Properties
Zhibo ZHANG1, Hongbin YU2, Qianqian SONG3, Seiji KATO3, Ping YANG3, Peter COLARCO2, Lorraine REMER1,5
1University of Maryland, Baltimore County, 2National Aeronautics and Space Administration, 3NASA Langley Research Center, 4Texas A&M University, 5Airphoton LLC

AS54-D1-PM1-303A-005 | AS54-A002
Optical Properties of Cirrus Transition Zones over China Detected by CALIOP
Hong-Ke CAI1, Yun-Fei FU2
1Chengdu University of Information and Technology, 2University of Science and Technology of China

AS54-D1-PM1-303A-006 | AS54-A045
Quantifying the Direct Radiative Effect of Aerosols for Numerical Weather Prediction
Mayra OYOLA1, James CAMPBELL1, Peng XIAN2, Anthony BUCHOLTZ2, Richard FERRARE1, Sharon BURTON1, Olga KALASHNIKOVA2, Ben RUSTON2, Simone LOLLI1
1American Society for Engineering Education, 2Naval Research Laboratory, 3NASA Langley Research Center, 4Jet Propulsion Laboratory, California Institute of Technology, 5Institute of Methodologies for Environmental Analysis

AS54-D1-PM1-303A-007 | AS54-A022
Aerosol Vertical Distribution and Optical Properties over the Arid and Semi-Arid Areas of Northwest China
Lei ZHANG1
1Lanzhou University

AS55 / Observations and Representations of Subgrid-scale Processes for Improving Models
Mon - 04 Jun | MR303A

Time 08:30 - 10:30

Chair(s) Kuan-Man XU, NASA Langley Research Center
Xiquan DONG, University of Arizona
Jonathan JIANG, NASA JPL

AS55-D1-AMI-303A-002 | AS55-A016
A Comparison of Different Estimation Methods and Data Sources of Anthropogenic Heat Fluxes - A Case Study from Taiwan
Suranjith Bandara KORALEGEDARA1,2, Chuan-Yao LIN2, Yangfan SHENG3
1National Central University, 2Academia Sinica

AS55-D1-AMI-303A-003 | AS55-A015 (Invited)
Evaluation of EAMv1-Simulated Clouds and Their Sensitivity to Model Resolution
Yuying ZHANG1, Shaocheng XIE2, Wuyin LIN1, Philip J. RASCH3
1Lawrence Livermore National Laboratory, 2Brookhaven National Laboratory, 3Pacific Northwest National Laboratory

AS55-D1-AMI-303A-004 | AS55-A004
Analysis of Long-Term Cloud Vertical Structure from Millimeter Wave Cloud Radar in Beijing, China
Qing ZHOU1, Yong ZHANG1, Jianping GUO3
1China Meteorological Administration, 2Chinese Academy of Meteorological Sciences

AS55-D1-AMI-303A-005 | AS55-A002
Competing Contribution of Aerosol and Precipitation Water Vapor Amount to Aerosol-Cloud Relationship
Chuanfeng ZHAO1, Yanmei QIU1
1Beijing Normal University

AS55-D1-AMI-303A-006 | AS55-A007 (Invited)
Zhibo ZHANG1, Hua SONG3, Po-Lun MA2, Minghuai WANG3, Steve GHAN3
1University of Maryland, Baltimore County, 2Pacific Northwest National Laboratory, 3Nanjing University

AS55-D1-AMI-303A-007 | AS55-A006
Improvement of the Surface Flux Scheme in Finite Volume Method Models
Seiya NISHIZAWA1,2, Yuji KITAMURA3
1RIKEN Advanced Institute for Computational Science, 2Japan Meteorological Agency

AS55-D1-AMI-303A-001 | AS55-A019
Using Kites for Meteorological Measurement of the Marine Boundary Layer
David DECOU1, Alison D. NUGENT1
1University of Hawaii at Manoa
BG01 / Cycling of Carbon and Nitrogen in Terrestrial and Coastal Ecosystems
Mon - 04 Jun  | MR304B

Time 08:30 - 10:30
Chair(s) Punyasloke BHADURY, Indian Institute of Science Education and Research Kolkata

AS55-D1-AM2-303A-008 | AS55-A008
Continental Shallow Cumulus and its Transition to Deep Convection - The Impact of Surface Heterogeneity and Background Wind Speed
Yunyan ZHANG#*
1Lawrence Livermore National Laboratory

AS55-D1-AM2-303A-009 | AS55-A001
Changes in Tropical Clouds and Atmospheric Circulation Associated with Rapid Adjustment Induced by Increased Atmospheric CO2 - A Multiscale Modeling Framework Study
Kuan-Man XU*, Zhujun LI, Anning CHENG, Yongxiang HU
1NASA Langley Research Center, 2Universities Space Research Association, 3National Oceanic and Atmospheric Administration

AS55-D1-AM2-303A-010 | AS55-A017
Simulation of Aerosol Impact on Cloud Droplet Size Distribution with a Prognostic Approach in PAM (Piecewise Lognormal Approximation Aerosol Module)
Yiran PENG*, Knut VON SALZEN, Richard LEAITCH
1Tsinghua University, 2Canadian Center for Climate Modelling and Analysis, 3Weather Modification Office of Hebei Province, 4Beijing Normal University

AS55-D1-AM2-303A-011 | AS55-A014
Implication of Radiative Cloud Forcing via Interection Between PBL Mixing and Shallow Convection
Rae-Seol PARK*, Young-Cheol KWON
1Korea Institute of Atmospheric Prediction Systems (KIAPS)

AS55-D1-AM2-303A-009 | AS55-A008
Continental Shallow Cumulus and its Transition to Deep Convection - The Impact of Surface Heterogeneity and Background Wind Speed
Yunyan ZHANG#*
1Lawrence Livermore National Laboratory

AS55-D1-AM2-303A-009 | AS55-A001
Changes in Tropical Clouds and Atmospheric Circulation Associated with Rapid Adjustment Induced by Increased Atmospheric CO2 - A Multiscale Modeling Framework Study
Kuan-Man XU*, Zhujun LI, Anning CHENG, Yongxiang HU
1NASA Langley Research Center, 2Universities Space Research Association, 3National Oceanic and Atmospheric Administration

AS55-D1-AM2-303A-010 | AS55-A017
Simulation of Aerosol Impact on Cloud Droplet Size Distribution with a Prognostic Approach in PAM (Piecewise Lognormal Approximation Aerosol Module)
Yiran PENG*, Knut VON SALZEN, Richard LEAITCH
1Tsinghua University, 2Canadian Center for Climate Modelling and Analysis, 3Weather Modification Office of Hebei Province, 4Beijing Normal University

AS55-D1-AM2-303A-011 | AS55-A014
Implication of Radiative Cloud Forcing via Interection Between PBL Mixing and Shallow Convection
Rae-Seol PARK*, Young-Cheol KWON
1Korea Institute of Atmospheric Prediction Systems (KIAPS)
Evaluation of Bioaerosol Exposure and Immune Response of Health Care Workers
Chane-Yu LAI1#, Ting-Hsuan HUANG2+, Ming-Hsuan TSAI2, Shao-Hsuan KAO3 1Chung Shan Medical University, 2Occupational Safety and Health, 3Institute of Biochemistry, Microbiology and Immunology

Distribution Patterns of Nitrogen-Cycling Bacterial Groups Between Pristine and Anthropogenically Influenced Coastal Sites Along the Northern Bay of Bengal
Anwesha GHOSH1#+, Punyasloke BHADURY1 1Indian Institute of Science Education and Research Kolkata

Role of Heterotrophic Diazotrophs in Balancing Nutrient Stoichiometry (N:P) in a Tropical Eutrophic Estuary
Mohamed Hatha A. A.1#, Jabir THAJUDEEN1, Jesmi YOUSUF1, Vipindas T. V.1 1Cochin University of Science and Technology

Investigation of the Carbon Cycle in the Methane Seepage Area with Multilayers of Carbonate in the Northern South China Sea
Lihua LIU1#+, Matthias HAECKEL1, Nengyou WU1 1Chinese Academy of Sciences, 2GEOMAR Helmholtz Centre for Ocean Research Kiel

Simulating the Distribution of Upwelling and Downwelling Areas in the Hyporheic Zone at the Wu Guo Shui Area, Taiwan
Jian-Ping SUEN1#, Chih-Yu CHANG2 1National Cheng Kung University, 2Ecological Water Resources Management Lab

Study on Tilapia and Shallot for Fresh Water Aquaponics System
Jhe-Yi YANG1+ 1National Taiwan University

Investigation of Projected Organic Waste Impact on a Tropical Wetland in Singapore
Swee Yang Edmund LOW1+, Dongeon KIM1, Canh Tien Trinh NGUYEN1, Yabin SUN1, Yixiong CAI1, Shie-Yui LIONG2 1National University of Singapore, 2The University of Virginia, 3New York City Department of Environmental Protection

Kyongho SON1#, Laurence LIN1, Lawrence BAND2, Emmet OWENS3 1Research Foundation of the City University of New York, 2The University of Virginia, 3New York City Department of Environmental Protection

Impact Analysis of Discharging Water Temperature from Water Heat Energy System on Downstream of the River
Jisu NAM1+, Jae Won JUNG1, Hong Jun JOO1, Hung Soo KIM1# 1Inha University

On Runoff Coefficient
Sanghyun YOO1+, Kyungrock PAIK1+ 1Korea University

Impact of Low Impact Development on Flood Reduction on Basin, Watershed, and City Scales
Jiun-Huei JANG1#, Jin-Cheng FU2, Chun-Mao HUAN3, Wen-Yen LIN1, Chia-Cheng YEH1 1National Cheng Kung University, 2National Science and Technology Center for Disaster Reduction, 3Ming Chuan University
HS02 / Interactions with Water and Ecosystem - Riparian Zone Processes
Mon - 04 Jun  |  MR318A

**Time** 11:00 - 12:30

**Chair(s)** Jian-Ping SUEN, National Cheng Kung University
Kyungrock PAIK, Korea University

HS02-D1-AM2-318A-001 | HS02-A001

Scale Effect of Velocity, Input Concentration and Water Depth on the Transport of Colloids Through Wetland Vegetation
Congrong YU1#
1Hohai University

HS02-D1-AM2-318A-002 | HS02-A005

Strategies of Flood Control and Sediment Reduction for Nanshi River with Guishan Dam Sluicing Operation
Hoting SU1#, Gene Jiing-Yun YOU1, Yu-Chieh LIN1
1National Taiwan University

HS02-D1-AM2-318A-003 | HS02-A006

An Examination of Two-Dimensional Overland Flow in Urban Area
Chia-Chen CHIEN1, Gene Jiing-Yun YOU1, Yung-Chia HSU2
1National Taiwan University, 2National Cheng Kung University

HS02-D1-AM2-318A-004 | HS02-A008

Impact of Vegetative Filter Strips with Shallow Groundwater Tables on Transport Reductions of Runoff, Sediment, and Phosphorus
Yi-Ming KUO1#, Ran LI1
1China University of Geosciences

HS02-D1-AM2-318A-005 | HS02-A003 (Invited)

Effects of Streamflow, Bedform Amplitude and Groundwater on Hyporheic Exchange in a Sinuous Gravel Stream with Pool-Riffle Sequences
Peng HUANG1, Ting Fong May CHUI1#
1The University of Hong Kong

HS03 / Challenges in Hydrologic Modeling
Mon - 04 Jun  |  MR301

**Time** 08:30 - 10:30

**Chair(s)** Bellie SIVAKUMAR, University of New South Wales
Shie-Yui LIONG, National University of Singapore

HS03-D1-AM1-301-001 | HS03-A006

Runoff Predictions in Ungauged Catchments with Catchment Morphing
Jun ZHANG1#
1University of Bristol

HS03-D1-AM1-301-002 | HS03-A029

Complex Networks for Hydrologic Modeling and Forecasting
Bellie SIVAKUMAR1#, Mahesh MASKEY3, Carlos PUENTE3
1University of New South Wales, 2Indian Institute of Technology Bombay, 3University of California, Davis

HS03-D1-AM1-301-003 | HS03-A005 (Invited)

A Data-Based Modeling of Dominant Rainfall-Runoff Mechanisms: Application to Snowy Watershed
Yoshiyuki YOKOO1#, Kaoru YOSHIDA1, Kaede SUZUKI1, Chris LEONG1
1Fukushima University

HS03-D1-AM1-301-004 | HS03-A020

Application of Multi-Objective Calibration for Swat Model Using NSGA-II Algorithm in South Korea
Yong Gwan LEE1#, Seong-Joon KIM1
1Konkuk University

HS03-D1-AM1-301-005 | HS03-A014

Comparison of Nearest Neighbor Method and Random Forest Algorithm for Classification of Catchments in the United States
R. VIGNESH1#, Bellie SIVAKUMAR2#3
1Vel Tech Rangarajan Dr. Sagunthala R, 2University of New South Wales, 3Indian Institute of Technology Bombay

HS03-D1-AM2-301-006 | HS03-A011

How Much Streamflow Data is Needed to Calibrate Physically-Based Distributed Hydrological Models?
Wenchao SUN1#, Jingshan YU1, Zhanjie LI1, Baolin XUE1
1Beijing Normal University
Water Allocation Model in Geum River, South Korea
Heeseong PARK1, Yeoungrok OH2, Nanhee HWANG2, Hyeong-Joo LEE2, Gunhui CHUNG2
1Korea Institute of Civil Engineering and Building Technology, South Korea, 2Hoseo University

Modeling Severities of Rainfall and Runoff Extremes in Ungauged Catchments
JI CHEN1, Qian XU1, Mervyn PEART1
1The University of Hong Kong

Multivariate, Space and Time Bias Correction of Climate Change Simulations
Rajeshwar MEHROTRA1, Ashish SHARMA1
1University of New South Wales

Parameterization Scheme of Large-Scale Hydrologic Models in China
Xia ZHAO1,2, Xiang ZHANG1, Junkai DU2, Cunwen NIU3
1Wuhan University, 2China Institute of Water Resources and Hydropower Research

Flood Hazard Assessment with Applications of Satellite Data and Data Mining Techniques
Donggeon KIM1,2, Jiandong LIU3, Mengjie LI4, Srivatsan RAGHAVAN1, Ngoc Son NGUYEN2, Jina HUR1, Shie-Yui LIONG5
1National University of Singapore

Simulation of Vegetation Dynamics over the Heihe River Basin in Northwestern China
Jing FU1, Jun NIU1
1China Agricultural University

Reconstruction of MODIS NDVI Data for Hydrological Modeling, Using a Graph-Based Method
Wang FU1, Tiejian LI1, Jiaye LI1, Chen CHEN1, Yuantao GU1, Guangqian WANG1
1Tsinghua University

Numerical Modeling of Influences of Point Source and Non-Point Source Pollution on Water Quality in the Pearl River Basin in South China
Xiao FENG1, Ji CHEN1
1The University of Hong Kong

Evaluation of Impacts of Non-Point Source Pollutant and Climate Change on Watershed Water Quality
Lichi CHIANG1, Pin-Chih SHIH1
1National United University

Creation of Pseudo Observational Data Using Reanalysis Data for Climate Change Impact Assessment in a Data Scarce Catchment
Yasuyuki MARUYA1, Satoshi WATANABE2
1Gifu University, 2The University of Tokyo

Assessment of TELEMAC 2D Model Performance for River-Network-Floodplain System Using Automated CRP Technique
Vijay Kisan MALI1, Soumendra Nath KUIRY1
1Indian Institute of Technology Madras

Mapping Chlorophyll-a Concentration in Kasumigaura Lake, Japan
Manh NGUYEN1,4, Hon-Jay CHU1, Lin CHAO HUNG1, Jaelani LALU MUHAMAD2
1National Cheng Kung University, 2Institut Teknologi Sepuluh Nopember

Time 13:30 - 15:30
Chair(s) Bellie SIVAKUMAR, University of New South Wales
Ji CHEN, University of Hong Kong
A Decision Support System for Sponge City Planning with Flood Forecasting Capability
Jeanne Jinhuì HUANG1#
1Nankai University

HS06 / Cascade Reservoir Operations and Its Impact on Hydrology and Ecology
Mon - 04 Jun  | MR318B

Time 13:30 - 15:30
Chair(s) Shailesh SINGH, National Institute of Water and Air
Mingna WANG, China Institute of Water Resources and Hydropower Resources

Model Study of Impact of Climate Change and Reservoir Operations on Water Resources
Maochuan HU1##, Kenji TANAKA1, Takahiro SAYAMA1
1Kyoto University

HS06-D1-PM1-318B-002 | HS06-A004

Ecological Flow Analysis Method Based on the Comprehensive Variation Diagnosis of Gini Coefficient
Siyu CAI1##
1China Institute of Water Resources and Hydropower Research

Quantifying Changes in the Yangtze River Thermal Regime by the Three Gorges-Gezhouba Reservoir Cascade
Qiongfang LI1##
1Hohai University

HS06-D1-PM1-318B-003 | HS06-A016

Flood Forecast by the Distributed Hydrological Model EasyDHM Coupled with the MMS Model
Weihong LIAO1##
1China Institute of Water Resources and Hydropower Research

Functional Degradation of the Water-Sediment Regulation Scheme in the Lower Yellow River: Spatial and Temporal Analyses
Dongxian KONG1##, Chiyuan MIAO1, Qingyun DUAN2
1Beijing Normal University

Research on Urban Drainage Network Stagnation Monitoring Simulation and Warning Technology
Aiqing KANG1##, Xiaohui LEI1, Jinbo QIN1, Ji LIANG2
1China Institute of Water Resources and Hydropower Research, 2Huazhong University of Science and Technology

A New Method to Calculate the Dynamic Factor - Flow Velocity in Giuh
Yingbing CHEN1##, Peng SHI1
1Hohai University

HS07 / Hydrometeorology
Mon - 04 Jun  | MR322B

Time 08:30 - 10:30
Chair(s) C.G.CUI, Institute of Heavy Rain, CMA,Wuhan

Flood Forecast Experiment Based on WRF and Semi-Distributed Hydrological Model
C.G. CUI1##, Zhiyuan YIN1, Li JUN1, Peng TAO1
1China Meteorological Administration

Very Short-Term Drought Forecasting Using Remote Sensing Data and MJO Index Through Random Forest over East Asia
Seonyoung PARK1##, Jungho IM1, Eunkyo SEO1, Daehyun KANG1, Myong-In LEE1, Sumin PARK1
1Ulsan National Institute of Science and Technology

Development of the Traffic Weather Data Management Technology Using the Standardization of Rain Sensor Information for Vehicles
Byung-Hyun LEE1##, Byung Sik KIM1, Sukho LEE1
1Kangwon National University

The Characteristic of Air Water Resource Derived from Ground-Based Microwave Radiometer over Hubei
Wengang ZHANG1##, Guirong XU1
1China Meteorological Administration

Precipitation Time Series Trend Analysis in Kosice, Slovakia
Martina ZELENÁKOVÁ1##, Pavol PURCZ2, V. JOTHIPRAKASH2, Helena HLAVÁTÁ3
1Technical University of Kosice, 2Indian Institute of Technology Bombay, 3Slovak Hydrometeorological Institute
HS07 / Water-related Hazards and Their Forecasting and Warning

Mon - 04 Jun  |  MR318A

**Time** 13:30 - 15:30

**Chair(s)** Gwo-Fong LIN, National Taiwan University
            Jui-Yi HO, Taiwan Typhoon and Flood Research Institute

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HS16-D1-PM1-318A-001 | HS16-A003

**Construction of Flood Prediction Model by Deep Learning for Large Scale Rivers and Consideration on Constant Setting**
Takeshi YAMANAKA1++, Atsuhiko KONJA1; Shiori ABE1; Takashi IWASAKI1; Kokukei SAI1; Yasuyuki MARUYA2
1Mitsui Consultants Co., Ltd.; 2Gifu University

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HS16-D1-PM1-318A-002 | HS16-A021

**An Analogical Reasoning Algorithm to Predict Water Level Based on In-Situ Data**
Sheng-Chi YANG1++, Ming-Chang WU1; Hong-Ming KAO1; Tsun-Hua YANG1
1National Applied Research Laboratories

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HS16-D1-PM1-318A-003 | HS16-A011

**Relationship of Cumulative Rainfall and Occurrence of Disaster in Heavy Rainfall of North Kyushu District in July 2017**
Toshiyuki MORIYAMA1++, Motoyuki USHUYAMA2
1Fukuoka Institute of Technology, 2Shizuoka University

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HS16-D1-PM1-318A-004 | HS16-A006

**A Variable Parameter Bidirectional Stage Routing Model for Tidal Rivers with Lateral Inflow**
Xiaqin ZHANG1++, Wenqing LIANG1; Weimin BAO1; Dandan SHEN1
1Hohai University, 2Jiangsu Water Source Company Ltd.of the Eastern Route of the South-to-North Water Diversion Project

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HS16-D1-PM1-318A-005 | HS16-A007

**Transitional Properties of Droughts and Related Impacts of Climate Indices in the Pearl River Basin, China**
Mingzhong XIAO1++
1Hohai University

HS30 / Ecohydrological Responses to Environmental Changes and Efficient Water Resources Management in Dryland Regions

Mon - 04 Jun  |  MR318B

**Time** 08:30 - 10:30

**Chair(s)** Weijiang ZHANG, Ningxia University
            Jingfeng WANG, Georgia Institute of Technology
            Ke ZHANG, Hohai University

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HS30-D1-AM1-318B-001 | HS30-A033 (Invited)

**Assessing Advances and Challenges in Observing and Modeling Ecohydrological Processes over Drylands Across Different Continents**
Zong-Liang YANG1++, Wen-Ying WU1; Hui ZHENG2; Peirong LIN1; Jingjing LIANG2; Long ZHAO3
1The University of Texas at Austin, 2Chinese Academy of Sciences, 3Southwest University

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HS30-D1-AM1-318B-002 | HS30-A026 (Invited)

**Drying Trend and its Impacts in China**
Zhuguo MA1++
1Chinese Academy of Sciences

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HS30-D1-AM1-318B-003 | HS30-A028

**Variation of Groundwater Flow Paths Under Artificial Regulation in the Arid Area Based on a Sand Tank**
Longcang SHU1++, Peipeng WU1; Abunu ESHETE2
1Hohai University, 2State Key Laboratory of Hydrology-Water Resources and Hydraulic Engineering

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HS30-D1-AM1-318B-004 | HS30-A038

**Dynamical Vegetation Responses to Climate Extremes: From Remote Sensing Observations over the Northeast China Transect**
Hong SHEN1++
1Tsinghua University

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HS30-D1-AM1-318B-005 | HS30-A037

**Characteristics of Ecohydrological Regime Shifts from Dunefield to Steppe in the Korqin Sandy Land, Northeast China**
Guang HAN1++
1Hunan Normal University
Variation Characteristics of Ecological Water Requirement Research About Forestland and Grassland in the Arid Area of the Central and Southern Ningxia
Jinyan LI+1
1Ningxia University

The Coupling Between Irrigation Water and Water Circulation
Wang DEQUAN+1
1Ningxia University

Water Consumption and System Stability of the Desert Oasis in the Middle Heihe River Basin of Northwestern China
Wenzhi ZHAO+1
1Chinese Academy of Sciences

Event-Based Rainfall Characteristics at Shapotou in North China
Xinping WANG+1
1Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences

Assessment of Hydrologic Alteration Induced by the Three Gorges Dam in the Dongting Lake, China
Ligang XU+1, Junxiang CHENG2
1Nanjing Institute of Geography & Limnology, Chinese Academy of Sciences, 2Chinese Academy of Sciences

A Simulation-Based Probabilistic Tsunami Hazard Model for New Zealand
Tabrez ALI+1, Aaggeliki BARBEROPOULOU3, Wenzheng YANG3, Bingming SHEN-TUE3, Mehrdad MAHDIYAR3, Elliot KLEIN3, Yizhong QU1
1AIR Worldwide

Estimating Losses of Realistic Disaster Scenarios in the West Valley Fault of Metro Manila
Yue-Jun YIN+1, Alvaro FARIAS1, Elliot KLEIN1, Khosrow SHABESTARI1, Tao LAI1, Bingming SHEN-TUE1
1AIR Worldwide

Estimating Direct Economic Losses Due to a Megathrust Earthquake in the Java Subduction Zone
Tao LAI+1, Yue-Jun YIN1, Elliot KLEIN1, Bingming SHEN-TUE1
1AIR Worldwide

Impact of Enso on Typhoon Wind Hazard in the Coast of Southeast China
Zhongdong DUAN+1
1Harbin Institute of Technology (Shenzhen)

IG24 / Natural Hazards and Disaster Risk
Mon - 04 Jun  |  MR323A
Time 08:30 - 10:30
Chair(s) Yi-Ting LI, National Cheng-Kung University
Vena Pearl BONGOLAN, University of the Philippines
Diliman, Philippines

Application of GIS Technology for the Prediction of Landslide Hazard: A Case Study at Aranayaka Landslide, Sri Lanka
Sumanajith KUMARA+1, Nelum KANTHILATHA2
1University of Sri Jayewardenepura
Non-Structural Countermeasures Against Debris Flow Disasters in Taiwan
Chen-Yang LEE1, Hsiao-Yuan YIN1, Ching-Weei LIN2, Rou-Fei CHEN1
1Soil and Water Conservation Bureau, 2National Cheng Kung University, 3Chinese Culture University

Application of a Coupled Numerical Approach for Landslides
Ching HUNG1, Chih-Hsuan LIU1
1National Cheng Kung University

Application of Standard Deviation for Single-Station Ground-Motion Prediction Model in a Probabilistic Seismic-Hazard Analysis
Chih Hsuan SUNG1, Chyi-Tyi LEE1
1National Central University

Earthquake Preparation Processes Evolving Globally as Registered by Global Network of Multi-Electrode Underground Electric Sensors
Vadim BOBOVSKYI1, Sushil KUMAR2, Neil SINGH, Francesco STOPPA4, Alexey LYUBUSHIN5, Sergey SHOPIN6, Alexander SHITOV7, Grigory RAZGON1
1Cosmetecor, 2The University of the South Pacific, 3University of the South Pacific, 4D’Annunzio University of Chieti–Pescara, 5Russian Academy of Sciences, 6Tula State University, 7Gorno-Altaisk State University

Observation of Land Subsidence in Deltas Using Distributed Fiber Optic Sensing Techniques
Kai GU1, Bin SHI2, Jinghong WU1, Chengcheng ZHANG1, Suping LIU1, Guangqing WEI1
1Nanjing University, 2Suzhou NanZee Sensing Ltd.

Computation of Wave-Driven Sediment Transport During Super-Typhoon Haiyan
Masashi WATANABE1, Volker ROEBER2, Kazuhisa GOTO1, Jeremy BRICKER3, Fumihiko IMAMURA1
1Tohoku University, 2University of Hawaii, 3Delft University of Technology

The Impact of AD 1257 Samalas Eruption to Coral Reef Ecosystems on the East of Lombok, Indonesia
Bachtiar Wahyu MUTAQIN1, Franck LAVIGNE2, Adrien LANDA3, Hilman AHYADI4, Danang Sri HADMOKO5, Nugroho D. HANANTO6, Lina HANDAYANI7
1Universitas Gadjah Mada, 2Université Paris 1 Panthéon Sorbonne, 3Universitas Mataram, 4Indonesian Institute of Sciences

The Sea Surface Temperature and Salinity Variations in the Southern Huangyan Island, South China Sea Since ~70 Ka Bp
Qixian ZHOU1, Xiaoqiang YANG1, Huahong GAO1, Jie PENG1, Yuxuan XIE1, Qiong CHEN1
1Sun Yat-sen University

Nonlinear Laplacian Spectral Analysis of Indo-Pacific Ocean Variability
Joanna SLAWINSKA1, Dimitris GIANNAKIS2
1University of Wisconsin-Milwaukee, 2New York University

Wind Sinks Salt into the Shallow Overturning Cell of the North Atlantic During Recent Decades
Hao LIU1, Xiaopei LIN1, Lisan YU2
1Ocean University of China, 2Woods Hole Oceanographic Institution

Interannual Variations (2000-2016) of Salinity and Alongshore Current in Summer off the East Coast of Korea
Jae-Hyoung PARK1, Sung-Hyun NAM1
1Seoul national university
Nonlinear Modulations of ENSO Due to Freshwater Flux and Salinity Effect in a Hybrid Coupled Atmosphere and Ocean Physics-Biology Model
Rong-Hua ZHANG²
¹Institute of Oceanology, Chinese Academy of Sciences

Linking Water and Carbon Cycles with Space Based Salinity Observation
W. Timothy LIU¹*, Xiaosu XIE¹
¹Jet Propulsion Laboratory

OS02-AS / Tropical Cyclone-ocean Interactions
Mon - 04 Jun | MR322A

The Momentum Exchange at the Air-Sea Interface for High Wind Speed
Hiroki OKACHI¹**, Tomohito J. YAMADA¹, Yasunori WATANABE³
¹Hokkaido University

Tropical Cyclone Activity in the Western North Pacific During ENSO Subsequent Years
Chunzai WANG²**, Chunxiang LI²
¹South China Sea Institute of Oceanology, ²Chinese Academy of Sciences

Persistent Influence of Tropical North Atlantic Wintertime Sea Surface Temperature on the Subsequent Atlantic Hurricane Season
Xidong WANG⁴**
³Hohai University

The State of the Air-Sea Interface During Rapid Intensification of Tropical Cyclones
Alexander SOLOVIEV¹**, Roger LUKAS⁵, Mark DONELAN⁶, Brian K. HAUS⁷, Isaac GINIS⁸
¹Nova Southeastern University, ²University of Hawaii, ³University of Miami, ⁴University of Rhode Island

Hurricane Harvey Links to Ocean Heat Content
Lijing CHENG²**, Kevin TRENBERTH²
¹Chinese Academy of Sciences, ²National Center for Atmospheric Research

Effect of the Mesoscale Eddy on Typhoon-Kalmaegi-Induced Inertial Oscillations
Hongli FU¹**, Xuefeng ZHANG¹, Xidong WANG¹, Caixia SHAO¹
¹National Marine Data and Information Service

Decade Variability of Tropical Cyclone Genesis in the South China Sea
Hong LI¹, Fanghua XU¹**, Jinru SUN¹
¹Tsinghua University

Increasing Threat of Landfalling Typhoons in the Western North Pacific Between 1974 and 2013
Shoude GUAN¹**, Shuiqing LI¹, Yijun HOU¹
¹Chinese Academy of Sciences

Impact of Wave Whitecapping on Land Falling Tropical Cyclones
Ralf TOUMI¹**, Nicolas BRUNEAU⁴, Shaui WANG¹
¹Imperial College London, ²National Oceanography Centre

Sudden Intensification of Typhoon Hato (2017) over Shallow Water
Johnny CHAN¹**, Ian Fei PUN², I-I LIN², Kelvin T. F. CHAN¹, James PRICE³, Allen WU, Hsiao-Ching HUANG²
¹City University of Hong Kong, ²National Taiwan University, ³Woods Hole Oceanographic Institution
OS02-AS-D1-PM1-322A-012 | OS02-AS-A002
The Oceanic Response Induced by Twin Typhoons over Northwest Pacific Ocean
Venkata Subrahmanyam MANTRAVADI1++, Liuzhu WANG1, Shengyan YU1
1Zhejiang Ocean University

OS02-AS-D1-PM1-322A-013 | OS02-AS-A004
A Deep Learning Algorithm of Neural Network on Parameterizing Typhoon-Ocean Interaction
Jun WEI1++
1Peking University

OS02-AS-D1-PM1-322A-014 | OS02-AS-A007
The Upper-Ocean Heat Content During Two Recent Tropical Cyclones in the Southwest Pacific Region
Ashneel CHANDRA1++, Avnesh SINGH1, Sushil KUMAR1
1The University of the South Pacific

OS02-AS-D1-PM1-322A-015 | OS02-AS-A029
The Impact of Summertime North Indian Ocean SST on Tropical Cyclone Genesis over the Western North Pacific
Jiayu ZHENG1++, Qiaoyan WU1, Yi-Peng GUO1, Sen ZHAO++
1Chinese Academy of Sciences, 2Second Institute of Oceanography, 3Nanjing University, 4University of Hawaii at Manoa, 5Nanjing University of Information Science & Technology

OS06-D1-AM1-317B-001 | OS06-A016 (Invited)
Changes in Sediment Transport Due to Potential Tidal Power Extraction in the Upper Bay of Fundy
Yongsheng WU1++
1Bedford Institute of Oceanography

OS06-D1-AM1-317B-002 | OS06-A030
Anthropocene Alterations of Korean Estuaries
Guan-Hong LEE1++, Hyun-Jung SHIN1, Steven FIGUEROA1, Timothy DELLAPENNA1
1Inha University, 2Texas A&M University

OS06-D1-AM1-317B-003 | OS06-A007
The Impact of Human Activities on Water Exchange in a Tidal Resonant Bay
Dehai SONG1++, Wen WU1, Jiyun ZHANG1, Yuhan YAN1
1Ocean University of China

OS06-D1-AM1-317B-004 | OS06-A013
Physical and Sedimentary Processes on the Tidal Flat of Central Jiangsu Coast, China: Headland Induced Tidal Eddies and Benthic Fluid Mud Layers
Qian YU1++, Yunwei WANG2, Shu GAO1
1Nanjing University, 2Hohai University, 3East China Normal University

OS06-D1-AM1-317B-005 | OS06-A001
Numerical Prediction on the Scour Burial of Cylinder Object Freely Resting on the Sandy Seabed in the East China Sea Chongguang PANG1++
1Institute of Oceanology, Chinese Academy of Sciences

OS06-D1-AM1-317B-006 | OS06-A009 (Invited)
Impact of Typhoon Morakot on Suspended Particle Size Distributions on the East China Sea Inner Shelf
Yunhai LI1++, Dongyi LI1, Liang WANG1
1Third Institute of Oceanography, State Oceanic Administration, 2State Oceanic Administration

OS06-D1-AM1-317B-007 | OS06-A002
Impact of Tropical Cyclones on the Evolution of the Monsoon-Driven Upwelling System in the Coastal Waters of the Northern South China Sea
Binxin ZHENG1++, Yunhai LI1
1State Oceanic Administration, 2Third Institute of Oceanography, State Oceanic Administration

OS06-D1-AM1-317B-008 | OS06-A024
Tropical Storm Induced Coastal Hazards on the Coast of China Zai-Jin YOU1+++, Hong-Yuan SHI1
1Ludong University
OS6-D1-AM2-317B-009 | OS6-A008 (Invited)
Seasonal Transportation and Deposition of the Suspended Sediments in the Bohai Sea and Yellow Sea and the Related Mechanisms
Lulu QIAO1, Yi ZHONG1, Nan WANG1**, Guangxue LI1, Xianwen BAO1
1Ocean University of China

OS6-D1-AM2-317B-010 | OS6-A018
A Novel Measurement of Suspended Sediment Transport Through Bohai Strait
Xiao WU1**, Jingping XU2, Hui WU1, Houjie WANG1, Chenghao WANG1, Changwei BIAN1, Haiqin DUAN1, Cheng TANG1
1Ocean University of China, 2Southern University of Science and Technology, 3East China Normal University, 4Chinese Academy of Sciences

OS6-D1-AM2-317B-011 | OS6-A027
In-Situ Observations of Wave-Induced Fluid Mud Flows on the Yellow River Subaqueous Delta
Xiaolei LIU1**, Lukuan MA1
1Ocean University of China

OS6-D1-AM2-317B-012 | OS6-A029
A Record of Holocene Abrupt Cooling Events in Neritic and Hemipelagic Sediments of the East China Sea
Anchun LI1**, Yuqian LI1
1Chinese Academy of Sciences

OS6-D1-AM2-317B-013 | OS6-A004 (Invited)
Fates of Terrestrial Materials Delivered by a Small Tropical Mountainous River: A Case Study of the Kelantan River, Malaysia
Aijun WANG1**, Fan ZHANG2
1Third Institute of Oceanography, State Oceanic Administration

OS6-D1-AM2-317B-014 | OS6-A005
Recent Morphological Change in the Northern Red River Delta, Vietnam
Daidu FAN1**, Vuong BUI VAN1
1Tongji University, 2Vietnam Academy of Science and Technology

OS20-D1-PM1-317B-001 | OS20-A004
First-Pass Water Resources Assessment for a Small Island Developing State, Tanna Island, Vanuatu
Gaelle FAIVRE1**, Rodger TOMLINSON3, Daniel WARE1, Brendan MACKEY1
1Griffith University

OS20-D1-PM1-317B-002 | OS20-A001
Should Coastal Planners Worry About Where the Ice is Melting?
Eric LAROUR1**, Francisco MASEGOSA3
1Jet Propulsion Laboratory, California Institute of Technology

OS20-D1-PM1-317B-003 | OS20-A005
A Framework to Reduce the Challenges in Defining the Vulnerability of the Hawaiian Islands and an Initial Selection of Local Scale Adaptation Measures
Yaprak ONAT1**, Oceana FRANCIS1
1University of Hawaii at Manoa

OS20-D1-PM1-317B-004 | OS20-A006
Numerical Modelling of Beach Nourishment
Darrell STRAUSS1**, Guilherme VIEIRA DA SILVA1, Tom MURRAY1
1Griffith University

OS20-D1-PM1-317B-005 | OS20-A007
Understanding the Relationship Between Sea Level Rise, Tides and Coastal Inundation - A Case Study in the Mid Atlantic Bight
Serena LEE1**, Ming LI2, Fan ZHANG2
1Griffith University, 2University of Maryland

OS20-D1-PM1-317B-006 | OS20-A008 (Invited)
Adapting Coastal Defences to Erosion and Climate-Induce Sea Level Rise in Mega-Delta System
Heqin CHENG1**
1East China Normal University
OS20-D1-PM1-317B-007 | OS20-A009
Climate Variability and the Management of Coastal Responses: A Case Study of the Eastern Australian Coastline
Rodger TOMLINSON1,2, Peter HELMAN1, Darrell STRAUSS1
1Griffith University

OS20-D1-PM1-317B-008 | OS20-A011
Coastal Adaptive Design and Adaptation
Oceana FRANCIS1
1University of Hawaii at Manoa

OS20-D1-PM1-317B-009 | OS20-A012 (Invited)
Challenges of Implementation: Adaptation in Coastal Communities
Karl KIM1
1University of Hawaii

OS23 / Tropical Western Pacific and Eastern Indian Ocean Palaeoceanography and Palaeoclimatology
Mon - 04 Jun | MR324

Time 08:30 - 10:30
Chair(s) Mahyar MOHTADI, University of Bremen
Markus KIENAST, Dalhousie University

OS23-D1-AM1-324-001 | OS23-A019 (Invited)
Drivers of Prolonged Expansion and Contraction Periods of the Indo-Pacific Tropical Rain Belt over the Last Millennium
Caroline C. UMMENHOFER1,2, Rhawn DENNISTON2
1Woods Hole Oceanographic Institution, 2Cornell College

OS23-D1-AM1-324-002 | OS23-A009 (Invited)
Two Anomalous Modes of the Precessional Modulated Annual Cycle in the Tropical Pacific
Yue WANG1,2, Zhimin JIAN1, Ping ZHAO2, Haowen DANG1, Zhongfang LIU1, Dong XIAO2, Chunming CHEN2
1Tongji University, 2Chinese Academy of Meteorological Sciences

OS23-D1-AM1-324-003 | OS23-A021
Decadal to Centennial Variabilities of the Indian Summer Monsoon During the Past Five Centuries Driven by Both External and Internal Forcings
Hong-Wei CHIANG1,2, Yu WANG1,2, J. Bruce H. SHYU1, Chung-Che WANG1, Lin Thu AUNG2,3, Oo THAN4, Xianteng WANG2, Phyoe Maung MAUNG2, Soe MIN2, Soe Thura TUN2
1National Taiwan University, 2Naypyitaw University, 3Yangon University, 4Department of Meteorology and Hydrology, 5Yangon University, 6Myanmar Earthquake Committee

OS23-D1-AM1-324-004 | OS23-A012
Mid- to Late Holocene Upwelling Dynamics in the Eastern Indian Ocean
Stephan STEINKE1,2, Mahyar MOHTADI1, Jeroen GROENEVELD, Selvaraj KANDASAMY1
1Xiamen University, 2University of Bremen, 3Alfred Wegener Institute Potsdam

OS23-D1-AM1-324-005 | OS23-A003
New Multi-Decadal to Sub-Centennial Time Scale Record of ISM for the last 14 Ka
Champoungam PANMEI1,2, Divakar NAIDU3, Mahyar MOHTADI1
1National Institute of Oceanography, 2University of Bremen

OS23-D1-AM1-324-006 | OS23-A017
Nitrogen Isotope Dynamics in the Western Equatorial Pacific During the Last 25,000 Yrs: A Tale of Two Hemispheres
Markus KIENAST1,2, Nadine LEHMANN1, Martina HOLLSTEIN1, Mahyar MOHTADI1
1Dalhousie University, 2University of Bremen

OS23-D1-AM1-324-007 | OS23-A025
Impact of Geothermal Heating on the Atlantic Meridional Overturning Circulation During the Last Glacial Maximum
Ming ZHANG1, Yonggang LIU1
1Peking University

Time 11:00 - 12:30
Chair(s) Mahyar MOHTADI, University of Bremen
Stephan STEINKE, Xiamen University

OS23-D1-AM2-324-008 | OS23-A013
Neogene Biotic Response and Macroevolutionary History in the Western Pacific Warm Pool Region: Preliminary Results of Deep-Sea Ostracods from IODP Expedition 363
Moriaki YASUHARA1,2, Huai-Hsuan May HUANG1, Denise KULHANEK1, Yair ROSENTHAL1, Ann HOLBOURN2, The IODP EXPEDITION 363 SCIENTISTS3
1The University of Hong Kong, 2Texas A&M University, 3Rutgers University, 4Christian-Albrechts University of Kiel, 5International Ocean Discovery Program (IODP)

OS23-D1-AM2-324-009 | OS23-A022
Millennial Scale Variations in 100-Year Resolution Northwestern Pacific Sea Surface Temperature Record over the Last 400,000 Years
Kyung-Eun LEE1,2, Steven CLEMENS3, Yoshimi KUBOTA1, Ann HOLBOURN3
1Korea Maritime University, 2Brown University, 3National Museum of Nature and Science, 4Christian-Albrechts University of Kiel
**Orbital Variations of the Tropical Indo-Pacific Thermocline in Late Quaternary**

Haowen DANG1, Zhimin JIAN1, Yue WANG1, Liming YE2, Chao ZHOU1, Peijun QIAO1, Haiyan JIN1

1Tongji University, 2State Oceanic Administration

**Biomarker Stable Isotope Records of Late Quaternary Climate and Organic Matter Export in Southwestern Taiwan**

Queenie CHANG1, Michael HREN1, Andrew LIN2, Yvette ELEY3, Shun-Wen YU2, Gregory HARRIS1

1University of Connecticut, 2National Central University

**Forcing Mechanisms of Western Pacific Warm Pool Surface and Thermocline Conditions over the Last Glacial-Interglacial Cycle**

Martina HOLLSTEIN1, Mahyar MOHTADI1, Yair ROSENTHAL2, Matthias PRANGE3, Delia OPPO4, Gema MARTÍNEZ MENDEZ2, Kazuyo TACHIKAWA1, Paola MOFFA SANCHEZ5, Stephan STEINKE6, Jeroen GROENEVELD6, Markus KIENAST7, Dierk HEBBELN8

1University of Bremen, 2Rutgers University, 3Woods Hole Oceanographic Institution, 4Aix Marseille University, 5Cardiff University, 6Xiamen University, 7Alfred Wegener Institut Potsdam, 8Dalhousie University

**The Science of Exploration as Enabled by the Moon, Near Earth Asteroids and the Moons of Mars**

Gregory SCHMIDT1, Clive NEAL2, Ryan WATKINS3, Erica JAWIN4, Sarah VALENCIA4, James CROWELL4

1NASA Solar System Exploration Research Virtual Institute, 2Notre Dame University, 3Planetary Science Institute, 4Brown University, 5Washington University in St. Louis, 6Arizona State University

**International Partnerships in Exploration Science**

Gregory SCHMIDT1, Ian GARRICK-BETHELL2, Shahab FATEMI3

1NASA Solar System Exploration Research Virtual Institute, 2University of California, Berkeley, 3University of California, Santa Cruz, 4Kyung Hee University, 5Swedish Institute of Space Physics

**The Lunar Paleomagnetosphere**

Andrew POPPE1, Takeshi SAKANOI1, Hiromu NAKAGAWA1, Takahiro IWATA1, Tomoki NAKAMURA1, Jean-Pierre BIBRING2, Cedric PILORGET2, Vincent HAMM3, Sarah CRITES3, Takeshi IMAMURA2, Shohei AOKI4, Takao M. SATO4, Naoki TERADA4, Yasumasa KASABA4, Atsushi YAMAZAKI4

1Tohoku University, 2Japan Aerospace Exploration Agency, 3University of Paris-Sud, 4Institut d’Aéronomie Spatiale de Belgique

**Exogeolab & Exohab Test Bench Preparing Science & Technology for the Moon, Mars & Asteroids**

Bernard FOING1, Germaine VAN DER SANDEN1, Louis DUBOIS2, EuroMoonMars TEAM3, Doris DAOU4

1European Space Agency, 2VU University Amsterdam, 3The Institut Supérieur de l’Aéronautique et de l’Espace (ISAE-SUPAERO), 4NASA Headquarters
PS10 / Dwarf Planet Ceres After Dawn

Mon - 04 Jun | MR323B

Time 08:30 - 10:30

Chair(s) Jennifer SCULLY, Jet Propulsion Laboratory, California Institute of Technology
Jian-Yang LI, Planetary Science Institute
Norbert SCHORGHOFER, Planetary Science Institute

PS10-D1-AM1-323B-001 | PS10-A009 (Invited)
Dawn's Exploration of Ceres Reveals a Complex, Active, Icy World
Carol RAYMOND1#, Christopher RUSSELL2
1Jet Propulsion Laboratory, California Institute of Technology,
2University of California, Los Angeles

PS10-D1-AM1-323B-002 | PS10-A004 (Invited)
Regolith Chemistry Provides Insights into Ceres' Hydrothermal Evolution
Thomas PRETTYMAN1,2, Naoyauki YAMASHITA3, Eleonora AMMANNITO4, Julie CASTILLO-ROGEZ5, Bethany EHLLMANN6, Harry MCSWEEN7, Simone MARCHF8, Carle PIETERS9, Michael TOPLIS10, Steven JOY11, Carol POLANSKEY12, Marc RAYMAN13, Christopher RUSSELL14, Carol RAYMOND15
1Planetary Science Institute, 2University of New Mexico, 3Italian Space Agency, 4Jet Propulsion Laboratory, California Institute of Technology, 5California Institute of Technology, 6University of Tennessee at Knoxville, 7Southwest Research Institute, 8Brown University, 9National Centre of Scientific Research, 10University of California, Los Angeles

PS10-D1-AM1-323B-003 | PS10-A005
Lifetimes of Ice Exposures on Ceres
Paul HAYNE1, Margaret LANDIS2, Shane BYRNE3
1University of Colorado Boulder, 2University of Arizona

PS10-D1-AM1-323B-004 | PS10-A001 (Invited)
Production of the Cerean Exosphere: Testing the SEP Hypothesis
Michaela VILLARREAL1,2, Janet LUHMANN2, M. Leila MAYS3, Thomas PRETTYMAN4, Naoyuki YAMASHITA5, Carol RAYMOND6, Julie CASTILLO-ROGEZ7, Philippe ROUSSELOT8, Yingdong JIA9, Christina LEE9, Christopher RUSSELL11
1University of California, Los Angeles, 2University of California, Berkeley, 3Catholic University of America, 4Planetary Science Institute, 5University of New Mexico, 6Jet Propulsion Laboratory, California Institute of Technology, 7Institut UTINAM - UMR 6213

PS10-D1-AM1-323B-005 | PS10-A002
The Formation and Evolution of Ceres' Occator Crater
Jennifer SCULLY1,2, Timothy BOWLING3, Caixia BU4, Debra BUCZKOWSKI1, Andrea LONGOBARDO1, Andreas NATHUES1, Adrian NEISEMANN2, Ernesto PALOMBA3, Lynnae QUICK2, Andrea RAPONI4, Ottaviano RUESCH5, Paul SCHENK6, Nathan STEIN7, Elena THOMAS8, Christopher RUSSELL9, Julie CASTILLO-ROGEZ2, Carol RAYMOND1, Ralph JAUMANN10
1Jet Propulsion Laboratory, California Institute of Technology, 2Southwest Research Institute, 3University of Virginia, 4The Johns Hopkins University Applied Physics Laboratory, 5National Institute for Astrophysics, 6Max-Planck Institute for Solar System Research, 7Freie Universität Berlin, 8National Air and Space Museum, 9NASA Goddard Space Flight Center, 10Universities Space Research Association, 11California Institute of Technology, 12University of California, Los Angeles, 13German Aerospace Center

PS10-D1-AM1-323B-006 | PS10-A006
Probing the Composition of the Near-Surface of Ceres from Faulted Terrains in its Nar Sulcus Region
Kynan HUGHSON1, Christopher RUSSELL1, Hanna SIZEMORE1, Britney SCHMIDT2, Debra BUCZKOWSKI1, Paul SCHENK3, Gilles PELTZER4, Carol RAYMOND5
1University of California, Los Angeles, 2Planetary Science Institute, 3Georgia Institute of Technology, 4The Johns Hopkins University Applied Physics Laboratory, 5Universities Space Research Association, 6Jet Propulsion Laboratory, California Institute of Technology

PS10-D1-AM1-323B-007 | PS10-A010
Brine Convection in a 2-D Ceres Model
Bryan TRAVIS1, William FELDMAN1, Phil BLAND2, Mark V. SYKES3
1Planetary Science Institute, 2Curtin University

PS16 / Cassini's Grand Finale: Science Highlights and Discoveries

Mon - 04 Jun | MR323B

Time 13:30 - 15:30

Chair(s) Ganna PORTYANKINA, Laboratory for Atmospheric and Space Physics (LASP), University of Colorado
Scott EDGINGTON, Jet Propulsion Laboratory, Caltech
Wing-Huen IP, National Central University

PS16-D1-PM1-323B-001 | PS16-A008
Cassini’s Grand Finale: Exploring Unique Territory
Linda SPIERER1, Scott EDGINGTON2
1Jet Propulsion Laboratory, California Institute of Technology
Gravity Measurements in the Grand Finale Orbits and Their Implications
Luciano IESS1, Daniele DURANTE1, Mirco MARIANI1, Paolo RACIOPPA1, Jonathan FORTNEY1, Yohai KASPI1, Burkhard MILITZER1, Philip NICHOLSON2
1Sapienza University of Rome, 2University of California, Berkeley

Saturn’s Magnetic Field from the Cassini Grand Finale Orbits
Michele DOUGHERTY1, Hao CAO2, Krishan KHURANA1, Gregory HUNT3, Marcia BURTON2, Stephen KELLOCK1, Thomas BUK3
1Imperial College London, 2Harvard University, 3California Institute of Technology

The Coupling of Saturn’s Atmosphere and Ionosphere to the Rings
J. Hunter WAITE, JR.1, Mark PERRY2, Rebecca PERRYMAN1, Kelly MILLER2, Jared BELL2, Donald MITCHELL3, William KURTH4, Ann PERSOON5, Jan-Erik WAHLUND6, Michele DOUGHERTY7, Gregory HUNT8
1Southwest Research Institute, 2The Johns Hopkins University Applied Physics Laboratory, 3National Institute of Aerospace, 4The University of Iowa, 5Uppsala University, 6Imperial College London

A Dusty Road Connecting Saturn and its Rings - Preliminary Results from Cassini Cosmic Dust Analyser During the Grand Finale Mission
Hsiang-Wen HSU1, Frank POSTBERG2, Sascha KEMPFI, Georg MORAGAS-KLOSTERMEYERI, Mihaly HORANYII, Martin SEISS2, Marcia BURTON3, Jurgen SCHMIDT4, Frank SPAHNI, Jeff SUZII, Sheng-Yi YE4, William KURTH5, Daniel SCHIRDWAHNI, James O’DONOGHUE5, Nozair KHAWAJA2, Ralf SRAMA6
1University of Colorado Boulder, 2University of Heidelberg, 3University of Stuttgart, 4University of Potsdam, 5Jet Propulsion Laboratory, California Institute of Technology, 6University of Oxford, 7NASA Ames Research Center, 8The University of Iowa, 9NASA Goddard Space Flight Center

The Charged Particle Environment in the Inner Saturnian Magnetosphere: Results of the Cassini MIMI Instrument
Norbert KRUPP1, Elias ROUSSO1, Peter KOLLMANN2, Donald MITCHELL3, Chris PARANICAS4, Stamatios KRIMIGIS5, Michele DOUGHERTY6, Douglas HAMILTON7
1Max Planck Institute for Solar System Research, 2The Johns Hopkins University Applied Physics Laboratory, 3Imperial College London, 4University of Maryland

A Field-Aligned Current System Located in the Gap Between Saturn and its Rings
Krishan KHURANA1, Michele DOUGHERTY2, Hao CAO2, Gregory HUNT3, Gabrielle PROVAN3
1University of California, Los Angeles, 2Imperial College London, 3Harvard University, 4California Institute of Technology, 5University of Leicester

Gas Transfer from Enceladus to the Atmosphere and Rings of Saturn and its Possible Physical Consequences
Wing-Huen IP1, Ian LAI2
1National Central University

Observational Neutrino Geosciences
Steve DYE1
1University of Hawaii

Nature of the Crust, West of the Manila Trench, South China Sea (20°N-21.5°N): New Insight from 2D Numerical Modeling
Letian MA1, Weiwei DING2, Jie LIAO3, Lin CHEN4, Taras GERYA5
1Second Institute of Oceanography, State Oceanic Administration, 2State Oceanic Administration, 3ETH Zurich, 4Chinese Academy of Sciences

Diachronic Breakup of the South China Sea and its Influence on Oil and Gas Accumulation in the Northern Passive Margin
Yunfan ZHANG1, Zhen SUN2, Jiangyang ZHANG3
1Chinese Academy of Sciences, 2South China Sea Institute of Oceanology, Chinese Academy of Sciences

Effects of the Subduction of the Izanagi and the Present Pacific Plates on the Geology of Eastern China
Jinshui HUANG1, Bingcheng WU2
1University of Science and Technology of China
SE04-D1-PM1-321B-005  |  SE04-A016
Numeric Models of Arc-Continent Collision in Taiwan - Insight to the Erosion Process and Lower Crust Rheology
Eh TAN1,2*
1Academia Sinica

SE04-D1-PM1-321B-006  |  SE04-A005
Numerical Simulation on Initiation of Fold-and-Thrust Belt in Northeast Qinghai-Tibet Plateau
Caibo HU1,2*
1Chinese Academy of Sciences

SE04-D1-PM1-321B-007  |  SE04-A008
Low Velocity Layer Above the 410-km Discontinuity Beneath Northwest Pacific Subduction Zone and its Dynamic Implication
Juan LI1,2, Guangjie HAN1, Wang XIN1, Qi-Fu CHEN1
1Chinese Academy of Sciences, 2University of Chinese Academy of Sciences, 3Nanyang Technological University

SE04-D1-PM1-321B-008  |  SE04-A021
Mantle Melting and Intraplate Volcanism Due to Upwellings from the Stagnant Slab
Xiaogang LONG1, Maxim BALLMER1,2, Antonio MANJÓN CABEZA CÓRDOBA3
1ETH Zurich, 2Tokyo Institute of Technology

SE10 / Mantle and Core: Structure, Dynamics, Chemistry, and Seismology
Mon - 04 Jun  |  MR321B

Time 08:30 - 10:30
Chair(s) Murli MANGHNANI, University of Hawaii
Taku TSUCHIYA, Ehime University

SE10-D1-AM1-321B-001  |  SE10-A017
High Precision 182W/183W Isotope Analysis Using MC-ICP-MS and its Application for Terrestrial Samples
Asako TAKAMASA1, Yusuke FUKAMI1, Katsuhiko SUZUKI1
1Japan Agency for Marine-Earth Science and Technology

SE10-D1-AM1-321B-002  |  SE10-A018
First Principles Investigation of the High-Pressure Behavior of the FeOHH-AIOOH-Phase H System
Jun TSUCHIYA1,2*, Taku TSUCHIYA1, Masayuki NISHI1,2, Yasuhiro KUWAYAMA1
1Ehime University, 2Tokyo Institute of Technology

SE10-D1-AM1-321B-003  |  SE10-A011
Lattice Thermal Conductivity of the Lower Mantle Minerals
Taku TSUCHIYA1,2*, Haruhiko DEKURA1
1Ehime University

SE10-D1-AM1-321B-004  |  SE10-A010
Development of Rotational Diamond Anvil Cell for Ultra-High Pressure Deformation Experiments
Ryuichi NOMURA1,2*, Shintaro AZUMA1, Kentaro UESUGI1, Tetsuo IRIFUNE1
1Ehime University, 2Kyushu University, 3Japan Synchrotron Radiation Research Institute (JASRI)

SE10-D1-AM1-321B-005  |  SE10-A001
Sound Velocity Measurement of Iron-Nickel Alloy: Implications for a Unified Earth’s Inner Core Model Consistent with Geophysical and Geochemical Observations
Tatsuya SAKAMAKI1,2*
1Tohoku University

SE10-D1-AM1-321B-006  |  SE10-A006
Microfabrics of Peridotites from the Mount Melbourne, Antarctica
Daeyeong KIM1,2*, Katsuyoshi MICHIYAYASHI1, Yongcheol PARK1, Junghun SEO1, Mi JungLEE1, Kyungtae PARK1, Hoyee CHO1
1Korea Polar Research Institute, 2Shizuoka University, 3inha University, 4Korea Institute of Industrial Technology

Time 11:00 - 12:30
Chair(s) Maxim BALLMER, ETH
Kenji KAWAI, University of Tokyo

SE10-D1-AM2-321B-007  |  SE10-A013
Geodynamic Mechanisms for the Preservation of Large-Scale Primordial Heterogeneity in the Earth’s Mantle
Maxim BALLMER1,2*
1ETH Zurich, 2Tokyo Institute of Technology

SE10-D1-AM2-321B-008  |  SE10-A005
S-Velocity Structure of the Mantle Transition Zone Beneath the Northwestern Pacific Inferred from Waveform Inversion and its Geophysical Interpretation
Lina YAMAYA1,2*, Anselme F. E. BORGEAUD1, Kenji KAWAI1, Maxim BALLMER1,2*
1The University of Tokyo, 2ETH Zurich, 3Tokyo Institute of Technology

SE10-D1-AM2-321B-009  |  SE10-A009
Influence of Postcritical Reflection and Refraction on SmKS
Liwei WANG1,2*, Fenglin NIU1,2
1China University of Petroleum-Beijing, 2Rice University
3-D S-Velocity Structure of the Transition Zone Beneath Central America and the Northeastern Pacific from Waveform Inversion
Arсselle F. E. BORGEAUD1, Kenji KAWAI1, Robert GELLER1
1The University of Tokyo

Effects of Ocean and Crust on Parameter Determination of Mantle Discontinuities
Yong ZHOU1, Xiaofei CHEN1
1Southern University of Science and Technology

Full-Waveform Inversion for Localized 3-D Shear Velocity Structure in D" Beneath the Western Pacific Using Thai Seismic Array (TSAR) Data
Yuki SUZUKI1, Kenji KAWAI1, Robert GELLER1, Satoru TANAKA1, Weerachai SIRUPUNVARAPORN1, Songkhen BOONCHAISUK1, Noisagoon SUTHIPONG1, Yasushi ISHIHARA2, Taweeon KIM1, Koji MIYAKAWA1, Nozomu TAKEUCHI1
1The University of Tokyo, 2Japan Agency for Marine-Earth Science and Technology

Observations and Implication of Stress Geomechanics Integrations, Slow and Fast Earthquake Source Physics and Triggered and Induced Seismicity
Mon - 04 Jun  | MR321A
Time 08:30 - 10:30
Chair(s) Hung-Yu WU, Japan Agency for Marine-Earth Science and Technology
Chung-Han CHAN, Nanyang Technological University

Earthquake Source Processes and Coulomb Stress Estimation in and Around the Source Zone of Past Major Earthquakes of North-Western Himalaya, India
Mahesh PARIJA1, Sushil KUMAR1, Virendra Mani TIWARI1, Shubhasmita BISWAL1
1Wadia Institute of Himalayan Geology, 2National Geophysical Research Institute, 3Indian Institute of Technology Kharagpur

Stress State Vicinity the Nankai Subduction Zone, Estimated from Previous International Ocean Discovery Program Drilling Projects
Hung-Yu WU1, Chung-Han CHAN2
1Japan Agency for Marine-Earth Science and Technology, 2Nanyang Technological University

Probing Stress Field on the Chihshang Fault, Taiwan Using Geodetic and Seismic Data
Ya-Ju HSU1
1Academia Sinica

Stress State of Fluid Conduits with Different Fluid Sources in the Chingshui Geothermal Area, Ne Taiwan and its Tectonic Implications
Saeko KITA1, Thomas FERRAND2,3
1International Institute of Seismology and Earthquake Engineering, BRI, 2Laboratoire de Géologie de L’Ecole Normale Supérieure, 3The University of Tokyo

Spatial and Temporal Stress Evolution Along the Sumatran Subduction Zone Constrained by Decade-Long GPS Time Series
Qiang QIU1, Chung-Han CHAN1
1Nanyang Technological University

Production-Induced Earthquakes in Southern California During the Early 20th Century
Susan HOUGH1, Roger BILHAM2, Victor TSAI3, Stacey MARTIN4, Robert WALKER5, Fred AMINZADEH6
1United States Geological Survey, 2University of Colorado, 3California Institute of Technology, 4Earth Observatory of Singapore, 5University of Southern California
The Rise, Collapse, and Compaction of Mt. Mantap from the 3 September 2017, North Korean Nuclear Test

Teng WANG1+, Shengji WEI1, Mehdi NIKKHOO2, Qibin SHI1, Sylvain BARBOT3, Douglas DREGER3, Roland BURGMANN3, Mahdi MOTAGH2, Qi-Fu CHEN1
1Nanyang Technological University, 2GFZ German Research Centre for Geosciences, 3University of California, Berkeley, 4Chinese Academy of Sciences

Modeling Geomechanical Effects of Injected CO2 Using Finite Element Method on the CCS Project at Gundih Field Central Java, Indonesia

Herdis HAERUSALAM1+, David Prambudi SAHARA1, Fatkhan FAKHAN1
1Bandung Institute of Technology

Improving Local and Regional Earthquake Locations Using an Advance Inversion Technique: Grey Wolf Optimizer

Shubham GUPTA1+, Kusum DEEP1, Sushil KUMAR1, Manish KUMAR1
1Indian Institute of Technology Roorkee, 2Wadia Institute of Himalayan Geology

Numerical Simulation on Rockburst of Deep Buried Tunnel by Three Dimensional Discrete Element Model

Xiaoyu ZHANG1+, Chun LIU1
1Nanjing University

Time-Dependent Seismic Hazard Assessment for Yangon, Myanmar: Impact of Stress Perturbation by Recent Earthquakes

Chung-Han CHAN1+, Hla Hla AUNG2, Myo THANT2,3
1Nanyang Technological University, 2Myanmar Earthquake Committee, 3Yangon University

Time 13:30 - 15:30
Chair(s) Sushil KUMAR, Wadia Institute of Himalayan Geology
Liqing JIAO, Nanyang Technological University

Imaging Crust and Upper Mantle Structure Beneath Kashmir Himalaya: Constraints from Receiver Functions, H-K Stacking and Joint Inversion

Swati SHARMA1, Debarchan POWAL1, Supriyo MITRA2, Sunil K WANCHOO2, Keith PRIESTLEY2, Vinod GAUR2, Sushil KUMAR2, Mahesh Prasad PARIJA3
1Shri Mata Vaishno Devi University, 2Indian Institute of Science Education and Research, 3University of Cambridge, 4CSIR Centre for Mathematical Modelling and Computer Simulation, 5Wadia Institute of Himalayan Geology

Tectonic Implications of the Chishan Transfer Fault Zone, Southwest Taiwan: Revealed by 3D Seismic B-Values and Block Rotation Scenario

Yu-Lien YEH1+, Strong WEN1, Chien-Hsin CHANG2
1National Chung Cheng University, 2Central Weather Bureau

Temporal Variation of the Fault-Zone Anisotropy After a Large Earthquake Revealed from the Taiwan In-Situ Chelungpu-Fault Borehole Array

Ruei-Jiun HUNG1+, Kuo-Fong MA1, Teh-Ru Alex SONG1, Yen-Yu LIN3
1National Central University, 2University College London, 3Academia Sinica

Source Parameters and Moment Tensor of Mw 5.7 Earthquake of February 06, 2017, Garhwal Himalaya, India

Sushil KUMAR1, Mahesh PARIJA1, Shubhashmita BISWAL2, Harish C. PANDEY1, Narendra KUMAR1, Parveen KUMAR1, Sandeep CHABAK1, Chhavi Pant PANDEY1, Ajay PAUL1
1Wadia Institute of Himalayan Geology, 2Indian Institute of Technology Kharagpur

Two Types of Fronts of Macroscopic Slip Between a Block and a Substrate and Their Propagation Velocities

Takehito SUZUKI1+, Hiroshi MATSUKAWA1
1Aoyama Gakuin University
SE19 / Characterizing Precambrian Crust and Lithosphere

Mon - 04 Jun  |  MR302A

Time 08:30 - 10:30
Chair(s) Huaiyu YUAN, Macquarie University
Liang ZHAO, Chinese Academy of Sciences

SE19-D1-AM1-302A-001 | SE19-A023
The Geodynamics of Making Cratons: Where are We Now?
Catherine COOPER1#, Adam BEALL2, Louis MORESP
1Washington State University, 2Cardiff University, 3The University of Melbourne

SE19-D1-AM1-302A-002 | SE19-A030 (Invited)
Comparing Ancient and Modern Orogenic Processes: Evidence from Present-Day Crustal Structure
Fiona DARBYSHIRE1#, Ian BASTOW2, Laura PETRESCU3, Amy GILLIGAN5, David THOMPSON3
1Université du Québec à Montréal, 2Imperial College London, 3National Institute for Earth Physics, 4University of Aberdeen, 5University of Cardiff

SE19-D1-AM1-302A-003 | SE19-A038
Neoproterozoic Initial Amalgamation of the North China Craton and South China Block in the Sulu Orogen: Evidences from the Wulian Complex
Jianhui LIU1#
1Institute of Geology Chinese Academy of Geological Sciences

SE19-D1-AM1-302A-004 | SE19-A033 (Invited)
Crustal Structural Characteristics Beneath Cratons and Tectonic Belts in Eastern Asia
Ling CHEN1#, Xu WANG1, Yuan LING1, Cheng CHENG2
1Chinese Academy of Sciences, 2Oilsoft Corporation

SE19-D1-AM1-302A-005 | SE19-A032 (Invited)
Geophysical Characterisation of Geological Processes Associated with Mineral Systems in Precambrian Lithosphere
Mike DENTITH2#, Perla VARAS1, Ruth MURDIE3
1University of Western Australia, 2Geological Survey of Western Australia

SE19-D1-AM1-302A-006 | SE19-A014
Multiple Mid-Lithospheric Discontinuities Beneath the Archean Western Australian Craton
Weijia SUN1#, Liang ZHAO2
1Chinese Academy of Sciences

SE19-D1-AM1-302A-007 | SE19-A034
Preservation and Reworking of the Precambrian Cores in Western Canada
Yunfeng CHEN1+, Yu GU1+, Shu-Huei HUNG2
1University of Alberta, 2Taiwan National University

SE19-D1-AM1-302A-008 | SE19-A015
On the Destructive Tendencies of Cratons (When Interacting with Slabs)
Catherine COOPER1, Rebecca FARRINGTON2, Meghan MILLER3#
1Washington State University, 2The University of Melbourne, 3Australian National University

SE19-D1-AM2-302A-009 | SE19-A004 (Invited)
Subduction-Induced Deep Hydration and Overriding Craton Destruction: Numerical Modeling
Zhong-Hai LI1#
1University of Chinese Academy of Sciences

SE19-D1-AM2-302A-010 | SE19-A006 (Invited)
Complex Crustal Anisotropy Revealed by Receiver Functions and Ambient Noise in North China Craton
Huaqian YAO1#, Yan YANG1, Jikun FENG1, Ling CHEN2
1University of Science and Technology of China, 2Chinese Academy of Sciences

Time 11:00 - 12:30
Chair(s) Liang ZHAO, Chinese Academy of Sciences
Huaiyu YUAN, Macquarie University

SE19-D1-AM2-302A-001 | SE19-A003
Fragmented But Not Destabilized: When Riffs Met Cratons
Wang-Ping CHEN1#
1China University of Geosciences

SE19-D1-PM1-302A-011 | SE19-A022
Lithospheric Structure Underneath the Ordos Block of the North China Craton, Revisited Using Transdimensional Inversion of Ambient Noise and Surface Wave Dispersion
Kun WANG1#, Tingzi LI, Yuan LING, Xiaobing XU, Liang ZHAO, Huaiyu YUAN, Thomas BODIN
1Institute of Geology and Geophysics, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3Macquarie University, 4Université de Lyon

Time 13:30 - 15:30
Chair(s) Jeffrey GU, University of Alberta
Huaiyu YUAN, Macquarie University

SE19-D1-PM1-302A-012 | SE19-A020
Lithospheric Structure Underneath the Ordos Block of the North China Craton, Revisited Using Transdimensional Inversion of Ambient Noise and Surface Wave Dispersion
Kun WANG1#, Tingzi LI, Yuan LING, Xiaobing XU, Liang ZHAO, Huaiyu YUAN, Thomas BODIN
1Institute of Geology and Geophysics, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3Macquarie University, 4Université de Lyon

Page 66
Aeromagnetic Study of the Hengshan-Wutai-Fuping Region: Unraveling a Crustal Profile of the Paleoproterozoic Trans-North China Orogen
Jian ZHANG1,+, Min SUN2, Guochun ZHAO3, Sanzhong LI3, Wenlue SHEN4
1Sun Yat-sen University, 2The University of Hong Kong, 3Ocean University of China, 4EGS Earth Sciences

Micro-Structural and Geochronological Study of the Zhujiafang Ductile Shear Zone in the Hengshan Complex: Implications on the Tectonic Evolution of the Trans-North China Orogen
Lingchao HE1,+, Jian ZHANG1,+, Shuyun CAO2, Chunjing WEN3, Changqing YIN1, Jiachui QIAN2, Jin LIU1, Luojuan WANG1, Minglei LIU1, Xinyuan YU1
1Sun Yat-sen University, 2China University of Geosciences, 3Peking University

A Long Term Accretionary Process During the Amalgamation of the North China Craton: New Insights from the Geochemistry, Geochronology and Hf-O Isotopes of the Lüliang Complex, Trans-North China Orogen
Xinyuan YU1,+, Jian ZHANG1,+, Luojuan WANG1, Changqing YIN1, Jin LIU1, Jiachui QIAN1, Minglei LIU1, Heng LIU1, Lingchao HE1
1Sun Yat-sen University

The Correlation Between Neoproterozoic Igneous Activities in Korean Peninsula with Those in China
Boyoung LEE1,+, Changwhan OH1
1Chonbuk National University

Geochronological and Geochemical Study of Ultramafic Rocks in Zhenghe-Dapu Fault Zone of the Cathaysia Block: Implication for Possible Pan-African Suture Zone in Southeast China
Longming LI1,+
1Hefei University of Technology

Precambrian Tectonic Evolution of the Tarim Block, NW China: New Geochronological Insights from the Quruqtagh Domain
Liangshu SHU1,+
1Nanjing University

A Late Paleoproterozoic Collisional Orogenic Event in the Northern Tarim Craton
Wenbin ZHU1,+, Rongfeng GE1, Hailin WU1
1Nanjing University

Age and Provenance of the Early Mesozoic Strata in the NE North China Craton: Constraints on the Final Closure Timing of the Paleo-Asian Ocean
Yini WANG1,+, Wenliang XU1
1Jilin University

Accretionary Tectonics of Back-Arc Oceanic Basins in the South Tianshan: Insights from Structural, Geochronological, and Geochemical Studies of the Wuwamen Ophiolite Mélange
Bo WANG1,+
1Nanjing University

Kilometer-Scale Conjoined Twins Superposed Fold in Central Asia, Southern Most Altaids
Zhonghua TIAN1,+, Wenjiao XIAO2
1Chinese Academy of Geological Sciences, 2Chinese Academy of Sciences

Subduction-Induced Crustal Heterogeneity Beneath Yili Block: Insights from Hf Isotopic Mapping of Paleozoic Granitoids
He HUANG1,+, Tao WANG2
1Institute of Geology, Chinese Academy of Geological Sciences, 2Chinese Academy of Geological Sciences
**SE20-D1-AM1-319B-007 | SE20-A011**
Contrasting Zircon Water Contents of Carboniferous Igneous Rocks from West Jungger and Chinese Tianshan, Centre Asian Orogenic Belt
Xiaoping XIA1, Keda CAI1
1Chinese Academy of Sciences, 2China University of Geosciences

**SE20-D1-AM2-319B-008 | SE20-A010**
Tracking the Multi-Stage Exhumation History of the Western Chinese Tianshan by Apatite Fission Track Dating: Implication for the Preservation of Epithermal Deposits in the Ancient Orogenic Belt
Keda CAI1, Yannan WANG2
1China University of Geosciences, 2Chinese Academy of Sciences

**SE20-D1-AM1-319B-009 | SE20-A012**
Remnants of Eoarchean (~3.7 Ga) Continental Crust in the Tarim Craton Derived from a Subducted Proto-Arc
Rongfeng GE1, Wenbin ZHU1, Simon WILDE1, Hailin WU1
1Nanjing University, 2Curtin University

**SE20-D1-AM2-319B-010 | SE20-A013**
Geochemistry and U–Pb Detrital Zircon Ages of Late Permian to Early Triassic Metamorphic Rocks from Northern Liaoning, North China: Evidence for the Timing of Final Closure of the Paleo-Asian Ocean
Jin LIU1, Zhenghong LIU2, Chen ZHAO3, Chujie WANG3, Qingbin GUAN2, Shiyong DOU3, Shue SONG1, Jian ZHANG3
1Sun Yat-sen University, 2Fudan University, 3Liaoning Colored Geology Bureau of 108 Team

**SE20-D1-AM2-319B-011 | SE20-A015**
Petrogenesis and Tectonic Implications of Late Carboniferous to Early Permian Post-Collisional Granites in the South Tianshan Orogenic Belt, NW China
Qie QIN1, He HUANG1, Tao WANG1
1Institute of Geology, Chinese Academy of Geological Sciences, 2Institute of Geology, Chinese Academy of Geological Sciences, 3Chinese Academy of Geological Sciences

**SE20-D1-AM2-319B-012 | SE20-A020**
Review of the Terranes in the Chinese Altai: A Single Accretionary Complex
Arnaud BROUSSOLLE1, Min SUN2, Karel SCHULMANN3, Alexandra GUY4, Yang YU5, Pavla ŠTÍPSKÁ6, Yingde JIANG7
1The University of Hong Kong, 2Czech Geological Survey, 3Chinese Academy of Sciences

**SE20-D1-AM2-319B-013 | SE20-A021**
Reverse Thermal Evolutions Since the Middle-Late Jurassic and its Profound Influence on Hydrocarbon Accumulation, Sichuan Basin, China
Lining WANG1
1Research Institute of Petroleum Exploration and Development

**SE20-D1-PM1-319B-014 | SE20-A024 (Invited)**
Depleted SSZ Type Mantle Peridotites in Proterozoic Dunzhugur Ophiolites in the Central Asian Orogenic Belt Indicating Remnant Ancient Lithospheric Fragments
Kuo-Lung WANG1, Marina GORNOVA2, Victor KOVACH3, Zhuyin CHU4, Vasiliy BELYAEV2, Kuan-Yu LIN5, Suzanne O’REILLY6
1Academia Sinica, 2Siberian Branch of the Russian Academy of Sciences, 3Russian Academy of Sciences, 4Chinese Academy of Sciences, 5National Taiwan University, 6Macquarie University

**SE20-D1-PM1-319B-015 | SE20-A029 (Invited)**
Crustal Recycling and Maturation: Evidence from Zircon Hf-O Isotopes of the Granitoids from the Junggar Intra-Oceanic Arc, Central Asian Orogenic Belt
Gong-Jian TANG1, Qiang WANG1, Wei DAN1
1Chinese Academy of Sciences

**SE20-D1-PM1-319B-016 | SE20-A026**
Variable Slab-Mantle Interaction in the Nascent Neoproterozoic Kuznetsk Altai Intra-Oceanic Subduction System to Generate Boninitic-Tholeiitic Lavas and Magnesian Andesites
Ming CHEN1, Min SUN2, Misha BUSLOV3, Keda CAI4, Jianping ZHENG4
1China University of Geosciences (Wuhan), 2The University of Hong Kong, 3Siberian Branch of the Russian Academy of Sciences, 4China University of Geosciences
A Synthetic Zircon U-Pb Age and Hf Isotopic Study of the Carboniferous Volcanics in the Chinese Altai and its Tectonic Implications on the Accretionary Process of the Western Central Asia Orogenic Belt

Heng LIU1+, Jian ZHANG1#, Yingde JIANG2, Min SUN3, Changqin YIN1, Jin LIU1, Mingfei LIU1
1Sun Yat-sen University, 2Chinese Academy of Sciences, 3The University of Hong Kong

Carboniferous Volcanic Rocks Associated with Back-Arc Propagation in the Western Chinese Tianshan, Nw China: Insight from Temporal-Spatial Characterization, Petrogenesis and Tectonic Significance

Wenbo SU1#*
1University of Chinese Academy of Sciences

The Switch from Advancing to Retreating Subduction Margin: Records from Paleozone Magmatism in the Eastern Tianshan, Central Asian Orogenic Belt

Yunying ZHANG1#*, Min SUN1, Chao YUAN2, Yingde JIANG2
1The University of Hong Kong, 2Chinese Academy of Sciences

SE22-35 / Earthquakes, Fault Ruptures and Seismic Hazards in Southeast and East Asia and Selected Sedimentary Basins

Mon - 04 Jun  |  MR314

Time 08:30 - 10:30

Chair(s) Xu Hua SHI, Earth Observatory of Singapore
Noelyrana RAMOS, University of the Philippines Diliman

Source Parameters and Simulation of 1604 Quanzhou Earthquake

Yiwun LIAO1#, Ming-Hsuan YEN1, Kuo-Fong MA1, Shao-Kai WU1
1National Central University

An Inversion Method for Stress Drop Based on Earthquake Stress Model and its Application to the 2011 Giant Tohoku-Oki Earthquake

Zhoumin XIE1, Yongen CAI1#*
1Peking University

The Rupture Process of 2015 Mw7.8 Gorkha Earthquake and Sensitivity Analysis

Jinlai HAO1#*, Chen JF, Zhen-Xing YAO1
1Chinese Academy of Sciences, 2University of California Santa Barbara

Seismicity Before and After the 2016 Qinghai Menyuan Ms 6.4 Earthquake

Min LIU1; Hongyi LI1, Yafen HUANG2, Chenchen WANG2, Shixin LI1
1China University of Geosciences

Focal Mechanism Solutions and Seismogenic Structure of the 8 August 2017 M7.0 Jiuzhaigou Earthquake and its Aftershocks, Northern Sichuan, China

Guixi YI1#, Feng LONG1, Huiping ZHANG1, Siwei WANG1
1Sichuan Earthquake Agency, 2Earthquake Administration of Sichuan Province, 3China Earthquake Administration

Why Did the Other Macro-Epicentre Occur in the Beichuan Area Far from the Hypocenter of the 2008 Wenchuan Earthquake?: Insights from FEM Simulations

Shoubiao ZHU 1,2#*, Jie YUAN1
1China Earthquake Administration, 2University of Chinese Academy of Sciences

Broadband Ground Motion Simulation of the March 4, 2010 Jiashan, Taiwan Earthquake by Combining Stochastic Green’s Function Method with Hybrid K-Squared Slip Model

Cheng-Feng WU1#, Huey-Chu HUANG1, Boi-Yee LIAO2
1National Chung Cheng University, 2National Chi Nan University

A Revision of the Macroseismic Effects of the Mb 6.5 Bagan Earthquake of 1975, Central Myanmar

Lin Thu AUNG1,2#, Stacey MARTIN1, Yu WANG1,3, Soe Thura TUN1, Daywa AUNG1, Win NAING1
1Naypyid Technological University, 2Myanmar Geosciences Society, 3National Taiwan University, 4Myanmar Earthquake Committee, 5University of Yangon, 6University of Mawlamyine
A Report on Upgraded Seismic Monitoring Stations in Myanmar: Station Performance and Site Response

Hrin NEI THIAM1, Yin Myo Min HTWE1, Tun Lin KYAW1, Pa Pa TUN1, Zaw MIN1, Su Hninn HTWE1, Tin Myo AUNG1, Kyaw Kyaw LIN1, Myat Min AUNG1, Jason DE CRISTOFARO2, Xuyang LIU3, Stefan RADMAN3, Emily WOLIN2#,

1Department of Meteorology and Hydrology, 2United States Geological Survey, 3Kinemetrics, Incorporated

Structural Deformation of Meiktila Area, Along the Mandalay-Naypyidaw Express Car Road, Myanmar

Saw Ngwe KHAING1,2#, Zaw Naing OO3, Soe Thura TUN2

1Hinthada University, 2Myanmar Earthquake Committee, 3University of Yangon

A Rediscovered Active Fault Beneath Yangon Metropolitan Area, Myanmar: Constraints from the 2017 Mw 5.1 Teik-Kyi Earthquake and Historical Earthquake Occurrence

Yu WANG1#, Wang XIN2, Shengji WEI2, Phyo Maung MAUNG1, Lin Thu AUNG2

1National Taiwan University, 2Nanyang Technological University, 3Myanmar Geosciences Society

Paleo-Earthquake Events Recorded by Coral Microatolls in the Western Hengchun Peninsula, Southern Taiwan

Sze-Chieh LIU1##, J. Bruce H. SHYU1, Yuan-Lu TSAI1, Chuan-Chou SHEN1

1National Taiwan University

Relative Sea Level Changes and Long-Term Deformation in Cebu Island, Philippines Inferred from Emergent Marine Terraces and Coastal Notches

Noelynna RAMOS1##, Kathryn MAXWELL1, Regina Martha LUMONGSOD1, Keanu Jershon SARMIENTO1, Raul Benjamin MENDOZA1, Carla DIMALANTA1

1University of the Philippines Diliman

Time 13:30 - 15:30

Chair(s) Yu WANG, National Taiwan University

Surface Wave Tomography of Kendeng Basin in Java, Indonesia, from Ambient Seismic Noise

Sri WIDIYANTORO1##, Phil CUMMINS2, Agustyia MARTHA3, Zulfakriza ZULFAKRIZA1, Erdinc SAYGIN4

1Bandung Institute of Technology, 2Australian National University, 3Indonesian Agency for Meteorological, Climatological and Geophysics, 4Commonwealth Scientific and Industrial Research Organisation

Teleseismic Upper-Mantle Tomography of the Tanlu Fault Zone in East China

Jianshe LEI1##, Dapeng ZHAO1, Xiwei XU1, Qi MI1, Mofei DU1, Mingwen LU1, Yu YANG1

1China Earthquake Administration, 2Tohoku University

Depth of the Lower Limit of Crustal Seismogenic Layer Beneath Japanese Islands on the Japan Sea Side Estimated from High Resolved Hypocenter Catalog and Heat Flux Data

Makoto MATSUBARA1##, Tomoko YANO1

1National Research Institute for Earth Science and Disaster Resilience

Active Backstop Faults in the Mentawai Region of Sumatra, Indonesia, Revealed by Teleseismic Broadband Waveform Modeling

Wang XIN1##, Shengji WEI1, Kyle BRADLEY1

1Nanyang Technological University

Interaction Between Tectonic and Gravity-Driven Deformation: The Case of the Hyper-Extended Liwan Sag (Mid-Northern Margin of South China Sea)

Cuimei ZHANG1, Ming SU1, Xiong PANG1, Zhen SUN1, Gianreto MANATSCHAL5

1Chinese Academy of Sciences, 2Sun Yat-sen University, 3CNOOC Ltd., 4South China Sea Institute of Oceanology, Chinese Academy of Sciences, 5Université de Strasbourg
ST03 / Wave-Particle Interactions in the Magnetosphere
Mon - 04 Jun  |  MR323C

**Time** 08:30 - 10:30

**Chair(s)** Danny SUMMERS, Memorial University of Newfoundland

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ST03-D1-AM1-323C-001 | ST03-A025 (Invited)

**Arase (ERG) Observation of Energetic Electrons in the Inner Magnetosphere and Roles of Waves**
Satoshi KASAHARA1, Shoichiro YOKOTA1, Takefumi MITANI1, Kazushi ASAMURA1, Masafumi HIRAHARA1, Takeshi TAKASHIMA1
1The University of Tokyo, 2Osaka University, 3Japan Aerospace Exploration Agency, 4National Astronomical Observatory of Japan

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ST03-D1-AM1-323C-002 | ST03-A015 (Invited)

**Large Amplitude Extremely-Low-Frequency Hiss Waves in Plasmaspheric Plumes**
Zhenpeng SU1, Ning LIU2, Guoyue DAI3, Huinan ZHENG4, Yuming WANG5, Shui WANG5
1University of Science and Technology of China

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ST03-D1-AM1-323C-003 | ST03-A019 (Invited)

**Dynamics of Energetic Particles in the Inner Magnetosphere and Role of Wave-Particle Interactions**
Ioannis DAGLIS1
1University of Athens, 2National Observatory of Athens

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ST03-D1-AM1-323C-004 | ST03-A009

**Prompt Disappearance and Emergence of Radiation Belt Magnetosonic Waves Induced by Solar Wind Dynamic Pressure Variations**
Nigang LIU1, Zhenpeng SU1
1University of Science and Technology of China

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ST03-D1-AM1-323C-005 | ST03-A034

**A New Dayside Energetic Electron Boundary Layer Observed with MMS**
Allison JAYNES1, Drew TURNER2, Trevor LEONARD3, Frederick WILDER4, Barry MAUK5, Joseph FENNELLI6, Tai PHAN7, Hong ZHAO8, Ian COHEN9, Daniel BAKER10, Robert ERGUN11
1University of Iowa, 2The Aerospace Corporation, 3University of Colorado Boulder, 4The Johns Hopkins University Applied Physics Laboratory, 5University of California, Berkeley

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ST03-D1-AM1-323C-006 | ST03-A002

**Possible Particle Precipitation Induced by HF Radio Wave Heating**
Xuemin ZHANG1
1China Earthquake Administration

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ST03-D1-AM1-323C-007 | ST03-A001

**Influence of Kappa Distributions on Whistler Mode Chorus Wave Generation**
Danny SUMMERS1
1Memorial University of Newfoundland

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ST03-D1-AM2-323C-008 | ST03-A007

**The Strong Role of Wave-Particle Interactions in the Earth’s Radiation Belts**
Daniel BAKER1
1University of Colorado Boulder

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ST03-D1-AM2-323C-009 | ST03-A018

**Strong Subpacket Structure in VLF Chorus Rising Tones and its Effect on Radiation Belt Acceleration**
John FOSTER1, Philip ERICKSON2, Yoshiharu OMURA3, Craig KLETZING4
1Massachusetts Institute of Technology, 2Kyoto University, 3The University of Iowa
Nonlinear Wave Damping of Slightly Oblique Whistler Mode Waves by Landau Resonance
Yikai HSIEH1#, Yoshiharu OMURA1
1Kyoto University

Linear and Nonlinear Mechanisms for Generating Chorus Waves in Inner Magnetosphere
Xiangrong FU1#, S. Peter GARY1, Misa COWEE1, Dan WINSKE3, Geoffrey REEVES1
1New Mexico Consortium, 2Space Science Institute, 3Los Alamos National Laboratory

Observation of Very Oblique Lower Band Chorus Generated by Nonlinear Three-Wave Interaction
Shangchun TENG1#, Xin TAO1
1University of Science and Technology of China

The Role of Wave-Particle Interactions in the Dynamics of Energetic Particles in the Inner Magnetosphere
Vania JORDANOVA1#, Miles ENGEL1, Xiangrong FU1, Misa COWEE1, Mike HENDERSON1, Yiqun YU3
1Los Alamos National Laboratory, 2New Mexico Consortium, 3Beihang University

Generation of EMIC Waves in the Hydrogen, Helium and Oxygen Cyclotron Bands by Fast Magnetosonic Shocks in the Magnetosphere and in the Solar Wind
Kun-Han LEE1#, L. C. LEE1
1Academia Sinica

EMIC Waves Excited Near the Dayside Magnetopause
Yonghua LIU1#
1Polar Research Institute of China

Traveling Ultralow-Frequency Waves and Their Influences over Plasmaspheric Charged Particles
Xuzhi ZHOU1#, Mu YANG1, Quigang ZONG1, Longfei ZHANG1, Robert RANKIN1, Yongfu WANG1
1Peking University, 2University of Alberta
ST06-D1-PM1-304A-004 | ST06-A008
Oxygen Ions O+ Energized by Kinetic Alfvén Eigenmode
During Dipolarizations of Intense Substorms
Suping DUAN1#, Lei DAI2, Chi WANG3, Zhaohai HE3, Chunlin CAI1, Yongcun ZHANG4, Iannis DANDOURAS5, Henri REME3, Mats ANDRE4, Yuri KHTOYAINTESEV4
1National Space Science Center, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3University of Toulouse, 4Swedish Institute of Space Physics

ST06-D1-PM1-304A-005 | ST06-A014
Cross-Scale Wave Modulation Between Whistler Mode Waves and Ion Scale Waves Observed in the Distant Magnetotail
Duo ZHAO1#, Suiyan FU1, George PARKS2, Qiugang ZONG1, Zuyin PU1
1Peking University, 2University of California, Berkeley

ST06-D1-PM1-304A-006 | ST06-A002 (Invited)
The Structure of Low Mach Number, Low Beta, Quasi-Perpendicular Collisionless Shocks
Lynn WILSON III1#, Andriy KOVAL1, Adam SZABO1, Michael STEVENS2, Justin KASPER3, Cynthia CATTELL2, Vladimir KRASNOSELSKIHK4
1NASA Goddard Space Flight Center, 2National Aeronautics and Space Administration, 3Harvard-Smithsonian Center for Astrophysics, 4University of Michigan, 5University of Orleans

ST06-D1-PM1-304A-007 | ST06-A009
Ion Heating at the Supercritical and Subcritical Quasi-Perpendicular Bow Shocks
Hee-Eun KIM1#, Ensang LEE1, George PARKS2, Naiguo LIN2, Khan-Hyuk KIM2, Dong-Hun LEE1
1Kyung Hee University, 2University of California, Berkeley

ST10-21 / Upper Atmosphere Responses to Lithosphere, Atmosphere and Anthropogenic Disturbances
Mon - 04 Jun | MR317A
Time 13:30 - 15:30
Chair(s) Yang-Yi SUN, China University of Geosciences (Wuhan)
Chi-Yen LIN, National Central University

ST10-21-D1-PM1-317A-001 | ST10-21-A002 (Invited)
Ionosphere Modification Before March 11 2011 Earthquake
Koichiro OYAMA1,2
1National Cheng Kung University, 2Asia Space Environment Research Consortium

ST10-21-D1-PM1-317A-002 | ST10-21-A005 (Invited)
Recent Power-Up of North Korean Missiles in 2017 from Ionospheric Electron Depletion Observed by GNSS-TEC
Kosuke HEKI1#, Mayumi HASHIMOTO2
1Hokkaido University

ST10-21-D1-PM1-317A-003 | ST10-21-A001 (Invited)
Ground Motion Triggered by Typhoons
Chieh-Hung CHEN1,2, Li-Ching LIN2
1China University of Geosciences, 2Academia Sinica

ST10-21-D1-PM1-317A-004 | ST10-21-A006
Ionospheric Bow Wave Induced by Moon Shadow Ship
Yang-Yi SUN1,2, Jann-Yenq (Tiger) LIU2, Charles LIN2, Chi-Yen LIN1
1China University of Geosciences, 2National Central University, 3National Cheng Kung University

ST10-21-D1-PM1-317A-005 | ST10-21-A013
FORMOSAT-3/COSMIC Radio Occultation Sounding Ionospheric Electron Density Fluctuations Induced by the 11 March 2011 M9.0 Tohoku Earthquake and Tsunami
Jann-Yenq (Tiger) LIU1,2, Chao-Yen CHEN1, Y. SUN2, I-Te LEE1,3
1National Central University, 2Kyushu University, 3Central Weather Bureau

ST10-21-D1-PM1-317A-006 | ST10-21-A008
Ionospheric Disturbances Associated with Volcanic Eruptions Observed by GPS-TEC and HF Doppler Sounding
Aritsugu CHONAN1, Hiroyuki NAKATA1,2, Hiroyo OHYA3, Toshiaki TAKANO1, Ichiro TOMIZAWA3, Michi NISHIOKA3, Takuya TSUGAWA3
1Chiba University, 2University of Electro-Communications, 3National Institute of Information and Communications Technology

ST10-21-D1-PM1-317A-007 | ST10-21-A009
Three-Dimensional Ionospheric Structure Imaged Using Global Data Assimilation Specification
Chi-Yen LIN1#, Charles LIN1, Jann-Yenq LIU2
1National Central University, 2National Cheng Kung University

ST10-21-D1-PM1-317A-008 | ST10-21-A014
Optimal Using of Cosmic Ionospheric Products: Quality Statistics and Performance Analysis
Iurii CHERNIAK1,2, Douglas HUNT1, Sergey SOKOLOVSKIY1, Irina ZAKHARENKOVA1,2, William SCHREINER3
1University Corporation for Atmospheric Research, 2University of Warmia and Mazury, 3Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation

ST11 / Use of Nano/microsatellites for Solar-terrestrial Studies

Mon - 04 Jun  | MR304A

Time 08:30 - 10:30
Chair(s) Kyoung Wook MIN, Korea Advanced Institute of Science & Technology

ST11-D1-AM1-304A-001 | ST11-A001 (Invited)

IDEASSat – A 3U CubeSat for Ionospheric Science and Capacity Building
Loren CHANG1+, Chi-Kuang CHAO1, Amal CHANDRAN2, C. L. KUO3
1National Central University, 2Nanyang Technological University

ST11-D1-AM1-304A-002 | ST11-A003

Toward International Collaboration of Satellite Constellation to Study Ionosphere Disturbance Caused by Earthquake
Koichiro OYAMA1,2,3,4
1National Cheng Kung University, 2Asia Space Environment Research Consortium

ST11-D1-AM1-304A-003 | ST11-A007

Need of Nano Satellite Constellation in Realization of Coupling Roles Between Space Weather - Plasmasphere-Troposphere
Devi MINAKSHI4, Ananda BARBARA5, Anna DEPUEVA5, Victor DEPUEVA5, Ya Yu RUZHIN6
1Gauhati University, 2Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation

ST11-D1-AM1-304A-004 | ST11-A008

Virtual Reconfiguration of the Satellite Systems
Oleg BREKHOV7,8, Pavel ZHDANOV7
1National Research University

ST11-D1-AM1-304A-005 | ST11-A009

The Aerocube-6 Mission a Mission to Study the Fine Structure of Electron Precipitation
Berhard BLAKE9, Paul O’BRIEN10, Brian HARDY11
1The Aerospace Corporation

ST11-D1-AM1-304A-006 | ST11-A014 (Invited)

Miniaturized Solar Extreme Ultraviolet Probe for Cubesat Missions
Alfred CHEN12, Hui-Kuan FANG13, Tsu-Wei TSAU1, Wen-Hao CHEN14, Jyh-Ching JUANG15, Jiun-Jih MIAU16
1National Cheng Kung University

ST11-D1-AM1-304A-007 | ST11-A015 (Invited)

Hydrogen Geocorona Observed by PROCYON/LAICA
Shingo KAMEDA17, Masaki KUWABARA18, Naoya OSADA1, Go MURAKAMI19, Kazuo YOSHIOKA20, Ichiro YOSHIKAWA21, Makoto TAGUCHI22, Ryu FUNASE23
1Rikkyo University, 2The University of Tokyo, 3Japan Aerospace Exploration Agency

Time 11:00 - 12:30
Chair(s) Koichiro OYAMA, National Cheng Kung University/Asia Space Environment Research Consortium
Kyoung Wook MIN, Korea Advanced Institute of Science & Technology

ST11-D1-AM2-304A-008 | ST11-A012

Mini Retarding Potential Analyzer for Cubesat Platforms
Hui-Kuan FANG13, Ting-Chou WU1, Wen-Hao CHEN1, Alfred CHEN1, Koichiro OYAMA1,2
1National Cheng Kung University, 2Asia Space Environment Research Consortium

ST11-D1-AM2-304A-009 | ST11-A017 (Invited)

Micro-Satellite and its Constellation as a New Platform for Space Remote-Sensing
Yukihiro TAKAHASHI10
1Hokkaido University

ST11-D1-AM2-304A-010 | ST11-A019 (Invited)

Importance of Microsatellite Mission in the Field of Solar Terrestrial Physics
Yoshifumi SAITO11
1Japan Aerospace Exploration Agency

ST11-D1-AM2-304A-011 | ST11-A020

Nano-Lander and Nano-Orbiter Concept for the Small-Body Mission Proposed by CAST
JIANGCHUAN HUANG12, Jiangchuan HUANG2, Dai TIAN2, Fan GUO2, Xiaoyu JIA1, Tong WANG1
1Beijing Institute of Spacecraft System Engineering, 2China Academy of Space Technology
ST20 / Fundamental Physics of the Solar Corona and Inner Heliosphere

Mon - 04 Jun | MR317A

Time 08:30 - 10:30
Chair(s) Chadi SALEM, University of California at Berkeley

ST20-D1-AM1-317A-001 | ST20-A007
Observation of the Kelvin-Helmholtz Instability in the Solar Prominence
Heesu YANG1++, Zhi XU2, Eun-Kyung LiM1, Sujin KIM3, Kyungsook CHO1, Jongchul Chae CHAE1, Kyuhyoun CHO3, Yeon-Han KIM1, Kaifan JF
1Korea Astronomy and Space Science Institute, 2Yunnan Astronomical Observatory, 3Kyunghee University, 4Seoul National University

ST20-D1-AM1-317A-002 | ST20-A026
Torsional Motions, Oscillations, Waves and Rotational Displacements in a Chromospheric Jet Formed Due to 3D Magnetic Reconnection
Viktor FEDUN1++, Jose GONZALEZ-AVILES2, Gary VERTH1, Francisco GUZMAN3, Sergiy SHELIA2, Stephane REGNIER1, Istvan BALLAI1
1The University of Sheffield, 2Universidad Nacional Autonoma de Mexico, 3Universidad Michoacana de San Nicollois de Hidalgo, 4University of Northumbria

ST20-D1-AM1-317A-003 | ST20-A024 (Invited)
Parametric Decay Instability and Slow Mode Damping in Low-Beta Turbulent Solar Wind Plasma
Xiangrong FU1++, Hui LI2, Fan GUO2, Xiaocan LI2, Vadim ROYTERSHTEYN3
1New Mexico Consortium, 2Los Alamos National Laboratory, 3University of California at San Diego

ST20-D1-AM1-317A-004 | ST20-A019
Imprints of CMEs on Corona Structures
Nathalia ALZATE1, Shadia HABBAL1
1University of Hawaii

ST20-D1-AM1-317A-005 | ST20-A022
Speed Measurements of the Fine-Scale Features within CMEs
Hsiu-Shan YU1++, Bernard JACKSON1, Andrew BUFFINGTON1, Paul HICK1
1University of California, San Diego

ST20-D1-AM1-317A-006 | ST20-A023 (Invited)
Large-Scale Magnetic Funnels in the Solar Corona
Olga PANASENCO1++
1Advanced Heliophysics

ST20-D1-AM1-317A-007 | ST20-A020 (Invited)
Dynamics and Thermodynamics of the Corona from Total Solar Eclipse Observations
Shadia HABBAL1++, Adalbert DING2, Miloslav DRUCKMULLER3, Pavel STARHA1, Jana HODEROVA4, Enrico LANDI4
1University of Hawaii, 2Technische Universitaet, 3Brno University of Technology, 4University of Michigan

ST20-D1-AM1-317A-008 | ST20-A015
First Empirical Determination of the Fe 10+ and Fe 13+ Freeze-in Distances in the Solar Corona
Benjamin BOE1++, Shadia HABBAL1, Miloslav DRUCKMULLER3, Ehsan KOURKCHI1, Enrico LANDI1, Adalbert DING2, Pavel STARHA2
1University of Hawaii, 2Technische Universitaet, 3University of Michigan

ST20-D1-AM1-317A-009 | ST20-A010 (Invited)
Solar Wind Suprathermal Electrons
Linghua WANG1++
1Peking University

ST20-D1-AM1-317A-010 | ST20-A006
Wave-Mode Identification in Kinetic-Scale Turbulence in the Solar Wind at Low and High Beta
Chadi SALEM1++, Catherine LACOMBE1, Kristopher KLEIN1, Elizabeth HANSON1, John BONNELL1, Olga ALEXANDROVA2, Lorenzo MATTEINI1, Daniel VERSCHAREN4
1University of California, Berkeley, 2Observatoire de Paris, 3University of Michigan, 4University College London

ST20-D1-AM1-317A-011 | ST20-A001
An Approach to Measure the Scale-Dependent Dissipation Rate Spectrum in Space Plasma Turbulence
Jiansen HE1++
1Peking University

ST20-D1-AM1-317A-012 | ST20-A012
Onset and Nonlinear Evolution of Fast Reconnection: Lundquist Number and Hall Effects
Chen SHI1++, Anna TENERANI1, Marco VELLI1
1University of California, Los Angeles

ST20-D1-AM1-317A-013 | ST20-A016 (Invited)
Dependence of Ion-Scale Spectral Break on Plasma Beta in the Solar Wind Turbulence
Xin WANG1++, Chuanyi TU2, Jiansen HE1, Linghua WANG2
1Beihang University, 2Peking University
Combining Radio Receivers and Electrostatic Analyzers for Accurate Measurements of Solar Wind Electrons: Wind Observations
Chadi SALEM\textsuperscript{1+}, Marc PULUPA\textsuperscript{1}, Stuart BALE\textsuperscript{1}
\textsuperscript{1}University of California, Berkeley
AS01 Poster Presentations
Mon - 04 Jun, 18:30 - 20:30 | Ballroom B

AS01-D1-EVE-P-005 | AS01-A002
A Nonlinear Prediction Scheme for Tropical Cyclone Intensity
Xiao-Yan HUANG1+, Li HE1#, Ying HUANG1, Hua-Sheng ZHAO1
1Guangxi Research Institute of Meteorological Disasters Mitigation

AS01-D1-EVE-P-006 | AS01-A003
A Genetic Neural Network Prediction Scheme for Tropical Cyclone Intensity Change over Western North Pacific
Ying HUANG1, Hua-Sheng ZHAO1, Xiao-Yan HUANG1, Li HE1
1Guangxi Research Institute of Meteorological Disasters Mitigation

AS01-D1-EVE-P-007 | AS01-A004
Effectiveness of Different Urban Heat Island Mitigation Methods and Their Regional Climate Impacts
Ning ZHANG1#*
1Nanjing University

AS01-D1-EVE-P-008 | AS01-A005
Projected End-of-Century Spring Snowpack Loss over California’s Sierra Nevada by a High-Resolution Downscaling Technique
Fengpeng SUN1#*
1University of Missouri - Kansas City

AS01-D1-EVE-P-009 | AS01-A008
Future Climate Simulation for Oahu: A Dynamical Downscaling Approach
Bo-Yi LU1++, Pao-Shin CHU1, Pay LIAM1
1University of Hawaii at Manoa, 2University of Hawaii, 3National Central University

AS01-D1-EVE-P-010 | AS01-A011
Sensitivity Studies for the Cordex Central Asia Domain with the COSMO-CLM Regional Climate Model
Emmanuele RUSSO1++, Ingo KIRCHNER1, Ulrich CUBASCH1
1Free University of Berlin

AS01-D1-EVE-P-011 | AS01-A014
Projection of West African Summer Monsoon Rainfall in CORDEX Models
Akintomide Afolayan AKINSANOLA1++, Wen ZHOU1
1City University of Hong Kong

AS01-D1-EVE-P-012 | AS01-A015
Study on the Prediction of Frost Occurrence Using Machine Learning Methods
Yongseok KIM1++, Myung-Pyo JUNG2, Kyo-Moon SHIM1, Kee-Kyung KANG1, Eun-Suk JANG1
1National Institute of Agricultural Sciences

AS04-D1-EVE-P-027 | AS04-A005
Constraining East Asian CO2 Emissions with GOSAT Retrievals: Methods and Policy Implications
Changsub SHIM1*#
1Korea Environment Institute

AS04-D1-EVE-P-028 | AS04-A006
Analysis of Regional Contribution to PM2.5 in Busan, Korea Using CAMx PAST - May 2017 Case Study -
Woo-Sik JUNG1**, W. G. DO2
1Inje University, 2Busan Metropolitan City Institute of Health and Environment

AS04-D1-EVE-P-029 | AS04-A012
Modeling Study of Sensitivity of Surface Ozone and Fine Particulate Matter to Meteorology in China
Zhihao SHI1, Jianlin HU1++, Jingyi LI1, Qi YING2, Hongliang ZHANG3
1Nanjing University of Information Science & Technology, 2Texas A and M University, 3Louisiana State University

AS04-D1-EVE-P-030 | AS04-A019
Study of the Relationship Between Aerosols Diffusion and Sedimentation Characteristics by Using Scanning LIDAR and Micro-Sensors
Chih-Wei CHIANG1++, Hong-Wei CHIANG1, Huann-Ming CHOU1, Tien-Ying CHUNG1, Wen-Ching LIN1
1Kuei Shan University

AS04-D1-EVE-P-031 | AS04-A024
Source Apportionment and Health Risks of Polycyclic Aromatic Hydrocarbons (PAHs) in China
Fenglin HAN1, Jie ZHANG2, Jianlin HU1, Qi YING1, Hongliang ZHANG1**
1Louisiana State University, 2Texas A&M University, 3Nanjing University of Information Science & Technology, 4Texas A and M University

AS04-D1-EVE-P-032 | AS04-A025
Dome Effect of Black Carbon and its Key Influencing Factors: A One-Dimensional Modelling Study
Zilin WANG1++, Xin HUANG1, Aijun DING1
1Nanjing University
Characterization of Ambient Air Pollution and Health Burden of Fine Particulate Matter in Nanjing
Dongyang NIE1, Mindong CHEN1, Xinlei GE1, Yun WU1
1Nanjing University of Information Science & Technology

Characteristic Analysis of Precipitation and Wet Removal of Aerosols in Chengdu
Chao WANG1, Tiangui XIAO1, Luo QIN1, Libin WU2, Xiaohang WEN1, Ding CHEN1
1Chengdu University of Information Technology, 2Wenjiang Meteorological Bureau

Estimating Ground Level PM2.5 Concentrations and Associated Health Risk Using Aerosol Optical Depth and Meteorological Parameters in Indian Cities
Shovan SAHU1, Venkatesh CHEJARLA1, Hao GUO2, Rishikesh BHARTI1, Hongliang ZHANG2, Jianlin HU3, Qi YING3, Sri H. KOTA4
1Indian Institute of Technology Guwahati, 2Louisiana State University, 3Nanjing University of Information Science & Technology, 4Texas A and M University

Guided Sampling for Volatile Organic Compounds During Biomass Burning Events in Indochina
Chang-Feng OU-YANG1, Chih-Chung CHANG2, Jia-Lin WANG1, Si-Chee TSAY1, Sheng-Hsiang WANG1, Gang-Jei FAN1, Kai-Hsien CHI1, Somporn CHANTARA1, Neng-Huei LIN1
1National Central University, 2Academia Sinica, 3NASA Goddard Space Flight Center, 4National Yang-Ming University, 5Chiang Mai University

Urban Heat Island Affected by Fine Particles in Nanjing, China
Hao WU1, Tijian WANG1
1Nanjing University

Regional Severe Particle Pollution and Associated Synoptic Weather Patterns over Yangtze River Delta, China
Lei SHU1, Tijian WANG1, Min XIE1
1Nanjing University

Regional Source Apportionment of PM2.5 in North India
Using a Source-Oriented Regional Air Quality Model
Hao GUO1, Shivon SAHU1, Ji-Hyun KOTA2, Jianlin HU3, Qi YING, Wenye DENG, Hongliang ZHANG
1Louisiana State University, 2Indian Institute of Technology Guwahati, 3Nanjing University of Information Science & Technology, 4Texas A and M University, 5Xinjiang Academy of Environmental Protection Science

Effects of Climate Change and Emission Scenarios on Air Pollution in Louisiana
Hao GUO, Hongliang ZHANG
1Louisiana State University

Analysis of Air Qualities Using OMI Satellite and Aircraft Measurements over Korea
Hyeong-Ahn KWON1, Rokjin J. PARK1, Gonzalo GONZALEZ-ABAD2, Christopher MILLER1, Kelly CHANCE2
1Seoul National University, 2Harvard-Smithsonian Center for Astrophysics, 3Harvard University

Simulation of Atmospheric Transport of Hazardous Chemicals from Tianjin Explosion Accident with Flexpart
Hyuckjae LEE1, Myong-In LEE1, Chang-Keun SONG1
1Ulsan National Institute of Science and Technology

Spatiotemporal Variability of Chemicals and Sources of Ambient Fine Particles in Korea
Jongbae HEO1, Seung-Muk YI1
1Seoul National University

Heavy Haze Formation During Wintertime in the Guanzhong Basin, China: A Case Study
Xia LI1, Junji CAO1
1Institute of Earth Environment, Chinese Academy of Sciences, 2University of Chinese Academy of Sciences, 3Chinese Academy of Sciences

Applying the Water Mist Washing Technology to Improve the Loss of Semi-Volatile Species of the in Situ Aerosol Composition Measurement
Yu-Chieh CHEN1, Shih-Yu CHANG1
1Chung Shan Medical University
The Investigation of Three-Dimensional Characteristics of Inorganic Soluble Ions in an Urban Micro-Environment
Yu-Chieh CHEN1+, Chih-Chung CHANG2, Wei-Nai CHEN2, Yu-Chen TSAI1, Lien-En HUANG1, Ya-Pang JHUANG3, Shih-Yu CHANG4
1Chung Shan Medical University, 2Academia Sinica

Seasonal Changes in Surface Ozone over South Korea
Hyun-Chae JUNG1+, Byung-Kwon MOON1
1Chonbuk National University

Reassessing Ozone Incremental Reactivity Scales Using VOC Data from China
Qi YING1++, Yuan CHEN2, Jianlin HU3, Hongliang ZHANG4
1Texas A and M University, 2Texas A&M University, 3Nanjing University of Information Science & Technology, 4Louisiana State University

Investigation on the Nonlinear Response of Air Pollution to Precursor Emissions Under Heavy Pollution Condition
Jia XING1++, Dian DING1
1Tsinghua University

Characteristics of Carcinogenic Hazard Air Pollutants Emitted from Waste Energy Power Plants in South Korea
Yumi KIM1#
1Korea Environment Institute

Chemical Composition and Sources to Rain Water in North-East India
Rajyalakshmi GARAGA1, Shovan SAHU1, Sri H. KOTA1
1Indian Institute of Technology Guwahati

Study on Monitoring of Black Carbon Concentration in a Forest Environment
Tsung Ming TSAO1++, Chiang WEI1, Ching-Peng CHENG1
1National Taiwan University

Seasonal Variation of Negative Air Ion Concentration in a Forest Environment
Ching-Peng CHENG1++, Tsung Ming TSAO1, Chiang WEI1
1National Taiwan University

Influences of Sea/Land Breeze on the Pollutant Transport Between the Coastal Urban and Inland Areas
Lien-En HUANG1+, Ya-Pang JHUANG1, Yu-Chieh CHEN1, Yu-Chen TSAI1, Charles C.K. CHOU1, Shih-Yu CHANG4
1Chung Shan Medical University, 2Academia Sinica

Ambient PM2.5 Levels and Health Risks in Beijing, China
Xiaohong XU1
1University of Windsor

Statistical Characteristics for Temporal and Spatial Distribution of Regional Rainstorm Processes over the Area East of 95E in China During 1981-2015
Ruoyun NIU1#
1National Meteorological Center

Mesoscale Characteristic Analysis on a Short-Time Heavy Rain Under Northwest Flow in Urumqi
Lianmei YANG1#
1China Meteorological Administration

Analysis on the Causes of an Extreme Torrential Rainstorm in the West of Xinjiang
Yong ZENG1#
1Institute of Desert Meteorology, China Meteorological Administration

Structure Analysis of Heavy Precipitation over the Eastern Slope of the Tibet Plateau Based on TRMM Data
Baojian WANG1#
1Lanzhou Central Meteorological Observatory

Dynamic State Index and Precipitation
Ines LANGER1++, Thomas SCHARTNER1, Peter NEVIR1
1Free University of Berlin

Observational Analysis of a Record-Breaking Rain-Producing Convective Storm Influencing Guangzhou During SCMREX-2017
Yali LUO1#, Ruoyun MA1, Mingxuan CHEN1, Da-Lin ZHANG1, Mengwen WU1
1Chinese Academy of Meteorological Sciences, 2Institute of Urban Meteorology, 3University of Maryland
Synoptic Analysis of Extreme Hourly Precipitation in China Mainland and Taiwan
Mengwen WU1, Yali LUO, Chun-Chieh WU2
1Chinese Academy of Meteorological Sciences, 2National Taiwan University

An Extreme Rainfall Event in Coastal South China During SCMREX-2014: Roles of Rainband and Echo Trainings
Xi LIU, Yali LUO, Zhaoyong GUAN, Da-Lin ZHANG, Yangruixue CHEN
1Nanjing University of Information Science & Technology, 2Chinese Academy of Meteorological Sciences

Features of Extreme Hourly Rainfall over South China During Pre-Summer Rainy Season of 2011-2017
Yangruixue CHEN, Yali LUO, Zhenghui LI
1Chinese Academy of Meteorological Sciences

Sensitivity Study of WRF Numerical Modeling for Forecasting Heavy Rainfall in Sri Lanka
Channa RODRIGO, Sangi KIM, Yongkuk KIM
1Hankuk University of Foreign Studies, 2Hankuk University of Foreign Studies, 3Pusan National University, 4Kyoungbuk University

Simulating the IPOD, East Asian Summer Monsoon and Their Relationships in CMIP5
Miao YU, Jianping LI, Fei ZHENG, Xiaofan WANG, Jiayu ZHENG
1Beijing Normal University, 2Chinese Academy of Sciences, 3China Meteorological Administration, 4Second Institute of Oceanography

Sensitivity Study of WRF Simulation to Alternative Grid Spacing and Parametrization for Wet and Dry Seasons over Tanzania
Abubakar Omary LUNGO, Sangil KIM, Il Hyo JUNG
1Tanzania Meteorological Agency, 2Hankuk University of Foreign Studies, 3Pusan National University

Numerical Simulation of Guangzhou Extreme Rainfall Event on 7 May 2017 Based on WRF-EnKF
Hui XIAO
1China Meteorological Administration

Characteristics of the Raindrop Size Distribution in Two Squall Lines Measured by Two-Dimensional Video Disdrometer at Guangdong
Lu FENG
1Guangzhou Institute of Tropical and Marine Meteorology

Structures of Fine Scale Conveyor Belts in a Simulated Idealized Extratropical Cyclone
Yi ZHANG
1Nanjing University

Influence of Topography on Annual Maximum Heavy Rainfalls over Upper Catchments in Japan
Yui TAKEHARA, Tomohito J. YAMADA
1Hokkaido University

Operational Radar Data Assimilation for Short-Range Quantitative Precipitation Forecasting
Ya-Ting TSAI, Siou-Ying JIANG, Jing-Shan HONG, Yan-Ming SHAO
1Central Weather Bureau, 2National Taiwan University

Maintenance Conditions of Back-Building MCS in a Numerical Simulation of a Heavy Rainfall in July 2010 in Western Japan
Ryuji YOSHIDA, Seiya NISHIZAWA, Hisashi YASHIRO, Sachiko ADACHI, Tsuyoshi YAMURA, Hirofumi TOMITA, Yoshiyuki KAJIKAWA
1RIKEN Advanced Institute for Computational Science, 2Kobe University, 3Japan Meteorological Agency, 4RIKEN Center for Computational Science

Convective Instability of Slanted Convection in the East Asian Summer Monsoon
Hyeon-Seok DO, Seiya NISHIZAWA, Hisashi YASHIRO
1Kongju National University

Blending with Radar Nowcasting and Numerical Prediction
Dong-In LEE, Yunhee KANG, Yura KIM
1Pukyong National University
Application of the Multi-Scale Blending Scheme on Continuous Cycling Radar Data Assimilation
Siou-Ying JIANG1,2#+, Ya-Ting TSAY1, Jing-Shan HONG3, Jong-Dao JOU2
1Central Weather Bureau, 2National Taiwan University

A WRF Modeling Study of Depositional Growth of Ice Crystal During the Landfall of Typhoon Fitow (2013)
Xiaofan LI1#
1Zhejiang University

Moisture and Energy Transports by Tropical Convection: Contrast Between Deep and Shallow Modes
Yi-Chien CHEN1,2#, Jia-Yuh YU1
1National Central University

Sensitivity of US Summer Rainfall to the Selection of Cumulus Parameterization Schemes in NASA-Unified WRF Simulation: Overall Characteristics and Diurnal Cycle
Takamichi IGUCHI1, Wei-Kuo TAO2, Toshihisa MATSUI1,2
1University of Maryland, 2NASA Goddard Space Flight Center

Impacts of Including Rain-Evaporative Cooling in the Initial Conditions on the Prediction of a Coastal Heavy Rainfall Event During TiMREX
Chuan-Chi TU1,2#, Yi-Leng CHEN1, Shu-Ya CHEN1, Bill KUO1, Pay-Liam LIN1
1National Central University, 2University of Hawaii at Manoa, 3University Corporation for Atmospheric Research

Convective Organization and Moisture Buildup over South China Sea: A Key Feature for Summer Monsoon Onset
Wei-Ting CHEN1, Wei-Ming TSAF1, Chien-Ming WU1, Kuan-Ting KUO1, Peng-Jen CHEN1
1National Taiwan University, 2University of Miami

Using Connected-Labeling Algorithm to Track the Evolution of Deep Convection Systems
Wei-Ting HSIAO1,2#, Min-Duan TZENG1, Jen-Ping CHEN1, Tzu-Chin TSAI1
1National Taiwan University

The Role of Initial Cloud Condensation Nuclei Concentration in Hail
Xiaofei LI1,2#, Qinghong ZHANG1
1Peking University

Numerical Investigation of Offshore Convective Lines Along the Eastern Coast of Taiwan
Pay-Liam LIN1,2#, Muqun HUANG1
1National Central University

Impacts of Cumulus Parameterizations on MJO Simulations with the CWBGF Model
Mei-Yu CHANG1,2, Pay-Liam LIN1, Tim LP, Jen-Her CHEN1, Ting-Huai CHANG1, Jia-Ying WU1
1Central Weather Bureau, 2National Central University, 3University of Hawaii

Thermodynamically and Dynamically Consistent Atmospheric Forcing Data over the South China
Donghai WANG1,2, Chunyan ZHANG1, Zihao PANG2, Shaochong XIE3
1Sun Yat-sen University, 2Chinese Academy of Meteorological Sciences, 3Lawrence Livermore National Laboratory

Relative Contributions of Synoptic and Intraseasonal Variations to Strong Cold Events over Eastern China
Lei SONG1#
1Chinese Academy of Sciences

The Concurrent Variations of East Asian Summer Monsoon and Australian Winter Monsoon
Wei CHEN1, Zhaoyong GUAN2#
1Nanjing University of Information Science, 2Nanjing University of Information Science & Technology

Comparison of Moisture Transport Between Siberia and Northeast Asia on Interannual Time Scale
Jinling PIAO1,2#, Wen CHEN1,2, Shangfeng CHEN3
1Chinese Academy of Sciences

Modulation Effect of East Asian Winter Monsoon on El Niño-Related Rainfall Anomalies in Southeastern China
Tianjiao MA1,2#, Wen CHEN1,2, Juan FENG1, Jinling PIAO1
1Chinese Academy of Sciences
Distinguishing Interannual Variations of the Northern and Southern Components of the East Asian Winter Monsoon
Zhang CHEN1,*, Renguang WU2, Wen CHEN2
1Chengdu University of Information Technology, 2Chinese Academy of Sciences

Impacts of Two Wave Trains on Intraseasonal Variability over East Asia in Boreal Winter
Yang JIAO1,*, Renguang WU1
1Chinese Academy of Sciences

Climatological Characteristics of the Synoptic Changes Accompanying South China Sea Summer Monsoon Withdrawal
Peng HU1,*, Wen CHEN1, Debashis NATH1
1Chinese Academy of Sciences

The Recovery of East Asian Winter Monsoon and its Link with Arctic Amplification
Sai WANG1,*, Wen CHEN1, Debashis NATH1, Peng HU1
1Chinese Academy of Sciences, 2National Atmospheric Research Lab

Relative Contribution of Intra-Seasonal and Extra-Seasonal Components of Tropospheric Temperature to the Interdecadal Change of the South China Sea Summer Monsoon Onset
Maoqiu JIAN1,*, Wen CHEN1, Debashis NATH1
1Sun Yat-sen University

Inter-Annual Variability and Potential Drivers of Late/Early Rainy Season Withdrawal in Monsoon Transitional Zone of China
Wei ZHAO1,*, Xiaokang SHI1
1Beijing Aviation Meteorological Institute

The Interdecadal Change in the Intensity of Interannual Variation of Spring Precipitation over Southern China and its Relationship with Sea Surface Temperature Anomaly
Yunting QIAO1,*, Chao XU1
1Sun Yat-sen University

Contrasting Temperature Response to ENSO over East Asia and North America in Early and Later Winter
Lijuan WANG1,*, Lin WANG2, Wen CHEN2
1China Meteorological Administration, 2Chinese Academy of Sciences

Roles of Tropical SST Patterns During Two Types of ENSO in Modulating Wintertime Rainfall over Southern China
Kang XU1,*, Qing-Lan HUANG2, Francis TAM3, Weiqiang WANG1, Sheng CHEN1, Congwen ZHU4
1Chinese Academy of Sciences, 2Jiangmen Meteorological Service, 3The Chinese University of Hong Kong, 4Chinese Academy of Meteorological Sciences

Climatology and Spatio-Temporal Variability of Wintertime Total and Extreme Rainfall in Thailand During 1970-2012
Patama SINGHRUCK1,*, Atsamon LIMSAKUL2, Sittichai PIMONSREE3, Sirapong SOOKTAWEE4, Lin WANG5
1Chulalongkorn University, 2Environmental Research and Training Center, 3University of Phayao, 4King Mongkut’s University of Technology Thonburi, 5Chinese Academy of Sciences

The Sea Surface Temperature Configuration of Greenland Sea-Subpolar Region of North Atlantic and the Summer Rainfall Anomaly in Low-Latitude Highlands of China
Yu Chao DING1,*, Jian WANG1, Jie CAO1
1Yunnan University

Comparing Study on the Seasonal Variability of Tropical and Subtropical Precipitation over East Asian Monsoon Area
Yaodong LI1,*, Xiaokang SHI1
1Beijing Aviation Meteorological Institute

Seasonal Forecasting of Malaria Cases over South Africa Using Downscaled SINTEX-F Forecasts
Venkata Ratnam JAYANTHI1,*, Takayoshi IKEDA1, Adrian TOMPKINS2, Takeshi DOY1, Swadhin BEHERA2
1Japan Agency for Marine-Earth Science and Technology, 2The Abdus Salam International Centre for Theoretical Physics (ICTP)
Use of Stable Isotopic Signatures to Reexamine Historical Changes of Atmospheric Mercury and Lead Deposition over the Himalayas

Jie HUANG1#
1Chinese Academy of Sciences

Characteristics of Trace Metals During Severe Haze Events in Seoul, South Korea

Yumi KIM1#
1Korea Environment Institute

Impact of Plant Functional Type Change on Isoprene Emission and the Implication for Surface Ozone Simulation over Korea

Hee Soo JANG1##, Rokjin J. PARK1, Hyun Kook KIM2, Alex GUENTHER3, Donald BLAKE4, Andrew WEINHEIMER5
1Seoul National University, 2Korea Environment Institute, 3University of California, Irvine, 4National Center for Atmospheric Research

Contribution of Natural Emissions to Ozone Photochemistry over Korea

Louisa EMMONS1##, Gabriele PFISTER1, Benjamin GAUBERT1, Rebecca BUCHHOLZ2, Christoph KNOTE3, Alex GUENTHER1
1National Center for Atmospheric Research, 2Ludwig Maximilian University of Munich, 3University of California, Irvine

O3 and PAN enhancement in Taehwa Research Forest During KORUS-AQ

Rhee HO-JUN1#, Junsu GIU1, Meehye LEE2, Lee GANGWOONG1, Saewung KIM2, Jun-Young AHN3, Youngjae LEE4
1Korea University, 2Hankuk University of Foreign Studies, 3University of California, Irvine, 4National Institute of Environmental Research

Vegetation and Air Pollution Contribution to Aerosol Formation Observed with a PAM (Potential Aerosol Mass) Reactor at Taehwa Research Forest

Xiaona SHANG1, Meehye LEE2##, Eunha KANG1##, William BRUNE3##, Hakyoung KIM3, Hyun-Seok KIM5, Hyunju PARK6
1Korea University, 2Sawon Research Institute, 3Pennsylvania State University, 4Greenhouse Gas Inventory & Research Center of Korea, 5Seoul National University, 6National Institute of Environmental Research

Observations of Dramatic Enhancements to the Mesospheric K Layer

Jing JIAO1#
1Chinese Academy of Sciences

Observations of SuperDARN Global Tides in the MLT and Their Response to Sudden Stratospheric Warming Events

Robert HIBBINS1##, Patrick ESPY1##, Yvan ORSOLINI3, Varavut LIMPASUVAN4
1Norwegian University of Science and Technology, 2University of Bergen, 3Norwegian Institute of Air Research (NILU), 4Coastal Carolina University

Diagnose of Aircraft Turbulence Based on High-Resolution Numerical Model Products

Yaodong LI1##, Xiaokang SHI1
1Beijing Aviation Meteorological Institute

Automatic Detection of Low-Altitude Wind Shear with Lidar at Lanzhou Airport, China

lanqian LI1, Aimei SHAO1#
1Lanzhou University

Verification of Airport Weather Prediction System in Forecasting Surface Weather Variables at Jeju International Airport, South Korea

Hee-Wook CHOI1##, Kim GEUN-HOP, Prasanna VENKATRAMAN1, Lee YOUNG-GON1, Hyung-Mi KIM1, Baek-Jo KIM1
1National Institute of Meteorological Sciences, 2Korea Meteorological Research, 3Korea Meteorological Administration

Verification of Low Cloud Prediction of Unified Model at KMA for Aviation Weather Support

Yongjun AHN1##, Jiwon JANG1, Ki-Young KIM3
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1Sun Yat-sen University

An Inspection of Spherical Wave Image vs. Plane Wave Image
Chih-Hsiung CHANG1†, Young-Fe CHANG2, Jia-Wei LIU3, Chao-Ming LIN4, Cheng-Kuo CHANG5
1National Chaiyi University, 2National Cheng Cheng University, 3Hsiuping University of Science and Technology, 4Nan Jeon University of Science and Technology

Quantitative and Consistent Coastline Length Calculation Method Based on Fractal Theory
Heesook WOO1†, Kwon KWANG SEOK1, Kim BYUNG GUK3
1Inha University

An Analysis of Fineness Number and Moisture Content of Namdae-Cheon Estuary for Tendency of Breaching
Seulki LEE1†, Sungjae PARK1, Changwook LEE1†
1Kangwon National University

The Study on Characteristics of Weathered Mudstone Soil Mixed with Dyeing Sludge
Jae-Hyeung JEOUNG1†, Woo-Seok KIM2†
1Korea Institute of Civil Engineering and Building Technology

Analysis of Occurrence Probability in Risk Event Scenario for Ground Subsidence Risk Assessment in Ground Excavation Construction
Dong-Min KIM1†, Yong BAEK1, Woo-Seok KIM2†, Oil KWON1†
1Korea Institute of Civil Engineering and Building Technology

Frequency and Spatial Domain InSAR Orbital Error Corrections
Xin TIAN1†, Haoping QI1, Yuxiao MA1†
1Southeast University

IG Poster Presentations
Mon - 04 Jun, 18:30 - 20:30 | Ballroom B

IG01-D1-EVE-P-007 | IG01-A005
An Inspection of Spherical Wave Image vs. Plane Wave Image
Chih-Hsiung CHANG1†, Young-Fe CHANG2, Jia-Wei LIU3, Chao-Ming LIN4, Cheng-Kuo CHANG5
1National Chaiyi University, 2National Cheng Cheng University, 3Hsiuping University of Science and Technology, 4Nan Jeon University of Science and Technology

IG01-D1-EVE-P-008 | IG01-A006
Quantitative and Consistent Coastline Length Calculation Method Based on Fractal Theory
Heesook WOO1†, Kwon KWANG SEOK1, Kim BYUNG GUK3
1Inha University

IG01-D1-EVE-P-009 | IG01-A008
An Analysis of Fineness Number and Moisture Content of Namdae-Cheon Estuary for Tendency of Breaching
Seulki LEE1†, Sungjae PARK1, Changwook LEE1†
1Kangwon National University

IG01-D1-EVE-P-010 | IG01-A012
The Study on Characteristics of Weathered Mudstone Soil Mixed with Dyeing Sludge
Jae-Hyeung JEOUNG1†, Woo-Seok KIM2†
1Korea Institute of Civil Engineering and Building Technology

IG01-D1-EVE-P-011 | IG01-A013
Analysis of Occurrence Probability in Risk Event Scenario for Ground Subsidence Risk Assessment in Ground Excavation Construction
Dong-Min KIM1†, Yong BAEK1, Woo-Seok KIM2†, Oil KWON1†
1Korea Institute of Civil Engineering and Building Technology

IG01-D1-EVE-P-012 | IG01-A015
Frequency and Spatial Domain InSAR Orbital Error Corrections
Xin TIAN1†, Haoping QI1, Yuxiao MA1†
1Southeast University
Heavy Metal Adsorption Experiment on Powder Filter Using Zeolite and Porous Feldspar

Sung-Wook KIM1,2, Eun-Kyung CHOI3, Woori LIM4, Se-Young HAMM5, Myoung Hak OH6, Seung-Nam SEO7, Ki-Young JO8, Kyu-Hwan LEE5, Chang-Yong KIM9
1GI Co. Ltd., 2Pusan National University, 3Korea Institute of Ocean Science and Technology, 4SC Holdings Co., Ltd., 5Konyang University, 6Korea Institute of Civil Engineering and Building Technology

Pinatubo Volcanic Eruption Exacerbated an Abrupt Coral Mortality Event in 1991 Summer

Chung-Che WU1, Chuan-Chou SHEN1,2, Ching-Chih CHANG3, Ke-Fu YU4, Yu-Min CHOU5, John PALLISTER6, George BURR7, Li LO8
1National Taiwan University, 2University of Arizona, 3Guangxi University, China, 4Southern University of Science and Technology, 5United States Geological Survey

High-Resolution Stalagmite Records from Northeast China for Late Holocene Paleoclimate and Environmental Reconstruction

Jui-Lin WANG1, Hong-Chun LI1,2, Horng-Sheng MI9
1National Taiwan University, 2Northeast Normal University, 3National Taiwan Normal University

Relationship Between the Northern Pacific Gyre Oscillation and Tree-Ring Oxygen Isotopes in Northeastern Japan

Masaki YAMADA1,2, Yuchen WANG1, Fukashi MAENO1, Shigehiro FUJINO2, Kenji SATAKE1
1The University of Tokyo, 2University of Tsukuba

Climate Changes Reconstructed from a Glacial Lake in High Central Asia over the Past Two Millennia

Jianghu LAN1,2, Hai XU3, Enguo SHENG1, Keke YU1, Huixian WU1, Kangen ZHOU1, Dongna YAN1, Yuanda YE1, Tianli WANG1
1Chinese Academy of Sciences, 2Tianjin University, 3Baoji University of Arts and Sciences

Indian Summer Monsoon Variability Since the Last Glacial Maximum

Mahjoor Ahmad LONE1,2, Joyanto ROUTH3, Chuan-Chou SHEN1,2, Kalpana M. SINGAMSHETTY1, Vikash KUMAR4, Yi-Hong GLO5, Masood AHMAD6, Carme HUGUET7, Susanne FIEZ7, Augusto MANGINI8, Ravi RANGARAJAN9, Prosenjit GHOSH10, Horng-Sheng MI9, Yongjin WANG10, Shaohua YANG10
1National Taiwan University, 2Linköping University, 3National Geophysical Research Institute, 4National Centre for Antarctic and Ocean Research, 5Universidad de los Andes, 6Stellenbosch University, 7Heidelberg Academy of Sciences, 8National Institute of Sciences, 9National Taiwan Normal University, 10Nanjing Normal University

Comprehensive Probabilistic Tsunami Hazard Assessment Along Nankai Trough - Assessment of Conditional Exceedance Probability -

Kenji HIRATA1,2, Hiroyuki FUJIWARA1, Hiroimitsu NAKAMURA1, Masaki OSADA1, Tsunetaka OHSUMI1, Yuji DOH3, Nobuyuki MORIKAWA4, Shinichi KAWAI4, Takahiro MAEDA5, Hisanori MATSUO1,4, Nobuhiro TOYAMA1, Tadashi KITO5, Kenji OHISHIMA6, Yoshihiro MURATA6, Ryu SAITO7, Shiichi AKIYAMA8, Mariko KORENAGA9, Yuta ABE9, Tomoya HAKAMATA9
1National Research Institute for Earth Science and Disaster Resilience, 2National Research Institute for Earth Science and Disaster Resilience (NIED), 3OYO Corporation, 4Kokusai Kogyo Co. Ltd., 5ITOCHU Techno-Solutions Corporation

Application of a Fast Tsunami Simulation System to Japan Sea Tsunami

Yusuke YAMANAKA1,2, Shinji SATO1, Takenori SHIMOZONO1, Yoshimitsu TAJIMA1
1The University of Tokyo

Numerical Simulation of a Tsunami Generated by the 7.3 Ka Caldera-Forming Eruption of the Kikai Volcano, Japan

Masaki YAMADA1,2, Yuchen WANG1, Fukashi MAENO1, Shigehiro FUJINO1, Kenji SATAKE1
1The University of Tokyo, 2University of Tsukuba

Sediment Transport Numerical Modeling for the 2011 Tohoku Tsunami Deposits at the Coastal Lowland in Fukushima Prefecture, Japan

Satoshi KUSUMOTO1,2, Aditya GUSMAN1, Kenji SATAKE1
1The University of Tokyo
Numerical Simulation of Large Later Phases Observed Along the Coast of Hokkaido Generated by the 2011 Tohoku Earthquake
Mizuho SHIBATA1, Yuichiro TANIOKA1, Aditya GUSMAN2, Yusuke YAMANAKA3
1Hokkaido University, 2The University of Tokyo

Spatial Distribution and Sedimentary Characteristics of Buried Sand Layers in Coastal Marshes, West Aceh, Indonesia
Katrin MONECKE1, Ella MEILIANDA2, Jessica PILARCZYK3, Ibnu RUSYDY4, Abudzar MOENA5, Tempeste MORGAN1, Harris MUZHAFFAT6, Ahmad RAIS7, Irvan YOLANDA8
1Wellesley College, 2Tsunami and Disaster Mitigation Research Center, 3University of Southern Mississippi, 4Syiah Kuala University

Fault Model Estimation of the 12th Century Southwestern Hokkaido Earthquake Using Tsunami Deposits Data
Kei IOKI1, Yuichiro TANIOKA2, Gentaro KAWAKAMI3, Yoshinori KASE4, Kenji NISHINA4, Wataru HIROSE5
1National Institute of Advanced Industrial Science and Technology, 2Hokkaido University, 3Hokkaido Research Organization

Rapid Determination of Source Models for Tsunami Early Warning Using a Depth Dependent Rigidity Curve: Case Studies for the 2007 Bengkulu and 2010 Mentawai Tsunamis
Rinda Nita RATNASARI1, Yuichiro TANIOKA1, Aditya GUSMAN2
1Hokkaido University, 2The University of Tokyo

A Preliminary Risk Assessment of Major Ports in Taiwan Based on Tsunamis from Manila Trench
An Chi CHENG1, Anawat SUPPASRI1, Fumihiko IMAMURA1
1Tohoku University

Impact of Tsunami on Global Economic Losses Due to Potential Nankai Trough Earthquake Based on the Inter-Regional-Input-Output Modeling
Kwanchi PAKOKSUNG1, Anawat SUPPASRI1, Panon LATCHAROTE1, Fumihiko IMAMURA2
1Tohoku University, 2Thammasat University

Research for Quantitative Evaluation of Tsunami Damage Reduction of Buildings by Coastal Forest
Akihiro HAYASHI1, Kei YAMASHITA1, Fumihiko IMAMURA3
1Tohoku University

Proposal of New Disaster Education Method Using Stamp Rally Method
Mari YASUDA1, Rui NOUCHI1, Hiromi TOMINAGA2
1Tohoku University, 2Shachihata Inc.

Numerical Simulation of Tsunami-Induced Sediment Transport Considering Saturation Concentration in Suspension with Strong Unsteady Flow
Kei YAMASHITA1, Daisuke SUGAWARA2, Taro ARIKAWA2, Yoshinori SHIGIHARA2, Tomoyuki TAKAHASHI2, Fumihiko IMAMURA3
1Tohoku University, 2Museum of Natural and Environmental History, 3Chuo University, 4National Defense Academy, 5Kansai University

Wildfire Monitoring in South Korea Using Himawari-8 Geostationary Meteorological Satellite Data
Eunna JANG1, Jungho IM1, Yoojin KANG1, Seonyoung PARK1, Haemi PARK1
1Ulsan National Institute of Science and Technology

Air Quality Modeling of Mt. Baek-du Eruption Impact on the Korean Peninsula
Young S recourse: SUNWOO1, Hyerim KIM1, Doyoon KIM1
1Konkuk University

Preliminary Study on the Data Quality of Strong Motion Records
Baofeng ZHOU1, Jinjun HU2, Zhanxuan ZUO3, Yefei REN3, Jindong SONG3
1China Earthquake Administration
IG08-D1-EVE-P-017  |  IG08-A003
Correlation Analysis of Tunnel Overbreak Considering Geologic Characteristics
Jaehong HWANG(1+)
(1) Korea Institute of Geoscience and Mineral Resources

IG08-D1-EVE-P-018  |  IG08-A004
Quantitative Analysis of Anomalies of Atmospheric Radon Concentration and Earthquakes
Daichi IWATA(1+), Hiroyuki NAGAHAMA(1), Jun MUTO(1), Yumi YASUOKA(1)
(1) Tohoku University, (2) Kobe Pharmaceutical University

IG08-D1-EVE-P-019  |  IG08-A013
Data-Adaptive Harmonic Analysis and Stochastic Modeling of Sea Level Change
Dmitri KONDRAKHOV(1+)
(1) University of California, Los Angeles

IG08-D1-EVE-P-020  |  IG08-A020
Local Translation Error Analysis for Lorenz 96 Model
Kazuyuki NAKAMURA(2+)
(1) Meiji University, (2) Japan Science and Technology Agency

IG09-D1-EVE-P-009  |  IG09-A002
Comprehensive Assessment of Residential Area Living Quality from the Perspective of Resources Spatialization
Xin QIAO(2+), Lele LI(1), Dan LI(1), Anye HOU(1)
(1) Ocean University of China, (2) Qingdao Geological Investigation and Surveying Research Institute

IG09-D1-EVE-P-010  |  IG09-A003
Global Survey of Photovoltaic Power Plants from Multi-Spectral Satellite Imagery
Hiroki MIYAMOTO(2+), Ryosuke NAKAMURA(1), Motoki KIMURA(1), Atsushi ODA(1)
(1) National Institute of Advanced Industrial Science and Technology

IG09-D1-EVE-P-011  |  IG09-A008
Architecture Design of the Geoscience Research Data Platform
Jong-Gyu HAN(2+)
(1) Korea Institute of Geoscience & Mineral Resources

IG09-D1-EVE-P-012  |  IG09-A011
Characteristics of Coseismic and Rainfall-Induced Landslides at ASO Volcano, Japan, Differentiated by UAS and SFM-MVS Photogrammetry
Hitoshi SAITO(2+), Shoichi UCHIYAMA(1), Yuichi S. HAYAKAWA(1), Hiroyuki OBANAWA(1)
(1) Kanto Gakuin University, (2) The University of Tokyo, (3) National Research Institute for Earth Science and Disaster Prevention, (4) VisionTech Inc.

IG11-D1-EVE-P-006  |  IG11-A007
Relationship Between Ocean Bottom Pressure Changes and Oceanic Baroclinic Eddy Off Kushiro-Tokachi During 2004-2013
Takuya HASEGAWA(1+), Akira NAGANO(1), Hiroyuki MATSUMOTO(1), Keisuke ARIYOSHI(1)
(1) Japan Agency for Marine-Earth Science and Technology

IG11-D1-EVE-P-007  |  IG11-A008 (Invited)
GPS/Acoustic Seafloor Geodesy Study in Eastern Taiwan
Horng-Yue CHEN(1+), Ryoya IKUTA(2), Masataka ANDO(2), Cheng-Horng LIN(1)
(1) Academia Sinica, (2) Shizuoka University

IG11-D1-EVE-P-008  |  IG11-A101 (Invited)
Monitoring the Deep Western Boundary Current in the Western North Pacific by Lowered Acoustic Doppler Current Profiler Echo Intensity
Kanae KOMAKI(1), Akira NAGANO(2+)
(1) University of Washington, (2) Japan Agency for Marine-Earth Science and Technology

IG11-D1-EVE-P-009  |  IG11-A111
Deep-Sea Environmental Changes on the Continental Shelf Off Sanriku, Japan, After the 2011 Tohoku Earthquake
Masahide WAKITA(2+), Shuichi WATANABE(1), Kazumasa OJIRI(1), Hidetaka NOMATI(1), Shinsuke KAWAGUCHI(1), Jun YOSHINO(1), Akira NAGANO(1), Keisuke ARIYOSHI(1)
(1) Japan Agency for Marine-Earth Science and Technology, (2) Tohoku Environmental Science Services Corporation

IG11-D1-EVE-P-010  |  IG11-A102
In-Situ and Experimental Observations of Bottom Pressure Recorders
Hiroyuki MATSUMOTO(2+), Keisuke ARIYOSHI(1), Akira NAGANO(1), Takuya HASEGAWA(1)
(1) Japan Agency for Marine-Earth Science and Technology
IG12-D1-EVE-P-012  |  IG12-A005
Geological Characterization and Structural Risk Assessment of an Onshore Subsurface CO₂ Storage in the Early Miocene Janggi Basin, Se Korea
Youngseok SONG1+, Min-Cheol KIM1, Rae-Yoon JEONG1, Moon SON1#
1Pusan National University

IG12-D1-EVE-P-013  |  IG12-A008
The Effect of Flow Rate on the Process of Immiscible Displacement in Porous Media
Jinkyun LEE1, Sookyun WANG1++, Minhee LEE1, Jeong-Gi UM1#
1Pukyong National University

IG12-D1-EVE-P-014  |  IG12-A009
Carbon Dioxide Storage Capacity Estimation for Aquifers in Korea Based on the Measurement of Supercritical Carbon Dioxide Displacement in Pore Spaces
Taehyong KIM1+, Minhee LEE1, Jeongpil AN1, Sookyun WANG1, Seonok KIM1#
1Pukyong National University

IG12-D1-EVE-P-015  |  IG12-A010
Does China Have Environmentally-Friendly Areas for the Geological Storage of Anthropogenic Carbon Dioxide? Qi LI1++, Guizhen LIU1, Bofeng CAI2
1Chinese Academy of Sciences, 2Chinese Academy for Environmental Planning

IG12-D1-EVE-P-016  |  IG12-A011 (Invited)
Breakthrough Pressure and Permeability in Partially Water-Saturated Shales Using Methane-Carbon Dioxide Gas Mixtures: An Experimental Study of the Carboniferous Shales from the Eastern Qaidam Basin, China
Lu XIA1#, Cheng ZHANG1, Qingchun YU1#
1China University of Geosciences

IG12-D1-EVE-P-017  |  IG12-A012
Field Experiments on the Effect of Carbonate Dissolution on Rock’s Sealing Performance
Masao SORAI1++
1National Institute of Advanced Industrial Science and Technology

IG12-D1-EVE-P-018  |  IG12-A015
Evaluation of Hydrochemical Parameters to Monitor the Migration and Reaction of CO₂-Saturated Water in Shallow Aquifer: Results from a Controlled CO₂ Injection Test
Hyun-Kwon DO1, Seung-Wook HA1, Dae-Han HWANG1, Seong-Sun LEE1, Seong-Taek YUN1#
1Korea University, 2Seoul National University

IG12-D1-EVE-P-019  |  IG12-A016
Evaluation of CO₂ Leakage Related to Underground CO₂ Storage Using Geological and Geophysical Methods Woo-Ri LIM1, Se-Young HAMM1, Hak-Soo HWANG2, Sung-Wook KIM3, Hangtae JEON1#
1Pusan National University, 2Tomory Co. Ltd, 3GI Co. Ltd.

IG13-D1-EVE-P-006  |  IG13-A004
Unravel the Possible Sources of Two Historical Tsunami Events in the South China Sea Linlin LI1++, Adam SWITZER1
1Nanyang Technological University

IG13-D1-EVE-P-007  |  IG13-A005
The 1897 Predecessor to 2013s Typhoon Haiyan: How do They Compare? Adam SWITZER1++
1Nanyang Technological University

IG13-D1-EVE-P-008  |  IG13-A010
Late Holocene Sea-Level Change Along the Coast of the Noto Peninsula in Central Japan
Wataru KOBAYASH1++, Masaaki HAMADA1, Susumu YOSHIDA1, Hiroyuki YAMAGUCHI2, Toshinori SASAKI1#
1Hokuriku Electric Power Company, 2Natural Consultant Co., Ltd., 3Central Research Institute of Electric Power Industry

IG15-D1-EVE-P-003  |  IG15-A003
Palaeolimnological Records of Southeast Asia - A Review
Christos GOURAMANIS1++
1National University of Singapore

IG15-D1-EVE-P-004  |  IG15-A008
Lacustrine Sediments: Assessment of Source, Processes and Productivity Around Larsemann Hills Region of East Antarctica
Shabnam CHOUDHARY1++, Ganapati NAYAK1, Anoop TIWARI1, Neloy KHARE1#
1Gea University, 2National Centre For Antarctic and Ocean research, 3Ministry of Earth Sciences

IG16-BG-D1-EVE-P-014  |  IG16-BG-A021
Ecosystem Services Changes and Trade-Offs in China’s Yangtze River Economic Belt from 2000 to 2015 Xibao XU1++, Guishan YANG1
1Chinese Academy of Sciences

IG16-BG-D1-EVE-P-015  |  IG16-BG-A023
Quantifying Aeolian Sediment Provenance Using Multiple Composite Fingerprints
Guanglei GAO1++, Guodong DING1, Zhao YANG1
1Beijing Forestry University
Analyzing the Relationship Between Sentiment of Tweets and Satisfaction of Forecast Users
In-Gyum KIM1+, Seung-Wook LEE1, Hye-Min KIM1, Byunghwan LIM1
1National Institute of Meteorological Sciences

The Pitfalls of Utilising a Linear Approach in Climate Change Information Dissemination as Evidenced in Alaminos, Laguna, Philippines
Ryanne Stephanie CO1+, Anthony AGUILLO3, June SY1
1Ateneo de Manila University

The Spiral Approach: A Study on a Community Centered Communication Approach of the Local Climate Change Action Plan of the Municipality of Pagsanjan, Laguna, Philippines
June SY1+, Ryanne Stephanie CO1, Anthony AGUILLO3
1Ateneo de Manila University

Exploring the Educational Value of Korean Traditional Science Knowledge in a Science Museum
Jihee LEE1+, Donghee SHIN1, Yonghyun YUN1, Jongyeob PARK1
1National Science Museum, 2Ewha Womans University, 3Korea Astronomy and Space Science Institute

Volcanology Classes in Japanese Geoparks: Application of Magma Formation Experiments
Masaya MIYOSHI1+, Kabuto HAMADA1, Junko FUJII1, Hirofumi YAMAMOTO1
1University of Fukui

Rapid Tsunami Source and Maximum Tsunami Height Forecasting Based on Interseismic Coupling Patterns: A Case Study of the 2011 Tohoku Tsunami
Bruno ADRIANO1+, Shunichi KOSHIMURA1, Risa NAKANO1, Erick MAS1
1Tohoku University

Fusion of Sensing and Simulation of Tsunami Damage Assessment Towards Innovation of Disaster Medical System
Shunichi KOSHIMURA1+, Erick MAS1
1Tohoku University

Agent Based Modeling of Disaster Response Teams After the 2011 Tohoku Tsunami in Ishinomaki Area
Erick MAS1+, Kouta ABE1, Shinichi EGAWA1, Hiroyuki SASAKI1, Shunichi KOSHIMURA1
1Tohoku University

A Comparative Pilot Study of Flood Mapping Using ALOS-2 Data in Japan
Young-Joo KWAK1+, Sang-Ho YUN2
1International Centre for Water Hazard and Risk Management (ICHARM)/ UNESCO, 2NASA Jet Propulsion Laboratory

A Densified Sentinel-1 in Time Series in Taiwan
Jui-Chi LEE1+, Kuo-Hsin TSENG1, Yu-Nung Nina LIN2, Chung-Pai CHANG1
1National Central University, 2Nanyang Technological University

Exact Short-Imminent Prediction of Strong M8.2 Earthquakes in Chile
Huirong ZHANG1+, Weisheng CHEN1
1Beijing University of Technology

Spatial and Temporal Variations of the Microseismicity Preceding the 2016 Ml 6.6 Meinong Earthquake in Southern Taiwan
Hsin-Chieh PU1+, Weisheng CHEN1
1Central Weather Bureau

Multi-Channel Singular Spectrum Analysis of Atmospheric Parameter Data to Understand Lithosphere-Atmosphere-Ionosphere Coupling at Asahi Station, Boso Peninsula, Japan
Chie YOSHINO1+, Junpei OMURA1, Peng HAN2, Katsumi HATTORI1, Michikuni SHIMO1, Toshiharu KONISHI1, Ryuichi FURYU1
1Chiba University, 2Southern University of Science and Technology, 3Fujita Health University, 4Ohyo Koken Kogyo Co. Ltd., 5Com System Inc.

A Real Time Monitoring System of Freshwater-Saltwater Transition Zone in the Eastern Coast of Jeju Island, Korea
Jehyun SHIN1+, Seho HWANG1, Jongman KIM2, Yongcheol KIM1
1Korea Institute of Geoscience and Mineral Resources, 2Smart Korea Co., Ltd.
PS Poster Presentations
Mon - 04 Jun, 18:30 - 20:30 | Ballroom B

PS01-D1-EVE-P-009  | PS01-A001
Identification of NEO Orbits Containing Debris
Christopher RUSSELL1+, Hairong LAI1
1University of California, Los Angeles

PS01-D1-EVE-P-010  | PS01-A003
The Lunar Lander Neutron & Dosimetry (LND) Experiment on ChangE4
Robert WIMMER-SCHWEINGRUBER1+, Shenyi ZHANG1, Christine HELLWEG1, Jia YU1, Jingnan GUO1, Henning LOHF1, Thomas BERGER1, Stephan BOTTCHER1, Sönke BURMEISTER1, Alke KNAPPMAANN1, Violetta KNIERIM1, Björn SCHUSTER1, G. SHEN1, B. YUAN1
1University of Kiel, 2Chinese Academy of Sciences, 3German Aerospace Center

PS01-D1-EVE-P-011  | PS01-A004
Ground-Based Experimental Imaging Simulations of Hayabusa2 Observations
Keiichi MOROI1+, Shingo KAMEDA1, Seiji SUGITA1
1Rikkyo University, 2The University of Tokyo

PS01-D1-EVE-P-012  | PS01-A005
Flying a Spacecraft Through a Lunar Magnetic Anomaly: Measurement Requirements as Defined by Fully Kinetic Modelling
Jan DECA1+, Andrey DIVIN2, Charles LUE2, Bertrand LEMBEGE1, Mihaly HORANYI1
1University of Colorado Boulder, 2St. Petersburg State University, 3University of Iowa, 4National Centre for Scientific Research

PS02-D1-EVE-P-006  | PS02-A001
Titan’s Major Geomorphological Units: Their Spectral and Morphological Nature
Aneziwa SOLOMONIDOU1+
1Jet Propulsion Laboratory, California Institute of Technology

PS02-D1-EVE-P-007  | PS02-A005
Interior-Surface-Atmosphere Interactions in the Earth’s Magma Ocean Stage
Gianluigi ORTENZI1+, Nisha KATYAL1, Athanasia NIKOLAOU1, Sabrina SCHWINGER1, Frank SOHL1+
1German Aerospace Center

PS02-D1-EVE-P-008  | PS02-A006
Global Geomorphology Map of Titan: A Look at the North and South Poles
Ashley SCHOENFELD1+, Tiffany VERLANDER2, Rosaly LOPES2, Michael MALASKA3, Samuel BIRCH4
1UCLA, 2University of Oklahoma, 3Jet Propulsion Laboratory, California Institute of Technology, 4Cornell University

PS03-D1-EVE-P-022  | PS03-A002
Hardware Development Status of the Submm Wave Instrument on JUICE
Paul HARTOGH1+
1Max Planck Institute for Solar System Research

PS03-D1-EVE-P-023  | PS03-A003
The Chirp Transform Spectrometer on JUICE-SWI
Paul HARTOGH1+
1Max Planck Institute for Solar System Research

PS03-D1-EVE-P-024  | PS03-A004
Investigation on Interference Between Active Microwave Remote Sensors on Earth Observation Satellites
Yaying XIONG1+, Wei ZUO1, Chun-Lai LI1, Jianjun LIU1, Xiaoxia ZHANG1, Wenrui WANG1
1Chinese Academy of Sciences

PS03-D1-EVE-P-025  | PS03-A012
A Hidden Terrain in Western Lunar Farside Revealed by CE-2 CELMS Data
Zhiguo MENG1+, Shuo HU1, Jinsong PING2, Lilin XING2, Yangang WU1
1Jilin University, 2Chinese Academy of Sciences

PS03-D1-EVE-P-026  | PS03-A015
Herschel/HIFI Continuum Intensity Repeatability from Mars Observations
Miriam RENGEL1+, David TEYSSIER2
1Max Planck Institute for Solar System Research, 2European Space Astronomy Centre

PS03-D1-EVE-P-027  | PS03-A018
Development of Calibration Hot Load of Terahertz Explorer-1 for Mars Atmospheric Observation
Yuki UCHIYAMA1+, Toshiyuki NISHIBORI1, Shigeru SATO1, Satoshi OCHI1, Yukio NAKANO1, Yasuko KASAI1
1National Institute of Information and Communications Technology, 2Tokyo Gakugei University, 3Japan Aerospace Exploration Agency
Correlation of CCD Aperture Photometry and Herschel Photometry of 29P/Schwassmann-Wachmann from the Herschel Catalogue of Solar System Object Observations
Mark KIDGER1, Miriam RENGEL1,2, Cristina ROMERO3
1European Space Astronomy Centre, 2Max Planck Institute for Solar System Research, 3Technische Universität Berlin

Radiative Transfer Simulation Including a Non-LTE Model for Terahertz Observations of Ganymede’s Atmosphere
Takayoshi YAMADA1,2+, Ladislav REZAC3, Richard LARSSON1, Paul HARTOGH1, Naohiro YOSHIDA1, Yasuko KASAI1
1National Institute of Information and Communications Technology, 2Tokyo Institute of Technology, 3Max Planck Institute for Solar System Research

Feasibility Study for Terahertz Sensor on Martian Lander
Richard LARSSON1,2+, Yasuko KASAI1, Takeshi KURODA3,4, Shigeru SATO1, Takayoshi YAMADA1,2, Hiroyuki MAEZAWA1
1Mac Planck Institute for Solar System Research, 2National Institute of Information and Communications Technology, 3Tohoku University, 4Tokyo Institute of Technology

Surface Properties of Comet 67P/Churyumov-Gerasimenko from MIRO and VIRTIS
David MARSHALL1
1Max Planck Institute for Solar System Research

Submillimeter Spectral Observations of the Smallest Galilean Moon
Yi-Jehng KUAN1++, Wei-Ling TSENG1, Yo-Ling CHUANG1, Chien-Hsun LF1, Ming-Chi CHUNG2, Yu-Fu YEH1
1National Taiwan Normal University, 2National Central University

Middle Infrared Heterodyne Spectrometer Based on Fiber Optics for Planetary Atmospheres Observations
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The Saturn Probe Interior and Atmosphere Explorer

(SPRITE) Entry Probe Mission Concept

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Co-Rotating Magnetic Reconnection Site in Saturn’s Magnetosphere

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Magnetospheric Particle Precipitation at Titan

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Responses of the Jovian Magnetospheric Plasma Circulation to IO’s Volcanic Activity; The Hisaki Satellite Observation

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Light Curves Analysis on Jupiter and Implications for Brown Dwarfs and Exoplanets

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Photochemistry in Saturn’s Ring-Shadowed Atmosphere:

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Ices in the Atmospheres of the Outer Solar System

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Non-Thermal Radio Sources of Jupiter’s Magnetosphere as Identified by JUNO/MWR

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Fine-Scale Gravity Waves in Jupiter’s Atmosphere Detected by JunoCam

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A History of Radio Science Investigations at Jupiter
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Gravity Detection of Jupiter’s Great Red Spot with the Juno Mission
Marzia PARISI†, William FOLKNER†, Dustin BUCCINO†, Yohai KASPI†, Eli GALANTI†
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Juno Observations of Energetic Charged Particles Associated with Jupiter’s Aurora
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High Energy Particle Fluxes of Jupiter Measured by the Magnetometer Investigation’s Advanced Stellar Compass
John JORGENSEN†, Peter JORGENSEN†, Julia SUSHKOVA†, José MERAYO†, Troels DENVER†, Matija HERCEG†, Finn JOERGENSEN†, J. E. P. CONNERNEY†, Scott BOLTON†, Steven LEVIN†
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Juno and the New Renaissance
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Towards an Improved Model of Jovian Synchrotron Emissions Using Juno’s MWR Observations
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Jupiter’s Moment of Inertia and Evolution of Its Spin Axis
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Analysis of Eddy Current Generation on the Juno Spacecraft in Jupiter’s Magnetosphere
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Evidence of Field-Aligned Currents in Jupiter’s Polar Magnetosphere
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Juno Mission Supporting Observations of Jupiter with the Gemini Telescope
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Photopolarimetric Properties of Irregular Dust Particles Modeled Using Sh-Matrix Method
Ludmilla KOLOKOLOVA†, Dmitry PETROV†
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Particle Size Evolution of the Lunar Regolith
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Scale Height Computation of MAVEN NGIMS Neutral Data and Variations Between Exobase and Homeopause Scale Heights and Temperatures
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New Strategy for Lightning Hunt in Venus by Akatsuki Spacecraft
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Physical Heights for Telluric Planets
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Testing Formation Hypotheses for the Hypanis Deposit at the Edge of the Chryse Basin, Mars: Is it a Delta?
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A Geomorphological and Experimental Investigation of Volatiles on Ceres and Vesta
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Automatical Crater Extraction by Generative Adversarial Networks  
Koichi TSURU1,2, Riho ITO3, Chikatoshi HONDA1, Ryosuke NAKAMURA1  
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Did Mars Witness the Birth of Jupiter?  
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Reliability of Non-Heating Paleointensity Methods on Fe-Ni Alloy Samples: Implications for Meteorite Paleointensity Study
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Archive Data Management Plans and Planning for Scientists in the Earth and Space Sciences
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New Spice Tools Supporting Planetary Data Research
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Preliminary Unsupervised Classification of 4 Vesta’s Surface Using Multiband Reflectance Data Obtained by Dawn Framing Camera
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PDS Data Sets as Refereed Publications
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Database Development of Global Jovian Magnetospheric MHD Simulations for Collaboration with Observations
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Data Collection, Archive and Crowdsourcing in Pro-Am Observing Campaigns in Planetary Sciences
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The Induced Magnetic Field at Titan
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New Plasma Waves Observed at Saturn During Cassini’s Proximal Orbits
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Constraints on Titan Lake Origin Using Outline-Based Shape and Size Analysis
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The Complete Set of Cassini’s UVIS Occultation Observations of Enceladus Jets: DSMC Model
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Characterization of the Composition of Saturn Ring Material Measured by Cassini Ion and Neutral Mass Spectrometer
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A New Mars Coupled Ionosphere-Thermosphere Model in IGGCAS: First Results
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Species-Dependent Ion Escape on Titan
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The Impact of Crustal Magnetic Fields on the Thermal Structure of the Martian Upper Atmosphere
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The Mars’ Induced Magnetosphere When the Crustal Field is on the Dayside
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Size of the Mercury’s Magnetosphere: Seasonal Variations and IMF Dependence
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Correlating Solar Wind Modulation with Ionospheric Variability at Mars from MEX and MAVEN Observations
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Electron Precipitation Control of the Mars Nightside Ionosphere
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Solar Cycle Dynamic of the Martian Induced Magnetosphere. Planetary Ions Acceleration Zones and Escape
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Ionization of the Martian Atmosphere Due to High Energy Particles
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The Solar Wind Interaction with Mercury
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Spectral Analysis of the Accelerated Electron Distributions in the Nightside Ionosphere of Mars
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Impact Ionization of Neutrals by Foreshock Electrons at Mars
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Habitability Potential of Icy Moons Around Giant Planets and Future Exploration
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Sea-Ice Melting Rates During the Snowball Earth
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Orbital Evolution of Saturn’s Mid-Sized Moons and Tidal Heating of Enceladus
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The Geology of the Rocky Interiors of Enceladus, Europa, Titan, and Ganymede
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Evolution of Subsurface Ocean and Constraint for the Interior in Pluto
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Young Surface of Pluto’s Sputnik Planitia Caused by Viscous Relaxation
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Thermo-Chemical Evolution of Icy Bodies: From Dust Aggregates to Ocean Worlds
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The Europa Clipper Mission, Exploring the Habitability of an Icy Ocean World
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Possible Non-Synchronic Spin States for Warm Jupiters in Multiple Exoplanetary Systems
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Electron Impact Excitation of Water Relevant for Comet Comae
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The Detection of Crystalline Water Ice in Comet P/2010 H2
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The Mass Loss of Comet 67P/Churyumov-Gerasimenko and Implications
Martin PÄTZOLD1,2+, Tom ANDERT2, Jean-Pierre BARRIOT3, Matthias HAHN4, Michael K. BIRD5, Bernd HAEUSLER6, Silvia TELLMANN3
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On the Origin of Internal Layers in Comet 67P/Churyumov-Gerasimenko
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A Fully Kinetic Perspective of Electron Acceleration Around a Weakly Outgassing Comet: Ohm’s Law
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Deep Search for Cometary Activity at Asteroid (3200) Phaethon
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Main-Belt Comets: A Status Report
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Upper Limits for Emission in the Coma of Comet 67P/Churyumov-Gerasimenko Near Perihelion as Measured by Rosetta’s Alice Ultraviolet Spectrograph
Brian KEENEY1, S. Alan STERN4, Ronald VERVACK1, John NOONAN1, Joel PARKER1, Jean-Loup BERTAUX3, Lori FEAGA1, Paul FELDMAN2, Matthew KNIGHT1, Andrew STEFFL4, Harold WEAVER2
1Southwest Research Institute, 2Johns Hopkins University, 3Lunar and Planetary Laboratory, 4University of Versailles Saint-Quentin-en-Yvelines, 5University of Maryland

Chemical Evolution of Complex Organics in Ices, from Interstellar Ice to Comets
Daniel PAARDEKOOPER1,2, Gudipati MURTHY1, Bryana HENDERSON3
1Jet Propulsion Laboratory, California Institute of Technology, 2Universities Space Research Association

The First Science Results of HSC-SSP in Solar System Science
Ying-Tung CHEN1, Tsuyoshi TERAI2, Hsing-Wen LIN3, Fumi YOSHIDA4, Shiang-Yu WANG1
1Academia Sinica, 2National Astronomical Observatory of Japan, 3University of Michigan, 4Chiba Institute of Technology and Kobe University

The Castalia mission to a Main Belt Comet
Neil BOWLES1,2, Henry H. HSIEH2,3, Colin SNOODGRASS4, Geraint JONES5
1University of Oxford, 2Planetary Science Institute, 3Academia Sinica, 4The Open University, 5University College London

OKEANOS - The Solar Power Sail Mission to Jupiter Trojan Asteroid
Tatsuaki OKADA1, Takahiro IWATA1, Jun MATSUMOTO1, Yoko KEBUKAWA1, Motoo ITO1, Jun AOKI1, Hajime YANO1, Makoto YOSHIKAWA1, Toshihiro CHUJO1, Osamu MORT1
1Japan Aerospace Exploration Agency, 2Yokohama National University, 3Japan Agency for Marine-Earth Science and Technology, 4Osaka University

Solar System Science with the Large Synoptic Survey Telescope
Chad TRUJILLO1,2, Henry H. HSIEH2,3, Megan SCHWAMB4, David TRILLING1, Dennis BODEWITS5, Larry DENNEAU6, Michael KELLEY1, Lynne JONES1, Mario JURIC7, LSST SOLAR SYSTEM COLLABORATION8
1Northern Arizona University, 2Planetary Science Institute, 3Academia Sinica, 4Gemini, 5University of Maryland, 6University of Hawaii, 7University of Washington, 8LSST Solar System
Rapid Evolution of the Spin State of Comet
41P/Tuttle-Giacobini-Kresak
Dennis BODEWITS, Tony FARNHAM, Michael KELLEY, Matthew KNIGHT
1University of Maryland

Multispectral Polarization Measurements of Eight Lunar Soils
Paul LUCEY, Casey HONNIBALL, Lingzhi SUN, Macey SANDFORD, Emily COSTELLO, Liliane BURKHARD, Reilly BRENNAN
1University of Hawaii at Manoa, 2University of Hawaii

Linking Aqueous Mineralogy with Infrared Reflectance Spectroscopy of Carbonaceous Chondrites: Inferring the History of C-Complex Asteroids
Helena BATES, Ashley KING, Kerri DONALDSON HANNA, Neil BOWLES, Sara RUSSELL, Tristram WARREN
1Natural History Museum, 2University of Oxford

Laboratory Analysis on HED Meteorite Samples in Support to Remote-Sensed Spectral Data from the NASA/Dawn Visible and Infrared Mapping Spectrometer on Asteroid Vesta
Melissa MIRINO, Alessandro FRIGERI, Maria Cristina DE SANCTIS, Cristian CARLI, Fabio BELLATRECCIA
1Open University, 2National Institute for Astrophysics, 3Università Roma Tre

Characterization of Miyake-Jima and Hachijo-Jima Anorthites as Lunar Analogues
Kerri DONALDSON HANNA, Stephen ELARDO, Emily BAMBER, Benjamin GREENHAGEN, Joshua CAHILL, Alfredo PETROV, Neil BOWLES
1University of Oxford, 2Carnegie Institution of Washington, 3The Johns Hopkins University Applied Physics Laboratory, 4Mindat

Integrating Crystal Chemistry with Laboratory Analysis to Model Bound and Adsorbed Water and Hydroxyl
Rachel KLIMA, Andy RIVKIN
1The Johns Hopkins University Applied Physics Laboratory

Investigating Thermal Emission from the Lunar Epiregolith
Benjamin GREENHAGEN, Parvathy PREM, Kerri DONALDSON HANNA, Neil BOWLES, Paul LUCEY
1The Johns Hopkins University Applied Physics Laboratory, 2University of Oxford, 3University of Hawaii at Manoa

Off-Plane Polarimetry of Lunar Regolith Materials in Laboratory
Sungsoo KIM, Il Hoon KIM
1Kyung Hee University

Ultraviolet Characterization of Fe-Impregnated Silica Gels as Analogues for Lunar Space Weathering
Karen CAHILL, Joshua CAHILL, Charles HIBBITTS, Anna WIRTH, Ken LIVI
1Planetary Science Institute, 2The Johns Hopkins University Applied Physics Laboratory

Determining Modal Mineralogy of Fine-Particulate Surfaces on Bennu Using Partial Least Squares (PLS) Analyses of OSIRIS-REx OTES and OVIRS Spectra
Deanne ROGERS, Timothy GLOTCH, Dylan MCDougALL, Alexander KLING, Victoria HAMILTON, Dante LAURETTA
1Stony Brook University, 2Southwest Research Institute, 3University of Arizona

Micro-FTIR Spectroscopy of Experimentally Shocked Basalts
Melissa SIMS, Jeffrey R. JOHNSON, Steven JARET, Timothy GLOTCH
1Stony Brook University, 2The Johns Hopkins University Applied Physics Laboratory
## Day 2 - 05 Jun 2018, Tuesday

### Program Overview

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Sessions & Conveners

* Main Convener

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*Tim LI University of Hawaii, Renhe ZHANG Fudan University, Tomoe NASUNO Japan Agency for Marine-Earth Science and Technology, Jong-Seong KUG Pohang University of Science and Technology, Song YANG Sun Yat-sen University

AS08-Madden-Julian Oscillation and Its Global Impacts
*Ziniu XIAO Chinese Academy of Sciences, Jian LING Chinese Academy of Sciences, Xiu-Qun YANG Nanjing University, Joshua-Xiouhua FU Fudan University, Shuguang WANG Columbia University

AS11-Impacts of Haze and Dust in East Asia: Mechanism, Observations, and Model Assessments
*Yuan WANG California Institute of Technology, Jianping GUO Chinese Academy of Meteorological Sciences, Chuanfeng ZHAO Beijing Normal University, Yong-Sang CHOI Ewha Womans University, Daizhou ZHANG Prefectural University of Kumamoto

AS13-11th Sasaki Symposium on Data Assimilation for Atmospheric, Oceanic, and Hydrologic Applications
*Seon Ki PARK Ewha Womans University, Liang XU Naval Research Laboratory, Ibrahim HOTEIT King Abdullah University of Science and Technology, Takemasa MIYOSHI RIKEN Advanced Institute for Computational Science

AS16-53-Exploration and Science of the Earth’s Lower and Middle Atmosphere: Past, Present and Future Perspectives
*Som Kumar SHARMA Physical Research Laboratory, Shikha RAIZADA Arecibo Observatory, D. V. PHANIKUMAR Arqabhatta Research Institute of Observational Sciences, Tai-Yin HUANG Penn State Lehigh Valley, Cheng-Ling KUO National Central University

AS20-High-resolution Simulation, Prediction, and Projection of High-impact Weather Events and Climate Change
*Huang-Hsiung HSU Academia Sinica, Malcolm ROBERTS Met Office Hadley Centre, Songyou HONG Korea Institute of Atmospheric Prediction Systems (KIAPS), Masaki SATOH The University of Tokyo, Shian-Jiann LIN National Oceanic and Atmospheric Administration

AS22-Remote Sensing of Ocean Color and Aerosols
*Pengwang ZHAI University of Maryland, Baltimore County, Feng XU Jet Propulsion Laboratory, California Institute of Technology

AS27-Changes in Cryosphere and Its Climate Impacts: Observation and Modeling
*Chenghai WANG Lanzhou University, Jing ZHANG North Carolina A, Zong-Liang YANG The University of Texas at Austin, Zhaoxia PU University of Utah

AS29-Precipitation Extremes - Observations, Modelling, Projections
*Akiyo YATAGAI Hiroasaki University, Toshiyuki NAKAEGAWA Japan Meteorological Agency, Akio KITOH Japan Meteorological Business Support Center, Patama SINGHRUCK Chulalongkorn University, Vinay KUMAR Texas A&M University

AS31-The Science and Prediction of Tropical Cyclones
*Chun-Chieh CHIE National Taiwan University, Yuqing WANG University of Hawaii at Manoa, Kosuke ITO University of the Ryukyus, Zhuo WANG University of Illinois at Urbana-Champaign, Jeff KEPERT Centre for Australian Weather and Climate Research

AS34-El Niño Complexity and Change
*Malte STUECKER University of Washington, Fei-Fei JIN University of Hawaii, Hong-Li REN China Meteorological Administration, Jong-Seong KUG Pohang University of Science and Technology, Masahiro WATANABE The University of Tokyo

AS35-Mountain and Island Effects on Airflow, Precipitation, Weather, and Climate
*Cheng-Ku YU National Taiwan University, Yuh-Lang LIN North Carolina A&T State University, Yileng CHEN University of Hawaii at Manoa, United States, Tetsuya TAKEMI Kyoto University

AS37-Earth System Models: Development, Validation and Uncertainties
*Xiaohong LIU University of Wyoming, Zhaohui LIN Chinese Academy of Sciences, Shaocheng XIE Lawrence Livermore National Laboratory, Yi MING National Oceanic and Atmospheric Administration, Huang-Hsiung HSU Academia Sinica

AS49-Meso-scale Meteorology and High-impact Weather
*Gyu Won LEE Kyungpook National University, Michael BELL Colorado State University, Taro SHINODA Nagoya University

AS54-Aerosols, Clouds, Radiation, Precipitation, and Their Interactions
*Xiquan DONG University of Arizona, Teri NAKAJIMA Japan Aerospace Exploration Agency, Byung-Ju SOHN Seoul National University, C.G. CUI China Meteorological Administration

BG05-SE-New Results from Advanced Spectroscopic and Thermal Infrared Measurements in North America, Hawaii, and South Asia
*Florian M. SCHWANDNER Jet Propulsion Laboratory, California Institute of Technology, Eric HOCHBERG Bermuda Institute of Ocean Sciences, Vincent REALMUTO Jet Propulsion Laboratory, California Institute of Technology

BG06-AS-From GHG Observations to Fluxes: Top-down Measurements of the Carbon Cycle
*Christopher O’DELL Colorado State University, Andrew SCHUH Colorado State University, Makoto SAITO National Institute for Environmental Studies, Abbasheh CHATTERJEE NASA Goddard Space Flight Center, Dongxu YANG Institute of Atmospheric Physics, Chinese Academy of Sciences
**HS05**-Remote Sensing and Data Assimilation in Hydrology
*Dawei HAN University of Bristol, Jeanne Jinhui HUANG Nankai University, Ben JARIHANI University of the Sunshine Coast

**HS11**-Dealing with Hydrological Extremes: Theory, Simulation, and Practice
*Ke-Sheng CHENG National Taiwan University, Hitok Ne National Chikamori Okayama University, Kwan Tun LEE National Taiwan Ocean University, Yasuto TACHIKAWA Kyoto University

**HS18**-Individual and Compound Extremes in Hydrology: Observations and Models
*Zengchao HAO Beijing Normal University, Vijay SINGH Texas A&M University, Bellie SIVAKUMAR University of New South Wales

**HS23**-Hydrological Processes in Agricultural Lands
*Jun NIU China Agricultural University, Yiping WU Xi'an Jiaotong University, Ji CHEN The University of Hong Kong, Bellie SIVAKUMAR University of New South Wales

**HS32**-Hydrometeorological Analysis of Natural Hazards
*Hung Soo KIM Inha University, Ji CHEN The University of Hong Kong, Bellie SIVAKUMAR University of New South Wales

**HS34**-Monitoring and Modelling SPAC Hydraulic Gradient to Improve Estimation of Plant Transpiration and Water Stress
*Huade GUAN Flinders University, Hailong WANG The University of Aberdeen, Hugo GUTIERREZ The University of Texas at El Paso

**IG01**-General Session
*Kazuhisa GOTO Tohoku University, Fiona WILLIAMSON National University of Singapore

**IG04**-Interdisciplinary Research on Tsunamis and Practical Applications for Disaster Risk Reduction
*Anawat SUPPASRI Tohoku University, Natt LEELAWAT Chulalongkorn University, Volker ROEBER University of Hawaii, Shaun WILLIAMS National Institute of Water and Atmospheric Research

**IG06**-Advanced Remote Sensing and Big Data Analysis for Disaster Risk Reduction
*Young-Joo KWAK International Centre for Water Hazard and Risk Management (ICHARM)/ UNESCO, A.W. JAYAWARDENA The University of Hong Kong, Biswajeet PRADHAN University of Technology Sydney, Sang-Ho YUN NASA Jet Propulsion Laboratory

**IG12**-Carbon dioxide sequestration and utilization (CCUS) in energy geosciences
*Qi LI Chinese Academy of Sciences, Masao SORAI National Institute of Advanced Industrial Science and Technology, Tip MECKEL The University of Texas at Austin

**IG22**-Pre-earthquake Anomalies, Earthquake Predictability, 10 Years Commemoration 2008 M8.0 Weichuan Earthquake, Kickoff Chinese Seismo-electromagnetic Satellite
*Jann-Yenq (Tiger) LIU National Central University, Katsumi HATTORI Chiba University, Dimitar OZOUNOV Chapman University

**OS04**-Cold, Wet, and Wild: Ocean and Atmospheric Dynamics in the Southern Ocean and Antarctic
*Robin ROBERTSON Xiamen University, Jiping LIU University of Aberdeen, Wenju CAI Ocean University of China and Qingdao National Laboratory for Marine Science and Technology, Agus SANTOSO University of New South Wales, Sheeba Nettukandy CHENOLI University of Malaya

**OS05**-Continuing the Tidal Tale: the Story of Tides and Their Impacts
*Robin ROBERTSON Xiamen University, Adam DEVLIN The Chinese University of Hong Kong

**OS12**-Estuarine and Coastal Oceanography
*Atsushi FUJIMURA University of Guam, Sung Yong KIM Korea Advanced Institute of Science and Technology

**OS16**-Seasonal Climate Predictability and Applicability

**OS18**-Ocean Circulation and Air-sea Interaction Over the Maritime Continent and Surrounding Waters
*Lei ZHOU Shanghai Jiao Tong University, Dongxiao WANG South China Sea Institute of Oceanology, Chinese Academy of Sciences, R. Dwi SUSANTO University of Maryland, Wen ZHOU City University of Hong Kong

**OS25**-BG-Carbon Sequestration in Marginal Seas: Regulation and Response to Global Change
*Bangqin HUANG Xiamen University, Guangxing LIU Ocean University of China, Chín-Chang HUNG National Sun Yat-sen University

**OS27**-General Oceanography
*Charles LEMCKERT University of Canberra, Taira NAGAI The University of Tokyo, Vethamony P IIT, Mumbai

**PS05**-Ring Systems of the Solar System Objects and Exoplanets
*Wing-Huen IP National Central University, Larry ESPOSITO University of Colorado Boulder, Keiji OHTSUJI Kobe University

**PS09**-Science and Exploration of Mars and Venus
*Varun SHEEL Physical Research Laboratory, Shuanggen JIN Chinese Academy of Sciences, Joseph MICHALSKI University of Hong Kong, Deanne ROGERS Stony Brook University, Timothy GLOTCH Stony Brook University
PS11-Science and Exploration of the Moon and Mercury
*Jorn HELBERT German Aerospace Center, Makiko OHTAKE Japan Aerospace Exploration Agency, Kyeong Ja KIM Korea Institute of Geoscience and Mineral Resources, Gordon CHIN NASA Goddard Space Flight Center, Long XIAO China University of Geosciences

PS14-Planetary Data in the Big Data Era
*Jian-Yang LI Planetary Science Institute, Ludmilla KOLOKOLOVA University of Maryland, Sebastien BESSE European Space Agency

PS18-Understanding Icy Worlds, Ocean Worlds, and Habitability
*Steven VANCE Jet Propulsion Laboratory, Caltech, Frank SOHL German Aerospace Center, Athena COUSTENIS Paris Observatory, Mathieu CHOUKROUN Jet Propulsion Laboratory, Jun KIMURA Osaka University

PS22-Field and Laboratory Studies in support of Planetary Infrared Remote Sensing
*Benjamin GREENHAGEN The Johns Hopkins University Applied Physics Laboratory, Kerri DONALDSON HANNA University of Oxford, Neil BOWLES University of Oxford, Timothy GLOTCH Stony Brook University, Paul LUCEY University of Hawaii at Manoa

SE02-Seismic Modelling and Imaging: from Global to Local Scales
*Ping TONG Nanyang Technological University, Shengji WEI Nanyang Technological University, Xu YANG University of California, Santa Barbara, Chin-Wu CHEN National Taiwan University

SE03-Imaging the Earth: from Data to Interpretation
*Nori NAKATA University of Oklahoma, Fan-Chi LIN University of Utah, Hsin-Hua HUANG Academia Sinica

SE04-Dynamic System of Earth: Interactions from Surface to Core
*Takashi NAKAGAWA Japan Agency for Marine-Earth Science and Technology, Weijia KUANG NASA Goddard Space Flight Center, Daoqian SUN University of Science and Technology of China, Eh TAN Academia Sinica, Xiaodong SONG UI of Illinois Urbana-Champaign / Wukan LI

SE11-13-Nankai Trough Seismogenic Zone Experiment and Related Studies of Tectonics in the Western Pacific
*Kyuchi KANAGAWA Chiba University, Keir BECKER University of Miami, Masataka KINOSHITA The University of Tokyo, Yi-Ching YEH National Central University

SE16-Recent Advances in Understanding Mountain Building Processes: Methodology, Observations, Models and Implications
*Chih-Tung CHEN National Central University, Kazuaki OKAMOTO Satama University, Jon LEWIS Indiana University of Pennsylvania, Hai Thanh TRAN Hanoi University of Mining and Geology, Xi-Bin TAN China Earthquake Administration

SE21-Bridging Observations from Geology and Geodesy to Understand Tectonic Deformation Over Multiple Timescales
*Arnon MELTZNER Nanyang Technological University, Ya-Ju HSU Academia Sinica, Yu-Nung NINA LIN Nanyang Technological University, Emma HILL Earth Observatory of Singapore / NTU, Tadafumi OCHI National Institute of Advanced Industrial Science and Technology

SE22-35-Earthquakes, Fault Ruptures and Seismic Hazards in Southeast and East Asia and Selected Sedimentary Basins
*Yu WANG National Taiwan University, Noelyrrna RAMOS University of the Philippines Diliman, Myo THANT Monywa University, Phil CUMMINS Australian National University, Sri WIDIYANTORO Bandung Institute of Technology

SE31-07-Cenozoic Crustal Deformation, Surface Processes, and Earthquake Hazards of the Qinghai-Tibetan Plateau and Adjacent Regions, with a 10-year Review of the 2008 Wenchuan Earthquake
*J. Bruce H. SHYU National Taiwan University, Xiwei XU China Earthquake Administration, Kirby ERIC Oregon State University, Fuqiong HUANG China Earthquake Network Center, Zhongqi Quentin YUE The University of Hong Kong

SS03-Science Driven E-infrastructures and Data Management in Support of Geosciences Research
*Ming-Hsu LI National Central University, Tsair-Fuh LIN National Cheng Kung University, Mustapha MOKRANE ICSU-WDS International Programme Offices, Yue-Gau CHEN National Taiwan University

SS09-Volcanoes: Nature, Influence, Impact
*Kazuhisa GOTO Tohoku University, Florian M. SCHWANDNER Jet Propulsion Laboratory, California Institute of Technology, Fiona WILLIAMSON National University of Singapore

ST13-Advances in Ionospheric Irregularity and Scintillation Studies
*Guozhu LI Chinese Academy of Sciences, Yuichi OTSUKA Nagoya University, Amit PATRA National Atmospheric Research Laboratory, Brett CARTER Royal Melbourne Institute of Technology University

ST17-Geospace System Response to Impulse Space Weather Events
*Jing LIU National Center for Atmospheric Research, Wenbin WANG National Center for Atmospheric Research, Shunrong ZHANG Massachusetts Institute of Technology, Libo LIU Chinese Academy of Sciences, Jiuhou LEI University of Science and Technology of China
AS03 / Multi-scale Climate Variability Over Asia and Surrounding Oceans

Tue - 05 Jun  | MR325B

Time 08:30 - 10:30

Chair(s) Tim LI, University of Hawaii

AS03-D2-AM1-325B-001 | AS03-A017 (Invited)

Role of Air-Sea Interaction in the 30–60 Day Boreal Summer Intraseasonal Oscillation over Western North Pacific

Tianyi WANG1, Xiu-Qun YANG1*, Jiabei FANG1, Xu-Guang SUN1, Xuejuan REN1

1Nanjing University

AS03-D2-AM1-325B-002 | AS03-A019

The Weakened Intensity of Atmospheric Quasi-Biweekly Oscillation over the Western North Pacific During Late Summer Around the Late 1990s

Zhiqing XU1*, Tim LI, Ke FAN1*

1Chinese Academy of Sciences, 2University of Hawaii

AS03-D2-AM1-325B-003 | AS03-A026

Characteristics of the Quasi-Biweekly Oscillation over the Asian Monsoon Region

Yan XIN1*, Teng WANG1, Shaorou DONG1, Song YANG1*

1Sun Yat-sen University

AS03-D2-AM1-325B-004 | AS03-A062

Forecast Skill of Intraseasonal Oscillation Events over the Maritime Continent in a Global Cloud-System-Resolving Model

Tomoe NASUNO1**, Masuo NAKANO1, Kazuyoshi KIKUCHI1, Tim LP3

1Japan Agency for Marine-Earth Science and Technology, 2University of Hawaii at Manoa, 3University of Hawaii

AS03-D2-AM1-325B-005 | AS03-A079

Future Changes in the Intraseasonal Variability and Typhoon Activity in a Nonhydrostatic Global Atmospheric Model

Masuo NAKANO1**, Kazuyoshi KIKUCHI1, Tomoe NASUNO1, Yohei YAMADA1, Masaki SATOH1, Masato SUGI1

1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo, 3Japan Meteorological Agency

AS03-D2-AM1-325B-006 | AS03-A029

The Impact of Different Types of ENSO on MJO Activities over the Maritime Continent

Yuqin DA1**, Tim LP

1Nanjing University of Information Science & Technology, 2University of Hawaii

AS03-D2-AM1-325B-007 | AS03-A036

The Interaction of Madden Julian Oscillation and High Frequency Wave in Maritime Continent in Boreal Winter

Yan ZHU1**, Tim LP

1University of Hawaii

AS03-D2-AM1-325B-008 | AS03-A046 (Invited)

Regional Patterns of Interannual Variations of Summer Precipitation over the Maritime Continent and Their Relations with Different Anomalous Circulations in Indo-Pacific Sector

Zhaoyong GUAN1**, Qi XU2

1Nanjing University of Information Science & Technology, 2Nanjing University of Information Science

AS03-D2-AM2-325B-009 | AS03-A053 (Invited)

Intraseasonal Variability of Eurasian Summer Subtropical Wavetrain Modulated by the AMO and its Connection with Indian Summer Rainfall

Shuanglin LI1,2*, Xueqian SUN1, Jilin SUN1, Xiaowei HONG1

1Chinese Academy of Sciences, 2China University of Geosciences, 3Chinese Academy of Sciences/ University of Chinese Academy of Sciences, 4The Ocean University of China

AS03-D2-AM2-325B-010 | AS03-A032 (Invited)

Low-Frequency Variability and the Unusual Indian Ocean Dipole Events in 2015 and 2016

Yan DU1**, Lianyi ZHANG1, Wenju CAI2,3

1Chinese Academy of Sciences, 2Ocean University of China and Qingdao National Laboratory for Marine Science and Technology, 3Commonwealth Scientific and Industrial Research Organisation

AS03-D2-AM2-325B-011 | AS03-A068

On the Budget of Local Available Potential Energy of Intra-Seasonal Eddies

Xianglin DAI1**, Yang ZHANG1*

1Nanjing University

AS03-D2-AM2-325B-012 | AS03-A041 (Invited)

Lack of Westerly Wind Bursts in Unmaterialized El Niño Years

Ayako SEIKI1**, Yukari TAKAYABU1, Takuya HASEGAWA1, Kunio YONEYAMA1

1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo
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<th>Time</th>
<th>Chair(s)</th>
<th>Title</th>
<th>Authors</th>
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<td>13:30 - 15:30</td>
<td>Zhaoyong GUAN, Nanjing University of Information Science &amp; Technology, Yan DU, Institute of South China Sea Oceanography</td>
<td>Mechanisms for Generation and Development of Ningaloo Niño</td>
<td>Lei ZHANG1*, Weiqing HAN1*</td>
<td>University of Colorado Boulder</td>
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<td>Asymmetry of Two Types of ENSO in the Transition Between the East Asian Winter Monsoon and the Ensuing Summer Monsoon</td>
<td>Jian SHI1*, Weiheong QIAN1*</td>
<td>Peking University</td>
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<td>Predictable Patterns of Rainfall and Atmospheric Circulation over the Maritime Continent and Adjacent Regions: Role of Air-Sea Interaction and Seasonal Dependence</td>
<td>Song YANG1*, Tuantuan ZHANG1, Bohua HUANG2</td>
<td>Sun Yat-sen University, George Mason University</td>
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<td>Southern Hemisphere Origins for Interannual Variations of Tibetan Plateau Snow Cover in Boreal Summer</td>
<td>Zhiwei WU1*</td>
<td>Fudan University</td>
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<td>Different Role of Sea Surface Temperature over the South China Sea and Philippine Sea on South China Sea Summer Monsoon Onset</td>
<td>Yoshiyuki KAJIKAWA1**, Atsushi HIGUCHI1**</td>
<td>Kobe University, China University</td>
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<td>Why Rainfall Response to El Niño over Maritime Continent is Weaker and Non-Uniform in Boreal Winter than in Boreal Summer</td>
<td>Leishan JIANG1**</td>
<td>University of Hawaii at Manoa</td>
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<td>16:00 - 18:00</td>
<td>Xiuqun YANG, Nanjing University</td>
<td>Impact of the Air-Sea Interaction on the East Asian Summer Monsoon in AGCM Simulation</td>
<td>Yumi KIM1**, Eun-Chul CHANG1**</td>
<td>Peking University</td>
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<td>Simulation of the Central Indian Ocean Mode in CESM: Implications for the Indian Summer Monsoon System</td>
<td>Lei ZHOU1**, Raghu MURTUGUDDE2, Richard NEALE3, Markus JOCHUM4</td>
<td>Shanghai Jiao Tong University, University of Maryland, National Center for Atmospheric Research, University of Copenhagen</td>
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<td>Distinct Influences of the ENSO-Like and PMM-Like SST Anomaly on the TC Genesis Location in the Western North Pacific: The 2015 Summer as an Extreme Example</td>
<td>Chi-Cherng HONG1**</td>
<td>University of Taipei</td>
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<td>Satellite Air-Sea Heat Fluxes Associated with Non-Developing and Developing Tropical Disturbances over the Western North Pacific</td>
<td>SI GAO1**, Shengbin JIA2, Yanyu WAN2, Tim LF, Shunan ZHAI2</td>
<td>Nanjing University of Information Science &amp; Technology, Nanjing University of Information Science &amp; Technology, University of Hawaii</td>
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<td>Land-Falling Typhoons are Controlled by the Meridional Oscillation of the Kuroshio Extension</td>
<td>Shih-Ming HUANG1**, Leo O'NEIL1**</td>
<td>National Central University</td>
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AS08 / Madden-Julian Oscillation and Its Global Impacts  
Tue - 05 Jun  |  MR302B

Time 08:30 - 10:30

Chair(s) Ziniu XIAO, Chinese Academy of Sciences  
Xiu-Qun YANG, Nanjing University

AS08-D2-AM1-302B-001  |  AS08-A014 (Invited)
SVD Versus RMM Index in the Study of MJO Effects on East Asian Winter Weather  
Yun-Lan CHEN¹, Chung-Hsiung SU², Chih-Pei CHANG²,³	n¹Central Weather Bureau, n²National Taiwan University, n³Naval Postgraduate School

AS08-D2-AM1-302B-002  |  AS08-A030
The Madden-Julian Oscillation’s Influences on Stratospheric Moisture  
Joowan KIM¹,² Kohju National University

AS08-D2-AM1-302B-003  |  AS08-A034
Zonal Oscillation of Western Pacific Subtropical High and Subseasonal Sea Surface Temperature Variations  
Xuejuan REN¹, Xiu-Qun YANG¹,², Xu-Guang SUN¹
n¹Nanjing University

AS08-D2-AM1-302B-004  |  AS08-A020
Moisture-Convection-Dynamical Feedback in Eastward Propagation of the Tropical Intraseasonal Variability in the NICAM Aqua-Planet Experiments  
Daisuke TAKASUKA¹,², Masaki SATOH¹
n¹The University of Tokyo

AS08-D2-AM1-302B-005  |  AS08-A009
Decadal Change of MJO Teleconnection Pattern and its Impacts on East Asia  
Hyerim KIM¹,², Myong-In LEE²
n¹Konkuk University, n²Ulsan National Institute of Science and Technology

AS08-D2-AM1-302B-006  |  AS08-A006
Toward Understanding the Diverse Impact Processes of Air-Sea Interactions on MJO Simulations  
Joshua-Xiouhua FU¹
n¹Fudan University

Time 11:00 - 12:30

Chair(s) Jian LING, Chinese Academy of Sciences  
Shuguang WANG, Columbia University

AS08-D2-AM2-302B-007  |  AS08-A013 (Invited)
QBO and MJO Propagation  
Chidong ZHANG¹,², Bosong ZHANG²
n¹National Oceanic and Atmospheric Administration, n²University of Miami

AS08-D2-AM2-302B-008  |  AS08-A005 (Invited)
Organized Convection Parameterization for Global Climate Models  
Mitchell W. MONCRIEFF¹
n¹University Corporation for Atmospheric Research

AS08-D2-AM2-302B-009  |  AS08-A012
Roles of the Moisture and Wave Feedbacks in Shaping the Madden-Julian Oscillation  
Fei LIU¹,², Bin WANG²
n¹Nanjing University of Information Science, n²University of Hawaii

AS08-D2-AM2-302B-010  |  AS08-A008
Properties of Convective Gravity Waves Forced in the Tropics During the Madden-Julian Oscillation  
Silvio KALISCH¹,², Hye-Yeong CHUN¹, Min-Jee KANG¹
n¹Yonsei University

Time 13:30 - 15:30

Chair(s) Chidong ZHANG, National Oceanic and Atmospheric Administration  
Mitchell W. MONCRIEFF, University Corporation for Atmospheric Research

AS08-D2-PM1-302B-011  |  AS08-A036 (Invited)
Dynamics-Oriented Diagnostics for the Madden-Julian Oscillation  
Bin WANG¹
n¹University of Hawaii

AS08-D2-PM1-302B-012  |  AS08-A016 (Invited)
Impacts of Tropical ISO on Rainfall Extremes in South China and its Predictability  
Hong-Li REN¹
n¹China Meteorological Administration


Influence on Variance of Oxygen Isotopes and Hydrogen Isotopes in Precipitation of Shanghai by ENSO
Limin ZHOU1
1East China Normal University

The Effect of ENSO on the Precipitation in South-East China Since the Middle Holocene
Yushan XIE1,*, Limin ZHOU1
1East China Normal University

Intraseasonal Variability and the Onset of Monsoon Rainfall
Ken SPERBER1
1Lawrence Livermore National Laboratory

Aerosol and Monsoon Climate Interactions in Asia
Zhanqing LI1,2
1University of Maryland, 2Beijing Normal University

Development of Potential Source Density Functions (PSDFs) for Locating Air Pollution Sources
Insun KIM1
1Ewha Womans University

Sources and Long-Range Transport of Dust Aerosols from the Taklimakan and Gobi Deserts: Insights from Satellite Observations and Trajectory Modeling
Yan YU1
1Jet Propulsion Laboratory, California Institute of Technology

Comparison of Dust Emissions, Transport, and Deposition Between the Taklimakan Desert and Gobi Desert from 2007 to 2011
Siyu CHEN1,*, Jianping HUANG1
1Lanzhou University

Aerosol-Cloud-Radiation Interactions over East China: Simulations vs Observations
Xiaoyan MA1,*, Hailing JIA2, Fangqun YU3
1Nanjing University of Information Science, 2Nanjing University of Information Science & Technology, 3University at Albany, State University of New York

Impact of Climate Change on Siberian High and Wintertime Air Pollution in China in Past Two Decades
Shuyu ZHAO1,*, Tian FENGI, Xueei TIE1,*, Xin LONG1, Guohui LI1, Junji CAO1, Weijian ZHOU1, Zhisheng AN1
1Chinese Academy of Sciences

Development of the Aerosol Reanalysis Product (JRAero) and its Use in Aerosol Researches in East Asia
Keiya YUMIMOTO1,*, Taichu TANAKA1, Naga OSHIMA2, Takashi MAKI2
1Kyushu University, 2Japan Meteorological Agency

Aerosol-Induced Intensification of Convections over the Tibetan Plateau
Guohui LI1,*, Naifang BEF, Jiurui WU1, Yongming HAN1, Hongli LIU1
1Chinese Academy of Sciences, 2Xi’an Jiaotong University, 3Chinese Academy of Meteorological Sciences
Identifying Cr-Containing Mineral Phases in Dust Dry Deposition Using Selected Area Electron Diffraction Patterns and Energy Dispersive Spectroscopy Elemental Maps

Soonyoung YU1, Pyeong-Koo LEE2, Hye Jung CHANG3
1Korea University, 2Korea Institute of Geoscience and Mineral Resources, 3Korea Institute of Science and Technology

Time 13:30 - 15:30
Chair(s) Daizhou ZHANG, Prefectural University of Kumamoto
Seoung Soo Lee, Earth System Science Interdisciplinary Center, University of Maryland

On the Link Between Long-Term Trend in Summertime Local-Scale Precipitation and Aerosol Pollution over Eastern China

Jianping GUO1, Zhanqing LI2,3
1Chinese Academy of Meteorological Sciences, 2University of Maryland, 3Beijing Normal University

Optical Properties and Radiative Forcing of Aged BC due to Hygroscopic Growth

Chao LIU1, Chen ZENG1, Yan YIN1
1Nanjing University of Information Science & Technology

Sources of Arctic Black Carbon Simulated by Flexpart V10: Comparison with GEOS-Chem Results

Chunmiao ZHU1,2, Yugo KANAYA1, Masayuki TAKIGAWA1, Kohei IKEDA1, Hiroshi TANIMOTO2, Fumikazu TAKETANI1, Takuma MIYAKAWA1, Hideki KOBAYASHI1, Ignacio PISSO3
1Japan Agency for Marine-Earth Science and Technology, 2National Institute for Environmental Studies, 3Norwegian Institute for Air Research

The Roles of Mineral Dust as Cloud Condensation Nuclei and Ice Nuclei During the Evolution of a Hail Storm

Qian CHEN1,2, Yan YIN1, Hui JIANG1
1Nanjing University of Information Science & Technology

Sulfate and Nitrate in the Atmosphere of Asian Desert Regions

Feng WU1
1Institute of Earth Environment, Chinese Academy of Sciences

Air Stagnation and its Impact on Air Quality During Winter in Sichuan and Chongqing, Southwestern China

Tingting LIAN1
1Chengdu University of Information Technology

Time 16:00 - 18:00
Chair(s) Jianping GUO, Chinese Academy of Meteorological Sciences
Yuan WANG, California Institute of Technology

The Effect of Aerosol on the Spatiotemporal Distributions of Heavy Precipitation in Urban Areas

Seoung Soo LEE1, Zhanqing LI2, Jianping GUO3
1Earth System Science Interdisciplinary Center, 2University of Maryland, United States / Beijing Normal University, 3Chinese Academy of Meteorological Sciences

Contrast of the Ice Cloud Fraction Between Eastern and Western Eurasia Using Calipso Data in Winter Time

Kazuaaki KAWAMOTO1, Akira YAMAUCHI1
1Nagasaki University

Cloud and Haze Detection Algorithm for Himawari-8 Satellite Measurements over China

Huazhe SHANG1, Husi LETU1, Ziming WANG1, Run MA1, Ni AN1, Hushan BAO1, Jie HE1, Nari A1, Xu HAN1
1Chinese Academy of Sciences, 2Baotou Teacher’s College, 3Inner Mongolia Normal University, 4China University of Mining and Technology

Mixing Layer Height and its Impacts on Air Pollution over North China

Guiqian TANG1, Xiaowan ZHU1, Bo HU1, Christoph MUENKEL2, Yueyi WANG1
1Chinese Academy of Sciences, 2Vaisala GmbH

Elucidating the Potential of Radiosonde Measurements in Characterizing Cloud Base Height Climatology in China: Implications for Aerosol-Cloud Interaction

Yong ZHANG1
1China Meteorological Administration
AS11-D2-PM2-325A-028 | AS11-A027

Study on Atmospheric Boundary Layer over Lanzhou in Northwest China

Minjin MA1+ Lanzhou University

AS13 / 11th Sasaki Symposium on Data Assimilation for Atmospheric, Oceanic, and Hydrologic Applications

Tue - 05 Jun | MR326A

Time 08:30 - 10:30

Chair(s) Zhaoxia PU, University of Utah
Andrew MOORE, University of California Santa Cruz

AS13-D2-AM1-326A-001 | AS13-A001

Applying Data Assimilation to Precipitation Nowcasting
Shigenori OTSUKA1+*, Takemasa MIYOSHI2,3
1RIKEN Center for Computational Science, 2RIKEN Advanced Institute for Computational Science, 3University of Maryland

AS13-D2-AM1-326A-002 | AS13-A003

Impacts of Dense Surface Observations on Predicting a Torrential Rainfall Event on September 9 and 10, 2015 in the East Japan Area

Yasumitsu MAEJIMA1+*, Guo-Yuan LIEN1, Takemasa MIYOSHI1,2
1RIKEN Advanced Institute for Computational Science, 2University of Maryland

AS13-D2-AM1-326A-003 | AS13-A008 (Invited)

Characteristics of Covariances Between Land and Low-Atmosphere States and Their Influences on Coupled Data Assimilation

Zhaoxia PU1+*
University of Utah

AS13-D2-AM1-326A-004 | AS13-A017

Sensitivity of Atmospheric Variables to Land Surface in the Coupled Atmosphere-Land Surface Data Assimilation System

Sojung PARK1+*, Seon Ki PARK1
1Ewha Womans University

AS13-D2-AM1-326A-005 | AS13-A015

The Observation Sensitivity and Forecast Sensitivity to Observations for the Warm-Sector Heavy Rainfall: The Osses Case Study

Yu ZHANG1+*, Donghai WANG1
1Sun Yat-sen University

AS13-D2-AM2-326A-008 | AS13-A007

How Fast Shall We Go? Lessons Learned from 30-Second-Update Convective-Resolving Data Assimilation Experiments

Takemasa MIYOSHI1,2+*, Juan RUIZ3, Guo-Yuan LIEN1, Toshiki TERAMURA1, Yasumitsu MAEJIMA1, Keiichi KONDO4, Hideyuki SAKAMOTO1
1RIKEN Advanced Institute for Computational Science, 2University of Maryland, 3University of Buenos Aires, 4Japan Meteorological Agency

AS13-D2-AM2-326A-009 | AS13-A002

The Trade-Off Between Memory and Computation Cost – An Example of Sparse UKF

Wei KANG1+, Liang XU2
1Naval Postgraduate School, 2Naval Research Laboratory

AS13-D2-AM2-326A-010 | AS13-A005

A 4D-EnVAR Data Assimilation System Without Vertical Localization

Le DUC1+*, Kazuo SAITO2
1Japan Agency for Marine-Earth Science and Technology, 2Japan Meteorological Agency

AS13-D2-AM2-326A-011 | AS13-A014

The GNSS-RO Data Impact on the Prediction of Typhoon Nepartak (2016) by MPAS-GSI Model

Shu-Ya CHEN1+*, Cheng-Peng SHIH1, Ching-Yuang HUANG1, Wen-Hsin TENG1, Yang-Cheng HUANG1
1National Central University

AS13-D2-AM1-326A-006 | AS13-A006

Discharge and Bathymetry Estimations of Rivers from Altimetry

Kevin LARNIER1, Jerome MONNIER2,3+*, Pierre-Andre GARAMBOIS4
1CS Corporation, 2Mathematics Institute of Toulouse, 3National Institute of Applied Sciences Toulouse, 4ICube - Université de Strasbourg

AS13-D2-AM1-326A-007 | AS13-A010 (Invited)

Observation Impacts on 4D-VAR Ocean Circulation Estimates of the Mid-Atlantic Bight Circulation

Andrew MOORE1+, John WILKIN2, Julia LEVIN2, Hernan G. ARANGO3
1University of California Santa Cruz, 2Rutgers University

AS13-D2-AM1-326A-008 | AS13-A014

The Observation Sensitivity and Forecast Sensitivity to Observations for the Warm-Sector Heavy Rainfall: The Osses Case Study

Yu ZHANG1+*, Donghai WANG1
1Sun Yat-sen University
AS13-D2-AM2-326A-012 | AS13-A012

Sampling Error in the Ensemble-Based Radar Data Assimilation System and its Impact on Convective-Scale Weather Prediction

Pin-Ying WU1,†, Shu-Chih YANG1, Chih-Chien TSAI2
1National Central University, 2Taiwan Typhoon and Flood Research Institute

AS16-53 / Exploration and Science of the Earth’s Lower and Middle Atmosphere: Past, Present and Future Perspectives

Tue - 05 Jun | MR303A

Time 08:30 - 10:30
Chair(s) Gaopeng LU, Chinese Academy of Sciences

AS16-53-D2-AM1-303A-001 | AS16-53-A013

Do Frequent Hurricanes Trigger Earthquakes over Caribbean and South American Regions?
Shikha RAIZADA1,†, D. V. PHANIKUMAR1, Niranjan Kumar KONDAPALLI1, Alessandra ABE PACINI1, Christiano GARNETT MARQUES BRUM1, Som Kumar SHARMA2
1SRI International, 2Argyabhatta Research Institute of Observational Sciences, 3The University of Tokyo, 4Arecibo Observatory, 5Physical Research Laboratory

AS16-53-D2-AM1-303A-002 | AS16-53-A005 (Invited)

Implications of Nighttime O(3P) and OH Densities Retrieved Using SABER/TIMED Observations for Mesospheric Aeronomy

Peter PANKA1,†, Alexander KUTEPOV1, Diego JANCHES5, Konstantinos KALOGERAKIS1, Dan MARSH1, Artem FEOFILOV1, Erdal YIGIT2, Ladislav REZAC3
1NASA Goddard Space Flight Center, 2SRI International, 3University Corporation for Atmospheric Research, 4Ecole Polytechnique, 5George Mason University, 6Max Planck Institute for Solar System Research

AS16-53-D2-AM1-303A-003 | AS16-53-A009

Short-Term Trends in Stratospheric Circulation Driven by Seasonal Timing of the Quasi-Biennial Oscillation
Jessica NEU1,†, Sasha GLANVILLE1, Douglas KINNISON1
1Jet Propulsion Laboratory, California Institute of Technology, 2National Center for Atmospheric Research

AS16-53-D2-AM1-303A-004 | AS16-53-A008 (Invited)

An All-Sky Meteor Trail Input Function: Development, Analysis, and Impact in the Mesosphere Lower Thermosphere Region
Julio URBINA1,†, Freddy GALINDO1, Steven FRANKE2
1Penn State, 2Penn State University, 3University of Illinois at Urbana-Champaign

AS16-53-D2-AM2-303A-005 | AS16-53-A021 (Invited)

The Characteristics and Polarities of the Sprites and Their Parent Lightning Captured by the TLE Observation Network in Taiwan
Alfred CHEN1,†, Cheng-Shin KUO1, Yi-Jen LEE1, Han-Tzong SU1, Rue-Ron HSU1
1National Cheng Kung University


Simulations of Lightning-Induced Transient Emissions (LITEs) of Airglow
Tai-Yin HUANG2
2Penn State Lehigh Valley

AS16-53-D2-AM2-303A-007 | AS16-53-A024 (Invited)

ULAT Project: Lightning Observations in the Philippines and Western Pacific Region for the Intensity Prediction of Severe Weather
Mitsuteru SATO1,†, Yukihiro TAKAHASHI2, Hisayuki KUBOTA1, Kozo YAMASHITA3, Jun-Ichi HAMADA1, Joel MARCIANO4
1Hokkaido University, 2Ashikaga Institute of Technology, 3Tokyo Metropolitan University, 4Advanced Science and Technology Institute

AS16-53-D2-AM2-303A-008 | AS16-53-A022

Gravity Wave Vertical Scales Detectable by the Imagery of the Thermospheric O(1D) Redline (Modeling and Observation)
Fabio VARGAS1
1University of Illinois

AS16-53-D2-AM2-303A-009 | AS16-53-A023

Nighttime Airglow Ripples as an Example to Study the Coupling Processes Between the Lower and the Middle Atmosphere
Cheng-Ling KUO1,†, Tai-Yin HUANG2
1National Central University, 2Penn State Lehigh Valley
AS20 / High-resolution Simulation, Prediction, and Projection of High-impact Weather Events and Climate Change

Tue - 05 Jun  | MR319A

Time  08:30 - 10:30
Chair(s) Masaki SATOH, The University of Tokyo

AS20-D2-AM1-319A-001 | AS20-A007 (Invited)
Rainfall Extremes Associated with Tropical Cyclones and Their Future Changes
Akio KITOHI, Hirokazu ENDO
1Japan Meteorological Business Support Center, 2Japan Meteorological Agency

AS20-D2-AM1-319A-002 | AS20-A018 (Invited)
Changes in Tropical Cyclones Under Stabilized 1.5C, 2C and Higher Global Warming Scenarios as Simulated by the Community Atmospheric Model Under the Happi Protocols
Michael WEHNER, Kevin REED
1Lawrence Berkeley National Laboratory, 2Stony Brook University

AS20-D2-AM1-319A-003 | AS20-A042 (Invited)
Impacts of Resolution on Water Cycle Processes in the Energy Exascale Earth System Model (EESM)
L. Ruby LEUNG
1Pacific Northwest National Laboratory

AS20-D2-AM1-319A-004 | AS20-A014
Exploring the Use of High-Resolution CAM5 for Basin-Scale Projections of Tropical Cyclone Activity
Kevin REED, Xiaoning WU, Michael WEHNER, Julio BACMEISTER
1Stony Brook University, 2Lawrence Berkeley National Laboratory, 3National Center for Atmospheric Research

AS20-D2-AM1-319A-005 | AS20-A006
Attribution Study for Extreme Tropical Cyclone Seasons Using a High-Resolution Global Coupled Model
Hiroyuki MURAKAMI, Emma LEVIN, Tom DELWORTH, Gabriel VECCHI, Rich GUDGEL
1Geophysical Fluid Dynamics Laboratory, 2Schreiber High School, 3National Oceanic and Atmospheric Administration

AS20-D2-AM1-319A-006 | AS20-A028
A 2015-2017 Forecast Evaluation of Western North Pacific Recurring Tropical Cyclones and Extratropical Interaction in the fvGFS Model
Shannon REES, Heather ARCHAMBAULT, Shian-Jiann LIN
1National Center for Atmospheric Research/Geophysical Fluid Dynamics Laboratory, 2National Oceanic and Atmospheric Administration

AS20-D2-AM1-319A-007 | AS20-A017
Simulation and Projection of Atmospheric River Activities Using a High-Resolution AGCM
Huang-Hsiung HSU, Ying-Ting CHEN
1Academia Sinica

Time  11:00 - 12:30
Chair(s) Song-You HONG, Korea Institute of Atmospheric Prediction Systems
Kevin A. REED, Stony Brook University

AS20-D2-AM2-319A-008 | AS20-A040
Near-Term Increase in the Hazardous Weather Conditions over North America
Moetasim ASHFAQ, Brandon BONDS, Mariana ALIFA, Deeksha RASTOGI, Fuldin BATIBENIZ, Brianna PAGAN, Jeremy PAL, Kate EVANS
1UT-BATTTELLE, 2Western Kentucky University, 3Legola Marymount University, 4Oak Ridge National Laboratory, 5Ghent University

AS20-D2-AM2-319A-009 | AS20-A002
Dynamical Downscaling Simulation and Future Projection of Summer Rainfall in Taiwan: Contributions from Different Types of Rain Events
Wan-Ru HUANG, Ya-Hui CHANG, Huang-Hsiung HSU, Chao-Tzu Chen CHENG, Chia-Ying TU
1National Taiwan Normal University, 2Academia Sinica, 3National Science and Technology Center for Disaster Reduction

AS20-D2-AM2-319A-010 | AS20-A011
Ultra-High-Resolution Numerical Weather Simulations of Heavy Rain Events
Tsutao OIZUMI, Kazuo SAITO, Le DUC, Junshi ITO
1Japan Agency for Marine-Earth Science and Technology, 2Japan Meteorological Agency

AS20-D2-AM2-319A-011 | AS20-A025
Applications of Variable-Resolution GCM for Simulating Extreme Events Affecting Taiwan
Chia-Ying TU, Huang-Hsiung HSU, Shian-Jiann LIN
1Academia Sinica, 2National Oceanic and Atmospheric Administration
Time: 13:30 - 15:30

Chair(s): Hiroyuki MURAKAMI, Geophysical Fluid Dynamics Laboratory

Huang-Hsiung HSU, Academia Sinica

AS20-D2-PM1-319A-012 | AS20-A008

Medium-Range Forecasts with a Non-Hydrostatic Global Atmospheric Model on a Cubed Sphere Grid

Song-You HONG1,2, Young-Cheol KWON1, Tae-Hun KIM1, Jung-Eun KIM1, Suk-Jin CHOI1, In-Hyuk KWON1, Eun-Hee KIM1, Rae-Seol PARK1, Dong-II KIM1

1Korea Institute of Atmospheric Prediction Systems (KIAPS)

AS20-D2-PM1-319A-013 | AS20-A039

A Parameterization of Turbulent Orographic Form Drag in a Global Atmospheric Model

Myung-Seo KOO1,2, Hyun-Joo CHOI1, Ji-Young HAN1

1Korea Institute of Atmospheric Prediction Systems (KIAPS)

AS20-D2-PM1-319A-014 | AS20-A013

Preliminary Results of a High-Resolution Climate Simulation Using the Non-Hydrostatic Icosahedral Atmospheric Model, NICAM, for CMIP6 HighResMIP

Chihiro KODAMA1,2, Masaki SATOH1, Tomoki OHNO1, Akira NODA1, Hisashi YASHIRO1, Yohei YAMADA1, Masuo NAKANO1, Tatsuya SEIKI1, Tomoe NASUNO1, Ying-Wen CHEN1, Tomoki MIYAKAWA1, Masato SUGI1, Woosub ROH1

1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo

AS20-D2-PM1-319A-015 | AS20-A003

Cloud Feedback and Circulation in Decadal-Scale Nonhydrostatic Global Simulations

Akira NODA1,2

1Japan Agency for Marine-Earth Science and Technology

AS20-D2-PM1-319A-016 | AS20-A029

Investigation of Extreme Events in the GEOS Multi-Scale Modeling System

William PUTMAN1,2, Nathan ARNOLD3, Anton DARMENOV4, Saulo FREITAS5, Lesley OTT1


AS22 / Remote Sensing of Ocean Color and Aerosols

Tue - 05 Jun | MR326B

Time: 13:30 - 15:30

Chair(s): Pengwang ZHAI, University of Maryland, Baltimore County

Feng XU, Jet Propulsion Lab

AS22-D2-PM1-326B-001 | AS22-A024 (Invited)

Towards Pace Atmospheric Correction, Aerosol and Cloud Products: Making Use of Expanded Spectral, Angular and Polarimetric Information

Lorraine REMER1,2, Ziauddin AHMAD3, Emmanuel BOSS1, Brian CAIRNS1, Jack CHOWDHARY1, Anthony DAVIS1, Heidi DIERSSEN1, David DINER1, Bryan FRANZ1, Robert FROUIN1, Bo-Cai GAO1, Michael GARAY1, Otto HASEKAMP2, Andrew HEIDINGER1, Amir IBRAHIM1, Olga KALASHNIKOVA2, Kirk KNOBELSPIESSE1, Robert LEVY2, J. Vanderlei MARTINS2, Shana MATTOO1, Kerry MEYER1, Ali OMAR1, Steven PLATNICK1, Felix SEIDEL1, Omar TORRES1, Bastiaan VANDIJEDEHOVEN1, Andi WALTHER2, Zhibo ZHANG1

1University of Maryland, Baltimore County, 2Airphoton LLC, 3Naval Research Laboratory, California Institute of Technology, 4University of Connecticut, 5NASA Goddard Space Flight Center, 6SCRIPPS Institution of Oceanography, 7Naval Research Laboratory, 8SRON, 9National Oceanic and Atmospheric Administration, 10National Oceanic and Atmospheric Administration, 11National Oceanic and Atmospheric Administration, 12Science Systems and Applications, Inc. / NASA Goddard Space Flight Center, 13University of Wisconsin

AS22-D2-PM1-326B-001 | AS22-A024 (Invited)
Preparatory Studies for the Multi-View, Multi-Channel, Multi-Polarisation Imaging (3MI) Mission: Calibration Challenges and Opportunities for Clouds and Aerosols Remote Sensing

Jerome RIEDI1, Frederique AURIOL2, Fabien CONTAUT2, Celine CORNET3, Mohamed Salah DJELLAL3, Oleg DUBOVIK4, Philippe DUBUISSON4, Nicolas FERLAY2, Nicolas HENRIOT5, Laurent LABONNOTE2, Christian MATAR2, Jean-Marc NICOLAS5, Frederic PAROL2, Francois THIEULEUX5, Fabien WAQUET2

1LOA / Université de Lille, 2Université Lille 1, 3Université Lille 1

A Study of the Phytoplankton, Aerosol and Cloud Interactions Using CALIPSO LIDAR Measurements

Yongxiang HU1, Xiaomei LU2, Kuan-Man XU1, Patricia LUCKER2

1NASA Langley Research Center, 2Science Systems and Applications, Inc.

Atmospheric Correction for Coastal Waters Based on Multi-Angle Polarimetric Observations

Meng GAO1, Pengwang ZHAI1, Bryan FRANZ2, Yongxiang HU1, Kirk KNOBELSPIESE5, Jeremy WERDELL5, Amir IBRAHIM1, Feng XU1

1University of Maryland, Baltimore County, 2NASA Goddard Space Flight Center, 5NASA Langley Research Center, 6Jet Propulsion Laboratory, California Institute of Technology

Ocean Subsurface Measurement Concept from Space

Xiaomei LU1, Yongxiang HU3

1Science Systems and Applications, Inc., 3NASA Langley Research Center

Optical Properties of Maritime Aerosols and Their Influence on Atmospheric Radiative Transfer and Remote Sensing

Lei BI1, Zheng WANG1, Wushao LIN1, Xiaoyu ZHANG2

1Zhejiang University, 2University of Maryland, Baltimore County

Advanced Surface/Aerosol Characterisation Using GRASP: New Possibilities of Classification and Global Aerosol Sources Identification

Pavel LITVINOV1, Oleg DUBOVIK1, Tatiana LAPYONOK2, David FUERTES3, Anton LOPATIN1, Benjamin TORRES4, Uwe STREIT5, Jacques DESCOLIRES6, Johannes VASS7, Michael ASPETSBERGER8, Christian FEDERSPIELS9

1Generalized Retrieval of Atmosphere and Surface Properties (GRASP-SAS), 2Université Lille 1, 3Universe Lille 1, 4Catalysts GmbH
AS22-D2-PM2-326B-012 | AS22-A009
A Global OMACA Product of the Optical Depth of Aerosols Above Clouds: Results from 12-Year Long OMI Record
Hiren JETHVA1#, Omar TORRES2, Changwoo AHN3

AS22-D2-PM2-326B-013 | AS22-A015
Aerosol Composition and Vertical Distribution Retrievals Using Combined Multi-Angle Polarimetric and Hyperspectral Measurements
Vijay NATRAJ1#, Pushkar KOPPARLA1, Adrian DOICU2, Diego LOYOLA1, Yuk YUNG1
1California Institute of Technology, 2German Aerospace Agency (DLR)

AS22-D2-PM2-326B-014 | AS22-A020
Investigating Aerosol Vertical Structure over the Los Angeles Megacity Using Hyperspectral Oxygen Measurements
Zhao-Cheng ZENG1#, Vijay NATRAJ1, Feng XU2, Stanley SANDER1, Yuk YUNG1
1California Institute of Technology, 2Jet Propulsion Laboratory, California Institute of Technology

AS27 / Changes in Cryosphere and Its Climate Impacts: Observation and Modeling
Tue - 05 Jun | MR326B

AS27-D2-AM1-326B-001 | AS27-A007
Improving of Freezing-Thawing Parameterization in Community Land Model
Kai YANG1, Chenghai WANG1
1Lanzhou University

AS27-D2-AM1-326B-002 | AS27-A019
Data-Adaptive Harmonic Decomposition and Prediction of Regional Arctic Sea Ice Extent
Dmitri KONDRAHOS1#
1University of California, Los Angeles

AS27-D2-AM1-326B-003 | AS27-A009
Future Changes in Permafrost and Snow Water Equivalent Under a Scenario of 1.5°C Warming in the Northern Hemisphere
Chenghai WANG1,2, Kechen LI1, Ying KONG1
1Lanzhou University

AS27-D2-AM1-326B-004 | AS27-A017
Modeling the Response of the Tibetan Plateau Lake to Climate Change
Lijuan WEN1,2, Dongsheng SU2, Zhaoguo LF, Lin ZHAO1
1Cold and Arid Regions Environmental and Engineering Institute, Chinese Academy of Sciences, 2Chinese Academy of Sciences

AS27-D2-AM1-326B-005 | AS27-A006
Simulation and Projection of Surface Temperature on Tibetan Plateau: Results of Dynamic Downscaling
Xian ZHU1,2, Xiaohang WEN2, Zhiqiang WEI1, Wenjie DONG3
1Beijing Normal University, 2Chengdu University of Information Technology, 3Sun Yat-sen University

AS27-D2-AM1-326B-006 | AS27-A002
Simulation and Projection of Eurasia Blockings by CMIP5 Models
Yan LI1
1Lanzhou University

AS27-D2-AM2-326B-007 | AS27-A005 (Invited)
The Possible Influence of Asian Polar Vertex Contraction on the Rainfall Deficits in the Middle and South China in Autumn
Zhigang WEI1#
1Beijing Normal University

AS27-D2-AM2-326B-008 | AS27-A022
Evaluation of the Winter Sea Ice in the Barents and Kara Seas Before 1979
Ruibo WANG1,2, Shuanglin LI1, Zhe HAN1
1Chinese Academy of Sciences, 2China University of Geosciences

AS27-D2-AM2-326B-009 | AS27-A013
Large-Scale Atmospheric Circulation Patterns Affecting Arctic Sea Ice Variability in Boreal Summer
Nakbin CHO1, Myong-In LEE1#
1Ulsan National Institute of Science and Technology

AS27-D2-AM2-326B-010 | AS27-A004
Relationship Between the Interannual Variations of Arctic Sea Ice and Summer Eurasian Teleconnection and Associated Influence on Summer Precipitation over China
Ruonan ZHANG1#
1Fudan University

Time 08:30 - 10:30
Chair(s) Chenghai WANG, Lanzhou University

Time 11:00 - 12:30
Chair(s) Chenghai WANG, Lanzhou University

Time 08:30 - 10:30
Chair(s) Chenghai WANG, Lanzhou University

Time 11:00 - 12:30
Chair(s) Chenghai WANG, Lanzhou University
Remote Sensing Based Estimation of the Maximum Thickness of Seasonally Frozen Ground over the Tibetan Plateau
Guanheng ZHENG1,*, Dawen YANG1
1Tsinghua University

Thermodynamic and Dynamic Mechanisms for the Hydrological Cycle over the Full Probability Distribution of Precipitation Events
Gang CHEN1,*, Jesse NORRIS1, J. David NEELIN1, Jian LU2, L. Ruby LEUNG2
1University of California, Los Angeles, 2Pacific Northwest National Laboratory

Estimation of Detection Error of Extreme Precipitation Events in APHRODITE Quality Control Using Rain Potential Map
Natsuko YASUTOMI1,*, Hitoshi HIROSE1, Kenji TANAKA1, Atsushi HIGUCHI1, Koichi TOYOSHIMA1, Shigenobu TANAKA1
1Kyoto University, 2Chiba University

How to Incorporate PMP into Nonparametric Frequency Analysis Kaoru TAKARA1,*
1Kyoto University

An Introduction of Chinese Microwave GEO Meteorological Satellite and its Potential Applications to Precipitation Retrieval
Naimeng LU1,*, Yang GUO1, Miao ZHANG1, Song yan GU1
1China Meteorological Administration

Enhancing Tropical Cyclone Prediction with Advanced Assimilation of GPM and CYGNSS Satellite Observations Zhuoxia PU1,*,
1University of Utah

Impacts of WRF Model Tendency Errors on Tropical Cyclone Intensity Forecasts Xiaohao QIN1,*,
1Chinese Academy of Sciences

A Grapes-Based Mesoscale Ensemble Prediction System for Tropical Cyclone Forecasting: Configuration and Performance Xubin ZHANG1,*,
1China Meteorological Administration

Vortex Initialization Through the High-resolution Ensemble Kalman Filter Framework and Its Impact on Intensity Forecast: a Case Study of Typhoon Megi (2010) Shu-Chih YANG1,*, Yi-Pin CHANG1, Kuan-Jen LIN1
1National Central University
Reliability of Tropical Cyclone Best Track Data for Pre-Satellite Period in the Western North Pacific
Moon-Hyun KIM1, Il-Ju MOON1
1Jeju National University

Multi-Scale Shear Impacts During the Genesis of Typhoon Hagupit (2008)
Chelsea NAM1, Michael BELL1
1Colorado State University

Time 11:00 - 12:30
Chair(s) Kosuke ITO, University of the Ryukyus
Liquang WU, Nanjing University

Western North Pacific Tropical Cyclone Characteristics Stratified by Genesis Environment
Hironori FUDEYASU1, Ryuji YOSHIDA2,3
1Yokohama National University, 2RIKEN Advanced Institute for Computational Science, 3Kobe University

Future Changes in Tropical Cyclone Activity in High Resolution Large Ensemble Simulations
Kohei YOSHIDA1, Masato SUGI1, Ryo MIZUTA1, Hiroyuki MURAKAMP, Masayoshi ISHII1
1Japan Meteorological Agency, 2National Oceanic and Atmospheric Administration

The Role and Evolution of Midtropospheric Vortex in the Generation of Typhoon Nepartak (2016)
Shenglan WU1, Juan FANG1
1Nanjing University

Climatological Environmental Flow Patterns of Tropical Cyclone Genesis over the Western North Pacific
Ryuji YOSHIDA1,2,3, Hironori FUDEYASU3
1RIKEN Advanced Institute for Computational Science, 2Kobe University, 3Yokohama National University

Effect of Intra-Seasonal Indo-Western Pacific Convection Oscillation on Tropical Cyclone Activities over the Western North Pacific During the Boreal Extended Summer
Quiyun WANG1,2, Jianping LI1, Yanjie LF1, Jiaqing XUE2, Jiayu ZHENG1, Yidan XU1, Yazhou ZHANG1, Yuehong WANG1, Jingwen ZHANG1
1Beijing Normal University, 2Chinese Academy of Sciences, 3Second Institute of Oceanography, 4Chendu Meteorological Bureau

Impacts of the Boreal Spring Indo-Pacific Warm Pool Hadley Circulation on Tropical Cyclone Activity over the Western North Pacific
Yi-Peng GUO1,2, Zhe-Min TAN3
1Nanjing University
2University of Wisconsin-Madison

The Role of Vortical Hot Towers in Eyewall Reconstruction of Typhoon Fanapi (2010) After Landfall on Taiwan
Ming-Jen YANG1, Yao-Chu WU2, Yu-Chieng LIOU2
1National Taiwan University, 2National Central University

The Role of Downshear Reformation in the Rapid Intensification of a Tropical Cyclone
Xiaomin CHEN1, Yuqing WANG1, Juan FANG1, Ming XUE1,3
1Nanjing University, 2University of Hawaii at Manoa, 3University of Oklahoma

The Role of the Wishe Mechanism in Rapid Intensification of Tropical Cyclones
Chun-Chieh WU1, Chieh-Jen CHENG1
1National Taiwan University
AS31-D2-PM2-315-039 | AS31-A099 (Invited)
The Role of Small-Scale Vortices in Enhancing Surface Winds and Damage in Hurricane Harvey (2017)
Joshua WURMAN1,2†
1Center for Severe Weather Research

AS31-D2-PM2-315-040 | AS31-A088 (Invited)
Large Eddy Simulation of Fine Scale Structures in the Tropical Cyclone Boundary
Liguang WU1†
1Nanjing University of Information Science & Technology

AS31-D2-PM2-315-041 | AS31-A052
Radiative Impacts on Tropical Cyclone Contraction Rate Before Rapid Intensification
Xiaodong TANG1†, Zhe-Min TAN1, Juan FANG1, Fuqing ZHANG2
1Nanjing University, 2Pennsylvania State University

AS31-D2-PM2-315-042 | AS31-A092 (Invited)
On the Multiple Intensity and Structural Changes of Hurricane Sandy (2012) During its Extratropical Transition
Da-Lin ZHANG1†
1University of Maryland

AS31-D2-PM2-315-043 | AS31-A093
A Dynamical Framework Facilitating the Study on the Role of Boundary Layer Dynamics in Tropical Cyclone Intensification
Yuqing WANG1†
1University of Hawaii at Manoa

AS31-D2-PM2-315-044 | AS31-A090
Qian WANG1†, Shaui WANG2
1China Meteorological Administration, 2Imperial College London

AS31-D2-PM2-315-045 | AS31-A080
Urbanization Effects on Local Wind Due to Tropical Cyclones
Xiaoxue WANG1†, Qinglan LI1, Deli WANG2, Lei ZHANG2, Liqun SUN1, Dian HUANG1, Guangxin LI1
1Chinese Academy of Sciences, 2Shenzhen Meteorological Bureau

AS34 / El Niño Complexity and Change
Tue - 05 Jun | MR303B

AS34-D2-AM1-303B-001 | AS34-A002 (Invited)
El Niño-Southern Oscillation Complexity
Axel TIMMERMANN1†
1Pusan National University

AS34-D2-AM1-303B-002 | AS34-A028
Dynamics of El Niño Diversity
Fei-Fei JIN1,2†
1University of Hawaii, 2Chinese Meteorological Agency

AS34-D2-AM1-303B-004 | AS34-A029
Empirical Nonlinear Recharge Oscillator Model
Soon-II AN1†, Soong-Ki KIM1†
1Yonsei University

AS34-D2-AM1-303B-005 | AS34-A019
Atmospheric Energetics over the Tropical Pacific During the ENSO Cycle
Jianping LI1†, Di DONG2, Lidou HUYAN2, Jiaqing XUE2
1Beijing Normal University, 2Chinese Academy of Sciences

AS34-D2-AM1-303B-006 | AS34-A026
Subsurface Nonlinear Dynamical Heating and ENSO Asymmetry in Ocean Reanalysis
Michiya HAYASHI1†, Fei-Fei JIN1,2†
1University of Hawaii, 2Chinese Meteorological Agency
Time: 11:00 - 12:30
Chair(s): Hong-Li REN, CMA
Malte STUECKER, University of Washington

AS34-D2-AM2-303B-008 | AS34-A005 (Invited)
Robust Evidence in the Central Pacific for Stronger ENSO in Last Decades than Pre-Industrial Period
Pamela GROTHE1+, Kim COBB2, Giovanni LIGUORI3, Emanuele DI LORENZO4, Antonietta CAPOTONDI5, Hai CHENG6, R. Lawrence EDWARDS5, Dan DEOCAMPO7, Jean LYNCH-STIEGLITZ7, Hussein SAYANI7, Diane THOMPSON8, Lauren TOOTH9, Jessica CONROY10, Andrea MOORE10, Gemma O’CONNOR10
1University of Mary Washington, 2Georgia Institute of Technology, 3National Oceanic and Atmospheric Administration, 4Xi’an Jiaotong University, 5University of Minnesota, 6Georgia State University, 7Boston University, 8United States Geological Survey, 9University of Illinois Urbana-Champaign, 10University of Washington

AS34-D2-AM2-303B-010 | AS34-A011
ENSO Teleconnection and Hydrological Cycle Responses to Idealised Global Warming Perturbations
Alexander TODD1+, Matthew COLLINS2, F. Hugo LAMBERT3, Robin CHADWICK4
1University of Exeter, 2Met Office Hadley Centre

AS34-D2-AM2-303B-012 | AS34-A016
Future Changes in Extreme El Nino Events Modulated by North Tropical Atlantic Variability
Jong-Seong KUG1+, Yoo-Geun HAM2
1Pohang University of Science and Technology, 2Chonnam National University

AS34-D2-AM2-303B-009 | AS34-A003 (Invited)
Recent Progress in Understanding ENSO Under Greenhouse Warming
Wenju CAI1,2+, Guojian WANG2, Agus SANTOSO3, Lixin WU4
1Ocean University of China and Qingdao National Laboratory for Marine Science and Technology, 2Commonwealth Scientific and Industrial Research Organisation, 3University of New South Wales, 4Ocean University of China

AS34-D2-AM2-303B-013 | AS34-A020
A Comparison of ENSO in the Present and Early Holocene Relevant to Understand Interaction Between ENSO and Seasonal Cycle.
Tomoki IWAKIRI1+, Masahiro WATANABE2
1The University of Tokyo

AS34-D2-PM1-303B-014 | AS34-A001 (Invited)
Unusually Warm Indian Ocean Sea Surface Temperatures Arrest Development of El Niño in 2014
Michael MCPHADEN1+, Lu DONG2
1National Oceanic and Atmospheric Administration, 2Pacific Northwest National Laboratory

AS34-D2-PM1-303B-015 | AS34-A030
The South Pacific Meridional Mode and its Role in ENSO Variability
Jason FURTADO1+, Yujia YOU2
1University of Oklahoma, 2University of Oklahoma School of Meteorology

AS34-D2-PM1-303B-016 | AS34-A017
Revisiting the Pacific Meridional Mode
Malte STUECKER1+
1University of Washington

AS34-D2-PM1-303B-017 | AS34-A012
Influence of Subsurface Advection in the Off-Equatorial South Pacific Ocean on El Niño Evolution
Yukiko IMADA1+, Hiroaki TATEBE2, Masahiro WATANABE3, Masayoshi ISHI4, Masahide KIMOTO5
1Japan Meteorological Agency, 2Japan Agency for Marine-Earth Science and Technology, 3The University of Tokyo

AS34-D2-PM1-303B-018 | AS34-A023
Desislava PETROVA1+, Joan BALLESTER2, Siem Jan KOOPMAN3, Simona BORDONI4, Ben CASH5, Markel GARCÍA-DIEZ6, Xavier RODO7
1Barcelona Institute for Global Health, 2University of Barcelona, 3Vrije Universiteit Amsterdam, 4California Institute of Technology, 5George Mason University, 6Predictia Intelligent Data Solutions, 7Institució Catalana de Recerca i Estudis Avançats
An ENSO Prediction Approach Based on Ocean Conditions and Ocean-Atmosphere Coupling
Yu-Heng TSENG1, Zeng-Zhen HU1, Ruqiang DING1, Han-Ching CHEN1
1National Taiwan University, 2National Oceanic and Atmospheric Administration, 3Chinese Academy of Sciences

Supermodeling the Coupled Ocean-Atmosphere System in the Tropical Pacific
Gregory DUANE1, Mao-Lin SHEN1, Noel KEENLYSIDE1
1University of Bergen, 2University of Colorado

A Study of Summer Leeside Rainfall Maxima over the Island of Hawaii
Yi-Leng CHEN1
1University of Hawaii at Manoa

Wintertime Orographic Precipitation over the Da-Tun Mountain of Northern Taiwan
Cheng-Ku YU1, Lin-Wen CHENG1
1National Taiwan University

Classification of Persistent Summer Extreme Heavy Rainfall Events in North China from the Perspective of Topographic Influences
Jie CAO1, Linna ZHANG1
1Chinese Academy of Sciences, 2University of Oklahoma, 3Beijing Meteorological Bureau

Eddy-Permitting Simulations of Eruptions at Sakurajima, Japan Using WRF-LES and FALL3D
Alexandros POULIDIS1, Tetsuya TAKEMI1, Masato IGUCHI1
1Kyoto University

Remote Triggering of Intense Rainbands Upstream of Topography by Tropical Cyclones
Che-Yu LIN1, Cheng-Ku YU1
1National Taiwan University

Topographic Effects on Ice Clouds Evaluated by Cloudsat and Calipso Satellite Observations and a High-Resolution Global Non-Hydrostatic Model
Tatsuya SEIKI1, Chihito KODAMA1, Masaki SATO1, Tempei HASHINO1, Yuichiro HAGIHARA1, Hajime OKAMOTO1
1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo, 3Kyushu University, 4Japan Aerospace Exploration Agency

Detections and Simulations of Mountain Lee Wave Signals Due to Water Vapor Fluctuation by ALOS-2 ScanSAR Interferometry
Youhei KINOSHITA1, Yu MORISHITA2, Yukiko HIRABAYASHI1
1Remote Sensing Technology Center of Japan, 2Geospatial Information Authority of Japan, 3The University of Tokyo

Description and Performance of the Chinese Academy Sciences Earth System Model
Minghua ZHANG1, He ZHANG1, Juanxiong HE1, Xunqiang BF, Hailong LIU1, Jiangbo JING1, Pengfei LIN2, Jiawen ZHU2, Dongling ZHANG2
1Stony Brook University, 2Chinese Academy of Sciences

Developing Version 2 of the Community Earth System Model
Julio BACMEISTER1, Andrew GETTELMAN1, Jean-François LAMARQUE1, Cecile HANNAY1
1National Center for Atmospheric Research

Impact of Initialization on Pacific Decadal Oscillation Prediction
Bin WANG1, Yujun HE1
1Chinese Academy of Sciences, 2Tsinghua University
AS37-D2-PM2-303B-004 | AS37-A016

The Beijing Climate Center Climate System Model
(BCC-CSM: Main Progress from CMIP5 to CMIP6)
Tongwen WU1+*, Yixiong LU1, Xiaoge XIN1, Yanwu ZHANG1, Jie ZHANG1, Li ZHANG1, Yimin LIU1, Weihua JIE1
1China Meteorological Administration

AS37-D2-PM2-303B-005 | AS37-A032

Challenges in Modeling Atmospheric Aerosols in East Asia:
Latest NCAR CESM Developments to Address Them
Xiaohong LIU1,2#
1University of Wyoming, 2Chinese Academy of Sciences

AS37-D2-PM2-303B-006 | AS37-A002

Testing a Stochastic Deep Convection Parameterization in the NCAR CAM5
Yong WANG1+, Guang ZHANG1+, Yujun HE1, Yiquan JIANG2, George CRAIG3
1Tsinghua University, 2Nanjing University, 3Ludwig-Maximilians-Universität

AS49 / Mesoscale Meteorology and High-impact Weather
Tue - 05 Jun  | MR326A

Time 13:30 - 15:30
Chair(s) Gyu Won LEE, Kyungpook National University

AS49-D2-PM1-326A-001 | AS49-A032 (Invited)

Dual-Doppler Tornado Structure and Radar-In Situ Tornado Damage Analyses
Joshua WURMAN1+*
1Center for Severe Weather Research

AS49-D2-PM1-326A-002 | AS49-A015 (Invited)

Numerical Simulations of Meso-Beta-Scale Vortices that Spawned Tornado-Like Vortices
Eigo TOCHIMOTO1+*, Sho YOKOTA2, Hiroshi NIINO2, Wataru YANASE3
1The University of Tokyo, 2Japan Meteorological Agency

AS49-D2-PM1-326A-003 | AS49-A010 (Invited)

A Morning Convective Rainfall Event over Southwestern Taiwan in the Mei-Yu Season Under Weak Synoptic Conditions
Chung-Chieh WANG1+, George Tai-Jen CHEN3, Chi-Hong NGAF
1National Taiwan Normal University, 3National Taiwan University

AS49-D2-PM1-326A-004 | AS49-A033

Mesoscale Processes in Intense New England Coastal Winter Cyclones
Karen KOSIBA1+*, Matthew KUMJIAN3, Kelly LOMBARDO1, Michael FRENCH1, Joshua WURMAN1, James MARQUIS3, Steven GREYBUSH1
1Center for Severe Weather Research, 3Pennsylvania State University, 2University of Connecticut, 3Stony Brook University, 4University of Colorado Boulder

AS49-D2-PM1-326A-005 | AS49-A016

Possibility of Particle Identification for Solid Hydrometeors Using a Ka-Band Polarmetric Radar
Taro SHINODA1+*, Tadayasa OHIKASHI1, Kenji SUZUKI1, Mamoru KUBO1, Yukiya MINAMI4, Haruya MINDA1, Moeto KYUSHIMA1, Nobuhiro TAKAHASHI1, Kazuhisa TSUBOKI1
1Nagoya University, 2Kojo University, 3Yamaguchi University, 4Kanazawa University, 5Ishikawa Prefectural University

AS49-D2-PM1-326A-006 | AS49-A026

Recent Improvement of TWRF and the Effect on High-Impact Typhoon Predictions over the Western North Pacific
Der Song CHEN1+*, Tien-Chiang YEH1, Ling-Feng HSIAO2, Chin-Tzu FONG1, Jing-Shan HONG1
1Central Weather Bureau, 2Taiwan Typhoon and Flood Research Institute, National Applied Research Laboratories

AS49-D2-PM1-326A-007 | AS49-A009

Role of Topography in the Distributions of Precipitation over the Pyeongchang Area Seen from Multiple-Doppler Radar Observations
Gyu Won LEE1+*, Chia-Lun TSAI1, Kwonil KIM2, Yu-Chieng LIOU3, Cheng-Ku YU3
1Kyungpook National University, 2National Central University, 3National Taiwan University

Time 16:00 - 18:00
Chair(s) Michael BELL, Colorado State University
Ki-Hong MIN, Kyungpook National University

AS49-D2-PM2-326A-008 | AS49-A018

Initiation of an Elevated Convective Line that Produced the Yancheng EF4 Tornado in 2016 in China
Murong ZHANG1+, Zhiyong MENG1
1Peking University
AS49-D2-PM2-326A-009 | AS49-A003

Sensitivity of Typhoon Track and Convection Structure to Cloud Microphysics Near Taiwan Topography: A Case Study of Typhoon Saola (2012)
Li-Huan HSU1,*, Shih-Hao SU2, Hung-Chi Kuo3
1Taiwan Typhoon and Flood Research Institute, National Applied Research Laboratories, 2Chinese Culture University, 3National Taiwan University

AS49-D2-PM2-326A-010 | AS49-A019

Structure and Dynamics of an Intense Rear-Inflow Jet Observed During PECAN
Michael BELL1,*, Jonathan MARTINEZ1, Daniel STECHMAN2
1Colorado State University, 2University of Illinois at Urbana-Champaign

AS49-D2-PM2-326A-011 | AS49-A024

Very Short-Term Precipitation Forecasting with Radar Data Assimilation Method
Ki-Hong MIN1,*, Jeong-Ho BAE1, Gyu Won LEE1, Jongchul HA2, Yong Hee LEE3
1Kyungpook National University, 2Purdue University, 3Korea Meteorological Administration

AS49-D2-PM2-326A-012 | AS49-A031

Simulated Radioactive Tracer of the Virtual Emission from the Nuclear Experiment
Eun-Chul CHANG1,*, Kei YOSHIMURA2
1Kongju National University, 2The University of Tokyo

AS54 / Aerosols, Clouds, Radiation, Precipitation, and Their Interactions

Tue - 05 Jun  | MR303A

Time  | 13:00 - 15:30
Chair(s)  | Xiquan DONG, University of Arizona
          | Chunguang CUI, Wuhan Heavy Rain Institute

AS54-D2-PM1-303A-003 | AS54-A004

Cloud-Resolving Simulations of Environmental Forcing on Marine Boundary Cloud Development and Drizzle Formation
Yuan WANG1,*, Xiquan DONG2, Baike XF3, Peng Wu3, Jonathan JIANG4, Yuk YUNG5
1California Institute of Technology, 2University of Arizona, 3Jet Propulsion Laboratory, California Institute of Technology

AS54-D2-PM1-303A-011 | AS54-A029

Investigation of the Cloud-Precipitation Properties of Three Modes of MCSs During PECAN
Wenjun CUI1,*, Xiquan DONG1, Baike XF, Jingyu WANG2
1University of Arizona

AS54-D2-PM1-303A-012 | AS54-A043

Convective Clouds in Smoke, Dust and Anthropogenic Pollution Environment
Lei HUANG1,*, Jonathan JIANG2, Hui SU3, Yuan WANG3, Bin ZHAO4, Steven MASSIE5, Ali OMAR6, Zhiwen WANG7
1University of California, Los Angeles, 2Jet Propulsion Laboratory, California Institute of Technology, 3California Institute of Technology, 4University of Colorado Boulder, 5National Aeronautics and Space Administration, 6University of Wyoming

Time  | 16:00 - 18:00
Chair(s)  | Terry NAKAJIMA, Japan Aerospace Exploration Agency
          | Xiquan DONG, University of Arizona

AS54-D2-PM2-303A-013 | AS54-A030 (Invited)

Substantial Convection and Precipitation Enhancements by Ultrafine Aerosol Particles
Jiwen FAN1,*,*
1Pacific Northwest National Laboratory

AS54-D2-PM2-303A-014 | AS54-A044 (Invited)

Evaluating the Impact of Cloud-Aerosol-Precipitation Interaction on Rainfall Forecast by NOAA/NWP
Zhanqing LI1,*, Mengjiao JIANG1, Seoung Soo LEE1
1University of Maryland, 2Beijing Normal University, 3Earth System Science Interdisciplinary Center

AS54-D2-PM2-303A-015 | AS54-A028

Extending Deep Blue Aerosol Retrievals to Absorbing Aerosols Above Clouds: A New Tool for Aerosol-Cloud-Precipitation-Radiation Studies
Andrew SAYER1,*, N. Christina HSU2, Jaehwa LEE3, Wooyung KIM4, Richard FERRARE2, Sharon BURTON2, Jens REDEMANN5, Samuel LEBLANC5
1Universities Space Research Association, 2NASA Goddard Space Flight Center, 3NASA Langley Research Center, 4NASA Ames Research Center, 5Bay Area Environmental Research Institute/NASA Ames Research Center
Column-Integrated Aerosol Optical Properties of Coarse- and Fine-Mode Particles over the Pearl River Delta Region in China
Boru MAI
1China Meteorological Administration

Turbulence and Droplet Clustering in Shallow Cumulus: The Effects of Aerosol Number Concentration
Dillon DODSON1+, Jennifer GRISWOLD1
1University of Hawaii at Manoa

The Impact of Organic Aerosols Partitioning on Activated Cloud Number Concentration
Chloe GAO1+, Susanne BAUER1; Kostas TSIGARIDIS1
1Columbia University/NASA GISS, 2NASA Goddard Institute for Space Studies, 3Columbia University

Comparison of Daytime Low-Level Cloud Properties Derived from GOES and ARM SGP Measurements
Theodore MCHARDY1++, Xiquan DONG1, Patrick MINNIS1, Mandana THIEMAN1, Rabi PALIKONDA1, Baike XI1
1University of Arizona, 2NASA Langley Research Center, 3Science Systems and Applications, Inc.

Overview of Advanced Imaging Spectrometer Campaigns and Science in Hawaii, Australia, and India
Robert GREEN1++, 1Jet Propulsion Laboratory, California Institute of Technology

Coral Reef Airborne Laboratory: Airborne Spectral Imaging of Coral Reef Ecology
Eric HOCHBERG1++, 1Bermuda Institute of Ocean Sciences

Satellite-Based Thermal Precursors of Phreatic Volcanic Eruptions
Társilo GIRONA1++, Vincent REALMUTO1
1Jet Propulsion Laboratory, California Institute of Technology

Combining Multi-Sensor Remote Sensing and Dispersion Modeling to Improve Forecasts of the Impact of Volcanic Sulfur Dioxide Emissions on Air Quality in Hawaii
Vincent REALMUTO1++, Florian M. SCHWANDNER1, 2Gas Monitoring Solutions
1Jet Propulsion Laboratory, California Institute of Technology, 2Gas Monitoring Solutions

A Window into the Future of the Earth, Hidden in the Jungles of Costa Rica’s Volcanoes
Florian M. SCHWANDNER1, 2++, Joshua B. FISHER1, Gregory P. ASNER1, David SCHIMEL1, Richard J. NORBY1, Christian FRANKENBERG1, Rosi FISHER1, Chad D. DEERING1, Amy J. BRAVERMAN1, Ulli SEIBT1, Gretchen R. MILLER1, Arturo SÁNCHEZ-AZOFEIFA1, Jorge Andres DIAZ1, Eilee DUARTE1, J. Maarten DE MOOR1, Roberto A. CORDERO SOLÓRZANO1, Jennifer L. LEWICKI1, Georgios MATHEOU1, David PIER1, Charles MILLER1, Ryan P. PAVLICK1
1Jet Propulsion Laboratory, California Institute of Technology, 2Gas Monitoring Solutions
BG06-AS / From GHG Observations to Fluxes: Top-down Measurements of the Carbon Cycle
Tue - 05 Jun  | MR304B

Time  11:00 - 12:30
Chair(s)  Christopher ODELL, Colorado State University
Makoto SAITO, National Institute for Environmental Studies

BG06-AS-D2-AM2-304B-001  BG06-AS-A001
Role of Climate Variability and Land Use on Fire Emissions of Carbon Gasses in the 21st Century
John WORDEN1, A. Anthony BLOOM1, Yi YIN2, Helen WORDEN3
1Jet Propulsion Laboratory, California Institute of Technology, 2California Institute of Technology, 3National Center for Atmospheric Research

BG06-AS-D2-AM2-304B-002  BG06-AS-A015
Abhishek CHATTERJEE1, Michelle GIERACH2, Adrienne SUTTON3, Richard FEELY4, Peter LANDSCHUETZER5, Sourish BASU6, David CRISP7, Annamarie ELDERING8, Michael R. GUNSON9, Ralph KEELING10, Brad WEIR11, Britton STEPHENS12, David SCHIMEL13
1NASA Goddard Space Flight Center, 2Jet Propulsion Laboratory, California Institute of Technology, 3Pacific Marine Environmental Laboratory, 4Max Planck Institute for Meteorology, 5National Oceanic and Atmospheric Administration, 6University of California, San Diego, 7National Center for Atmospheric Research

BG06-AS-D2-AM2-304B-003  BG06-AS-A009
The First Year of TanSat CO2 Measurement
Dongxu YANG1, TanSat TEAM2
1Institute of Atmospheric Physics, Chinese Academy of Sciences, 2Chinese Academy of Sciences

BG06-AS-D2-AM2-304B-004  BG06-AS-A004
Segment-Based Signal Characteristics of Satellite-Derived XCO2 Seasonal Cycles
Leonardo CALLE1, Benjamin POULTER1, Prabir PATRA1
1Montana State University, 2National Aeronautics and Space Administration, 3Japan Agency for Marine-Earth Science and Technology, 4Tohoku University

BG06-AS-D2-AM2-304B-005  BG06-AS-A016
New Evidence for a Significant Underestimate of Photosynthesis in the Alaskan Arctic
Le KUAI1, Charles MILLER1, Ian BAKER1, Kevin BOWMAN2, Meemong LEE2, Nicholas PARAZOO3, Roisin COMMANE4, Zhaochen ZENG5, Yuk YUNG2
1UCLA / JPL-Caltech, 2Jet Propulsion Laboratory, California Institute of Technology, 3Colorado State University, 4Columbia University, 5California Institute of Technology

BG06-AS-D2-AM2-304B-006  BG06-AS-A026
The 2017 Ascends/Above Airborne Campaign and Pulsed Lidar Measurements of CO2 Column Concentrations
James ABSHIRE1, Jianping MAO2, Haris RIRIS2, Graham ALLAN3, William HASSELBLACK4, Kenji NUMATA4, Jeffrey CHEN4, Randy KAWA5, Joshua DI GANGI6, Yonghoon CHO6
1NASA Goddard Space Flight Center, 2University of Maryland, 3NASA Goddard Space Flight Center/ Sigma, 4NASA Langley Research Center

BG06-AS-D2-PM1-304B-007  BG06-AS-A018 (Invited)
Measuring CO2 from Space – Lessons Learned from Sciamachy, GOSAT, and OCO-2
David CRISP1
1Jet Propulsion Laboratory, California Institute of Technology

BG06-AS-D2-PM1-304B-008  BG06-AS-A017
The OCO-3 Mission: Science Objectives and Instrument Performance
Annamarie ELDERING1, Christopher O’DELL2, Matthew BENNETT2, Ralph BASILIO2
1Jet Propulsion Laboratory, California Institute of Technology, 2Colorado State University

BG06-AS-D2-PM1-304B-009  BG06-AS-A028 (Invited)
Chinese GHGs Satellite Status and Future Plan
Yi LIU1
1Chinese Academy of Sciences

BG06-AS-D2-PM1-304B-010  BG06-AS-A030
The Next-Generation CO2 Monitoring Constellation Project
Maohua WANG1, Qian-Rong GU2
1Chinese Academy of Sciences, 2Shanghai Advanced Research Institute, Chinese Academy of Sciences

BG06-AS-D2-PM1-304B-011  BG06-AS-A032
Comparing Modeled Nitrous Oxide Emissions to Regional Atmospheric Inversion Results over North America
Cynthia NEVISON1
1University of Colorado, Boulder
The Potential for Measuring Carbon Dioxide from Space Using Lidar
Stephan KAWA1,†, Jianping MAO2, James ABSHIRE1, Xioli SUN1, Sean CROWELL3, Abhishek CHATTERJEE1, Anand RAMANATHAN2
1NASA Goddard Space Flight Center, 2University of Maryland, 3University of Oklahoma

How Good are Retrievals of CO2 from Satellite-Based Passive Near-Infrared Sensors, and are They Good Enough?
Christopher O’DELL1,†, Annmarie ELDERING2, David CRISP2, Brendan FISHER1, Aronne MERRELLI3, Robert NELSON1, Vivienne PAYNE1, Thomas TAYLOR1, Paul WENNBERG4
1Colorado State University, 2Jet Propulsion Laboratory, California Institute of Technology, 3University of Wisconsin-Madison, 4California Institute of Technology

The Global Distribution of CO2 Fluxes Given by New Retrievals of OCO-2 Column CO2 in an Inverse Model
David BAKER1
1Colorado State University

Interpreting OCO-2 Constrained CO2 Surface Flux Estimates Through the Lens of Atmospheric Transport Uncertainty
Andrew SCHUH1,†, Andy JACOBSON2, Sourish BASU1, Brad WEIR1, David BAKER1
1Colorado State University, 2National Oceanic and Atmospheric Administration, 3NASA Goddard Space Flight Center

A New Fast Randomized Optimal Approach for Diagnostic and Optimization (FRODO) Carbon Dioxide Fluxes Inferred from the NASA CMS-Flux
Daven K. HENZE1,†, Nicolas BOUSSEREZ2, Kevin BOWMAN3, Meemong LEE1
1University of Colorado Boulder, 2European Centre for Medium-Range Weather Forecasts, 3Jet Propulsion Laboratory, California Institute of Technology

Remote Sensing of Environment - Soil Moisture, Snowpacks, Sea Water Turbidity, Gross Primary Production, Floods, and River Erosion and Migration
Thian Yew GAN1,†, Harri KOIVUSALO2, Yongqin David CHEN3
1Research Ambassador, 2Aalto University, 3The Chinese University of Hong Kong

Radar Rainfall Rate Adjustment Driven by Raindrop Size Distribution Variation
Yang SONG1,†, Dawei HAN1, M. A. RICO-RAMIREZ2
1University of Bristol

Integration of Remote Sensing Evapotranspiration into Multi-Objective Calibration of DHSVM in Humid Region of China
Suli PAN1,†, Yue-Ping XU1, Li LIU1
1Zhejiang University

Slope DEM of Inland Waterbodies Reconstructed by Optical and Radar Imageries
Hsin-Ya PENG1,†, Kuo-Hsin TSENG1
1National Central University

Calibration of Satellite Precipitation Product GSMaP with Ground Rain-Gauge Observations for Hydrological Simulations
Kumiko TSUJIMOTO1,†, Tetsu OHTA2
1Okayama University, 2N/A

Assessing Water Storage Trends and Extremes in Global River Basins Using Models and Space Data
Zizhan ZHANG1,†, Bridget SCANLON2, Alexander SUN2
1Chinese Academy of Sciences, 2University of Texas at Austin
Reducing Uncertainties in a Semiarid Basin of South East of Spain by Applying a Hydrological Model Driven by Remote Sensing
Sandra G. GARCIA GALIANO1#, Patricia OLMOS GIMÉNEZ2, Jose Angel MARTINEZ PEREZ2
1UNIVERSIDAD POLITECNICA DE CARTAGENA
2Universidad Politécnica de Cartagena
Fiscal No. Q8050013E, 2Universidad Politécnica de Cartagena

Enhancing Agricultural Resilience to Drought in Ninh Thuan Province of Vietnam
Farrukh CHISHTIE1#
1SERVIR-Mekong Asian Disaster Preparedness Center Bangkok

Trends in Return Levels of Rainfall Extremes During the Typhoon Season in Taiwan: Observations and Climate Model Simulation
Pao-Shin CHU1#, Hanpe ZHANG1, Hui-Ling CHANG2, Boyi LU1, Tsui-Ling CHEN2
1University of Hawaii, 2Central Weather Bureau

Rainfall Frequency Analysis Using Mixture Distribution of Event-Maximum Rainfalls
Bo-Yu CHEN1#, Ke-Sheng CHENG1#
1National Taiwan University

Probabilistic Flood Envelope Curves Derived from Annual Maximum Areal Rainfall and its Comparison with Conventional Envelope Curves in Japan
Hidetaka CHIKAMORI1#
1Okayama University

Analysis of Change in Precipitation Extreme Indices over the Indochina Region Using Large Climate Model Ensemble
Patinya HANITITTINAN1#, Yasuto TACHIKAWA1, Yutaka ICHIKAWA1, Kazuaki YOROZU1
1Kyoto University

Improving the Prevention and Preparation to Flooding in the South East of Spain
Sandra G. GARCIA GALIANO1#, Fulgence CANOVAS GARCIA1, Patricia OLMOS GIMÉNEZ2
1UNIVERSIDAD POLITECNICA DE CARTAGENA
2Universidad Politécnica de Cartagena
Fiscal No. Q8050013E, 2Universidad Politécnica de Cartagena

Understanding Socioeconomic Drought Events Under Climate Change
Ji CHEN1#, Haiyun SHI1,2
1The University of Hong Kong, 2Qinghai University

Meteorological and Hydrological Drought on the Loess Plateau, China: Evolutionary Characteristics, Impact, and Propagation
Jingwen WU1#, Chiyuan MIAO1, Qingyun DUAN1
1Beijing Normal University

Study on Sediment Runoff in Extreme Event
Atsuhiro YOROZUYA1#, Shinji EGASHIRA1
1Public Works Research Institute, 2International Centre for Water Hazard and Risk Management
HS23 / Hydrological Processes in Agricultural Lands
Tue - 05 Jun  |  MR301

Time 08:30 - 10:30

Chair(s) Jun NIU, China Agricultural University
         Ji CHEN, The University of Hong Kong

HS23-D2-AM1-301-001 | HS23-A038 (Invited)
Water, Heat, and Carbon Fluxes in a Mulched Drip Irrigation Field
Fuqiang TIAN1##, Hongchang HU1, Guanghui MING1
1Tsinghua University

HS23-D2-AM1-301-002 | HS23-A001 (Invited)
An Agro-Hydrological Model for Simulating Water Flow and Solute Transport in Layered Soil with Crop Growth
Xiaomin MAO1##
1China Agricultural University

HS23-D2-AM1-301-003 | HS23-A039
Study on Responses of Crop Water Productivity to Climatic Variation over an Inland River Basin in Northwest China
Jun NIU1##, Shaozhong KANG1##
1China Agricultural University

HS23-D2-AM1-301-004 | HS23-A035
Effects of Irrigation Schemes on Transpiration
Fei TIAN1##
1China Agricultural University

HS23-D2-AM1-301-005 | HS23-A043
Irrigation Requirements of Rainfed Cropland to Improve Carbon Sequestration on the Loess Plateau of China
Linjing QIU1##, Yiping WU1##
1Xi’an Jiaotong University

HS23-D2-AM1-301-006 | HS23-A036
Assessment of Water Productivity Under Multi-Model Projected Climate Change Scenarios in Irrigated Areas of the Arid Northwest China
Liu LIU1##, Zezhong GUO1, Guanhua HUANG1
1China Agricultural University

HS32 / Hydrometeorological Analysis of Natural Hazards
Tue - 05 Jun  |  MR301

Time 16:00 - 18:00

Chair(s) Hung Soo KIM, Inha University
         Bellie SIVAKUMAR, University of New South Wales

HS32-D2-PM2-301-001 | HS32-A010
Development of Heavy Rain Damage Prediction Function Considering Regional Characteristics
Donghyun KIM1##, Jongsung KIM1, Changhyun CHOF, Hung Soo KIM1##
1Center for Hydrology and Ecology, 2Inha University

HS32-D2-PM2-301-002 | HS32-A008
Soonho KWON1##, Donghw JUNG1, Joong Hoon KIM1##
1Korea University, 2Keimyung University

HS32-D2-PM2-301-003 | HS32-A002
Application of Dynamic Naïve Bayesian Classifier to Drought Monitoring and Drought Risk Analysis in Korea
Dong-Hyeok PARK1##, Si CHEN1, Tae-Woong KIM1##
1Hanyang University

HS32-D2-PM2-301-004 | HS32-A001
Development of MOFFS Evaluation Sheet for Assessment of Flood Damage Prediction Model
Jin-Young LEE1##, Dongkyun KIM2, Hung Soo KIM1, Tae-Woong KIM1##
1Hanyang University, 2Hongik University, 3Inha University

HS32-D2-PM2-301-005 | HS32-A017
Comparison and Assessment of Post-Processing Method for Meteorological Drought Outlook Using the Meteorological Forecast Information
Jae-Min SO1##, Deg-Hyo BAE1##
1Sejong University

HS32-D2-PM2-301-006 | HS32-A009
On Heavy Rain Damage Prediction Model Using Machine Learning Based on Big Data
Changhyun CHOF1##, Jongsung KIM1, Donghyun KIM2, Junhyeong LEE1, Hung Soo KIM1##
1Inha University, 2Center for Hydrology and Ecology
HS34 / Monitoring and Modelling SPAC Hydraulic Gradient to Improve Estimation of Plant Transpiration and Water Stress  
Tue - 05 Jun  |  MR318A

Time  08:30 - 10:30
Chair(s)  Huade GUAN, National Centre for Groundwater Research and Training, Flinders University
Hugo GUTIERREZ-JURADO, University of Texas at El Paso

Experimental Study on Water Transport Observations of Desert Riparian Forests in the Inland River of Arid Region, Northwest China
Yaning CHEN1#, Honghua ZHOU2, Yapeng CHEN3, Xingming HAO3
1Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences, 2Chinese Academy of Sciences

Investigating the Seasonal Changes in Evaporation and Transpiration in a Dry Subtropical Forest with a Combination of Conventional and Non-Conventional Methods for the Estimation of Water and Energy Fluxes
Hugo GUTIERREZ1,2#, Luis MENDEZ-BARROSO3, Gregorio JUAREZ-CANSDALES3
1The University of Texas at El Paso, 2Flinders University, 3Instituto Tecnologico de Sonora

Experimental and Numerical Investigations of Salix Psammophila at the Maowusu Desert for Water Flux Estimation
Lizhu HOU1#, Bing GAO1, Jingdong GAO3
1China University of Geosciences

Applying Stable Isotopes to Determine Seasonal Variations in Water Uptake of Summer Maize Under Different Fertilization Treatments
Ying MA1#
1Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences

Plants Hydraulic Modeling Helps in Understanding the Cost-Benefit Tradeoffs of Deep Roots for Surviving Droughts
David MACKAY1,2, Charlotte GROSSIORD3, Daniel JOHNSON4, Nathan MCDOWELL5, Phillip SAVOY6, John SPERRY7
1University at Buffalo, 2Los Alomos National Laboratory, 3University of Idaho, 4Pacific Northwest National Laboratory, 5Duke University, 6University of Utah

Root-Zone "Periscope" and its Applications for Investigating Plant-Water Relations and Modelling Transpiration
Huade GUAN1#, Zijuan DENG2, Hailong WANG3, Yuting YANG4, Zidong LUO5, Na LIU6, Xinpeng ZHANG7, Xinguan HE8
1Flinders University, 2The University of Aberdeen, 3Commonwealth Scientific and Industrial Research Organisation, 4Hunan Normal University

IG01 / General Session  
Tue - 05 Jun  |  MR323A

Time  08:30 - 10:30
Chair(s)  Kazuhisa GOTO, Tohoku University
Anawat SUPPASRI, Tohoku University

Identification of Humid Areas in Berlin City
Ines LANGER1#, Katharina LANGE1, Sahar SODOUDI1
1Free University of Berlin

Mapping the Carbon, Air Pollution, and Biodiversity Footprints of Nations: A GIS + Global Supply Chains
Keiichiro KANEMOTO1#, Daniel MORAN2
1Shinshu University, 2Norwegian University of Science and Technology

A Study on the System for Real-Time Generation of Geostationary Ocean Colour Imager Level 1B Product
Jaehoon JEONG1#, Jae-Moo HEO2, Hee-Jeong HAN3, Seongick CHO4, Young-Je PARK5
1Korea Institute of Ocean Science and Technology
IG04 / Interdisciplinary Research on Tsunamis and Practical Applications for Disaster Risk Reduction
Tue - 05 Jun | MR323A

Time 13:30 - 15:30
Chair(s) Volker ROEBER, University of Hawaii

IG04-D2-PM1-323A-001 | IG04-A024
Current Status of TsunAWI Contributions to the Indonesia Tsunami Early Warning System (InaTEWS) with a Comparison of Warning Products Derived from Near-Realtime EasyWave and Precomputed TsunAWI Simulations
Natalja RAKOWSKY1, Sven HARIG1, Andrey BABEYKO1, Antonia IMMERZ1, Alexey ANDROSOV1, Tri HANDAYANI1
1Alfred Wegener Institute, 2Helmholtz Centre Potsdam, 3Badan Meteorologi, Klimatologi dan Geofisika

IG04-D2-PM1-323A-002 | IG04-A007
Transformation from Low- to High-Resolution Model for a Rapid Tsunami Inundation Forecast
Iyan MULIA1, Aditya GUSMAN1, Kenji SATAKE1
1The University of Tokyo

IG04-D2-PM1-323A-003 | IG04-A025
A Joint Assessment Framework for Bank Slope Stability, Slope Failure and Landslide Tsunami Hazard in Reservoirs, Lakes and Fjords
Yaoru LIU1, Xiaoming WANG1, Zheshu WU1, Zhu HE1, Qiang YANG1, Joshu MOUNTJOY1, William POWER1
1Tsinghua University, 2GNS Science, 3National Institute of Water and Atmospheric Research

IG04-D2-PM1-323A-004 | IG04-A021
Assessment of Numerical Models for Forecasting of Wave-Driven Run-Up and Currents
Volker ROEBER1, Assaf AZOURI1, Martin GUILES1, Doug LUTHER1
1University of Hawaii

IG04-D2-PM1-323A-005 | IG04-A026
Probabilistic Distributions of Extreme Wave Heights at the Wave Energy Test Site, Hawaii
Ning LI1, Kwock Fai CHEUNG1, Patrick CROSS1
1University of Hawaii at Manoa

IG04-D2-PM1-323A-006 | IG04-A010
Development of Tsunami Damage Fragility Curves for Coastal Infrastructure Based on the 2011 Great East Japan Tsunami
Constance Ting CHUA1, Adam SWITZER1, Anawat SUPPASRI1, Linlin LI1, David LALLEMANT1, Nigel WINSPEAR1, Susanna JENKINS1, Amanda Yee Lin CHEONG1
1Nanyang Technological University, 2Tohoku University, 3SCOR Global P&C

IG04-D2-PM1-323A-007 | IG04-A003
Tsunami Damage Assessment by Considering Wooden Building’s Resistance Force
Anawat SUPPASRI1, Kwanchi PAKOKSUNG1, Ingrid CHARVET1, Noriyuki TAKAHASHI1, Panon LATCHAROTE1, Natt LEELAWAT1, Fumihiro IMAMURA1
1Tohoku University, 2Risk Management Solutions, 3Thammasat University, 4Chulalongkorn University

IG04-D2-PM2-323A-008 | IG04-A001
Tsunami Tendenko: A Sociological Critique
James GOLTZ1
1Kyoto University

IG04-D2-PM2-323A-009 | IG04-A027
Spontaneous Tsunami Evacuation and Personal Characteristics: Potential Relevance to the Effectiveness of the Evacuation Drills
Motoaki SUGIURA1, Shosuke SATO1, Rui NOUCHI1, Akio HONDA1, Tsuneyuki ABE1, Toshiaki MURAMOTO1, Fumihiro IMAMURA1
1Tohoku University, 2Yamanashi Eiwa College

IG04-D2-PM2-323A-010 | IG04-A005
Verifying a Macroscopic Method Identifying Difficult-to-Evacuate Zone for Tsunamis by Stochastic Evacuation Simulation
Fumiyasu MAKINOSHIMA1, Fumihiro IMAMURA1, Yoshi ABE1
1Tohoku University
Investigation of Motion and Speed of the Frail Elderly During Evacuation Process
Hajime MORISHITA1+, Ryuichi MIZUGUCHI1, Toshitaka BABA1
1Tokushima University

Verification of Disaster-Preparedness Education Effect
"Changes in the Consciousness of Children in Thailand and Japan"
Mari YASUDA1+, Anawat SUPPASRI1, Rui NOUCHI1, Natt LEELAWAT1, Toshiaki MURAMOTO1
1Tohoku University, 2Chulalongkorn University

Causal Loop Diagram Design for Tourism Industry in Thailand: A Case of the Effect from Tsunami Disaster
Noppawat CHOTIWAN1, Thanavit PRAKITTACHAKUL1, Natt LEELAWAT2, Jing TANG2, Anawat SUPPASRI2, Fumihiro IMAMURA3
1Chulalongkorn University, 2Thammasat University, 3Tohoku University

IG06 / Advanced Remote Sensing and Big Data Analysis for Disaster Risk Reduction
Tue - 05 Jun  | MR322B
Time 08:30 - 10:30
Chair(s) Sang-Ho YUN, NASA-JPL

Regional Ensemble Prediction of Heavy Rainfall in Sri Lanka Flood in 2017 May
Tomoki USHIYAMA1,2++, Ziqiu XUE1, Tsutomu HASHIMOTO1
1Public Works Research Institute, 2Research Institute of Innovative Technology for the Earth

Recent Trend of Drying-Down Period of Live Fuel Moisture and Wildfires in Southern California USA
Seung Hee KIM1++, Shenyue JIA1, Son NGHIEP1, Kristen WHITNEY1, Menas KAFATOS1
1Chapman University, 2California Institute of Technology

Mapping of Tidal Flat Topography Using Long-Baseline Airborne and TanDEM-X SAR
Duk-Jin KIM1++, Jungkyo JUNG1, Ji-Hwan HWANG1
1Seoul National University

Satellite Monitoring of Eutrophication in Inland Lakes: Algorithm Development and Applications
Wei YANG1++, Bunkei MATSUSHITA1, Takehiko FUKUSHIMA1, Akihiko KONDOH1
1Chiba University, 2University of Tsukuba

Application of GIS and Machine Learning in Natural Hazard Predictive Mapping for Implementation of Artificial Intelligence
Saro LEE1++
1Korea Institute of Geoscience & Mineral Resources

The Interaction of Mass Movements with Natural Hazards Under Changing Hydrologic Conditions
J. Toby MINEAR1++, Kristy TIAMPO1, Ben LIVNEH1, Mike WILLIS1, Christopher WILLIAMS1, Mylene JACKEMART1
1University of Colorado, Boulder

IG12 / Carbon dioxide sequestration and utilization (CCUS) in energy geosciences
Tue - 05 Jun  | MR322B
Time 13:30 - 15:30
Chair(s) Qi LI, Chinese Academy of Sciences
Tip A. MECKEL, The University of Texas at Austin

Advantages of Distributed Deformation Monitoring by Fiber-Optic Sensor in Geomechanical Modelling
Xinglin LEI1++, Ziqiu XUE2, Tsutomu HASHIMOTO2
1Institute of Advanced Industrial Science and Technology, 2Research Institute of Innovative Technology for the Earth

Experimental Investigation of Permeability Change with Shear Fracturing in Low-Permeable Caprocks for CCUS Technology
Takashi FUJII1++, Yasuki OIKAWA1, Xinglin LE1
1National Institute of Advanced Industrial Science and Technology

Iron Speciation of Mud Breccia from the Dushanzi Mud Volcano in the Xinjiang Uygur Autonomous Region, NW China
Wang XU1, Guodong ZHENG1++, Xianxian MA1, David HILTON1, Danielle FORTIN1, Qi LI1
1Chinese Academy of Sciences, 2University California San Diego, 3University of Ottawa
Hydrogeological Monitoring of CO2 Injected into a Shallow Aquifer by Two Different Controlled Leakage Events at the K-COSEM Site, Korea
Seong-Sun LEE1+, Yeojin JU1, Seung-Wook HA1, Won-Tak JOUN1, Seong-Chun JUN2, Kang-Kun LEE4
1Seoul National University, 2GeoGreen21 Co., Ltd.

Molecular Dynamics Study on Wettability Change of CO2/Brine/Kaolinite Three Phase System
Masashige SHIGA1#, Masao SORAI2
1the University of Tokyo, 2National Institute of Advanced Industrial Science and Technology

Can We Monitor the Breath of Sandstone During CO2 Flooding by Optical Fibers?
Qi LI1#, Chengkai FAN1, Xiaying LI1, Liang XU2, Zhiyong NIU1
1Chinese Academy of Sciences, 2University of Chinese Academy of Sciences

Offshore CCS in the Gulf of Mexico, with Emphasis on the Inner-Shelf Cenozoic Stratigraphy of Texas, USA
Tip MECKEL1#, Ramon TREVINO2, Susan HOVORKA2
1The University of Texas at Austin, 2Gulf Coast Carbon Center

Potential of CO2 Aided Hot Water Extraction Technology in the Low-Medium Temperature Geothermal Reservoirs in China
Hejuan LIU1#, Zhengmeng HOU2, Qi LI1, Patrick WERE3, Mengting LI4
1Chinese Academy of Sciences, 2Clausthal University of Technology

Interpretation of Self-Potential Changes Observed Around Gas Injection Wells Based Upon Numerical Simulations, at Test Sites in Japan
Tsuneo ISHIDO1#, Yuji NISHI1, Toshiyuki TOSHA2
1National Institute of Advanced Industrial Science and Technology, 2Kumamoto University

Effect of CO2 Injection Speed and Pore Structure on CO2 Behaviour in Two Types of Sandstones
Keigo KITAMURA1#, Hiroyuki HONDA1, Kenya MATSUO1, Hiro IKEMI1, Yasuhiro MITANI1
1Kyushu University

A Wavelet Based Novel Approach to Characterize Environmental Dynamic Factors Controlling the Baseline of Soil Surface CO2 Flux in the Controlled CO2 Release Test Site (EIT), South Korea
Yun-Yeong OH1, Seong-TaeK YUN1, Soonyoung YU1, Hyun-Jun KIM1, Seong-Chun JUN2
1Korea University, 2GeoGreen21 Co. Ltd

Spatial and Temporal Characteristics of the Pre-Seismic Ionospheric Anomaly over Japan: Case Study for the 2011 off the Pacific Coast of Tohoku Earthquake (Mw9.0) and Statistical Study
Katsumi HATTORI1#, Shinji HIROOKA1,2, Mustafa YAGUMUR1, Sanaka SAITO1, Chie YOSHINO1, Jann-Yenq LIU2
1Chiba University, 2National Central University

Pre-Earthquake Ground Motion
Chieh-Hung CHEN1#, Li-Ching LIN2, Jann-Yenq LIU3
1China University of Geosciences, 2Academia Sinica, 3National Central University

A Statistical Study of Total Electron Content Changes Prior to Occurrences of M26.0 Earthquakes During 2003–2017
Cheng-Yan LIU1, Jann-Yenq LIU2, Yuh-Ing CHEN2, Fei QIN1, Weisheng CHEN1
1Beijing University of Technology, 2National Central University
OS04 / Cold, Wet, and Wild: Ocean and Atmospheric Dynamics in the Southern Ocean and Antarctic  
Tue - 05 Jun  |  MR324  

Time 08:30 - 10:30  
Chair(s) Robin ROBERTSON, Xiamen University Malaysia  

OS04-D2-AM1-324-001 | OS04-A002  
Research Activities at Centre for Southern Hemisphere Oceans  
Research (CSHOR)  
Wenju CAI1,2,3+  
1Ocean University of China and Qingdao National Laboratory for Marine Science and Technology, 2Commonwealth Scientific and Industrial Research Organisation  

OS04-D2-AM1-324-003 | OS04-A003  
Changes in the Upper Ocean Mixed Layer and Phytoplankton Productivity Along the West Antarctic Peninsula  
Oscar SCHOFIELD1,2+, Michael BROWN1, Josh KOHUT1, Grace SABA1, Schuyler NARDELL1, Nicole WAITE1, Hugh DUCKLOW1  
1Rutgers University  

OS04-D2-AM1-324-004 | OS04-A004  
Wind-Driven Sea-Ice Changes Intensify Subsurface Warm Water Intrusion to the Antarctic Glacier  
Xichen LI1+  
1Chinese Academy of Sciences  

OS04-D2-AM1-324-005 | OS04-A005  
Relationship Between Development of the Terra Nova Bay Polynya and Distributions of Water Masses During the Austral Summer Seasons in 2014-2016  
Seung-Tae YOON1,2+, Won Sang LEE1, Craig STEVENS2, Christopher J. ZAPPA1, Sukyoung YUN1, Chung Yeon HWANG1, Gwangil JANG1, Jiyeon LEE1, Sung-Hyun NAM1  
1Korea Polar Research Institute, 2National Institute of Water and Atmospheric Research, 3Lamont-Doherty Earth Observatory, 4Seoul National University  

OS04-D2-AM1-324-006 | OS04-A006  
Sea-Ice Production in Antarctic Coastal Polynyas Estimated Using AMSR-E and AMSR2 Data  
Sohey NIHASHI1,2+, Kay OHSHIMA2, Takeshi TAMURA3  
1National Institute of Technology, Tomakomai College, 2Hokkaido University, 3National Institute of Polar Research  

OS04-D2-AM1-324-007 | OS04-A007  
Estimation of Melt Ponds on Arctic Sea Ice Using Modis Surface Reflectance Data  
Yifan DING1+, Xiao CHENG1, Jiping LIU2  
1Beijing Normal University, 2University of Albany  

OS05 / Continuing the Tidal Tale: the Story of Tides and Their Impacts  
Tue - 05 Jun  |  MR324  

Time 11:00 - 12:30  
Chair(s) Robin ROBERTSON, Xiamen University Malaysia  
Adam DEVLIN, The Chinese University of Hong Kong  

OS05-D2-AM2-324-001 | OS05-A004  
Tidal Variability Related to Sea Level Variability in the Atlantic Ocean  
Adam DEVLIN1,2+, Jiayi PAN2  
1The Chinese University of Hong Kong, 2Chinese University of Hong Kong  

OS05-D2-AM2-324-002 | OS05-A005  
Seasonal Alternation of Tidal Asymmetry Induced by Mean Sea Level Variation  
Yunwei WANG1,2+, Qian YU2, Shu GAO3  
1Hohai University, 2Nanjing University, 3East China Normal University  

OS05-D2-AM2-324-003 | OS05-A006  
Speed Traps in the Sky: Using Satellites and Radar Technology to Track the Coastal Tidal Signal  
Paul HARTLIPP1,2+  
1University of New South Wales  

OS05-D2-AM2-324-004 | OS05-A007  
Tidal Mixing Estimation in the Andaman Sea Based on the Internal Tide Energetics  
Shiqiu PENG1+, Xiaowei WANG1, Weidong YU1,2,3  
1Chinese Academy of Sciences, 2State Oceanic Administration, 3Thailand-China Joint Laboratory for Climate and Marine Ecosystem  

OS05-D2-AM2-324-005 | OS05-A008  
The Impact of Background Currents on Diurnal Critical Latitude Effects on Internal Tides and Mixing  
Robin ROBERTSON1,2+, Jihai DONG2, Paul HARTLIPP1  
1Xiamen University, 2Nanjing University of Information Science & Technology, 3University of New South Wales  

OS05-D2-AM2-324-006 | OS05-A009  
Internal Waves Around Luzon Strait: Repeated Observation from XBT  
Akie SAKAI1,2+, Tomoharu SENJYU3  
1Kyushu University
OS12 / Estuarine and Coastal Oceanography

Tue - 05 Jun  | MR317B

Time  08:30 - 10:30
Chair(s)  Atsushi FUJIMURA, University of Guam
          Sung Yong KIM, Korea Advanced Institute of Science and Technology

OS12-D2-AM1-317B-001 | OS12-A001
Surface Tidal and Residual Circulations in an Enclosed Bay
Sung Yong KIM1++, Sang In WON1
1Korea Advanced Institute of Science and Technology

OS12-D2-AM1-317B-002 | OS12-A015
Wave Characteristics Around a Reef Island in the South China Sea
Under a Strong Typhoon Event
Shih-Feng SU1++, Te-Yun CHIANG1
1Tamkang University

OS12-D2-AM1-317B-003 | OS12-A029
Coastal Ocean Environment in Pago Bay, Guam
Atsushi FUJIMURA1++, Christina COMFORT1, Gordon WALKER1, Margaret MCMANUS3, Chris OSTRANDER2, Terry DONALDSON3
1University of Guam, 2University of Hawaii, 3University of Utah

OS12-D2-AM1-317B-004 | OS12-A092
Population Dynamics of Meiobenthos of Kali Estuarine Environment Karwar, Karnataka India
Shivanagouda N SANAGOUDRA1++, U. G. BHAT3
1Karnataka University

OS12-D2-AM1-317B-005 | OS12-A031
Analysis of Surfactant-Associated Bacteria in the Sea Surface Microlayer in Oil Slicks Observed in Synthetic Aperture Radar
Georgia PARKS1++, Alexander SOLOVIEV1, Kathryn HOWE1, Cayla DEAN1, John KLUGE1, Aurelien TARTAR1, Susanne LEHNER1, William FERIERE3
1Nova Southeastern University, 2German Aerospace Center, 3Bedford Institute of Oceanography

OS12-D2-AM1-317B-006 | OS12-A022
Feasibility Study of Synthetic Aperture Radar for Shoreline Monitoring
Lianhui WU1++, Yoshimitsu TAJIMA1
1The University of Tokyo

OS12-D2-AM1-317B-007 | OS12-A019
Development of Data Processing System for High Resolution Geostationary Ocean Color Satellite Data
Hee-Jeong HAN1++, Jae-Moo HEO3, Wonkook KIM1, Jae-Hyun AHN1, Hyun YANG1, Jaehoon JEONG1, Sang-Soo BAE1, Young-Je PARK1
1Korea Institute of Ocean Science and Technology

OS12-D2-AM1-317B-008 | OS12-A028
Biogeophysical Interactions of Nearshore Plankton Dynamics
Atsushi FUJIMURA1++, Ad RENIERS2, Claire PARIS3, Alan SHANKS4, Jamie MACMAHAN5, Steven MORGAN6
1University of Guam, 2Delft University of Technology, 3University of Miami, 4University of Oregon, 5Naval Postgraduate School, 6University of California, Davis

Time  11:00 - 12:30
Chair(s)  Atsushi FUJIMURA, University of Guam
          Sung Yong KIM, Korea Advanced Institute of Science and Technology

OS12-D2-AM2-317B-009 | OS12-A011
First Evidence of Historic Heavy Metal Input to the Firth of Thames, North Island, New Zealand
Sandy BOEHNERT1++, Yusuke YOKOYAMA2, Dierk HEBBELN1
1University of Bremen, 2The University of Tokyo

OS12-D2-AM2-317B-010 | OS12-A005
Numerical Modeling on Suspended Sediment Transport in Sydney Estuary
Ziyu XIAO1++, Xiao WANG2, Dehai SONG2, Isabel JALON-ROJAS3
1University of New South Wales, Canberra, 2Sino-Australian Research Centre for Coastal Management (SARCCM), 3Ocean University of China

OS12-D2-AM2-317B-011 | OS12-A006
Observational Evidence for Turbulent Effects on Total Suspended Matter within the Pearl River Plume
Chunhua QIU1++, Huabin MAO2, Jiaxue WU1, Danyi SU1
1Sun Yat-sen University, 2Chinese Academy of Sciences

OS12-D2-AM2-317B-012 | OS12-A035
Effects of Biological Production and Vertical Mixing on Sea Surface PCO2 Variations in the Changjiang River Plume During Early Autumn: A Buoy-Based Time Series Study
Dewang LI1++, Xiaobao NI1, Kui WANG1, Dingyong ZENG1, Bin WANG1, Haiyan JIN1, Da-Ji HUANG1, Wei-Jun CAF
1State Oceanic Administration, 2University of Delaware
OS12-D2-AM2-317B-013 | OS12-A017

Optical Dating of Sediments from the Yangtze Delta of China
Xiaomei NIAN1#
1East China Normal University

OS12-D2-AM2-317B-014 | OS12-A021

Spatial and Temporal Variability in Sand Bar Morphology and Migration Along a Zeta-Shaped Embayment
Tom MURRAY1#, Darrell STRAUSS1, Guilherme VIEIRA DA SILVA1, Courtney WHARTON2
1Griffith University, 2City of Gold Coast

OS16 / Seasonal Climate Predictability and Applicability
Tue - 05 Jun | MR322A

Time 11:00 - 12:30
Chair(s) Takeshi DOI, Japan Agency for Marine-Earth Science and Technology
Zhaoypfung GUAN, Nanjing University of Information Sciences & Technology

OS16-D2-AM2-322A-001 | OS16-A008 (Invited)
Nonlinearities in the Evolutional Distinctions Between El Niño and La Niña Types
Karumuri ASHOK1#, Shamal MARATHE2, Swapna P3, Ak SAHAI4
1University of Hyderabad, 2Formerly of Indian Institute of Tropical Meteorology, 3Indian Institute of Tropical Meteorology

OS16-D2-AM2-322A-002 | OS16-A012 (Invited)
Processes Oriented Diagnostics for El Niño-Related Precipitation Anomalies Along the Equatorial Pacific in Climate Models
H. ANNAMALAI1#
1University of Hawaii

OS16-D2-AM2-322A-003 | OS16-A013
Forecasting Unusual Seasonal Sea Level Anomalies Around Tropical Pacific Islands
Matthew WIDLANSKY1#, Xiaoyu LONG1, H. ANNAMALAI1, Mark MERRIFIELD2, Philip THOMPSON1, John MARRA3
1University of Hawaii, 2University of California San Diego, 3National Oceanic and Atmospheric Administration

OS16-D2-AM2-322A-004 | OS16-A014
Improved Predictability of the Indian Ocean Dipole Using Seasonally Modulated ENSO Forcing
Sen ZHAO1,2#, Fei-Fei JIN1#, Malte STUECKER3
1University of Hawaii at Manoa, 2Nanjing University of Information Science & Technology, 3University of Hawaii, 4Chinese Meteorological Agency, 5University of Washington

OS16-D2-AM2-322A-005 | OS16-A003
Mid-Latitude Source of the ENSO-Spread in SINTEX-F Ensemble Predictions
Tomomichi OGATA1#, Takeshi DOI1, Yushi MORIOKA1, Swadhin BEHERA1
1Japan Agency for Marine-Earth Science and Technology

OS18 / Ocean Circulation and Air-sea Interaction Over the Maritime Continent and Surrounding Waters
Tue - 05 Jun | MR322A
Time 08:30 - 10:30
Chair(s) Lei ZHOU, Shanghai jiao Tong University
Dongxiao WANG, South China Sea Institute of Oceanology

OS18-D2-AM1-322A-001 | OS18-A016 (Invited)
The Equatorial Line Observations (ELO) Campaign: Air-Sea-Land Observations of Sub-Seasonal Variability over the Maritime Continent
Janet SPRINTALL1#, Piotr FLATAU2, Dariusz BARANOWSKI3, Adrian MATTHEWS4, Karen HEYWOOD5, Nelly Florida RIAMA6
1Scripps Institution of Oceanography, 2University of California San Diego, 3Warsaw University, 4University of East Anglia, 5Indonesia Agency for Meteorology Climatology and Geophysics

OS18-D2-AM1-322A-002 | OS18-A035 (Invited)
Shoaling of the Thermocline Southwest of Sumatra Observed by R/V Mirai During December 2017
Takanori HORII1#, Iwao UEKI1, Qoosaku MOTEKI1, Kelvin RICHARDS2, Kentaro ANDO3
1Japan Agency for Marine-Earth Science and Technology, 2University of Hawaii

OS18-D2-AM1-322A-003 | OS18-A001
Improved Predictability of the Indian Ocean Dipole Using Seasonally Modulated ENSO Forcing
Shijian HU1,2#, Janet SPRINTALL2, Cong GUAN1, Bowen SUN1, Fan WANG2, Guang YANG2, Fan JIA1, Jianing WANG2, Dunxin HU4, Fei CHAI5
1University of Hawaii, 2Scripps Institution of Oceanography, 3Chinese Academy of Sciences, 4Institute of Oceanology Chinese Academy of Sciences, 5University of Maine
Interannual Modulations of the 50-Day Oscillations in the Celebes Sea: Dynamics and Impact
Xiao CHEN1#
1Hohai University

Direct Measurement of the South China Sea-Indonesian Seas Water Exchange Through Karimata Strait
Tengfei XU1#, Zexun WEF1, Dwi SUSANTO2, Shuijiang LI3, Guohong FANG1, Agus SETIAWAN1
1State Oceanic Administration, 2University of Maryland, 3Ministry of Marine Affairs and Fisheries

Comparison of Intraseasonal Variability of Zonal Current in the Western Equatorial Pacific Ocean During the 1997–1998 and 2014–2015 ENSO Events
Xiaohui TANG1#, Yilong LYU1, Yuanlong LI1, Fan WANG1
1Chinese Academy of Sciences

The Fate of Freshwater in the Indonesian Seas
Shinichiro KIDA1#, Hideharu SASAKI2
1Kyushu University, 2Japan Agency for Marine-Earth Science and Technology

Change in Destructiveness of Landfalling Tropical Cyclones over China in Recent Decades
Wen ZHOU1#, Cheuk Yin LI1, C.M. SHUN2, T. C. LEE2
1City University of Hong Kong, 2Hong Kong Observatory

Multi-Time Scale Variability of the Sea Surface Salinity Dipole Mode in the Tropical Indian Ocean
Yuhong ZHANG1#, Yan DU1, Ming FENG1
1South China Sea Institute of Oceanology, 2Chinese Academy of Sciences, 3Chinese Academy of Sciences, 4Commonwealth Scientific and Industrial Research Organisation

How Can a Weakening of the East Asian Monsoon Contribute to the Warming of Coastal China Sea on Inter-Decadal Timescales?
Rongsuho CAI1#, Hongjian TAN1, Harilaos KONTOYIANNIS2
1State Oceanic Administration, 2Hellenic Center for Marine Research

Deep Western Boundary Current in the South China Sea
Wei ZHAO1#, Chun ZHOU1, Jiwei TIAN1
1Ocean University of China

The Thermocline Depth in the South China Sea Determined by Both Winds and Deep Ocean Upwelling
Fanghua XU1#, Jinru SUN1
1Tsinghua University

Interdecadal Change in the Summer SST-Precipitation Relationship Around the Late 1990s over the South China Sea
Jiepeng CHEN1#, Xin WANG2, Wen ZHOU2, Zhiping WEN3
1South China Sea Institute of Oceanology Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3City University of Hong Kong, 4Sun Yat-sen University, 5Fudan University
OS18-D2-PM2-322A-018 | OS18-A011
Internal Variability in the South China Sea
Juncheng XIE1,2, Lei ZHOU1
1Hohai University, 2State Oceanic Administration, 3Shanghai Jiao Tong University

OS18-D2-PM2-322A-019 | OS18-A021
Ocean Thermodynamics Behind the Asymmetry in the South China Sea Cold Tongue Events
Marvin Xiang Ce SEOW1,2, Tomoki TOZUKA1
1The University of Tokyo

OS18-D2-PM2-322A-020 | OS18-A041
Thermohaline Variations Caused by Subthermocline Eddies East of Philippine
Linlin ZHANG1
1Institute of Oceanology, Chinese Academy of Sciences

OS25-BG / Carbon Sequestration in Marginal Seas: Regulation and Response to Global Change
Tue - 05 Jun | MR317B

Time 13:30 - 15:30
Chair(s) Guangxin LIU, Ocean University of China
Kuo-Ping CHIANG, National Taiwan Ocean University

OS25-BG-D2-PM1-317B-001 | OS25-BG-A023 (Invited)
Understanding Carbon Fixation and Transformation in Taiwan Strait Through the Concept of Metabolic Machine and the Approach of Metatranscriptomics
Senjie LIN1,2, Hongfei LI1, Xin LIN1
1Xiamen University

OS25-BG-D2-PM1-317B-002 | OS25-BG-A021
Metabarcoding Reveals the Diversity and Diel Vertical Distribution of Mesozooplankton in the Northern South China Sea
Yunyun ZHUANG1, Hongju CHEN1, Chang CHEN1, Huan ZHANG1,2, Guangxing LIU3
1Ocean University of China, 2University of Connecticut

OS25-BG-D2-PM1-317B-003 | OS25-BG-A019
Marine Carbon Sequestration in Marginal Sea Ecosystems (MARCO): Multiscale Regulation and Response to Global Changes
Bangqin HUANG1,2, Guangxing LIU2, Dalin SHI1, Gangjian WEI1
1Xiamen University, 2Ocean University of China, 3Chinese Academy of Sciences

OS25-BG-D2-PM1-317B-004 | OS25-A001
Influences of Surface Chlorophyll a on the Estimation of Remote Carbon Fixation in the Marginal Northern South China Sea
Yung-Yen SHIH1,2, Chin-Chang HUNG2
1Republic of China Naval Academy, 2National Sun Yat-sen University

OS25-BG-D2-PM1-317B-005 | OS25-BG-A011
Realized Traits Explain Distributions of Major Phytoplankton Groups in a Tropical-Subtropical Marginal Sea
Wupeng XIAO1,2, Lei WANG1, Edward LAW5, Yuyuan XIE1, Jixin CHEN1, Xin LIU1, Bingzhang CHEN1, Bangqin HUANG1
1Xiamen University, 2Louisiana State University

OS25-BG-D2-PM1-317B-006 | OS25-BG-A027
Anticyclonic Eddy Edge Effects on Phytoplankton Communities and Particle Export in the Northern South China Sea
Lei WANG1, Bangqin HUANG1, Edward LAW5, Kuanbo ZHOU1, Xin LIU1, Yuyuan XIE1, Minhan DAI1
1State Oceanic Administration, 2Xiamen University, 3Louisiana State University

OS25-BG-D2-PM1-317B-007 | OS25-BG-A009
Higher Chlorophyll a Based Photosynthetic Rates of Large-Celled Phytoplankton than Picophytoplankton Under High-Light Environment: Toward a Novel Model to Estimate Size-Specific Primary Production in the Sea
Yuyuan XIE1, Haoran LIU1, Edward LAW5, Yong QIU1, Lei WANG1, Bangqin HUANG1
1Xiamen University, 2Louisiana State University

Time 16:00 - 18:00
Chair(s) Bangqin HUANG, Xiamen University
Chin-Chang HUNG, National Sun Yat-sen University

OS25-BG-D2-PM2-317B-008 | OS25-BG-A025 (Invited)
Metal Stable Isotope Fractionations During Coral Calcification: Possible Proxies for Biological Activities
Gangjian WEI1,2, Wenfeng DENG1, Xuefei CHEN1, Zhibing WANG1, Jinfeng MA1
1Chinese Academy of Sciences

OS25-BG-D2-PM2-317B-009 | OS25-BG-A026
Stable Isotope (13C, 15N) Constraints of Suspended Particulate Organic Matter in a Coastal Upwelling of the Subtropical Northwestern South China Sea
Run ZHANG1
1Xiamen University
OS27-BG-D2-PM2-317B-010  |  OS25-BG-A013
Comparative Evaluation of Sediment Trap and VGPM-PP-Derived POC Fluxes in the Northern South China Sea
Hsueh-Han HSIEH#†, Chin-Chang HUNG†
1National Sun Yat-sen University

OS25-BG-D2-PM2-317B-011  |  OS25-BG-A010
Effect of Ocean Acidification in the Carbon Assimilation and Export: Implications for the Biological Pump
Yibin HUANG†‡, Xin LIU†, Yong QIU†, Bangqin HUANG†‡
1Xiamen University

OS25-BG-D2-PM2-317B-012  |  OS25-BG-A016
Contribution of Resuspended Sediments to Sinking Particles in the Ocean
Jeomshik HWANG†‡, Minkyoung KIM†
1Seoul National University

OS25-BG-D2-PM2-317B-013  |  OS25-BG-A014
The Sources and Transformations of Dissolved Organic Matter in the Pearl River Estuary, as Revealed by Stable Isotope Analysis
Feng YE†‡, Gangjian WEI‡
1Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, 2Chinese Academy of Sciences

OS25-BG-D2-PM2-317B-014  |  OS25-BG-A007
Uncoupling of Seasonal Variations Between Phytoplankton Chlorophyll a and Productions in the East China Sea
Xin LIU†‡, Edward LAWS‡, Yuyuan XIE†, Lei WANG†, Pinghe CAI†, Bangqin HUANG†‡
1Xiamen University, 2Louisiana State University

OS27 / General Oceanography
Tue - 05 Jun  |  MR324

Time  13:30 - 15:30
Chair(s)  Taira NAGAI, The University of Tokyo
Charles LEMCKERT, University of Canberra

OS27-D2-PM1-324-001  |  OS27-A041
The Wind Speed Inversion and In-Orbit Assessment of Imaging Altimeter on Tiangong-2 Space Station
Xiaobin YIN†‡, Qingliu BAO†, Mingsen LIN†, Youguang ZHANG†, Yongjun JIA†
1Beijing PIESAT Information Technology Co., Ltd, 2National Satellite Ocean Application Service

OS27-D2-PM1-324-002  |  OS27-A035
Dynamics of a Quasi-Stationary Jet Along the Subarctic Front in the North Pacific Ocean (the Western Isoguchi Jet): An Ideal Two-Layer Model
Toru MIYAMA†‡, Humio MITSUDERA†, Hajime NISHGAKI†, Ryo PURUE†
1Japan Agency for Marine-Earth Science and Technology, 2Hokkaido University, 3Oita University, 4JAMSTEC

OS27-D2-PM1-324-003  |  OS27-A033
Long Term Measurement of the Current at the Bay Head in the Suruga Bay, Japan
Takaaki KATSUMATA†‡, Masato NIKI†, Akihiko TANAKA†, Hiroyuki TAN†‡
1Tokai University, 2NPO, The Association for the Environmental Conservation of the Ocean, 3Japan Aerospace Exploration Agency

OS27-D2-PM1-324-004  |  OS27-A014
Boundary Currents in the Arabian Sea
Nan ZANG†‡, Janet SPRINTALL, Fan WANG†
1Chinese Academy of Sciences, 2Scripps Institution of Oceanography

OS27-D2-PM1-324-005  |  OS27-A010
Physical Boundaries of Intrathermocline Ulleung Eddies in the East/Japan Sea
Young-Heon JO†‡
1Pusan National University

OS27-D2-PM1-324-006  |  OS27-A004
A Lagrangian View of Mesoscale Eddies in the Ocean
Sergey PRANTS†‡
1Pacific Oceanological Institute

OS27-D2-PM1-324-007  |  OS27-A002
Influence of the Current Field Non-Stationarity on ADCP-Based Barotropic Transport Estimates
Roman TARAKANOV†‡
1Shirshov Institute of Oceanology

Time  16:00 - 18:00
Chair(s)  Taira NAGAI, The University of Tokyo

OS27-D2-PM2-324-008  |  OS27-A040
Phytoplankton Response to the Offshore Transport of the River Plume Induced by a Mesoscale Eddy
Peng XIU†‡, Bingxu GENG‡
1South China Sea Institute of Oceanology, Chinese Academy of Sciences, 2Chinese Academy of Sciences
PS05 / Ring Systems of the Solar System Objects and Exoplanets

Tue - 05 Jun  | MR302A

Time 11:00 - 12:30

Chair(s) Larry ESPOSITO, University of Colorado Boulder
Keiji OHTSUKI, Kobe University

PS05-D2-AM2-302A-001 | PS05-A001 (Invited)
Saturn’s Ring Particles and Clumps
Joshua COLWELL
1University of Central Florida

PS05-D2-AM2-302A-002 | PS05-A007
Predator-Prey Analogs for Saturn Ring Dynamics
Larry ESPOSITO
1University of Colorado Boulder

PS09-04 / Science and Exploration of Mars and Venus

Tue - 05 Jun  | MR302A

Time 08:30 - 10:30

Chair(s) Timothy GLOTCH, Stony Brook University

PS09-04-D2-AM1-302A-001 | PS09-04-A036 (Invited)
The M3 Project: Application to the Bulk Mineralogy of the Finalist Landing Sites for ExoMars2020 and Mars2020 Rovers
François POULET
1Paris-Sud University

PS09-04-D2-AM1-302A-002 | PS09-04-A037
Evidence for Ancient Hydrothermal Seafloor Type Deposits on Mars
Joseph MICHALSKI
1University of Hong Kong

PS09-04-D2-AM1-302A-003 | PS09-04-A039
NASA’s Mars 2020 Rover Mission: Exploration and Sample Caching on Ancient Mars
James BELL
1Arizona State University

OS27-D2-PM2-324-009 | OS27-A029
Effects of Typhoons on Squids Catch and Primary Production in the Southern East China Sea
Tsang-Yuh LIN, De-Wang LI, Chin-Chang HUNG
1National Cheng Kung University, 2Zhejiang University, 3National Sun Yat-sen University

OS27-D2-PM2-324-010 | OS27-A013
The Effects of Bottom Boundary Layer Temperature and Wind-Driven Upwelling on the Catchability of Spanner Crabs (Ranina Ranina) in South-East Queensland, Australia
David SPENCER, Ian BROWN, Mark DOUBELL, Christopher BROWN, Ana REDONDO RODRIGUEZ, Joe LEE, Hong ZHANG, Charles LEMCKERT
1Griffith University, 2Fisheries Queensland, 3SARDI Aquatic Sciences, 4The Chinese University of Hong Kong, 5University of Canberra

OS27-D2-PM2-324-011 | OS27-A009
Retrieval of Snow Depth on Sea Ice in the Arctic by the Fengyun-3B Microwave Radiation Imager
Lele LI, Haihua CHEN, Lei GUAN
1Ocean University of China

OS27-D2-PM2-324-012 | OS27-A042
Remote Sensing of Chlorophyll-A in Case II Waters: A Novel Approach with Improved Accuracy over Existing Algorithms
Harilal MENON, Arjun ADHIKARY
1Goa University

OS27-D2-PM2-324-013 | OS27-A012
Mutual Effects of the Rings and the Ring Bearer - A Closer Look at the Cosmic Dust Analyser Measurements During the Cassini Grand Finale Mission
Hsiang-Wen HSU
1University of Colorado Boulder

OS27-D2-PM2-324-014 | OS27-A003 (Invited)
On the Origin of Rings around Giant Planets and Small Bodies
Ryuki HYODO
1Tokyo Institute of Technology

OS27-D2-PM2-324-015 | OS27-A001 (Invited)
Synergy Between Density Waves and Viscous Overstability in Planetary Rings
Glen STEWART
1University of Colorado Boulder

OS27-D2-PM2-324-016 | OS27-A011
Detection of Exoplanetary Rings
Masataka AIZAWA
1The University of Tokyo
Planning for Mars Sample Return Missions – Maximising Science Value During Sample Curation
Caroline SMITH

An Ancient Hydrothermal Setting on Mars with Features Resembling Modern Examples on Earth: Implications for Astrobiology
Steven RUFF

The Hydration State of Chloride Salt-Bearing Deposits on Mars
Timothy GLOTCH, Joshua BANDFIELD, Brooke PHILLIPS

How Martian Araneiforms Get Their Shapes: Morphological Analysis and DLA Model
Ganna PORTYANKINA, Candice HANSEN, Klaus-Michael AYE

Dynamic and Isotopic Evolution of Mars Ice Reservoirs
Oded AHARONSON, Eran VOS, Norbert SCHORGHOFER

Variation of Cloud Opacity on Night-Side Disk of Venus
Takehiko SATOH, Takashi NAKAKUSHI, Takao M. SATO, George HASHIMOTO

Temperature Inversions and Atmospheric Fine Structures in the High Latitude Range of Venus as Seen by the Radio Science Experiment VeRa on Venus Express
Silvia TELLMANN, Bernd HÄUSLER, Martin PÄTZOLD, Stefan REMUS, Michael K. BIRD, Janusz OSCHLINSKI

Mean Thermal Structure of the Venus Atmosphere Clarified by Radio Occultation Measurements in Venus Express and Akatsuki Missions
Hiroki ANDO, Takeshi IMAMURA, Silvia TELLMANN, Martin PÄTZOLD, Bernd HÄUSLER, Norihiko SUGIMOTO, Masahiro TAKAGI, Yoshihisa MATSUDA

HDO and SO2 Thermal Mapping on Venus: Short-Term Variations, Statistical Analysis of the SO2 Plumes and Comparison with Spacecraft Data
Therese ENCRENAZ, Thomas GREATHOUSE, Emmanuel MARCO, Hideo SAGAWA, Thomas WIDEMANN, Bruno BEZARD, Thierry FOUCHE, Sushil ATREYA, Yeon Joo LEE

Data Assimilation System for the Venuesian Atmosphere
Norihiko SUGIMOTO, Akira YAMAZAKI, Toru KOUYAMA, Hiroki KASHIMURA, Takeshi ENOMOTO, Masahiro TAKAGI

Vertical Propagation of the Large Stationary Gravity Waves in the Venus Atmosphere
Takeru YAMADA, Takeshi IMAMURA, Tetsuya FUKUHARA, Makoto TAGUCHI

Effect of CO2 Saturation on Gravity Wave Activities in Martian Polar Nights
Katsuyuki NOGUCHI, Ayaka NISHIURA, Takeshi KURODA

HDO and SO2 Thermal Mapping on Venus: Short-Term Variations, Statistical Analysis of the SO2 Plumes and Comparison with Spacecraft Data

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HDO and SO2 Thermal Mapping on Venus: Short-Term Variations, Statistical Analysis of the SO2 Plumes and Comparison with Spacecraft Data

Data Assimilation System for the Venuesian Atmosphere

Vertical Propagation of the Large Stationary Gravity Waves in the Venus Atmosphere

Effect of CO2 Saturation on Gravity Wave Activities in Martian Polar Nights
First Coupled Model of D and E Regions of Mars’ Ionosphere for Flare and Non-Flare Electron Density Profiles
S.A. HAIDER1, Siddhi Y SHAH1, Masoom P JETHWA1
1Physical Research Laboratory

Dual-Frequency Radio Soundings of Planetary Ionospheres
Avoid Misinterpretations of Ionospheric Features
Martin PÄTZOLD1, Tom ANDERT2, Bernd HAEUSLER2, David P. HINSON3, Kerstin PETER1, Silvia TELLMANN1
1Rhenish Institute for Environmental Research, 2Universität der Bundeswehr München, 3Stanford University

Wave Distribution and Activities in the Martian Upper Atmosphere from Multi-Satellite Observations
Shuanggen JIN1, Jiandong LIU1
1Chinese Academy of Sciences

Measurements of Solar Energetic Particles from the Martian Orbit Using Energetic Ion Spectrometer
Shiv Kumar GOYAL1, Dibyendu CHAKRABARTY1, Santosh VADAWALE1, Neeraj Kumar TIWARI1, Aadiya SARDA1, Amogh AUKNOOR1, Piyush SHARMA1, S.A. HAIDER1
1Physical Research Laboratory

Atmospheric Dust and Interplanetary Dust Particles on Mars
Varun SHEEL1, Jayesh PABARI1, Shefali UTTAM1, Kinsuk ACHARYYA1, Ajay KUMAR1, Bhavinkumar PANDYA2
1Physical Research Laboratory, 2Institute of Plasma Research, 3C. U. Shah Science College

The ExoMars 2016 Trace Gas Orbiter
Håkan SVEDHEM1, Jorge L. VAGO5
1European Space Agency

Sonal JAIN1, Justin DEIGHAN1, Nick SCHNEIDER1, Ian STEWART1, Joseph EVANS2, Michael CHAFFIN2, Matteo CRISMANI1, Michael STEVENS2, Majd MAYYASP, Ed THIEMANN2, Frank EPARVIER2, Phil CHAMBERLIN3
1University of Colorado Boulder, 2Computational Physics, Inc., 3Naval Research Laboratory, 4Boston University

Small Scale Disturbances in the Lower Dayside Ionosphere of Mars
Kerstin PETER1, Martin PATZOLD2, Francisco GONZALEZ GALINDO1, Laila ANDERSSON4, Michael K. BIRD3, Matteo CRISMANI1, Christopher FOWLER1, Bernd HÄUSLER2, Davin LARSON3, Robert LILLS, Gregomc MOLINA-CUBEROS5, Nick SCHNEIDER1, Silvia TELLMANN1, Ed THIEMANN4, Olivier WITASSE10
4Rhenish Institute for Environmental Research, 3University of Cologne, 4Instituto de Astrofísica de Andalucía, 5University of Colorado Boulder, 6University of Bonn, 2Universität der Bundeswehr Munich, 7University of California, Berkeley, 8University of California Berkeley, 9Space Research Institute, Austrian Academy of Sciences, 10European Space Agency

PS11 / Science and Exploration of the Moon and Mercury
Tue - 05 Jun | MR323B

Time 11:00 - 12:30
Chair(s) Jorn HELBERT, German Aerospace Center (DLR)
Makiko OHTAKE, Japan Aerospace Exploration Agency

Analysis of Pyroclastic Deposits Using Messenger Macs Observations
Sebastien BESSE1, Alain DORESSOUNDIRAM2
1European Space Agency, 2Paris Observatory

Exploring Mercury’s Surface in the Thermal Infrared - Challenges and Opportunities for the Mertis Instrument on Bepicolombo
Jorn HELBERT1, Mario D’AMORE1, Alessandro MATURILLI1, Indhu VARATHARAJAN1, Ingo WALTER1, Gisbert PETER1, Karin BAUCF1, Harald HIESINGER1
1German Aerospace Center, 2University of Münster
PS11-D2-AM2-323B-003 | PS11-A030
Modeling Impact Gardening as a Control of Near-Surface Ice Distribution Between the Poles of the Moon and Mercury
Emily COSTELLO, Rebecca GHENT, Paul LUCEY
1University of Hawaii at Manoa, 2University of Toronto

PS11-D2-AM2-323B-004 | PS11-A023
To What Extent Does Solar Wind Forcing Affect the Occurrences of Energetic Electron Events in the Hermean Magnetosphere?
Christy LENTZ, Dan BAKER, Allison JAYNES, Trevor LEONARD, Ryan DEWEY, David LAWRENCE, Weijie SUN
1University of Colorado Boulder, 2University of Iowa, 3University of Michigan, 4Johns Hopkins University

PS11-D2-AM2-323B-005 | PS11-A031
Surface Release Processes to Populate Mercury’s Exosphere
Peter WURZ, Diana GAMBORINO, Audrey VORBURGER
1University of Bern

PS11-D2-AM2-323B-006 | PS11-A016
Volcanic Infillings of Large Basins on the Moon and Mercury: What are they Telling us About the Interior?
Sebastiano PADOVAN, Nicola TOSI, Elena MARTELLIATI, Ana-Catalina PLESA, Thomas RUEDAS, Doris BREUER
1German Aerospace Center, 2Natural History Museum

Time 13:30 - 15:30
Chair(s) Kyeong Ja KIM, Korea Institute of Geoscience and Mineral Resources
Jorn HELBERT, German Aerospace Center (DLR)

PS11-D2-PM1-323B-007 | PS11-A018
Compositional Estimation of Possible Mantle Material of the Moon
Makiko OHTAKE, Satoru YAMAMOTO, Tomokatsu MOROTA, Shinsuke KATO
1Japan Aerospace Exploration Agency, 2National Institute for Environmental Studies, 3Nagoya University

PS11-D2-PM1-323B-008 | PS11-A017
Basalt Mineralogy Variations at TsioIkovskiy Crater: Insights into the Eruption History on the Lunar Far Side
Deepak DHINGRA, Thomas GIGUERE, Peter MOUGINIS-MARK, Joseph BOYCE
1Indian Institute of Technology Kanpur, 2University of Hawaii

PS11-D2-PM1-323B-010 | PS11-A026
Ring-Moat Dome Structures in the Lunar Maria: Morphologic Diversity and Comparison with Irregular Mare Patches
Feng ZHANG, Christian WOELHER, James HEAD, Roberto BUGIOLACCHI, Lionel WILSON, Arne GRUMPE
1Macau University of Science and Technology, 2Technical University of Dortmund, 3Brown University, 4Lancaster University

PS11-D2-PM1-323B-011 | PS11-A025
Characterizing the Optical Maturity Trend of Lunar Craters
Chae Kyung SIM, Sungsoo KIM
1Kyong Hee University

PS11-D2-PM1-323B-012 | PS11-A022
Geochemical and Petrological Features of Lunar Crust Told by Recent Studies of Lunar Meteorites
Hiroshi NAGAOKA, Yuzuru KAROUJI, Nobuyuki HASEBE, Makiko OHTAKE
1Japan Aerospace Exploration Agency, 2Waseda University

Time 16:00 - 18:00
Chair(s) Makiko OHTAKE, Japan Aerospace Exploration Agency
Kyeong Ja KIM, Korea Institute of Geoscience and Mineral Resources

PS11-D2-PM2-323B-013 | PS11-A003
Geology of the Rümker Region in Northern Procellarum: Candidate Sample Return Area of the Chang’e-5 Lunar Mission
Long XIAO, Yuqi QIAN, James HEAD, Jiannan ZHAO, Jessica FLAHAUT
1China University of Geosciences, 2Brown University, 3Paul Sabatier University

PS11-D2-PM2-323B-014 | PS11-A009
Geological Characteristics of Chang’e-4 Landing Region
Jun HUANG, Long XIAO
1China University of Geosciences
Characterization of Lunar Surface Hydration Using LADEE’s Observations of Exospheric Water Events

Mehdi BENNA1#
Dana HURLEY2
timothy STUBBS3
Richard ELPHIC4
Paul MAHAFFY1
1NASA Goddard Space Flight Center, 2The Johns Hopkins University Applied Physics Laboratory, 3National Aeronautics and Space Administration

Simultaneous Retrieval of the H2 Tidal Love Number and the Global Shape of the Moon from Laser Altimetry

Robin THOR1#
Reinald KALLENBACH2
Philipp GLÄSER3
Ulrich CHRISTENSEN1
Jürgen OBERT1
Alexander STARK2
Gregor STEINBRÜGGE3
1Max Plank Institute for Solar System Research, 2German Aerospace Center, 3Technical University of Berlin

The Effects of Spacecraft Charging and Outgassing on the LADEE Ion Measurements

Lianghai XIE1#
Xiao-Ping ZHANG1
Dawei GUO1
1Macau University of Science and Technology

Introduction to a Gamma-Ray and Neutron Spectrometer Suite for Future Planetary Surface Investigation

Kyeong Ja KIM1#
Yire CHOI1
Eung Seok YI1
Junghun PARK1
K. B. LEE1
Sungsoon LEE1
Young-Kwang YEON1
Nobuyuki HASEBE1
Won-Kee PARK1
Young-Jun CHO1
Kyungin KANG3
1Korea Institute of Geoscience and Mineral Resources, 2Korea Research Institute of Standards and Science, 3Waseda University, 4Korea Astronomy and Space Science Institute, 5KAIST

Status Report for Development of the Gamma-Ray Spectrometer Onboard Korea Pathfinder Lunar Orbiter

Kyeong Ja KIM1#
Yire CHOI1
Eung Seok YI1
Junghun PARK1
K. B. LEE1
Sungsoon LEE1
Young-Kwang YEON1
K. B. LEE1
Young-Kwon KIM1
Kilsoon PARK1
Kyoung Wook MIN1
Kyungin KANG3
Jin Yeon CHO1
Nobuyuki HASEBE1
Richard ELPHIC5
Hiroshi NAGAOKA8
1Korea Institute of Geoscience and Mineral Resources, 2Korea Research Institute of Standards and Science, 3Waseda University, 4Korea Astronomy and Space Science Institute, 5KAIST

Integrating Hubble Data into the Planetary Data System

Mark SHOWALTER1#
Eric NEDERVOLD1
Mitchell GORDON1
Matthew TISCARENO1
Ludmilla KOLOKOLOVA2
Tilden BARNES3
1SETI Institute, 2University of Maryland

Planetary Scientific Observations at the European Space Astronomy Centre

Sebastien BESSE1#
Christophe ARVISET1
Guido DE MARCHI1
Isa BARBARISI1
Bruno MERIN1
Deborah BAINES1
Jesus SALGADO1
Beatriz MARTINEZ1
Arnaud MASSON1
Claire VALLAT1
1European Space Agency

Big Data Era: Opportunities and Challenges for LDCC

Wei ZUO1#
Chun-Lai LI1
Yaying XIONG1
Xiaoxia ZHANG1
Wenrui WANG1
Jianjun LIU1
1Chinese Academy of Sciences
PS14-D2-AM2-304A-008 | PS14-A013 (Invited)
The Activity of Jaxa’s Lunar and Planetary Exploration Data Analysis Group
Yukio YAMAMOTO1, Hisashi OTAKE1, Satoshi TANAKA1, Makiko OHTAKE1, Akira MIURA1, Yoshiaki ISHIHARA1, Koichi MASUDA1, Mitsuo YAMAMOTO1, Hiroko INOUE1, Ken ISHIYAMA1, Hiroyuki SATO1
1Japan Aerospace Exploration Agency

PS14-D2-AM2-304A-009 | PS14-A001 (Invited)
VESPA, a Planetary Science Virtual Observatory Corner Stone
Baptiste CECCONI1, Stephane ERARD1, Pierre LE SIDANER1, Angelo Pio ROSS1, Maria Teresa CAPRIA1, Bernard SCHMITT1, Vincent GENOT1, Nicolas ANDRE1, AnnCarine VANDAELLE1, Manuel SCHERF1, Ricardo HUESO1, Anni MAATTANEN1, Benoît CARRY1, Nicholas ACHILLEOS1, Chiara MARM1, Ondrej SANTOLIK1, Kevin BENSON1, Pierre FERNIQUE1
1Paris Observatory, 2Jacobs University, 3National Institute for Astrophysics, 4Université Grenoble Alpes, 5University of Toulouse, 6Belgian Institute for Space Aeronomy, 7Austrian Academy of Sciences, 8University of the Basque Country, 9Institut Pierre Simon Laplace, 10Nice Observatory, 11University College London, 12University of Paris-Sud, 13Czech Academy of Sciences, 14Charles University, 15University of Strasbourg

PS14-D2-AM2-304A-110 | PS14-A005
Venus Atmospheric Data Accessibility: Connecting the Planetary Data Archives of NASA, ESA, and JAXA
Lyle HUBER1, Lynn NEAKRASE1, Nancy CHANOVER1, Reta BEEBE1, Daniel CRICHTON1, Sean HARDMAN1, Kevin MCCOULDRIECK1, Shin-Ya MURAKAMI1, Yukio YAMAMOTO1, Santa MARTINEZ1, Tanya LIM1, Maud BARTHELEMY1, Richard SIMPSON1, Ralph LORENZ2
1New Mexico State University, 2Jet Propulsion Laboratory, California Institute of Technology, 3University of Colorado, 4Akatsuki, 5Japan Aerospace Exploration Agency, 6European Space Agency, 7Stanford University, 8The Johns Hopkins University Applied Physics Laboratory

PS14-D2-AM2-304A-011 | PS14-A019
SAFARI: Searching Asteroids for Activity Revealing Indicators in Big Data
Colin Orion CHANDLER1, Anthony CURTIS2, Michael MOMMERT1, Scott SHEPPARD1, Chad TRUJILLO3
1Northern Arizona University, 2University of South Florida, 3Carnegie Institution for Science

PS14-D2-AM2-304A-012 | PS14-A021
The Cometary Observation Metadata Archive, an Interactive Science Portal for Primitive Solar System Objects
Stanley DODDS1, Karen MEECH1, Narayan RAJA1, Jan KLEYNA1
1University of Hawaii at Manoa

PS18 / Understanding Icy Worlds, Ocean Worlds, and Habitability
Tue - 05 Jun  | MR323B

PS18-D2-AM1-323B-001 | PS18-A005
Abrupt Climate Transition of Icy Worlds from Snowball to Moist or Runaway Greenhouse
Jun YANG1, Yongyun HU1, Yonggang LIU1, Feng DING2, Ramses RAMIREZ2, W. Richard PELTIER3
1Peking University, 2Harvard University, 3Cornell University, 4University of Toronto

PS18-D2-AM1-323B-002 | PS18-A001 (Invited)
Ocean Tidal Heating in Icy Satellites
Isamu MATSUYAMA1, Hamish HAY1, Francis NIMMO2, Shunichi KAMATA1
1University of Arizona, 2University of California Santa Cruz, 3Hokkaido University

PS18-D2-AM1-323B-003 | PS18-A009 (Invited)
The Interior of Enceladus After Cassini
Gael CHOBLET1, Gabriel TOBIE1, Christophe SOTIN2, Mathieu BOUFFARD3, Frank POSTBERG4, Mathilde KRAZO5, Marie BEHOUNKOVA5, Ondrej SOUCEK5
1University of Nantes, 2Jet Propulsion Laboratory, California Institute of Technology, 3Max Planck Institute for Solar System Research, 4University of Heidelberg

PS18-D2-AM1-323B-004 | PS18-A016
The Role of Hydrothermal Reactions in Determining the Fate of Sulfate in Europa’s Ocean
Shuya TAN1, Yasuhito SEKINE1, Takazo SHIBUYA1, Chihiro MIYAMOTO1, Yoshio TAKAHASHI1
1The University of Tokyo, 2Japan Agency for Marine-Earth Science and Technology

PS18-D2-AM1-323B-005 | PS18-A012
Ubiquitous and Mysterious: Fracturing, Collapse and Expected Outcomes Above and Below an Icy Shell
Catherine WALKER1, Britney SCHMIDT1, Jacob BUFFO2
1NASA Jet Propulsion Laboratory, 2Georgia Institute of Technology

PS18-D2-AM1-323B-006 | PS18-A020
Europa’s Surface Radiation Environment
Tom Andre NORDHEIM1, Kevin HAND2, Chris PARANICAS2
1Jet Propulsion Laboratory, California Institute of Technology, 2The Johns Hopkins University Applied Physics Laboratory
PS18-D2-AM1-323B-007 | PS18-A019 (Invited)

**Kuiper Belt Planets - Surface Geology and Processes and What These Tell us About Their Possible Subsurface Oceans**

Orkan UMURHAN1++, Kelsi SINGER2, Louise PROCKTER3, Francis NIMMO, Will GRUNDY, William MCKINNON, Jeff MOORE5, Alan HOWARD4, Paul SCHENK5, S. Alan STERN2, Catherine OLKIN6, Leslie YOUNG6, Harold WEAVER9

1SETI Institute, 2Southwest Research Institute, 3Lunar and Planetary Institute, 4University of California Santa Cruz, 5Lowell Observatory, 6Washington University, 7NASA AMES Research Center, 8University of Virginia, 9Universities Space Research Association, 10Johns Hopkins University

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PS18-D2-AM1-323B-008 | PS18-A017

**Methane, Ethane, and Nitrogen Stability on Titan and Other Icy Bodies**

Jennifer HANLEY1++, Logan PEARCE1, Shy DUSTUD2, Gerrick LINDBERG3, Will GRUNDY4, Henry ROE5, Garrett THOMPSON6, Steve TEGLER7

1Lowell Observatory, 2The University of Texas at Austin, 3Northern Arizona University, 4University of Maryland, 5Temple University, 6University of Oxford, 7NASA Ames Research Center

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**PS22 / Field and Laboratory Studies in Support of Planetary Infrared Remote Sensing**

**Tue - 05 Jun | MR304A**

**Time** 13:30 - 15:30

**Chair(s)** Kerri DONALDSON HANNA, University of Oxford

PS22-D2-PM1-304A-001 | PS22-A017

**Laboratory Spectroscopy Measurements to Support Thermal Infrared Observations of Airless Bodies in the Inner Solar System**

Neil BOWLES1++, Kerri DONALDSON HANNA1, Timothy GLOTCH1, Benjamin GREENHAGEN2

1University of Oxford, 2Stony Brook University, 3The Johns Hopkins University Applied Physics Laboratory

PS22-D2-PM1-304A-002 | PS22-A009

**Analogue Materials Measured Under Simulated Airless Body Conditions: Insights into the Interpretation of Thermal Infrared Sensing Observations**

Kerri DONALDSON HANNA1++, Neil BOWLES2, Benjamin GREENHAGEN3, Devin SCHRADER4, Lindsay KELLER5, Ann L. SPRAGUE6

1University of Oxford, 2Stony Brook University, 3The Johns Hopkins University Applied Physics Laboratory, 4Arizona State University, 5NASA Johnson Space Center, 6McGill University

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PS22-D2-PM1-304A-003 | PS22-A018

**The Planetary Spectroscopy Laboratory (PSL): Spectroscopy from UV to FIR for Sample Temperatures from 70 to 1000 Kelvin**

Alessandro MATURILLI1++, Jorn HELBERT1, Indhu VARATHARAJAN2, Yaquelin ROSAS ORTIZ3

1German Aerospace Center

PS22-D2-PM1-304A-004 | PS22-A027

**The Mid-IR Spectral Effects of Porosity and Darkening Agents on the Silicate Surface Features of Airless Bodies**

Cindy YOUNG1++, Michael POSTON2, James WRAY3, Kevin HAND4, Robert CARLSON3

1Georgia Institute of Technology, 2Southwest Research Institute, 3Jet Propulsion Laboratory, California Institute of Technology

PS22-D2-PM1-304A-005 | PS22-A001

**Search for Extralunar Materials in Apollo Soil Samples**

Paul LUCEY1++, Sarah CRITES2, Casey HONNIBALL3

1University of Hawaii at Manoa, 2Japan Aerospace Exploration Agency, 3University of Hawaii

PS22-D2-PM1-304A-006 | PS22-A011

**Visible and Near Infrared Reflectance of Mineral Mixtures and Nanophase Iron Under Anoxic Conditions**

Carey LEGETT1++, Timothy GLOTCH2, Victoria RIVERA-BANUCHI3, Steven CHEMTOB4

1Stony Brook University, 2Temple University

PS22-D2-PM1-304A-007 | PS22-A008

**Laboratory Measurements of the Thermal Infrared Emissivity of Planetary Surface’s as a Function of Observation Angle**

Tristram WARREN1++, Neil BOWLES2, Kerri DONALDSON HANNA1

1University of Oxford
Incorporation of Portable Infrared Spectral Imaging into Planetary Geological Field Work: Analog Studies at Kilauea Volcano, Hawaii and Potrillo Volcanic Field, New Mexico

Gen ITO1#+, Deanne ROGERS1, Kelsey YOUNG2,3, Jacob BLEACHER3, Daniel PIQUERO3, Byron WOLFE3, Timothy GLOTCH1
1Stony Brook University, 2University of Maryland, 3NASA Goddard Space Flight Center, 4Northern Arizona University, 5Spectrum Photonics, Inc., 6University of Hawaii, 7University of Hawaii at Manoa

Investigating Hydrothermal Systems in Costa Rica and Iceland with Multiple Instruments Including Drones: Applications for Mars Exploration

M. Ramy EL-MAARRY1#+, Brian HYNEK1, Sarah BLACK1, Lindsay MCHENRY2
1University of Colorado Boulder, 2University of Wisconsin–Milwaukee

Reconciling Remote Data, Detailed Field Localities, and High Resolution Lab Measurements of Shocked and Unshocked Basaltic Ejecta

Shawn WRIGHT1,2#+
1Planetary Science Institute, 2University of Pittsburgh

Spectral Properties of Salt-Bearing Assemblages: Implications for Detection Limits of Minor Phases in Chloride-Bearing Deposits on Mars

Cheng YE1#+, Timothy GLOTCH1
1Stony Brook University

Using Martian Meteorite Spectra to Calibrate to Spacecraft-Collectsed Spectral Maps

Gretchen BENEDIX1#+, Victoria HAMILTON4, Lucy FORMAN4, Nick TIMMS4, Steve REDDY1
1Curtin University, 2Southwest Research Institute

Cryogenic Laboratory Experiments into Radiation Effects on the Spectra of Non-Ice Materials Relevant to Ocean Worlds

Karen CAHILL1#+, Charles HIBBITS3
1Planetary Science Institute, 2The Johns Hopkins University Applied Physics Laboratory
Seismic Imaging of Southern Peruvian Subduction Zone: Velocity Heterogeneity in the Nazca Slab and Mantle Wedge
Hobin Lim, Young-Hee Kim, Robert Clayton, Clifford Thurber
1Seoul National University, 2California Institute of Technology, 3University of Wisconsin-Madison

The Deep Structure Beneath the Nuomin Volcanos
Qingju Wu
1Institute of Geophysics, China Earthquake Administration

Linear Array Ambient Noise Adjoint Tomography with Phases and Amplitude Ratios: Methodology and Application
Huajian Yao, Chao Zhang, Ting Lei, Qinya Liu
1University of Science and Technology of China, 2University of Toronto

Imaging Lilithospheric and Asthenospheric Structures in the Central Pacific Molten Region by a Joint Tomography of Body Wave and Surface Wave Phase Delays: A Fully 3-D Finite-Frequency Approach
Shu-Huei Hung, Pei-Ying Lin, James Gaeherty, Joshua Russell, John A. Collins, Daniel Lizarralde, Rob Evans, Greg Hirth
1National Taiwan University, 2Taiwan Ocean Research Institute, 3Columbia University, 4Woods Hole Oceanographic Institution, 5Brown University

The Origin and Mantle Dynamics of Quaternary Intraplate Volcanism in Northeast China
Zhen Guo, Kai Wang, Yingjie Yang, John Chen
1Southern University of Science and Technology, 2Macquarie University, 3Peking University

Crustal and Upper Mantle Structures in the Eastern Margin of Tibetan Plateau by Using Chinanet Array Data
Zhifeng Ding, Huali Guo, Xingchen Wang, Lijun Chang, Fengxue Zhang, Songyong Yuan, Chen Zheng
1China Earthquake Administration, 2Institute of Geophysics, China Earthquake Administration

Validation of Source Stacking Method for Global Seismic Waveform Tomography Using the Spectral Element Method
Li-Wei Chen, Barbara Romanowicz
1University of California, Berkeley

Imaging the Earth: from Data to Interpretation
Tue - 05 Jun | MR321B

Refined Seismic Structure of Southern California by Ambient Noise Adjoint Tomography
Yingjie Yang, Kai Wang, Piero Basini, Ping Tong, Qinya Liu, Carl Tape
1Macquarie University, 2University of Toronto, 3Nanyang Technological University, 4University of Alaska Fairbanks

Towards the Development of the Community Velocity Model for Oklahoma Using Seismic Ambient Noise
Nori Nakata
1University of Oklahoma

High Resolution Imaging Using Dense Geophone Arrays
Fan-Chi Lin, Yadong Wang, Sin-Mei Wu, Elizabeth Berg, Kevin Ward, Amir Allam, Jamie Farrell
1University of Utah
Japanese Standard Three-Dimensional Seismic Velocity Structure Beneath Both Japanese Islands and the Ocean (Including Japan Sea) Using Offshore Events with NIED Hi-Net Pick Data and NIED F-Net Focal Depth as Well as Inland Events

Makoto MATSUBARA, Hiroshi SATO, Kenji UEHIRA, Masashi MOCHIZUKI, Toshihiko KANAZAWA
1National Research Institute for Earth Science and Disaster Resilience, 2The University of Tokyo, 3Association for the Development of Earthquake Prediction

Time 13:30 - 15:30
Chair(s) Fan-Chi LIN, University of Utah
Nori NAKATA, University of Oklahoma

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Constraining Crack Properties with P- and S-Wave Anisotropy Estimated from Ambient Noise Cross-Correlation Functions

Youcai TANG, Fenglin NIU, Kai TAO, Di WU, Guoliang LI, Haichao CHEN
1China University of Petroleum-Beijing, 2Rice University

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Separation of Migration and Tomography Modes of Full-Waveform Inversion

Di WU, Gang YAO, Youcai TANG, Xiaojuan QIAO, Shuangquan CHEN
1China University of Petroleum-Beijing, 2Imperial College London, 3University of Chinese Academy of Sciences, 4Chinese Academy of Sciences

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Joint Inversion for the Lithospheric Structure in East Tibet

Yangfan DENG, Zhigao YANG, Qu ZHONG, Jiangtao LI
1Guangzhou Institute of Geochemistry, Chinese Academy of Sciences (GIGCAS), 2China Earthquake Netorks Center, 3Chinese Academy of Sciences, 4University of Illinois at Urbana-Champaign

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When Will the Earth's Magnetic Field Cease? Implications on Habitability

Weijia KUANG, Hisayoshi SHIMIZU, Vladimir AIRAPETIAN, Erwan MAZARICO, Antonio GENOVA
1NASA Goddard Space Flight Center, 2The University of Tokyo, 3American University, 4Oak Ridge Associated Universities, 5Massachusetts Institute of Technology

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Seismic Evidences for a Low-Velocity-Layer Existing at Depths of 90 - 110 Km in Northern Peru

Yixian ZHENG, Xiaobo HE
1Zhejiang University

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On the Measurement and Interpretation of XKS Splitting Parameters

Stephen GAO, Kelly LIU
1Missouri University of Science and Technology

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Local Sharpness and Multiplicity of the 660-km Discontinuities in Izu-Bonin and Kuril Subduction Zones

Jinfeng HU, Xiaobo HE
1Zhejiang University

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Towards Understanding Geomagnetic Secular Variations in Numerical Dynamo Simulations with Thermal Heterogeneities Caused by Plate-Mantle System

Takashi NAKAGAWA, Futoshi TAKAHASHI, Hisayoshi SHIMIZU
1Japan Agency for Marine-Earth Science and Technology, 2Kyushu University, 3The University of Tokyo

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Seismic evidences for a low-velocity-layer existing at depths of 90 - 110 km in northern Peru

Yixian ZHENG, Xiaobo HE
1Zhejiang University

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On the measurement and interpretation of XKS splitting parameters

Stephen GAO, Kelly LIU
1Missouri University of Science and Technology
Shear Softening of Earth’s Inner Core Indicated by its High Poisson’s Ratio and Elastic Anisotropy
Zhongqing WU1+, Wenzhong WANG1
1University of Science and Technology of China

Temporal Changes of the Inner Core Boundary from Waveform Doublets
Yi YANG1+, Xiaodong SONG2,3
1University of Illinois Urbana-Champaign, 2U of Illinois Urbana-Champaign / Wuhan U, 3Wuhan University

Carbon in Earth’s Core: A Mineral Physics Perspective
Bin CHEN1+, Xiaojing LAI1
1University of Hawaii at Manoa

SE11-13 / Nankai Trough Seismogenic Zone Experiment and Related Studies of Tectonics in the Western Pacific
Tue-05 Jun | MR314

Initial Results of IODP NanTroSeize Expedition 380: Borehole Observatory Installation at the Frontal Thrust of the Nankai Prism
Keir BECKER1+, Masataka KINOSHITA2, Toshinori KIMURA2, Yuya MACHIDA3, Alexander ROESNER4, Tianhaozhe SUN5, Joshua EDGINGTON6, Burhan SENYENER4
1University of Miami, 2The University of Tokyo, 3Japan Agency for Marine-Earth Science and Technology, 4University of Bremen, 5Pennsylvania State University, 6Texas A&M University

Paleo-Stress Orientations and Magnitudes from Triaxial Testing and Stress Inversion Analysis in Nankai Accretionary Prism Sediments
Yoshitaka HASHIMOTO1+, Michael STIPP2, Jon LEWIS3, Frank WUTTKE4
1Kochi University, 2University of Innsbruck, 3Indiana University of Pennsylvania, 4University of Kiel
SE11-13-D2-AM2-314-008 | SE11-13-A010
Paleothermal Structure Related to Tectonic Process at the Shikoku Basin on Incoming Plate in the Nankai Inner Accretionary Wedge
Rina FUKUCHI1, Asuka YAMAGUCHI, Hisatoshi ITO, Yuzuru YAMAMOTO, Juichiro ASHI
1Atmosphere and Ocean Research Institute/ The University of Tokyo, 2Central Research Institute of Electric Power Industry, 3Japan Agency for Marine-Earth Science and Technology

SE11-13-D2-AM2-314-009 | SE11-13-A006
Expectations for the Deep Megasplay Fault Zone at the Nankai Trough Based on Mechanical Properties of Shallow Nantroseize Samples
Matt IKARI1, Alexander ROESNER1, Demian SAFFER2, Andre HUEPERS1, Achim KOPF1
1University of Bremen, 2The Pennsylvania State University

SE11-13-D2-AM2-314-010 | SE11-13-A014
Three-Dimensional Mapping and Kinematic Characterization of Mass Transport Deposits Along the Outer Kumano Basin and Nankai Accretionary Wedge, Southwest Japan
Jason LACKEY1, Gregory MOORE1
1University of Hawaii at Manoa

SE11-13-D2-AM2-314-011 | SE11-13-A019
Submarine Tectonic Activities and Canyon Erosion Interactive Slope Failures in the Kaoping Slope Area
Yi-Ching YEH1, Chung-Lin TSAI1, Jing-Fu GAO1, Yen-Yu CHO1, Chin-Wei LIANG1, Shu-Kun HSU1
1National Central University

SE11-13-D2-AM2-314-012 | SE11-13-A020
ICT Seafloor Cabled Seismic and Tsunami Observation System Off Sanriku, Japan
Masanao SHINOHARA1, Tomoaki YAMADA1, Shin’ichi SAKAI1, Hajime SHIOBARA1, Toshihiko KANAZAWA1
1The University of Tokyo, 2Association for the Development of Earthquake Prediction

SE11-13-D2-AM2-314-013 | SE11-13-A017
Crustal Velocity Structures Across the Taiwan Strait Analyzed from MCS and OBS Data
Tan K. WANG1, Jing WANG1, Yu Hsuan CHENG1, Ren Jie WEI1, Zhi Zhao XIE1, Yi Feng ZHANG2
1National Taiwan Ocean University, 2Fujian Earthquake Agency

SE16 / Recent Advances in Understanding Mountain Building Processes: Methodology, Observations, Models and Implications
Tue - 05 Jun | MR321B

SE16-D2-PM2-312B-001 | SE16-A018 (Invited)
Complex Plate Configuration and Deformation in Taiwan Orogeny
Francis WU1, Michael CHOJNACKI2
1Binghamton University

SE16-D2-PM2-312B-002 | SE16-A005
Documenting the Plastic-To-Brittle Exhumation History of the Metamorphic Core of Taiwan
Chih-Tung CHEN1, Yu-Chang CHAN2, Ching-Hua LO3, Chia-Yu LU3
1National Central University, 2Academia Sinica, 3National Taiwan University

SE16-D2-PM2-312B-003 | SE16-A002
Dynamic Wedge Evolution of the Taiwan Mountain Belt Revealed in Cleavage Formation Age and Rock Thermal History
Wei LO1, Gong-Ruei HO2, Wen-Jenq LEE1
1National Taipei University of Technology, 2National Central University

SE16-D2-PM2-312B-004 | SE16-A015
Fabric Analysis and Deformation History of Metamorphic Belt and Their Tectonic Implications of the Tananao Complex, Taiwan
Xi-Bin TAN1
1China Earthquake Administration
SE21-D2-AM2-321A-009 | SE21-A009
Plate Dynamics Near Divergent Boundaries: Recurring Rifting Episodes at the Okinawa Trough and Present-Day Crustal Movements in SW Ryukyu Arc
Kosake HEKI†1, Yutaro IWASA†1
†Hokkaido University

SE21-D2-AM2-321A-010 | SE21-A015
Temporal Change in the Interplate Coupling in the Tokai Region, Central Japan, over the Last 30 Years
Tadafumi OCHI†1
†National Institute of Advanced Industrial Science and Technology

SE21-D2-AM2-321A-011 | SE21-A020 (Invited)
Tectonic Deformation over Multiple Timescales Along the Hikurangi Subduction Margin, New Zealand
Nicola LITCHFIELD†1, Laura WALLACE1, Ursula COCHRAN1, Sigrún HREINSDÓTTIR1, Kate CLARK1, Ian HAMLING3
1GNS Science

SE21-D2-AM2-321A-012 | SE21-A021
Relative Sea-Level Changes Recorded by Coral Microatolls Above the Manila Trench in Ilocos Region (West Luzon, Philippines)
Jennifer WEIL-ACCARDO1, Aron MELTZNER2, Noelynna RAMOS2, Kathrine MAXWELL2, Ke LIN1, Yanbin LU1, Xianfeng WANG1, Peter PARHAM1
1Nanyang Technological University, 2University of the Philippines Diliman

SE21-D2-AM2-321A-013 | SE21-A007 (Invited)
Making the Connection Between Paleogeodesy Observations and the Megathrust Earthquake Cycle: The Role of Geodynamic Models
Kevin P. FURLONG†1, Matthew HERMAN2, Rob GOVERS2
1Penn State University, 2Utrecht University

SE22-35-D2-PM1-314-022 | SE22-35-A007
Nowcasting Earthquakes and Tsunamis
John B. RUNDLE†1, Donald TURCOTTE1, Andrea DONNELLAN2
1University of California, Davis, 2Jet Propulsion Laboratory, California Institute of Technology

SE22-35-D2-PM1-314-023 | SE22-35-A015
Toward Uniform Probabilistic Seismic Hazard Assessments for Southeast Asia
Chung-Han CHAN1, Yu WANG2, Xuhua SHI1, Teraphan ORNTHAMMARATH1, Penung WARNITCHA1, Suwith KOSUWAN1, Myo THANT1, Hong Phuong NGUYEN1, Le Minh NGUYEN1, Renato SOLIDUM1, Masyhur IRSYAM2, Sri HIDAYATI1, Kerry SIEH3
1Nanyang Technological University, 2National Taiwan University, 3Mahidol University, 4Asian Institute of Technology, 5Department of Mineral Resources, 6Monyua University, 7Myanmar Earthquake Committee, 8Vietnam Academy of Science and Technology, 9Philippine Institute of Volcanology and Seismology (PHIVOLCS), 10Bandung Institute of Technology, 11Geological Agency of Indonesia

SE22-35-D2-PM1-314-024 | SE22-35-A016
Seismic Hazard Assessment Using Geotechnical Characteristics and GIS in Busan City, Korea
Hyunjee LIM1, Rae-Yoon JeONG1, Seongjun LEE1, Moon SON1
1Pusan National University

SE22-35-D2-PM1-314-025 | SE22-35-A063 (Invited)
Seismology and Earthquake Hazard in the Kanto Basin, Japan
Kazuki KOKETSU†1
†The University of Tokyo

SE22-35-D2-PM1-314-026 | SE22-35-A056
VS30 Empirical Prediction Relationships for the Beijing Plain Area, China
Junju XIE†1, Paolo ZIMMARO2, Xiaojun LF, Zengping WEN3
1Institute of Geophysics, China Earthquake Administration, 2University of California, Los Angeles, 3Chinese Academy of Sciences
Developing Site Conditions Map of Myanmar for Seismic Hazard Assessment
Myo THANT1,2, Saw Myat MIN2, Ei Mhon Nanthar MOYO2, Kyaw Zin WIN3, Shinichi MATSUMOT5, Chun-Han CHAN2, Soe Thura TUN2, Hiroshi KAWASE6
1Monywa University, 2Myanmar Earthquake Committee, 3Myanmar Environmental Institute, 4Kyoto University, 5Nanyang Technological University

Time 16:00 - 18:00
Chair(s) Xin WANG, Earth Observatory of Singapore

Multi-Modal Response Spectra Due to Sedimentary Basins and Their Implications for Hazard
Surendra Nadh SOMALA1
1Indian Institute of Technology Hyderabad

Measurement and Modeling of Ground Motions in Myanmar for Seismic Hazard Assessment
Yin Myo Min HTWE1, Tun Lin KYAW1, Pa Pa TUN1, Su Hninn HTWE1, Khang Mar Lar WAI1, Emily WOLIN2, Susan HOUGH2
1Department of Meteorology and Hydrology, 2United States Geological Survey

The Effect of Source Spectral Characteristics and Directivity on the Ground Shaking in Mexico City from the 2017 MW 7.1 Puebla Earthquake
Lingling YE1,2, Hiroo KANAMORI1, Thomas HEATON3
1Earthquake Research Institute, The University of Tokyo, 2Sun Yat-sen University, 3California Institute of Technology

Site Amplification of the Strong-Motion Stations in Taiwan Derived from Their Shallow Shear-Wave Velocity Structures
Che-Min LIN1, Chun-Hsiang KUO1, Jyun-Yan HUANG1, Chun-Te CHEN1, Kuo-Liang WEN1
1National Applied Research Laboratories, 2National Center for Research on Earthquake Engineering, 3Academia Sinica

The Effects of Sedimentary Basins on Ground Shaking Amplitude: Examples from the Los Angeles Basin
Stephen GAO1,2, Kelly LIU1, Paul DAVIS3
1Missouri University of Science and Technology, 2University of California, Los Angeles

Ambient Noise Seismology, Structure and Ground Motion of the Jakarta Basin, Indonesia
Phil CUMMINS4, Athanasius CIPTA5, Erdinc SAYGIN3, Sri WIDIDYANTORO4, Masyhur IRSYAM1
4Australian National University, 5Geological Agency, 6Commonwealth Scientific and Industrial Research Organisation, 7Bandung Institute of Technology

Measurements of Three-Dimensional Curved Grid Finite-Difference Method for Non-Planar Rupture Dynamics and Seismic Wave Propagation on GPU Devices
Zhengbo LI1, Xiaofei CHEN2
1University of Science and Technology of China, 2Southern University of Science and Technology

Preliminary Results of Dynamic Rupture Simulation of the 2016 Kumamoto, Japan, Earthquake Sequence
Houyun YU1,2, Zhenguo ZHANG1, Xiaofei CHEN1, Kazuya ISHIKAWA1, Tatsuro ARAP1, Hongjun SI1
1University of Science and Technology of China, 2Southern University of Science and Technology, 3Tohoku-Electric Power Co., Inc., 4Seismological Research Institute Inc.
Did the 2008 Mw 7.9 Wenchuan Earthquake Really Rupture the Qiangchuan Fault
Bihong FU1##, Jiaxin DU1
1Chinese Academy of Sciences

Relocation of Mainshock and Aftershock Sequence of Ms7.0 Sichuan Jiuzhaigou Earthquake
Lihua FANG1##, Jianping WU2
1Institute of Geophysics, China Earthquake Administration, 2China Earthquake Administration

Coseismic Displacement of the 2017 Ms 6.9 Jiuzhaigou Earthquake Constraint by Sentinel-1A Radar Images, West Sichuan, China: New Implications for the Termination of the Yellow River Fault Zone
Zhe SU1##, Yongsheng LI2, Jyr-Ching HU3, Yinghui YANG4
1Institute of Crustal Dynamics, China Earthquake Administration, 2China Earthquake Administration, 3National Taiwan University, 4Southwest Petroleum University

Late Quaternary Slip Behavior of the Yushu Fault and the 2010 Ms 7.1 Yushu Earthquake, Eastern Tibetan Plateau
Chuanyou LI1##, Lixing LV1
1China Earthquake Administration

A Panorama of Landslides Triggered by the Gorkha (Nepal) Mw7.8 Earthquake of 25 April 2015
Chong XU1##
1China Earthquake Administration

Paleoearthquake History Along the Southern Segment of the Daliangshan Fault Zone in the Southeastern Tibetan Plateau and its Implications
Honglin HE1##, Yasutaka IKEDA1, Zhanyu WEI1, Feng SHI1, Haoyue SUN1, Tomoo ECHIGO2, Shibisuke OKADA1, Yoshiki SHIRAHAMA3
1China Earthquake Administration, 2Nara University, 3Tohoku University, 4Geological Survey of Japan

Late Cretaceous to Cenozoic Exhumation of the Fuping Complex, Trans-North China Orogen: New Insights from Apatite and Zircon (U-Th-[Sm]/He and Apatite Fission Track Analyses
Jian CHANG1##, Nansheng QIU1
1China University of Petroleum-Beijing

Cenozoic Tectonic Evolution of Shanxi Graben System: Evidence from Planation Surfaces and Low-Temperature Thermochronology
Peng SU1##, Honglin HE1, Xi-Bin TAN1, Feng SHI1
1Institute of Geology, China Earthquake Administration, 2China Earthquake Administration

Recent Ground Fissures in the Hetao Basin, Inner Mongolia, China
Zhongtai HE1##
1Institute of Crustal Dynamics, China Earthquake Administration

Multiple-Stage Growth of the Tibetan Plateau: Insights from Geodynamic Modeling
Mian LIU1,2##, Yujun SUN2
1University of Missouri, 2Chinese Academy of Sciences

Cenozoic Tectonic Evolution of the Eastern Tibetan Plateau: New Insights from Analogue Modeling
Ming SUN1##
1China University of Geosciences (Beijing)

The Lithospheric Growth of Northern Tibetan Plateau from P and S Receiver Functions
Chen ZHANG1##, Zhen GUO2##, John CHEN2
1Southern University of Science and Technology, 2Peking University
Holocene Record of Surface-Rupturing Earthquakes on the Laohushan Fault of the Haiyuan Fault System, China
Guihua CHEN1#+, Kang LI2, Xiwei XU1
1China Earthquake Administration, 2Institute of Geology, China Earthquake Administration

Activity and its Implication at the Southern Segment of the Xiaojiang Fault, Southeastern Tibetan Plateau, China
Zhujun HAN1#
1China Earthquake Administration

Geometry and Kinematics Characteristics of Normal Faults in Central-Southern Tibetan Plateau
Zhonghai WU1#, Guanghao HA1
1Institute of Geomechanics, Chinese Academy of Geological Sciences

Current Movements of Red River Fault by GPS Measurements
Jicang WU1#, Jie Xian WANG1, Weiwei WU1
1Tongji University

Tectonic Cycle and Crustal Architecture Model of Longmenshan Mountains Intra-Continental Orogenic Belt, Southwest China
Dengfa HE1#n
1China University of Geosciences

Determination of Seismic Energy and Magnitudes for the 2008 Wenchuan Earthquake
Ruifeng LIU1#
1Institute of Geophysics, China Earthquake Administration

A 10 Year Investigation of the Gas Cause of Wenchuan Earthquake
Zhongqi Quentin YUE1#
1The University of Hong Kong

Crustal Structure of the Central Longmenshan Fault Zone: Constraint on Wide-Angle Seismic Data
Xiaofeng TIAN1#, Fuyun WANG1, Baofeng LIU1
1China Earthquake Administration

Is the Co-Seismic Effect of 2008 Wenchuan Mw7.9 Earthquake Detectable by GRACE?
Jin LI1#, Jianli CHEN1, Lu TANG1, Xiaogong HU1
1Chinese Academy of Sciences, 2The University of Texas at Austin

Study on the Red River Faults Based on the Double-Difference Seismic Tomography
Yanna ZHAO1#, Fuyun WANG1, Yong Hong DUAN1
1China Earthquake Administration

Experimental Study of Stick-Slip Instability in Earthquake Faults: implications for the Multiple Rupture Propagation of the 2008 Ms 8.0 Wenchuan Earthquake in China
Lingli GUO1#, Liqiang LIU3, Yuntao JP, Sanzhong LP
1Ocean University of China, 2China Earthquake Administration

The Temperature Changes Before and After the 2008 Wenchuan Earthquake Process and Their Implication to Continental Tectonic
Fuqiong HUANG1#
1China Earthquake Network Center

The Belmont Forum E-Infrastructure and Data Management in Support of Geosciences Research
Tue - 05 Jun  |  MR317A
Time 13:30 - 15:30
Chair(s) Yue-Gau CHEN, National Taiwan University
Ming-Hsu LI, National Central University

The Belmont Forum E-Infrastructure and Data Management Project
Robert SAMORS1#
1Belmont Forum
Science-Driven E-Infrastructure Innovation for Enabling Transnational Data Use in Interdisciplinary and Transdisciplinary Environmental Change Research: A New Belmont Forum Funding Collaborative Research Action

Jean-Pierre VILOTTE1#+, Ming-Hsu LI2
1 Institut de Physique du Globe de Paris, 2 National Central University

Taiwan Earthquake Research Data Center (TECDC)

Wen-Tzong LIANG1#+
1 Academia Sinica

Taiwan Climate Change Information and Knowledge Service Platform

Lee-Yaw LIN1, Chao-Tzuen CHENG1+, Huang-Hsiung HSU2, Cheng-Ta CHEN3
1 National Science and Technology Center for Disaster Reduction, 2 Academia Sinica, 3 National Taiwan Normal University

Potential of Conservation Agriculture Production Systems (CAPS) as Climate Smart Technology for Food Security Under Rainfed Uplands of India: A Transdisciplinary Approach

Catherine CHAN1#+
1 University of Hawaii

SS09 / Volcanoes: Nature, Influence, Impact

Tue - 05 Jun | MR323C

Time 13:30 - 15:30

Chair(s) Kazuhisa GOTO, Tohoku University
Florian Max SCHWANDNER, NASA Jet Propulsion Laboratory

What Life in Volcanic Environments Tells us About the Emergence of Life and Life Elsewhere

Mitchell SCHULTE1#
1 National Aeronautics and Space Administration

Lava Lakes in the Solar System

Rosaly LOPES1#, Jani RADERBAUGH2, Tracy GREGG3, Robert HOWELL1, Andrew HARRIS1
1 Jet Propulsion Laboratory, California Institute of Technology, 2 Brigham Young University, 3 University at Buffalo, 4 University of Wyoming, 5 Blaise Pascal University
Satellite Detection of Medium-Scale Traveling Ionospheric Disturbances
Woo Kyoung LEE1, Hyosub KIL2, Jaeheung PARK1, Young-Sil KWAK1, Larry PAXTON2
1Korea Astronomy and Space Science Institute, 2The Johns Hopkins University Applied Physics Laboratory

GPS Phase Scintillation and Auroral Electrojet Currents During Geomagnetic Storms
Paul PRIKRYL1, Reza GHODDOUSI-FARD2, Knut S. JACOBSEN1, Ari VIJANEN1, James WEYGAND1, Donald DANSKIN3, P. T. JAYACHANDRAN1, Bharat KUNDUR1, Yngvid L. ANDALSVIK4, Martin CONNORS5, Tibor DURGONIC6
1University of New Brunswick, 2Natural Resources Canada, 3Norwegian Mapping Authority, 4Finnish Meteorological Institute, 5University of California, Los Angeles, 6Virginia Tech, 7Athabasca University, 8Technical University of Denmark

Ionospheric Scintillation Observations by Using GEO Satellite Signals over Low Latitude
Baiqi NING1, Lianhuan HU1
1Chinese Academy of Sciences

Mid-Latitude Plasma Bubbles over China and Adjacent Areas During a Magnetic Storm on 08 September 2017
Ercha AA1, Siqing LIU1, Aaron RIDLEY2, Wengeng HUANG1, Shasha ZOU3
1Chinese Academy of Sciences, 2University of Michigan

Study of the Zonal Structure of Equatorial Plasma Bubbles
Hyosub KIL1, Larry PAXTON1, Woo Kyoung LEE1, Young-Sil KWAK1
1The Johns Hopkins University Applied Physics Laboratory, 2Korea Astronomy and Space Science Institute

Ionospheric Irregularities Characterization by Ground-Based and Space-Borne GPS Observations
Irina ZAKHARENKOVA1,2, Iurii CHERNIAK3
1University of Warmia and Mazury, 2Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, 3National Center for Atmospheric Research

Strong Sporadic E Occurrence Detected by Ground Based GNSS
Wenjie SUN1, Baiqi NING1, Xinan YUE1, Guozhu LI1
1Chinese Academy of Sciences

Understanding the Generation and Movement of Equatorial Plasma Bubbles During Geomagnetic Storms
Chaosong HUANG1
1Air Force Research Laboratory

Spectral Characteristics of Equatorial Plasma Bubbles Simulated by High Resolution Bubble Model
Tatsubiro YOKOYAMA1, Charles RINO2, Charles CARRANO3
1National Institute of Information and Communications Technology, 2Boston College

GNSS Data Service at Institute of Geology and Geophysics, Chinese Academy of Sciences
Xiukuan ZHAO1, Lianhuan HU1, Guozhu LI1
1Chinese Academy of Sciences

Simultaneous Observations of Plasma Bubbles by a Low-Cost Airglow Imager and GNSS Receivers in Ishigaki, Japan
Keisuke HOSOKAWA1,2, Kohei TAKAMI1, Susumu SAIIO2, Yasunobu OGAWA2, Yuichi OTSU2, Kazuo SHIOKA2
1University of Electro-Communications, 2Electronic Navigation Research Institute, 3National Institute of Polar Research, 4Nagoya University
ST17-D2-AM1-317A-001 | ST17-A013
Ionospheric Disturbances Generated by China’s Long March Rocket Launches
Feng DING1,*, Hai Tao LIU1
1Chinese Academy of Sciences

ST17-D2-AM1-317A-002 | ST17-A030 (Invited)
Latest Results on Solar Eclipse-Induced Variations in the Ionosphere over the Continental U.S.
Philip ERICKSON1,*, Larisa GONCHARENKO1, Anthea COSTER1
1Massachusetts Institute of Technology

ST17-D2-AM1-317A-003 | ST17-A010 (Invited)
Global Thermospheric and Ionospheric Responses of 21 August 2017 Solar Eclipse Simulated by the High-Resolution Thermosphere Ionosphere Electrodynamics General Circulation Model (TIEGCM)
Tong DANG1,*,
1University of Science and Technology of China

ST17-D2-AM1-317A-004 | ST17-A028 (Invited)
In-Situ Observational Evidence of Traveling Ionospheric Disturbance and Total Electron Content Reduction in the Topside Ionosphere During the 2017 Eclipse
Andrew YAU1,*, Christopher WATSON1, Gareth PERRY1
1University of Calgary, 2National Oceanic and Atmospheric Administration

ST17-D2-AM1-317A-005 | ST17-A026 (Invited)
Temperature Changes During Geomagnetic Storms
Alan G. BURNS1,*, Lijing QIAN2, Richard EASTES1
1National Center for Atmospheric Research, 2University of Colorado Boulder

ST17-D2-AM1-317A-006 | ST17-A008
Longitudinal Variations of Topside Ionospheric and Plasmaspheric TEC
Jiahao ZHONG1,*, Jiuhou LEI1, Wenbin WANG2, Alan G. BURNS1, Xinan YUE1, Xiankang DOU1
1University of Science and Technology of China, 2National Center for Atmospheric Research, 3Chinese Academy of Sciences

ST17-D2-AM1-317A-007 | ST17-A002
Different Evolutions Patterns of the Sub-Auroral Polarization Streams During Storm and Substorms
Fei HE1,*, Xiao-Xin ZHANG2, Wenbin WANG3, Weixing WANG4
1Institute of Geology and Geophysics, Chinese Academy of Sciences, 2China Meteorological Administration, 3National Center for Atmospheric Research, 4Chinese Academy of Sciences

ST17-D2-AM1-317A-008 | ST17-A014
Solar Wind-Driven Enhancements and Losses of Radiation Belt Particles: Van Allen Probes Observations
Allison JAYNES1,*, Daniel BAKER2,*,
1University of Iowa, 2University of Colorado Boulder

ST17-D2-AM1-317A-009 | ST17-A018 (Invited)
Geospace System Responses During Different Types of ICME-Driven Geomagnetic Storms: Coupled Magnetosphere-Ionosphere-Thermosphere Simulations Using SWMF
Shasha ZOU1,*, Doga OZTURK1, Aaron RIDLEY1
1University of Michigan

ST17-D2-AM1-317A-010 | ST17-A003 (Invited)
Sudden GNSS TEC Response to Shock-Induced Magnetospheric Compression
Yongqiang HAO1,*, Quanhua LI1, Donghe ZHANG1, Zuo XIAO1
1Peking University

ST17-D2-AM1-317A-011 | ST17-A024
Interplanetary Magnetic Field by Component Effects on the Thermosphere Composition
Jing LIU1,*, Wenbin WANG1, Alan G. BURNS1
1National Center for Atmospheric Research

ST17-D2-AM1-317A-012 | ST17-A027
Can Solar Flare Induce Traveling Ionospheric Disturbances?
Shunrong ZHANG1,*, Anthea COSTER1, Philip ERICKSON1, Larisa GONCHARENKO1
1Massachusetts Institute of Technology

ST17-D2-AM1-317A-013 | ST17-A017 (Invited)
Solar Flare Effects on the Thermosphere and Ionosphere
Lijing QIAN1,*, Phil CHAMBERLIN1, Alan G. BURNS1
1National Center for Atmospheric Research, 2University of Colorado Boulder
The Ionospheric and Thermospheric Responses to Great Solar Flares: Observations and Modeling
Huijun LE1#, Yiding CHEN1, Zhipeng REN1, Weixing WAN1
1Chinese Academy of Sciences

Regional Differences of the Ionospheric Response to the July 2012 Geomagnetic Storm
Jiawei KUAI1#, Libo LIU2, Jiuhou LEI3, Jing LIU4
1Nanjing University of Aeronautics and Astronautics, 2Chinese Academy of Sciences, 3University of Science and Technology of China, 4National Center for Atmospheric Research

High and Middle Latitude Neutral Mesospheric Density Response to Geomagnetic Storms
Wen YI1#, Iain REID2,3, Xianghui XUE1, Damian MURPHY4, Chris HALL5, Masaki TSUTSUMI6, Baiqi NING7, Guozhu LI7, Joel YOUNGER2,3, Tingdi CHEN1, Xiankang DOU1
1University of Science and Technology of China, 2ATRAD Pty Ltd, 3University of Adelaide, 4Australian Antarctic Division, 5University of Tromsoe, 6National Institute of Polar Research, 7Chinese Academy of Sciences
HS Poster Presentations
Tue - 05 Jun, 13:30 - 15:30 | Ballroom B

HS01-D2-PM1-P-009 | HS01-A004
Short-Duration Rainfall Generation Under Scenarios of Climate Change and Urbanization
Shien-Tsung CHEN1#*
1Feng Chia University

HS01-D2-PM1-P-010 | HS01-A005
A Modified Hydrology-Hydraulic Model to Simulate Surface-Subsurface Hydrologic Dynamics of Low Impact Development Practices in Urban Catchments
Kun ZHANG2, Ting Fong May CHUI1#*
1The University of Hong Kong

HS01-D2-PM1-P-011 | HS01-A008
Total Sediment Transport from an Urbanizing Watershed in the Upper Yellow River, China
Zhijun WANG1#*
1Lanzhou University of Technology

HS01-D2-PM1-P-012 | HS01-A018
Hazard, Achievement, and Following Treatment Emphasis for the Slope Land Erosion in the National Scale
Chonghuan NIU1#*, Yuehong CHEN2
1Ministry of Water Resources, 2International Research and Training Center on Erosion and Sedimentation

HS01-D2-PM1-P-013 | HS01-A019
Water Budget Investigation of a Mountain Lake for Preserving the Endemic Plant in Taiwan
Shang-Shu SHIH1#*
1National Taiwan University

HS02-D2-PM1-P-006 | HS02-A002
Distribution Patterns of Desert Vegetation Species Diversity and Relationship to Environmental Factors in the Heihe River Basin of Northwestern China
Shanjia LI1#*, Peixi SU2, Zijuan ZHOU3
1Lanzhou University of Technology, 2Chinese Academy of Sciences

HS02-D2-PM1-P-007 | HS02-A009
Vertical Water Flux Estimated Using Multiple Diurnal Temperatures with the VFLUX in a Hyporheic Zone
Woo-Hyun JEON1#, Jin-Yong LEE1#*
1Kangwon National University

HS02-D2-PM1-P-008 | HS02-A010
Exploring the Patterns of Water Level Fluctuations and the Corresponding Influence on the Distribution of Wetland Vegetation in Poyang Lake, China
Rongrong WAN1#*, Guishan YANG1, Xue DAI1#*
1Chinese Academy of Sciences

HS02-D2-PM1-P-009 | HS02-A011
Hydrological Characteristics of Sand Bar in River
Dong Gu KIM1#*, Chan Joo LEE1
1Korea Institute of Civil Engineering and Building Technology

HS02-D2-PM1-P-010 | HS03-A010
Comparison of Field Observations and Modeling Derived Soil Moisture Change Based on Rainfall in Haean Basin, Korea
Jeong Jik KIM1#*, Ho Geon LEE1, Jin-Yong LEE1#*
1Kangwon National University

HS02-D2-PM1-P-011 | HS03-A015
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1Korea Institute of Civil Engineering and Building Technology, 2Incity Co. Ltd

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1Department of Civil Engineering, Xi’an Jiaotong-Liverpool University, 2Korea Institute of Civil Engineering and Building Technology

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1NASA Goddard Earth Sciences Data and Information Services Center, 2NASA Goddard Space Flight Center

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1National Institute of Advanced Industrial Science and Technology

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Sunmin LEE1, Moung-Jin LEE1
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1National Pingtung University of Science and Technology, 2Chia Nan University of Pharmacy and Science

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Indian Institute of Technology Gandhinagar, Pacific Northwest National Laboratory

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1University of Seoul, 2HS16-D2-PM1-P-018

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Jinkai LUAN1, Dengfeng LIU1+, Lianpeng ZHANG1, Hongyi LF, Qiang HUANG1, Mu LIN1
1Xi’an University of Technology, 2Montana State University, 3Central University of Finance and Economics

Impacts of Extreme Temperature on Crop Growth in the North China Plain
Jiadi LI1, Huimin LEI1
1Tsinghua University

Hydrological Changes in a Typical Irrigated Area of the North China Plain Under the Influence of Human Activity
Qichao LI1+, Guangping XI1
1The Experimental Irrigation Station of the Weishan Irrigation District

Spatial-Temporal Patterns of Evapotranspiration Along an Elevation Gradient on Mount Gongga, Southwest China
Zhaoyong HU1+, Genxu WANG2
1Institute of Mountain Hazards and Environment, Chinese Academy of Sciences, 2Chinese Academy of Sciences

Quantifying the Relative Contribution of Climate and Human Activities on Runoff in the Jialing River
Jing XIA1+, Guodong LIU1
1Sichuan University

Evaluation of Flow Regime Change and Prediction of its Impact by Instream Flow Management
Seongkyu KANG1+, Si-Jung CHOI1, Dong-Ryul LEE1, Chulsang YOO2
1Korea Institute of Civil Engineering and Building Technology, 2Korea University

Incorporating Soil Moisture Dynamic Model into the Machine Learning Technique to Estimate Regional Evapotranspiration
Guanheng ZHENG1+, Huimin LEI, Dawn YANG2
1Tsinghua University

An Elasticity Index Based Investigation on the Water Quality-Climate Driver-Land Use System
Jing XIA1+, Afed KHAN2
1Southern University of Science and Technology, 2Harbin Institute of Technology

Analysis of Precipitation Characteristics on the Loess Plateau Between 1965 and 2014, Based on High-Density Gauge Observations
Xu TANG1+
1Beijing Normal University

Spatiotemporal Changes in Extreme Temperature and Precipitation Events in the Three-Rivers Headwater Region, China
Yang XI1+, Chiyuan MIAO1#, Qingyun DUAN2
1Beijing Normal University

Temporal and Spatial Variation of Hydrological Condition in the Ziwu River Basin of Han River in China
Ziyan LI1+, Dengfeng LIU1+, Qiang HUANG1, Tao BAI1, Shuai ZHOU1, Mu LIN2
1Xi’an University of Technology, 2Central University of Finance and Economics

A Study on Flow Resistances in High Suspended Sediment Concentration
Hiroshi KOSEKI1+, Atsuhiko YOROZUYA2
1Public Works Research Institute

Spatiotemporal Pattern Analysis of Extreme Precipitation of Poyang Lake Basin, China
Qianjin DONG1+, Zengchao HAO2
1Wuhan University, 2Beijing Normal University
Seasonal Drought Prediction for Fiji Based on High-Resolution Dynamic Downscaling of Climate Data and Machine Learning of Long-Range Forecast
Jinyoung RHEE1#, Hongwei YANG1
1APEC Climate Center

Development of Irregularly Mixed Grid-Based Spatial Interpolation Method and Application to Hydrogeological Data and Numerical Model
Tae Beom KIM1#, Il Hwan KIM1
1Kookmin University

Application of a Calibration Free Dynamic Budyko Model for Prediction of Flow Duration Curve in Ungauged Catchments of India
Anita NAG1#, Basudeb BISWAL1
1Indian Institute of Technology Hyderabad

The Contribution of Ensemble Streamflow Forecasts to Water Resources Optimization Scheduling
Jingwen HOU1, Aizhong YE1, Qingyun DUAN1
1Beijing Normal University

Seasonal Drought Forecasting System in the Semi-Arid Heihe River Basin, Northwestern China
Feng MA1, Aizhong YE1, Lifeng LUC1, Qingyun DUAN2
1Beijing Normal University, 2Michigan State University

Daily Rainfall Simulation and Evaluation Using Nonhomogeneous Hidden Markov Model
Jae Won JUNG1, Jisu NAM1, Soojun KIM1, Hung Soo KIM2
1Inha University

Il Hwan KIM1, Jeong-Seok YANG1, Jae Beom LEE1
1Kookmin University

Optimal Shelter Selection Against Mega Flood Occurrence
Dae Gun HAN1, Kyunghun KIM1, Hung Soo KIM1
1Inha University

Future Dispersal and Connectivity of World’s Northernmost Coral Reefs
Shintaro TAKAO1#, Hiroshi KURODA2, Hiroya YAMANO3, Masahiko FUJII1, Yasuhiro YAMANAKA4
1National Institute of Polar Research, 2Fisherie Research Agency, 3National institute for Environmental Science, 4Hokkaido University

Application of Flood Vulnerability Index for Analyzing Safety Change of Levee according to Climate Change
Hoo Sang LEE1, Jae Joon LEE1, Jun-Haeng HEO1, Sung Ho LEE1
1Kumoh National Institute of Technology, 2Yonsei University

Drought Early Warning and Preparedness: A Case Study in Southern Taiwan
Hung-Wei TSENG1, Chien-Min KUO1, Tao-Chang YANG1, Pao-Shan YU1
1National Cheng Kung University, 2

Evaluation of Extreme Rainfall Under Climate Change Scenario in Korea Peninsula
Minsung KWON1, Jae-Hyun AHN2
1Urban Risk Management Research Center, 2Seokyeong University

Projection of Future Change in Storm Surges by Artificial Neural Network and d4PDF
Yuji ARAKI1, Tomohiro YASUDA1, Nobuhito MORF, Sota NAKAJI1
1Kansai University, 2Kyoto University, 3Osaka City University

Intercomparison of Bias Correction Methods for Runoff Generation Outputs from Land Surface Models at the Chao Phraya River Basin
Teerawat RAM-INDRA1, Patinya HANITTINAN1, Yasuto TACHIKA1, Yutaka ICHIKAWA1, Kazuaki YOROZU1
1Kyoto University

Statistical Downscaling of AGCM60km Precipitation Based on Spatial Correlation of AGCM20km Output
Sunmin KIM1, Yasuto TACHIKA1, Eiichi NAKAKITA2
1, 2Kyoto University
Mitigation Measures from Coastal City Inundation Due to Climate Change
Won Bum KIM1+, Kwang Ik SON1
1Yeungnam University

Development and Application of Flood Vulnerability Index for River Levee
Sung Ho LEE1++, Jae Joon LEE1, Hoo Sang LEE1, Jun-Haeng HEO
1Kumoh National Institute of Technology, 2Yonsei University

Development of a 2-Dimensional Inundation Model and Verification Using Satellite Images
Yun Seok CHOI1+, Chyung Such HAN1, Seungjin HONG1++, Kyusung LEE1
1Korea Institute of Construction Technology, 2Inha University

Experimental Study for Flow Analysis on Road and Gutter
Jung Soo KIM1++, Sung Ho LEE1, Chyung Such HAN1, Sei Eui YOON1
1University of Bucheon, 2Kumoh National Institute of Technology, 3Bucheon University, 4University of Kyonggi

Analysis of the Climate Change Impacts in the Soyanggang Dam Basin Using RCP Scenarios
Yeonsu DO1+, Gwangseob KIM1
1Kyungpook National University

Flood Risk Index Projection in Korea Using RCP Scenarios
Myojeong KIM1, Gwangseob KIM1
1Kyungpook National University

One-Parameter Lindley Distribution with Application to Rainfall Data in Seoul, Korea
Hyunjun AHN1+, Ju-Young SHIN1, Sunghun KIM1, Jun-Haeng HEO1
1Yonsei University

Climate Change and Debris Flow Activity in Scarp Area: A Case Study on Goehwa Mt. in Korea
Seok Il JEONG1, Hong-Teak KIM1, Eui Youp JUNG2, Seung Oh LEE1
1Hongik University, 2Denver Korea Inc.

Estimation of Critical Rainfall for Inundation Risk in Urban Area
Beom Jin KIM1+, Kun-Yeon HAN1++, Hyun II KIM1, Ho Jun KEUM1
1Kyungpook National University

Debris Flow Propagation in Mountainous Area Near the Highway
Kun-Yeon HAN1++, Jae Tae LIM1, HeeHoon CHOP1, Byung-Hyun KIM1
1Kyungpook National University, 2Korea Expressway Corporation, 3Ministry of the Interior and Safety, 4National Civil Defense and Disaster Management Training Institute

Methodologies of Resilience Evaluation for Urban Flood Risk Mitigation
Ho Jun KEUM1+, Kun-Yeon HAN1++, Jae Yeong LEE1, Beom Jin KIM1
1Kyungpook National University

Analyzing the Change of Surface Water and Groundwater Systems by Tunnel Construction
Hangtak JEON1+, Chung-Mo LEE1, Woo-Ri LIM1, Sul-Min YUN1, Heung-Jai PARK1, Se-Yeong HAMM1
1Pusan National University, 2Inje University

Flood Inundation Simulation Due to the Levee Breach Under RCP 4.5 & 8.5 Scenarios - A Case Study of Palbok-Dong in Jeonju Stream, Korea
Hyung-Ju YOO1+, Seok Il JEONG2, Seung Oh LEE1
1Hongik University

Study on the Development of Damage Function by Flood Depths Using Damage Data Investigation - Focusing on School Buildings -
Sang Ho KIM1, Chang Hee LEE1, Shinbum HWANG1, Taeho JUNG1
1Sangji University, 2Jungwon University

An Analysis on Inundation Characteristics of Tsunami in Busan Due to Extreme Earthquake Using Delft3D
Dong Hyun KIM1, Hyung-Ju YOO1, Seung Oh LEE1
1Hongik University
A Joint Estimate of Antarctic Ice Sheet Mass Balance Using Multi-Geodetic Data Sets
Chunchun GAO1+, Benjamin Fong CHAO1#, Yang LU2, Zizhan ZHANG2, Hongling SHI2
1Academia Sinica, 2Chinese Academy of Sciences

Sea-Ice Thickness and Volume in the Sea of Okhotsk Revealed from ICESat Data
Sohey NIHASHI1+, Nathan KURTZ2, Thorsten MARKUS3, Kay OHSIMA3, Kazutaka TATEYAMA3, Takenobu TOYOTA3
1National Institute of Technology, Tomakomai College, 2NASA Goddard Space Flight Center, 3Hokkaido University, 4Kitami Institute of Technology

A Comparison of Slope Erosion Sediment Yield Characteristics of Yellow Soil in Southwest China and Loess in Northwest China
Yuehong CHEN1+, Duihu NING1
1International Research and Training Center on Erosion and Sedimentation

An Experimental Study on the Measurement of Bed Load Discharge Using a Hydrophone
Kye-Won JUN1#, Jong-Ho CHOI1
1Kangwon National University

The Environmental Impacts of Dredging Operations: A Review
Tully BOOTH1+, Ben JARIHANI1
1University of Queensland, 2University of the Sunshine Coast

Impacts of Urban Expansion on Summer Rainfall over Pearl River Delta, South China
Guoru HUANG1+, Linhao ZHONG1
1South China University of Technology

Decadal Transition of Moisture Sources and Transport in Northwestern China During Summer from 1982 to 2010
Lijuan HUA1+, Zhihui HUA2, Longfei CHEN2
1University of Chinese Academy of Sciences, 2Chinese Academy of Sciences
Dew Formation Characteristics and its Ecohydrological Effects in a Desert Oasis Ecotone, Northwestern China
Yanli ZHUANG1‡, Wenzhi ZHAO1
1Chinese Academy of Sciences

Simulation of Runoff and Watershed Erosion Based on Distribute Hydrological Model in Midstream of the Yellow River, China
Yuan GUO1‡, Peng DENG2
1Zhengzhou University, 2Nanjing University of Information Science & Technology

Multi-Decadal Changes of Hydroclimatic Conditions in China’s Semi-Arid and Arid Areas Inferred from Ground and Satellite Observations
Ke ZHANG1‡
1Hohai University

Challenges and Difficulties of Integrated Study on the Pearl River Basin and Pearl River Estuary
Xiao FENG1‡, Ji CHEN1
1The University of Hong Kong

Spatiotemporal Variation of the Meteorological and Hydrological Droughts in Central Taiwan
Hsin-Li HSU1‡, Hsin-Fu YEH1
1National Cheng Kung University

Development of Typhoon Damage Forecasting Function Using Tukey’s Ladder of Powers and LOOCV Method.
Bo Rim LEE1‡, Taegyun KIM1
1Gyeongnam National University of Science and Technology

Development of the Loss Function for the Transportation Facilities Using Flooded Area
Shinbum HWANG1‡, Sim JUNHYUK1, Chang Hee LEE1, Sang Ho KIM1
1Sangji University, 2Jungwon University

Model for Urban Runoff Analysis in Seoul
PARK JONGPYO1‡, Kyoungdo LEE1, Heeman KANG2
1Hecorea Inc., 2Korea Expressway Corporation Research Institute

Catchment Hydrologic Cycle Assessment and Improving Technology for Climate Change Adaption
Cheol Hee JANG1‡, Hyeonjun KIM1, Ilpyo HONG2
1Korea Institute of Civil Engineering and Building Technology, 2Korea Institute of Construction Technology

Estimating Evapotranspiration Components Using the Three-Temperature Model and Thermal Remote Sensing
Yu Jiu XIONG1‡, Guo Yu QIU1, Pei WANG1, Kyaw Tha PAW U1
1Sun Yat-sen University, 2Peking University, 3Beijing Normal University, 4University of California Davis

Plant Transpiration Simulation in a Subtropical Monsoon Climate Zone
Xinguang HE1‡, Na LIU1, Huade GUAN1, Thomas N. BUCKLEY1, Zidong LUO1, Xinping ZHANG1
1Hunan Normal University, 2Flinders University, 3University of California

The Effect of Phenology, Temperature and Plant Water Stress on the Dynamics of Carbon and Water Exchanges of a Seasonally Dry Tropical Forest with the Atmosphere
Hugo GUTIERREZ1,2, Jorge UUH-SONDA1, Bernardo FIGUEROA-ESPINOZA1, Luis MENDEZ-BARROSO1
1The University of Texas at El Paso, 2Flinders University, 3Universidad Nacional Autonoma de Mexico, 4Instituto Tecnologico de Sonora

Examination of Dominant Controlling Factors for Simplifying Transpiration Modeling for a Deciduous Tree Species in a Subtropical Humid Environment
Zidong LUO1‡, Huade GUAN1, Xinping ZHANG1, Na LIU3
1Hunan Normal University, 2Flinders University
ST Poster Presentations
Tue - 05 Jun, 13:30 - 15:30 | Ballroom B

ST01-D2-PM1-P-012 | ST01-A003
A Comparative Study Between a Failed and a Successful Eruption Initiated from the Same Polarity Inversion Line in AR 11387
Lijuan LIU1+, Yuming WANG2, Zhenjun ZHOU1, Karin DISSAUER3, Manuela TEMMER3, Jun CUI1,4
1Sun Yat-sen University, 2University of Science and Technology of China, 3University of Graz, 4Chinese Academy of Sciences

ST01-D2-PM1-P-013 | ST01-A004
Long-Term Behaviors of Flare Activities: Sun vs. Solar-Type Stars
Han HE1+, Huaning WANG1, Mei ZHANG1, Ahmad MEHRABI2, Yan YAN1, Duo YUN1
1Chinese Academy of Sciences, 2Bu Ali Sina University

ST01-D2-PM1-P-014 | ST01-A006
The Origin of Extremely Large EUV Late Phase: Heating of Gradual Breakout Reconnection
Zhenjun ZHOU1, Yuming WANG2, Kai LIU2, Jie ZHANG3, Xin CHENG1, Lijuan LIU1, Jun CUI1,4
1Sun Yat-sen University, 2University of Science and Technology of China, 3George Mason University, 4Chinese Academy of Sciences

ST01-D2-PM1-P-015 | ST01-A012
Derivation of Solar Flare Total Spectra from Flare Geometrical Features
Kyoko WATANABE1+, Shohei NISHIMOTO1, Shinsuke IMADA2, Tomoko KAWATE3, Kyoung-Sun LEE4
1National Defense Academy of Japan, 2Nagoya University, 3Japan Aerospace Exploration Agency, 4National Astronomical Observatory of Japan

ST01-D2-PM1-P-016 | ST01-A018
Analysis Method Using Visualization Technique for Solar Flare Forecast Model Based on Convolutional Neural Network
Taeyoung KIM1, Seung Bum YANG2, Dohyeon KIM3, Cheonyoung PARK4, Myungjin CHOF5, Eunsu PARK6, Kangwoo YP7, Seulki SHIN8, Yong-Jae MOON9
1Kyung Hee University, 2InSpace Co., Ltd, 3Chung-Nam National University

ST01-D2-PM1-P-017 | ST01-A019
A Weak Coronal Mass Ejection Without Flare Observed
Yu LIU1+
1Chinese Academy of Sciences

ST02-D2-PM1-P-017 | ST02-A005
Open Magnetic Flux and the Cosmic-Ray Sun Shadow Observed with the Tibet Air Shower Array
Kazumasa KAWATA1, Tibet ASGAMMA2
1ICRR, The University of Tokyo, 2N/A

ST02-D2-PM1-P-018 | ST02-A008
Solar Energetic Electrons Detected in the Earth’s Cusp Region by the BD-IES Instrument
Linghua WANG1++, Qiugang ZONG1, Quan-Qi SHP, Chuanyi TU1, Jiansen HE1, Hui TIAN1, Robert WIMMER-SCHWEINGRUBER1, Stuart BALE4
1Peking University, 2Shandong University, 3University of Kiel, 4University of California, Berkeley

ST02-D2-PM1-P-019 | ST02-A016
The Strongest Acceleration of >40 keV Electrons by ICME-Driven Shocks at 1 AU
Liu YANG1, Linghua WANG1++, Gang LF, Robert WIMMER-SCHWEINGRUBER1, Jiansen HE1, Hui TIAN1, Chuanyi TU1
1Peking University, 2The University of Alabama in Huntsville, 3University of Kiel

ST02-D2-PM1-P-020 | ST02-A017
Acceleration of Superthermal Electrons at the Earth’s Bow Shock
Zixuan LIU1++, Linghua WANG1++, Jiawei TAO1, Liu YANG1
1Peking University

ST02-D2-PM1-P-021 | ST02-A018
Hard X-Ray Flares Associated with 3He-Rich Solar Energetic Electron Events
Wen WANG1, Linghua WANG1++, Jiawei TAO1, Liu YANG1
1Peking University

ST02-D2-PM1-P-022 | ST02-A019
Modeling a Single Sep Event from Multiple Vantage Points Using the iPATH Model
Gang LI1, Junxiang HU1, Gary ZANK1, Xianzhi AO2
1The University of Alabama in Huntsville, 2Chinese Academy of Sciences

ST02-D2-PM1-P-016 | ST02-A003
Radiation Dose During the Ground Level Enhancement on 10 September 2017
Ryuho KATAOKA1,2, Sato TATSUHIKO2, Shoko MIYAKE1, Daikou SHIOTA1, Yuki KUBO4
1National Institute of Polar Research, 2Japan Atomic Energy Agency, 3NIT Ibaraki College, 4National Institute of Information and Communications Technology
ST03-D2-PM1-P-020  |  ST03-A004
Observations and Simulations of Multiband Chorus in the Earth’s Magnetosphere
Xinliang GAO1++, Quanming LU1
1University of Science and Technology of China

ST03-D2-PM1-P-021  |  ST03-A010
Electromagnetic Emission Due to Cyclotron Instability as a Possible Source of Non-Thermal Continuum Radiation in Space Plasmas
Miroslav HORKY1,2++, Yoshiharu OMURA2
1Czech Academy of Sciences, 2Kyoto University

ST03-D2-PM1-P-022  |  ST03-A012
Particle Diffusion by Obliquely Propagating Broadband Kinetic Alfvén Wave
Cheongrim CHOI1++, Minho WOO1, Dae-Kyu SHIN1, Peter H. YOON1, Dae-Young LEE1, Kyungsun PARK1
1Chungbuk National University, 2National Fusion Research Institute, 1University of Maryland

ST03-D2-PM1-P-023  |  ST03-A014
Local Generation of High Frequency Plasmaspheric Hiss Observed by Van Allen Probes
Zhaoguo HE1,2++, Lunjin CHEN2, Xu LIU2, Yong CAO1
1Harbin Institute of Technology, 2University of Texas at Dallas

ST03-D2-PM1-P-024  |  ST03-A016
Periodicities of PsA Main Pulsation and Bursts of Chorus: A Statistical Comparison
Yuki KAWAMURA1,2++, Keisuke HOSOKAWA1, Yasunobu OGAWA2, Satoshi KURITA1, John WYGANT1, Aaron BRENEMAN1, John BONNELL1, Craig KLETZING1
1University of Electro-Communications, 2National Institute of Polar Research, 1Nagoya University, 2University of Minnesota, 1University of California, Berkeley, 2The University of Iowa

ST03-D2-PM1-P-025  |  ST03-A024
Relationship Between Lower-Band Chorus, Electrostatic Electron Cyclotron Harmonic Waves and Pulsating Aurora Based on Conjunction Between Arase and Ground-Based Imager
Mizuki FUKIZAWA1++, Takeshi SAKANO1, Yoshizumi MIYOSHI1, Keisuke HOSOKAWA1, Atsushi KUMAMOTO1, Fuminori TSUCHIYA1, Kazuo SHIKOKA2, Akira KADOKURA2, Yukinaga MIYASHITA1, Yoshimasa TANAKA2, Yoshiya KASAHARA3, Mitsunori OZAKI3, Ayako MATSUOKA4, Shoya MATSUDA5, Mitsuru HIKISHIMA6, Shin-Ichiro OKUYAMA7, Yasunobu OGAWA2, Satoshi KURITA1, Ryoichi FUJII8
1Tohoku University, 2Nagoya University, 1University of Electro-Communications, 3University of Colorado, 4University of Texas, 5Imperial College London, 6National Aeronautics and Space Administration, 7Southwest Research Institute, 8University of New Hampshire, 9University of Colorado, 10University of California, Los Angeles, 11NASA Goddard Space Flight Center

ST03-D2-PM1-P-026  |  ST03-A028
Nonlinear Behavior of Charged Particles in Ultralow Frequency Waves
Li LI1, Xuzhi ZHOU1, Zihan WANG1, Qiugang ZONG1, Robert RANKIN2
1Peking University, 2University of Alberta

ST03-D2-PM1-P-027  |  ST03-A029
Injected Electrons Modulated by ULF Waves: Van Allen Probes and BD-IES Observations
Xingran CHEN1++, Qiugang ZONG1, Xuzhi ZHOU1
1Peking University

ST03-D2-PM1-P-028  |  ST03-A031
Low Electron Precipitation Enhancements Measurements from STSAT-1
Jongdae SOHN1++, Jaein LEE1, Jaheung PARK1, Yukinaga MIYASHITA1
1Korea Astronomy and Space Science Institute

ST03-D2-PM1-P-029  |  ST03-A032
Study of the Modulation of Whistler-Mode Chorus Generation by ULF Waves
Yuto KATOH1++, Lunjin CHEN2
1Tohoku University, 2University of Texas at Dallas

ST03-D2-PM1-P-030  |  ST03-A037
Generation and Micro-Scale Effects of Electrostatic Waves in an Oblique Shock Crossing
Katherine GOODRICH1++, Robert ERGUN2, David NEWMAN2, Steven SCHWARTZ2, Lynn WILSON3, Frederick WILDER4, James BURCH5, Roy B. TORBERT6, Yuri KHOTYAYNTSEV7, Per-Arne LINDBERG8, Robert STRANGEWAY9, Christofer RUSSEL10, Daniel GERSHMAN10, Barbara GILES10
1Laboratory of Atmospheric and Space Physics, 2University of Colorado Boulder, 3Imperial College London, 4National Aeronautics and Space Administration, 5Southwest Research Institute, 6University of New Hampshire, 7Swedish Institute of Space Physics, 8KTH Royal Institute of Technology, 9University of California, Los Angeles, 10NASA Goddard Space Flight Center

ST04-D2-PM1-P-020  |  ST04-A001
The Variability of SE2 Tide Extracted from TIMED/SABER Observations
Xing LI1++, Weixing WAN1, Zhipeng REN1
1Beihang University, 2Chinese Academy of Sciences
First Observation of Mesosphere Response to the Solar Wind High-Speed Streams
Wen YI1, Iain REID2,3, Xianghui XUE1, Joel YOUNGER2,3, Andrew SPARGO3, Damian MURPHY3, Xiankang DOU3, Tingdi CHEN3
1University of Science and Technology of China, 2ATRAD Pty Ltd, 3University of Adelaide, 4Australian Antarctic Division

Initial Report on Polar Mesospheric Clouds Observed by Himawari-8
Takuo TSUDA1,2, Yuta HOZUMI1, Kento KAWAURA1, Hidehiko SUZUKI2, Keisuke HOSOKAWA1, Takuji NAKAMURA3
1University of Electro-Communications, 2Meiji University, 3National Institute of Polar Research

The Response of Ionospheric TEC and 630 nm Airglow Emissions During the 2016 Stratospheric Sudden Warming
Yi Chung CHIU1, Loren CHANG1, Yi DUANN1, Alexei DMITRIEV1, Irina V. MEDVEDEVA1, K. RATOVSKY2
1National Central University, 2Russian Academy of Sciences

Photochemical Model for Atomic Oxygen Ion Retrieval from Ground-Based Observations of Airglow
Yi DUANN1, Yi Chung CHIU1, Loren CHANG1, Irina V. MEDVEDEVA1, K. RATOVSKY2, Alexei DMITRIEV1
1National Central University, 2Russian Academy of Sciences

Anticipated Observation of Gravity Waves and Tides by the Upcoming Gold Mission Using a GCM and Glow Model
Katelynn GREER1
1University of Colorado Boulder

Annual and Interannual Variations in Global 6.5DWs from 20 to 110 Km During 2002–2016 Observed by TIMED/SABER
Lingqi ZENG1,2, Yingying HUANG3, Shaodong ZHANG2
1Institute of Geology and Geophysics Chinese Academy of Sciences, 2PLA University of Science and Technology, 3Wuhan University

Assessment of Current Modeling Capabilities of the Ionospheric Climatology: foF2 and hmF2
Larisa GONCHARENKO1,2, Ioanna TSAGOURI2, Ja Soon SHIM3, Masha M. KUZNETSOVA1, Anna BELEHAKI3
1Massachusetts Institute of Technology, 2National Observatory of Athens, 3NASA Goddard Space Flight Center, 4The Catholic University of America

Multi-Instrumental Investigation of Large-Scale Traveling Ionospheric Disturbances Occurred During the 2015 Severe Storms
Iurii CHERNIAK1,2, Irina ZAKHARENKOVA2,3
1University Corporation for Atmospheric Research, 2University of Warmia and Mazury, 3Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation

Relativistic Electron Precipitation Events at International Space Station and Their Conjunction Observations
Ryuho KATAOKA1,2, Haruka UENO1, Satoshi NAKAHIRA3, Keisuke HOSOKAWA1, Yoshizumi MIYOSHI1
1National Institute of Polar Research, 2Japan Aerospace Exploration Agency, 3RIKEN Advanced Institute for Computational Science, 4University of Electro-Communications, 5Nagoya University

On the Relationship Between Deep Penetration of Energetic Electrons and the Innermost Plasmapause Locations During Magnetic Storms
Leng Ying KHOO1,2, Xinlin LI1, Hong ZHAO1, Theodore SARRIS3
1University of Colorado Boulder, 2The Aerospace Corporation, 3Institute of Geophysics and Planetary Physics

SSC Induced Global Scale ULF Waves Accelerate Magnetospheric Ultra-Relativistic Electrons
Yixin HAO1,2, Quangang ZONG1, Xuzhi ZHOU1, Ying LIU1, Suiyan FU1, Xingran CHEN1, Berhard BLAKE2, Daniel BAKER3, John BONNELL4
1Peking University, 2The Aerospace Corporation, 3University of Colorado Boulder, 4University of California, Berkeley

Cross-Scale Coupling in Collisionless Magnetic Reconnection
Keizo FUJIMOTO1
1Beihang University
Small Cross-Tail Scale Dipolarization Fronts in the Earth's Magnetotail

Huang JING1+, Meng ZHOU2,3,4, Huang Li1, Xiaohua DENG1, Jiang LIU5, Shiyong HUANG1
1Nanchang University, 2UCLA, 3University of California, Los Angeles, 4Xidian University, 5Wuhan University

Oxygen Reflection on the Earthward Propagating Dipolarization Fronts

Shaojie ZHAO1+, Suiyan FU1, Weijie SUN1, Xuzhi ZHOU1, George PARKS5, Zu Yin PU1, Duo ZHAO1, Tong WU1, Qiugang ZONG1, Fangbo YU1
1Peking University, 2University of Michigan, 3University of California, Berkeley

Coherent Structures of Magnetosphere in 3D Global MHD Simulation

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Impact of the IMF Rotation: 3D Particle Simulations of the Solar Wind-Terrestrial Magnetosphere Interaction

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1University of Tsukuba

Nighttime Enhancement of Midlatitude Ionosphere and its Connection to the Plasmasphere

Quanhua LI1, Yongqiang HAO1, Donghe ZHANG1, Zuo XIAO1
1Peking University

Opposite Latitudinal Dependence of the Pre- and Post-Midnight Oscillations in the Electron Density of Midlatitude F-Layer

Jin WANG1#
1Wuhan University

Global-Scale Observations of the Limb and Disk: Science Implementation

William MCCLINTOCK1,2, Richard EASTES1, Laila ANDERSSON3, Alan BURROWS3, Mikhail CORTEDESCU1, Robert DANIELL2, Scott ENGLAND2, Joseph EVANS2, Andrey KRYWONOS4, Jerry LUMPE5, Arthur RICHMOND2, David RUSCH6, Oswald SIEGMUND2, Stanley SOLOMON2
1University of Colorado Boulder, 2National Center for Atmospheric Research, 3NOAA Space Weather Prediction Center, 4Ionospheric Physics, 5Virginia Tech, 6Computational Physics, Inc., 7University of Central Florida, 8University of California at Berkeley

Solar Irradiance Variations and Their Effects on the Ionosphere: Comparative Investigations Between the Solar Cycle and Solar Rotation Timescales

Yiding CHEN1#, Libo LIU1, Huijun LE1, Weixing WAN1
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Establishing a Solar EUV Flux Proxy by Using Thermospheric FUV Emissions and Solar Radio Fluxes

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Estimating the Energy Budget of the Polar Wind

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1University of Electro-Communications, 2University of Bremen, 3University of Greifswald, 4Computational Physics, Inc., 5National Institute of Polar Research
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1National Central University, 2University of Colorado at Boulder, 3National Cheng Kung University

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Liangjin SONG1#, Meng ZHOU2, Xiaohua DENG2, Yongyuan YI2
1Nanchang University, 2UCLA, 3University of California, Los Angeles, 4Wuhan University

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Chunliang XIA1++, Xiaomin ZUO1
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1University of California, San Diego, 2NASA Goddard Space Flight Center, 3The University of Alabama in Huntsville, 4Nagoya University

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Charles LIN1++, Chia-Hung CHEN1, Mitsuji MATSUMURA2, Ming Hsueh SHEN1, Ming-Yan CHOU1
1National Cheng Kung University, 2Nagoya University

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K. RYU1, Sun Mie PARK1, Yongmin KIM1, Hong-Young PARK1, Seong-Ok PARK1, Chul LEE1, Kyoung Wook MIN1++
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Qian SONG1*, Wenhong LI1
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Daytime F Region Irregularity Triggered by Rocket Induced Ionospheric Hole over Low Latitude
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1Royal Melbourne Institute of Technology University

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Anthony LUI1*
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1Kyoto University

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1ISAS/JAXA, 2Kanazawa University, 3Nagoya University, 4Japan
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5University of Alberta

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Kedeng ZHANG1#, Jing LIU2, Wenbin WANG3, Hui WANG3
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1University of California, Los Angeles, 2Predictive Science Inc.

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Dexin Ren1, Jiuhou Lei2
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Guoying Jiang1, Jiya Xu1, Wenbin Wang1, Wei Yuan1, Shunrong Zhang1, Tao Yu1, Xiao-Xin Zhang1, Cong Huang1, Robert B. Kerr2, Weijun Liu1, Qinzeng Li1
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Doga Ozturk1, Shasha Zou1, Aaron Ridley1, James Slavin1
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Zheng Li1, Delores Knipp2, Wenbin Wang2, Cheng Sheng3
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1University of Otago, 2The British Antarctic Survey, 3Augsburg College, 4University of New Hampshire

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Fuminori Tsuchiya1, Asuka Hira1, Takahiro Obara1, Hiroaki Misawa1, Satoshi Kura1, Kazuo Shibukawa1, Yoshizumi Miyoshi2, Martin Conners3
1Tohoku University, 2Nagoya University, 3Athabasca University

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Dae Jung Yu1, Dong-Hun Lee1
1Kyung Hee University

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1University of Colorado Boulder, 2National Center for Atmospheric Research
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Yuguang TONG1,†, Stuart BALE1, Chadi SALEM1, Marc PULUPA1
1University of California, Berkeley

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1Peking University, 2Los Alamos National Laboratory, 3Chinese Academy of Sciences, 4University at Kiel

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1Peking University, 2Max-Planck Institute for Solar System Research, 3Chinese Academy of Sciences

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1Beihang University, 2Peking University, 3China University of Geosciences, 4Chinese Academy of Sciences

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Takuma MATSUMOTO1,†
1Nagoya University

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1Kyung Hee University

The Kinetic Alfvén Wave Instability in the Electron Beam-Return Current System and Application to Some Processes in Solar Flare Loops
Ling CHEN1,†
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Shutao YAO1, Quan-Qi SHI1, Ruilong GUO1, Zhonghua YAO2, Anmin TIAN3, A. W. DEGEILING4, Weijie SUN5, Ji LIU6, Xiaogang WANG7, Qiugang ZONG8, Hui ZHANG9, Zuyin PU4, Linghua WANG10, Suiyan FU1, Chijie XIAO11, Feng YONGYONG12, Chris RUSSELL13, Barbara GILES14
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1Kyushu University, 2The Johns Hopkins University, 3Siberian Branch of the Russian Academy of Sciences, 4Far Eastern Branch of Russian Academy of Sciences

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Differentiated Oxygen and Hydrogen Ion Global 3-D Distributions in the Inner Magnetosphere Reconstructed from TWINS ENA Images During Two Magnetic Storms
Xiang-Yao ZENG1+, Shuying MA1#, Rong-Pu HU1, Liang XU1
1Wuhan University

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Seung Bum YANG1+, Taeyeong KIM1, Dohyeon KIM1, Soyeon KANG1, Myungjin CHOI1
1InSpace Co., Ltd, 2Kyung Hee University

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Gwang-Son CHOE1+, Sibaek YI1
1Kyung Hee University

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Effect of Interplanetary By-Polarity Changes on Auroral Luminosity
Kan LIOU1+, Elizabeth MITCHELL1, Chin-Chun WU2
1The Johns Hopkins University Applied Physics Laboratory, 2U.S. Naval Research Laboratory

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Do Inner Planets Modulate the Space Environment at 1 AU from the Sun?
Jung Hee KIM1, Heon Young CHANG1+
1Kyungpook National University

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Jean Louis RAUCH1+, Pierre HENRI1, Jan-Erik WAHLUND2, Olivier LE DUFF1, Oussmane SENE1, Fabrice COLIN1, Tedjani HACHEMI1, Dominique LAGOUTTE1, Nicolas GILET1, Lennart AHLEN2, Jan BERGMAN2, Reine GILL2, Walter PUCCIO2
1National Center for Scientific Research, 2Swedish Institute of Space Physics

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Ke-Shen LIU1+, Hui-Kuan FANG1, Ting-Chou WU1, Wen-Hao CHEN1, Alfred CHEN1
1National Cheng Kung University

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Water Detection at a Planetary Object with a Neutron Detector
Nobuyuki HASEBE1+, Hiroshi NAGAOKA1, Masayuki NAITO1, Junya ISHI1, Hiroki KUSANO2, Kyeong Ja KIM3, José A. Matias LOPES4
1Waseda University, 2Japan Aerospace Exploration Agency, 3Korea Institute of Geoscience and Mineral Resources, 4University of Coimbra

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Naoya OSADA1+, Shingo KAMEDA1, Hitoshi FUJWARA2, Go MURAKAMI2, Masahiro IKOMA2, Keigo ENYA3, Norio NARITA3
1Rikkyo University, 2Seikei University, 3Japan Aerospace Exploration Agency, 4The University of Tokyo, 5National Astronomical Observatory of Japan
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1National Cheng Kung University

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1Japan Aerospace Exploration Agency, 2Kwansei Gakuin University, 3Tohoku University, 4Kanazawa University, 5RIKEN Advanced Institute for Computational Science, 6Yokohama National University, 7Japan Agency for Marine-Earth Science and Technology

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Xiaoxia ZHANG1#+, Chun-Lai LI1, Jianjun LIU1, Wei ZUO1, Wennui WANG1, Yaying XIONG1
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The Circumpolar Stratospheric Telescope FUJIN for Observations of Planets
Makoto TAGUCHI1#+, Yukihito TAKAHASHI1, Masataka IMAF, Yasuhiro SHOJI1, Toshihiko NAKANO1, Yukiko SHIRAFUJI1
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SS-520-3 Sounding Rocket Experiment Targeting the Ion Outflow over the Cusp Region: Status Update
Yoshifumi SAITO1#+, Yasunobu OGAWA1, Hirotsugu KOJIMA1
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Jongyeob PARK1#+, Sunghwan CHOI1, Jihun KIM1, Be-Ho JANG1, Su-Chan BONG1, Ji-Hye BAEK1, Heeso YANG1, Young-Deuk PARK1, Kyungsuk CHO1
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Takeshi SAKANO1#+, Yoshizumi MIYOSHI1, Kazushi ASAMURA1, Keisuke HOSOKAWA1, Masafumi HIRAHARA2, Yoshifumi SAITO1, Takuo TSUDA1, Mizuki FUKIZAWA1, Naoshi YAGI1
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Sessions & Conveners

* Main Convener

AS03-Multi-scale Climate Variability Over Asia and Surrounding Oceans

*Tim LI University of Hawaii, Renhe ZHANG Fudan University, Tomoe NASUNO Japan Agency for Marine-Earth Science and Technology, Jong-Seong KUG Pohang University of Science and Technology, Song YANG Sun Yat-sen University

AS06-Application of Cloud-resolving Model Simulations for Studying Cloud-related Processes in Climate

*Wei-Kuo TAO NASA Goddard Space Flight Center, Chung-Hsiung SUI The University of Tokyo, Yasunobu KAWAMURA Institute of Information and Communications Technology, Japan, Masaki SATOH The University of Tokyo, Pay-Liam LIN National Central University, Qionghong ZHANG Peking University

AS07-Behavior of Monsoon in the Current and Future Climate: Comparisons Among Different Monsoon Regions

*Wen CHEN Chinese Academy of Sciences, Congwen ZHU Chinese Academy of Meteorological Sciences, Lin WANG Chinese Academy of Sciences, Patama SINGHRUCK Chulalongkorn University, Hirokazu ENDO Japan Meteorological Agency

AS26-BG-Vegetation-air Pollution Interaction at the Urban-rural Interface

*Saewung KIM University of California, Irvine, Meehye LEE Korea University, Xuemei WANG Jinan University

AS29-Precipitation Extremes - Observations, Modelling, Projections

*Akiyo YATAGAI Hiroasaki University, Toshiyuki NAKAEGAWA Japan Meteorological Agency, Akio KITOH Japan Meteorological Business Support Center, Patama SINGHRUCK Chulalongkorn University, Vinay KUMAR Texas A&M University

AS33-Multi-sensor Observations of Severe Storms and Disaster Reduction

*Eiichi NAKAKITA Kyoto University, Kazuhiisa TSUBOKI Nagoya University, Satoru OISHI Kobe University, Kenji SUZUKI Yamaguchi University, Katsuhito NAKAEGAWA National Institute of Information and Communications Technology

AS35-Mountain and Island Effects on Airflow, Precipitation, Weather, and Climate

*Cheng-Ku YU National Taiwan University, Yuh-Lang LIN North Carolina A&T State University, Yileng CHEN University of Hawaii at Manoa, United States, Tetsuya TAKEMI Kyoto University

AS37-Earth System Models: Development, Validation and Uncertainties

*Xiaohong LIU University of Wyoming, Zhaohui LIN Chinese Academy of Sciences, Shaocheng XIE Lawrence Livermore National Laboratory, Yi MING National Oceanic and Atmospheric Administration, Huang-Hsiung HSU Academia Sinica

AS40-Results from the 2016 KORUS-AQ and Related Field Studies in Asia

*James CRAWFORD NASA Langley Research Center, Imsuk JANG National Institute of Environmental Research, Cheol-Hee KIM Pusan National University, Louisa EMMONS National Center for Atmospheric Research, Xinrong REN NOAA Air Resources Laboratory

BG07-Biogeochemistry of Metal –mineral/microbe Interactions in Aquatic and Terrestrial Ecosystems

*Punyasloke BHADURY Indian Institute of Science Education and Research Kolkata, Bhoopesh MISHRA University of Leeds

BG10-IG-Modeling the Biogeochemical Cycle in the Earth System: from Local to Regional and Global Scales

*Long CAO Zhejiang University, Atul JAIN University of Illinois at Urbana-Champaign, Yangchun LI Chinese Academy of Sciences, Duoying JI Beijing Normal University

HS09-Water Resources Planning, Management and Decision-making Under Hydrological Uncertainty

*Yung-Chia HSU National Cheng Kung University, Gene Jiing-Yun YOU National Taiwan University, Yi-Ming KUO China University of Geosciences, Shien-Tsung CHEN Feng Chia University

HS10-Near Surface Investigation and Modeling for Groundwater Resources Assessment

*Wenfu CHEN Chia Nan University, Jui-Fin TSAI National Chiao Tung University, Liang-Cheng CHANG National Chiao Tung University, Chuen-Fa NI National Central University, Ping-Yu CHANG National Central University, Jun-Haeng HWANG The University of Hong Kong, Zhiqun LIU National Taiwan University, Howard H-C HO National Taiwan University

HS17-Ecohydrological Processes and Modelling in a Changing Environment

*Huimin LEI Tsinghua University, Bellie SIVAKUMAR University of New South Wales, Ji CHEN The University of Hong Kong, Dawen YANG Tsinghua University, Quan ZHANG Wuhan University

HS21-Monthly to Seasonal Projection of Extreme Climatic/hydrological Events

*Ji CHEN The University of Hong Kong, Hung Soo KIM Inha University, Bellie SIVAKUMAR University of New South Wales

HS25-Hydrologic Prediction and Measures Considering Extreme Climate Conditions

*Kun-Yeun HAN Kyungpook National University, Jun-Haeng HEO Yonsei University, Jaeung YI Ajou University, Yeonsang HWANG Arkansas State University

HS26-Global Cryosphere and Its Challenges

*Yong ZHANG Hunan University of Science and Technology, Hiroyuki ENOMOTO National Institute of Polar Research, Shiyin LIU Yunnan University, Jing MING Max Planck Institute for Chemistry
HS28-Impacts of Climate Change on Floods, Droughts, and Water Availability in Asian Countries
*Yongqin David CHEN The Chinese University of Hong Kong, Jianfeng LI Hong Kong Baptist University, Thian Yew GAN Research Ambassador, Qiang ZHANG Beijing Normal University

IG03-Interdisciplinary Tsunami Science
*Yuichiro TANIOKA Hokkaido University, Stuart WEINSTEIN NOAA, Yoshiki YAMAZAKI University of Hawaii, Tomoyuki TAKAHASHI Kansai University, Yusuke YAMANAKA The University of Tokyo

IG08-Data-driven Modeling in Geoscience
*Takane HORI Japan Agency for Marine-Earth Science and Technology, Dmitri KONDRASHOV University of California, Los Angeles, Hiromichi NAGAO The University of Tokyo, Tatsu KUWATANI Japan Agency for Marine-Earth Science and Technology, Shinya NAKANO The Institute of Statistical Mathematics

IG09-Big data, point cloud, and geospatial analytics in geosciences
*Uma DAS Indian Institute of Information Technology Kalyani, Sanat Kumar DAS Bose Institute, Yuichi S. HAYAKAWA The University of Tokyo, Chandra Shekhar DUBEY Delhi University

IG13-Where History and Geology Intersect: Multidisciplinary Approaches to Extending Our Chronology of Catastrophic Geologic Events
*Christopher HARPEL US Geological Survey, Fiona WILLIAMSON National University of Singapore, Florian M. SCHWANDNER Jet Propulsion Laboratory, California Institute of Technology, Aron MELTZNER Nanay Technological University

IG22-Pre-earthquake Anomalies, Earthquake Predictability, 10 Years Commemoration 2008 M8.0 Weichuan Earthquake, Kickoff Chinese Seismo-electromagnetic Satellite
*Jann-Yenq (Tiger) LIU National Central University, Katsumi HATTORI Chiba University, Dimitar OUZOUNOV Chapman University

OS03-Enso and Ion Theory, Impact and Prediction
*Tao LIAN State Oceanic Administration, Tao LIAN State Oceanic Administration, Dake CHEN State Oceanic Administration, OS13-High-resolution Ocean and Ocean-atmosphere Coupled Models: Advances and Challenges
*Zhenya SONG State Oceanic Administration, Xiaomeng HUANG Tsinghua University, Yu-heng TSENG National Taiwan University, Chan Joo JANG Korea Institute of Ocean Science and Technology, Enrique CURCHITser Rutgers University

OS14-Progress in Ocean Heat Uptake and Sea Level Studies
*Xuebin ZHANG CSIRO Oceans and Atmosphere, Xianyao CHEN Ocean University of China, Shuhei MASUDA Japan Agency for Marine-Earth Science and Technology, Lijing CHENG Chinese Academy of Sciences

OS17-The Oceanic Energy Cascade: from Mesoscale, Submesoscale to Small-scale Turbulence
*Yisen ZHONG Shanghai Jiao Tong University, Zhiyu LIU Xiamen University, Bo QIU University of Hawaii, Toshiyuki HIBIYA The University of Tokyo, Zhenya SONG State Oceanic Administration

OS19-Marine Debris – from Modelling to Management to Microplastics
*Serena LEE Griffith University, Mark MANUEL National Oceanic and Atmospheric Administration, Charles LEMCKERT University of Canberra

OS21-Submesoscale Processes and Their Parameterizations
*Changming DONG Nanjing University of Information Science & Technology, Sung Yong KIM Korea Advanced Institute of Science and Technology, Baylor FOX-KEMPER Brown University, Qingxuan YANG Ocean University of China

OS24-Coastal Hazards: Impacts of Tropical Storms and Tsunamis
*Xiping YU Tsinghua University, Linlin LI Nanyang Technological University, Philip Li-Fan LIU National University of Singapore, Harry YEH Oregon State University, Zhenhua HUANG University of Hawaii at Manoa

PS02-Volcanism and Tectonism Across the Solar System
*Anezina SOLOMONIDOU Jet Propulsion Laboratory, California Institute of Technology, RosalY LOPES-GAUTIER Jet Propulsion Laboratory, California Institute of Technology, Florian M. SCHWANDNER Jet Propulsion Laboratory, California Institute of Technology

PS06-Magnetospheres, Atmospheres, Exophere of Outer Planets and Their Satellites
*Norbert KRUPP Max Planck Institute for Solar System Research, Linda SPIELER Jet Propulsion Laboratory, Scott BOLTON Southwest Research Institute, Sushil ATREYA University of Michigan

PS12-From Dust to Planets: the First Hundred Million Years of the Solar System
*Ramon BRASSER Earth Life Science Institute, Stephen MOJZIS University of Colorado Boulder, Meenakshi WADHWA Arizona State University, Liping QIN University of Science and Technology of China

PS17-Aeronomy and Plasma Physics of Planetary Environments
*Robert LILlIS University of California Berkeley, Jun CUI Sun Yat-sen University, Dominique DELCOURT French National Centre for Scientific Research, Shotaro SAKAI The University of Tokyo, Varun SHEEL Physical Research Laboratory

PS20-Missions and Surveys: Drivers of Future Solar System Science

PS21-Physical and Dynamical Evolution of the Post-formation Solar System
*Henry H. HSIEH Planetary Science Institute, Ramon BRASSER Earth Life Science Institute, Norbert SCHORGHOFER Planetary Science Institute, Bin YANG Chinese Academy of Sciences, Xiao-Ping LU Shanghai Jiao Tong University, Bin YANG Chinese Academy of Sciences
SE01-Paleomagnetism and Rock Magnetism Applied to Solving Geological, Geophysical, and Environmental Problems
*Martin CHADIMA
Advanced Geoscience Instruments Company, Xixi ZHAO University of California Santa Cruz, Yuhij YAMAMOTO Kochi University, Satria BIJAKSANA Institut Teknologi Bandung, Emilio HERRERO-BERVERA University of Hawaii at Manoa

SE02-Seismic Modelling and Imaging: from Global to Local Scales
*Ping TONG Nanyang Technological University, Shengji WEI Nanyang Technological University, Xu YANG University of California, Santa Barbara, Chin-Wu CHEN National Taiwan University

SE06-30-39-Faults and Earthquakes: Networks, Precursors and Monitoring Systems
*Fuqiong HUANG China Earthquake Network Center, Horst ZWINGMANN Kyoto University, Han YUE Beijing University, Xian LU China Earthquake Networks Center

SE08-Earthquake Hydrology, Geochemistry and Hydroseismology
*Fuqiong HUANG China Earthquake Network Center, Kuofong MA TaiPei University, Yasuyuki KANO Kyoto University, Narayan Prasad DEWANGAN Sarguja University, Yan ZHANG Chinese Academy of Sciences

SE09-Paleo- & Historical Earthquake Research and Quantitative Analysis of Seismicity
*Kenji SATAKE The University of Tokyo, Javed MALIK Indian Institute of Technology Kanpur, Jian WANG China Earthquake Administration

SE15-Landslide Identification, Prediction, and Monitoring Using Multi-disciplinary Technologies
*Chih-Chung CHUNG National Central University, Che-Ming YANG National Chiao Tung University, Xuan Luan TRUONG Department of Geoinformatics, Hanoi University of Mining and Geology, Chyi-Tyi LEE National Central University

SE23-Electromagnetic Methods Applied to Studies of Crustal and Mantle Dynamics
*Noriko TADA Japan Agency for Marine-Earth Science and Technology, Hiroshi ICHIHARA Nagoya University, Qinghua HUANG Peking University, Eric ATTIAS University of Southampton, Grant CALDWELL GNS science

SE25-40-New Advance on Tectonics of SE Asia
*Xixi ZHAO University of California Santa Cruz, Baochun HUANG Peking University, Mian LIU University of Missouri, Raymond RUSSO University of Florida

SE26-Cenozoic Deformation of Orogenic Belts in Asia: a Multiscale Spatial and Temporal Investigation
*Huiping ZHANG China Earthquake Administration, Kristin MORELL University of California, Santa Barbara, Wenjun ZHENG Sun Yat-sen University, Zhikun REN China Earthquake Administration, Renjie ZHOU University of Queensland

SS08-Interdisciplinary sunderaction zone research initiatives
*Gerald BAWDEN National Aeronautics and Space Administration (NASA), Jack A. KAYE National Aeronautics and Space Administration (NASA)

SS12-Workshop on Earth Girl Volcano
*Isaac KERLOW Nanyang Technological University, Helena ALBERT Nanyang Technological University

ST08-Magnetic Reconnection at Electron Scale: Observations and Simulations
*Huishan FU Beihang University, Quanming LU University of Science and Technology of China, Meng ZHOU UCLA, Masahiro HOSHINO The University of Tokyo, James BURCH Southwest Research Institute

ST14-Energy Dissipation and Conversion in Space Plasmas
*Anthony LUI Johns Hopkins University, Z. H. YAO University of Liege

ST15-Evolution and Effects of Large Solar Transients Throughout Geospace and the Heliosphere
*John RICHARDSON Massachusetts Institute of Technology, Chi WANG Chinese Academy of Sciences, Iver CAIRNS University of Sydney

ST16-Observations and Simulations of Radiation Belt Dynamics
*Allison JAYNES University of Iowa, Anthony CHAN Rice University, Xin TAO University of Science and Technology of China, Alexander BOYD New Mexico Consortium

ST22-General Session in Solar and Terrestrial Sciences
*Mario BISI Science & Technology Facilities Council, Linghua WANG Peking University, ShaSha ZOU University of Michigan, Gang LI The University of Alabama in Huntsville, Quanqi SHANDONG University
AS03 / Multi-scale Climate Variability Over Asia and Surrounding Oceans
Wed - 06 Jun | MR325B
Time 08:30 - 10:30
Chair(s) Shuanglin LI, IAP
Y. KAJIKAWA, RIKEN

AS03-D3-AM1-325B-026 | AS03-A031 (Invited)
Mechanisms of Multi-Decadal Droughts over the Eastern China During the Last Millennium
Liang NING1*, Jian LIU1, Mi YAN2, Weiyi SUN2, Chunhan JIN2, Lu LIU3, Kefan CHEN2
1Nanjing Normal University & University of Massachusetts, 2Nanjing Normal University

AS03-D3-AM1-325B-027 | AS03-A022 (Invited)
Structure and Dynamics of Decadal Anomalies in the Wintertime Midlatitude North Pacific Ocean-Atmosphere System
Jiabei FANG1#
1Nanjing University

AS03-D3-AM1-325B-028 | AS03-A027
Interdecadal Explosive Cyclone Activity Associated with the Increased Frequency of Winter Storm Events in Hokkaido, Japan
Takumi TSUKIJIHARA1*, Ryuichi KAWAMURA1, Tetsuya KAWANO1
1Kyushu University

AS03-D3-AM1-325B-029 | AS03-A082 (Invited)
On the Role of External Forcing in the Extra-Tropical Annular Variability
Yu NIE1, Yang ZHANG2*, Gang CHEN3, Xiu-Qun YANG2
1China Meteorological Administration, 2Nanjing University, 3University of California

AS03-D3-AM1-325B-030 | AS03-A091 (Invited)
Interannual to Centennial Variability of the Asian Summer Precipitation over the Past 544 Years
Hui SHI1*, Bin WANG2*, Edward COOK3, Jian LIU4, Fei LIU3
1University of Hawaii Manoa, 2University of Hawaii, 3Columbia University, 4Nanjing Normal University, 5Nanjing University of Information Science

AS03-D3-AM1-325B-031 | AS03-A096
Identification of the Pacific Multidecadal Internal Variability
Hua CHEN1*, Edwin SCHNEIDER2, Donglin HE3
1Nanjing University of Information Science and Tech, 2George Mason University, 3Nanjing University of Information Science & Technology

AS06 / Application of Cloud-resolving Model Simulations for Studying Cloud-related Processes in Climate
Wed - 06 Jun | MR325A
Time 08:30 - 10:30
Chair(s) Pay-Liam LIN, National Central University
Wei-Kuo TAO, NASA Goddard Space Flight Center

AS06-D3-AM1-325A-001 | AS06-A029 (Invited)
A Comparison of Alternative Dynamical Frameworks for Global Cloud-Resolving Models
David RANDALL1*, Celal KONOR1, Ross HEIKES1, Joon-Hee JUNG1
1Colorado State University

AS06-D3-AM1-325A-002 | AS06-A017
Simulations of Tropical Intraseasonal and Weather Events in December 2016
Chung-Hsiung SUI1#
1National Taiwan University

AS06-D3-AM1-325A-003 | AS06-A031
Intraseasonal Variability in a Cloud-Permitting Equatorial Aqua-Planet with Uniform Sea-Surface Temperature
Marat KHAIROUTDINOV1#
1Stony Brook University

AS06-D3-AM1-325A-004 | AS06-A011
Examination of Scale-Awareness of Convection in Cloud-Resolving Model for Convective Parameterization Development
Guang ZHANG1#
1Tsinghua University
AS06-D3-AM1-325A-005 | AS06-A019
A Parameter-Sweep Nudging Experiment on the Influence of Vertical Structure of Environmental Winds on Deep Moist Convection
Shigeo YODEN1#+, Hoang-Hai BUI2, Eriko NISHIMOTO3
1Kyoto University, 2Vietnam National University, 3Japan Agency for Marine-Earth Science and Technology

AS06-D3-AM1-325A-006 | AS06-A018
Impacts of Large Scale Flow Field on Diurnal Variation of Mesoscale Circulation and Precipitation During Mei-Yu Season
Pay-Liam LIN1#+, Chung-Yin WANG1, Yi-Leng CHEN2, Chuan-Chi TU3
1National Central University, 2University of Hawaii at Manoa, 3National Taiwan University

AS06-D3-AM1-325A-007 | AS06-A020
An Examination of Cumulus Convection Schemes in the WRF Model Using the Goddard Cumulus Ensemble Model
Myong-In LEE1, Sung-Yoon KIM1, Wei-Kuo TAO3
1Ulsan National Institute of Science and Technology, 2NASA Goddard Space Flight Center

AS06-D3-AM1-325A-008 | AS06-A026
Radiative-Convective Equilibrium Study with a Global Nonhydrostatic Model: Sensitivity of High Clouds to Cloud Microphysics and Vertical Resolution
Tomoki OHNO1#+, Masaki SATOH2
1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo

AS07-D3-AM1-326A-001 | AS07-A028 (Invited)
Definition and Division of the Global Monsoon
Weihong QIAN1#+
1Peking University

AS07-D3-AM1-326A-002 | AS07-A038
A Hierarchy of Idealized Monsoons in an Intermediate Moist GCM
Wenyu ZHOU1, Shang-Ping XIE2
1Scripps Institution of Oceanography, 2University of California San Diego
The Patterns of Meteorological Fields to Identify Intraseasonal Precipitation Variability in Central America
Huikyo LEE1#, Danielle GROENEN2, Carlos MECHOSO3
1Jet Propulsion Laboratory, California Institute of Technology, 2Florida State University, 3University of California, Los Angeles

The Characteristics of the Quasi-Biweekly Pacific-Japan Teleconnection and its Possible Trigger Mechanism in Boreal Summer
Yu ZHU1#, Zhiping WEN1,2, Yuanyuan GUO1, Xiuzhen LI1, Ruidan CHEN1, Yunting QIAO1
1Sun Yat-sen University, 2Fudan University

Evaluation and Improvement of East-Asian Summer Monsoon Climate Forecasting in BCC and MOHC Seasonal Prediction Systems
Ying LIU1#, Hong-Li REN1
1China Meteorological Administration

The Definition and Synoptic Characteristic Analysis of Circulation Index of Spring Persistent Rainfall
Bo ZHANG1#, Ronghua JIN1
1China Meteorological Administration

Can We Predict Changes in the Land Monsoon Rainfall a Decade in Advance
Bin WANG1#, Juan LI1
1University of Hawaii

An Inter-Decadal Increase in Summer Sea Level Pressure over the Mongolian Region Around the Early 1990s
Zhiping WEN1, Haiyan ZHANG1, Renguang WU3
1Sun Yat-sen University, 2Fudan University, 3Chinese Academy of Sciences

Interdecadal Variations of the Silk Road Pattern and its Associations with Eurasian Summer Climate
Lin WANG1, Peiqiang XU1, Wen CHEN1, Yong LIU1
1Chinese Academy of Sciences

Variations of Asian Monsoon in the Global Warming Background
Zhiyan ZUO1#
1Chinese Academy of Meteorological Sciences

PDO Modulation of the ENSO Impact on the Summer South Asian High
Wen CHEN1#
1Chinese Academy of Sciences

ENSO–South China Sea Summer Monsoon Interaction Modulated by the Atlantic Multidecadal Oscillation
Ke FAN1#, Yi FAN1, Zhiqiang XU1, Shuanglin LI1,2
1Chinese Academy of Sciences, 2China University of Geosciences

Decadal Transition of Interannual Mode of Moisture Circulation-Bonding to Different Evolution of ENSO
Xiaozhen LI1, Deliang CHEN1, Zhiping WEN1,3
1Sun Yat-sen University, 2University of Gothenburg, 3Fudan University

Structural Changes of the Pacific-Japan Pattern in the Late 1990s
Peiqiang XU1, Lin WANG1, Wen CHEN1, Juan FENG1, Yuyun LIU1
1Chinese Academy of Sciences
AS26-BG-D3-AM1-315-002 | AS26-BG-A012

Annual Net Flux of Mercury from the Atmosphere to Biomass of Major Crops in China
Zhangwei WANG1+, Xiaoshan ZHANG2, Zhenchuan NIU2, Jian CHEN2
1Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, 2Chinese Academy of Sciences

AS26-BG-D3-AM1-315-003 | AS26-BG-A001

Regional to Global Biogenic Isoprene Emission Responses to Changes in Vegetation from 2000 to 2015
Xuemei WANG1+, Weihua CHEN2, Alex GUENTHER1, Youhua CHEN1, Dasa GU3, Ming CHANG1, Shenzhen ZHOU2, Luoling WU1, Yiqiang ZHANG2
1Jinan University, 2Sun Yat-sen University, 3University of California, Irvine, 4Chinese Academy of Sciences, 5Ministry of Environmental Protection

AS26-BG-D3-AM1-315-004 | AS26-BG-A006 (Invited)

Estimation of Biogenic VOCs Emissions During the KORUS-AQ Aircraft Field Campaign
Jung-Hun WOO1+, Yungu LEE1, Younha KIM1, Jinsu KIM1, Yang-Dam EO1
1Konkuk University

AS26-BG-D3-AM1-315-005 | AS26-BG-A002

Vertical Time and Spatial Scales of BVOC Oxidation in a Polluted Forest Area
Saewung KIM1+, Alex GUENTHER1, Roger SECO1, Dasa GU3, Daun JEONG1, Dianne SANCHEZ1
1University of California, Irvine

AS26-BG-D3-AM1-315-006 | AS26-BG-A010

Source Signatures from Combined Isotopic Analyses of PM2.5 Carbonaceous and Nitrogen Aerosols at the Peri-Urban Taehwa Research Forest in South Korea
Saehye LIM1+, Claudia CZIMCZIK2, Meehye LEE1, T-K JOO1, Xiaomei XU2, Saewung KIM1
1Korea University, 2University of California, Irvine

AS26-BG-D3-AM1-315-007 | AS26-BG-A011

Identifying Ammonia Hotspots in China Using a National Observation Network
Yuepeng PAN1+
1Institute of Atmospheric Physics, Chinese Academy of Sciences

AS29 / Precipitation Extremes - Observations, Modelling, Projections
Wed - 06 Jun | MR319A

Time 08:30 - 10:30
Chair(s) Pinhas ALPERT, Tel Aviv University
Toshiyuki NAKAEGAWA, Japan Meteorological Agency

AS29-D3-AM1-319A-005 | AS29-A041

Improving APHRODITE Algorithm for Assessing Precipitation Extremes - Check End of a Day -
Akiyo YATAGAI1+, Sunil KUMAR1, Minami MASUDA1, Mio MAEDA1, Natsuko YASUTOMI1
1Hirosaki University, 2Kyoto University

AS29-D3-AM1-319A-006 | AS29-A001

Decadal Changes of Summer Heavy Rainfall in China
Jilong CHEN1+
1Chinese Academy of Sciences

AS29-D3-AM1-319A-007 | AS29-A042

Climatology of Hail Frequency and Size in China, 1980–2015
Xiaofei LI1+, Qinghong ZHANG2
1Peking University

AS29-D3-AM1-319A-008 | AS29-A044

Contribution of Global Warming to Frequency of Heavy Rainfall in Kyushu Island, Japan, Using D4PDF Historical and Non-Warming Simulations
Hiroaki KAWASE1+, Yukiko IMADA1, Hidetaka SASAKI1, Tosiyuki NAKAEGAWA1, Akihiko MURATA1, Masaya NOSAKA1
1Japan Meteorological Agency

AS29-D3-AM1-319A-009 | AS29-A008

Roles of SST Versus Internal Atmospheric Variability in Winter Extreme Precipitation Along the U.S. West Coast
Lu DONG1+, L. Ruby LEUNG1, Fengfei SONG1, Jian LU1
1Pacific Northwest National Laboratory

AS29-D3-AM1-319A-010 | AS29-A052

Simulation of Cloudbursts, Their Mechanisms and Properties over Monsoonal Region
Vinay KUMAR1+, J.R. KULKARNI2, Bhaskar GUNTURU3,4, Navra DESHPANDE2, Akiyo YATAGAI1, Sarvesh DUBEY5, D.R. KOTHAWALE1
1Texas A&M University Corpus Christi, 2Indian Institute of Tropical Meteorology, 3King Abdullah University of Science and Technology, 4Massachusetts Institute of Technology, 5Florida State University
AS29-D3-PM2-319A-011 | AS29-A020
Impacts of Half a Degree Additional Warming on the Asian Summer Monsoon Rainfall
Donghyun LEE1, Seung-Ki MIN1, Erich FISCHER2, Hideo SHIOGAMA3, Ingo BETHKE4, Ludwig LIERHAMMER4, John F SCINOCCA5
1Pohang University of Science and Technology, 2ETH Zurich, 3National Institute for Environmental Studies, 4Uni Research, 5German Climate Computing Center (DKRZ), 6Canadian Centre for Climate Modelling and Analysis

AS29-D3-PM2-319A-012 | AS29-A014
Evaluation of Precipitation Extremes Associated with Tropical Cyclones Simulated by MRI-AGCM3.2
Akio KITOHI
1Japan Meteorological Business Support Center

AS29-D3-PM2-319A-013 | AS29-A054
Estimating Uncertainties of Projected East Asian Extreme Precipitation Changes
Daniel J. BEFORT1, Kevin HODGES2, Michael WALZ2, Gregor C. LECKEBUSCH1
1University of Birmingham, 2University of Reading

AS29-D3-PM2-319A-014 | AS29-A003
The Influence of Graupel/Hail Parameters on Simulation of a Convective System over Coastal South China in Summer
Chunwei GUO1
1Institute of Urban Meteorology, China Meteorological Administration

AS29-D3-PM2-319A-015 | AS29-A047
Challenges in Predictions of Precipitation 21st Century
Extremes over the Mideast
Pinhas ALPERT1
1Tel Aviv University

AS29-D3-PM2-319A-016 | AS29-A031
The Relationship Between Near-Surface Air Temperature and Extreme Precipitation in the CESM
Xiaoming SUN1, Guiling WANG1
1University of Connecticut

AS29-D3-PM2-319A-017 | AS29-A038
Does the Sensitivity of Extreme Precipitation Follow the CC Scaling?
Ji NIE1, Adam SOBEL1, Shuguang WANG1, Daniel SHAEVITZ2
1Peking University, 2Columbia University

AS33-D3-AM1-303A-001 | AS33-A011
Integrated Research on State-of-the-Art Multi-Sensors In-Situ Observation of Storm Genesis and Reduction of Serious Disaster Due to Heavy Rainfall
Eiichi NAKAKITA1, Satoru OISHI2, Kazuhiisa TSUBOKI3, Katsuhiro NAKAGAWA5, Kenji SUZUKI5, Tadayasu OHIGASHI1, Kosei YAMAGUCHI1, Mariko OGAWA2, Kazuyoshi SOUMA2, Seiji KAWAMURA3, Yoshinari SUZUKI4, Hiroyuki HASHIGUCHI1, Hisanori IWAP, Taro SHINODA5, Yasuoka WAKAZUKI, Masayuki K. YAMAMOTO, Aritoshi MASUDA5, Tomoo USHO1, Ahoro ADACHI1
1Kyoto University, 2Kobe University, 3RIKEN Advanced Institute for Computational Science, 4Nagoya University, 5National Institute of Information and Communications Technology, 6Yamaguchi University, 7University of Yamanashi, 8Hosei University, 9Ibaraki University, 10Japan Weather Association, 11Osaka University, 12Japan Meteorological Agency

AS33-D3-AM1-303A-002 | AS33-A025 (Invited)
Field Observations of Lifecycle of Cumulonimbus and Social Experiments in the Tokyo Metropolitan Area, Japan
Koyuru IWANAMI1, Shin-Ichi SUZUKI1, Takeshi MAESAKA2, Shingo SHIMIZU1, Yukari SHUSSE3, Namiko SAKURA4, Kohin HIRANO3, Ken-Ichi SHIMOSE5, Ryohiti KATO1, Tsuyoshi NAKATANI1, Ryohiti MISUMI1, Kaori KIEDA1, Yasushi UJI1
1National Research Institute for Earth Science and Disaster Resilience

AS33-D3-AM1-303A-003 | AS33-A029
Vertical Distributions of Liquid/Solid Hydrometeors in Early Developing Stage of Convective Clouds Observed by Videosondes
Kenji SUZUKI1
1Yamaguchi University

AS33-D3-AM1-303A-004 | AS33-A006
Study on Particle Size Distribution and Volume Estimation of Ice Particles in Cumulus by Electromagnetic Wave Scattering Analysis of Dual Frequency MP Radar
Mariko OGAWA1, Takuya SATO1, Satoru OISHI1
1Kobe University, 2RIKEN Advanced Institute for Computational Science
High Ice Crystal Concentration and High Electrification in Hokuriku Winter Clouds - Overview of a Sonde Observation Campaign -
Soichiro SUGIMOTO1#, Tsutomu TAKAHASHI2, Kenji SUZUKI1, Tetsuya KAWANO2, Mitsuharu NOMURA1
1Central Research Institute of Electric Power Industry, 2Kyushu University, 3Yamaguchi University

Characteristics of a Positive KDP-Peak Layer Above the Melting Level in a Stratiform Region Observed by a Ka-Band Radar and Balloon-Borne Particle Observation
Taro SHINODA1#, Tomohiro NAGAYA1, Tadayasu OHIGASHI2, Kenji SUZUKI1, Kosei YAMAGUCHI1, Hiroyuki YAMADA2, Seiji KAWAMURA3, Kazuhisa TSUBOKI2, Eiichi NAKAKITA2
1Nagoya University, 2Kyoto University, 3Yamaguchi University

Characteristics of Particle Size Distributions of a Stratocumulus Cloud Undetected by a Ka-Band Radar
Atsumi MURASAKI1#, Taro SHINODA1, Tadayasu OHIGASHI2, Kenji SUZUKI1, Kosei YAMAGUCHI1, Hiroyuki YAMADA2, Seiji KAWAMURA3, Kazuhisa TSUBOKI2, Eiichi NAKAKITA2
1Nagoya University, 2Kyoto University, 3Yamaguchi University, 4University of the Ryukyus, 5National Institute of Information and Communications Technology

Short-Term Precipitation Prediction Applying Upstream Low-Level Humidification Scheme to Cloud-Resolving Model Simulations
Yasutaka WAKAZUKI1, Daichi IGARASHI1
1Ibaraki University, 2Japan Agency for Marine-Earth Science and Technology

Time 16:00 - 18:00
Chair(s) Mariko OGAWA, Kobe University
Kenji SUZUKI, Yamaguchi University
Kosei YAMAGUCHI, Kyoto University

Three-Dimensional Structure of Convective Clouds Measured by Phased Array Weather Radar Every 30 Seconds
Shinsuke SATOH1**, Yukie MORODA1**, Hironori IWAI1, Seiji KAWAMURA1, Hanado HIROSHI2, Katsuhiko NAKAGAWA1, Fumihiko MIZUTANI2, Tomoo USHIO2, Takemasa MIYOSHI3
1National Institute of Information and Communications Technology, 2Nagoya University, 3Toshiba, 4Tokyo Metropolitan University, 5University of Maryland

Dual Phased Array Radar Analysis of Tornadic Storm Associated with Typhoon Nanmadol (2017)
Toru ADACHI1,2
1Meteorological Research Institute

Design of X-Band Polarimetric Phased Array Weather Radar System
Hiroshi KIKUCHI1, Tomoo USHIO2, Fumihiko MIZUTANI2, Masakazu WADA1, Nobuhiko TAKAHASHI1
1Tokyo Metropolitan University, 2Toshiba, 3Nagoya University

A Study on Utilization of GNSS for Rainfall Prediction
Masahiro KISHIMOTO1, Mariko OGAWA1, Satoru OISHI2,3
1Kobe University, 2RIKEN Advanced Institute for Computational Science

Forecasting Both Mature Stage and Initiation of a Line-Shaped Mesoscale Convective System by Assimilation of Polarimetric Radar Data
Kosei YAMAGUCHI1, Eiichi NAKAKITA1, Kohei FURUTA1, Yosuke HORIIKE1
1Kyoto University

Analysis of Urban Effect on Storm Genesis by Development of Urban Meteorological Model Based on Large Eddy Simulation
Tomohiro TSUCHIHASHI1,2, Eiichi NAKAKITA1, Kosei YAMAGUCHI1, Kazuya TAKAM1
1Kyoto University, 2Railway Technical Research Institute

Development of the Early Detection System of Baby Rain Cell in a Localized Torrential Rainfall and/or Linear Rainband Using the Phased Array Weather Radar
Katsuhiro NAKAGAWA1,2, Katsuyuki KATAYAMA1, Aritoshi MASUDA1, Hanado HIROSHI1, Koji ZETTSU1, Eiichi NAKAKITA1
1National Institute of Information and Communications Technology, 2Japan Weather Association, 3Kyoto University
### AS35 / Mountain and Island Effects on Airflow, Precipitation, Weather, and Climate

**Wed - 06 Jun | MR302B**

**Time** 08:30 - 10:30

**Chair(s)**
- Yi-Leng CHEN, University of Hawaii at Manoa
- Chien-Ming WU, National Taiwan University

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**AS35-D3-AM1-302B-008 | AS35-A024**

**Cold Air Intrusion and Heavy Rain in Northern Taiwan: A Case Study of 20-21 May 2014**

Ben JOU1,2, Shou Liang YU1, Radiant Rong-Guan HSIEH3, Yucheng KAO3, Wen-Chau LEE3

1National Taiwan University, 2Taipei City Fire Department, 3National Center for Atmospheric Research

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**AS35-D3-AM1-302B-009 | AS35-A004**

**Idealized Cloud-Resolving Simulations of Mei-Yu Rainfall in Taiwan Under Uniform Southwesterly Flow**

Chung-Chieh WANG1,2+, Pi-Yu CHUANG1, Shi-Ting CHEN1

1National Taiwan Normal University

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**AS35-D3-AM1-302B-010 | AS35-A020 (Invited)**

**Urbanization and its Impact on Precipitation over Northern Taiwan**

Chuan-Yao LIN1,2+, Chiu-Jui SU1, Yangfan SHENG3

1Academia Sinica

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**AS35-D3-AM1-302B-011 | AS35-A002**

**The Interactions Between Atmosphere and Complex Orographic Land: Diurnal Cycle of Low-Level Clouds and Fog at Xitou**

Chien-Ming WU1,2+, Min-Ken HSIEH1, Po-Hsiung LIN1, Shih-Hao SU1

1National Taiwan University

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**AS35-D3-AM1-302B-012 | AS35-A014**

**Investigations of the Local Air Flow over the Complex Terrain in Taiwan**

Fang-Yi CHENG1,2+, Yu-Tzu WANG3

1National Central University

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**AS35-D3-AM1-302B-013 | AS35-A013**

**A New Approach of Downscaling by Using Multi-Grid 3DVAR**

Jen-Hsin TENG1,2+, Chien-Hsuan WANG1, Yuanfu XIE2

1Central Weather Bureau, 2Chinese Academy of Meteorological Sciences

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### AS37 / Earth System Models: Development, Validation and Uncertainties

**Wed - 06 Jun | MR303B**

**Time** 08:30 - 10:30

**Chair(s)** Huang-Hsiung HSU, Academia Sinica

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**AS37-D3-AM1-303B-007 | AS37-A028 (Invited)**

**Taking a Deep Breath in Model Development: Identifying Opportunities for Addressing Some Persistent Biases in Earth System Models**

Philip RASCH1,2+

1Pacific Northwest National Laboratory

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**AS37-D3-AM1-303B-008 | AS37-A030 (Invited)**

**Preliminary Evaluation of Systematic Biases in a FV3-Powered Global Cloud-Permitting Model with Horizontal Resolutions Ranging from 13-km to 3 Km**

Shian-Jiann LIN1,2+, Linjiung ZHOU2, Xi CHEN3, Baoqiang XIANG3

1National Oceanic and Atmospheric Administration, 2Princeton University, 3University Corporation for Atmospheric Research

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**AS37-D3-AM1-303B-009 | AS37-A029**

**Toward a Better Understanding of Cloud and Convective Processes Simulated in the E3SM Atmospheric Model Version 1**

Shaocheng XIE1,2+

1Lawrence Livermore National Laboratory

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**AS37-D3-AM1-303B-010 | AS37-A043**

**Tropical Cyclone Simulations with E3SM V1: General Characteristics and Sensitivity to Resolution and Convective Parameterization**

Wuyin LIN1,2+, Shaocheng XIE3, Mark TAYLOR2, Hsi-Yen MA3, Qi TANG2

1Brookhaven National Laboratory, 2Lawrence Livermore National Laboratory, 3Sandia National Laboratories
Three-Moment Representation of Rain in a Cloud Microphysics Model
Jiwen FAN, Marco PAUKERT, Philip RASCH, Hugh MORRISON, Jason MILBRANDT, Alexander KHAIN, Kobby SHPUND
Pacific Northwest National Laboratory, National Center for Atmospheric Research, Environment and Climate Canada, The Hebrew University of Jerusalem

Evaluate High-Resolution E3SM V1 Atmosphere Model Simulations over the Contiguous United States
Qi TANG, Shaocheng XIE, Chris GOLAZ, Wuyin LIN
Lawrence Livermore National Laboratory, Brookhaven National Laboratory

The NUIST Earth System Model (NESM) Version 3: Description and Preliminary Evaluation
Jian CAO, Bin WANG
Nanjing University of Information Science, University of Hawaii

Uncertainties in Representing Cross-Scale Interactions Among Climate, Hydrology, and Agriculture in Earth-System Models
Fei CHEN, Fei CHEN
National Center for Atmospheric Research

Impact of Dust Emission Scheme on the Dust Cycle and Radiative Forcing Simulation in CESM
Zhaohui LIN, Chenglai WU
Chinese Academy of Sciences, University of Wyoming

Systematic Assessment of Mesoscale Convective Systems in MPAS Variable Resolution Climate Simulations over North America
Zhe FENG, Koichi SAKAGUCHI, L. Ruby LEUNG, Cameron HOMEYER
Pacific Northwest National Laboratory, University of Oklahoma

Model Developments in a Multi-Scale Modeling Framework (MMF): An Explicit Aerosol Treatment and the Predicted Particle Properties (P3) Microphysics
Guangxing LIN, Steve GHAN, Jiwen FAN
Pacific Northwest National Laboratory

Systematic, Process-Based Model Evaluation for Extremes in Earth System Models
Gregor C. LECKEBUSCH, Daniel J. BEFORTE, Michael WALZ, Kevin HODGES
University of Birmingham, University of Reading

Evaluation and Application of Ocean Data Assimilation in CAS-ESM-C
Renping LIN, Jiang ZHU, Fei ZHENG, Xiao DONG
Chinese Academy of Sciences

Sensitivity of Tropical Ascent, High Clouds, and Precipitation to Warming and Deep Convective Parameters in CESM
Kathleen SCHIRO, Hui SU, Jonathan JIANG, J. David NEELIN, Baird LANGENBRUNNER
Jet Propulsion Laboratory, California Institute of Technology, University of California, Los Angeles, University of California, Irvine

Factors Influencing Ozone Variability in Major Cities in Korea
Limseok CHANG, Jeong-Soo KIM, Deok-Rae KIM, Yonghee LEE, Ara CHOO, Hyeunju PARK, Taehee KIM
National Institute of Environmental Research

Observation-Based Modelling and Analysis of Ozone Production in the Seoul Metropolitan Area During KORUS-AQ
Jason SCHROEDER
National Aeronautics and Space Administration
Evaluation of Simulated VOCs During the KORUS-AQ

Yujin OK, Rokjin J. PARK, Donald BLAKE, William BRUNE, Andrew WEINHEIMER, Alan FRIED, James CRAWFORD, Jason SCHROEDER
1Seoul National University, 2University of California, Irvine, 3Pennsylvania State University, National Center for Atmospheric Research, 4University of Colorado Boulder, 5NASA Langley Research Center

Urban and Industrial VOC Signatures in the Seoul Region During KORUS-AQ

Isobel SIMPSON, Donald BLAKE, Nicola BLAKE, Simone MEINARDI, Barbara BARLETTA, Louisa EMMONS, Jason SCHROEDER, David PETERSON, Jung-Hun WOO
1University of California, Irvine, 2National Center for Atmospheric Research, 3NASA Langley Research Center, 4Naval Research Laboratory, 5Ludwig Maximilian University, 6Konkuk University

Contribution of Local Emissions of Aromatic Compounds to Secondary Organic Aerosol Formation over the Korean Peninsula

Christoph KNOTE, Benjamin NAULT, Pedro CAMPUZANO-JOST, Jose-Luis JIMENEZ, Jin-Seok KIM, Yungu LEE, Jung-Hun WOO, Soojin LEE, Dongwook KIM, Changmin CHO, Kyung-Eun MIN
1Ludwig Maximilian University, 2University of Colorado, Boulder, 3Konkuk University, 4Institute of Science and Technology

Air Chemistry Modeling Issues that We Have Learned from the KORUS-AQ Campaign

Rokjin J. PARK
1Seoul National University

Time 16:00 - 18:00
Chair(s) Louisa EMMONS, National Center for Atmospheric Research
Limseok CHANG, National Institute of Environmental Research

Evaluation of the Large Point Source Emissions in the KORUS-AQ Version 2.0 Emissions Inventory

Jung-Hun WOO, Younha KIM, Minwoo PARK, Rokjin J. PARK, Louisa EMMONS
1Konkuk University, 2Seoul National University, 3National Center for Atmospheric Research

CO Source Contributions and Combustion Characteristics During KORUS-AQ

Wenfu TANG, Avelino ARELLANO, Louisa EMMONS, Benjamin GAUBERT
1University of Arizona, 2National Center for Atmospheric Research

Integrated Assessment of Air Quality Improvement Plan for Korea and China

Younha KIM, Jung-Hun WOO, Zbigniew KLIMONT, Markus AMANN, Jinsu KIM
1Konkuk University, 2International Institute for Applied Systems Analysis

Production and Loss of Sulfate on the Sea Surface During its Transport from Eastern China to South Korea

Wonbae JEON, Hwa Woon LEE, Yunsoo CHOI, Jeonghyeok MUN
1Pusan National University, 2University of Houston

Chemistry of New Particle Growth During Spring Time in the Seoul Metropolitan Area, Korea

Hwajin KIM
1Korea Institute of Science and Technology

Tropospheric Ozone Profile Maps from the Synergic Observation of AIRS and OMI: Updates on Validation and Science Application for KORUS-AQ

Dejian FU, Kazuyuki MIYAZAKI, Susan KULAWIK, Kevin BOWMAN, John WORDEN, Robert HERMAN, Greg OSTERMAN
1Jet Propulsion Laboratory, California Institute of Technology, 2Japan Agency for Marine-Earth Science and Technology, 3Bay Area Environmental Research Institute
BG07 / Biogeochemistry of Metal–mineral/microbe Interactions in Aquatic and Terrestrial Ecosystems
Wed - 06 Jun | MR304B

<table>
<thead>
<tr>
<th>Time</th>
<th>08:30 - 10:30</th>
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<tbody>
<tr>
<td>Chair(s)</td>
<td>Punyasloke BHADURY, Indian Institute of Science Education and Research Kolkata Bhoopesh MISHRA, University of Leeds</td>
</tr>
</tbody>
</table>

BG07-D3-AM1-304B-001 | BG07-A003 (Invited)
The Characterization and Importance of Sulfhydryl Binding Sites within Bacterial Cell Envelopes
Jeremy FEIN1, Qiang YU1
1University of Notre Dame

BG07-D3-AM1-304B-002 | BG07-A004 (Invited)
Behavior of Various Elements at Earth Surface in the Presence of Microbes and Humic Substances
Yoshio TAKAHASHI1,2
1The University of Tokyo

BG07-D3-AM1-304B-003 | BG07-A007
Microbes Mediated Biogeochemical Processes in Acidic and Metal Rich Mine Drainage of Malanjkhand Copper Project, India
Abhishek GUPTA1,2
1Indian Institute of Technology Kharagpur

BG07-D3-AM1-304B-004 | BG07-A011
Geomicrobiological Influence on Arsenic (As) Mobilization Process in As-Contaminated Bengal Groundwater: Genomic and Ecophysiological Perspective
Balaram MOHAPATRA1, Pinaki SAR1
1Indian Institute of Technology Kharagpur

BG10-IG-D3-PM2-304B-001 | BG10-IG-A003
Anthropogenic Phosphorus Inputs to a River Basin and Their Impacts on Phosphorus Fluxes Along its Upstream-Downstream Continuum
Wangshou ZHANG1,2
1Chinese Academy of Sciences

BG10-IG-D3-PM2-304B-002 | BG10-IG-A016 (Invited)
Evaluation of Biogeochemical Cycles of CMIP5 Models Using the ILAMB Benchmarking System
Nathan COLLIER1,2, Forrest HOFFMAN1,2, James RANDERSON3, Gretchen KEPEL-ALEKS4, Dave LAWRENCE5, Bill RILEY6
1Oak Ridge National Laboratory, 2University of Tennessee, Knoxville, 3University of California, Irvine, 4University of Michigan, 5National Center for Atmospheric Research, 6Lawrence Berkeley National Laboratory

BG10-IG-D3-PM2-304B-003 | BG10-IG-A006
Difference of the Trends of Air-Sea CO2 Exchange Fluxes Between the Northern and Southern Hemisphere Oceans in CMIP5 Models
Yangchun LI1,2, Yongfu XU1
1Chinese Academy of Sciences

BG10-IG-D3-PM2-304B-004 | BG10-IG-A017
Uncertainty in Earth System Models: Benchmarks for Ocean Model Performance and Validation
Oluwaseun OGURO1,2, Scott ELLIOTT1, Nathan COLLIER1, Oliver WINGENTER3, Clara DEAL4, Weiwei FU5, Forrest HOFFMAN1,6
1Oak Ridge National Laboratory, 2Los Alamos National Laboratory, 3New Mexico Tech, 4University of Alaska, 5University of California, Irvine, 6University of Tennessee, Knoxville

BG10-IG-D3-PM2-304B-005 | BG10-IG-A013
Incorporation of “omics” Information into the Soil Biogeochemical Model: A Novel Model Scheme to Regulate Microbial Functions and Soil Carbon Dynamics in Response to Environmental Change
Yang SONG1,2, Qiuming YAO1, Gangsheng WANG1, Xiaojuan YANG1, Chongle PAN1, Melanie MAYES1
1Oak Ridge National Laboratory
HS09 / Water Resources Planning, Management and Decision-making Under Hydrological Uncertainty  
Wed - 06 Jun | MR318A

**Time**  08:30 - 10:30  
**Chair(s)** Yi-Ming KUO, China University of Geosciences

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**HS09-D3-AM1-318A-001 | HS09-A001**

**Addressing Salinity Accumulation in the Hetao Basin, Yellow River, Inner Mongolia**  
Ian WHITE1#*, Jicai ZENG2, Jinzhong YANG2, Jian YU3, Tingbao XU1, Xin MA3  
1Australian National University, 2Wuhan University, 3Water Resources Research Institute of Inner Mongolia

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**HS09-D3-AM1-318A-002 | HS09-A003**

**A Framework for Water Resources System Operations: The South-to-North Water Transfer Project Case Study**  
Mingna WANG1#*  
1China Institute of Water Resources and Hydropower Research

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**HS09-D3-AM1-318A-003 | HS09-A006**

**Theoretical Model of Prerelase Operation Under Inflow Variation and Uncertainty**  
Cheng-Han KUO1#, Gene Jiing-Yun YOU1#  
1National Taiwan University

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**HS09-D3-AM1-318A-004 | HS09-A007**

**Non-Stationarity of Extreme Value Time Series**  
Juei-Chia HSU1#, Gene Jiing-Yun YOU1#  
1National Taiwan University

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**HS09-D3-AM1-318A-005 | HS09-A010**

**Water Resources and Land Management of Crop Distribution in Uzbekistan**  
Temur KHUJANAZAROV1**, Kenji TANAKA1, Yoshiya TOUGE1, Kristina TODERICH3  
1Kyoto University, 2Tohoku University, 3International Center for Biosaline Agriculture for Central Asia and Caucasus

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**HS09-D3-AM1-318A-006 | HS09-A014**

**Sustainability Evaluation of the Ecological Water Transfer and Rehabilitation Project: From Local People’s Responses to Ecological Effectiveness in Inland River Basins in Northwest China**  
Yu WANG1**  
1Lanzhou University of Technology

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**HS09-D3-AM1-318A-007 | HS09-A015**

**Water Sustainability Assessment in the Sanjiangyuan Region Under Changing Climate**  
Shenbei ZHOU1**  
1Hohai University

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**HS09-D3-AM2-318A-008 | HS09-A018**

**Simulation of Water and Nutrient Budget in Rice Paddy Considering Conservation Farming**  
Soon-Kun CHOI1**, Kim-Yeong KIM1, Jaehak JEONG2, Dongho CHO1, Seong-Chang HONG1, Seung-Oh HUR3  
1National Institute of Agricultural Sciences, 2Texas A&M University

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**HS09-D3-AM2-318A-009 | HS09-A019**

**Storm-Centered ARF Characteristics in the Context of Return Periods and Spatio-Temporal Scales of Storm Events**  
Eunji KIM1#, Boosik KANG2#  
1, 2Dankook University

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**HS09-D3-AM2-318A-010 | HS09-A020**

**Hydrologic Analysis Using Long-Term Simulated Stream Flows in Urban Lake Watersheds**  
Bryan Clark HERNANDEZ1**, Eugene HERRERA2  
1University of the Philippines, 2University of the Philippines-Diliman

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**HS09-D3-AM2-318A-011 | HS09-A021**

**Identifying Strategies to Share Water Between Two Basins Under Changing Climates and Demand Patterns: A Case Study in Southern India**  
Riddhi SINGH1**, Sai VEENA1  
1Indian Institute of Technology Bombay
HS10 / Near Surface Investigation and Modeling for Groundwater Resources Assessment  
**Wed - 06 Jun**  |  MR318B

**Time**  |  13:30 - 15:30  
**Chair(s)**  |  Wen-Fu CHEN, Chia Nan University of Pharmacy & Science  
              |  Jet-Chau WEN, National Yunlin University of Science and Technology

HS10-D3-PM1-318B-001 | HS10-A010 (Invited)
**Uniqueness, Scale, and Resolution Issues in Groundwater Model Parameter Identification**  
Tian-Chyi YEH¹  
¹University of Arizona

HS10-D3-PM1-318B-002 | HS10-A005
**The Groundwater Vertical Velocity in the Recharge Zone of Chianan Plain, Southwestern Taiwan**  
Wenfu CHEN¹,², Juier CHEN,², Wan-Chung LU², Chi Chao HUANG², Yunshuen WANG²  
¹Chia Nan University, ²Central Geological Survey

HS10-D3-PM1-318B-003 | HS10-A030
**The Responses of Precipitation and Streamflow to Recent Climate Variation in Frigid and Subtropical Zones**  
Kuo-Chin HSU¹,², B.-T. WANG¹, Dadim GRIGOREV², H.-W. TSENG¹, Roald DZHAMALOV²  
¹National Cheng Kung University, ²Water Problem Institute

HS10-D3-PM1-318B-004 | HS10-A007
**Implementation of Regression Kriging Method to Assess Spatial-Temporal Interactions Between Groundwater Levels and Recharge in Choushui River Groundwater Basin in Western Taiwan**  
Chuen-Fa NI¹,²,°, Lamtupa NAINGGOLAN¹, I-Hsien LEE¹, Chi-Ping LIN¹, Wei-Ci LI¹  
¹National Central University

HS10-D3-PM1-318B-005 | HS10-A021
**Estimation and Uncertainty Analysis of Watershed Scale Groundwater Recharge - A Case Study of the Choushui River Watershed, Taiwan**  
Kai Yuan KE¹,²,°, Yih-Chi TAN¹, Pingfen SONG¹  
¹National Taiwan University

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HS10-D3-PM1-318B-006 | HS10-A022
**New Insight into Timescale of Water and Solutes Transport Across a Regional Aquitard Inferred from Cl and Stable Isotope**  
Dongmei HAN¹,², Guoliang CAO³, Andrew LOVE³, Stacey PRIESTLEY³  
¹Chinese Academy of Sciences, ²Institute of Water Resources and Hydropower Research, ³Flinders University

HS10-D3-PM1-318B-007 | HS10-A025
**Evaluation of Groundwater Quality Spatial Variability in Gimcheon Region, South Korea**  
Mesfin Benti TOLERA¹,²,°, Il Moon CHUNG³, Sun Woo CHANG³  
¹University of Science and Technology-Korea Institute of Civil Engineering and Building Technology, ²Adama Science and Technology University, ³Korea Institute of Civil Engineering and Building Technology

HS10-D3-PM2-318B-008 | HS10-A026 (Invited)
**A Data Assimilation Approach for the Hydraulic Conductivity Estimation**  
Hwa-Lung YU¹, Ting-Hsin CHANG¹, Chang-Xuan XU³, Hua-Ting TSENG¹  
¹National Taiwan University

HS10-D3-PM2-318B-009 | HS10-A029
**Presence of Boron in the Puebla Valley Aquifer System, Mexico North America**  
Pedro Francisco RODRIGUEZ ESPINOSA¹,°, Estefania MARTINEZ TAVERA¹, Esteban Rodrigo CANO-AZMAR³  
¹Instituto Politécnico Nacional, ²Universidad Popular Autónoma del Estado de Puebla (UPAEP), ³National Polytechnic Institute

HS10-D3-PM2-318B-010 | HS10-A017
**In-Situ Phenomenological Succession Between Underground Electric Potential and Pore Water Pressure in a Potential Deep-Seated Landslide Site of Taipin Mountain, Ilan, Taiwan**  
Chih-Yu KUO¹,²,°, Chien-Chih CHEN¹, Ya-Ju HSU¹, Rou-Fei CHEN¹, Ching-Weei LIN¹, Pi-Wen TSAI³, An-Bin HUANG³  
¹Academia Sinica, ²National Central University, ³Chinese Culture University, ³National Cheng Kung University, ³National Taiwan Normal University, ³National Chiao Tung University

HS10-D3-PM2-318B-011 | HS10-A006
**Let’s Play Groundwater Models Online**  
Chuen-Fa NI¹,²,°, I-Hsien LEE¹, Chi-Ping LIN¹, Wei-Ci LI¹  
¹National Central University
HS10-D3-PM2-318B-012 | HS10-A002
Estimating the Groundwater Table and Specific Yield with the Resistivity Method in the Minzu Basin of Central Taiwan
Ping-Yu CHANG1#
1National Central University

HS10-D3-PM2-318B-013 | HS10-A031
The Potential of the Unsaturated Zone in Groundwater Recharge in Arid and Semiarid Areas
Tianming HUANG1++, Zhonghe PANG2, Shuo YANG2
1Institute of Geology and Geophysics, Chinese Academy of Sciences, 2Chinese Academy of Sciences

HS10-D3-PM2-318B-014 | HS10-A015
Prediction of the Groundwater Level with Complex and Irregular Influential Factors Using Artificial Neural Network Models
Sanghoon LEE1++, Heejung KIM1, Kang-Kun LEE1++, Ho-Yeong KIM1, Vinh BUI TRONG3
1Seoul National University, 2BCMP Korea, 3Bach Khoa University

HS12 / Risk Assessment Related to Hydrological, Climatic, and Environmental Changes
Wed - 06 Jun | MR318B

Time 08:30 - 10:30
Chair(s) Tsang-Jung CHANG, National Taiwan University
Hwa-Lung YU, National Taiwan University

HS12-D3-AM1-318B-001 | HS12-A011
A Joint Stochastic-Deterministic Approach for Low-Flow Risk Assessment and Uncertainty Analysis in the Lancang River Basin
Ping XIE1, Jianguang ZHAO1++, Ziyi WU1, Yanfeng SANG2
1Wuhan University, 2Chinese Academy of Sciences

HS12-D3-AM1-318B-002 | HS12-A019
A Scenario-Neutral Assessment of Water Scarcity in a Snowmelt-Driven Agricultural River Basin Under Climate Change
Hossam MOURSI1, Daeha KIM1, Jagath KALUARACHCHI1
1North Carolina State University, 2Asia-Pacific Economic Cooperation Climate Center, 3Utah State University

HS12-D3-AM1-318B-003 | HS12-A022
Reducing Risks of Water Shortage by Applying Bayesian Maximum Entropy Method for Dynamically Allocate Water Resource
Chia-Hung HUNG1++, Hwa-Lung YU1
1National Taiwan University

HS12-D3-AM1-318B-004 | HS12-A028
Drought Risk Assessment by Using Drought Severity-Duration-Frequency Curves: A Case Study in Taiwan
Chung-Ting CHEN1, Hung-Wei TSENG1, Chen-Min KUO1, Tao-Chang YANG1, Pao-Shan YU3
1National Cheng Kung University, 2

HS12-D3-AM1-318B-005 | HS12-A007
Quantitative Study on Early Warning Indices of Sudden Water Pollution Risk in Plain River Network
Dayong LI1++
1Hohai University

HS12-D3-AM1-318B-006 | HS12-A023
Risk Assessment of Tsunami-Induced Groundwater Salinization in the Nijima Island, Japan, Under the Anticipated Tsunami by the Nankai Trough Earthquake
Jiaqi LIU1++, Tomochika TOKUNAGA1
1The University of Tokyo

HS12-D3-AM1-318B-007 | HS12-A027
Estimation and Analysis of Extreme Climate Indices for Asia Megacities Under Climate Change
Jeong-Bae KIM1, Deg-Hyo BAE1++
1Sejong University

HS17 / Ecohydrological Processes and Modelling in a Changing Environment
Wed - 06 Jun | MR301

Time 13:30 - 15:30
Chair(s) Huimin LEI, Tsinghua University
Bellie SIVAKUMAR, University of New South Wales

HS17-D3-PM1-301-001 | HS17-A004 (Invited)
Aridity and Global Warming
Michael RODERICK1++
1The Australian National University

HS17-D3-PM1-301-002 | HS17-A005 (Invited)
Spatial Distribution of Soil Organic Carbon and its Association with Hydrogeomorphological Variables in a Native Vegetation Catchment
Huade GUAN1++, Erick BESTLAND1, Yong ZHANG2, Gabriel SHEPHERD3, Muriel LAVY4, Hugo GUTIERREZ5, Hongjie XIE6
1Flinders University, 2Hunan University of Science and Technology, 3Politecnico Di Torino, 4The University of Texas at El Paso, 5The University of Texas at San Antonio
Contribution of Climatic and Non-Climatic Forcings to US Runoff Changes for the Period 1950-2010

Jiafu MAO1#, Whitney FORBES2, Mingzhou JIN3, Shih-Chieh KAO3, Wenting FU4, Xiaoying SHI5, Daniel RICCIUTO6, Peter THORNTON7, Aurélien RIBES8, Yutao WANG9, Shilong PIAO10, Tianbao ZHAO11, Christopher SCHWALM12, Forrest HOFFMAN13, Joshua FISHER14, Akiko ITO5, Benjamin POULTER11, Yuanjuan FANG15, Hanqin TIAN16, Atul JAIN17
1Oak Ridge National Laboratory, 2University of Tennessee, Knoxville, 3The University of Texas at Austin, 4Météo-France/ National Center for Scientific Research, 5Fudan-Tyndall Centre, 6Peking University, 7Chinese Academy of Sciences, 8Woods Hole Research Center, 9Jet Propulsion Laboratory, California Institute of Technology, 10National Institute for Environmental Studies, 11National Aeronautics and Space Administration, 12Carnegie Institution for Science, 13Auburn University, 14University of Illinois, Urbana

Modeling Soil Moisture for an Integrated Basin-Scale Hydrological and Agricultural Model

Kumiko TSUJIMOTO1#, Tetsu OHTA2
1Okayama University, 2N/A

Investigating the Effects of CO2 and Human Intervention on the Water Cycle

Xiaoying SHII, Katherine CALVINII, Andrew JONESII, Benjamin BOND-LAMBERTYII, Alan DI VITTORIOIII, Jiafu MAOII, Peter THORNTONI
1Oak Ridge National Laboratory, 2Pacific Northwest National Laboratory, 3Lawrence Berkeley National Laboratory

Optimizing Global Temperature and Water Cycle of an Earth System Model of Intermediate Complexity with Surrogate Model-Based Multi-Objective Optimization

Wei GONGIV, Qingyun DUANI, Yuhan SHII
1Beijing Normal University

Hydrological Effects of Change in Forest Coverage Induced by Climate Change

Qinli YANGIV, Heng ZHANGI, Guoqing WANGIV, Yaoyao LANII, Wanshan PENGII, Junming SHAOII
1University of Electronic Science and Technology of China, 2Nanjing Hydraulic Research Institute

Clustering Analysis of Snowfall Station Using K-Means Algorithm

Munseok LEEV, Gunhui CHUNGII
1Hoseo University, 2Water Resources Laboratory

Evaluation of Runoff in Urban Stormwater Pipe Network Under the Peak Rainfall Change

Jinwoo LEEV, Gunhui CHUNGII
1Hoseo University, 2Water Resources Laboratory

Estimation of Interevent Time Definition Considering Nonlinearity of Rainfall Data

Kyungun KIMV, Dae Gun HANII, Hung Soo KIMII
1Inha University
A Comparison of Inflow Forecasting Methods for Shihmen Reservoir in Taiwan
Horng CHEN1+, Hung-Wei TSENG1, Chen-Min KUO1, Tao-Chang YANG1, Pao-Shan YU2
1National Cheng Kung University, 2

Seasonal Streamflow Forecasting in Taiwan Using Derived Climate Variables
Chia-Jeng CHEN1#
1National Chung Hsing University

Can Rainfall be Predicted at Decadal Timescales?
Ashish SHARMA1+, Dipayan CHOUDHURY1, Alexander SEN GUPTA1, Rajeshwar MEHROTAR1, Bellie SIVAKUMAR1,2
1University of New South Wales, 2Indian Institute of Technology Bombay

Predicting U. S. Drought Monitor Using a Categorical Modeling Framework
Zengchao HAO1#
1Beijing Normal University

Prediction of Quarterly Streamflow Using Drought Forecasting and Copula-Based Bayesian Network Method
Sangho LEE1#, Youngkyu JIN1
1Pukyong National University

Realtime River Stage Prediction with ANN Based on Only Upstream Observation Data
Sunmin KIM1#, Yasuto TACHIKAWA2
1, 2Kyoto University

Data-Driven Flood Prediction Model Considering Drainage Network and Rainfall Conditions
Hyun Il KIM1, Ho Jun KEUM1, Jae Yeong LEE1, Kun-Yeun HAN1#
1Kyungpook National University

Development of Monitoring System for Management of Storm Flood Disaster
Ah Long SON1#, Hyoun-Seong PARK1, Jung-Tak LIM1, Jinyi PARK1
1National Disaster Management Institute

Distributed Parameter Muskingum-Cunge Flood Routing Model
Kang Min KOO1#, Kyung Soo JUN1#
1Sungkyunkwan University

Flood Damage Cause Analysis and Restoration Plan in Urban Area by Applying 2-D Model
Jae Yeong LEE1#, Beom Jin KIM1, Hyun Il KIM1, Kun-Yeun HAN1#
1Kyungpook National University
Exploring the Ground Ice Recharge Near Permafrost Table on the Central Qinghai-Tibet Plateau Using Chemical and Isotopic Data
Tonghua WU1#*
1Chinese Academy of Sciences

Simulation of Soil Thermal Conductivity within Active Layer at Tanggula Site in Qinghai-Tibet Plateau, China
Ren LI1#*
1Chinese Academy of Sciences

The Characteristic of Surface Velocities of Glaciers in the Upper Indus River Along Karakoram Highway
Zongli JIANG1#*, Shiyin LIU2
1Hunan University of Science and Technology, 2Yunnan University

Study on Inland River Basin Oasis Changes Under Glacier Changes
Shengxia WANG1#*
1Chinese Academy of Sciences

Error Correction and Uncertainty Analysis of Estimation of Glacial Mass Balance Based on Geodetic Measurement
Junfeng WEI1#*, Zongli JIANG1, Xin WANG1, Shiyin LIU2, Yong ZHANG1
1Hunan University of Science and Technology, 2Yunnan University

Monitoring and Simulation of Hydrothermal Conditions Indicating the Deteriorating Stability of a Perennially Frozen Moraine Dam in the Himalayas
Xin WANG1#*, Shiyin LIU2, Yongjian DING3, Junfeng WEI1
1Hunan University of Science and Technology, 2Yunnan University, 3Chinese Academy of Sciences

Fate of Glaciers on the Tibetan Plateau by 2100
Keqin DUAN1#*
1Shanxi Normal University

Modelling Glacier Mass Balance on the Mount Gongga in the Southeastern Tibetan Plateau
Yong ZHANG1#*, Xin WANG1, Zongli JIANG1, Junfeng WEI1, Shiyin LIU2
1Hunan University of Science and Technology, 2Yunnan University

Quantified Mass Loss of Ice Core and its Climatic Signals in the Northeastern Tibetan Plateau, China
Wentao DU1#*, Shichang KANG1, Xiang QIN1, Weijun SUN1, Jizu CHEN1, Yushuo LIU1, Xiaoqing CUI1
1Chinese Academy of Sciences

Melting Glaciers Stimulate Mercury Cycling in High Altitudes in the Tibetan Plateau
Qianggong ZHANG1#*
1Chinese Academy of Sciences

Microstructural Analysis of Frozen Clay with Different Water Content and Temperature by Cryo-SEM
Chengsong YANG1#*, Dan WANG2, Hui BING2, Lianhai ZHANG1, Jimin YAO2
1Northwest Institute of Eco-Environment and Resources, CAS, 2Chinese Academy of Sciences

High-Altitude Permafrost on Tropical Volcanoes on Hawaii Island
Norbert SCHORGHOFER1#*, Steven BUSINGER2, Matthias LEOPOLOD3, Amanda MORELLI4, Kenji YOSHIKAWA5
1Planetary Science Institute, 2University of Hawaii, 3University of Western Australia, 4Universidade Federal de Sao Paulo, 5University of Alaska
HS28 / Impacts of Climate Change on Floods, Droughts, and Water Availability in Asian Countries

Wed - 06 Jun  | MR301

Time 11:00 - 12:30

Chair(s) Yongqin David CHEN, The Chinese University of Hong Kong
Jianfeng LI, Hong Kong Baptist University
Thian Yew GAN, University of Alberta

HS28-D3-AM2-301-001 | HS28-A008 (Invited)
Impacts of Climate Change on Water Availability of the Ten Major Water Zones of China
Guoqing WANG1+, Jianyun ZHANG1, Qinli YANG2, Zhenxin BAO1, Junliang JIN1, Tiesheng GUAN1
1Nanjing Hydraulic Research Institute, 2University of Electronic Science and Technology of China

HS28-D3-AM2-301-002 | HS28-A016
Analysis of the Variations of Water Availability in Asia Monsoon Region Under Climate Change
Jae Yeong HEO2, Jeong-Bae KIM2, Deg-Hyo BAE3
1, 2Sejong University

HS28-D3-AM2-301-003 | HS28-A013
Projections of Floods and Water Availability Under Climate Change Across China in the 21st Century
Yongqin David CHEN1+, Jianfeng LI1, Qiang ZHANG3
1The Chinese University of Hong Kong, 2Hong Kong Baptist University, 3Beijing Normal University

HS28-D3-AM2-301-004 | HS28-A015
Projection of Joint Probabilistic Behaviors of Floods and Droughts Across China
Jianfeng LI1+, Yongqin David CHEN1, Qiang ZHANG3
1Hong Kong Baptist University, 2The Chinese University of Hong Kong, 3Beijing Normal University

HS28-D3-AM2-301-005 | HS28-A002
Water Property Around the Mekong’s Water, Tonlé Sap Lake and Angkor, Cambodia - Implication for the Ancient Prosperous Angkor -
Hodaka KAWAHATA1+
1The University of Tokyo

IG03 / Interdisciplinary Tsunami Science

Wed - 06 Jun  | MR323A

Time 08:30 - 10:30

Chair(s) Tomoyuki TAKAHASHI, Kansai University

IG03-D3-AM1-323A-001 | IG03-A026
Physics-Based Simulation Pipeline for Tsunami Early Warning
John WILSON1+, John RUNDLE1, Andrea DONNELLAN2, Tony SONG3, Attila KOMJATHY4, Steven WARD4
1University of California, Davis, 2Jet Propulsion Laboratory, California Institute of Technology, 3California Institute of Technology, 4University of California Santa Cruz

IG03-D3-AM1-323A-002 | IG03-A003
Tsunami Data Assimilation with Sparse Observation
Yuchen WANG1+, Kenji SATEKI1, Takuto MAEDA2
1The University of Tokyo

IG03-D3-AM1-323A-003 | IG03-A024
Consideration of Real-Time Tsunami Forecast for Outer-Rise Earthquakes
Naotaka YAMAMOTO CHIKASADA1+, Toshitaka BABA2
1National Research Institute for Earth Science and Disaster Resilience (NIED), 2Tokushima University

IG03-D3-AM1-323A-004 | IG03-A014
A New Automated Method for Real-Time Tsunami Source Estimation Using Seafloor Pressure Sensor Network in Japan
Mayu INOUE1+, Yuichiro TANIOKAI1, Yusuke YAMANAKA2
1Hokkaido University, 2The University of Tokyo

IG03-D3-AM1-323A-005 | IG03-A034
Early Stage of Preparation of Tsunami Scenario Database Using High-Speed GPU Version of Namidance Tsunami Simulation Code in Terms of Disaster Resilience Actions in Takamatsu City, Japan
Ceren OZER SOZDINLER1+, Yoshiyuki KANEDA1, Takane HORF, Taro ARIKAWA1, Bora YALCINER1, Andrey ZAITSEV1, Ahmet YALCINER1
1Kagawa University, 2Japan Agency for Marine-Earth Science and Technology, 3Chuo University, 4Middle East Technical University, 5Special Research Bureau for Automation of Marine Researches

IG03-D3-AM1-323A-006 | IG03-A002
Development of the Tsunami Observation and Prediction System Using Ocean Radar and Others at Hamaoka NPS
Yoshihito TANAKA1+, Tomoyuki TAKAHASHI1
1Chubu Electric Power Co., Inc., 2Kansai University
Examination for Moment Magnitude of the Small Tsunami Observable by Oceanographic Radar Installed in Wakayama Prefecture
Shuji SETO, Tomoyuki TAKAHASHI, Hirofumi HINATA, Ryotaro FUJI, Fumihiko IMAMURA
International Research Institute of Disaster Science, Tohoku University, Kansai University, Ehime University, Hokkaido University, Tohoku University

A Numerical Modeling of Long-Term Flooding After the Tsunami Caused by the Nankai Earthquake, Japan
Toshitaka BABA, Kentaro IMAI, Kenta NAKANISHI, Manabu MIYOSHII, Keisuke AKI
Tokushima University, Japan Agency for Marine-Earth Science and Technology, Nita Consultant Co., Ltd.

Properties of Trans-Pacific Tsunamis
Kenji SATAKE
The University of Tokyo

A Self-Consistent Fault-Slip Model for the 2011 Tohoku Earthquake and Tsunami
Kwok Fai CHEUNG, Yoshiki YAMAZAKI, Thorne LAY
University of Hawaii at Manoa, University of Hawaii, University of California Santa Cruz

Source Estimate for the 1960 Chile Earthquake from Joint Inversion of Geodetic and Transoceanic Tsunami Data
Tungcheng HO, Kenji SATEKE, Shingo WATADA, Yushiro FUJII
The University of Tokyo, Building Research Institute

Nearshore Behavior of the 1906 Colombia-Ecuador Earthquake Tsunami in Hilo Bay
Yusuke YAMANAKA, Yuichiro TANIOKA
The University of Tokyo, Hokkaido University

A Large Slip Near the Trough of the 1854 Ansei-Tokai Earthquake Estimated from an Observed Tsunami Waveform at San Francisco
Karen UNO, Yuichiro TANIOKA, Yusuke YAMANAKA
Hokkaido University, The University of Tokyo

Source Processes of the 2016 Mie-Oki Earthquake (Mw5.9)
Using Tsunami Waveforms Observed by Dense Seafloor Pressure Sensor Network System
Tatsuya NAKAGAKI, Yuichiro TANIOKA, Kentaro IMAI, Takeshi IINUMA, Narumi TAKAHASHI
Hokkaido University, Japan Agency for Marine-Earth Science and Technology

Tsunami Source Modeling for the 2015 Volcanic Tsunami Earthquake Near Torishima, South of Japan
Osamu SANDANBATA, Shingo WATADA, Kenji SATEKE, Yoshiho FUKAO, Hiroko SUGIKA, Aki ITO, Hajime SHIBARAI
The University of Tokyo, Japan Agency for the Promotion of Science, Japan Agency for Marine-Earth Science and Technology, Kobe University

Determination of a Fault Size from a Dispersive Character of a Tsunami: A Case Study for the 2016 El Salvador-Nicaragua Outer-Ride Earthquake
Yuichiro TANIOKA, Amilcar Geovanny CABRERA RAMIREZ, Yusuke YAMANAKA
Hokkaido University, Nicaraguan Institute of Territorial Studies, The University of Tokyo

Feasibility Study on Tsunami Source Estimation from Observed Water Level Change by Machine Learning
Tomoyuki TAKAHASHI
Kansai University

Consideration of Tsunami Design Load for Building by Comparison Between Japan and the U.S.
Takashi MORI, Yoshishiro OKUMURA, Junji KIYONO
HI Corporation, Kansai University, Kyoto University
IG03-D3-PM2-323A-019 | IG03-A021
Numerical Experiment on Validation of Tsunami Sediment Transport Model for Various Sand Grains Using Hydraulic Experiment Data
Ako YAMAMOTO1##, Tomoyuki TAKAHASHI1, Kenji HARADA1, Masaaki SAKURABA1, Kazuya NOJIMA1
1Kansai University, 2Shizuoka University, 3Nippon Koei Co., Ltd.

IG03-D3-PM2-323A-020 | IG03-A036
Hydraulic Experiment on Spatial Distribution of Tsunami Deposits and Hydrodynamic Characteristics of Tsunami
Kenji HARADA1##, Tomoyuki TAKAHASHI1, Ako YAMAMOTO1, Masaaki SAKURABA1, Kazuya NOJIMA1, Junpei MINETA1
1Shizuoka University, 2Kansai University, 3Nippon Koei Co., Ltd.

IG03-D3-PM2-323A-021 | IG03-A008
Sedimentary Features and Preservation Potential of the 2011 Tohoku-Oki Tsunami Deposits in the Shallow Sea of the Sendai Bay
Akira SATO1, Kazuhisa GOTO1##, Daisuke SUGAWARA2, Keiko UDO1
1Tohoku University, 2Museum of Natural and Environmental History

IG03-D3-PM2-323A-022 | IG03-A029
Characteristics of Evacuation Start During the 2017 Tsunami Evacuation Drill in Minami-Awaji, Japan
Yuji DOHI1##, Yoshihiro OKUMURA1
1National Research Institute for Earth Science and Disaster Resilience (NIED), 2Kansai University

IG08 / Data-driven Modeling in Geoscience
Wed - 06 Jun  | MR322B
Time 13:30 - 15:30
Chair(s) Takane HORI, Japan Agency for Marine-Earth Science and Technology
Tatsu KUWATANI, Japan Agency for Marine-Earth Science and Technology

IG08-D3-PM1-322B-001 | IG08-A016 (Invited)
Sparse Modeling and Data Driven Science
Masato OKADA1##
1The University of Tokyo

IG08-D3-PM1-322B-002 | IG08-A015
A Nonlinear Parametric Model Based on Power Law for Tsunami Height Prediction at Owase in the Kii Peninsula, Japan
Yasuhiro IGARASHI1##, Masashi YOSHIIWA1, Shin MURATA1, Yoshitaka BABA1, Takane HORI1, Masato OKADA1##
1Japan Science and Technology Agency, 2The University of Tokyo, 3Tokushima University, 4Japan Agency for Marine-Earth Science and Technology

IG08-D3-PM1-322B-003 | IG08-A018
Information Entropy of the 2004 Parkfield Earthquake
Alexis GIGUERE1##, John B. RUNDLE2
1University of California Davis, 2University of California, Davis

IG08-D3-PM1-322B-004 | IG08-A010
Geodetic Data Inversion for Spatial Distribution of Long-Term Slow Slip Events Beneath the Bungo Channel, Southwest Japan, Using Sparse Modelling
Ryoko NAKATA1##, Hideitsu HINO1, Tatsu KUWATANI1, Shoichi YOSHIIWA1, Masaaki OKADA1, Takane HORI1
1Japan Agency for Marine-Earth Science and Technology, 2University of Tsukuba, 3Kobe University, 4The University of Tokyo

IG08-D3-PM1-322B-005 | IG08-A019
Seismic Wavefield Imaging of Long-Period Ground Motion in the Tokyo Metropolitan Area, Japan
Hiromichi NAGAO1##, Masayuki KANO1, Kenji NAGATA1, Shin-Ichi ITO1, Shin-ichi SAKAI1, Shigeki NAKAGAWA1, Muneo HORI1, Naoshi HIRATA1
1The University of Tokyo, 2Tohoku University, 3National Institute of Advanced Industrial Science and Technology

IG08-D3-PM1-322B-006 | IG08-A012
Pressure-Temperature-Time Path Inversion from Zoned Minerals Using Data Assimilation
Tatsu KUWATANI1##, Hiromichi NAGAO1, Atsushi OKAMOTO1, Kenta YOSHIIWA1, Shin-Ichi ITO1, Takamato OKUDAIRA1
1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo, 3Tohoku University, 4Osaka City University

IG08-D3-PM1-322B-007 | IG08-A007
Applications of Persistent Homology to Fracture Characterization
Anna SUZUKI1##, Miyuki MIYAZAWA1, Atsushi OKAMOTO1, Hiroyuki SHIMIZU1, Yasuaki HIRAOKA1, Ippei OYAYASHI1, Takatoshi ITO1
1Tohoku University, 2Kajima Corporation
IG08-D3-PM2-322B-008 | IG08-A017 (Invited)

Identification of Dynamical Processes in Space Plasma Turbulence
Michael BALIKHIN1#
1University of Sheffield

IG08-D3-PM2-322B-009 | IG08-A023
Calibrating Nino 3.4 SST Forecast Ensembles Using Bayesian Model Averaging
Hanpei ZHANG1##, Pao-Shin CHU3, Luke HE5, David UNGER3
1University of Hawaii at Manoa, 2University of Hawaii, 3National Oceanic and Atmospheric Administration

IG08-D3-PM2-322B-010 | IG08-A009
Response of Irrigation Water Requirement to the Elevated CO2 over an Agricultural Region in Northwest China
Jun NIU4##, Shaozhong KANG1
1China Agricultural University

IG08-D3-PM2-322B-011 | IG08-A008
The Detection of Cloud Pattern in the Antarctic Using Convolution Neural Network for Estimation of the Snowfall Amount
Kazue SUZUKI1##, Terumasa TOKUNAGA3, Takashi YAMANOUCHI1
1National Center of Neurology and Psychiatry, 2Kyushu Institute of Technology, 3National Institute of Polar Research

IG08-D3-PM2-322B-012 | IG08-A006
Geochronological Discrimination Using Machine Learning: Magmatic Tectonic Settings and Geochemical Signatures
Kenta UEKI1##, Hideitsu HINO1, Tatsu KUWATANI1
1Japan Agency for Marine-Earth Science and Technology, 2University of Tsukuba

IG08-D3-PM2-322B-013 | IG08-A005
Grain Growth Prediction Based on Data Assimilation by Implementing 4DVar on Phase-Field Models
Shin-Ichi ITO5##, Hiromichi NAGAO1, Tadashi KASUYA1, Junya INOUE1
1The University of Tokyo

IG08-D3-PM2-322B-014 | IG08-A022
WaveNet - An Open Geoscience Database Initiative for Automatic Event Picking and Beyond
Ning TU1##
1Tongji University

IG08-D3-PM2-322B-015 | IG08-A021
NASA GES DISC Earth Science Data Support
Jennifer WEI1##, Dana OSTRENGA3, Bruce VOLLMER1, David MEYER3
1NASA Goddard Earth Sciences Data and Information Services Center, 2NASA Goddard Earth Sciences Data and Information Services Center/Adnet Systems, 3NASA Goddard Space Flight Center

IG09 / Big data, point cloud, and geospatial analytics in geosciences
Wed - 06 Jun | MR322B

Time 08:30 - 10:30

Chair(s) Uma DAS, Indian Institute of Information Technology Kalyani
Yuichi S. HAYAKAWA, The University of Tokyo
C.S. DUBEY, Centre for Advanced Studies, Department of Geology University of Delhi

IG09-D3-AM1-322B-001 | IG09-A001
Thomas SCHRANTNER1##, Sebastian ILLING1, Christopher KADOW1, Ingo KIRCHNER1, Ulrich CUBASCH1
1Free University of Berlin

IG09-D3-AM1-322B-002 | IG09-A006
The Terra Data Fusion Project: An Update
Larry DI GIROLAMO1##
1University of Illinois

IG09-D3-AM1-322B-003 | IG09-A007
Frequency Characteristic of Grace Data and the Related Technique to Recover the Gravity Field
Jinhai YU1##
1University of Chinese Academy of Sciences

IG09-D3-AM1-322B-004 | IG09-A004
Naoto NISHIZUKA1##, Komei SUGIURA1, Yuki KUBO1, Mitsue DEN1, Mamoru ISHII1
1National Institute of Information and Communications Technology
Integration Method of Big Data on Spatiotemporal Distribution of People in Urban Area
Toshihiro OSARAGI1#
1Tokyo Institute of Technology

Development of Public Safety Map Service and Influence on Society
Young Woo CHUN1#, Kyung Soo PYO1, So Hee LEE1, Mi Song KIM1
1National Disaster Management Research Institute

Analysis of Gravel Sediment Movement and Flow Path Change Through High-Frequency, High-Definition Topographic Measurements in the Tedori River, Northcentral Japan
Takuro OGURA1#, Yuichi S. HAYAKAWA1, Tatsuto AOKI2
1The University of Tokyo, 2Kanazawa University

Estimating Volume and Source Location of Tsunami Boulders Using Point Cloud Data
Yuichi S. HAYAKAWA1#, Hisashi AOKI2
1The University of Tokyo, 2Tokyo Gakugei University

IG13 / Where History and Geology Intercept: Multidisciplinary Approaches to Extending Our Chronology of Catastrophic Geologic Events
Wed - 06 Jun | MR302B

Hawaiian Chants and Stories: Important Guides to Volcanic Events at Kilauea Volcano in the 15th-17th Centuries
Donald SWANSON1#
1United States Geological Survey

Sedimentological Comparison of Recent Storm and Tsunami Deposits from the South-Eastern Coastline of India
Christos GOURAMANIS1#, Adam SWITZER2, Srinivasalu SESHACHALAM3, Anandasabari KARTHIKEYAN4, Dat PHAM1, Jessica PILARCYZK1, Hussain SHAIK2, Brian JONES3, Wenshu YAP6
1National University of Singapore, 2Nanyang Technological University, 3Anna University, 4Javaharal Nehru Nehru Centre for Advance Scientific Research, 5Viet Nam Institute of Meteorology, Hydrology and Climate Change, 6University of Southern Mississippi, 7University of Madras, 8University of Wollongong

Historical Earthquakes in the Eastern Sunda Arc, Indonesia
Athanasius CIPTA1#, Jonathan GRIFFIN2, Ngoc NGUYEN3, Phil CUMMINS3
1Geological Agency, 2Geoscience Australia, 3Australian National University

Earthquake Resilience and Society: The Intersection of Archaeology, Myth, and Geology at Late Bronze Age Akrotiri
Amanda GAGGIOLI1#
1Stanford University

Using Historical Events and Timelines to Communicate Natural Hazards to Mainstream Audiences
Isaac KERLOW1#
1Nanyang Technological University

IG22 / Pre-earthquake Anomalies, Earthquake Predictability, 10 Years Commemoration 2008 M8.0 Wechuan Earthquake, Kickoff Chinese Seismo-electromagnetic Satellite
Wed - 06 Jun | MR322B

The Added Value of a Multi-Parametric Global Earthquake Observation System (EQuOS) in the New CSES Perspective
Valerio TRAMUTOLI1#, Nicola GENZANO1, Carolina FILIZZOLA2, Mariano LIS1, Nicola PERGOLA2
1University of Basilicata, 2National Research Council
Seismo-Ionospheric Anomalies of the Ground-Based Total Electron Content Prior to the 12 May 2008 M8.2 Wenchuan Earthquake and M≥6.0 Earthquakes in China
Jann-Yenq (Tiger) LIU1, Yuh-Ing CHEN2, Chengyan LIU3
1National Central University, 2Beijing University of Technology

On the Quantification and Optimization of Forecasting Efficiency of Non-Seismic Observations
Peng HAN1#, Katsumi HATTORI2, Jiancang ZHUANG3
1Southern University of Science and Technology, 2Chiba University, 3Institute of Statistical Mathematics

Precursor Information and Forecasts Before the M7.3 Kumamoto Earthquake in Japan
Weisheng CHEN1#, Huirong ZHANG1
1Beijing University of Technology

OS03 / Enso and Iod Theory, Impact and Prediction
Wed - 06 Jun | MR322A
Time 08:30 - 10:30
Chair(s) Tao LIAN, Second Institute of Oceanography

Oceanic Feedbacks in Affecting ENSO Asymmetry
Cong GUAN1#, Michael MCPHADEN2, Shijian HU3, Fan WANG3
1Institute of Oceanology Chinese Academy of Sciences, 2National Oceanic and Atmospheric Administration, 3Chinese Academy of Sciences

Interannual Variability and Dynamics of Intraseasonal Wind Rectification in the Equatorial Pacific Ocean
Xia ZHAO1#, Dongliang YUAN1
1Chinese Academy of Sciences

Why Was the Indian Ocean Dipole Weak in the Context of the Extreme El Nino in 2015?
Lin LIU1#, Guang YANG1
1State Oceanic Administration

Impact of South Pacific Subtropical Dipole Mode on ENSO
Jian ZHENG1#, Faming WANG2, Michael ALEXANDER3
2Chinese Academy of Sciences, 3Qingdao National Laboratory for Marine Science and Technology, 4National Oceanic and Atmospheric Administration
OS13 / High-resolution Ocean and Ocean-atmosphere Coupled Models: Advances and Challenges

Wed - 06 Jun | MR324

Time 13:30 - 15:30

Chair(s) Zhenya SONG, First Institute of Oceanography
Chan Joo JANG, Korea Institute of Ocean Science and Technology

OS13-D3-PM1-324-001 | OS13-A031 (Invited)
Results from High Resolution Climate Simulations Using the Energy Exascale Earth System Model (E3SM)
Mathew MALTRUD1#+
1Los Alamos National Laboratory

OS13-D3-PM1-324-002 | OS13-A023
A Virtual Ocean-Atmosphere Simulation for Studying Air-Sea Interactions and Evaluating Observation Systems
Ehud STROBACH1++, Andrea MOLOD2, Atanas TRAYANOV2, William PUTMAN3, Gael FORGET4, Jean-Michel CAMPIN4, Chris HILL5, Dimitri MENEMENLIS6, Patrick HEIMBACH7
1University of Maryland, 2NASA Goddard Space Flight Center, 3NASA Global Modeling and Assimilation Office, 4Massachusetts Institute of Technology, 5Jet Propulsion Laboratory, California Institute of Technology, 6The University of Texas at Austin

OS13-D3-PM1-324-003 | OS13-A032
Real-Case Simulation Using a High Resolution Ocean-Atmosphere Coupled Model
Jung-Eun KIM1#+, Young-Su LEE1, Junghan KIM1
1Korea Institute of Atmospheric Prediction Systems (KIAPS)

OS13-D3-PM1-324-004 | OS13-A028
Improved Climate Simulations Through a Stochastic Parameterization of Ocean Eddies
Paul WILLIAMS1++, Nicola HOWE1, Jonathan GREGORY1++, Robin SMITH1, Manoj JOSHI1
1University of Reading, 2Risk Management Solutions, 3Met Office Hadley Centre, 4University of East Anglia

OS13-D3-PM1-324-005 | OS13-A026
Impacts of Heat Flux Adjustments on the Climate Simulation in a Regional Atmosphere-Ocean Coupled Model RSM-ROMS over the Northwest Pacific Ocean
Xiaojun GUO1++, Kei YOSHIMURA1
1The University of Tokyo

OS13-D3-PM1-324-006 | OS13-A006
Impact of Ocean Eddy Resolution on the Projection of Precipitation Change
Jie HE1++
1Princeton University

OS13-D3-PM1-324-007 | OS13-A003
High-Resolution Visualization of Ocean Current Using Line Integral Convolution
Haixing LIU1++, Zhendong LIU1, Tianyun SU1, Wen WANG1
1State Oceanic Administration

OS13-D3-PM2-324-008 | OS13-A025 (Invited)
The Development and Application of LASG/IAP Climate System Ocean Model (LICOM)
Hailong LIU1++, Pengfei LIN1, Zhipeng YU1, Yongqiang YU1
1Chinese Academy of Sciences

OS13-D3-PM2-324-009 | OS13-A011
The Study of Arctic Sea Ice Data Assimilation in FIOCOM
Qi SHU1++
1State Oceanic Administration

OS13-D3-PM2-324-010 | OS13-A029
A Realization of Bias Correction Method in the GMAO Coupled System
Yehui CHANG1++
1NASA Goddard Space Flight Center

OS13-D3-PM2-324-011 | OS13-A002 (Invited)
Development of a Multi-Model Ensemble Atmosphere-Ocean Coupling Framework
Wei XUE1++
1Tsinghua University

OS13-D3-PM2-324-012 | OS13-A007
Simulation of Air-Sea Exchange of Carbon Dioxide in the Gulf Coast by Using Coupled COAWST-WRF/Chem Model
Pengfei WANG1, Zuo XUE1, Hongliang ZHANG1++
1Louisiana State University
Parameterization of Self-Attraction and Loading Tides for a Regional Tidal Model and its Application in the Northwest Pacific Ocean
Yonggang WANG++*, Zexun WEI*, Guohong FANG†, Xiumin GAO†
†State Oceanic Administration

Air-Sea Interactions in the Northern South China Sea During Winter-Summer Between ENSO Decaying Years Using a Regional Coupled Model
Yi-Chun KUO++*, Yu-Heng TSENG†
†National Taiwan University

OS14 / Progress in Ocean Heat Uptake and Sea Level Studies

Sea Level and Ocean Heat Content Variations Analyzed with the Latest ECCO State Estimate
Ichiro FUKUMORI**, Rui M. PONTE††, Christopher PIECUCH‡, Patrick HEIMBACH†
††Jet Propulsion Laboratory, ‡Atmospheric and Environmental Research, Inc., ††Woods Hole Oceanographic Institution, ‡The University of Texas at Austin

Role of Pacific Trade Wind Variations in Decadal Climate
Matthew ENGLAND++*
*University of New South Wales

Implications of Earth’s Energy Imbalance and Ocean Heat Content for Ocean Heat Transports
Kevin TRENBERTH**, Lijing CHENG†
†National Center for Atmospheric Research, ‡Chinese Academy of Sciences

Impact of Heat Flux Perturbations in the North Atlantic on the AMOC: Insight from FAFMIP
Oleg SAENKO**, Jonathan GREGORY††, Johann JUNGCLAUS§, Armin KOEHL†, Ojha SAYANTAN†, Detlef STAMMER††, Tatsuo SUZUKI, Michael WINTON‡∗
§Canadian Centre for Climate Modelling and Analysis, †University of Reading, ‡Met Office Hadley Centre, ††Max Planck Institute for Meteorology, ‡University of Hamburg, ‡Japan Agency for Marine-Earth Science and Technology, ‡NOAA Geophysical Fluid Dynamics Laboratory

Sea Level Response to Poleward Shifting vs. Strengthening of Westerly Winds in the Southern Ocean
Xuebin ZHANG***, John CHURCH, Kewei LYU†
†CSIRO Oceans and Atmosphere, ‡University of New South Wales

Quran WU††, Xuebin ZHANG**, John CHURCH†, Jianyu HU‡
††Xiamen University, ‡CSIRO Oceans and Atmosphere, ‡University of New South Wales

Long-Term Sea Level Changes in an Ocean State Estimation of ESTOC
Shuhei MASUDA**, Satoshi OSAFUNE††, Tadashi HEMMI†
††Japan Agency for Marine-Earth Science and Technology

Regional Sea Level Changes over North Pacific Driven by Air-Sea Interaction and Inter-Basin Teleconnections
Xichen LI***
***Chinese Academy of Sciences
OS17 / The Oceanic Energy Cascade: from Mesoscale, Submesoscale to Small-scale Turbulence
Wed - 06 Jun | MR322A

Time 13:30 - 15:30

Chair(s) Yisen ZHONG, Shanghai Jiao Tong University
Toshiyuki HIBIYA, The University of Tokyo
Bo QIU, University of Hawaii

OS17-D3-PM1-322A-001 | OS17-A002

Seasonality in Transition Scale from Balanced to Unbalanced Motions in the World Ocean
Bo QIU1##, Shuiming CHEN1, Patrice KLEIN2, Jinbo WANG1, Lee-Lueng FU1, Dimitris MENENELIS3, Hector TORRES3
1University of Hawaii, 2The French Research Institute for the Exploitation of the Sea (IFREMER), 3NASA Jet Propulsion Laboratory

OS17-D3-PM1-322A-002 | OS17-A005

Seasonality of the Kuroshio Intensity East of Taiwan
Modulated by Mesoscale Eddies
Yuqi YIN1##, Xiaopei LIN2, Yijun HOU1
1Chinese Academy of Sciences, 2Ocean University of China

OS17-D3-PM1-322A-003 | OS17-A006

The Reynolds Stress Caused by Accumulation of Circular Mesoscale Eddies
Kunihiro AOKI1##, Yukio MASUMOTO1
1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo

OS17-D3-PM1-322A-004 | OS17-A009

Multi-Scale Dynamical Processes and Their Interactions
Observed in the South China Sea Mesoscale Eddy Experiment
Zhiwei ZHANG1##, Jiwei TIAN1, Bo QIU1, Xiaodong HUANG1, Wei ZHAO1
1Ocean University of China, 2University of Hawaii

OS17-D3-PM1-322A-005 | OS17-A012

Enhanced Eddy-Induced Ocean-to-Atmosphere Turbulent Heat Transfers in the Global Western Boundary Current Regions
Yanan ZHU1##, Xiaopei LIN1, Bo QIU1
1Ocean University of China, 2University of Hawaii

OS17-D3-PM1-322A-006 | OS17-A013

Observational and Numerical Studies of the Vertical Structure of Tidal Mixing over Abyssal Rough Bottom Bathymetry
Toshiyuki HIBIYA1##, Emiri KOBORI1, Robin ROBERTSON2
1The University of Tokyo, 2Xiamen University

OS17-D3-PM1-322A-007 | OS17-A003

The Performance of Vertical Mixing Parameterizations in Replicating the Mixed Layer Depth and Surface Wind Mixing
Robin ROBERTSON1##, Paul HARTLIPP2
1Xiamen University, 2University of New South Wales

OS17-D3-PM1-322A-008 | OS17-A019

Effects of the Indonesian Throughflow on the Generation and Propagation of Internal Tides in Lombok Strait
Taira NAGAI1##, Toshiyuki HIBIYA1
1The University of Tokyo

OS17-D3-PM1-322A-009 | OS17-A018

Long-Range Radiation and Dissipation of M2 Internal Tides in the Philippine Sea
Yang WANG1, Zhenhua XU2, Baoshu YIN1
1Chinese Academy of Sciences

OS19 / Marine Debris – from Modelling to Management to Microplastics
Wed - 06 Jun | MR317B

Time 11:00 - 12:30

Chair(s) Mark MANUEL, National Oceanic and Atmospheric Administration
Serena LEE, Griffith University
Charles LEMCKERT, University of Canberra

OS19-D3-AM2-317B-001 | OS19-A002 (Invited)

Pathways and Fate of Marine Debris from the 2011 Tsunami in Japan Studied with a Synthesis of Numerical Models and Observational Reports
Nikolai MAXIMENKO1##, Jan HAFNER1, Masafumi KAMACHI2, Amy MACFADYEN3
1University of Hawaii, 2Japan Agency for Marine-Earth Science and Technology, 3National Oceanic and Atmospheric Administration

OS19-D3-AM2-317B-002 | OS19-A002 (Invited)

Spatial and Seasonal Variation of Microplastic Debris in the Lakshadweep Archipelago, Indian Ocean
Venkatachalapathy RAMADOSS1##, Veerasingam S2, Mugilarasan M1
1Annamalai University, 2National Institute of Oceanography
OS19-D3-AM2-317B-003 | OS19-A003

Modeling the Marine Debris Transport Across the North Pacific, the Case of 2011 Japanese Tsunami Marine Debris in Hawaii
Jan HAFNER1#, Nikolai MAXIMENKO1, Gisela SPEIDEL1, Kin Lik WANG1, Chris WOOLAWAY2, Carl BERG2, Megan LAMSON4
1University of Hawaii, 2Keep The Hawaii Islands Beautiful, 3Surfrider Foundation Kauai Chapter, 4Hawaii Wildlife Fund

OS19-D3-AM2-317B-004 | OS19-A006

When Particle Inertial Effects Need to be Included in the Transport of Microplastics in the Ocean
Ross CALVERT1#, Alistair BORTHWICK2, Ton VAN DEN BREMER1
1University of Oxford, 2The University of Edinburgh

OS19-D3-AM2-317B-005 | OS19-A007

Monitoring Marine Debris Using Drone Technology
Serena LEE1#, Daniel WARE1
1Griffith University

OS19-D3-AM2-317B-006 | OS19-A010

The NOAA Marine Debris Monitoring and Assessment Project: Four Years of Effort in the U.S. Pacific States
Sherry LIPPIATT1#, Carlie HERRING1, Mark MANUEL2
1NOAA Marine Debris Program, 2National Oceanic and Atmospheric Administration

OS21 / Submesoscale Processes and Their Parameterizations
Wed - 06 Jun | MR324

Time 08:30 - 10:30
Chair(s) Changming DONG, Nanjing University of Information Science and Technology

OS21-D3-AM1-324-001 | OS21-A015 (Invited)

Three Compartment Structure of Subsurface-Intensified Mesoscale Eddies in the Ocean
Zhengguang ZHANG1#
1Ocean University of China

OS21-D3-AM1-324-002 | OS21-A011

Parameterizations of Eddies: Fluxes and Lognormal Dissipation
Baylor FOX-KEMPER1#, Brodie PEARSON1
1Brown University

OS21-D3-AM1-324-003 | OS21-A007

Elevated Mixing in the Periphery of Mesoscale Eddies in the South China Sea
Qingxuan YANG1#, Chun ZHOU1, Xiaodong HUANG1, Hui SUN1
1Ocean University of China

OS21-D3-AM1-324-004 | OS21-A009

Numerical Study of Flow Through the Caiwei Seamounts, a Deep Seamount in the Northwest Pacific Ocean
Xingliang JIANG1#, Changming DONG2, Dongfeng XU3, Chunsheng WANG3
1Nanjing University of Information Science & Technology, 2University of California, Los Angeles, 3State Oceanic Administration

OS21-D3-AM1-324-005 | OS21-A010

Submesoscale Process Around Ocean Eddies Based on Along-Track Altimeter and Numerical Modelling Data
Guangjun XU1#, Changming DONG2, Xingliang JIANG1
1Nanjing University of Information Science & Technology, 2University of California, Los Angeles

OS21-D3-AM1-324-006 | OS21-A012

Parameterization of Wave-Induced Mixing Using Large Eddy Simulation
Haili WANG1#, Changming DONG2, Xiaqiao GAO1,3
1Nanjing University of Information Science & Technology, 2University of California, Los Angeles, 3State Oceanic Administration

OS21-D3-AM1-324-007 | OS21-A013

Convective Instability-Induced Bottom Mixing Using Large Eddy Simulation
Xiaqiao GAO1,3, Changming DONG1,2, Liang JUNHONG1, Li GUOJING1, Jingsong YANG1, Dongxiao WANG2, James C. MCWILLIAMS1
1Nanjing University of Information Science & Technology, 2State Oceanic Administration, 3University of California, Los Angeles, 4Louisiana State University, 5Chinese Academy of Sciences, 6South China Sea Institute of Oceanology, Chinese Academy of Sciences

OS21-D3-AM1-324-008 | OS21-A004

Chlorophyll Rings Around Ocean Eddies in the North Pacific
Changming DONG1,2, Guangjun XU1, Peter GAUBE1, Yu LIU1, Xingliang JIANG1, Jingsong YANG1, Wenjin SUN1
1Nanjing University of Information Science & Technology, 2University of California, Los Angeles, 3University of Washington, 4State Oceanic Administration
OS24 / Coastal Hazards: Impacts of Tropical Storms and Tsunamis
Wed - 06 Jun  | MR317B

Estimating Extreme Water Levels by Quadrature Joint Probability Optimal Sampling Method in Xiamen Bay, China
Sudong XU1*, Kai YIN1, Xinghua ZHU1
1Southeast University

Deterministic and Ensemble Storm Surge Forecasting Combining with Regional Operational Atmospheric Model
Yu-Lin TSAI1*, Tso-Ren WU1, Chuen-Teyr TERNG2, Chi-Hao CHU2
1National Central University, 2Central Weather Bureau

Hindcast Study of Inundation in Macau Caused by Typhoon Hato and Hagupit
Jie YANG1*, Linlin LI1, Chuan-Yao LIN1, Philip LIU1, Kai Meng MOK1
1National University of Singapore, 2Hohai University, 3Nanyang Technological University, 4Academia Sinica, 5University of Macau

Infragravity Waves and Storm Surge of the Hurricane Maria
Gael ARNAUD1*, Yann KRIEN2, Bernard DUDON1, Narcisse ZAHIBO1
1Université des Antilles, 2University of the French West Indies and Guiana

Coastal Waves, Circulation and Sediment Transport During Severe Storms in the Northeastern USA in a Changing Climate
Dongmei XIE1*, Qingping ZOU2, Jean MACRAE1
1University of Maine, 2Heriot-Watt University

Cyclone Induced Berm Breaching in the Bay of Bengal Under Climate Change Conditions - A Case Study off Konark Coast During Cyclone Phailin
Jaya Kumar SEELAM1*, Amaranatha Reddy N2, Jyoti KERKAR1
1National Institute of Oceanography, 2National Institute of Technology Karnataka

Probabilistic Mapping of Storm-Induced Coastal Inundation for Climate Change Adaptation
Kwok Fai CHEUNG1*, Ning LI1, Yoshiki YAMAZAKI1, Volker ROEBER2
1University of Hawaii at Manoa, 2University of Hawaii

A River-Bay Coupled Model for Simulating Flood Inundation Due to Cyclone Along the Head Bay of Bengal Region
Sridharan BALAKRISHNAN1*, Soumendra Nath KUIRY1
1Indian Institute of Technology Madras

Improvement in Estimation of Radius of Maximum Wind of the Cyclones in the Bay of Bengal Region
Soumendra Nath KUIRY1*, B. SRIDHARAN1, Nithila DEVI N.1
1Indian Institute of Technology Madras

A Preliminary Study on the Impact of Typhoon Storm Surge on the Tidal Bore in the Qiantang River
Cunhong PAN1*, Qiushun WANG1, Dongzi PAN1
1Zhejiang Institute of Hydraulics & Estuary

Tidal Disasters at the Qiantang River Estuary in the History of China: 250-2010
Dongzi PAN1*, Ying LI1, Cunhong PAN1
1Zhejiang Institute of Hydraulics & Estuary, 2Zhejiang University of Water Resources and Electric Power

Physical Modelling of Tsunami Bore Propagation, Run-Up and Surf/Swash Hydrodynamics
Ignacio BARRANCO1*, Yun-Ta WU1, Philip L.-F. LIU3
1National University of Singapore

Physical and Numerical Modelling of Tsunami Inundation in Coastal Urban Area
Tomohiro YASUDA1*, Adi PRASETYO3, Victoria JOHNSON3, Nobuhiro MORIZ
1Kansai University, 2Ministry of Public Works and Housing, 3United States Naval Academy, 4Kyoto University
Storm and Tsunami Deposits in the Geological Record: Where Are We Now and Where Do We Go from Here?
Adam SWITZER*#
Nanyang Technological University

PS02 / Volcanism and Tectonism Across the Solar System
Wed - 06 Jun  | MR302A

Time 16:00 - 18:00
Chair(s) Anezina SOLOMONIDOU, European Space Agency (ESA) ESAC
Florian M. SCHWANDNER, Jet Propulsion Laboratory, California Institute of Technology
Rosaly LOPES-GAUTIER, Jet Propulsion Laboratory, California Institute of Technology (Caltech)

The Contrasting Volcanic Histories of Inner Solar System Worlds
Paul BYRNE*#
North Carolina State University

The Robex Lunar Analogue Mission on Mt. Etna, Sicily
Frank SOHL*#, Martin Knapmeyer, Alexandre HEFFELS, Sabrina SCHWINGER, Vikram UNNITHAN, Laurenz THOMSEN, Martina WILDE
German Aerospace Center, DLR Institute of Planetary Research, Jacobs University Bremen, Alfred Wegener Institute

First Tectonic Stress Map Across Enceladus’ South Polar Terrain and Possible Dynamic Causes
Ashley SCHOFENFELD*#, An YIN
UCLA, University of California, Los Angeles

Explosive Volcanism on Mars: Implications for Sedimentary Processes and Alteration Geochemistry
Joseph MICHALSKI*#
University of Hong Kong

PS06 / Magnetospheres, Atmospheres, Exospheres of Outer Planets and Their Satellites
Wed - 06 Jun  | MR302A

Time 08:30 - 10:30
Chair(s) Norbert KRUPP, Max Planck Institute for Solar System Research

Evidence of a Plume on Europa from Galileo Magnetic and Plasma Wave Signatures
Xianzhe JIA*#, Margaret KIVELSON, Krishan KHURANA, William KURTH
University of Michigan, University of California, Los Angeles, The University of Iowa
Ice State on the Inner Satellites of Jupiter and Saturn
Chris PARANICAS1, Charles HIBBITTS2, Nicolas LIGIER2, Amanda HENDRIX3, Peter KOLLMANN1, George CLARK1, Timothy CASSIDY1, Tom NORDHEIM3, Elias ROUSSOS5, Norbert KRUPP5, Diana BLANEY5
1The Johns Hopkins University Applied Physics Laboratory, 2Open University, 3Planetary Science Institute, 4University of Colorado Boulder, 5Jet Propulsion Laboratory, California Institute of Technology, 6Max Planck Institute for Solar System Research

Ganymede’s Exosphere and Their Interaction with the Surface and Magnetosphere: Current Knowledge and Perspectives for Future Missions
Peter WURZ1, Audrey VORBURGER1
1University of Bern

Energetic Particle Dynamics Near Callisto
Lucas LIUZZO1, Sven SIMON1
1Georgia Institute of Technology

Modeling and Cassini INMS Data of the Plumes of Enceladus
Dana HURLEY1, Mark PERRY1, Carey M. LISSE1
1The Johns Hopkins University Applied Physics Laboratory

Time 13:30 - 15:30
Chair(s) Sushil ATREYA, University of Michigan

Heavy Elements, Cloud Structure, and the Formation of Uranus and Neptune
Sushil ATREYA1, Joong HYUN-IN1, Mark HOFSTADTER2
1University of Michigan, 2Jet Propulsion Laboratory, California Institute of Technology

JUICE: A European Mission to Jupiter and Its Icy Moons
Olivier WITASSE1, Stan BARABASH, Pontus BRANDT1, Lorenzo BRUZZONE1, Emma BUNCE1, Baptiste CECCONI, Thibault CAVALIE, Giuseppe CIMO, Athena COUTENIOTIS, Gabrielle CREMONESE, Michele DOUGHERTY, Leigh FLETHER, Randy GLADSTONE1, Olivier GRASSET, Leonid GURVITIS, Paul HARTGO, Harald HOFFMANN1, Hauke HUSSMANN1, Luciano IES1, Ralf JAUMANN3, Yasumasa KASABA1, Yohai KASPI1, Norbert KRUPP1, Yves LANCEVIN1, Ingo MUELLER-WODARG, Pasquale PALUMBO1, Giuseppe PICCIONI, Jeffrey J. PLAUT, François POULET, Kurt RETHERFORD1, Thomas ROTAUCH1, Hanna ROTHKAELF2, Ondrej SANTOLIK2-22, David STEVENSON22, Federico TOSI1, Tim VAN HOOLST11, Jan-Erik WAHLU1, Peter WURZ1, Andrea ACCOMAZZO1, Nicolas ALTOBELLI1, Arnaud BOUTONNET1, Christian ERD1, Rosario LORENTE1, Ignacio TANCO1, Claire VALLAT1
1European Space Agency, 2Swedish Institute of Space Physics, 3The Johns Hopkins University Applied Physics Laboratory, 4Trento University, 5University of Leicester, 6Joint Institute for VLBI ERIC, 7National Institute for Astrophysics, 8Imperial College London, 9Southwest Research Institute, 10University of Nantes, 11Max Planck Institute for Solar System Research, 12German Aerospace Center, 13Sapienza University of Rome, 14Tohoku University, 15Weizmann Institute of Science, 16Paris-Sud University, 17Napoli Observatory, 18NASA Jet Propulsion Laboratory, 19Space Research Centre of Polish Academy of Sciences, 20Czech Academy of Sciences, 21Charles University, 22California Institute of Technology, 23Royal Observatory, 24University of Bern

3D General Circulation and Chemistry Model of the Middle Atmosphere of Jupiter
Nicholas ZUBE1, XI ZHANG1, Cheng LP, Tianhao LE1
1University of California Santa Cruz, 2California Institute of Technology

Cassini at Jupiter and Saturn: New Results on Storms and Clouds as Obtained from the ISS Filter Imager and VIMS Mapping Spectrometer
Kevin BAINES1, John BLALOCK, Patrick FRY1, Andrew INGERSOLL, Liming LP, Thomas MOMARY, Kunio SAYANAGI1, Larry SROMOVSKY1, Aaron STUDWELL6
1University of Wisconsin-Madison, 2Hampton University, 3California Institute of Technology, 4University of Texas, 5NASA Jet Propulsion Laboratory, 6University of Houston

CRAND at Saturn: GCR Supply Rate and Injection Coefficients
Anna KOTOVA1, Elias ROUSSOS, Norbert KRUPP, Iannis DANDOURAS, Leonardo REGOLI1, Peter KOLLMANN4
1University of Toulouse, 2Max Planck Institute for Solar System Research, 3University of Michigan, 4The Johns Hopkins University Applied Physics Laboratory
Hydrocarbon and Nitrile Species in Titan’s Upper Atmosphere from Multiple Occultations

Siteng FAN1+, Linfeng WAN1, Donald SHEMANSKY2,3, Mao-Chang LIANG1, Yuk YUNG1
1California Institute of Technology, 2Space Environment Technologies, 3University of Southern California, 4Academia Sinica

Evolution of Titan’s Atmosphere Near the Poles During the Cassini Solstice Mission

Athena COUSTENIS1+, Donald JENNINGS2, Richard ACHTERBERG2, Georgios BAMPASIDIS3, Conor NIXON3, Panayiotis LAVVAS3, Valeria COTTINI3, F. Michael FLASAR3
1Paris Observatory, 2NASA Goddard Space Flight Center, 3University of Maryland, 4National and Kapodistrian University of Athens, 5Universite Reims Champagne-Ardennes

The Al-26 Distribution in the Initial Condensation Stage

Ming-Chang LIU1+, Jangmi HAN2, Adrian BREARLEY3
1University of California, Los Angeles, 2Johnson Space Center, 3University of New Mexico

The Curious Case of Mars’ Formation

Man Yin Jason WOO1+, Ramon BRASSER2, Soko MATSUMURA3, Stephen J. MOJZSIS4, Shigeru IDA2
1ELSI, Tokyo Institute of Technology, 2Tokyo Institute of Technology, 3University of Dundee, 4University of Colorado

Iron Isotope Fractionation in the Early Solar System

Anat SHAHAR1+, Nancy CHABOT2, Corliss SIO3, Neil BENNETT1
1Carnegie Institution of Washington, 2Johns Hopkins University, 3Lawrence Livermore National Laboratory

The Standard Scenario of Solar System Formation and its Problems

Eiichiro KOKUBO1+
1National Astronomical Observatory of Japan

Thermal O+ Precipitation into Titan’s Upper Atmosphere

Darci SNOWDEN1+
1Central Washington University

Oxidation State and Temperature of Titan’s Upper Atmosphere

Yutian CAO1+, Anne WELLBROCK2, Andrew COATES2, Geraint JONES3, Cesar BERTUCCI4, Jun CUI5, Michele DOUGHERTY5
1National Astronomical Observatories of China, Chinese Academy of Science, 2University College London, 3University of Buenos Aires, 4Sun Yat-sen University, 5Chinese Academy of Sciences, 6Imperial College London
Europa’s Water Vapor Plumes: Fact or Fiction
Darrell STROBEL1,*, Lorenz ROTH2
1Johns Hopkins University, 2KTH Royal Institute of Technology

Explaining Pluto’s Cold Atmosphere by Haze Heating and Cooling
Xi ZHANG1,*, Darrell STROBEL2, Hiroshi IMANAKA3
1University of California Santa Cruz, 2Johns Hopkins University, 3NASA Ames Research Center

Recent Advances in Understanding the Lunar Plasma Environment
Andrew POPPE1,*,
1University of California, Berkeley

Next Exploration of Mercury’s Environment: Bepicolombo Overview
Go MURAKAMI1,*, Hajime HAYAKAWA1, Masaki FUJIMOTO3
1Japan Aerospace Exploration Agency

Mercury’s Plasma Environment
James SLAVIN1,*,
1University of Michigan

Overview of the 10 September 2017 Solar Events Observed at Mars
Christina LEE1,*, Bruce JAKOSKY2, Janet LUHMANN1, M. Leila MAYS1, Davin LARSON1, Ali RAHMATI1, Patrick DUNN1, Jasper HALEKA5, Jacob GRUESBECK1, Jared ESPLEY3, Ed THIEMANN2, Frank EPARVIER1, Phil CHAMBERLIN2, Nick SCHNEIDER2, Sonal JAIN2, Justin DEIGHAN2, Meredith ELROD3, Mehdi BENNA2, Laila ANDERSSON1, Christopher FOWLER1, Majd MAYYASI1, James MCFADDEN1, David MITCHELL1, Shaosui XU1, Yingjuan MA1, David MITCHELL1, Shaosui XU1, James MCFADDEN1, Takuya HARA1, Janet LUHMANN1, Christian MAZELLE2, Laila ANDERSSON1, Gina DI BRACCIO1, J. E. P. CONNERNEY1, 2University of California, Berkeley, 3University of Colorado Boulder, 4The University of Iowa, 5NASA Goddard Space Flight Center, 6University of Colorado Boulder, 7University of California, Los Angeles, 8Southwest Research Institute, 9University of Kiel, 10National Aeronautics and Space Administration, 11Swedish Institute of Space Physics, 12European Space Agency

Impact of the September 2017 Solar Storms Observed on the Surface of Mars by MSL RAD
Donald M. HASSLER1,*, Robert WIMMER-SCHWEINRUBER1, Bent EHRESMANN1, Jingnan GUO3, Cary ZEITLIN3
1Southwest Research Institute, 2University of Kiel, 3National Aeronautics and Space Administration

Atmospheric Erosion at Mars: The Role of Mars’ Magnetic Topology During Quiet and Extreme Conditions
Shannon CURRY1,*, Janet LUHMANN1, Chaunfei DONG1, Gina DI BRACCIO1, Shaosui XU1, David MITCHELL1, Meredith ELROD3, J. E. P. CONNERNEY1, David BRAIN1, James MCFADDEN1
1University of California, Berkeley, 2Princeton Plasma Physics Laboratory, 3NASA Goddard Space Flight Center, 4The University of Iowa, 5NASA Goddard Space Flight Center

How Many mbars? Extrapolating Mars Express Measurements of the Martian Ion Escape Rate Through Time
Robin RAMSTAD1,*, Stas BARABASH2, Yoshifumi FUTAANA2, Hans NILSSON2, Mats HOLMSTRÖM2, David A. BRAIN1
1University of Colorado Boulder, 2University of California, Berkeley, 3Swedish Institute of Space Physics, 4The University of Iowa, 5NASA Goddard Space Flight Center

Martian Ion Escape Variability from MAVEN and MEX Observations
Yaxue DONG1,*, Xiaohua FANG1, David A. BRAIN1, James MCFADDEN1, Hans NILSSON2, Robin RAMSTAD1, Jasper HALEKA5, J. E. P. CONNERNEY1, Frank EPARVIER1, Bruce JAKOSKY1, Mats HOLMSTRÖM2
1University of Colorado Boulder, 2University of California, Berkeley, 3Swedish Institute of Space Physics, 4The University of Iowa, 5NASA Goddard Space Flight Center

Cold Ion Outflow in Mars’ Magnetotail
David MITCHELL1,*, Shaosui XU1, James MCFADDEN1, Takuya HARA1, Janet LUHMANN1, Christian MAZELLE2, Laila ANDERSSON1, Gina DI BRACCIO1, J. E. P. CONNERNEY1
1University of California, Berkeley, 2Princeton Plasma Physics Laboratory, 3University of Toulouse - UPS - CNES, 4University of Colorado Boulder, 5NASA Goddard Space Flight Center

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1University of California, Berkeley, 2Princeton Plasma Physics Laboratory, 3University of Toulouse - UPS - CNES, 4University of Colorado Boulder, 5NASA Goddard Space Flight Center

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1University of California, Berkeley, 2Princeton Plasma Physics Laboratory, 3University of Toulouse - UPS - CNES, 4University of Colorado Boulder, 5NASA Goddard Space Flight Center

Cold Ion Outflow in Mars’ Magnetotail
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1University of California, Berkeley, 2Princeton Plasma Physics Laboratory, 3University of Toulouse - UPS - CNES, 4University of Colorado Boulder, 5NASA Goddard Space Flight Center
PS17-D3-PM1-304A-014 | PS17-A045

Fast-Fermi Acceleration of Electrons at the Martian Bow Shock
Christian MAZELLE1#, Karim MEZIANE2, Norberto ROMANELLI1, David MITCHELL1, Jared ESPLEY3, Abelhaq HAMZA1, Jasper HALEKAS3, Bruce JAKOSKY4
1IRAP / CNRS - University of Toulouse - UPS - CNES, 2University of New Brunswick, 3Pierre-and-Marie-Curie University, 4University of California, Berkeley, 5NASA Goddard Space Flight Center, 6The University of Iowa, 7University of Colorado Boulder

PS17-D3-PM1-304A-015 | PS17-A021

Modelling of Energetic Ions Observations by MAVEN in the Crustal Field Regions
Anna KOTOVA1#, Christian MAZELLE1, Yingjuan MA3, Yasir SOOBIAH4, David MITCHELL1, Jasper HALEKAS3, Jared ESPLEY3
1University of Toulouse, 2IRAP / CNRS - University of Toulouse - UPS - CNES, 3University of California, Los Angeles, 4NASA Goddard Space Flight Center, 5University of Iowa

PS17-D3-PM1-304A-016 | PS17-A014

Revisiting Mars Magnetotail Seen on Phobos-2 in Light of MAVEN Observations
Janet LUHMANN1#, Y.J. MA2, Chaunfei DONG3, Gina DI BRACCIO4, Shaoxui XU1, Shannon CURRY1, David MITCHELL1, Eduard DUBININ5, Christopher RUSSELL2
1University of California, Berkeley, 2University of California, Los Angeles, 3Princeton Plasma Physics Laboratory, 4NASA Goddard Space Flight Center, 5Max-Planck-Institute for Solar System Research

PS17-D3-PM1-304A-017 | PS17-A006

Investigation of Martian Magnetic Topology Response to ICMEs
Shaoxui XU1, David MITCHELL1, Shannon CURRY1, Janet LUHMANN1, Xiaohua FANG2, Yingjuan MA3, Robert LILLIS2, Chaunfei DONG3, Gina DI BRACCIO4, Tristan WEBER2, David A. BRAIN2, Christian MAZELLE1, J. E. P. CONNERNEY1, Jasper HALEKAS1
1University of California, Berkeley, 2University of California, Los Angeles, 3Princeton Plasma Physics Laboratory, 4NASA Goddard Space Flight Center, 5National Center for Scientific Research, 6The University of Iowa
Time 16:00 - 18:00
Chair(s) Anna KOTOVA, IRAP

PS17-D3-PM2-304A-022 | PS17-A033
Martian Upper Atmosphere Response to the September 10, 2017 Flare as Seen by Imaging Ultraviolet Spectrograph (IUVS) Onboard MAVEN
Sonal JAIN1,1, Justin DEIGHAN,1 Nick SCHNEIDER,1 Ian STEWART,1 Michael CHAFFIN,1 Matteo CRISMANI,1 Michael STEVENS,5 Joseph EVANS,5 Ed THIEMANN,1 Daniel LO,1 Arnaud STIEPEN,2 William MCCLINTOCK,1 Gregory HOLSLAWN,1 Franck LÉFÈVRE,1 John CLARKE,1 Franck MONTMESSIN,1 Frank EPARVIER,1 Phil CHAMBERLIN,1 Bruce JAKOSKY1
1University of Colorado Boulder, 1Naval Research Laboratory, 2University of Colorado, 3Computational Physics, Inc., 4University of Arizona, 5Université de Liège, 4University Pierre et Marie Curie, 5Boston University, 6National Aeronautics and Space Administration, 7Southwest Research Institute, 8University of Colorado, 9University of California, Berkeley, 10University of Science and Technology of China, 11Swedish Institute of Space Physics

PS17-D3-PM2-304A-023 | PS17-A017
September 10-11, 2017 Solar Flare Event: Rapid Enhancement of the Martian Neutral Exosphere from the X-Class Flare as Observed by MAVEN
Meredith ELROD1,1, Shannon CURRY2, Ed THIEMANN3, Sonal JAIN3
1NASA Goddard Space Flight Center, 2University of California, Berkeley, 3Boston University, 4University of Colorado Boulder

PS17-D3-PM2-304A-024 | PS17-A032
Martian Metallic Ions Deposited by Comet Siding Spring Defy Expectations
Matteo CRISMANI1,1, Nick SCHNEIDER1, John PLANE1, Joseph EVANS5, Sonal JAIN1, Justin DEIGHAN1, Roger YELLE4
1University of Colorado Boulder, 2University of Leeds, 3Computational Physics, Inc., 4University of Arizona

PS17-D3-PM2-304A-025 | PS17-A016
Remote Sensing the Atmosphere of Mars with MAVEN IUVS
Majd MAYYASI1,1, John CLARKE1, Dolon BHATTACHARYYA1, Nick SCHNEIDER1, Bruce JAKOSKY1
1Boston University, 2University of Colorado Boulder

PS17-D3-PM2-304A-026 | PS17-A027
MAVEN Pickup Ion Insights into Mars Neutral Escape
Ali RAHMATI1,1, Davin LARSON1, Thomas E. CRAVENS5, Robert LILLIS1, Jasper HALEKAS1, James MCFADDEN5, David MITCHELL1, Ed THIEMANN5, J. E. P. CONNERNEY, Patrick DUNN1, Christina LEE1, Frank EPARVIER1, Gina DI BRACCIO1, Jared ESPLEY1, Janet LUHMANN1, Bruce JAKOSKY1
1University of California, Berkeley, 2University of Kansas, 3University of California Berkeley, 4The University of Iowa, 5University of Colorado Boulder, 6NASA Goddard Space Flight Center

PS17-D3-PM2-304A-027 | PS17-A038 (Invited)
Solar Wind Interaction and Impact on the Venusian Atmosphere: What we have Learnt from Venus Express
Yoshifumi FUTAANA1,1, Gabriella STENBERG WIESE1, Stas BARABASH1, Mats HOLMSTRÖM1, Janet LUHMANN2, Tielong ZHANG1,1, Christopher RUSSELL1
1Swedish Institute of Space Physics, 2University of California, Berkeley, 3Austrian Institute of Space Physics, 4University of Science and Technology of China, 5University of California, Los Angeles

PS17-D3-PM2-304A-028 | PS17-A007
Shaking the Skies of Mars and Venus: Ionospheric Compression, Energization, and Escape Resulting from the Impact of Ultra-Low Frequency Magnetosonic Waves in the Solar Wind
Glyn COLLINSON1,1, Lynn WILSON1, N. OMID1, David SIBECK1, Jared ESPLEY1, Christopher FOWLER1, David MITCHELL1, Joseph GREBOWSKY1, Christian MAZELLE1, Suranga RUHUNUSIR1, Jasper HALEKAS1, Rudy FRAHM1, Tielong ZHANG1,1, Yoshifumi FUTAANA1,1, Bruce JAKOSKY1
1NASA Goddard Space Flight Center, 2National Aeronautics and Space Administration, 3Solana Scientific Inc., 4University of Colorado Boulder, 5University of California, Berkeley, 6L’Institut de Recherche en Astrophysique et Planetologie, 7The University of Iowa, 8Southwest Research Institute, 9Austrian Institute of Space Physics, 10University of Science and Technology of China, 11Swedish Institute of Space Physics
An Overview of the Destiny+ Geminids Parent (3200) Phaethon Flyby Mission
Tomoko ARAI1#, Masanori KOBAYASHI2, Ko ISHIBASHI2, Fumi YOSHIDA1, Hiroshi KIMURA1, Junichi WATANABE2, Takashi ITO3, Hiroki SENSHU1, Koji WADA1, Masateru ISHIGURO2, Tomoki NAKAMURA3, Hikaru YABUTA4, Shogo TACHIBANA5, Tatsuki OKADA5, Takahiro IWATA5, Takafumi OOTSUBO5, Yasuhiro KAWAKATU6, Hiroyuki TOYOTA6, Kazutaka NISHIYAMA6, Takeshi TAKASHIMA7
1Chiba Institute of Technology, 2National Astronomical Observatory of Japan, 3Tokyo University, 4Hiroshima University, 5The University of Tokyo, 6Japan Aerospace Exploration Agency

Flyby of Asteroid Phaethon by Destiny+
Ko ISHIBASHI2#, Shingo KAMEDA2, Masato KAGITANI3, Manabu YAMADA1, Takaya OKAMOTO4, Tomoko ARAI1, Fumi YOSHIDA1, Takeshi TAKASHIMA4, Takahiro IWATA4, Tatsuki OKADA4
1Chiba Institute of Technology, 2Rikkyo University, 3Tohoku University, 4Japan Aerospace Exploration Agency

Small Body Science with the Zwicky Transient Facility
Dennis BODEWITS1#, Quan-Zhi YE2, Rex CHANG2, Gerbs BAUER1, Yu-Chi CHENG2, Ben DEMARCO2, Tony FARNHAM3, Wing-Huen IP3, Michael KELLEY1, Matthew KNIGHT1, Zhong Yi LIN4, Frank MASCH5, Chow-Choong NGEOW5, Tom PRINCE5, Silvia PROTOPAPA6
1University of Maryland, 2California Institute of Technology, 3National Central University

Cometary Science with the Zwicky Transient Facility
Michael KELLEY1#, Dennis BODEWITS1, James BAUER1, Tony FARNHAM3, Matthew KNIGHT1
1University of Maryland

Mission Status of Hayabusa2 - Final Approach to Asteroid Ryugu
Ryugu
Makoto YOSHIIKAWA1#, Sei-Ichiho WATANABE2, Satoshi TANAKA1, Seiji SUGITA1, Noriuki NAMIKI1, Kohki KITAZATO1, Takahiro IWATA2, Tatsuki OKADA3, Masahiko ARAKAWA3, Shogo TACHIBANA4, Masateru ISHIGURO5, Hitoshi IKEDA5, Masanai ABE2, Yukio YAMAMOTO4, Yoshiki ISHII4, Yuichi TSUDA1
1Japan Aerospace Exploration Agency, 2Nagoya University, 3The University of Tokyo, 4National Astronomical Observatory of Japan, 5University of Aizu, 6Kobe University

Solar System Science with the Origins Space Telescope
James BAUER3#, Stefanie MILAM2
1University of Maryland, 2NASA Goddard Space Flight Center

The Search for an Undiscovered Giant Planet in Our Solar System
Chad TRUJILLO1#, Scott SHEPPARD2, David THOLEN3
1Northern Arizona University, 2Carnegie Institution for Science, 3University of Hawaii

Planetary Exploration, Horizon 2061: Focus on Giant Planets
Michel BLANC1, Norbert KRUPP2
1Research Institute in Astrophysics and Planetology, 2Max Planck Institute for Solar System Research

The ATLAS All-Sky Near Earth Asteroid Survey
Larry DENNEAU1#
1University of Hawaii

The Number Density of Near Earth Asteroids in Position/Velocity Phase Space
Aren HEINZE1, Larry DENNEAU1, John TONRY3
1University of Hawaii

The Carbon Continuum in the Solar System
Amanda HENDRIX1#, Faith VILAS3
1Planetary Science Institute

Creating Habitable Worlds: Proteus a Mission to Investigate the Origin of Inner Solar System Water
Karen MEECH4#, Michael MOTTL1
1University of Hawaii at Manoa, 2University of Hawaii
Searching Asteroids for Activity Revealing Indicators (SAFARI)
Colin Orion CHANDLER1, Anthony CURTIS2, Michael MOMMERT3, Scott SHEPPARD4, Chad TRUJILLO5
1Northern Arizona University, 2University of South Florida, 3Carnegie Institution for Science

SE01 / Paleomagnetism and Rock Magnetism Applied to Solving Geological, Geophysical, and Environmental Problems
Wed - 06 Jun | MR321A

SE01-D3-AM2-321A-001 | SE01-A029 (Invited)
Incapability of Partial Thermoremanent Magnetization Check to Detect Overall Thermal Alteration in Thellier-Series Paleointensity Experiments as Evidenced by Rock Magnetic Property Changes
Huaping WANG1, Dennis KENT2
1China University of Geosciences, 2Rutgers University and Lamont-Doherty Earth Observatory

SE01-D3-AM2-321A-002 | SE01-A003
Magnetic Interaction Effects on Paleointensity Determination: Results from Experimental Simulations
Xixi ZHAO1,2, Zhong ZHENG3
1University of California Santa Cruz, 2Tongji University, 3Sogokaihatsu Co. Ltd

SE01-D3-AM2-321A-003 | SE01-A016
Tsunakawa–Shaw Paleointensity Method Applied to the Holocene Surface Lavas in Hawaii
Yuhji YAMAMOTO1,2
1Kochi University

SE01-D3-AM2-321A-004 | SE01-A020
Holocene Paleomagnetic Secular Variation Stack of East Asia and its Application on Stratigraphic Correlation
Yan ZHENG1
1IVPP, Chinese Academy of Sciences

PS20-D3-PM2-323B-016 | PS20-A015

PS21 / Physical and Dynamical Evolution of the Post-formation Solar System
Wed - 06 Jun | MR323B

PS21-D3-AM2-323B-001 | PS21-A003 (Invited)
Meteor Showers from Active Asteroids and Dormant Comets in the Near-Earth Space
Quan-Zhi YE1,2
1California Institute of Technology

PS21-D3-AM2-323B-002 | PS21-A007 (Invited)
Organic Matter in Carbonaceous Chondrite-Like Xenoliths
Yoko KEBUKAWA1, Motoo ITO2, Michael ZOLENSKY3, Richard GREENWOOD4, Zia RAHMAN5, Hiroki SUGA6, Aiko NAKATO7, Queenie CHAN8, Marc FRIES9, Yasuo TAKEUCHI10, Yoshio TAKAHASHI11, Kazuhiro MASE12, Kensei KOBAYASHI1
1Yokohama National University, 2Japan Agency for Marine-Earth Science and Technology, 3NASA Johnson Space Center, 4The Open University, 5Hiroshima University, 6Kyoto University, 7High-Energy Accelerator Research Organization, 8The University of Tokyo

PS21-D3-AM2-323B-003 | PS21-A004
Tidal Effect on the Early Earth and Moon System Due to the Higher-Degree-Mode Resonance in the Early Earth’s Ocean
Mai MOTOYAMA1, Hideo TSUNAKAWA1, Futoshi TAKAHASHI1
1Tokyo Institute of Technology, 2Kyushu University

PS21-D3-AM2-323B-004 | PS21-A001
Rotationally Induced Structural Failure of Irregularly Shaped Rubble Pile Asteroids
Toshi HIRABAYASHI1, Daniel SCHEERES2
1Auburn University, 2University of Colorado Boulder

PS21-D3-AM2-323B-005 | PS21-A008
Thermophysical Characteristics of the Large Main-Belt Asteroid (349) Dembowska
Jianghui JI1, Liang Liang YU2, Bin YANG1, Wing-Huen IP3
1Chinese Academy of Sciences, 2Macau University of Science and Technology, 3National Central University

PS21-D3-AM2-323B-006 | PS21-A015

SE01-D3-AM2-323B-001 | SE01-A003
Meteor Showers from Active Asteroids and Dormant Comets in the Near-Earth Space
Quan-Zhi YE1,2
1California Institute of Technology

SE01-D3-AM2-323B-002 | SE01-A007 (Invited)
Organic Matter in Carbonaceous Chondrite-Like Xenoliths
Yoko KEBUKAWA1, Motoo ITO2, Michael ZOLENSKY3, Richard GREENWOOD4, Zia RAHMAN5, Hiroki SUGA6, Aiko NAKATO7, Queenie CHAN8, Marc FRIES9, Yasuo TAKEUCHI10, Yoshio TAKAHASHI11, Kazuhiro MASE12, Kensei KOBAYASHI1
1Yokohama National University, 2Japan Agency for Marine-Earth Science and Technology, 3NASA Johnson Space Center, 4The Open University, 5Hiroshima University, 6Kyoto University, 7High-Energy Accelerator Research Organization, 8The University of Tokyo

SE01-D3-AM2-323B-003 | PS21-A004
Tidal Effect on the Early Earth and Moon System Due to the Higher-Degree-Mode Resonance in the Early Earth’s Ocean
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SE01-D3-AM2-323B-004 | PS21-A001
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SE01-D3-AM2-323B-005 | PS21-A008
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1Chinese Academy of Sciences, 2Macau University of Science and Technology, 3National Central University

SE01-D3-AM2-323B-006 | PS21-A015

PS21-D3-AM2-323B-001 | PS21-A003 (Invited)
Meteor Showers from Active Asteroids and Dormant Comets in the Near-Earth Space
Quan-Zhi YE1,2
1California Institute of Technology

PS21-D3-AM2-323B-002 | PS21-A007 (Invited)
Organic Matter in Carbonaceous Chondrite-Like Xenoliths
Yoko KEBUKAWA1, Motoo ITO2, Michael ZOLENSKY3, Richard GREENWOOD4, Zia RAHMAN5, Hiroki SUGA6, Aiko NAKATO7, Queenie CHAN8, Marc FRIES9, Yasuo TAKEUCHI10, Yoshio TAKAHASHI11, Kazuhiro MASE12, Kensei KOBAYASHI1
1Yokohama National University, 2Japan Agency for Marine-Earth Science and Technology, 3NASA Johnson Space Center, 4The Open University, 5Hiroshima University, 6Kyoto University, 7High-Energy Accelerator Research Organization, 8The University of Tokyo

PS21-D3-AM2-323B-003 | PS21-A004
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1Tokyo Institute of Technology, 2Kyushu University

PS21-D3-AM2-323B-004 | PS21-A001
Rotationally Induced Structural Failure of Irregularly Shaped Rubble Pile Asteroids
Toshi HIRABAYASHI1, Daniel SCHEERES2
1Auburn University, 2University of Colorado Boulder

PS21-D3-AM2-323B-005 | PS21-A008
Thermophysical Characteristics of the Large Main-Belt Asteroid (349) Dembowska
Jianghui JI1, Liang Liang YU2, Bin YANG1, Wing-Huen IP3
1Chinese Academy of Sciences, 2Macau University of Science and Technology, 3National Central University
Measurement of the Magnetoactive Layer of the Earth’s Lithosphere and the Curie Isotherm Using the Different-Altitude Magnetic Data
Oleg BREKHOV1, Yuri TSVETKOV2
1National Research University, 2Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation

Time 13:30 - 15:30
Chair(s) Xixi ZHAO, Tongji University
Yuhji YAMAMOTO, Kochi University

SE01-D3-PM1-321A-007 | SE01-A031 (Invited)
An Overview of First-Order Reversal Curve (FORC) Measurements, Interpretation, and Recent Developments
Andrew ROBERTS1,2, Xiang ZHAO1, David HESLOP1, Pengxiang HU1
1Australian National University

Ongoing Chemical Remanent Magnetization Overprints was Found in Loess L1 at Yancun Loess Section on the Chinese Loess Plateau, Which May Finally Blur the Laschamp Excursion
Ronghua WANG1,2
1Lanzhou University

Early Diagenetic Greigite as an Indicator of Paleosalinity Changes in the Middle Miocene Paratethys Sea of Central Europe
Suzhen LIU1,2, Wout KRIJGSMAN1, Mark DEKKERS1, Dan PALCU1
1Utrecht University, 2Chinese Academy of Sciences

Magnetostatigraphic and Paleoenvironmental Records from a Late Cenozoic Sedimentary Succession in the Huabei Plain, East China
Lei ZHANG1,2, Jiaqi LIU, Xiaoguang QIN2
1Institute of Geology and Geophysics, Chinese Academy of Sciences, 2Chinese Academy of Sciences

Magnetic Fabric Development in Soft-Sedimentary Bed During Multiple Ice Sheet Overriding
Wlodzimierz NARLOCH1
1Nicolaus Copernicus University

Out-of-Phase Susceptibility and Viscous Magnetization: Alternative Tools for Magnetic Granulometry of Sediments and Soils
Martin CHADIMA1,2, Frantisek HROUDA1
1Advanced Geoscience Instruments Company, 2Czech Academy of Sciences

A New Neoproterozoic Paleomagnetic Result of the Tarim Block: Implications for the Paleogeographic Position of Tarim in Rodinia
Hongjun WANG1, Baochun HUANG1, Qian ZHAO1
1Peking University

Paleomagnetism of Early Cretaceous Volcanic Rocks from Tethyan Himalaya: Evidence for the Existence of a Pre-Collisional Rigid/Quasi-Rigid Greater Indian Plate
Ye ZHANG1, Baochun HUANG1, Qian ZHAO1, Umar JADOON FAROOQ1
1Peking University

A Sandwich-Like Collision Model Between the North and South China Blocks: First Paleomagnetic Constraints from Lower Triassic Sedimentary Rocks from the South Qinling Belt
Jie ZHAO1,2, Yunpeng DONG1, Baochun HUANG1, Qian ZHAO1, Umar JADOON FAROOQ1
1Northwest University, 2Western University, 3Peking University

A Record of the Collisional Phases of the Panama-Choco Block Related to the Deformational Features and Flow Patterns of Volcanic Rocks of the Comibia Formation (Colombia)
Maria Isabel MARIN1,2, Victor Andrés PIEDRAHITA1, Jackeline REMIREZ1, Matthias BERNET2, Juliana MESA1
1EAFIT University, 2Université Grenoble Alpes, 3Michigan University
SE02 / Seismic Modelling and Imaging: from Global to Local Scales
Wed - 06 Jun | MR321A

Mantle Transition Zone Structure Beneath the Northern Continental Margin of the South China Sea
Daoyuan SUN1, Meng ZHANG1, Yi WANG1, Zhongqing WU1
1University of Science and Technology of China

Frozen Gaussian Approximation for Three-Dimensional Seismic Tomography
Xu YANG1, Ping TONG2, Lihui CHAI1
1University of California, Santa Barbara, 2Nanyang Technological University

Deep Slab Structure Revealed by Deconvolution of Teleseismic P-Waves of the 2013 Mw8.3 Sea of Okhotsk Earthquake
Weiwen CHEN1, Shengji WEI1, Weitao WANG2
1Nanyang Technological University, 2China Earthquake Administration

Seismic Structure and Seismicity of the Xishancun Landslide, Sichuan, China
Risheng CHU1, Sidao NI1
1Chinese Academy of Sciences

Seismic Attenuation Structure Beneath Nazca Plate Subduction Zone in Southern Peru
Hyojin JANG1, Young-Hee KIM1, Robert CLAYTON2
1Seoul National University, 2California Institute of Technology

SE06-30-39 / Faults and Earthquakes: Networks, Precursors and Monitoring Systems
Wed - 06 Jun | MR319B

Geodynamic Modelling, Hazard Assessment and Forecasting of Great Earthquakes
Alik ISMAIL-ZADEH1,2
1Karlsruhe Institute of Technology, 2Russian Academy of Sciences

Oscillating Precursory Aseismic Sliding on a Seismogenic Plate Interface in a Numerical Simulation of Earthquake Cycles with Rate-and-State Friction
Naoyuki KATO1
1The University of Tokyo

Mantle-Derived Helium Releasing in Southwestern Yunnan, China: Implications for M6 Cluster Seismicity in Simao Puer Seismic Zone
Ciping ZHAO1, Yun WANG1, Hua RAN1, Zhi ZHOU1, Youli CHEN1
1Earthquake Agency of Yunnan Province

The Temporal and Spatial Distribution of the Gravity Change Before and After the Kangding Ms6.3 by EOF Method
Wei PIERCE2, Hongtao HAO1, Jiang YING1
1China Earthquake Administration

A B-Value Map and Implication of the First Eastern Rupture of the Nankai Trough Earthquakes
Kazuyoshi NANJO1, Akio YOSHIDA2
1University of Shizuoka, 2Shizuoka University

Dynamic Triggering & Micro-Seismicity Detections Based on the Dense Seismic Network in Xiaojiang of Yunan, China
Shiyong ZHOU1, Hongfeng YANG1, Lisheng XU3, Xiaodong ZHANG4, Chuan YAN1, Yuexin LI1, Naidan YUN1
1Peking University, 2Chinese University of Hong Kong, 3China Earthquake Administration, 4Institute of Earthquake Forecasting, China Earthquake Administration
2017 Jiuzhaigou Earthquake Aftershock Monitoring Experimental Network
Han YUE1#
1Beijing University

Seismological Investigation of the Anninghe Fault Zone with a Dense Seismic Array
Jianping WU1,2, Lihua FANG1, Weilai WANG1, Ting YANG1
1China Earthquake Administration, 2Institute of Geophysics, China Earthquake Administration

Time 16:00 - 18:00
Chair(s) Weijun GAN
Jianping WU, Institute of Geophysics, CEA
Takahiro TAGAMI, Kyoto University

Investigation of Fault Creep at Shallow Depths in Tianzhu Seismic Gap of Hanyuan Fault System, Gansu Province, China, Based on GPS Observations
Weijun GAN1#, Shiming LIANG1, Keliang ZHANG1
1China Earthquake Administration

Fault-Zone Thermochronology: An Overview and Examples
Takahiro TAGAMI1#
1Kyoto University

Multiple-Stage Deformations and Their 40Ar/39Ar Dating Constraints on Langshan Tectonic Belt, Western Margin of the North China Craton
Liyun ZHOU1#, Yu WANG1, Xiaojie JIANG1, Honglei GAO2
1China University of Geosciences, 2China National Nuclear Corporation

Mid-Late Mesozoic NE-Trending Structures and Their 40Ar/39Ar Chronological Constraints, North China Craton, Eastern Asia
Yueting XIE1#, Yu WANG1
1China University of Geosciences

The Effects of the Impoundment of the Zipingpu Reservoir on Micro-Seismicities and the Wenchuan Earthquake Based on 3-D Fully Coupled Poroelastic Model
Huihong CHENG1#, Huai ZHANG1, Yaolin SHI1
1University of Chinese Academy of Sciences

Constraint of Fault Geometry for Japanese Historical Earthquakes Based on Groundwater Anomaly
Yasuyuki KANO1#
1Kyoto University

Effect of Shales on Tidal Response of Water Level to Large Earthquakes
Yan ZHANG1#, Chi-Yuen WANG2, Li-Yuen FU1
1Chinese Academy of Sciences, 2University of California, Berkeley

Comparison of Aquifer Parameters Inferred from Different Methods
Zheming SHI1#, Guangcai WANG1
1China University of Geosciences

The Groundwater Level Changes of Northeast China Induced by the September 3 2017 Underground Nuclear Explosion of North Korea
Fuqiong HUANG1#
1China Earthquake Network Center
Changes in Groundwater Chemistry at the Taiwan Chelungpu Fault Borehole Before the 2013 M6.2 Nantou Earthquake in Central Taiwan
Ching-Chou FU1#+, Chun-Wei LAI2, Tsanyao Frank YANG2, Vivek WALIA3, Cheng-Hong CHEN2, Kuo-Fong MA4, L. C. LEE3
1Academia Sinica, 2National Taiwan University, 3National Center for Research on Earthquake Engineering, 4National Central University

SE08-D3-AM2-319B-008 | SE08-A018
Soil Gas Radon Observance Around Shanchiao Fault and Tatun Volcanic Areas of Northern Taiwan for Seismic and Volcanic Study
Arvind KUMAR1#+, Vivek WALIA1, Yi-Chun SUNG1, Shih-Jung LIN1, Kuo-Liang WEN1
1National Applied Research Laboratories

SE09-D3-PM2-302B-001 | SE09-A006
Quantitative Analysis of Seismicity in Kunming, China
Jian WANG1#+
1China Earthquake Administration

SE09-D3-PM2-302B-003 | SE09-A011
Minna De Honkoku: Online Transcription Project of Historical Earthquake Documents
Yasuyuki KANO5, Yuta HASHIMOTO2, Ichiro NAKANISHI1
1Kyoto University, 2National Museum of Japanese History

SE09-D3-PM2-302B-005 | SE09-A007
Absolute Dating of Fault Gouge Using Luminescence Dating Techniques - The Borehole Survey of the Nojima Fault, Southwest Japan
Evangelos TSAKALOS1, Aiming LIN2, Yannis BASSIAXOS3, Maria KAZANTZAKI1, Eleni FILIPPAKI1, Nishiwaki TAKAFUM1
1NCSR, 2Kyoto University, 3National Centre of Scientific Research “Demokritos”

SE15-D3-AM1-321B-002 | SE15-A009 (Invited)
A Fully Three-Dimensional Model for Stress Field Analysis in a Soil Layer on a Soil-Mantled Hillslope
Ying-Hsin WU1#+, Eiichi NAKAKITA1
1Kyoto University

SE15-D3-AM1-321B-004 | SE15-A003
The Landslide Monitoring Using the Microtremor Techniques
Chun-Te CHEN1#+, Hsin-Hua HUANG1
1Academia Sinica

SE15-D3-AM1-321B-005 | SE15-A008 (Invited)
Multi Polarimetric Coherence Mapping, a New Visualization Technique of Polarimetric SAR Data for Fall-Type Landslides Identification from Satellite Data
Ryoichi FURUTA1#+
1Remote Sensing Technology Center of Japan
Analyzing the Texture Properties in Multitemporal Synthetic Aperture Radar Images for Event Landslides Detection
Shou-Hao CHIANG1#
1National Central University

Development of Sacrificed Sensors for Rainfall-Triggered Shallow Landslide Monitoring
Chih-Chung CHUNG1#, Shih-Kai WEI1, Yi-Chun LIAO1
1National Central University

Constraining the Spatial Extent of Deep-Seated, Slow-Moving Landslides Using Passive Image Interferometry
Hsin-Hua HUANG1*, Chun-Te CHEN1, Ya-Ju HSU1, Chih-Yu Kuo1, Chien-Chih CHEN2, Rou-Fei CHEN2, Moei-Ling LIN2, Kuo-Lung WANG3, Ching-Wei LIN3, Ching-Ren LIN3, Pei-Ying LIN4
1Academia Sinica, 2National Central University, 3Chinese Culture University, 4National Chi Nan University, 5National Cheng Kung University, 6Taiwan Ocean Research Institute

Rainfall Thresholds for Landslides in the Philippines
Decibel FAUSTINO-ESLAVA1*, Jayson ARIZAPA1, Wilbur MANIBO1, Joey Philip TORRES1, Carla DIMALANTA2, Jenielyn PADRON3, Nathaniel BANTAYAN4, Cristino Jr. TIBURAN5, Loucel CUI6, Beth Zaida UGAT6
1University of the Philippines, 2University of the Philippines Diliman, 3University of the Philippines Los Baños

Geological Impact on Human Migrations: A Study Case of Paridraiyan Village, Southern Central Range, Taiwan
Skawomir GIILETYCZ1*, Olimpia KOT-GIILETYCZ2
1National Central University, 2National Tsing Hua University

New Development in Statistical Landslide Hazard Analysis
Chyi-Tyi LEE1#
1National Central University

On Pre- P Wave and Co- Seismic Wave EM Disturbances Detected in the 2017 Kumamoto Earthquake Sequences by the Iwo-Yama MT Campaign
Makoto UYESHIMA1*, Koki AIZAWA2, Kaori TSUKAMOTO2, Wataru KANDA3, Kaori SEKI4, Takahiro KISHITA4, Takao OHMINATO5, Atsushi WATANABE6, Hengxin REN7, Qinghua HUANG8
1The University of Tokyo, 2Kyushu University, 3Tokyo Institute of Technology, 4Southern University of Science and Technology, 5Peking University

Electromagnetic Signals Observed During 2016 Kumamoto Earthquakes
Hengxin REN1*, Yaochong SUN1, Makoto UYESHIMA2, Qinghua HUANG2, Koki AIZAWA3, Kaori TSUKAMOTO3, Wataru KANDA4, Kaori SEKI5, Takahiro KISHITA5, Takao OHMINATO5, Atsushi WATANABE6, Xiaofei CHEN7
1Southern University of Science and Technology, 2The University of Tokyo, 3Kyushu University, 4Tokyo Institute of Technology

Electromagnetic Variations Arising from the Seismic Motional Induction in a Conductive Half-Space Medium
Ken’ichi YAMAZAKI1#
1Kyoto University

Electrical Conductivity of Hydrous Minerals: Implications for the High-Conductivity Anomaly in Subduction Zones
Duojuan WANG1*, Tao LIU2, Kewei SHEN3, Baosheng LI4, Li YI5
1University of Chinese Academy of Sciences, 2State University of New York at Stony Brook, 3Institute of Earthquake Forecasting, China Earthquake Administration

Thin Stratum Constraint Inversion Using Magnetotelluric Equivalence Principle and its Application
Xuben WANG1*, Rongjiang TANG1, Lu GAN1
1Chengdu University of Technology
Lithospheric Electrical Structure of the Northern Qaidam Basin and its Implication for the Deformation Mechanism of Northern Tibetan Plateau

Letian ZHANG1, Sheng JIN1, Wenbo WEI1, Gaofeng YE1, Chengliang XIE1
1China University of Geosciences

Crustal Partial Melting Beneath Collision-Related Deposit Zone in the Southern Tibetan Plateau

Chengliang XIE1, Wenbo WEI1, Sheng JIN1, Gaofeng YE1, Jian’En JING1, Letian ZHANG1, Hao DONG1, Yaotian YIN1
1China University of Geosciences

Three-Dimensional Electrical Structure of the Magma Chambers at Tengchong Volcanoes

Qinghua HUANG1, Tao YE1, Xiaobin CHEN2, Huiqian ZHANG1, John CHEN1
1Peking University, 2China Earthquake Administration

Tearing of Indian Mantle Lithosphere from High-Resolution Seismic Images: Implications for Lithosphere Coupling in Southern Tibet

Jiangtao LI1, Xiaodong SONG2
1University of Illinois Urbana-Champaign, 2UI of Illinois

Boninites from Both Sides Now - Doubly-Vergent Subduction Initiation Along Philippine Sea Plate Margins

Americus PEREZ1, Susumu UMINO1, Graciano YUMUL, JR.2, Osamu ISHIZUKA3
1Kanazawa University, 2Monte Oro Resources & Energy, Inc., 3Apex Mining Co. Inc.

Cathaysian Fragments in West Central Philippines: Constraints from Sedimentary Geochemistry and Detrital Zircon U-Pb Geochronology

Carla DIMALANTA1, Decibel FAUSTINO-ESLAVA1, Jenielyn PADRON2, Carlo QUEANO1, Rose Ann CONCEPCION1, Shigeyuki SUZUKI1, Graciano YUMUL, JR.3
1University of the Philippines Diliman, 2University of the Philippines, Los Baños, 3Kanazawa University, 4Mines and Geosciences Bureau, 5University of the Philippines, 6Okayama University, 7Monte Oro Resources & Energy, Inc., 8Apex Mining Co. Inc.

Petrology and Geochemistry of Cretaceous-Neogene Clastic Rocks from Cebu Island: Insights to the Geologic History of the Island

Sarena TARONGOY1, Betchaida PAYOT1, Jillian Aira GABO-RATIO1, Carla DIMALANTA1, Noelynn RAMES1, Decibel FAUSTINO-ESLAVA1, Leo ARMADA1, Graciano YUMUL, JR.3, Yuan Hsi LEE1
1University of the Philippines Diliman, 2University of the Philippines, Los Baños, 3University of the Philippines, 4Monte Oro Resources & Energy, Inc., 5Apex Mining Co. Inc., 6National Chengchi University

Lithologic Correlation of the Volcanic Section of Bangui Formation and Pugo Formation Using Petrography and Geochemistry

Paul Albert Frederick CASTILLO1, Aletheia AMANDY1, Earl Matthew SABILE1, Cris Reven GIBAGA1, Carlo ARCILLA1
1University of the Philippines Diliman, 2University of the Philippines, 3Monte Oro Resources & Energy, Inc., 4Apex Mining Co. Inc., 5National Chengchi University

Break-Up Unconformity System of Zhujiangkou Rifted Margin and Relationship with Seafloor Spreading of South China Sea

Xinong XIE1, Jianye REN2, Chao LEI1
1China University of Geosciences, 2China University of Geosciences (Wuhan)

Active Tectonic Movement in the South-Central Portion of Coastal Zone of Vietnam and its Significance for Geohazards

Hai Thanh TRAN1, Nam NGUYEN XUAN2, Do Tu Ngo HOANG3, Thao Thanh NGUYEN4
1Hanoi University of Mining and Geology, 2Vietnam Institute of Geosciences and Mineral Resources, 3Hue University of Sciences
Time 16:00 - 18:00
Chair(s) Xixi ZHAO, Tongji University

SE25-40-D3-PM2-314-008 | SE25-40-A007 (Invited)
New Paleomagnetic Constraints on Middle Miocene Strike-Slip Faulting Along the Middle Altyn Tagh Fault
Maodu YAN1+, Tongji University
1Chinese Academy of Sciences

SE25-40-D3-PM2-314-009 | SE25-40-A019
A Paleomagnetic Study of the Permian Volcanic Section in Qinghai-Tibet Plateau, China
Xin CHENG1#
1Northwest University

SE25-40-D3-PM2-314-010 | SE25-40-A036
Active Crustal Deformation in Southeastern Tibetan Plateau: The Kinematics and Dynamics
Yujiang LI1, Mian LIU2, Yuhang LI1, Lianwang CHEN1
1China Earthquake Administration, 2University of Missouri, 3Chinese Academy of Sciences

SE25-40-D3-PM2-314-011 | SE25-40-A014
Large Late Cenozoic Rotation of the Baoshan Terrane on the Southeastern Edge of Tibetan Plateau: New Paleomagnetic Constraint
Zhenyu YANG1#, Yaob TONG2, Zongwen PU3
1Capital Normal University, 2Chinese Academy of Geological Sciences

SE25-40-D3-PM2-314-012 | SE25-40-A004
The Simao Block May Not Be Part of Indochina Untill the Late Cretaceous
Yonggang YAN1#, Baochun HUANG2, Donghai ZHANG2
1Sun Yat-sen University, 2Peking University

SE26 / Cenozoic Deformation of Orogenic Belts in Asia: a Multiscale Spatial and Temporal Investigation
Wed - 06 Jun | MR314

Time 08:30 - 10:30
Chair(s) Huiping ZHANG, China Earthquake Administration
Wenjun ZHENG, Sun Yat-sen University
Renjie ZHOU, University of Queensland

SE26-D3-AM1-314-001 | SE26-A003
Pulsed Upward and Upward Growth of the Tibetan Plateau to its Northern Margin During the Early Oligocene
Weitao WANG1+, Peizhen ZHANG2, Caicai LIU1, Huiping ZHANG2, Zhuqi ZHANG3, Dewen ZHENG4, Wenjun ZHENG2
1Institute of Geology, China Earthquake Administration, 2Sun Yat-sen University, 3China Earthquake Administration

SE26-D3-AM1-314-002 | SE26-A015
The Cenozoic Deformation and Uplift in the Northeastern Margin of the Tibetan Plateau: Implication of the Magnetostratigraphic Results
Hao LIANG1#, Ke ZHANG4, Jianli FU2
1Sun Yat-sen University, 2Chinese Academy of Sciences

SE26-D3-AM1-314-003 | SE26-A016
Structural Features and Tectonic Evolution of the Mesozoic and Cenozoic in the Western Margin of Ordos Basin, China
Yue Qiao ZHANG1#
1PetroChina Research Institute of Petroleum Exploration and Development

SE26-D3-AM1-314-004 | SE26-A008 (Invited)
Oligo-Miocene Doming vs Strike-Slip Faulting Along the Ailao Shan-Red River Belt, Southeastern Tibetan Plateau
Junlai LIU1#, Xiaoyu CHEN1, Wei CHEN1, Wenkui FAN1, Hua CHEN3
1China University of Geosciences, 2Jilin University

Time 11:00 - 12:30
Chair(s) Shaopeng DONG, Institute of Geology, China Earthquake Administration

SE26-D3-AM2-314-005 | SE26-A020
Applications of Optical Dating of Sediments Associated with Earthquakes and Neo-Tectonic Activities in Northern Tianshan, China
Sheng-Hua LI1#, Jie CHEN1, Jintang QIN1, Yuehua LI1, Guiming HU1
1The Univeristy of Hong Kong, 2China Earthquake Administration
**Kinematics and Geodynamics of Active Faults on the Shan Plateau, Southeast of the Eastern Himalayan Syntaxis**

Xuhua SHI1+, Yu WANG1,2, Kerry SIEH1, Ray WELDON3, Lujia FENG1, Chung-Han CHAN1, Jing LIU4

1Nanyang Technological University, 2National Taiwan University, 3University of Oregon, 4China Earthquake Administration

**Oblique Thrusting and Strain Partitioning in the Longmen Shan Fold-and-Thrust Belt, Eastern Tibetan Plateau**

Zhigang LI1++, Zhang PEI-ZHEN1, Wenjun ZHENG1, Judith HUBBARD1, Rafael ALMEIDA1, Dong JIA1, Chuang SUN1, Xuhua SHI1, Tao LI1

1Sun Yat-sen University, 2China Earthquake Administration, 3Nanyang Technological University, 4Nanjing University

**How Does the Yabrai Fault System Influence Landform of the Badain Jaran Desert, NE Tibet?**

Jiaxin DU1+, Bihong FU1

1Chinese Academy of Sciences

**Drainage Responses to the Activity of the Langshan Range-Front Fault and Tectonic Implications**

Shaopeng DONG1++, Huiping ZHANG1, Yizhou WANG1, Zhang PEI-ZHEN1, Wenjun ZHENG1

1China Earthquake Administration, 2Sun Yat-sen University

**Geophysical Observational Systems for Science and Hazard Reduction**

Richard ALLEN1++

1University of California, Berkeley

**Monitoring, Imaging and Modeling Subduction Zones to Mitigate Subduction Zone Geohazards**

Shuichi KODAIRA1++

1Japan Agency for Marine-Earth Science and Technology

**Subduction Zone Observatory Initiatives and Opportunities in New Zealand**

Nicola LITCHFIELD1++, Laura WALLACE1

1GNS Science

**Very Long Term Variability in Interseismic Deformation: A Case Study from the Sumatran Subduction Zone**

Emma HILL1++, Aron MELTZNER2, Qiu QIANG1, James Daniel Paul MOORE1, Lujia FENG1, Rino SALMAN2, Belle PHILIBOSIAN1, Eric LINDSEY1, Louisa TSANG1, Iwan HERMAWAN1, Paramesh BANERJEE2, Danny NATAWIDJAJA1, Kerry SIEH1

1Earth Observatory of Singapore / NTU, 2Nanyang Technological University, 3California Institute of Technology, 4Indonesian Institute of Sciences

**The SZ4D Initiative: Developing a Comprehensive Approach to Subduction Hazard Geoscience**

Harold TOBIN1++

1University of Wisconsin-Madison

**GNSS Applications to Monitor, Measure and Study Subduction Zone Earthquakes and Their Resulting Tsunamis**

Jeff FREYMUELLER1++

1University of Alaska Fairbanks
SS08-D3-PM1-319A-007 | SS08-A009 (Invited)
Tsunami Early Warning - Interdisciplinary Collaboration to Save Lives
Laura KONG1#
1International Tsunami Information Center

SS12 / Workshop on Earth Girl Volcano
Wed - 06 Jun  | MR325A
Time 11:00 - 12:30
Chair(s) Isaac KERLOW, Nanyang Technological University
Helena ALBERT, Nanyang Technological University

ST08 / Magnetic Reconnection at Electron Scale: Observations and Simulations
Wed - 06 Jun  | MR323C
Time 11:00 - 12:30
Chair(s) Huishan FU, Beihang University
Tai PHAN, University of California at Berkeley

ST08-D3-AM2-323C-001 | ST08-A003 (Invited)
The Nose of the Magnetopause: The Physics of First Contact
Christopher RUSSELL1#, Cong ZHAO1, Hairong LAI1, Robert STRANGEWAY1, William PATERSON2, Barbara GILES3, James BURCH4
1University of California, Los Angeles, 2National Aeronautics and Space Administration, 3NASA Goddard Space Flight Center, 4Southwest Research Institute

ST08-D3-AM2-323C-002 | ST08-A008
Generation of Energetic Electrons with a Power Law Spectrum During Multiple X Line Reconnection with a Guide Field
Quanming LU1#, Huanyu WANG1, Rongsheng WANG1
1University of Science and Technology of China

ST08-D3-AM2-323C-003 | ST08-A021
Magnetospheric Multiscale Observations of an Electron Diffusion Region in a Magnetotail Reconnection Event
Meng ZHOU1#, Ye PANG2, Xiaohua DENG3, Zhihong ZHONG4, Mostafa EL-ALAOUF5, Raymond WALKER6, Melvyn GOLDSTEIN7, Giovanni LAPENTA8, Christopher RUSSELL9, Robert STRANGEWAY10, Per-Arne LINDQVIST11, James BURCH12, Roy B. TORBERT13
1University of California, Berkeley, 2Imperial College London, 3University of California Los Angeles, 4Nanchang University, 5Memorial University of Newfoundland, 6University of California, Los Angeles, 7University of California San Diego, 8Southwest Research Institute, 9Auburn University, 10NASA Goddard Space Flight Center, 11Institute of Space and Astronautics, Japan, 12California Institute of Technology, 13University of New Hampshire

ST08-D3-AM2-323C-004 | ST08-A020
On the Role of Secondary Flux Ropes in Magnetic Reconnection
Zhihong ZHONG1#, Meng ZHOU2#, Rongxin TANG3, Xiaohua DENG1, Ye PANG2, Hengyan MAN1, Jean BERCHEM1, Melvyn GOLDSTEIN6, Christopher RUSSELL7, Cong ZHAO8, Barbara GILES9, William PATERSON10, Robert ERGUN11, Per-Arne LINDQVIST12
1Nanchang University, 2UCLA, 3University of California, Los Angeles, 4Memorial University of Newfoundland, 5Wuhan University, 6Space Science Institute, 7NASA Goddard Space Flight Center, 8National Aeronautics and Space Administration, 9University of Colorado Boulder, 10KTH Royal Institute of Technology, 11Southwest Research Institute

ST08-D3-AM2-323C-005 | ST08-A017 (Invited)
Electron Distribution Around the Magnetic Reconnection X-Line
Zhe WANG1#
1Beihang University

ST08-D3-PM1-323C-006 | ST08-A027 (Invited)
MMS Observations of Magnetic Reconnection in Turbulent Magnetosheath Current Sheaths
Tai PHAN1#2, Jonathan EASTWOOD2, Michael SHAY3, James DRAKE3, Bengt SONNERUP4, Masaki FUJIMOTO5, Paul CASSAK6, Marit OIEROSET7, Roy B. TORBERT8, Amy RAGER9, John DORELLI10, Daniel GERSHMAN11, Craig POLOCK12, Prayash PYAKUREL13, Colby HAGGERTY14, Yuri KHOTYAINTSEV15, Benoit LAVRAUD16, Mitsuo OKA17, Robert ERGUN18, Alessandro RETINO19, Olivier LE CONTE20, Matthew ARGALL21, Barbara GILES22, Thomas MOORE23, Frederick WILDER24, Robert STRANGEWAY25, Christopher RUSSELL26, Per-Arne LINDQVIST27
1University of California, Berkeley, 2Imperial College London, 3University of California, Los Angeles, 4University of Maryland, 5Dartmouth College, 6Japan Aerospace Exploration Agency, 7University of West Virginia, 8University of New Hampshire, 9NASA Goddard Space Flight Center, 10Denali Scientific, 11Swedish Institute of Space Physics, 12National Centre for Scientific Research, 13University of Colorado Boulder, 14National Centre for Scientific Research/ Ecole Polytechnique, 15University of California, Los Angeles, 16KTH Royal Institute of Technology

ST08-D3-PM1-323C-007 | ST08-A032 (Invited)
MMS Encounters with Reconnection Diffusion Regions at the Dayside Magnetopause and the Magnetotail
Roy B. TORBERT1#, Michael HESSE2, Tai PHAN3
1University of New Hampshire, 2University of Bergen, 3University of California, Berkeley
Energetic Electron Acceleration During Magnetopause
Reconnection
Huishan FU*, Fangzheng PENG*
1Beihang University

Jiansen HE*
1Peking University

Statistics on the Properties of the Magnetosheath
Hui ZHANG*, Suiyan FU, Jianyong LV, Changbo ZHU, Wenlong LIU, Weixing WAN, Libo LIU, Yiding CHEN, Huijun LE
1Chinese Academy of Sciences, 4Peking University, 3Nanjing University of Information Science & Technology, 4Beihang University

Observations of the Electron Jet Generated by Secondary Reconnection in the Magnetotail
Shiyong HUANG*, Kui JIANG, Zhigang YUAN, Fouad SAHRAOUI, Linghui HE, Xiaohua DENG, Jiansen HE, Xiongdong YU, Dedong WANG, Craig POLLOCK, Roy B. TORBERT
1Wuhan University, 2Plasma Physics Laboratory, 3Peking University, 4Denali Scientific, 5University of New Hampshire

Magnetic Reconnection in Earth’s Magnetotail: Energy Conversion and its Earthward-Tailward Asymmetry
San LU*, Philip PRITCHETT, Vassilis ANGELOPOULOS, Anton ARTEMYEV
1University of California, Los Angeles

Chaos-Induced Resistivity in Collisionless Magnetic Reconnection
Zhen WANG*
1Chinese Academy of Sciences
Experimental Observation of Kinetic Alfvén Wave Generated by Magnetic Reconnection
Xuan SUN1#+
1University of Science and Technology of China

ST14 / Energy Dissipation and Conversion in Space Plasmas
Wed - 06 Jun | MR317A

Magnetic Energy Dissipation (δJ, δE or δJ, δE') and Distribution Among Protons and Electrons for Alfvénic Waves at Kinetic Scales in Wavenumber Space
Die DUAN1#+, Jiansen HE1, Linghua WANG1, Chuanyi TU3
1Peking University

Jonathan RAE1+, Nadine KALMONI1, Clare WATT1, Kyle MURPHY1, Andrew WALSH1
1University College London, 2University of Reading, 3National Aeronautics and Space Administration, 4European Space Agency

Dipolarization Front Current Structures Observed by MMS and Swarm Spacecraft
Yasong GE1#, Pengfei QIN1, Aimin DU1, Cong ZHAO1, Jiarong OU1, Christopher RUSSELL2, Rumi NAKAMURA3
1Chinese Academy of Sciences, 2University of Colorado Boulder, 3Austrian Academy of Sciences

A New Flapping Mechanism of Earth’s Magnetotail Current Sheet Inferred from Cluster Observations
J.W. GAO1, Zhaojin RONG1#, Y.H. CAI1, Anatoli PETRU KOVICH1, Anthony LUP1, Chao SHEN1, Yong WEP1, Weixing WANG1
1Chinese Academy of Sciences, 2Russian Academy of Sciences, 3Johns Hopkins University, 4Harbin Institute of Technology

Energy Exchanges Caused by Reconnection: What are the Main Energy Carriers in the Inflow, Outflow and Diffusion Regions?
Giovanni LAPENTA1#, Francesco FUCCHI1, Martin GOLDMAN2, David NEWMAN1
1KU Leuven, 2University of Colorado Boulder

Solar Wind - Magnetosphere Energy Coupling Function: Global MHD Simulation Result
Chi WANG1#+, Jinpeng HAN2, Hui LI1
1Chinese Academy of Sciences, 2Academy of Launch Vehicle Technology

Magnetic Energy Dissipation at the Secondary Reconnection Sites in the Magnetotail
Meng ZHOU1#+, Xiaohua DENG3
1UCLA, 2University of California, Los Angeles, 3Wuhan University

Sun-to-Earth Propagation of CMEs and Chinese Efforts on an L5/L4 Mission
Ying LIU1#+
1Chinese Academy of Sciences

Evolution and Impact of CME Flux Ropes in the Inner Heliosphere
Nat GOPALSWAMY1#+
1NASA Goddard Space Flight Center
ST15-D3-AM1-323C-004 | ST15-A005

Fast Acceleration of Energetic Particle by Interplanetary Shock

Stimulated ULF Waves in the Magnetosphere

Qiugang ZONG1#

1Peking University

ST15-D3-AM1-323C-005 | ST15-A006 (Invited)

The Study of the Propagation of an Interplanetary Coronal Mass Ejection in the Solar System with Multi Spacecraft Data

Olivier WITASSE1#, Beatriz SANCHEZ-CANO2, M. Leila MAYS3

1European Space Agency, 2University of Leicester, 3Catholic University of America

ST15-D3-AM1-323C-006 | ST15-A015

Impact of the September 2017 Solar Particle Events Observed at Mars

Donald M. HASSLER1#, Robert WIMMER-SCHWEINGRUBER2, Bent EHRESMANN1, Jingnan GUO1, Cary ZEITLIN3, Christina LEE4, Janet LUHMAN4, Bruce JAKOSKY5, Davin LARSON5, Robert LILLIS6, Sonal JAIN7, Nick SCHNEIDER8, M. Leila MAYS5, Olivier WITASSE8

1Southwest Research Institute, 2University of Kiel, 3National Aeronautics and Space Administration, 4University of California, Berkeley, 5University of Colorado Boulder, 6University of California Berkeley, 7Catholic University of America, 8European Space Agency

ST15-D3-AM1-323C-007 | ST15-A007 (Invited)

Evidence of the Effects of Large Solar Transients in the Interstellar Medium

William KURTH1#, Donald GURNETT1

1The University of Iowa

ST15-D3-AM1-323C-008 | ST15-A008

Numerical Simulation of the Cosmic Rays Effects on the Structure of Outer Heliosphere

Xiaocheng GUO1#, Chi WANG1, Vladimir FLORINSKI2

1Chinese Academy of Sciences, 2University of Alabama in Huntsville

ST16-D3-PM2-325B-001 | ST16-A003

EMIC Wave-Driven Electron Precipitation via Cyclotron and Bounce Resonance

Lauren BLUM1#, Anton ARTEMYEV2, Oleksiy AGAPITOV3

1NASA Goddard Space Flight Center, 2University of California, Los Angeles, 3Space Sciences Laboratory

ST16-D3-PM2-325B-002 | ST16-A003

Intensity of Relativistic Electron Microbursts and Their Impact on the Radiation Belt

Emma DOUMA1#, Craig RODGER1, Lauren BLUM1, Mark CLILVERD1, Paul O’BRIEN2, Berhard BLAKE1

1University of Otago, 2NASA Goddard Space Flight Center, 3The British Antarctic Survey, 4The Aerospace Corporation

ST16-D3-PM2-325B-003 | ST16-A001 (Invited)

Interaction of ULF Waves with Energetic Particles: Van Allen Probes Observations

Kazue TAKAHASHI1#

1The Johns Hopkins University Applied Physics Laboratory

ST16-D3-PM2-325B-004 | ST16-A013 (Invited)

Flux Enhancement of Relativistic Electrons of the Outer Belt Through Resonance with the Fast Mode Waves

Yoshizumi MIYOSHI1#, Masahiro HAYASHI2, Shing SAITO3, Yosuke MATSUMOTO4, Satoshi KURITA5, Hiroki ITO6, Mariko TERAMOTO7, Tomoaki HORI8, Shoya MATSUDA9, Takanobu AMANO10, Kanako SEKI11, Nana HIGASHI12, Takefumi MITANI13, Takeshi TAKASHIMA14, Yoshiya KASAHARA15, Yasumasa KASABA16, Keigo ISHISAKA17, Fuminori TSUCHIYA17, Atsushi KUMAMOTO18, Ayako MATSUMA19, Iku SHINOHARA16, Berhard BLAKE20, Joseph FENNELL20, Seth CLAUSDEN20

1Nagoya University, 2Chiba University, 3ISAS/JAXA, 4The University of Tokyo, 5Japan Aerospace Exploration Agency, 6Kanazawa University, 7Tokohuku University, 8Toyama Prefectural University, 9The Aerospace Corporation

ST16-D3-PM2-325B-005 | ST16-A008

Effects of Solar Wind and Magnetospheric Processes on the Ultra-Relativistic Electron Acceleration in the Outer Radiation Belt

Hong ZHAO1#, Dan BAKER1, Xinlin LI1, Allison JAYNES2, Shri KANEKAL3, Kun ZHANG1

1University of Colorado Boulder, 2University of Iowa, 3NASA Goddard Space Flight Center

ST16-D3-PM2-325B-006 | ST16-A017

Simulation of Relativistic Electron Dynamics Observed by the Van Allen Probes

Robert RANKIN1#, Chengrun WANG1, Qiugang ZONG2, Yongfu WANG3, Alexander DEGELING1, Xuzhi ZHOU2

1University of Alberta, 2Peking University
ST16-D3-PM2-325B-007 | ST16-A010

Interacting Solar Wind Large-Scale Drivers and Outer Radiation Belt Response

E. KILPUA1,*, Drew TURNER2, Heli HIETALA2, Allison JAYNES3, Minna PALMROTH4, Jaan PRAKS5, Rami VAINIO6, Hannu KOSKINEN1, Tuija PULKKINEN6

1University of Helsinki, 2The Aerospace Corporation, 3University of California Los Angeles, 4University of Iowa, 5Aalto University, 6University of Turku

ST19 / Causes and Consequences of Magnetospheric Particle Losses

Wed - 06 Jun | MR325B

Time 11:00 - 12:30

Chair(s) Hong ZHAO, Laboratory for Atmospheric and Space Physics

ST19-D3-AM2-325B-001 | ST19-A002

Can a Drift Model Simulate Energetic Particle Loss caused by Radial Diffusion?

Mei-Ching FOK1,*, Suk-Bin KANG1, Colin KOMAR1, Alex GLOCER1

1NASA Goddard Space Flight Center

ST19-D3-AM2-325B-002 | ST19-A003 (Invited)

Calculation of Last Closed Drift Shells

Jay ALBERT1

1Air Force Research Laboratory

ST19-D3-AM2-325B-003 | ST19-A016

Simulating Energetic Electron Losses Due to Drift Orbit Bifurcation Using the CIMI Model

Suk-Bin KANG1,*, Mei-Ching FOK1, Alex GLOCER1, Colin KOMAR1

1NASA Goddard Space Flight Center

ST19-D3-AM2-325B-004 | ST19-A012 (Invited)

Understanding the Driver of Energetic Electron Precipitation Using Coordinated Multi-Satellite Observations

Wen LI1,*, Luisa CAPANNOLO1, Qianli MA1,2, Xiaojia ZHANG2

1Boston University, 2University of California, Los Angeles

ST19-D3-AM2-325B-005 | ST19-A008

VLF Waves from Ground-Based Transmitters Observed by the Van Allen Probes: Statistical Model and Effects on Plasmaspheric Electrons

Qianli MA1,2

1University of California, Los Angeles, 2Boston University

ST19-D3-AM2-325B-006 | ST19-A011

Hot Plasma Effects on the Cyclotron-Resonant Pitch-Angle Scattering Rates of Radiation Belt Electrons Due to EMIC Waves

Xing CAO1,*, Binbin NI1, Yutian SHPRITS5, Danny SUMMERS2, Xudong GU1, Fu SONG1, Lou YUEQUN1

1Wuhan University, 5GFZ German Research Centre for Geosciences, 2Memorial University of Newfoundland

ST19-D3-PM1-325B-007 | ST19-A017 (Invited)

Using Multi-Point Measurements to Characterize the Spatial Scale and Structure of Energetic Electron Precipitation

Robyn MILLAN1,*, Sapna SHEKHAR1, Brett ANDERSON1, Leslie WOODGER1, David SMITH1, John SAMPLE2, Michael MCCARTHY1

1Dartmouth College, 2University of California Santa Cruz, 3Montana State University, 4University of Washington

ST19-D3-PM1-325B-008 | ST19-A015

Precipitation Loss of Radiation Belt Electrons Observed by LEO Satellites and Balloons

Kun ZHANG1,*, Xinlin LI1, Hong ZHAO1, Quintin SCHILLER2, Robyn MILLAN1

1University of Colorado Boulder, 2NASA Goddard Space Flight Center, 3Dartmouth College

ST19-D3-PM1-325B-009 | ST19-A019

Quantifying the Precipitation Loss of Radiation Belt Electrons During a Rapid Dropout Event

Kevin PHAM1,*, Weichao TU2, Zheng XIANG2

1NCAR, 2West Virginia University, 3Wuhan University

ST19-D3-PM1-325B-010 | ST19-A018

The Role of Localised Compressional Ultra-Low Frequency Waves in Energetic Electron Precipitation

Jonathan RAE1,*, Kyle MURPHY1, A. W. DEGELING2, Clare WATT1, Andrew R. INGLIS1,3

1University College London, 2National Aeronautics and Space Administration, 3Shandong University, 4University of Reading, 5Catholic University of America, 6NASA Goddard Space Flight Center
Quantifying Radiation Belt Electron Precipitation and its Effect on Atmospheric Chemistry
Chia-Lin HUANG1*, Harlan SPENCE1, Katharine DUDERSTADT1, Sonya SMITH1, Alexander BOYD1, Berhard BLAKE1, Joseph FENNELL1, Seth CLAUDEPIERRE1, Drew TURNER1, Geoffrey REEVES1, David KLUMPAR1, John SAMPLE1, Arlo JOHNSON1, Mykhaylo SHUMKO1, Alex CREW1
1University of New Hampshire, 2New Mexico Consortium, 3The Aerospace Corporation, 4Los Alamos National Laboratory, 5Montana State University, 6John Hopkins University

Relativistic Electron Microburst Events: Modeling the Atmospheric Impact
Annika SEPPALA1*, Emma DOUMA1, Craig RODGER1, Pekka VERRONEN1, Mark CLILVERD2, Jacob BORTNIK4
1University of Otago, 2Finnish Meteorological Institute, 3The British Antarctic Survey, 4University of California, Los Angeles

Prompt Irreversible Removal of Radiation Belt Relativistic Electrons by Substorm Proton Injections
Guyue DAI1*, Zhenpeng SU1
1University of Science and Technology of China

Solar Magneto-Seismology: MHD Waves in Asymmetric Waveguides
Robertus ERDELYI1*, Matthew ALLCOCK1, Noemi ZSAMBERGER1
1University of Sheffield

An Investigation of Solar Terminator Waves on Earth
Katelynn GREER1*, Louis MAYO1
1NASA Goddard Space Flight Center

Time 11:00 - 12:30
Chair(s) Quan-Qi SHI, ShanDong University at Weihai, Gang LI, University of Alabama in Huntsville

Local Time Characteristic of Low-Latitude Geomagnetic Field Response to Intense Solar Flares
Akiko FUJIMOTO1*, Akimasa YOSHII1, Toshiya NISHIHARA1
1Kyushu University

On the Occurrence of Afternoon Counter Electrojet over Indian Longitudes During June Solstice in Solar Minimum
Kuldeep PANDEY1,2*, R. SEKAR1, B G ANANDARAO1, S P GUPTA1, Dibyendu CHAKRABARTY1
1Physical Research Laboratory, 2Indian Institute of Technology Gandhinagar

Ionospheric Scintillation Measurements Using Closely-Spaced GNSS Receivers at Tromso, Norway
Sayaka SAKAMOTO1, Yuichi OTSUKA1, Yasunobu OGAWA1, Keisuke HSOKAWA2
1Nagoya University, 2National Institute of Polar Research, 3University of Electro-Communications
On Generalization of Birkeland Current System in the Tree-Dimensional Magnetosphere-Ionosphere Coupling

Akimasa YOSHIKAWA1#

1Kyushu University

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Variation of O+ and H+ Distribution with Storm-Phase in Ring Current Region Retrieved from Twins ENA Images During the June 2015 Magnetic Storm

Shuying MA1#, Xiang-Yao ZENG1, Liang XU1#, Philip VALEK2, Jerry GOLDSTEIN2

1Wuhan University, 2Southwest Research Institute

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The Contribution of Inductive Electric Fields to Particle Energization

Raluca ILIE1#, Lunjin CHEN2, Muhammad Fraz BASHIR1

1University of Illinois at Urbana Champaign, 2The University of Texas at Dallas

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Effects of Dynamic Pressure on Magnetotail During Intervals of Southward Bz: Global Modeling and Observations

Doga OZTURK1#, Shasha ZOU1, James SLAVIN1, Aaron RIDLEY1

1University of Michigan

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Automatic Georeferencing of Astronaut Auroral Photography

Andrew WALSH1#, Matt TAYLOR1

1European Space Agency

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Non-Linear Least Square Fitting Technique for the Determination of Field Line Resonance Frequency in Ground Magnetometer Data: Application to the Remote Sensing of Plasmaspheric Mass Density

Athanasiou BOUDOUREDIS1,2, Mark MOLDWIN1, Eftyhia ZESTA4

1Space Science Institute, 2University of Colorado Boulder, 3University of Michigan, 4NASA Goddard Space Flight Center
AS2 Poster Presentations
Wed - 06 Jun, 13:30 - 15:30 | Ballroom B

AS03-D3-PM1-P-040  |  AS03-A005
Short-Term Radiative Effects of Black Carbon Intra-Seasonal Variation over the Southeastern Tibetan Plateau:
Implications for Atmospheric Circulation
Jing YANG1*,
1Beijing Normal University

AS03-D3-PM1-P-041  |  AS03-A010
The Impact of the ENSO Cycle on the Stratospheric Ozone Distribution over East Asia
Mingsheng WANG1*, Guo SHICHANG2
1Guangdong Climate Center, China, 2Yunnan University

AS03-D3-PM1-P-042  |  AS03-A011
The Precursor Signal Analysis and Prediction for the Landfall Typhoon Intensity over South China
Yamin HU1*, Juanhua WANG2, Mingsheng WANG2, Xiaolin LUO2
1Guangdong Meteorological Bureau, 2Guangdong Climate Center, China

AS03-D3-PM1-P-043  |  AS03-A013
Impact of Rossby and Kelvin Wave Components on MJO Eastward Propagation
Tim LI1*, Lu WANG2, Tomoe NASUNO2
1University of Hawaii, 2Japan Agency for Marine-Earth Science and Technology

AS03-D3-PM1-P-044  |  AS03-A020
Multi-Scale Temporospatial Variability of the East Asian Summer Monsoon Stationary Frontal System in the Observation and GFDL Hiram
Yana LI1*
1Sun Yat-sen University

AS03-D3-PM1-P-045  |  AS03-A028
Physical Processes Controlling Earlier and Later Onset of a Typhoon Season in the Western North Pacific
Heng ZUO1*, Tim LI2
1Nanjing University of Information Science & Technology, 2University of Hawaii

AS03-D3-PM1-P-046  |  AS03-A037
The Impact of Tropical Cyclones on Extreme Precipitation over Coastal and Inland Areas of China and its Association to the ENSO
Xihui GU1*
1China University of Geosciences

AS03-D3-PM1-P-047  |  AS03-A042
Causes of Strengthening and Weakening of ENSO Amplitude Under Global Warming
Lin CHEN1*
1University of Hawaii

AS03-D3-PM1-P-048  |  AS03-A044
Modeling Study on the Thermal Contrast Between Asia Continent and Adjacent Ocean on Centennial Time Scale over the Past Two Millennia
Peng HE1*, Jian LIU1, Zhiyuan WANG1
1Nanjing Normal University

AS03-D3-PM1-P-049  |  AS03-A049
Analysis on Centennial-Scale Abrupt Changes in Simulated Summer Temperature over China
Yahui QIU1*, Jian LIU1, Zhiyuan WANG1
1Nanjing Normal University

AS03-D3-PM1-P-050  |  AS03-A054
Millennial-Scale Oscillation in Europe and North American During Holocene
Lingfeng WAN1*, Zhengyu LIU2, Jian LIU1*, Bryan SHUMAN3, Jeremiah MARSICEK2
1Nanjing Normal University, 2University of Wisconsin-Madison, 3University of Wyoming

AS03-D3-PM1-P-051  |  AS03-A057
Relationship of EASM and ISM on Inter-Decadal Scales in Three Typical Periods
Zhou YANG1*, Jian LIU1, Zhiyuan WANG1
1Nanjing Normal University

AS03-D3-PM1-P-052  |  AS03-A059
East Asian Summer Monsoon Responses in Fast and Slow El Niño Decaying Years
Xiaoye ZHOU1*
1Nanjing University of Information Science
Role of the Western Hemisphere Warm Pool in Climate Variability over the Western North Pacific
Jae-Heung PARK1#, Tim LI2, Jong-Seong KUG3, Soon-II AN4
1International Pacific Research Center (IPRC), 2University of Hawaii, 3Pohang University of Science and Technology, 4Yonsei University

The Characteristics of Centennial-Scale Changes of East Asian Summer Monsoon over the Last Two Millennium
Hongyue ZHANG1#, Jian LIU1, Liang NING2, Zhiyuan WANG3
1Nanjing Normal University, 2Nanjing Normal University & University of Massachusetts

Interannual Variability of Seasonal Evolution on Eastern Tibetan Plateau Precipitation
Liying SUN1#2
1Nanjing University of Information Science & Technology

Trends in the Appearance of Dry Intrusion Around the Equator and its Detection
Saki YANAGISAWA1#, Akiyo YATAGAI2
1Hirosaki University

Long-Lead Prediction of Early Summer Subtropical Front Rainfall Based on Arctic Sea Ice
Fei HUANG1#, Wen XING1, Jinping ZHAO1
1Ocean University of China

Long-Term Climatology on the Precipitation Features for the Large Rainfall Years on Eastern Japan in the Baiu Season
Kengo MATSUMOTO1, Kuranoshin KATO2, Kazuo OTANI3
1Okayama University

Synoptic Climatological Study on Precipitation Characteristics and Atmospheric Field Around the Japan Islands in the Midsummer
Tomoyasu TSUCHIDA1#, Kuranoshin KATO2, Kazuo OTANI3, Kengo MATSUMOTO1
1Okayama University

Subseasonal Zonal Shift of the Western Pacific Subtropical High and its Relation to the Summer Rainfall Anomaly in Eastern China
Weina GUAN1#, Xuejuan REN1
1Nanjing University

A Moist Static Energy Analysis of Super MJO Events
Ling-Hui HUANG1, Jia-Yuh YU1
1National Central University

Tropical Upper-Ocean Introduces a Memory Effect Into the Madden-Julian Oscillation within Isothermal-Layer Depth
Yung-Yao LAN1#, Huang-Hsiung HSU1, Ben-Jei TSUANG2, Wan-Ling TSENG3
1Academia Sinica, 2National Chung-Hsing University

Impact of the Interannual Variation of the Tropical Low-Frequency Oscillation Intensity on the Winter Climate over China
Ziniu XIAO1#
1Chinese Academy of Sciences

The Relationship Between Tropical Low-Frequency Oscillation and the Rainfall over Lancang-Mekong River Basin and its Impact on Drought Disaster Damage
Xichun YANG1#
1Beijing Rainymet Technology Co., Ltd.

Prediction of the Madden Julian Oscillation in the Sub-Seasonal to Seasonal (S2S) Prediction Dataset
Shuguang WANG1#, Adam SOBEL1, Micheal TIPPETT1, Frederic VITART2
1Columbia University, 2European Centre for Medium-Range Weather Forecasts

The MJO Simulation in CMIP5 Climate Models and the Roles of Background States
Jian LING1#, Guixian CHENG1
1Chinese Academy of Sciences
150-hPa Zonal Geopotential Gradient - An Alternative of OLR as a MJO Convection Signal in Observation and Simulation
Jeremy Cheuk-Hin LEUNG1#, Weihong QIAN1
1Peking University

A Quasi-stationary Extreme Rain Producing Mesoscale Convective System on the Meiyu Front
Yuchun ZHAO1#
1Xiamen Meteorological Bureau

Improving MJO Simulation in AGCM by Coupling SIT One Dimensional Ocean Model
Wan-Ling TSENG1#, Chia-Ying TU1, Yung-Yao LAN1, Huang-Hsiung HSU1, Ben-Jei TSUANG2
1Academia Sinica, 2National Chung-Hsing University

The Change of MJO Teleconnection Under the Global Warming
Wan-Ling TSENG1#, Chia-Ying TU1, Yung-Yao LAN1, Huang-Hsiung HSU1, Li-Chiang JIANG1, Chiung-Wen June CHANG2, Ben-Jei TSUANG2, Chia-Ying TU1, S. Y. Simon WANG1
1Academia Sinica, 2Chinese Cultural University, 3National Chung-Hsing University

Evaluating the MJO Forecast Skill in the NCEP GEFS 35-Day Experiments
Wei LI1, Yuejian ZHU1, Xiaqiong ZHOU1, Bing FU1, Dingchen HOU1, Eric SINSKY1, Christopher MELHAUSER1, Malaquias FENA1, Hong GUAN1, Richard WOBUS1
1National Oceanic and Atmospheric Administration, 2University of Connecticut

Two Dynamical Regimes of the MJO Mode Due to the Wave Feedback: A Linear Theoretical Study
Guosen CHEN1#, Bin WANG1
1University of Hawaii

Estimating Group Velocity of the MJO: Effects of the Indo-Pacific Warm Pool
Oliver WATT-MEYER1, Ángel ADAMES2, Daehyun KIM1
1University of Washington, 2University of Michigan

Climate Change in Intraseasonal Blocking and Extratropical Cyclone Activity by Large Ensemble Simulation
Chiharu TAKAHASHI1#
1The University of Tokyo, Atmosphere and Ocean Research Institute

Estimation of Precipitable Water Vapor from Himawari-8 Geostationary Meteorological Satellite on Behalf of InSAR Atmospheric Correction
Youhei KINOSHTA1#, Tadahiro NIMURA1, Ryoichi FURUTA1
1Remote Sensing Technology Center of Japan

Development of Fog Detection Algorithm at Daytime Using Himawari-8/AHI and Ground Data
Ji-Hye HAN1#, Myoung-Seek SUH1#
1Kongju National University

Operation-Oriented Asian Dust Data Assimilation Using Himawari-8 Aerosol Products
Thomas SEKIYAMA1#, Keiya YUMIMOTO1, Taichu TANAKA1, Takashi MAKI1, Mayumi YOSHIDA2, Maki KIKUCHI1, Takashi M. NAGAO3, Hiroshi MURAKAMI3
1Japan Meteorological Agency, 2Kyushu University, 3Japan Aerospace Exploration Agency

Detection of Overshooting Tops over East Asia Using Himawari-8
Haemi PARK1#, Jungho IM1, Miae KIM1, Juhyun LEE1
1Ulsan National Institute of Science and Technology

AHYonsei Aerosol Retrieval (YAER): Algorithm and Validation
Hyunkwang LIM1, Myungje CHOI1, Jhoon IM1, Sujung GO1, Yasuko KASAI1, P.W. CHAN1
1Yonsei University, 2National Institute of Information and Communications Technology, 3Hong Kong Observatory

Estimation of Black Carbon Emission from Forest Fires in India Using Moderate-Resolution Imaging Spectroradiometer Burnt Area Product
Umed PALIWAL1, Pavan Kumar NAGAR2, Mukesh SHARMA2#
1University of California, Berkeley, 2Indian Institute of Technology Kanpur
How do Aerosol Retrievals from Polar Orbiting Instruments Help Inform the Future of Aerosol Remote Sensing from Geostationary Platforms?
Michael GARAY1#
1Jet Propulsion Laboratory, California Institute of Technology

SatCORPS Cloud Detection Using GOES-16 Satellite: Results and Validation
Qing TREPTE1#, William L. SMITH JR.2, Rabi PALIKONDA1, Chris YOST1, Patrick MINNIS2
1Science Systems and Applications, Inc., 2NASA Langley Research Center

Influence of BC Warming Effect on East Asian Monsoon and its Feedbacks
Bingliang ZHUANG1†, Tijian WANG1, Pulong CHEN1, Shu LI1, Min XIE1, Jingxian LIU1, Mengmeng LI1, Huimin CHEN1
1Nanjing University

Recent Change in Relationship Between Western North Pacific and East Asian Summer Monsoons
Kangjin LEE1†, Minho KWON2
1Korea Institute of Ocean Science & Technology, 2Korea Institute of Ocean Science and Technology

Similar Features of Inter-Decadal Variability Between Typical Warm Periods During the Past 1500 Years
Kai DING1†, Jian LIU1†, Liang NING2, Zhiyuan WANG1
1Nanjing Normal University, 2Nanjing Normal University & University of Massachusetts

Comparisons of Circulation Anomalies for Different Types of Heat Waves in South Korea
Baek-Jo KIM1*, Ke XU2, Riyu LU3, Jong-Kil PARK2, Jae-Young BYON2
1Korea Meteorological Administration, 2Chinese Academy of Sciences, 3Inje University

Combined Effects of Blocking and AO on Prolonged Snowstorm in Jeju Island
Ji-Hye YEO1*, Kyung-Ja HA1†
1Pusan National University
Improved Retrieval of Cloud Base Heights from Ceilometer Using a Non-Standard Instrument Method
Yang WANG1, Chuanfeng ZHAO1*
1Beijing Normal University

Long-Range Transported Bioaerosols Captured in Snow Cover on Mount Tateyama, Japan: Impacts of Asian-Dust Events on Airborne Bacterial Dynamics Relating to Ice-Nucleation Activities
Teruya MAKI1**, Kevin LEE2, Koichi WATANABE1, Kazuma AOKI1, Masataka MURAKAMP1, Takuya TAJIRI1, Yaunobu IWASAKA1*
1Kanazawa University, 2Auckland University of Technology, 3Toyama Prefectural University, 4University of Toyama, 5Meteorological Research Institute, 6University of Shiga Prefecture

Comparison of Microbial Isolates Collected from Bioaerosol over KOSA Source Region (Gobi Desert) and Down Region (Noto Peninsula)
Tatsuyuki FUJITA1*, Teruya MAKI1, Kenji KAF1, Yasunori KUROSAKI1*, Hiroshi HASEGAWA1, Yaunobu IWASAKA1*
1Kanazawa University, 2Auckland University of Technology, 3University of Toyama, 4Institute of Shiga Prefecture

Dust Modeling over East Asia During the Summer of 2010 Using the WRF-Chem Model
Beidou ZHANG1*, Jianping HUANG1, Siyu CHEN1
1Lanzhou University

The Temporal and Spatial Distribution and Long-Term Trends of Dust Events over Xinjiang Basin During 1960 to 2015
Jing SU1**
1Lanzhou University

Observed Characteristics of Precipitation Timing During the Hazes: Implication to Aerosol-Precipitation Interactions
Wenting ZHANG1*, Seung-Hee EUN1, Sung Min PARK1, Hyewon HWANG1, Byung-Gon KIM1*, daehong KOH1
1Gangneung-Wonju National University, 2Yonsei University

Spatial and Temporal Evolution of Natural and Anthropogenic Dust Events over Northern China
Xin WANG1*
1Lanzhou University
AS13-D3-PM1-P-014 | AS13-A009
Ensemble-Based Atmospheric Reanalysis Using a Global Coupled Atmosphere-Ocean GCM
Nobumasa KOMORI1#, Takeshi ENOMOTO1, Takemasa MIYOSHI1, Akira YAMAZAKI1, Akira KUWANO-YOSHIDA1, Bunmei TAGUCHI1
1Japan Agency for Marine-Earth Science and Technology, 2Kyoto University, 3RIKEN Advanced Institute for Computational Science, 4University of Maryland, 5The University of Tokyo

AS13-D3-PM1-P-015 | AS13-A016
Potential Impact of All-Sky Radiance from GEMS on Regional Scale Air Quality Prediction
Ebony LEE1+, Seon Ki PARK1#, Milija ZUPANSKI2
1Ewha Womans University, 2Colorado State University

AS16-53-D3-PM1-P-010 | AS16-53-A004
Determination of Mesospheric Green Line Emission Peak Altitude over Arecibo, Puerto Rico
Eframir FRANCO DIAZ1+, Shikha RAIZADA1, Christiano GARNETT MARQUES BRUM1
1Arecibo Observatory, 2SRI International

AS16-53-D3-PM1-P-011 | AS16-53-A025
Atmospheric Coupling in Gigantic Jets Altitude
Kang-Ming PENG1+, Rue-Ron HSU1, Han-Tzong SU1, Alfred CHEN1, Yen-Jung WU1
1National Cheng Kung University

AS17-D3-PM1-P-017 | AS17-A010
Characteristics of Mesospheric Gravity Waves over the Southeastern Tibetan Plateau Region
Qinzeng LI1+, Jiayao XU1, Xiao LIU1, Wei YUAN1, Jingsong CHEN1
1Chinese Academy of Sciences, 2Henan Normal University, 3China Research Institute of Radio Wave Propagation

AS17-D3-PM1-P-018 | AS17-A012
Terrestrial Evapotranspiration Estimated Based on MODIS Remote Sensing Products and Land Surface Model over Arid and Semi-Arid Regions
Yang YANG1+, Lijuan WANG2, Yue PING1, Suying SUN1, Yue QI1
1China Meteorological Administration, 2Institute of Arid Meteorology, China Meteorological Administration, Lanzhou

AS17-D3-PM1-P-019 | AS17-A016
Seasonal and Inter-Annual Variations in Carbon Dioxide Exchange over an Alpine Grassland in the Eastern Qinghai-Tibetan Plateau
Lunyu SHANG1+)
1Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences

AS17-D3-PM1-P-020 | AS17-A024
Study on Low Frequency Change of OLR and Wind in Qinghai-Tibet Plateau and the Relationship with Plateau Vortex
Tiangui XIAO1, Chao WANG3, Zhen YUAN3
1Chengdu University of Information Technology

AS17-D3-PM1-P-021 | AS17-A025
Effect of Marginal Topography Around the Tibetan Plateau on the Asian Climate
Zhengguo SHI1+)
1Institute of Earth Environment, Chinese Academy of Sciences

AS17-D3-PM1-P-022 | AS17-A026
A Transient Simulation of Westerly Wind Modulation on Spring Dust Cycle over North China at Precessional Bands During the Last Interglacial Period
Xinzhou LI1+)
1Chinese Academy of Sciences

AS17-D3-PM1-P-023 | AS17-A027
Improving the Simulation of Terrestrial Water Storage Anomalies over China Using a Bayesian Model Averaging Ensemble Approach
Jianguo LIU1+, Zhenghui XIE1, Binghao JIA1, Chunxiang SHI1
1Huaihua University, 2Chinese Academy of Sciences, 3China Meteorological Administration

AS17-D3-PM1-P-024 | AS17-A031
Effects of Tibetan Plateau Uplift on Autumn Rainfall in Southwest China
Qi WANG1+, Mi YAN1, Jian LIU1
1Nanjing Normal University

AS17-D3-PM1-P-025 | AS17-A034
A New Plateau Monsoon Index Using the Wind DynamicalNormalized Seasonality and its Application
Shaobo ZHANG1+)
1Chengdu University of Information Technology

AS17-D3-PM1-P-026 | AS17-A042
Cloud Vertical Structure by Surface-Based W/Ka Band Cloud Radar and Satellite Observation over Tibet
Jinli LIU1+, Qiang SUN2, Qiufei JIANG3, Ling WANG3, Daren LYU1,4
1Institute of Atmospheric Physics, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3Chengdu University of Information Technology, 4University of Chinese Academy of Sciences
Impacts of Aerosols on Seasonal Precipitation and Snowpack in California Based on Convection-Permitting WRF-Chem Simulations

Longtao WU1,2, Yu GU3, Jonathan JIANG4, Hui SU1, Nanpeng YU1, Chun ZHAO1, Yun QIAN1, Bin ZHAO2, Kuo-Nan LIOU2, Yong-Sang CHOP6
1Jet Propulsion Laboratory, California Institute of Technology, 2University of California, Los Angeles, 3University of California, Riverside, 4University of Science and Technology of China, 5Pacific Northwest National Laboratory, 6Ewha Womans University

Carbonaceous Aerosol and Light Absorption Property in a Typical Glaciers Region of the Tibetan Plateau

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Ling-Feng HSIAO1, Jia-Chyi LIOU1, Chin-Cheng TSAI1*, Yu-Chun CHEN1, Der Song CHEN2, Tien-Chiang YEH3*
1Taiwan Typhoon and Flood Research Institute, 2Central Weather Bureau

AS49-D3-PM1-P-019 | AS49-A022

Genesis and Development Processes of a Quasi-Stationary Linear MCS in the Lee of Taiwan Island
Tetsuya KAWANO1*, Toru MATOBA1, Ryuichi KAWAMURA1
1Kyushu University

AS49-D3-PM1-P-020 | AS49-A025

Temporary Variation of Surface Air Temperature and Atmospheric Pressure Under Convective Clouds in Winter Monsoon
Kenji BABA1*, Hiroshi UYEDA2
1Rakuno Gakuen University, 2Nagoya University

AS49-D3-PM1-P-021 | AS49-A027

Impact of the Land-Sea Temperature Contrast on the Snowfall Structure over the Western Coastal Region of the Korean Peninsula
Namgu YEO1*, Eun-Chul CHANG1
1Kongju National University

AS49-D3-PM1-P-022 | AS49-A029

A Study on Factors Affecting Snowfall Structure over the Daegwallyeong Region
Byeong-Hun HWANG1*, Eun-Chul CHANG1
1Kongju National University

AS49-D3-PM1-P-023 | AS49-A030

Summer Thunderstorm Reproducibility by Numerical Weather Prediction with Sub-Kilometer Horizontal Resolution
Syugo HAYASHI1*
1Japan Meteorological Agency

AS49-D3-PM1-P-024 | AS49-A034

Ontario Winter Lake-Effect Systems (OWLeS): Misovortex characteristics in Long-Lake-Axis-Parallel Snowbands
Karen KOŚIBA1*, Joshua WURMAN1
1Center for Severe Weather Research

AS54-D3-PM1-P-020 | AS54-A008

Interpretation of Spaceborne Energy Flux for Arctic Climate Sensitivity
Jiwon HWANG1*, Yong-Sang CHO1, Hui SU1, Jonathan JIANG2
1Ewha Womans University, 2Jet Propulsion Laboratory, California Institute of Technology

AS54-D3-PM1-P-021 | AS54-A014

Cloud Measurement with All-Sky Camera System for Investigating Long-Term Variability of Cloud Properties at South Pole
Masataka SHIOBARA1*, Masanori YABUKI2
1National Institute of Polar Research, 2Kyoto University

AS54-D3-PM1-P-022 | AS54-A015

The Effects of Wind-Generated Oceanic Aerosols on Tropical Cyclone
Yi-Chiu LIN1*, Jen-Ping CHEN2
1Taiwan Typhoon and Flood Institute, 2National Taiwan University

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The Forest Fire Emission and its Injection Height Impacts on the Aerosol Transport in September 2016 Simulated with the NICAM-SPRINTARS
Yousuke YAMASHITA1*, Masayuki TAKIGAWA1, Daisuke GOTO1, Hisashi YASHIRO1, Masaki SATOH1
1Japan Agency for Marine-Earth Science and Technology, 2National Institute for Environmental Studies, 3RIKEN Advanced Institute for Computational Science, 4The University of Tokyo

AS54-D3-PM1-P-024 | AS54-A019

Radiative Absorption Enhancement of the East Asian Aerosol Mixtures
Pengfei TIAN1*
1Lanzhou University

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Assessment and Control for Oil Aerosol
Chane-Yu LAI1*, Xiang-Yu HUANG2
1Chung Shan Medical University, 2Department of Occupational Safety and Health

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Modelling Ice Microphysics and Aerosol-Cloud Interactions in Mixed-Phase Clouds
Jaakko AHOLA1*, Tomi RAATIKAINEN1, Juha TONTTILA1, Sami ROMAKKANIEMI, Harri KOJKOLA1, Harannele KORHONEN1
1Finnish Meteorological Institute
Fingerprint of Climate Response to Anthropogenic Aerosol Forcing
Hai WANG1**, Shang-Ping XIE2, Qinyu LIU3
1Ocean University of China, 2University of California San Diego

Simulation of Optical Property and Radiative Forcing of Brown Carbon in Radiative Model and Validation with In-Situ Measurements
Lulu XU1**, Yiran PENG2, Kirpa RAM3, Yanlin ZHANG3, Mengying BAO3
1Tsinghua University, 2Banaras Hindu University, 3Nanjing University of Information Science & Technology

Evaluate Autoconversion and Accretion Enhancement Factors in GCM Warm-Rain Parameterizations Using Metrics from Ground-Based Measurements at the Azores
Peng WU1, Xiquan DONG1**, Baike XI1, Zhibo ZHANG2
1University of Arizona, 2University of Maryland, Baltimore County

Characteristics of the Turbulence in the Stable Boundary Layer over Complex Terrain of the Loess Plateau, China
Jiening LIANG1**
1Lanzhou University

A First Look on Cloud Homogeneity from Calipso
Charles TREPTET1**
1NASA Langley Research Center

BG Poster Presentations
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Diversity of Nitrogen Fixing Bacterial Communities in the Coastal Sediments of South Eastern Arabian Sea (SEAS)
Mohamed Hatha A. A.1**, Jabir THAJUDEEN1+, Vipindas T. V.1, Jesmi YOUSUF1
1Cochin University of Science and Technology

The Flux Estimation of Dissolved Organic Carbon from Subtropical Small Mountainous Rivers During Typhoon and Non-Typhoon Periods in Taiwan
Tsung-Yu LEE1**, Li-Chin LEE2, Jr-Chuan HUANG2
1National Taiwan Normal University, 2National Taiwan University

Intercomparison of Two Cavity Ring-Down Spectroscopy Analyzers for Atmospheric 13CO2/12CO2 Measurement
Jiaping PANG1**
1Chinese Academy of Sciences

Patterns and Environmental Controls of Soil Organic Carbon and Total Nitrogen in Alpine Ecosystems of Northwestern China
Longfei CHEN1**
1Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences

Agricultural Nitrogen Emissions in Response to Historical Shifts (1980s-2010s) of Fertilizer Application in the Taihu Lake Basin
Hengpeng LI1**, Yaqin DIAO2, Guishan YANG2
1Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences, 2Chinese Academy of Sciences

Kinetics of Coenzyme F430 Degradation for Application as a Biomarker of Methane Production and Consumption
Masanori KANEKO1**
1National Institute of Advanced Industrial Science and Technology
The Impacts of Nitrogen Dynamics on Plant Growth and Carbon and Water Balances: An Investigation Using Noah-MP-CN
Jingjing LIANG1, Zong-Liang YANG2
1Chinese Academy of Sciences, 2The University of Texas at Austin

Methane and Nitrous Oxide Emissions from Ratoon Rice Fields
Jing MA1, Kaifu SONG1, Haiyang YU1, Guangbin ZHANG1, Hua XU1
1Chinese Academy of Sciences

Habitat Suitability Empirical Model of Albacore Tuna in the North Pacific Ocean Using Multi-Satellite Remote Sensing Data
Ming-An LEE1
1National Taiwan Ocean University

Modelling of Winter Potential Fishing Zones for Grey Mullet (Mugil Cephalus L.) Based on IPCC Climate Scenarios in the Northwestern Pacific
Ming-An LEE1
1National Taiwan Ocean University

A Simple Method for Correcting the Blooming Effect in DMSP-OLS Images
Xin CAO1, Yang HU1, Xuehong CHEN1, Jin CHEN1, Fang FANG1
1Beijing Normal University

New Insights into the Role of Below-Ground Competition in Above-Ground Self-Thinning Pattern of Shrub
Xihong CUI1, Xin CAO1, Jin CHEN1, Xuehong CHEN1
1Beijing Normal University

On Operational Monitoring of Water Quality Parameters by Satellite Remote Sensing in a Turbid Inland Lake of Japan
Wei YANG1, Bunkei MATSUSHITA1, Akihiko KONDO1
1Chiba University, 2University of Tsukuba

Spatial Differences of Long-Term Changes of Chlorophyll-A and Red Tide Events in the Taiwan Strait in Spring
Caiyun ZHANG1
1Xiamen University

Spatio-Temporal Characteristics of NO2 in Africa and Typical Urban Agglomerations Under the Anthropogenic Influences Analysis Based on OMI Data
Qun GAO1
1Chinese Academy of Sciences

Adjoint Analysis on High CH4 Mole Fractions Observed by Aircraft
Yosuke NIWA1, T. MACHIDA1, Yousuke SAWA2, Taku UMEZAWA1, Kazuhiro TSUBOF1, Kazuyuki SAI1, Nobuko SAIGUSA1
1National Institute for Environmental Studies, 2Japan Meteorological Agency

Carbon Dioxide (CO2) Flux Seasonality and Monsoon in the Indian Subcontinent
Prabir PATRA1, Pramit DEB BURMAN2, Chandra Shekhar JHA3, Supriyo CHAKRABORTY2, Dipankar SARMA2, Kireet KUMAR3, Sandipan MUKHERJEE2
1Japan Agency for Marine-Earth Science and Technology, 2Tohoku University, 3Indian Institute of Tropical Meteorology, 4Indian Space Research Organisation, 5Tezpur University, 6G.B. Pant National Institute of Himalayan Environment and Sustainable Development

Plant Regrowth as a Driver of Recent Enhancement of Terrestrial Carbon Uptake
Masayuki KONDO1, Kazuhiro ICHII2, Prabir PATRA2, Benjamin POULET3, Leonardo CALLE1
1Chiba University, 2Japan Agency for Marine-Earth Science and Technology, 3Tohoku University, 4NASA Goddard Space Flight Center, 5Montana State University
Teleconnection Based Terrestrial Carbon Cycle Forecasting and Attribution System
Benjamin Poulter1, Lesley Ott1, Ashley Ballantyne2, Philippe Claessens3, Ana Basto4, Abhishek Chatterjee6, Stephen Sitch5, Leonardo Calle6
1National Aeronautics and Space Administration, 2University of Montana, 3Institut Pierre Simon Laplace, 4NASA Goddard Space Flight Center, 5University of Exeter, 6Montana State University

Detecting Vegetation Changes Induced by Afforestation in China Using Multiple Satellite Products
Kazuhiro Ichii1,2, Yuji Yanagi3, Jingfeng Xiao4, Masayuki Kondo1
1Chiba University, 2National Institute for Environmental Studies, 3Japan Agency for Marine-Earth Science and Technology, 4University of New Hampshire

Global Terrestrial Carbon Budget Simulated by VISIT Model
Etsushi Kato1
1Institute of Applied Energy

The Improvement of Using Aerosol Information from CAPI/Tansat Nadir Observation in CO2 Retrieval
Xi Chen1,2, Dongyu Yang1, Yi Liu1, Zhaonan Cai1
1Chinese Academy of Sciences, 2Institute of Atmospheric Physics, Chinese Academy of Sciences

Diurnal and Seasonal Variations of Carbon Dioxide Concentration and Flux Between Tidal Flat and Atmosphere at the Hampyeong Bay
Yoon Hwan So1,2, Dong Hwan Kang1, Byung Hyuk Won1, Il-Kyu Kim1
1Pukyong National University

The Proposal for the Next Generation Tansat
Maohua Wang1, Lin Qu2
1Chinese Academy of Sciences, 2Shanghai Advanced Research Institute, Chinese Academy of Sciences

Inversion Systems for Surface CO2 and CH4 Flux Estimates in GOSAT/GOSAT-2 Projects
Makoto Saito1,2, Tatsu Saeke1, Richao Cong1, Tatsuya Miyachi1, Tsuneo Matsunaga1, Shamil Maksyutov1
1National Institute for Environmental Studies

Greenhouse Emission from Manure Management at California Dairies: Linking Observations Across Scales for Improved Understanding of Emissions
Francesca Hopkins1
1University of California, Riverside

Carbon Balance of Two Different Cropping Systems over a Paddy Field in South Korea
Yongseok Kim1,2, Kyo-Moon Shim1,2, Myung-Pyo Jung1, Kee-Kyung Kang1
1National Institute of Agricultural Sciences

X CO2 Retrieval Using the Yonsei Carbon Retrieval Algorithm
Jaemin Hong1, Jhoon Jung1, Woogyung Kim1, Hartmut Boesch1, Tae-Young Goop1, Ja-Ho Koo1
1Yonsei University, 2Harvard-Smithsonian Center for Astrophysics, 3NASA Goddard Space Flight Center, 4University of Leicester, 5Korea Meteorological Administration

Arsenic Binding Characteristics to Humic Substances in the Organic Sediments
Junko Hara1
1National Institute of Advanced Industrial Science and Technology

Optimized Fertigation Maintains High Crop Yield and Mitigates N2O and NO Emissions in a Wheat/Maize Cropping System
Xin Zhang1, Guangmin Xiao1, Wenliang Wu1, Hui Li1, Ligang Wang1, Fanqiao Meng1
1China Agricultural University, 2Chinese Academy of Agricultural Sciences

Microbial Diversity and Community Structure of Sulfate-Reducing and Sulfur-Oxidizing Bacteria in Sediment Cores from the East China Sea
Yu Zhen1
1Ocean University of China
Shifts in Stream Hydrochemistry in Responses to Typhoon and Non-Typhoon Precipitation
Chung-Te CHANG1, Jr-Chuan HUANG1, Lixin WANG2, Teng-Chiu LIN3
1National Taiwan University, 2Indiana University-Purdue University Indianapolis, 3National Taiwan Normal University

Structure Analysis of Amino Acid Polymer Synthesized from an Amino Acid Precursor
Miho SASE1, Hajime MITA1
1Fukuoka Institute of Technology

Analysis of Moor Hot Spring
Saori MIKURIYA1, Hajime MITA1
1Fukuoka Institute of Technology

A Biosynthetic and Metabolic Perspective of Stable Isotopic Fractionation in Food Webs
Yuko TAKIZAWA1, Yoshito CHIKARAISHI1
1Hokkaido University

Is Isotopic Fractionation in Carbon Isotopes Coupling with that in Nitrogen Isotopes in Food Webs?
Yoshito CHIKARAISHI1, Yuko TAKIZAWA1
1Hokkaido University

Assessing Global Phosphorus Losses from Major Crop Cultivations with an Integrative Crop–Soil–Management Perspective
Wenfeng LIU1, Hong YANG1
1Swiss Federal Institute of Aquatic Science and Technology

Tibetan Plateau Permafrost Carbon Change of the Past 40 Years
Duoying JI1, Wenbin SUN1
1Beijing Normal University

Impacts of Sulfate Geoengineering on Terrestrial Carbon Cycle and its Climate Sensitivities
Qian ZHANG1, Duoying JI1
1Beijing Normal University
Presentations

7 JUN, 2018

THURSDAY
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*Srivatsan RAGHAVAN National University of Singapore, Ming Tue VU Clemson University

AS03-Multi-scale Climate Variability Over Asia and Surrounding Oceans
*Tim LI University of Hawaii, Renhe ZHANG Fudan University, Tomoe NASUNO Japan Agency for Marine-Earth Science and Technology, Jong-Seong KUG Pohang University of Science and Technology, Song YANG Sun Yat-sen University

AS04-Atmospheric Chemistry in Highly Polluted Environments: Emissions, Fate, and Impacts
*Jianlin HU Nanjing University of Information Science & Technology, Hongliang ZHANG Louisiana State University, Sri H. KOTA Indian Institute of Technology Guwahati, Qi YING Texas A and M University

AS05-The Science and Prediction of Heavy Rainfall and Floods
*Yali LUO Chinese Academy of Meteorological Sciences, Johnny CHAN City University of Hong Kong

AS07-Behavior of Monsoon in the Current and Future Climate: Comparisons Among Different Monsoon Regions
*Wen CHEN Chinese Academy of Sciences, Congwen ZHU Chinese Academy of Meteorological Sciences, Lin WANG Chinese Academy of Sciences, Patama SINGHRUCK Chulalongkorn University, Hirokazu ENDO Japan Meteorological Agency

AS18-02-OS-Climate Change, Tropical Climatic Hazards in Asia Oceania and Societal Applications of Atmospheric and Oceanic Regional Models
*Venkata Ratnam JAYANTHI Japan Agency for Marine-Earth Science and Technology, Toru MIYAMA Japan Agency for Marine-Earth Science and Technology, Jaeho OH Pukyong National University, Satyaban B. RATNA University of East Anglia, Yuritri KULESHOV Bureau of Meteorology

AS21-Sub-seasonal to Seasonal Forecasting of High-impact Weather and Climate Events
*Yuhei TAKAYA Meteorological Research Institute, Hyun-Suk KANG Korea Meteorological Administration, Hai LIN Environment and Climate Change Canada, Mio MATSUEDA University of Tsukuba

AS23-Observation, Modeling, Theory and Climatology of Mesoscale Processes
*Qinghong ZHANG Peking University, Yu DU Sun Yat-sen University, Yileng CHEN University of Hawaii at Manoa, United States

AS30-Passive and Active Remote Sensing of the Chemistry and Dynamics of the Middle and Upper Atmosphere
*Patrick ESPY Norwegian University of Science and Technology, Iain REID ATRAD Pty Ltd, Jeng-Hwa YEE The Johns Hopkins University Applied Physics Laboratory

AS41-Extreme Weather Resiliency: Prediction and Response Strategies
*Everette JOSEPH University at Albany, State University of New York, Pay-Liam LIN National Central University

AS42-Satellite Data Assimilation and Applications for the Weather Forecasting and Climate Study
*Kozo OKAMOTO Japan Meteorological Agency, Myoung Hwan AHN Ewha Womans University, Chian-Yi LIU National Central University, Chu-Yong CHUNG Korea Meteorological Administration

AS43-44-Atmospheric Blocking and Improvement of Earth System Modeling
*Joong-Bae AHN Pusan National University, Vladimir KRYJOV Hydrometeorcenter of Russia, Wei-Liang LEE Academia Sinica, Masahiro WATANABE The University of Tokyo, Hsi-Yen MA Lawrence Livermore National Laboratory

AS45- Middle Atmosphere Science
*S. K. DHAKA University of Delhi, Shigeo YODEN Kyoto University, Zeya CHEN Chinese Academy of Sciences, Hye-Yeong CHUN Yonsei University

AS50-Interactions Between Indo-pacific Ocean and Asian Monsoon
*Jianping LI Beijing Normal University, Jianping LI Beijing Normal University, Yinmin LIU Chinese Academy of Sciences, Ruqiang DING Chinese Academy of Sciences, Yun QIU Third Institute of Oceanography, State Oceanic Administration, Lin LIU State Oceanic Administration

AS51-Frontiers and Challenges in the Applications of Radiative Transfer
*Xianglei HUANG University of Michigan, Wei-Liang LEE Academia Sinica, Daniel FELDMAN Lawrence Berkeley National Laboratory

AS56-Haze: Chemistry, Physics, Meteorology, Emissions, Climate, Processing, Fog, and More. Looking Across Spatial Scales from Regional to Global
*Jason COHEN Sun Yat-sen University, Yun QIAN Pacific Northwest National Laboratory, Arnico PANDAY International Centre for Integrated Mountain Development (ICIMOD), Bhaskar GUNTURU King Abdullah University of Science and Technology

BG03-IG-The Coupling of Monsoon Systems with Land and Ocean Biogeochemistry
*Prabir PATRA Japan Agency for Marine-Earth Science and Technology, Benjamin FOULTER National Aeronautics and Space Administration, Swee Moi PHANG University of Malaya

BG04-Current Status of Terrestrial Carbon Budget and Process Understanding
*Masayuki KONO Chiba University, Forrest HOFFMAN Oak Ridge National Laboratory

BG08-IG-Biogeo sciences General Session
*Xiujuan WANG Beijing Normal University, Long CAO Zhejiang University, Prabir PATRA Japan Agency for Marine-Earth Science and Technology
HS08-Hydrology in a Changing World: Challenges in Modeling
*Shailesh SINGH National Institute of Water and Atmospheric Research, C. T. DHANYA Indian Institute of Technology Delhi, Rajib MAITY Indian Institute of Technology Kharagpur, Markus PAHLOW University of Canterbury, Mingna WANG China Institute of Water Resources and Hydropower Research

HS13-Urban Water-related Problems
*Akira KAWAMURA Tokyo Metropolitan University, So KAZAMA Tohoku University, Kei NAKAGAWA Nagasaki University, Kenichiro KOBAYASHI Kobe University, Naoko NAKAGAWA Rikkyo University

HS14-Water Cycle Observational and Satellite Remote Sensing Data Products and Their Applications
*Marouane TEMIMI Masdar Institute, Jun WEN Chengdu University of Information Technology, Chenghui WANG Lanzhou University, Xiwu ZHAN National Oceanic and Atmospheric Administration

HS20-Hydrologic Prediction in Data-scarce Situations
*Basudeb BISWAL Indian Institute of Technology Hyderabad, Guangyao GAO Chinese Academy of Sciences, Dawen YANG Tsinghua University, Bellie SIVAKUMAR University of New South Wales

HS22-Climate Change Risk Assessment and Adaptation on Water-related Disaster and Water Resources in Asia and the Pacific
*Eiichi NAKAKITA Kyo University, Deg-Hyo BAE Sejong University, Ching-Pin TUNG National Taiwan University, Yasuto TACHIKAWA Kyo University, Izuru TAKAYABU Meteorological Research Institute, Japan Meteorological Agency

HS27-Extreme Erosion Processes, Hydrological Drivers and Connectivity
*Roy SIDLE University of the Sunshine Coast, Ben JARIHANI University of the Sunshine Coast, David HIGGITT Beijing Jiaotong University (Lancaster University College), Marco CAVALLI National Research Council of Italy, Research Institute for Geo-Hydrological Protection (IRPI), Stefano CREMA National Research Council of Italy, Research Institute for Geo-Hydrological Protection (IRPI)

HS31-At the Edge of Hydrology: Natural- and Human-induced Changes in Fluxes Across the Land-ocean and Land-atmosphere Interfaces with Impacts on Global and Regional Water Cycle
*Min-Hui LO National Taiwan University, John REAGER Jet Propulsion Laboratory, California Institute of Technology, Wenhong LI Duke Univ, Hyungjun KIM U-Tokyo

HS33-Modeling and Analysis of Hydrologic Processes in the Context of Climate Change
*Van-Thanh-Van NGUYEN McGill University, Shie-Yui LIONG National University of Singapore, Laxmi SUSHAMA McGill University, Zhiming QI McGill University

IG02-High-resolution Terrestrial- and Marine Proxy-inferred Climate and Environment Changes in the Asia-Oceanica Region Since the Last Deglaciation
*Chuan-Chou SHEN National Taiwan University, Liangcheng TAN Chinese Academy of Sciences, Yusuke YOKOYAMA The University of Tokyo, Keyan FANG Fujian Normal University

IG16-BG-From Science to Policy: Lessons and Challenges for Natural and Social Science Collaboration for Mitigation and Adaptation to Environmental Hazards
*Tao WANG Chinese Academy of Sciences, Shaoxu MA The North-west of Eco-environment and resources, Lihua ZHOU Institutes of Science and Development, CAS, Inez PONCE DE LEON Ateneo de Manila University

IG20-Innovative Technologies of Sensing, Simulation and Mapping to Enhance Disaster Relief and Disaster Medical Systems
*Shunichi KOSHIMURA Tohoku University, Erick MAS Tohoku University, Ann SAKAGUCHI University of Hawaii at Manoa

IG21-Sar Application in Natural Hazard Response
*Sang-Ho YUN NASA Jet Propulsion Laboratory, Yu-Nung Nina LIN Nanyang Technological University, Sang-Ho YUN NASA Jet Propulsion Laboratory

IG25-Tracing Hydrometeorological, Ecohydrological and Hydrological Processes Using Stable Water Isotopes
*Huade GUAN Flinders University, Xiping ZHANG Hunan Normal University, Grzegorz SKRZYPEK The University of Western Australia

OS08-Advances in Oceanic Data Assimilation, Ensemble Prediction, and Coupled Data Assimilation
*Zheqi SHEN State Oceanic Administration, Zheqi SHEN State Oceanic Administration, Jiang ZHU Chinese Academy of Sciences, Shaoqing ZHEN State Oceanic and Atmospheric Administration, Fei ZHEN Chinese Academy of Sciences

OS09-Regional Oceanic Numerical Modeling and Observations
*Changming DONG Nanjing University of Information Science & Technology, Yusuke UCHIYAMA Kobe University, Hui WU East China Normal University

OS10-The Eastern Indian Ocean Upwelling Research Initiative (EIOURI) and The Second International Indian Ocean Expedition (IIIOE-2)
*Yukio MASUMOTO The University of Tokyo, Raleigh HOOD University of Maryland, Michael MCPHADEN National Oceanic and Atmospheric Administration, Nick D’ADAMO Perth Programme Office of the Intergovernmental Oceanographic Commission (IOC) of UNESCO, Yue FANG State Oceanic Administration

OS24-Coastal Hazards: Impacts of Tropical Storms and Tsunamis
*Xiping YU Tsinghua University, Linlin LI Nanyang Technological University, Philip Li-Fan LIU National University of Singapore, Harry YEH Oregon State University, Zhenhua HUANG University of Hawaii at Manoa
PS03-Microwave and Infrared Remote Sensing of Solar System Objects
*Paul HARTOGH Max Planck Institute for Solar System Research, Yasuko KASAI National Institute of Information and Communications Technology, Yi-Jehng KUAN National Taiwan Normal University

PS07-Juno’s Exploration of Jupiter
*Paul HARTOGH Max Planck Institute for Solar System Research, Tristan GUILLOT Observatoire De La Cote D’Azur

PS08-Polarization as a Tool for Exploration of Earth, Solar System and Beyond
*Padma A YANAMANDRA-FISHER Space Science Institute, Shashikiran GANESH Physical Research Laboratory, Svetlana BERDYUGINA Kiepenheuer Institut für Solar Physik, Ludmilla KOLOKOLOVA University of Maryland

PS13-Planetary Interiors and Magnetism
*Keke ZHANG University of Exeter, Johannes WICH MPE, Emilio HERRERO-BERVERA University of Hawaii at Manoa, Yongxin PAN Chinese Academy of Sciences, John TARDUNO University of Rochester

SE05-Magmatism and Mineral Deposits at Anorogenic Settings
*Greg SHELLNUTT National Taiwan Normal University, Maria Luisa TEJADA Japan Agency for Marine-Earth Science and Technology, Steven DENYSZYN University of Western Australia

SE25-40-New Advance on Tectonics of SE Asia
*Xixi ZHAO University of California Santa Cruz, Baochun HUANG Peking University, Mian LIU University of Missouri, Raymond RUSSO University of Florida

SE32-Accretion and Subduction of the Oceanic Lithosphere, from Ridge to Trench
*Hongfeng YANG Chinese University of Hong Kong, Yajing LIU McGill University, Meng (Matt) WEI University of Rhode Island, Shengji WEI Nanyang Technological University

SE38-Global Mass Transport, Earth Rotation and Low-degree Gravitational Change
*Jianli CHEN The University of Texas at Austin, Richard GROSS NASA’s Jet Propulsion Laboratory, Henrky DOBSLAW Helmholtz Centre Potsdam GFZ German Research Centre for Geosciences, Koji MATSUO Geospatial Information Authority of Japan

SE41-33-Environmental and Applied Mineralogy and Ore Deposits
*Tsutomu SATO Hokkaido University, Carlo ARCILLA University of the Philippines Diliman, Mega ROSANA Padjadjaran University, Indonesia, Hai Thanh TRAN Hanoi University of Mining and Geology, Kotaro YONEZU Kyushu University

SS07-Cascading hazards
*Gerald BAWDEN National Aeronautics and Space Administration (NASA), Jack A. KAYE National Aeronautics and Space Administration (NASA)
**AS01 / Regional Climate Modelling: Science and Applications**

**Thu - 07 Jun** | **MR302B**

**Time** 16:00 - 18:00

**Chair(s)** Minh Tue VU, Clemson Univ

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**AS01-D4-PM2-302B-001 | AS01-A013**

**Comparison of Wind Resource Characteristics in Korea According to Different Mapping Method**

Yeong-Hee KIM1, Beom-Keun SEO1, Jinah YUN1, Sumi YANG2, Baek-Jo KIM3

1National Institute of Meteorological Sciences, 2Korea Meteorological Administration

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**AS01-D4-PM2-302B-002 | AS01-A016**

**Factor Analysis in Downscaled Regional Climate Change**

Yoshiyuki KAJIKAWA1, Kazuto ANDO1, Sachio ADACHI1, Seiya NISHIZAWA1, Tsuyoshi YAMAURA2
1Kobe University, 2RIKEN Advanced Institute for Computational Science, 3RIKEN Center for Computational Science, 4Japan Meteorological Agency

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**AS01-D4-PM2-302B-003 | AS01-A017**

**Assessment of the Modèle Atmosphérique Régionale (MAR) Regional Climate Model over High Mountain Asia**

Marco TEDESCO1, Melissa LINARES1, Steve MARGULIS1, Xavier FETTWEIS2, Patrick ALEXANDER1
1Lamont-Doherty Earth Observatory, 2University of California, Los Angeles, 3University of Liège

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**AS01-D4-PM2-302B-004 | AS01-A020**

**South Asian Summer Monsoon Breaks: Process-Based Diagnostics in HIRHAMS**

Franziska S. HANF1, H. ANNAMALAI1, Annette RINKE1, Klaus DETHLOFF1
1University of Hawaii, 2Alfred Wegener Institute for Polar and Marine Research

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**AS03 / Multi-scale Climate Variability Over Asia and Surrounding Oceans**

**Thu - 07 Jun** | **MR325B**

**Time** 08:30 - 10:30

**Chair(s)** Zhiwei WU, Fudan University

Lei ZHOU, Shanghai Jiaotong University

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**AS03-D4-AM1-325B-034 | AS03-A024 (Invited)**

**Impact of Tropical Lower Stratospheric Cooling on Recent Trends in Tropical Circulation Through Modulation of Deep Convective Activity**

Kunihiko KODERA1, Naho EGUCHI2, Rei UEYAMA3, Yuhji KURODA4, Chiaki KOBAYASHI1
1Meteorological Research Institute, 2Kyushu University, 3NASA Ames Research Center, 4Japan Meteorological Agency

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**AS03-D4-AM1-325B-036 | AS03-A016**

**Origin of the Seasonally-Dependent Response of the Subtropical Highs and Tropical Precipitation in a Warming Climate**

Fengfei SONG1, L. Ruby LEUNG1, Jian LU1, Lu DONG1
1Pacific Northwest National Laboratory

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**AS03-D4-AM1-325B-038 | AS03-A061**

**Key Role of the Tropical Pacific Ocean in the Changes of the Aleutian Low Mean-State and Variability Under Greenhouse Warming**

Bolan GAN1, Lixin WU1, Fan JIA1, Shujun LI2, Wenju CAI3, Hisashi NAKAMURA4, Michael ALEXANDER5, Art MILLER6, Zheng CHEN7
1Ocean University of China, 2Chinese Academy of Sciences, 3Ocean University of China and Qiqigao National Laboratory for Marine Science and Technology, 4Commonwealth Scientific and Industrial Research Organisation, 5The University of Tokyo, 6Japan Agency for Marine-Earth Science and Technology, 7National Oceanic and Atmospheric Administration, 8Scripps Institution of Oceanography
AS03-D4-AM1-325B-039 | AS03-A039

Unravelling Regionwise Teleconnections of Indian Rainfall Using Event Synchronization-Based Multiscale Nonlinear Method
Ankit AGARWAL1#, Maheswaran RATHINASAMY2, Norbert MARWAN2, Bruno MERZ2, Krishnan RAGHAVAN4, Jürgen KURTHS1
1University of Potsdam, 2Potsdam Institute for Climate Impact Research, 3GFZ German Research Centre for Geosciences, 4Indian Institute of Tropical Meteorology

AS04 / Atmospheric Chemistry in Highly Polluted Environments: Emissions, Fate, and Impacts
Thu - 07 Jun | MR325B

Time 11:00 - 12:30
Chair(s) Huan LIU, Tsinghua University
Yan Yang, Pacific Northwest National Laboratory, United States

AS04-D4-AM2-325B-001 | AS04-A017 (Invited)
Top-Down Estimate of Black Carbon Emissions for City Cluster Using Ground Observations: A Case Study in Southern Jiangsu, China
Yu ZHAO1#, Xuefen ZHAO, Dong CHEN1, Jie ZHANG2
1Nanjing University, 2Jiangsu Provincial Academy of Environmental Science

AS04-D4-AM2-325B-002 | AS04-A060
Air Quality Impact of Shipping Emissions and Deca Design in China
Huan LIU1#, Haofeng LV1
1Tsinghua University

AS04-D4-AM2-325B-003 | AS04-A020
Impacts of Injection Height of Industrial Emissions on Recent SO2 Trend over China
Yang YANG1#, Hailong WANG1, Steven SMITH1, Philip RASCH1
1Pacific Northwest National Laboratory

AS04-D4-AM2-325B-004 | AS04-A041
An Inventory of Air Pollutions from Road Transport in Thailand: Status and Trend During the Past Decade
Penwadee CHEEWAPHONGPHAN1#, Satoru CHATANI1
1National Institute for Environmental Studies

AS04-D4-AM2-325B-005 | AS04-A049
Changes in Ammonia Agricultural Emissions and Their Impact on Surface PM2.5 Pollution in China During 2005-2015
Youfan CHEN1#, Lin ZHANG1, Yuanhong ZHAO1
1Peking University

Time 13:30 - 15:30
Chair(s) Yanlin ZHANG, Nanjing University of Information Science & Technology
Qi YING, Texas A&M University

AS04-D4-PM1-325B-006 | AS04-A010 (Invited)
Unique Air Chemistry over the Dead Sea
Menachem LURIA1#
1The Hebrew University of Jerusalem

AS04-D4-PM1-325B-007 | AS04-A047 (Invited)
Fundamental Importance of Nitrogen Isotopic Fractionation During Particulate Nitrate Formation: Theoretical Calculation, Field Validation and Application in Apportioning NOx Sources
Yanlin ZHANG1#
1Nanjing University of Information Science

AS04-D4-PM1-325B-008 | AS04-A070
Change in Submicron Particle Composition and Characteristics due to Large Amount of Firecrackers Burning
Neeraj RASTOGI1#, Atinderpal SINGH1, Rangu SATISH1
1Physical Research Laboratory

AS04-D4-PM1-325B-009 | AS04-A076
Fate of Pollution Emitted During the 2015 Indonesian Fire Season
Mijeong PARK1#, Helen WORDEN1, Louisa EMMONS1, Simone TILMES1, Benjamin GAUBERT1
1National Center for Atmospheric Research

AS04-D4-PM1-325B-010 | AS04-A008
Long-Term Influence of Aerosols on Tropospheric NO2 Retrieval over China Based on OMI and TropOMI Sensors
Mengyao LIU1#, Jintai LIN4, K. Folkert BOERSMA1, Gaia PINARD1, Yang WANG1, Julien CHIMOT1, Thomas WAGNER1, Pinhua XIE1, Henk ESKES1, Van Roozendael MICHEL1, Francois HENDRICK1
1Peking University, 2Royal Netherlands Meteorological Institute, 3Royal Belgian Institute for Space Aeronomy, 4Max Planck Institute for Chemistry, 5Delft University of Technology, 6Chinese Academy of Sciences, 7Royal Dutch Meteorological Institute
**AS04-D4-PM2-325B-011 | AS04-A062 (Invited)**

Enhanced Effectiveness of NOx Control from Simultaneous Reductions of VOC and NH3 for Reducing Air Pollution in Beijing-Tianjin-Hebei Region, China

Jia XING1#+, Dian DING1
1Tsinghua University

**AS04-D4-PM2-325B-012 | AS04-A001 (Invited)**

Re-Examine the APEC Blue in Beijing 2014

Ting WANG1#+, Pucai WANG1
1Chinese Academy of Sciences

**AS04-D4-PM2-325B-013 | AS04-A053**

Modeling Studies of Haze in China: Emissions, Processes, Transport, and its Climatic Effect

Xiaoyan MA1#, Tong SHA2
1Nanjing University of Information Science, 2Nanjing University of Information Science & Technology

**AS04-D4-PM2-325B-014 | AS04-A059**

More VOC Controls are Needed in Fighting Increasing Summer Ozone in China

Qi YING1#, Peng WANG1, Hongliang ZHANG1, Jianlin HU4
1Texas A and M University, 2Texas A&M University, 3Nanjing University of Information Science & Technology

**AS04-D4-PM2-325B-015 | AS04-A023**

Design of Ambient Air Quality Monitoring Stations Based on Human Health Aspects

Vethathirir Ramanujam SRINIVASAN1, S.M. Shiva NAGENDRA1
1Indian Institute of Technology Madras

**AS04-D4-PM2-325B-016 | AS04-A011**

Study of the PM2.5 Growth Processes in Two Key Regions of China

Jinjin SUN1, Mingjie LIANG1, Jianlin HU1, Jingyi LI1, Qi YING2, Hongliang ZHANG3
1Nanjing University of Information Science & Technology, 2Texas A and M University, 3Louisiana State University

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**AS05 / The Science and Prediction of Heavy Rainfall and Floods**

Thu - 07 Jun | MR325A

**AS05-D4-AM1-325A-001 | AS05-A068 (Invited)**

Extreme Precipitation from Tropical Cyclones

Michael BELL1#
1Colorado State University

**AS05-D4-AM1-325A-002 | AS05-A079 (Invited)**

Formation of April-May-June Daily Precipitation Extreme Events in South China

Zhaoyong GUAN1#, Jingchao SUN1, Minggang LI1
1Nanjing University of Information Science & Technology

**AS05-D4-AM1-325A-003 | AS05-A020 (Invited)**

Modeling Extreme Precipitation over East China with a Global Variable-Resolution Modeling Framework (MPAS)

Chun ZHAO1#, Mingyue XU1, Yu WANG1
1University of Science and Technology of China

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**AS05-D4-AM1-325A-004 | AS05-A028**

Progress of the Southern China Monsoon Rainfall Experiment (SCMREX) in 2016-17

Yali LUO1#, Xinghua BAO1, Ling HUANG1, Zhina JIANG1, Rudi XIA1, Da-Lin ZHANG2, Jinfang YIN1, Kalli FURTADO3, Xiantong LIU4
1Chinese Academy of Meteorological Sciences, 2University of Maryland, 3Met Office, 4China Meteorological Administration

**AS05-D4-AM1-325A-005 | AS05-A074**

Sensitivity of Extreme Precipitation to SST: Case Study of Heavy Precipitation Event in Japan on 9 August 2013

Satoshi IIZUKA1#
1National Research Institute for Earth Science and Disaster Resilience
AS05-D4-AM1-325A-006 | AS05-A015

**Sensitivity of the Impact of Anthropogenic Heating on a Warm-Sector Heavy Precipitation in South China**

Shuai YANG1#, Shuwen LI1, Shouting GAO1
1Chinese Academy of Sciences

**Time**
11:00 - 12:30

**Chair(s)**
Michael BELL, Colorado State University

AS05-D4-AM2-325A-007 | AS05-A034 (Invited)

**Investigation of Beijing Extreme Flooding Event on July 21 2012**

Xiaoding YU1#
1China Meteorological Administration Training Center

AS05-D4-AM2-325A-008 | AS05-A026 (Invited)

**Diurnal Variations of Presummer Rainfall over Southern China**

Zhina JIANG1#
1Chinese Academy of Meteorological Sciences

AS05-D4-AM2-325A-009 | AS05-A045

**Convection-Permitting Simulations of Heavy Rainfall During the East Asian Summer Monsoon**

Kalli FURTADO1#, Yali LUO1, Paul FIELD1, Puxi LI1, Zhun GUO1, Tianjun ZHOU1, Xi LIU1
1Met Office, 2Chinese Academy of Meteorological Sciences, 3Institute of Atmospheric Physics, 4Chinese Academy of Sciences, 5Nanjing University of Information Science & Technology

AS05-D4-AM2-325A-010 | AS05-A011

**Topographic Effects on Spatiotemporal Variations of Short-Duration Rainfall Events in Warm Season of Central North China**

Weihua YUAN1#
1Chinese Academy of Sciences

AS05-D4-AM2-325A-011 | AS05-A049

**Application of a Convection-Permitting Ensemble Prediction System to Quantitative Precipitation Forecasts During SCMREX**

Xubin ZHANG1#
1China Meteorological Administration

AS05-D4-AM2-325A-012 | AS05-A052

**Difference Characteristics of Raindrop Size Distributions and Polarimetric Radar QPE of Three Typical Heavy Rainfall Systems During SCMREX**

Xiantong LIU1#, Lu FENG1, Wan QILIN1, Hui XIAO1
1China Meteorological Administration, 2Guangzhou Institute of Tropical and Marine Meteorology
AS07 / Behavior of Monsoon in the Current and Future Climate: Comparisons Among Different Monsoon Regions
Thu - 07 Jun  |  MR326A

Time 08:30 - 10:30
Chair(s) Lin WANG, Chinese Academy of Sciences

AS07-D4-AM1-326A-015 | AS07-A037
A Unique Feature of the Asian Summer Monsoon Response to Global Warming: The Role of Different Land-Sea Thermal Contrast Change Between the Lower and Upper Troposphere
Hirokazu ENDO1#+, Akio KITOH2, Hiroaki UEDA3
1Japan Meteorological Agency, 2Japan Meteorological Business Support Center, 3University of Tsukuba

AS07-D4-AM1-326A-016 | AS07-A046
Characteristics of Bay of Bengal Monsoon Depressions in the 21st Century
Moetasim ASHFAQ1#+, Deeksha RASTOGI2, L. Ruby LEUNG3, Subimal GHOSH4, Anamitra SAHA4, Kevin HODGES5, Kate EVANS2
1UT-BATTELLE, 2Oak Ridge National Laboratory, 3Pacific Northwest National Laboratory, 4Indian Institute of Technology Bombay, 5University of Reading

AS07-D4-AM1-326A-017 | AS07-A009
Changes of the Transitional Climate Zone in East Asia: Past and Future
Lin WANG1++, Wen CHEN1, Gang HUANG1, Gang ZENG2
1Chinese Academy of Sciences, 2Nanjing University of Information Science & Technology

AS07-D4-AM1-326A-018 | AS07-A010
How Autumn Eurasian Snow Anomalies Affect East Asian Winter Monsoon: A Numerical Study
Xiao LUO1++, Bin WANG2
1International Pacific Research Center, University of Hawaii, 2University of Hawaii
AS18-02-OS / Climate Change, Tropical Climatic Hazards in Asia Oceania and Societal Applications of Atmospheric and Oceanic Regional Models
Thu - 07 Jun  |  MR326A

**Potential Impact of Ocean Circulation on the Declining Japanese Eel Catches**
Yu-Lin CHANG1#
1Japan Agency for Marine-Earth Science and Technology

**High-Resolution Model of Kuroshio Influence on Coastal Area Around Sukumo Bay**
Toru MIYAMA1#, Sergey VARLAMOV1, Yushi MORIOKA1, Yasumasa MIYAZAWA1
1Japan Agency for Marine-Earth Science and Technology

**A High Resolution Regional Reanalysis for the Arabian Peninsula**
Hariprasad DASARI1#, Yeshababu VISWANADHAPALLI1, Srinivas DESAMSETTI1, Sabique LANGODAN1, Raju ATTADA1, Ibrahim HOTEIT1
1King Abdullah University of Science and Technology, 2National Atmospheric Research Laboratory

**Decadal Variability of Indo-Pacific Climate as Revealed by Kernel Methods**
Joanna SLAWINSKA1#*, Dimitris GIANNAKIS2
1University of Wisconsin-Milwaukee, 2New York University

**Weather Conditions Relevant to Air Quality During the Heat Waves in Taiwan**
Mien-Tze KUEH1###, Chuan-Yao LIN1, Chi-Yu LIN3, Chu-Yun PENG3
1Academia Sinica, 2Ministry of Health and Welfare, 3National Taiwan University

**Regional Climate Studies with Dynamical Downscaling to Generate Information at Some Cities in India**
Sushil Kumar DASH1#
1Indian Institute of Technology Delhi

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AS21 / Sub-seasonal to Seasonal Forecasting of High-impact Weather and Climate Events
Thu - 07 Jun  |  MR326A

**An Assessment of Seasonal Predictability of Blocking and Tropical Cyclone Activities Using a Large Ensemble Simulation of Atmospheric General Circulation Model with Prescribed Sea Surface Temperature and Sea Ice**
Masahide KIMOTO1#*, Joutaro CHIBA1
1The University of Tokyo

**Eastern Canada Flooding 2017 and its Subseasonal Predictions**
Hai LIN1#*, Frederic VITART2, Ruping MO3, Cristiana STAN3
1Environment and Climate Change Canada, 2European Centre for Medium-Range Weather Forecasts, 3George Mason University

**Predictability and Prediction of the Total Number of Winter Extremely Cold Days over Temperate East Asia and China**
Xiao LUO1#*, Bin WANG1#
1International Pacific Research Center, University of Hawaii, 2University of Hawaii

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AS21-D4-AM2-326A-007 | AS18-02-OS-A014
Spatial Distribution, Temporal Variation, and Transport Characteristics of Atmospheric Water Vapor over Central Asia and the Arid Region of China
Guan XUEFENG1#
1Institute of Desert Meteorology, China Meteorological Administration

AS18-02-OS-D4-PM2-326A-008 | AS18-02-OS-A016
Study on Atmospheric Circulation Characteristics of Precipitation Anomalies in Arid Region of Central Asia
Lianmei YANG1#
1China Meteorological Administration
AS21-D4-PM1-326A-005 | AS21-A004 (Invited)
Impact of Initial Land Surface Conditions on Seasonal Forecast Skill over Australia
Mei ZHAO1++, Eun-Pa LIM1, Huqiang ZHANG1, Imtiaz DHARSSI1
1Bureau of Meteorology

AS21-D4-PM1-326A-006 | AS21-A013 (Invited)
Abrupt Termination of the 1997/1998 El Nino by an MJO Represented with an Ocean-Coupled NICAM (NICOCO)
Tomoki MIYAKAWA1++, Hisashi YASHIRO2, TatsuSUZUKI1, Hiroaki TATEBE1, Masaki SATOH1
1The University of Tokyo, 2RIKEN Advanced Institute for Computational Science, 3Japan Agency for Marine-Earth Science and Technology

AS21-D4-PM1-326A-007 | AS21-A018
Understanding the Predictability of Short-Term Climate Simulations of African Easterly Waves Using a Global Mesoscale Model and Idealized Lorenz Model
Bo-Wen SHEN1++
1San Diego State University

AS21-D4-PM1-326A-008 | AS21-A012
Concept Study on Seasonal Prediction of Meteorological Droughts Using the Comparative Standardized Precipitation Index
Akira HASEGAWA1++, Maksym GUSYEV1
1Public Works Research Institute, 2the University of Tokyo

AS21-D4-PM1-326A-009 | AS21-A010
A Development of Weeks 3 and 4 Forecast Through the NCEP GEFS
Xiaqiong ZHOU1++, Yuejian ZHU1, Wei LI1, Bing FU1, Dingchen HOU1
1National Oceanic and Atmospheric Administration

AS21-D4-PM1-326A-010 | AS21-A001
Skill of the BCC S2S System in Predicting the Subseasonal Rainfall over China in Summer and Bias Correction
Anning HUANG1++
1Nanjing University

AS23 / Observation, Modeling, Theory and Climatology of Mesoscale Processes
Thu - 07 Jun | MR303B

AS23-D4-PM1-303B-001 | AS23-A008 (Invited)
Self-Organization of Tropical Convection by Gravity Waves
Todd LANE1++, Fuqing ZHANG2
1The University of Melbourne, 2ARC Centre of Excellence for Climate Extremes

AS23-D4-PM1-303B-002 | AS23-A010 (Invited)
Convective Triggering and Organization Through Colliding Outflow Boundaries and Vortex Merger in the Lee of a Mesoscale Mountain Ridge
Liye LI1++, Zhiyong MENG1, lanqiang BAI2
1Foshan Tornado Research Center, 2Peking University

AS23-D4-PM1-303B-003 | AS23-A027
Damage Survey and Radar Characteristics of a Violent Tornado on Complex Terrain in North China
Huiqin HU1++
1Ocean University of China

AS23-D4-PM1-303B-004 | AS23-A018
Impact of High-Frequency Observations on Fog Forecasting: A Case Study of OSSE
Kwang-Deuk AHN1, Seungbo CHOI1++
1Korea Meteorological Administration, 2National Institute of Meteorological Research

AS23-D4-PM1-303B-005 | AS23-A012
Application of a Regional Ocean-Atmosphere-Wave Coupled Model on Predicted Wind Field Cases in the Northwest Pacific Ocean
Linlin QI1++
1Beijing Aviation Meteorological Institute

AS23-D4-PM1-303B-006 | AS23-A024
Verification for Numerical Models Participated ICE-POP 2018
Seungbo CHOI1++, Kwang-Deuk AHN2
1Korea Meteorological Administration, 2National Institute of Meteorological Research
A Machine Learning Nowcasting Method Based on Real-Time Reanalysis Data
Lei HAN1,2, Juanzhen SUN3, Wei ZHANG4
1Ocean University of China, 2National Center for Atmospheric Research

Time 16:00 - 18:00
Chair(s) Yileng CHEN, University of Hawaii at Manoa
Todd LANE, The University of Melbourne

What are the Most Important Causes of Precipitation Diurnal Cycles Along Meiyu Rainband and Sichuan Basin of China?
Ming XUE1,2
1University of Oklahoma, 2Nanjing University

The Statistics of Warm Sector Rainstorms over the South of Middle and Lower Reaches of the Yangtze River and its Organizational Modes of Mesoscale Convective Systems
Yun CHEN1,2, Lingyao WANG1, Shengqi LI1
1China Meteorological Administration, 2Chengdu University of Information Technology, 3Nanjing University of Information Technology

Heavy Rainfall Associated with Double Low-Level Jets over Southern China
Yu DU1,2, Guixing CHEN1
1Sun Yat-sen University

Characteristics of the Marine Boundary Layer Jet over the South China Sea During the Early Summer Rainy Season of Taiwan
Chuan-Chi TU1,2, Yi-Leng CHEN1, Pay-Liam LIN1, Yu DU3
1National Central University, 2University of Hawaii at Manoa, 3Sun Yat-sen University

Characteristics of Coastal Low-Level Jets in Bohai Sea of China During Early Warm Season
Fan ZHANG1, Qinghong ZHANG4
1Peking University

Initiation of Elevated Convection in a Noctual Squall Line Along Meiyu Front
Qinghong ZHANG1
1Peking University

Numerical Simulations of Local Heavy Afternoon Rainfall Events over Central Oahu Under Weak Wind Conditions During the Warm Season
Feng HSIAO1,2, Yi-Leng CHEN1
1University of Hawaii at Manoa

Factors Leading to Extreme Precipitation on Dominica from Tropical Storm Erika (2015)
Alison D. NUGENT1, Rosimar RIOS-BERRIOS2
1University of Hawaii at Manoa, 2National Center for Atmospheric Research

Tidal and Planetary Wave Mode Coupling in the Mesosphere and Lower Thermosphere
Patrick ESPY1,2, Nora STRAY3, Robert HIBBINS1,2
1Norwegian University of Science and Technology, 2University of Bergen, 3Teknova AS

Variation of Atmospheric Stability Parameters Measured by Na Lidar at Andes Lidar Observatory
Alan LIU1,2, Fan YANG1, Yafang GUO1, Fabio VARGAS1
1Embry-Riddle Aeronautical University, 2National Institute of Polar Research, 3University of Illinois at Urbana-Champaign

The Buckland Park Rayleigh Lidar: Description and Early Results
Iain REID1,2, Jens LAUTENBACH3, Andrew MACKINNON4, Andrew KLEKOCIUK1, Liam TWIGGER2, David OTTAWAY2
1ATRAD Pty Ltd, 2University of Adelaide, 3Arecibo Observatory, 4Australian Antarctic Division
AS30-D4-AM1-319A-004 | AS30-A021

Observations of Deep Mountain Waves over New Zealand
During the Deepwave Airborne and Ground-Based Measurement Program

Dave FRITTS1+, Biff WILLIAMS1, Katrina BOSSERT1, Mike TAYLOR2, P. Dominique PAUTET2, Stephen D. ECKERMANN3, Christopher KRUSE4, Ron SMITH4, Iain REID5+, Damian MURPHY5
1GATS Inc., 2Utah State University, 3Naval Research Laboratory, 4Yale University, 5ATRAD Pty Ltd, 6University of Adelaide, 7Australian Antarctic Division

AS30-D4-AM1-319A-005 | AS30-A012 (Invited)

Recent Scientific and Engineering Results from the PANSY Radar in the Antarctic

Taishi HASHIMOTO2+, Koji NISHIMURA2, Masaki TSUTSUMI2, Toru SATO1, Kaoru SATO3
1Kyoto University, 2National Institute of Polar Research, 3The University of Tokyo

AS30-D4-AM1-319A-006 | AS30-A004

Vertical Diffusion Transport of Atomic Oxygen in the Mesopause Region Consistent with Chemical Losses and Continuity: Global Mean and Inter-Annual Variability

Gary SWENSON1+, Fabio VARGAS1, Jeng-Hwa YEE2, Alan LIU3
1University of Illinois at Urbana–Champaign, 2The Johns Hopkins University Applied Physics Laboratory, 3University of Bergen

AS30-D4-AM1-319A-007 | AS30-A001

Effects of the Atmospheric Temperature Structure on the Rotational Distribution of the High Vibrational Levels of the Hydroxyl Airglow

Christoph FRANZEN1+, Patrick ESPY1, Robert HIBBINS1, Amanda DJUPVIK2
1Norwegian University of Science and Technology, 2University of Bergen, 3Nordic Optical Telescope

AS30-D4-AM1-319A-008 | AS30-A014

Temporal and Spatial Variability of Atomic Oxygen and Atomic Hydrogen in the Mesosphere and Lower Thermosphere Observed by SABER/TIMED

Jeng-Hwa YEE1+
1The Johns Hopkins University Applied Physics Laboratory

AS30-D4-AM2-319A-009 | AS30-A006 (Invited)

Empirical Values of Branching Ratios in the Three-Body Recombination Reaction for O(1S) and O2(0,0) Airglow Chemistry

Yolian AMARO-RIVERA1+, Tai-Yin HUANG2, Julio URBINA3, Fabio VARGAS4
1Pennsylvania State University, 2Penn State Lehigh Valley, 3University of Illinois at Urbana–Champaign

AS30-D4-AM2-319A-010 | AS30-A010

Simulation Study for Sensing the Middle and Upper Atmosphere Using the Molecular and Atomic Oxygen Lines Selected for SMILES-2

Philippe BARON1+, Satoshi OCHIHA1, Richard LARSSON2, Hideo SAGAWA3, Makoto SUZUKI3, Masato SHIOTANI1
1National Institute of Information and Communications Technology, 2Mac Planck Institute for Solar System Research, 3Kyoto Sangyo University, 4Japan Aerospace Exploration Agency

AS30-D4-AM2-319A-011 | AS30-A011 (Invited)

Satellite Observation of the Whole Atmosphere - Superconducting Submillimeter-Wave Limb-Emission Sounder (SMILES-2)

Masato SHIOTANI1+, A. SAITO1, Satoshi OCHIHA3, Takatoshi SAKAZAKI1, Philippe BARON3, Takumi ABE3
1Kyoto University, 2National Institute of Information and Communications Technology, 3Japan Aerospace Exploration Agency

AS41 / Extreme Weather Resiliency: Prediction and Response Strategies

Thu - 07 Jun | MR302B

Time 08:30 - 10:30
Chair(s) Pay-Liam LIN, National Central University
Chris THORNCROFT1++, Macy HOWARTH1, Lance BOSART1
1University at Albany, State University of New York

Future Change in Spring Drought and its Impact on Water Resource in Taiwan
Huang-Hsiung HSU1,², Chun-Hsiung WENG1, Ping-Gin CHIU1, Chuan-Yao LIN1, Tzu-Ming LIU2
1Academia Sinica, ²National Science and Technology Center for Disaster Reduction

Heat Stress Changes over East Asia Under 1.5°C and 2°C Global Warming Target
Sang-Min LEE1,², Seung-Ki MIN1
1Pohang University of Science and Technology

Analysis and Simulations of a Heavy Rainfall Event over Northern Taiwan During 11-12 June 2012
Yi-Leng CHEN1++, Pay-Liam LIN²
1University of Hawaii at Manoa, ²National Central University

A Comparison Study of Summer Season Raindrop Size Distribution Between Palau and Taiwan, Two Islands in Western Pacific
Pay-Liam LIN1,², Balaji Kumar SEELA1,², Jayalakshmi JANAPATI1, Krishna Reddy KRISHNAREDDIGARIP, Pao WANG1,²
1National Central University, ²Academia Sinica, ³Yogi Vemana University, ⁴University of Wisconsin-Madison

On the Predictability of Hurricane Irma’s Precipitation Forecasts During Landfall
Ryan TORN1++, Rosa VARGAS MARTES1
1University at Albany, State University of New York

Investigation of the Sensitivity of Very Short-Term Extreme Precipitation Forecast in Taiwan by a WRF-Based Convective-Scale Assimilation System: A Case Study of the Afternoon Thunderstorm on 16 June 2008
Hsiang-Wen CHENG1++, Shu-Chih YANG2, Ching-Sen CHEN1
1National Central University

Cell Merger Processes in the Afternoon Thunderstorm Event at Taipei on 14 June 2015
Jyong-En MIAO1, Ming-Jen YANG1
1National Taiwan University

On the Predictability of Hurricane Irma’s Precipitation Forecasts During Landfall
Ryan TORN1++, Rosa VARGAS MARTES1
1University at Albany, State University of New York

Application of a High-Resolution Global Model to Forecast of Typhoons Impinging Taiwan
Ching-Yuang HUANG1
1National Central University
Examining the Predictability of the Extreme Precipitation Event in Taiwan During 1-3 June 2017 Using the Convective-Scale Ensemble Prediction

Hsiang-Wen CHENG1#, Shu-Chih YANG1+, Kevin LUPO2, Ryan TORN2, Ching-Sen CHEN1
1National Central University, 2University at Albany, State University of New York

Identifying Non-Meteorological Signal Using Modified Fuzzy-Logic Algorithm with Objectively Derived Weighting Matrix

Ju-Yu CHEN1#, Wei-Yu CHANG2, Ke-Xin LU1, Yu-Chieng LIOU3, Tai-Chi CHEN WANG1
1National Central University, 2Chinese Culture University

A Comparison Study of Tropical Cyclones Raindrop Size Distribution Characteristics Between Indian and Pacific Ocean

Balaji Kumar SEELA2, Jayalakshmi JANAPATI1, Pay LIAM1+, Pao WANG2, Krishna Reddy KRISHNAREDDIGIARI1, Chi-Huei TSENG3, Lei FENG4, T. N. RAO1
1National Central University, 2Academia Sinica, 3University of Wisconsin-Madison, 4Yogi Vemana University

Numerical Simulation of the Aerosol Impacts on a Winter Storm in Upstate New York Using a WRF-SBM Model

Qilong MIN1#, Yuyi DU1
1University at Albany, State University of New York

Analysis of Using Different Microphysics Schemes for Ensemble Forecasts During SoWMEX-IOP8

Chin-Hung CHEN1+, Kaoshen CHUNG1, Shu-Chih YANG2
1National Central University

Numerical Simulation of the Orographic Influences on a Winter Storm in Upstate New York from a Microphysics Perspective

Yuyi DU1+, Qilong MIN1
1University at Albany, State University of New York

Challenges and Progress on the Assimilation of Satellite Hyperspectral Infrared Sounder Data in Cloudy Skies in Numerical Weather Prediction Models

Jun LI1#
1University of Wisconsin-Madison

Evaluation and Assimilation of FY-4A Data in Grapes

Wei HAN1#
1National Central University

A Study on Bias Characterization of Himawari-8/AHI Clear Sky Radiance Using RTTOV and CRTM

Inchul SHIN1+, Boram KIM2, Chu-Yong CHUNG2, Seonkyun BAEK1
1Korea Meteorological Administration

Added Value of Assimilating Himawari-8 AHI Water Vapor Radiances on Analyses and Forecasts for Beijing “7.19” Severe Storm

Zhiquan LIU1#, Yuanbing WANG2
1National Center for Atmospheric Research, 2Nanjing University of Information Science & Technology

Preliminary Evaluation and Assimilation of All-Sky Infrared Radiances of Himawari-8 in the Regional and Global Data Assimilation System at JMA

Kozo OKAMOTO1#, Yohei SAWADA1, Masaru KUNII1, Tempei HASHINO1, Takeshi IRIGUCHI1, Masayuki NAKAWAGA1
1Japan Meteorological Agency, 2Kyushu University

Development of a Total Precipitable Water (TPW) Retrieval Algorithm Using Artificial Neural Network (ANN) for Short-Term Severe Weather Forecasting

Yeonjin LEE1#, Myoung Hwan AHN1, Su Jeong LEE1
1Ewha Womans University
Impacts of Sequential Data Assimilation of Microwave Brightness Temperature on Rainfall Prediction in Meso-Scale Numerical Weather Simulation
Kenji TANIGUCHI1#+
1Kanazawa University

Time 11:00 - 12:30
Chair(s) Myoung Hwan AHN, Ewha Womans University

Dust-Contaminated IR Radiance Impact on Data Assimilation for NWP
Jared MARQUIS1++, Mayra OYOLA2, James CAMPBELL1, Ben RUSTON3, Travis TOTH3, Jianglong ZHANG3
1University of North Dakota, 2American Society for Engineering Education, 3Naval Research Laboratory

Forecasts of Asian Dust Storms Using Geostationary Satellite Data and a Regional Model
Kyoung-Min KIM1++, Si-Wan KIM1, Myungie CHO1, Mijin KIM1, Hyunkwang LIM1, Jhoon KIM1
1Yonsei University

The Assimilation of FY-3C GNOS GPS Radio Occultation Observations within Grapes 3D-Var: Assimilation Experiments and Forecast Impact
Jincheng WANG1++, 2China Meteorological Administration

Spatial Distribution and Temporal Variation of OMI Retrieved SO2 and NO2 and Aqua/MODIS AOD over East Asia
Chin-An LIN1++, Chian-Yi LIU2
1Academia Sinica, 2National Central University

Impact of Snow Cover in Western and Central China on Boreal Winter Blocking
Yeon-Woo CHO1++, Joong-Bae AHN1
1Pusan National University

Influence of Boreal Summer Blocking on Circulation in East Asia
Ha-Gyu JEONG1++, Yong-Jun PARK1, Yeon-Woo CHOP1, Chan-Yeong SONG1
1Pusan National University
AS45 / Middle Atmosphere Science
Thu - 07 Jun | MR319A

Time 13:30 - 15:30
Chair(s) Hye-Yeong CHUN, Yonsei University
Zeyu CHEN, Chinese Academy of Sciences

What Do We Really Know About the QBO Behavior over the Last 150 years?
Kevin HAMILTON, Takatoshi SAKAZAKI
International Pacific Research Center, Kyoto University

Influences of the 11-Year Sunspot Cycle and Polar Vortex Oscillation on the Observed Winter Temperature Variations in China
Chunhui LU
China Meteorological Administration

Hindcasts of the 2016 Disruption of the Stratospheric Quasi-Biennial Oscillation
Shingo WATANABE, Kevin HAMILTON, Scott OSPREY, Yoshio KAWATANI, Eriko NISHIMOTO
Japan Agency for Marine-Earth Science and Technology, International Pacific Research Center, University of Oxford

The Radiative Impacts of Precipitating Ice Hydrometeors on Tropical Atmosphere over the Pacific in the Warmer Climate
Chao-An CHEN, Jui-Lin (Frank) LI, Wei-Liang LEE, Huang-Hsiung HSU, Mark RICHARDSON, Jia-Yuh YU
Academia Sinica, Jet Propulsion Laboratory, California Institute of Technology, National Central University

A Case Study of Mass Transport Associated with the East-West Oscillation of the Asian Summer Monsoon Anticyclone
Jiali LUO
Lanzhou University

Role of Finite-Amplitude Wave Activity and Mixing in Eddy Forcing During Stratospheric Sudden Warming
Sandro LUBIS, Clare HUANG, Noboru NAKAMURA
University of Chicago
Time 16:00 - 18:00
Chair(s) Zeyu CHEN, Chinese Academy of Sciences
Hye-Yeong CHUN, Yonsei University

AS45-D4-PM2-319A-007 | AS45-A015 (Invited)
The Quasi-Biennial Oscillation Modulation by the El Nino Southern Oscillation
Yoshio KAWATANI1, Kevin HAMILTON2, Kaoru SATO3, Shingo WATANABE1, Tim DUNKERTON4, Kazuyoshi KIKUCHI5
1Japan Agency for Marine-Earth Science and Technology, 2International Pacific Research Center, 3The University of Tokyo, 4NorthWest Research Associates, 5University of Hawaii at Manoa

AS45-D4-PM2-319A-008 | AS45-A039
Thorough Survey of Zonal Mean Influence of the Stratospheric QBO on the Tropospheric Circulations and Moist Convection
Shigeo YODEN1, Eriko NISHIMOTO2
1Kyoto University, 2Japan Agency for Marine-Earth Science and Technology

AS45-D4-PM2-319A-009 | AS45-A026
Impact and Predictability of Antarctic Stratosphere-Troposphere Coupling
Eun-Pa LIM1, Harry HENDON1
1Bureau of Meteorology

AS45-D4-PM2-319A-010 | AS45-A030
Responses of Quasi-2-Day Waves in the MLT Region to the 2013 SSW Revealed by a Meteor Radar Chain
Yun GONG1, Zheng MA1, Shaodong ZHANG1, Qihou ZHOU2, Chunming HUANG1, Kaiming HUANG1, You YU3, Guozhu LI3, Baiqi NING3
1Wuhan University, 2Miami University, 3Chinese Academy of Sciences

AS45-D4-PM2-319A-011 | AS45-A035
Characteristics and Sources of Inertia-Gravity Waves Revealed in Operational Radiosonde at Jang Bogo Station (JBS), Antarctica
Ji-Hee YOO1, Taemin CHO1, Hye-Yeong CHUN1, Young-Ha KIM1, In-Sun SONG2, Byeong-Gwon SONG3
1Yonsei University, 2Korea Polar Research Institute, 3Ewha Womans University

AS45-D4-PM2-319A-012 | AS45-A012
Discovery of a Lunar Air Temperature Tide over the Ocean: A Diagnostic of Air-Sea Coupling
Takatoshi SAKAZAKI1, Kevin HAMILTON2
1Kyoto University, 2International Pacific Research Center

AS45-D4-PM2-319A-013 | AS45-A032
Three-Dimensional Structure of Planetary and Gravity Wave Forcing During the Evolution of the January 2009 Stratospheric Sudden Warming Revealed in MERRA
Byeong-Gwon SONG1, Hye-Yeong CHUN1
Yonsei University

AS50 / Interactions Between Indo-pacific Ocean and Asian Monsoon
Thu - 07 Jun  | MR303A
Time 13:30 - 15:30
Chair(s) Jianping LI, Beijing Normal University
Yun QIU, State Oceanic Administration
Lin LIU, State Oceanic Administration

AS50-D4-PM1-303A-001 | AS50-A012
A Decadal Drought Event in Southwest China Associated with Asia Monsoon Anomaly and Global Warming
Xingang DAI1
Chinese Academy of Sciences

AS50-D4-PM1-303A-002 | AS50-A013
Integrated Research Project on the Collaborative Influences of Atmosphere-Land Coupling over the Tibetan Plateau and Oceans
Yimin LIU1
Chinese Academy of Sciences

AS50-D4-PM1-303A-003 | AS50-A015
Modulation of Tropical Cyclone Activities over the Western North Pacific by the Intra-Seasonal Indo-Western Pacific Convection Oscillation During the Boreal Extended Summer
Qiuyun WANG1, Jianping LP, Yanzhe LF, Jiaqing XUE2, Yazhou ZHANG2, Yidan XU2, Yuehong WANG2, Jiayu ZHENG3, Jingwen ZHANG3
1Beijing Normal University, 2Chinese Academy of Sciences, 3Second Institute of Oceanography, 4Chendu Meteorological Bureau

AS50-D4-PM1-303A-004 | AS50-A010
Intraseasonal Variability of Ocean Temperatures in the Bay of Bengal and South China Sea Forced by the 30–60-Day Boreal Summer Atmospheric Intraseasonal Oscillation
Jiangyu MAO1
Chinese Academy of Sciences
Onset Processes of Summer Cross-Equatorial Flows over the Eastern Hemisphere and Their Connection to the Asian Summer Monsoon
Xue HAN1#*
1National Marine Environmental Forecasting Center

The Impact of Layer Perturbation Potential Energy on the East Asian Summer Monsoon
Jianping LI1#, Lidou HUYAN2, Sen ZHAO3, Cheng SUN3, Di DONG2, Ting LIU2, Yuefei ZHAO3
1Beijing Normal University, 2Chinese Academy of Sciences, 3University of Hawaii at Manoa

Change in Coherence of Interannual Variability of Summer Rainfall over the Western Pacific Around the Early 2000s: Role of Indo-Pacific Ocean Forcing
Zhuoqi HE1#*, Renguang WU3, Weiqiang WANG3
1Chinese Academy of Sciences

Indian Ocean Warming and East Asian Atmospheric Rivers in Post El Niño Summer
Youichi KAMAE4, Mei MEF, Shang-Ping XIE4, Moeka NAOI1, Hiroaki UEDA1
1University of Tsukuba, 2University of North Carolina at Chapel Hill, 3University of California San Diego

Responses of Near-Inertial Motions in the Upper Layer of Central Bay of Bengal to Monsoon Transition
Shanwu ZHANG1#*, Yun QIU1, Fuwen QIU1, Jing CHA1, Junqiang SHEN1
1State Oceanic Administration, 2Third Institute of Oceanography, State Oceanic Administration

Sea Surface Temperature Anomalies in the South China Sea During Mature Phase of ENSO
Fuwen QIU1#*, Ai-Jun PAN1, Shanwu ZHANG1, Jing CHA1
1State Oceanic Administration

The Asymmetric Influence of the Positive and Negative IOD Events on China’s Rainfall
Yun QIU1#*, Wenju CAI3
1Third Institute of Oceanography, State Oceanic Administration, 2Ocean University of China and Qingdao National Laboratory for Marine Science and Technology, 3Commonwealth Scientific and Industrial Research Organisation

Impact of the South China Sea Summer Monsoon on the Indian Ocean Dipole
Yazhou ZHANG1#*, Jianping LI1, Jiaqing XUE1, Juan FENG1, Yidan XU1, Yuehong WANG1, Qiuyun WANG1
1Beijing Normal University, 2Chinese Academy of Sciences

Simultaneous Use of Successive Orders and Discrete Ordinates Methods in the Radiative Transfer Applications
Sergey KORKIN1#*, Alexei LYAPUSTIN2
1Universities Space Research Association GESTAR, 2NASA Goddard Space Flight Center

Impact of Radiation-Topography Interaction on Surface Energy Budget over the Tibetan Plateau in GCM Simulations
Wei-Liang LEE1#*, Kuo-Nan LIOU2, Yu GU2, Chia-Chi WANG3, Huang-Hsiung HSU1
1Academia Sinica, 2University of California, Los Angeles, 3Chinese Culture University

Prediction of Time Series Pattern of Surface Solar Irradiance Using Cloud Properties Derived from Satellite Observation
Takeshi WATANABE1#*, Kuo-Nan LIOU2, Yu GU2, Chia-Chi WANG3, Huang-Hsiung HSU1
1Academia Sinica, 2University of California, Los Angeles, 3Chinese Culture University

Spectral Decomposition of Cloud Radiative Effect and Cloud Radiative Feedbacks
Xianglei HUANG1#*, Xiuhong CHEN1, Qing YUE2
1University of Michigan, 2Jet Propulsion Laboratory, California Institute of Technology
Zhao-Cheng ZENG, Chao LIU, Tianhao LE, Vijay NATRAJ, Stanley SANDER, Yuk YUNG
1California Institute of Technology

Reconstruction of a Deep Convective Cloud’s Outer Shape Using MISR/Terra Data and Simplified 3D Radiative Transfer
Anthony DAVIS, Guillaume BAL, Celine CORNET, David DINER
1Jet Propulsion Laboratory, California Institute of Technology, 2University of Chicago, 3Université Lille 1

AS56 / Haze: Chemistry, Physics, Meteorology, Emissions, Climate, Processing, Fog, and More. Looking Across Spatial Scales from Regional to Global
Thu - 07 Jun | MR326B

Air Pollution - Boundary Layer - Weather Interactions in Asia
Aijun DING, Xin HUANG, Congbin FU
1Nanjing University

Pre-Industrial Age Atmospheric Carbonyl Sulfide Studied by 1-D Photochemical Model
Sebastian DANIELACHE, Masumi SHINKAI, Gen IWAMA
1Sophia University

Surface Energy Budget Observed over a Winter Wheat Field in the North China Plain During a Foggy Haze Event in 2016-2017 Winter
Zhiqiu GAO
1Nanjing University of Information Science & Technology

Microstructures and Temporal Variation Characteristics During a Sea Fog Event Along the West Coast of the Taiwan Strait
Shuxian FAN
1Nanjing University of Information Science & Technology

Spatiotemporal Ozone Characteristics at Urban, Suburban, and Rural Sites of Shenzhen
Dian HUANG, Qinglan LI, Deli WANG, Shuxin WANG, Guangxin LI, Xiaoxue WANG, Liqun SUN
1Chinese Academy of Sciences, 2Shenzhen Meteorological Bureau

Decadal Variability in the Occurrence of Wintertime Haze in Central Eastern China Tied to the Pacific Decadal Oscillation
Sen ZHAO, Jianping LI, Cheng SUN
1University of Hawaii at Manoa, 2Nanjing University of Information Science & Technology, 3Beijing Normal University

Recent Intensification of Winter Haze in China Linked to Foreign Emissions and Meteorology
Yang YANG, Hailong WANG, Steven SMITH, Rudong ZHANG, Sijia LOU, Yun QIAN, Po-Lun MA, Philip RASCH
1Pacific Northwest National Laboratory

The Impact of Future Energy Use on Regional Air Quality in Southeast Asia
Hsiang-He LEE, Oussama IRAQUI, Chien WANG
1Singapore-MIT Alliance for Research and Technology, 2National Institute of Applied Science of Lyon, 3Massachusetts Institute of Technology

AS56-D4-AM1-326B-009 | AS56-D4-AM1-326B-010

Satellite View of Aerosols over India: Implications for Air Quality and Climate
Falguni PATADIA, Robert LEVY, Pawan GUPTA, Lorraine REMER
1NASA GSFC / MSU, 2NASA Goddard Space Flight Center, 3Universities Space Research Association, 4University of Maryland, Baltimore County, 5Airphoton LLC

Insights into the Climatological Boundary Layer Height in China and its Association with Aerosol Pollution: A Radiosonde Perspective
Jianping GUO
1Chinese Academy of Meteorological Sciences

Recent Decadal Increase in the Occurrence of Wintertime Haze in Central Eastern China Tied to the Pacific Decadal Oscillation
Sen ZHAO, Jianping LI, Cheng SUN
1University of Hawaii at Manoa, 2Nanjing University of Information Science & Technology, 3Beijing Normal University

Recent Intensification of Winter Haze in China Linked to Foreign Emissions and Meteorology
Yang YANG, Hailong WANG, Steven SMITH, Rudong ZHANG, Sijia LOU, Yun QIAN, Po-Lun MA, Philip RASCH
1Pacific Northwest National Laboratory
Agricultural Burning and Air Quality over Northern India: A Satellite Perspective
Hiren JETHVA1#+, Pawan GUPTA2,3, Omar TORRES3, Falguni PATADIA3, Duli CHAND5
1Universities Space Research Association/NASA Goddard Space Flight Center, 2Universities Space Research Association, 3NASA Goddard Space Flight Center, 4NASA GSFC / MSU, 5Pacific Northwest National Laboratory

Variability of Particulate Matter Concentrations During Dense Winter Fog Period in Northeastern Pakistan
Imran SHAHID1#, Farrukh CHISHTIE1, Muhammad SHAHID2
1Institute of Space Technology, 2Qatar Energy and Environment Research Institute

Deducing Polluted Asian Aerosol Chemical, Optical, and Source Properties Using Decadal Scale Aeronet Measurements and a MIE Model
Shengjun XI1#+, Jason COHEN1
1Sun Yat-sen University

Increased Frequency of Beijing Winter Severe Haze Events Contributed by Greenhouse Warming
Hong LIAO3,4
3Nanjing University of Information Science and Technology

Impacts of High Time and Spatial Frequency Multi-Satellite Constrained Aerosol and Precursor Emissions Using CAM5
Ruoyu LAN1+, Jason COHEN1
1Sun Yat-sen University

OMI Observation of SO2 Transport from East Asia
Yan ZHANG2,3
1Earth System Science Interdisciplinary Center, UMD, 2Atmospheric Chemistry and Dynamics Laboratory

Emissions and Deposition of Atmospheric Reactive Nitrogen over China
Lin ZHANG1+, Youfan CHEN3, Yuanhong ZHAO4
1Peking University

Decadal Surface Deposition Measurements, Reanalysis Meteorology, and Remotely Sensed Measurements to Constrain the Impacts of Asian Haze on the Environment
Quyang CHEN1+, Jason COHEN1
1Sun Yat-sen University

Global Quantification of Haze Sources Using a Top-Down Approach Based on MOPITT, MISR, AERONET, CALIOP, and the CESM Model
Chuyong LIN1#, Jason COHEN1
1Sun Yat-sen University

Climate and Health Impacts of Globalizing Air Pollution
Jintai LIN1+, Qiang ZHANG2, Dabo GUAN3, Steven DAVIS4, Yi HUANG5, Kebin HE2, Da PAN6, Ruijing NF, Dan TONG3, Hongyan ZHAO2
1Peking University, 2Tsinghua University, 3University of East Anglia, 4University of California, Irvine, 5McGill University, 6Princeton University

The Complex Coupling Between Urbanization, Agricultural Intensification and the Indian Monsoons
Dev NIYOGI1#
1Purdue University
The Impacts of Various Environments Factors and Management Strategies on Food Crops in the South and Southeast Asia Region
Atul JAIN1, Tzu-Shun LIN1
1University of Illinois at Urbana-Champaign

Observed Vegetation-Climate Feedbacks on the Asian-Australian Monsoon Systems
Yan YU1
1Jet Propulsion Laboratory, California Institute of Technology

Delhi SMOG of 2016: Role of Local Emissions, Crop Residue Burning and Monsoon Circulation
Ravi SAWLANI1, Rajesh AGNIHOTRI1, C. SHARMA1, Prabir PATRA23, A. P. DIMRI1, Kirpa RAM5, Ramila VERMAa
1National Physical Laboratory, 2Japan Agency for Marine-Earth Science and Technology, 3Tohoku University, 4Jawaharlal Nehru University, 5Banaras Hindu University, 6Asian Institute of Technology

Interannual Variation in Sinking Particle Flux in the East Sea in Relation with Climate Variability
Minkyoung KIM1++, Young-Il KIM2, Kyung-Ae PARK1, Jeomshik HWANG1
1Seoul National University, 2Korea Institute of Ocean Science & Technology

Nutrient-Poor Region Benefited from Madden-Julian Oscillation-Driven Rainfall Thousand Kilometers Away
Chiung-Wen June CHANG1++, Huang-Hsiung HSU2, Wee CHEAH3, Wan-Ling TSENG2
1Chinese Cultural University, 2Academia Sinica, 3University of Malaga

Measurements of SO2, H2SO4, NO, HNO3, and NOy in the UTLS in the Asian Summer Monsoon Anticyclone
Hans SCHLAGER1++
1German Aerospace Center (DLR)
Nonlinear Interactions Between Climate and Atmospheric Carbon Dioxide Drivers of Carbon Cycle Changes from 1850 to 2300
Forrest HOFFMAN1,2#, James RANDERSON1, Keith LINDSAY4
1Oak Ridge National Laboratory, 2University of Tennessee, Knoxville, 3University of California, Irvine, 4National Center for Atmospheric Research

Continuity of Multi-Sensor Vegetation Index Data Records: A Case Study from MODIS to VIIRS
Tomoaki MIURA1#
1University of Hawaii at Manoa

Carbon Balance of Tropical Peat Ecosystems in Southeast Asia
Takashi HIRANO1,2+, Ryuichi HIRATA2, Kiwamu ISHIKURA1, Masayuki ITOH3, Ayaka SAKABE4, Frankie KIEW5, Guan Xhuan WONG6, Lulie MELLING7, Kitso KUSIN8
1Hokkaido University, 2National Institute for Environmental Studies, 3Kyoto University, 4Osaka Prefecture University, 5Sarawak Tropical Peat Research Institute, 6University of Palangkaraya

ENSO Effects on the Terrestrial Carbon Cycle in the Tropics
Min XU1#, Forrest HOFFMAN1,2, Paul LEVINE3, Nathan COLLIER4
1Oak Ridge National Laboratory, 2University of Tennessee, Knoxville, 3University of California, Irvine

How Does Ecosystem Memory Impact the Terrestrial Carbon Balance During ENSO Events?
A. Anthony BLOOM1,2, Kevin BOWMAN1, Alexandra G. KONINGS2, Sassan SAATCHI3, John WORDEN4, Helen WORDEN5, Zhe JIANG6, Nicholas PARAZOO7, Mathew WILLIAMS8, David SCHIMEL9
1Jet Propulsion Laboratory, California Institute of Technology, 2Stanford University, 3National Center for Atmospheric Research, 4University of Edinburgh

Quantifying the Effect of Changes in Climate-Driven Carbon Cycle Extremes and Land Use Change on the Terrestrial Carbon Budget Through Year 2300
Bharat SHARMA1, Forrest HOFFMAN2,3, Jitendra KUMAR2, Auraop R. GANGULY3
1Northeastern University, 2Oak Ridge National Laboratory, 3University of Tennessee, Knoxville

Xiangzhong LUO1, Trevor KEENAN2
1Lawrence Berkeley National Laboratory, 2UC Berkeley

Enhanced Terrestrial Carbon Uptake and the Role of CO2 Fertilization
Trevor KEENAN1#, Colin PRENTICE1, Josep CANADELL2, Christopher WILLIAMS3, Han WANG4
1UC Berkeley, 2Imperial College London, 3Commonwealth Scientific and Industrial Research Organisation, 4Clarke University, 5Northwest A&F University

Historical (1700-2012) Global Multi-Model Estimates of Fire Emissions from Fire Modeling Intercomparison Project
Fang LI1, Maria VAL MARTIN1, Stijn HANTSON2, Silvia KLOSTER3, Brian MAGP1, Daniel WARD4, Dominique BACHELET5, Matthew FORREST6, Erik KLUSEK7, Gitta LASSLNP8, Stéphane MANGEON9, Joe MELTON10, Chao YUE11, Almut ARNETH12
1Chinese Academy of Sciences, 2Sheffield University, 3Karlsruhe Institute of Technology, 4Max Planck Institute for Meteorology, 5University of North Carolina at Charlotte, 6Princeton University, 7Oregon State University, 8Senckenberg Biodiversity and Climate Research Institute, 9National Center for Atmospheric Research, 10Singapore-MIT Alliance for Research and Technology, 11Environment Canada, 12Institute Pierre Simon Laplace/ Université Paris-Saclay

Evaluations of Terrestrial Biogeochemical Feedbacks of Stratospheric Geengineering Strategies
Cheng-En YANG1,2, Forrest HOFFMAN1,2, Simone TILMES3, Lili XIA4, Katie DAGON5, Joshua FUI6, Jadwiga RICHTER7, Michael MILLS8, Ben KRAVITZ9, Douglas MACMARTIN10
1University of Tennessee, Knoxville, 2Oak Ridge National Laboratory, 3National Center for Atmospheric Research, 4Rutgers University, 5Pacific Northwest National Laboratory, 6Cornell University
BG04-D4-PM1-304B-016 | BG04-A009
Parameter Optimization for Improvement of MODIS Gross Primary Production over East Asia
Haemi PARK1##, Jungho IM1, Miae KIM1
1Ulsan National Institute of Science and Technology

BG04-D4-PM1-304B-017 | BG04-A002
A Comparative Study on Anthropogenic Emission Inventory Development: Case Study Methane Emissions over China
Penwadee CHEEWAPHONGPHAN1##; Satoru CHATANI1
1National Institute for Environmental Studies

BG08-IG / Biogeosciences General Session
Thu - 07 Jun | MR322A
Time 16:00 - 18:00
Chair(s) Long CAO, Zhejiang University

BG08-IG-D4-PM2-322A-001 | BG08-IG-A008 (Invited)
A Comparative Phylogenomics Approach to Understand the Importance of a Coastal Diatom Species in Biogeochemical Cycling. Molecular Evidences from Thalassiosira Sundarbana
Punyasloke BHADURY1##
1Indian Institute of Science Education and Research Kolkata

BG08-IG-D4-PM2-322A-002 | BG08-IG-A011 (Invited)
What are the Interactions Between Environmental Change and Halocarbon Emission by Macroalgae?
Fiona Seh-Lin KENG1##; Siew Moi PHANG1##, Emma LEEDHAM ELVIDGE1; Gill MALIN2; William STURGES2; Noorsaadah ABDUL RAHMAN1
1University of Malaya, 2University of East Anglia

HS08 / Hydrology in a Changing World: Challenges in Modeling
Thu - 07 Jun | MR317B
Time 11:00 - 12:30
Chair(s) Shailesh Kumar SINGH, National Institute of Water and Atmospheric Research
Rajib MAITY, Indian Institute of Technology Kharagpur
Markus PAHLOW, University of Canterbury

HS08-D4-AM2-317B-001 | HS08-A004
Development of Flood Tracking Technique for Flood Disaster Management in Urban Area
Sukho LEE1##, Byung-Hyun LEE1, Byung Sik KIM1##
1Kangwon National University

HS08-D4-AM2-317B-002 | HS08-A006
Quantifying Reach Vulnerabilities and Uncertainties in Flow and Water Quality Projections from Hydropower Operations, Land Use Conversion, and Climate Change in Key Mekong Tributaries
Thomas COCHRANE1##; Bikesh SHRESTHA1, Mauricio ARIAS1, Chanthia OEURN1
1University of Canterbury, 2University of South Florida, 3Cambodia Institute of Technology

HS08-D4-AM2-317B-003 | HS08-A002
Seasonal Streamflow Forecasting in New Zealand
Shailesh SINGH1##
1National Institute of Water and Atmospheric Research

HS08-D4-AM2-317B-004 | HS08-A001
Baseflow Index Characterization in New Zealand
Markus PAHLOW1##; Shailesh SINGH1, Doug BOOKER2; Ude SHANKAR2
1University of Canterbury, 2National Institute of Water and Atmospheric Research

HS08-D4-AM2-317B-005 | HS08-A003
Assessment for Irrigation Demand Shortfall
Shailesh SINGH1##
1National Institute of Water and Atmospheric Research
Where Did the River Water Come From? - Research of the Togagawa River Flooding in 2008
Kenichiro KOBAYASHI1+, Ryo KAWASAKI1, Ichiro FUJITA1, Keisuke NAKAYAMA1
1Kobe University

Improvement of Inundation Prediction Methods in Urban Areas
Yeon Moon CHOO1+, Eui Hoon LEE1, Joong Hoon KIM1*
1Korea University

Evaluation and Analysis of the Design Rainfall an Urban Sewer System
Ju Hyun PARK1+, Jae Yeong HEO1, Deg-Hyo BAE2
1Sejong University, 2

Impacts of Land-Use/cover Change at Upstream Region on Flood Inundation in Jakarta, Indonesia
Bambang Adhi PRIYAMBODHO1*, Shuichi KURE1, So KAZAMA2
1Toyama Prefectural University, 2Tohoku University

Barriers that Impede Flood Risk Management in Metro Manila, Philippines
Jean Margaret Roces MERCADO1*, Akira KAWAMURA1, Hideo AMAGUCHI1
1Tokyo Metropolitan University

Hydrodynamic Investigation of Laguna Lake, Philippines for Water Security and Flood Risk Management of Metro Manila Eugene HERRERA1*, Bryan Clark HERNANDEZ2
1University of the Philippines-Diliman, 2University of the Philippines

Assessing the Hydrologic Effects of Low Impact Development at Urban Catchment Scale Under Different Rainfall Conditions Changmei LIANG1*, Xiang ZHANG1, Xia ZHAO1,2
1Wuhan University, 2China Institute of Water Resources and Hydropower Research

Study on Blue-Green Algae Countermeasures by Washout Effect in Lakes Daiki KAKINUMA1*, Tadashi YAMADA2
1, 2Chuo University

Time 11:00 - 12:30
Chair(s) Akira KAWAMURA, Tokyo Metropolitan University

Kimura’s Versus Prasad’s Storage Function Model for an Urban Watershed
Saritha PADIYEDATH GOPALAN1*, Akira KAWAMURA1, Hideo AMAGUCHI1, Gubash AZHIKODAN1
1Tokyo Metropolitan University

Evaluation of Snow and Groundwater Storages by Distributed Hydrological Model
Koji SAKAMOTO1*, Kazama SO1, Yoshiya TOUGE1
1Tohoku University

Estimation of the Damage Cost on Compound Water Related Disaster for Each Prefecture
Yukako TANAKA1*, So KAZAMA1, Daisuke KOMORI1, Yoshiya TOUGE1
1Tohoku University

Evaluation of the Green Infrastructure Performance for Urban Water Sustainability in Water Supply and Drainage Systems
Sang Hoon JUN1*, Eui Hoon LEE1, Young Hwan CHOI1, Joong Hoon KIM1*
1Korea University

Assessing the Hydrologic Effects of Low Impact Development at Urban Catchment Scale Under Different Rainfall Conditions Changmei LIANG1*, Xiang ZHANG1, Xia ZHAO1,2
1Wuhan University, 2China Institute of Water Resources and Hydropower Research

Study on Blue-Green Algae Countermeasures by Washout Effect in Lakes Daiki KAKINUMA1*, Tadashi YAMADA2
1, 2Chuo University

Time 08:30 - 10:30
Chair(s) Hideo AMAGUCHI, Tokyo Metropolitan University

Where Did the River Water Come From? - Research of the Togagawa River Flooding in 2008
Kenichiro KOBAYASHI1+, Ryo KAWASAKI1, Ichiro FUJITA1, Keisuke NAKAYAMA1
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1University of the Philippines-Diliman, 2University of the Philippines

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1Wuhan University, 2China Institute of Water Resources and Hydropower Research

Study on Blue-Green Algae Countermeasures by Washout Effect in Lakes Daiki KAKINUMA1*, Tadashi YAMADA2
1, 2Chuo University
HS13-D4-PM1-318B-014 | HS13-A012
Surface Water Chemistry and Nitrate Pollution in Shimabara, Nagasaki, Japan
Kei NAKAGAWA1*, Hiroki AMANO1, Ronny BERNDTSSON2
1Nagasaki University, 2Lund University

HS13-D4-PM1-318B-015 | HS13-A013
Relationship Between Coprostanol and Nitrate Pollution in Surface Water
Kei NAKAGAWA1*, Hiroki AMANO1, Ronny BERNDTSSON2
1Nagasaki University, 2Lund University

HS13-D4-PM1-318B-016 | HS13-A005
Conversion of Sewage Sludge and Livestock Manure into Valuable Fertilizer Using Subcritical Water Treatment Reactors
Naoko NAKAGAWA1*, Sabro MATSUFI1, Jun MATSUSHIKA2, Tomonao MIYASHIRO3
1Rikkyo University, 2Chuo University, 3G-8 International Trading Co., Ltd.

HS13-D4-PM1-318B-017 | HS13-A010
An Analysis on Pollutant Loads in Kinokawa River Basin by Using Hydrological Prediction for the Environment (HYPE) Model
Hiroto TANOUCHI1*, Makoto NAKAMURA1, Yuki NAKAMURA1, Nobuyuki EGUSA1, Jonas OLSSON2, Akira KAWAMURA1, Hideo AMAGUCHI1
1Wakayama University, 2Swedish Meteorological and Hydrological Institute, 3Tokyo Metropolitan University

HS13-D4-PM1-318B-018 | HS13-A039
Comparative Investigation on Urban Runoff Pollution in China and Benefit-Cost Analysis on Different Control Drainage System
Jiping JIANG1*, Baoyu WANG1, Yi ZHENG1
1Southern University of Science and Technology, 2Harbin Institute of Technology

HS13-D4-PM1-318B-019 | HS13-A035 (Invited)
Provenance and Destination of Pollutants in the Atoyac River, Tlaxcala, Puebla, Mexico, Central America
Estefania MARTINEZ TAVERA1*, Pedro Francisco RODRIGUEZ ESPINOSA2, Genoveva ROSANO ORTEGA3, Aquileo Gabriel HERNÁNDEZ RAMÍREZ3
1Universidad Popular Autónoma del Estado de Puebla (UAPIEP), 2Instituto Politecnico Nacional, 3National Polytechnic Institute

HS13-D4-PM1-318B-020 | HS13-A037 (Invited)
Impact of De-Silting of Tanks on Fluvial Flooding Characteristics: A Case Study of the 2015 Chennai Flood in Adyar River
Nithila DEVI N.1*, Sridharan BALAKRISHNAN1, Soumendra Nath KUIRY1
1Indian Institute of Technology Madras

HS14-D4-PM1-318A-001 | HS14-A003 (Invited)
Hydrology from Space
Venkataraman LAKSHMI1*
1University of South Carolina

HS14-D4-PM1-318A-002 | HS14-A006
Variability of Spring Soil Moisture and its Impacts on Summer Precipitation in the Northern Hemisphere
Chenghai WANG1*, Kai YANG1
1Lanzhou University

HS14-D4-PM1-318A-003 | HS14-A004
Using Satellite Remote Sensing Data to Support Development of Next Phase GLDAS, NLDAS, and NULDAS Systems
Youlong XIA1*, Jesse MENG1, Jiariu DONG1, Weizhong ZHEN2, Helen WEF1, Yihua WU1, Michael EK2, Jack KAIN2, David MOCKO3, Christa PETERS-LIDARD1
1IMSG at National Oceanic and Atmospheric Administration, 2National Oceanic and Atmospheric Administration, 3NASA Goddard Space Flight Center

HS14-D4-PM1-318A-004 | HS14-A007
Annual Maps of Open Surface Water Bodies Through Analyses of Landsat and Sentinel Images During 1985-2016 with Google Earth Engine
Xiangming XIAO1*, Zhenhua ZOU1, Jinwei DONG1, Bangqian CHEN1, Xinxin WANG2
1University of Oklahoma, 2Chinese Academy of Sciences, 3Chinese Academy of Tropical Agricultural Sciences, 4Fudan University
Establishment and Analysis of a High-Resolution Assimilation Dataset of the Water-Energy Cycle in China
Xiaohang WEN1**, Xian ZHU2, Zhiyuan ZHENG3, Dongdong YAN2, Wenjie DONG3
1Chengdu University of Information Technology, 2Beijing Normal University, 3Sun Yat-sen University

Effective and Layered Soil Moisture Study Using Cosmic-Ray Neutron Sensor in Yellow River Source Region of Tibetan Plateau
Xin WANG1, Jun WEN2, Rong LIU1**
1Chinese Academy of Sciences, 2Chengdu University of Information Technology

Prediction of Low Flow in Mid-Sized Natural Basin Using Grace Derived Daily Total Water Storage Anomaly
Durga SHARMA1**, Basudeb BISWAL3
1Indian Institute of Technology Hyderabad

Soil Moisture-Precipitation Feedbacks Diagnosing on the Tibetan Plateau Based on Observations and Simulations
Xianhong MENG1**, Shi-Hua LV1, Tangtang ZHANG2, Lin ZHAO3, Zhaoguo LI2
1Cold and Arid Regions Environmental and Engineering Institute, Chinese Academy of Sciences, 2Chinese Academy of Sciences

Study on the Water Physiology Characteristics of Dominant Desert Plants with Different Leaf Type
Zijuan ZHOU1**, Peixi SU1, Tingting XIE1, Shanjia LI2
1Chinese Academy of Sciences, 2Lanzhou University of Technology

The Improved Subsurface Water Observation from an Integration of Optical Remote Sensing and Gravimetry Satellites
Kuo-Hsin TSENG1**, Chung-Yen KUO2, Min-Hui LO3, Shih PO-HUNG4
1National Central University, 2National Cheng Kung University, 3National Taiwan University, 4Chung Hsing Surveying Co., Ltd.

Evaluation of Different Soil Moisture Products over Mountain Regions
Tangtang ZHANG1**, Mekonnen GEBREMICHAEL2, Jun WEN3, Xin MA4, Zuoliang WANG1
1Chinese Academy of Sciences, 2University of California, Los Angeles, 3Chengdu University of Information Technology

The Experimental Studies on the Land-Atmospheric Interactions over the Source Region of the Three Rivers
Jun WEN1**, Xin WANG2, Zuoliang WANG2
1Chengdu University of Information Technology, 2Chinese Academy of Sciences

Estimating Flow Duration Curve in the Humid Tropics: The Effect of Low Flow Storage on the Low End Shape
Chris LEONG1**, Yoshiyuki YOKOO3
1Fukushima University

Development of Fine-Gridded Meteorological Data Sets Using Atmospheric Reanalysis and Local Observations for Hydrological Modelling in a Complex Terrain
Tomas GOMEZ1**, Juan Pablo BOISIER1, Javier CEPEDA1, Nicolas VASQUEZ1, Ximena VARGAS1, Roberto RONDANELLI1
1University of Chile

Catchment Classification as a Tool to Understand Hydrology in Data Scarce Regions
Riddhi SINGH1**, Ankit DESHMUKH2
1Indian Institute of Technology Bombay, 2Indian Institute of Technology Hyderabad

Effects of Land Use/Cover Changes on Multiscale Variability of Flow-Sediment Relationships During 1950s-2014 in the Loess Plateau of China
Guangyao GAO1**
1Chinese Academy of Sciences
An Improved Instantaneous Dryness-Index Based Model for Streamflow Prediction in Data-Scarce Regions
Basudev BISWAL1#
1Indian Institute of Technology Hyderabad

Multi-Objective Parameters Calibration Model of Muskingum and its Solution Using the Wolf Pack Algorithm
Tao BAI1#, Qiang HUANG1, Wangwang YANG1
1Xi'an University of Technology

HS22 / Climate Change Risk Assessment and Adaptation on Water-related Disaster and Water Resources in Asia and the Pacific
Thu - 07 Jun  | MR301
Time 08:30 - 10:30
Chair(s) Deg-Hyo BAE, Sejong University
Eiichi NAKAKITA, Kyoto University

A Review of a Climate Model Development in Japan
Akimasa SUMI1#
1The University of Tokyo

Taiwan Climate Adaptation Technology Service (TaiCATS) – TCCIP - Team2
Ching-Pin TUNG1#, Yung-Ming CHEN1, Jung-Hsuan TSAO1, Po Wen PERNg1
1National Taiwan University, 2National Science and Technology Center for Disaster Reduction

Bridging Between Projection Studies and Impact Studies in Climate Change Projects
Izuru TAKAYABU1#, Eiichi NAKAKITA2
1Meteorological Research Institute, Japan Meteorological Agency, 2Kyoto University

Integrated Research Program for Advancing Climate Models (TOUGOU) - Theme D: Integrated Hazard Prediction -
Izuru TAKAYABU1#, Eiichi NAKAKITA1#, Nobuhito MORI1, Kenji TANAKA1, Tetsuya TAKEMI1, Yasuto TACHIKAWA1, Toshikazu KITANO2, Hirokazu TATANO1
1Kyoto University, 2Nagoya Institute of Technology

Transdisciplinary Climate Risk Assessment and Climate Adaptation Technology Service
Ching-Pin TUNG1#, Jung-Hsuan TSAO1, Jung HUANG1, Po Wen PERNg1, Yu-Han HUANG1, Bing-Chen JHONG1
1National Taiwan University, 2National Central University

Improved Typhoon Intensity Analysis for Advanced Dvorak Technique (ADT) Using Microwave Satellite Observations.
Sungwook HONG1#, Sumin RYU1
1Sejong University

Projections of Future Changes in Heavy Rainfall and Atmospheric Circulation Pattern in Japan During the Baiu Season by Multi-Scale Analysis
Yukari OSAKADA1#, Eiichi NAKAKITA1
1Kyoto University

Dynamical Downscaling of Typhoons Around Taiwan in Climate Projection of High-Resolution AGCM
Chao-Tzuen CHENG1#, Hsin-Yu CHIANG1, Huang-Hsiung HSU2, Chia-Ying TU3, Akio KITOH1
1National Science and Technology Center for Disaster Reduction, 2Academia Sinica, 3Japan Meteorological Business Support Center

Strategies on Future Climate Projections for Asian Countries and Understanding of Mechanisms of Changes in Climate Extremes in a Future Climate
Tosiyuki NAKAEGAWA1#, Izuru TAKAYABU1, Hidetaka SASHAKI
1Japan Meteorological Agency, 2Meteorological Research Institute, Japan Meteorological Agency
River Discharge Simulation by a Distributed Hydrologic Model Utilizing NHRCM 5km Output in Thailand
Aulia Febianda ANWAR TINUMBANG1#+, Kazuaki YOROZU1, Yasuto TACHI-KAWA1, Yutaka ICHIKAWA1, Hidetaka SASAKI2
1Kyoto University, 2Japan Meteorological Agency

Quantitative Assessment of Climate Change Impacts on Flood Risk in Davao Oriental, Philippines
Jonathan CABRERA1,2#+, Han Soo LEE1
1Hiroshima University, 2Davao Oriental State College of Science and Technology

Future Flood Simulation in Midlatitude Region (Hokkaido) Using High-Resolution Heavy-Rainfall Data
Nobuaki KIMURA1#+, Hirohide KIRI1
1National Agriculture and Food Research Organization

Future Change Analysis of Extreme Floods Using Large Ensemble Climate Simulation Data
Yasuto TACHI-KAWA1#+, Tomohiro TANAKA1, Kohei MIYAWAKI1, Kazuaki YOROZU1, Yutaka ICHIKAWA1, Sunmin KIM1, Masaya KATO1
1Kyoto University, 2Nagoya University

Changes in Future Flood Estimation Under Climate Change Scenarios in Han-River Basin, South Korea
Sunghun KIM1, Younghun JUNG1, Hyunjun AHN1, Jun-Haeng HEO1
1Yonsei University

Impact of Climate and Land Cover Changes on Flooding in a Humid Tropic River Basin in Sumatra, Indonesia
Takahiro SAYAMA1#+, Kodai YAMAMOTO1, Apip APIP1, Kaoru TAKARA1
1Kyoto University, 2Indonesian Institute of Sciences

On Consecutive-Storm Event Based (ConSEB) Model for Short Term Flood Runoff Simulation
Duck Hwan KIM1, Hung Soo KIM1#+
1Inha University

Analysis of the Return Period of Flash Flood in Small Mountainous Basins Under Climate Change
Hwa Yeon KIM1, Deg-Hyo BAE1#
1Sejong University

Flood Risk Assessment and Adaptation Under Extreme Climate Scenarios in Tainan City, Taiwan
Yi-Chiung CHAO1#+, Yi-Hua HSIAO1, Lun-Tsun CHEN2, Chih-Tsung HSU2, Keh-Chia YEH1, Chao-Tzuen CHENG1, Hsinchi LI1
1National Science and Technology Center for Disaster Reduction, 2National Center for High-performance Computing, 3National Chiao Tung University

Seamless Climate Change Impact Assessment Until the End of 21st Century
Kenji TANAKA1#$
1Kyoto University

Water Resources Risk Assessment of Northern Taiwan for Climate Change Adaptation
Tzu-Ming LIU1#, Ming-Hsu LI2, Ching-Pin TUNG3
1National Science and Technology Center, 2National Central University, 3National Taiwan University

Evaluation of Water Supply Capability for Drought Risk Management Considering Reserve Storage on Multi-Purpose Dam
Jinhyeog PARK1#+, Suhyung JANG1, Shinu KANG1, Youngteck HUR1, Jungmin KIM1, Hyeongung KANG1, Jaeueng YF1
1K-water Institute, 2Ajou University
Comparative Standardized Precipitation Evapotranspiration Analysis of d4PDF_GCM Dataset
Akira HASEGAWA1,2,*, Maksym GUSYEV1
1Public Works Research Institute; 2The University of Tokyo

Application of Climate Scenario Planning to Assess Vulnerability of Water Supply in Nakdong River Basin, Korea
Si-Jung CHOI1,*, Seongkyu KANG1, Dong-Ryul LEE1
1Korea Institute of Civil Engineering and Building Technology

Impact of Climate Change on Rice Production and Strategies for Adaptation in Taiwan
Ming-Hwi YAO1,*, Ting-Song CHEN1
1Taiwan Agricultural Research Institute

Progressive Assessment of Future Climate and Land Use Changes Impact on Watershed Hydrology and Stream Water Quality Using SWAT
Ji-Wan LEE1,*, Seong-Joon KIM1, Chung Gil JUNG1
1Konkuk University

Improved Confidence in Drought Projections over Korea Based on the Multiple Climate Change Scenarios and Multiple Drought Indices
Moos-Hwan LEE1,*, Eun-Soon IM1, Deog-Hyo BAe1
1The Hong Kong University of Science and Technology; 2Sejong University

Earthquake-Induced Landslides as Drivers of Sediment Delivery
David HIGGITT1,*, David HIGGITT3
1Beijing Jiaotong University (Lancaster University College); 2Lancaster University College at Beijing Jiaotong University; 3University of the Sunshine Coast
HS31-D4-PM2-318B-002 | HS31-A003

Approaching Aerial River Management: Cases in Amazonia
Wei WENG1,2#, Luís COSTA3, Matthias LÜDEKE4, Delphine ZEMP5
1 Humboldt Universität zu Berlin, 2 Potsdam Institute for Climate Impact Research, 3 University of Göttingen

HS31-D4-PM2-318B-003 | HS31-A004

Characterizing Variability in Oceanic Sources of Terrestrial Water, with Implications for Changing Hydrologic Extremes
Hrishikesh CHANDANPURKAR1#, John REAGER2
1 NASA Jet Propulsion Laboratory, California, 2 Jet Propulsion Laboratory, California Institute of Technology

HS31-D4-PM2-318B-004 | HS31-A005

Towards a Better Understanding of Hydrological Extremes Using an Integrated Hydrological Modeling Framework
Wen-Ying WU1#, Zong-Liang YANG1, Peirong LIN1
1 The University of Texas at Austin

HS31-D4-PM2-318B-005 | HS31-A008

At Which Timescales Does Water Cycle Variability Matter for Sea Level?
John REAGER1,2#, Benjamin HAMLINGTON2, David WIESE1
1 Jet Propulsion Laboratory, California Institute of Technology, 2 Old Dominion University

HS31-D4-PM2-318B-006 | HS31-A009

Land-atmosphere Interactions Associated with Anthropogenic Impacts
Tomohito J. YAMADA1,2, Yadu POKHREL2
1 Hokkaido University, 2 Michigan State University

HS33 / Modeling and Analysis of Hydrologic Processes in the Context of Climate Change
Thu - 07 Jun | MR318A

Time 08:30 - 10:30
Chair(s) Van-Thanh-Van NGUYEN, McGill University
Shie-Yui LIONG, National University of Singapore
Laxmi SUSHAMA, McGill University

HS33-D4-AM1-318A-002 | HS33-A005

Effects of Precipitation and Parameters of Hydrological Model on Hydrological Simulation Under Climate Change
Qian ZHU1,2#, Yue-Ping XU3
1 Southeast University, 2 Zhejiang University

HS33-D4-AM1-318A-003 | HS33-A011

Runoff Variability Analysis of Jangun Mountainous Wetland in Korea Using Water Balance Method
Seunghyun OH1, Jungwook KIM1, Jonghun LIM1, Hung Soo KIM1
1 Inha University

HS33-D4-AM1-318A-004 | HS33-A003

Impacts of Climate Change on Water Resources in the Yellow River Basin
Junliang JIN1, Guoqing WANG1, Jianyun ZHANG1, Cuishan LIU1, Yanli LIU1, Tao MA1
1 Nanjing Hydraulic Research Institute

HS33-D4-AM1-318A-005 | HS33-A008

Flood Characteristics Across Canada in Current and Future Climates
Laxmi SUSHAMA1#
1 McGill University

HS33-D4-AM1-318A-006 | HS33-A012

Coupling Dynamic-Stochastic Downscaling for Climate Change Assessments of Rainfall Extremes
Shie-Yui LIONG1, Ngoc Son NGUYEN1, Jiandong LIU1, Ming Tue VU1, Srivatsan RAGHAVAN1
1 National University of Singapore, 2 Clemson University

HS33-D4-AM1-318A-007 | HS33-A013

On Statistical Downscaling of Multi-Site Hydrologic Processes in the Context of Climate Change
Van-Thanh-Van NGUYEN1#
1 McGill University

HS33-D4-AM1-318A-001 | HS33-A004

Quantifying Moisture Sources and Transport Pathways for Summer Precipitation over the Mid-Lower Yangtze River Basin
Xin-Min ZENG1#
1 Hohai University
IG02 / High-resolution Terrestrial- and Marine Proxy-inferred Climate and Environment Changes in the Asia-Oceania Region Since the Last Deglaciation
Thu - 07 Jun  |  MR323A
Time 08:30 - 10:30
Chair(s) Chuan-Chou SHEN, National Taiwan University
Liangcheng TAN, Institute of Earth Environment, Chinese Academy of Sciences

IG02-D4-AM1-323A-001 | IG02-A007
Synchronous Multi-Decadal Climate Variability of the Whole Pacific Areas Revealed in Tree Rings Since 1567
Keyan FANG1#
1Fujian Normal University

IG02-D4-AM1-323A-002 | IG02-A002
Multi-Decadal Summer Monsoon Rainfall Changes in the Wuling Mountain Area Between the MCA and LIA Revealed by an Aragonite Stalagmite
Jianjun YIN1±, Hong-Chun LI1, Wei TANG1, Zhijun WANG1, Hai CHENG1, R. Lawrence EDWARDS1, Xia WU1, Moucheng PAN1
1Chinese Academy of Geological Sciences, 2National Taiwan University, 3Northeast Normal University, 4Xi'an Jiaotong University, 5University of Minnesota

IG02-D4-AM1-323A-003 | IG02-A030
A Stalagmite-Inferred High-Resolution Hydroclimate Record During Mid-Holocene in Okinawa, Japan
Ryu UEMURA1±, Kanako OMINE1, Kosuke MASAKA1, Ryuji ASAM1, Mahjoor Ahmad LONE1, Yu-Chen CHOU1, Chuan-Chou SHEN1
1University of the Ryukyus, 2Tohoku University, 3National Taiwan University

IG02-D4-AM1-323A-004 | IG02-A021
Hydroclimate Variations of the Past 1000 Years over Eastern China
Zhixin HAO1+, Xiu GENG1, Quansheng GE1, Jingyun ZHENG1#
1Chinese Academy of Sciences

IG02-D4-AM1-323A-005 | IG02-A012
Understanding the Distinct Intensification of Australian Monsoon During the Last Glacial Maximum
Mi YAN1±, Bin WANG2, Jian LIU1, Liang NING3
1Nanjing Normal University, 2University of Hawaii, 3Nanjing Normal University & University of Massachusetts

Time 13:30 - 15:30
Chair(s) Yusuke YOKOYAMA, The University of Tokyo

IG02-D4-PM1-323A-006 | IG02-A001
4.2 Ka Event in the Loess Plateau of China
Liangcheng TAN1#
1Chinese Academy of Sciences

IG02-D4-PM1-323A-008 | IG02-A008
Laminated Sediments from the Late Glacial Transition in Northeastern Australia
Mark BURROWS1±, Simon HABERLE1, Henk HEIJNIS1, Patricia GADD2
1Australian National University, 2Australian Nuclear Science and Technology Organisation

IG02-D4-PM1-323A-007 | IG02-A004
How to Use Bomb C-14 Curve to Establish Chronology of Recent Geological Archives
Hong-Chun LI1±
1National Taiwan University, 2Northeast Normal University

IG02-D4-PM1-323A-009 | IG02-A010
Trace Metals in Speleothems Record Atmospheric Dust Activity: A Case Study from NE Sichuan, Central China
Houyun ZHOU1±, Xiaotao PENG1, Ke CHENG1, Shuhua LIU1
1South China Normal University

IG02-D4-PM1-323A-010 | IG02-A011
Precise U-Th Concentration and 234U/238U Determination of Seawater from the Okinawa Trough
Lisheng WANG1±, Zhibang MA1
1Chinese Academy of Sciences

IG02-D4-PM1-323A-011 | IG02-A014
230Th/U Chronology of a Cold-Seep Precipitated Carbonate Chimney in Okinawa Trough
Zhibang MA1±, Lisheng WANG1
1Chinese Academy of Sciences

IG02-D4-PM1-323A-012 | IG02-A015
Multiple Severe Typhoons Revealed by Coral Boulders of Northwestern Luzon, Philippines
Shou-Yeh GONG1±, Tso-Ren WU1, Chuan-Chou SHEN1, Fernando SIRINGAN1
1National Museum of Natural Science, 2National Central University, 3National Taiwan University, 4University of the Philippines
Enhanced Contribution of ENSO to the East Asian Winter Monsoon in Northeast China Since the Mid-Holocene
Jing WU1*, Qiang LIU1, Guoqiang CHU1, Luo WANG1, Jiaqi LIU1
1Chinese Academy of Sciences

A Reconstruction of Subtropical Western North Pacific SST Variability Back to 1578, Based on a Porites Coral Sr/Ca Record from the Northern Ryukyu, Japan
Yuta KAWAKUBO1, Chantal ALIBERT1, Yusuke YOKOYAMA1*
1The University of Tokyo

Geochemical Characteristics of Cave Drip Water Respond to ENSO Based on a 6-Year Monitoring Work in Yangkou Cave, Southwestern China
Ting-Yong LI1*, Chao-Jun CHEN1
1Southwest University

Paleoenvironment of Southwestern Taiwan Inferred from Stable Oxygen and Carbon Isotope Records of Archaeological Crassostrea Oyster Shells
Horng-Sheng MI1*, Manh Ling NGUYEN1, Kuang-Ti LF1
1National Taiwan Normal University, 2Academia Sinica

Chemical and Physical Properties of Sediments from the East China Sea and its Provenance Implications
Yan ZHENG1*, Qianying GUO1, Haiyan LF1
1IVPP, Chinese Academy of Sciences, 2China University of Geosciences

Local Marine Reservoir Age Variability During the Mid-Holocene in the Northwest Pacific
Shoko HIRABAYASHI1*, Yusuke YOKOYAMA1*, Atsushi SUZUKI1, Tezer ESAT1, Yosuke MIYAIRI1, Takahiro AZE1, Fernando SIRINGAN1, Yasuo MAEDA1
1Kyushu University, 2The University of Tokyo, 3National Institute of Advanced Industrial Science and Technology, 4The Australian National University, 5University of the Philippines, 6University of Hyogo

Lake Sediment Hydroclimate Proxies from the Tropical South Pacific Reveal Large Scale Changes in the South Pacific Convergence Zone over the Holocene
David SEAR1*,
1University of Southampton

Lake Sediment Hydroclimate Proxies from the Tropical South Pacific Reveal Large Scale Changes in the South Pacific Convergence Zone over the Holocene
David SEAR1*,
1University of Southampton
IG16-BG-D4-PM1-322B-005 | IG16-BG-A014
Responses of Vegetation to Climatic Variations in the Desert Regions of Northern China
Yuqing ZHANG1,2, Yakun ZHU, Jutao ZHANG1, Shugao QIN1, Yanying SHAO1, Yan GAO1
1Beijing Forestry University

IG16-BG-D4-PM1-322B-006 | IG16-BG-A019
Vegetation Growth Trend and its Response to Drought in the Inner Mongolia of Northern China, 1998-2013
Shulin LIU1, Tao WANG1,2, Wenping KANG1, Zichen GUO1
1Chinese Academy of Sciences, 2Lanzhou Branch of Chinese Academy of Sciences

IG16-BG-D4-PM1-322B-007 | IG16-A008
Identification of Human Induced Aeolian Desertified Land to Facilitate Sand Control Practice - A Case in Horqin Sandy Land, China
Jian GUO1
1Chinese Academy of Sciences

Time 16:00 - 18:00
Chair(s) Tao WANG, Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences
Inez Ponce de LEON, Ateneo de Manila University

IG16-BG-D4-PM2-322B-008 | IG16-A003 (Invited)
Climate Change and the U.S. Security Sector: The Desecuritization of Climate Change
James Scott HAUGER1,2
1Asia-Pacific Center for Security Studies

IG16-BG-D4-PM2-322B-009 | IG16-A013 (Invited)
Evidence for Urban-Rural Disparity in Temperature–Mortality Relationships in Zhejiang Province, China
Xuchao YANG1,2, Kejia HU1, Yuming GUO2
1Zhejiang University, 2Monash University

IG16-BG-D4-PM2-322B-010 | IG16-BG-A020 (Invited)
Interaction Between Transformation Processes of Agricultural Structure and the Environmental Rehabilitation Policies in the Modern Chinese Loess Plateau
Yuta HARA1,2, Izuru SAIZEN1
1Kyoto University

IG16-BG-D4-PM2-322B-011 | IG16-BG-A028 (Invited)
Think Global Act Local: A Case Study on the Local Climate Change Action Plans of the Municipalities of Alaminos and Pagsanjan, Laguna, Philippines
Anthony AGUILLO1,2, Ryanne Stephanie CO1, June SY1
1Ateneo de Manila University

IG16-BG-D4-PM2-322B-012 | IG16-BG-A012
Options for Cooling a City Without Increasing Human Heat Stress
Shaoxiu MA1
1The North-west of Eco-environment and resources

IG16-BG-D4-PM2-322B-013 | IG16-A004
Cash Gifts, Perception of Social Sphere and Distribution of Water Resources for Rural Farmers in a Typical Oasis Region in Northwest China
Qiantao ZHU1
1Chinese Academy of Sciences

IG20 / Innovative Technologies of Sensing, Simulation and Mapping to Enhance Disaster Relief and Disaster Medical Systems
Thu - 07 Jun | MR322B

IG20-D4-AM1-322B-001 | IG20-A007
Quantitative Uncertainties Estimation of the Rapidly Estimated Coseismic Fault Model Based on the Real-Time GNSS Data
Yusaku OHTA1,2, Keitaro OHNO1
1Tohoku University

IG20-D4-AM1-322B-002 | IG20-A006
Performance Evaluation of a Real-Time Tsunami Inundation Forecast System on Modern Supercomputers
Akihiro MUSA1,2, Takumi KISHITANI1, Takuya INOUE1, Hiroaki HOKARI1, Masayuki SATO1, Kazuhiro KOMATSU1, Yoichi MURASHIMA1, Shunichi KOSHIMURA1, Hiroaki KOBAYASHI1
1Tohoku University, 2NEC Corporation, 3Kokusai Kogyo Co. Ltd.

IG20-D4-AM1-322B-003 | IG20-A005
Damaged Building Recognition Using Deep Learning with Aerial Photographs Taken After the 2016 Kumamoto Earthquake, Japan
Masashi MATSUOKA1,2, Yuma KAMAGATANI1, Yutaka HORAKI1, Hiroyuki SHIMOMURA2
1Tokyo Institute of Technology, 2PASCO Corporation
Deep Learning-Based Approach for Automated Classification of Building Damage from Remote Sensing Images
Hiroyuki MIURA1#, Tomohiro ARIDOME1
1Hiroshima University

A New Unsupervised Classification Method to Identify Collapsed Buildings
Luis Angel MOYA HUALLPA1#, Erick MAS1, Bruno ADRIANO1, Shunichi KOSHIJIMA1
1Tohoku University

National Disaster Medical System and its Coordination in Japan
Shinichi EGAWA1*, Hiroyuki SASAKI1
1Tohoku University

Relation Between the Damage of Medical Institute in Miyagi Prefecture Due to the Great East Japan Earthquake and Tsunami and the Occurrence of Preventable Disaster Death at Medical Institutions
Hiroyuki SASAKI1*, Erick MAS1, Shunichi KOSHIJIMA1, Shinichi EGAWA1
1Tohoku University

Sar Application in Natural Hazard Response
Thu - 07 Jun | MR322B

Time 11:00 - 12:30
Chair(s) Sang-Ho YUN, Jet Propulsion Laboratory
Yunung Nina LIN, Earth Observatory of Singapore

Integrated Multiple Satellite Application for Flood Mapping
Using ALOS-2 and Sentinel-1 Data
Young-Joo KWA1*, Ramona PELICH1, Joungeul PARK1
1International Centre for Water Hazard and Risk Management (ICHARM), UNESCO, 2Luxembourg Institute of Science and Technology, 3Tokyo University of Information Sciences

Flood Mapping with Spaceborne SAR Data: Potentials and Challenges
Sang-Ho YUN1*, Yu-Nung Nina LIN2, Emma HILL3
1NASA Jet Propulsion Laboratory, 2Nanyang Technological University, 3Earth Observatory of Singapore / NTU

An Optimal Approach for the Monitoring of Deep-Seated Landslides in Tropical Mountainous Environment
Rou-Fei CHEN1*, Li-Yuan FEF, Chen-Yang LEE1, Hsiao-Yuan YIN, Ching-Weei LIN1
1Chinese Culture University, 2Ministry of Economic Affairs, 3Soil and Water Conservation Bureau, 4National Cheng Kung University

PSInSAR Time Series Analysis of the 2018 Mayon Volcano Eruption
Jolly Joyce SULAPAS1,2#, Alfredo Mahar LAGMAY2,3, Rodrigo ECO3
1University of the Philippines, 2University of the Philippines, 3University of the Philippines

Characterize Hydrologically Driven Ground Deformation Using InSAR and Numerical Modeling: Applications to Landslides and Mine Tailings Impoundment
Xie HU1*, Zhong LU1
1Southern Methodist University

Stable Water Isotopes and Deuterium Excess in the Hydrological Processes
Zhonghe PANG1*, Tianming HUANG2, Yanlong KONG1, Jie LI1
1Chinese Academy of Sciences, 2Institute of Geology and Geophysics, Chinese Academy of Sciences

A Study on Water Cycle Mechanism at Different Scales Using Environmental Isotopes
Xianfang SONG1*
1Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences

Ecosystem Water Partitioning - An Isotopic View
David WILLIAMS1*, William BOWERS1, Jason MERCER1
1University of Wyoming
OS08 / Advances in Oceanic Data Assimilation, Ensemble Prediction, and Coupled Data Assimilation
Thu - 07 Jun  | MR317B

Time  16:00 - 18:00

Chair(s)  Zheqi SHEN, State Oceanic Administration
Fei ZHENG, Chinese Academy of Sciences

OS08-D4-PM2-317B-001 | OS08-A012 (Invited)
Advances in Ocean and Coupled Data Assimilation at NCEP
Stephen PENNY1##
1University of Maryland

OS08-D4-PM2-317B-002 | OS08-A005 (Invited)
An El Nino-Southern Oscillation Forecast System Formulated by an Intermediate Coupled Model and its Nonlinear Forcing
Wansuo DUAN1##
1Chinese Academy of Sciences

OS08-D4-PM2-317B-003 | OS08-A002
Progress and Challenge in Ensemble-Based Filters
Youmin TANG1##, Zheqi SHEN2
1University of Northern British Columbia, 2State Oceanic Administration

OS08-D4-PM2-317B-004 | OS08-A013
Evaluation of Oceanic Surface Observation for Reproducing the Upper Ocean Structure in ECHAM5/MPI-OM
Fei ZHENG1##, Hao LUO1, Jiang ZHU1
1Chinese Academy of Sciences

OS08-D4-PM2-317B-005 | OS08-A011
Multi-Model Probabilistic Projections Accounting for Model Skill in Nonlinear Trend, Variability, and Autocorrelation
Roman OLSON1##, Soon-II AN1, Yanan FAN2, Jason EVANS2
1Yonsei University, 2University of New South Wales

OS08-D4-PM2-317B-006 | OS08-A006
Localized Particle Filter and Vector Weights for the Data Assimilation of Non-Gaussian Model Systems
Zheqi SHEN1##, Youmin TANG2
1State Oceanic Administration, 2University of Northern British Columbia

OS08-D4-PM2-317B-007 | OS08-A004
A Short-Term Climate Prediction System Using a Weakly Coupled Assimilation: Results for Summer Rainfall Prediction of China
Renping LIN1##, Jiang ZHU1##, Fei ZHENG1##
1Chinese Academy of Sciences

OS09 / Regional Oceanic Numerical Modeling and Observations
Thu - 07 Jun  | MR324

Time  08:30 - 10:30

Chair(s)  Changming DONG, Nanjing University of Information Science and Technology
Yusuke UCHIYAMA, Kobe University

OS09-D4-AM1-324-001 | OS09-A014 (Invited)
Residual-mean Circulation of the Leeuwin Current System in an Eddy-resolving General Circulation Model
Ryo FURUE1##
1JAMSTEC

OS09-D4-AM1-324-002 | OS09-A019 (Invited)
Evolution of the North Pacific Subtropical Mode Water in Anticyclonic Eddies
Lixiao XU1##, Shang-Ping XIE2, Qinyu LIU1, Cong LIU1, Peiliang LI1, Xiaopei LIN1
1Ocean University of China, 2University of California San Diego

OS09-D4-AM1-324-003 | OS09-A022
Regional Dependence of Atmospheric Responses to Oceanic Eddies in the North Pacific
Jin-Lin JI1##, Jing MA1, Changming DONG1##, John CHIANG1, Dake CHEN1
1Xiamen University, 2Nanjing University of Information Science & Technology, 3University of California, Los Angeles, 4University of California, Berkeley, 5State Oceanic Administration
A Modeling Study of the Circulation in a Weakly Stratified Strait, Northwestern South China Sea
Yang DING1+, Dehai SONG1, Zhigang YAO1, Xianwen BAO1
1Ocean University of China

Global Ocean Circulation Velocity Decomposition Using Observational Data
Kenny T.C. LIM KAM SIAN1+, Changming DONG1,2
1Nanjing University of Information Science & Technology, 2University of California, Los Angeles

Physical Oceanography After the 2011 Great East Japan Earthquake and Tsunami in the Sanriku Coastal Area, Japan
Kiyoshi TANAKA1+, Hiroyasu HASUMI1, Kosei KOMATSU1, Sachihiko ITOH1, Daigo YANAGIMOTO1, Takashi SAKAMOTO1, Yutaka MICHIDA1, Kazuhiro KOGURE1
1The University of Tokyo

Observational Analyses of the Structure and Effect of Ocean Chlorophyll-Induced Heating Feedback Associated with ENSO
Rong-Hua ZHANG1+, 2
1Institute of Oceanology, Chinese Academy of Sciences

Dynamics of the Bottom Gravity Currents in Deep-Water Channels of the Atlantic Ocean
Dmitry FREY1+
1Russian Academy of Sciences

Seasonal and Inter-Annual Variability of the Great Whirl and its Impact on Atmospheric Processes
Sen WANG1+
1Nanjing University of Information Science & Technology

Numerical Simulation of the Deep Western Boundary Current in the South China Sea Interaction with Eddy
Muping ZHOU1, Guihua WANG2
1Xiamen University, 2Fudan University

Synoptic Variability of the Coastal Circulation in the Northern South China Sea Revealed by Observation and High Resolution Numerical Model
Tingting ZU1+, Lixin QU1, Dongxiao WANG1, Robert HETLAND1+
1Chinese Academy of Sciences, 2Texas A&M University, 3South China Sea Institute of Oceanology, Chinese Academy of Sciences

Simulation on the Effects of Suspended Sediment Matters Induced by High Riverine Discharge on Vertical Mixing in a Hypopycnal Plume
Yasuhiro HOSHIBA1+, Yoshihisa MATSUMURA1, Hiroyasu HASUMI1, Sachihiko ITOH1, Satoshi NAKADA1
1The University of Tokyo, 2Kobe University

Observing and Modelling the Response of Placentia Bay to Extratropical Cyclone of 11 March 2017
Guangjun XU1+, Guoqi HAN1, Changming DONG1,3, Jingsong YANG1
1Nanjing University of Information Science & Technology, 2Fisheries and Oceans Canada, 3University of California, Los Angeles, 4State Oceanic Administration

Process-Specific Contributions to Anomalous Java Mixed Layer Cooling During Positive IOD Events
Andrew DELMAN1+, Julie MCCLEAN2, Janet SPRINTALL1, Lynne TALLEY1, Frank BRYAN4
1Jet Propulsion Laboratory, California Institute of Technology, 2University of California San Diego, 3Scripps Institution of Oceanography, 4National Center for Atmospheric Research

Subsurface Salinity Variation in the Eastern Equatorial Indian Ocean During Positive Indian Ocean Dipole Events
Shoichiro KIDO1+, Tomoki TOZUKA1
1The University of Tokyo
OS10-D4-AM1-322A-003 | OS10-A006
Influence of the South China Sea Summer Monsoon on the Indian Ocean Dipole
Yazhou ZHANG1+, Jianping LI1, Jiaqing XUE2, Juan FENG1, Qiyun WANG1, Yidan XU1, Yuehong WANG1
1Beijing Normal University, 2Chinese Academy of Sciences

OS10-D4-AM1-322A-004 | OS10-A001
Chlorophyll Variability Induced by Mesoscale Eddies in the Southeastern Tropical Indian Ocean
Guang YANG1+, Xia ZHAO1, Yuanlong LP1, Lin LIU1, Fan WANG1, Weidong YU1
1National Oceanic Administration, 2Chinese Academy of Sciences, 3Thailand-China Joint Laboratory for Climate and Marine Ecosystem

OS10-D4-AM1-322A-005 | OS10-A010
Ningaloo Niño as a Phenomenon Independent of El Niño/Southern Oscillation
Takahito KATAOKA1+, Sebastien MASSON2, Takeshi IZUMO3, Tomoki TOZUKA4, Toshio YAMAGATA1
1Japan Agency for Marine-Earth Science and Technology, 2Institute Pierre-Simon Laplace, 3Laboratory of Oceanography and Climate: Experiments and Numerical Approaches, 4University of Tokyo

OS10-D4-AM1-322A-006 | OS10-A009
Interannual Forcing of Mesoscale Eddy Kinetic Energy in the Subtropical Southern Indian Ocean
Andrew DELMAN1+, Lee TONG1, Bo QIU2
1Jet Propulsion Laboratory, California Institute of Technology, 2University of Hawaii

OS10-D4-AM1-322A-007 | OS10-A002
Mean Subsurface Upwelling Induced by Intraseasonal Variability over the Equatorial Indian Ocean
Tomomichi OGATA1+, Motoki NAGURA1, Yukio MASUMOTO2
1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo

OS24 / Coastal Hazards: Impacts of Tropical Storms and Tsunamis
Thu - 07 Jun | MR317B

Numerical Study on the Rockslide Generated Tsunamis by Rigid Water Method
Tso-Ren WU1+, Shun-Kai HU2, Mei-Hui CHUANG3, Pei-Yu LP1, Chia-Ren CHU2, Chung-Yue WANG3
1National Central University, 2Tsinghua University, 3National University of Singapore

OS24-D4-AM1-317B-016 | OS24-A008
A Two-Phase Model for Landslide Tsunami
Xiping YU1+, Pengfei SI1
1Tsinghua University

OS24-D4-AM1-317B-017 | OS24-A044
Numerical Simulation of the 1792 Mt. Mayuyama Collapse and the Resulting Tsunami Using Two-Layer Model
Hideaki YANAGISAWA1+
1Tohoku Gakuen University

OS24-D4-AM1-317B-018 | OS24-A029
Evaluation of Terrestrial and Subaqueous Landslide Tsunami Hazard in Lake Tekapo, New Zealand
Xiaoming WANG1+, William POWER1, Joshua MOUNTJOY1, Yaoru LIU3
1GNS Science, 2National Institute of Water and Atmospheric Research, 3Tsinghua University

OS24-D4-AM1-317B-019 | OS24-A030
Three-Phase Flow Simulation of Submarine Granular Slides and Generated Waves
Cheng-Hsien LEE1+, Ming-Lan YU1
1Tamkang University

OS24-D4-AM1-317B-020 | OS24-A013
Preliminary Results of a Scalability Study on Three-Phase Flow Modeling of Wave-Induced Scour at a Bottom-Sitting Wave Energy Converter
Conghao XU1+, Zhenhua HUANG1
1University of Hawaii at Manoa

OS24-D4-AM1-317B-021 | OS24-A002
Theoretical Solution and Applications of Ocean-Bottom Pressure Induced by Seismic Seafloor Motion
Chao AN1+, Chen CAI1, Yong ZHENG1, Lingsen MENG2, Philip LIU3
1Shanghai Jiao Tong University, 2Washington University in St. Louis, 3China University of Geosciences, 4University of California, Los Angeles, 5National University of Singapore

OS24-D4-AM1-317B-022 | OS24-A007
NASA’s GPS-Aided Tsunami Early Detection System
Y. Tony SONG1
1NASA Jet Propulsion Laboratory
PS03 / Microwave and Infrared Remote Sensing of Solar System Objects
Thu - 07 Jun | MR304A

Time 08:30 - 10:30
Chair(s) Paul HARTOGH, Max Planck Institute for Solar System Research
Yi-Jehng KUAN, National Taiwan Normal University

SL9 Species Imaging in Jupiter's Auroral Regions with ALMA
Thibault CAVALIE1,², Raphael MORENO1, Emmanuel LELLOUCH1, Thierry FOUCHET1, Vincent HUE1, Thomas GREATHOUSE3, James SINCLAIR1, Michel DOBRIJEVIC1, Franck HERANT2, Christopher JARCHOW1, Ladislaw REZAC3, Bruno BEZARD4, Randy GLADSTONE1, Laurent LAMY1, Edwige CHAPILLON1
1Paris Observatory, 2Southwest Research Institute, 3Jet Propulsion Laboratory, California Institute of Technology, 4University of Bordeaux, 5Max Planck Institute for Solar System Research

The Juno Microwave Radiometer for the Investigation of Jupiter
Michael JANSSEN1,², Scott BOLTON2, Steven LEVIN1, Shannon BROWN1, Virgil ADUMITROAIE1, Michael ALLISON1, John ARBALLO1, Sushil ATREYA2, Amadeo BELOTTI2, Samuel GULKIS1, Andrew INGERSOLL2, Cheng JI1, Jonathan LUNINE2, Sidharth MISRA1, Glenn ORTON1, Fabiano OYAFUSO3, Daniel SANTOS-COSTA1, Paul STEFFES1, Fachreddin TABATABA-VAKIL2, Zhimeng ZHANG1
1Jet Propulsion Laboratory, California Institute of Technology, 2Southwest Research Institute, 3Georgia Institute of Technology, 4University of Michigan, 5Max Planck Institute for Solar System Research

Probing the Atmospheres of Saturn and Uranus with Ground-Based Radio Observations
Mark HOFSTADTER1,², Virgil ADUMITROAIE1, Sushil ATREYA2, Bryan BUTLER3
1Jet Propulsion Laboratory, California Institute of Technology, 2University of Michigan, 3National Radio Astronomy Observatory

Picture this SELF: A Maturation Project for a Submillimeter Enceladus Life Fundamentals Instrument (SELF)
Gordon CHIN1,², Carrie ANDERSON1, Damon BRADLEY1, Tilak HEWAGAMA1, Terry HURFORD1, Paul RACETTE1
1NASA Goddard Space Flight Center

Answering the Big Question: Measuring IO’s Lava Eruption Temperatures with a Novel Infrared Detector and Readout Circuit
Ashley DAVIES1,², Alexander SOIBEL1,², David TING2, William JOHNSON1,², Paul HAYNE1,², Sarah GUNAPALA1,², Megan BLACKWELL1,², Michael KELLY1,²
1Jet Propulsion Laboratory - California Institute of Technology, ²NASA Jet Propulsion Laboratory, 1University of Colorado Boulder, 4Massachusetts Institute of Technology: Lincoln Laboratory, 5Copious Imaging LLC

Study on 3D Radiation Transfer Model in the Coma of 67P / CG Using Lime from Early Stage Miro Observations
Yuhui ZHAO1,², Ladislaw REZAC3, Paul HARTOGH1
1Chinese Academy of Sciences, 2Max Planck Institute for Solar System Research

The Inner Coma of Comet 67P/Churyumov-Gerasimenko as Seen by MIRO
David MARSHALL1,², Ladislaw REZAC3, Paul HARTOGH1
1Max Planck Institute for Solar System Research

Ultra-Broadband Submillimeter-Wave Receivers for High Spectral Resolution Spectroscopy of Moons and Comets
Jose SILES1,², Imran MEHDI1, Ken COOPER1
1NASA Jet Propulsion Laboratory

The Herschel Catalogue of Solar System Object Observations
Mark KIDGER1,², Cristina ROMERO1, Miriam RENGEL1,³, Jürgen OBERST²
1European Space Astronomy Centre, 2Technical University of Berlin, 3Max Planck Institute for Solar System Research
Spectral Observation of Vesta in the Mid-IR
Ernesto PALOMBA1, Emiliano D’AVERSA1, Takao M. SATO2, Andrea LONGOBARDO1, Fabrizio DIRRI1, Shohei AOKI3
1National Institute for Astrophysics, 2Japan Aerospace Exploration Agency, 3Institut d’Aéronomie Spatiale de Belgique

Water Ortho-to-Para Ratios in the Solar System
Eva WIRSTRÖM1
1Chalmers University of Technology

The Potential Constraints for the Vertical Variation in Rock Abundance of the Moon by Chang’E Microwave Radiometer (MWR) Observations
Guoping HU1,+, Kwing Lam CHAN1, Yongchun ZHENG2, Aoaao XU1
1Macau University of Science and Technology, 2Chinese Academy of Sciences

Overview of the Tera-Hertz Explorer, TEREX, Mission
Yasuko KASAI1,+, Takayoshi YAMADA1,2, Richard LARSSON3, Takeshi KURODA1,2, Yuki UCHIYAMA1,2, Shigeru SATO1, Akifumi WACHI1, Ryo SAKAGAMI1, Ryoei TAKAHASHI1, Shinichi NAKASUKA1, Toshiyuki NISHIBORI1, Hiroyuki MAEZAWA8
1National Institute of Information and Communications Technology, 2Tokyo Institute of Technology, 3Max Planck Institute for Solar System Research, 4Tohoku University, 5Japan Aerospace Exploration Agency, 6The University of Tokyo, 7Japan Aerospace Exploration Agency, 8Osaka Prefecture University

Time
13:30 - 15:30
Chair(s)
Yi-Jehng KUAN, National Taiwan Normal University
Yasuko KASAI, National Institute of Information and Communications Technology

First Measurements of Water and D/H on Mars with ExoMars / NOMAD
Geronimo VILLANUEVA1,+, Giuliano LIUZZI1, Michael MUMMA1, AnnCarine VANDAELE2, Michael SMITH3, Severine ROBERT4, Frank DAERDEN5, Jan THOMAS5, Bojan RISTIC3, Manish PATEL3, Giancarlo BELLUCCI1, Jose Juan LOPEZ-MORENO3
1NASA Goddard Space Flight Center, 2Belgian Institute for Space Aeronomy, 3Open University, 4Istituto Di Astrofisica E Planetologia Spaziali, 5Instituto de Astrofísica de Andalucía

A Measurement of D/H on Mars Using Exes Aboard Sofia
Theresa ENCRENAZ1,+, Shohei AOKI1, Richard DEWITT1, Matthew RICHTER1, Thomas GREATHOUSE1, Thierry FOUCHET1, Franck MONTMESSIN1, Franck LEFÈVRE1, Bruno BEZARD1, Sushil ATREYA1, Hideo SAGAWA1
1Paris Observatory, 2Institut d’Aéronomie Spatiale de Belgique, 3University of California Davis, 4Southwest Research Institute, 5National Center for Scientific Research (CNRS)/ Institut Pierre Simon Laplace (IPSL)/ Université de Versailles Saint-Quentin-en-Yvelines (UVSQ) / University Pierre et Marie Curie (UPMC), 6University Pierre et Marie Curie, 7University of Michigan, 8Kyoto Sangyo University

Oxygen Isotopic Enrichment of Asymmetric-18 Ozone Derived from the SMILES Observation
Tomohiro SATO1,+, Naohiro YOSHIDA2
1National Institute of Information and Communications Technology, 2Tokyo Institute of Technology

Water in the Lower Atmosphere of Mars from Herschel Observations and General Circulation Modeling
Alexander S. MEDVEDEV1,+, Dmitry S. SHAPOSHNIKOV2, Alexander RODIN2, Paul HARTOGH1
1Max Planck Institute for Solar System Research, 2Moscow Institute of Physics and Technology

Spectral Scan and Line Catalogue of the Martian Atmosphere from Herschel-HIFI Observations
Miriam RENGEL1,2,+, Christopher JARCHOW1, Paul HARTOGH1
1Max Planck Institute for Solar System Research, 2European Space Astronomy Centre

Conceptual Design Result and Feasibility Study of Small, Simple Mars Lander Mission TEREX-1
Ryo SAKAGAMI1,+, Ryoei TAKAHASHI1, Akifumi WACHI1, Shinichi NAKASUKA1, Yasuko KASAI1
1The University of Tokyo, 2National Institute of Information and Communications Technology

O2 and Related Chemistry on Mars: Potential Scientific Targets for the Future Mars Terahertz Sensor Missions
Takeshi KURODA1,2,+, Richard LARSSON3, Hideo SAGAWA1, Shohei AOKI1, Yasuko KASAI1
1National Institute of Information and Communications Technology, 2Tohoku University, 3Max Planck Institute for Solar System Research, 4Kyoto Sangyo University, 5Institut d’Aéronomie Spatiale de Belgique
**PS07 / Juno's Exploration of Jupiter**
Thu - 07 Jun  |  MR323B

**Time** 08:30 - 10:30

**Chair(s)** Steve LEVIN, JPL

**PS07-D4-AM1-323B-001** | **PS07-A037**

The New Jupiter

Scott BOLTON1+, J. E. P. CONNERNEY2, Steven LEVIN3

1Southwest Research Institute, 2NASA Goddard Space Flight Center, 3Jet Propulsion Laboratory, California Institute of Technology

PS07-D4-AM1-323B-002 | PS07-A019 (Invited)

Results from the Juno's JunoCam

Fachreddin TABATABABA-VAKILI1+, Candice HANSEN2, Glenn ORTON2, Michael RAVINE3, Michael CAPLINGER3, Gerald EICHSTAEDT3, John ROGERS3, Thomas MOMARY3, Scott BOLTON3

1Jet Propulsion Laboratory, California Institute of Technology, 2NASA Goddard Space Flight Center, 3Malin Space Science Systems, 4N/A

PS07-D4-AM1-323B-003 | PS07-A010 (Invited)

Results from the Juno Exploration of Jupiter's Interior

David STEVENSON1+

1California Institute of Technology

PS07-D4-AM1-323B-004 | PS07-A014

A Degree 10 Spherical Harmonic Model of Jupiter's Magnetic Field from the Juno Magnetometer Investigation

J. E. P. CONNERNEY1+, Ronald OLIVERSEN1, Jared HALEKAS1, Stavros KOTSIAROS1, John JORGENSEN2, Peter JORGENSEN2, Jose M.G. MERAYO2, Matija HERCEG2, Jeremy BLOXHAM3, Kimberly MOORE3, Scott BOLTON3, Steven LEVIN4

1NASA Goddard Space Flight Center, 2Technical University of Denmark, 3Harvard University, Southest Research Institute, 4Jet Propulsion Laboratory, California Institute of Technology

PS07-D4-AM1-323B-005 | PS07-A001 (Invited)

Implications of Initial Juno Magnetic Field Models for the Jovian Dynamo

Kimberly MOORE1+, Jeremy BLOXHAM1, John CONNERNEY1, John JORGENSEN2, Jose M.G. MERAYO2, Steven LEVIN3, Scott BOLTON3

1Harvard University, 2NASA Goddard Space Flight Center, 3Technical University of Denmark, 4Jet Propulsion Laboratory, California Institute of Technology, 5Southwest Research Institute

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**PS07-D4-AM1-323B-006** | **PS07-A030**

Interplanetary Dust Detection and Characterization Along Juno’s Trajectory Observed by the ASCS of the Magnetometer Investigation

John JORGENSEN1*, Mathias BENN1, Peter JORGENSEN1, Troelz DENVER1, Finn JOGENSEN1, J. E. P. CONNERNEY1, Anja ANDERSEN1, Scott BOLTON1, Steven LEVIN3

1Technical University of Denmark, 2NASA Goddard Space Flight Center, 3University of Copenhagen, 4Southwest Research Institute, 5Jet Propulsion Laboratory, California Institute of Technology

PS07-D4-AM1-323B-007 | PS07-A002

First Detection of Lightning Sferics on Jupiter and the Distribution of Moist Convection

Shannon BROWN1*, Michael JANSSEN1, Virgil ADUMITROAIE1, Sushil ATREYA2, Scott BOLTON3, Sam GULKIS3, Andrew INGERSOLL4, Steven LEVIN5, Cheng LI6, Jonathan LUNINE6, Sidharth MISRA1, Glenn ORTON2

1Jet Propulsion Laboratory, California Institute of Technology, 2University of Michigan, 3Southwest Research Institute, 4California Institute of Technology, 5Cornell University

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**PS07-D4-AM1-323B-008** | **PS07-A024 (Invited)**

Results from the Juno’s Investigation of Jupiter’s Atmosphere with JIRAM

Alberto ADRIANI1+, Alessandro MURA1, Davide GRASSI1, Maria Luisa MORICONI1, Giuseppe SINDONI1, Scott BOLTON2, J. E. P. CONNERNEY1, Steven LEVIN1, Andrew INGERSOLL5, Sushil ATREYA7, Jonathan LUNINE3, Heidi BECKER3, Candice HANSEN5, Glenn ORTON3, Randy GLADSTONE3, William KURTH10, Barry MAUK11, Philip VALEK3

1National Institute for Astrophysics, 2National Research Council, 3Southwest Research Institute, 4NASA Goddard Space Flight Center, 5Jet Propulsion Laboratory, California Institute of Technology, 6California Institute of Technology, 7University of Michigan, 8Cornell University, 9Planetary Science Institute, 10The University of Iowa, 11The Johns Hopkins University Applied Physics Laboratory

How Deep is Jupiter's Great Red Spot?
Cheng LI1#, Fabiano OYAFUSO2, Shannon BROWN2, Sushil ATREYA3, Glenn ORTON4, Andrew INGERSOLL4, Michael JANSEN5, Scott BOLTON6
1California Institute of Technology, 2Jet Propulsion Laboratory, California Institute of Technology, 3University of Michigan, 4Southwest Research Institute

Results of Joint Observations of Jupiter's Atmosphere by Juno and a Network of Earth-Based Observing Stations
Glenn ORTON1#, Thomas MOMARY1, Scott BOLTON2, Steven LEVIN3, Candice HANSEN4, Michael JANSEN5, Alberto ADRIANI6, Randy GLADSTONE7, Fran BAGENAL8, Andrew INGERSOLL9
1Jet Propulsion Laboratory, California Institute of Technology, 2Southwest Research Institute, 3Planetary Science Institute, 4National Institute for Astrophysics, 5University of Colorado Boulder, 6California Institute of Technology

Results from the Juno MWR Instrument
Steven LEVIN1#, Michael JANSEN2, Scott BOLTON3, J. E. P. CONNERNEY4, Virgil ADUMITROAIE5, Michael ALLISON6, John ARBALLI7, Sushil ATREYA8, Amadeo BELOTTI9, Shannon BROWN10, Samuel GULKIS11, Andrew INGERSOLL12, Cheng LI13, Jonathan LUNINE14, Sidharth MISRA15, Glenn ORTON16, Fabiano OYAFUSO17, Daniel SANTOS-COSTA18, Edwin SARKISSIAN19, Paul STEFFES20, Facchreddin TABATABA-VAKILI21, Zhimeng ZHANG22
1Jet Propulsion Laboratory, California Institute of Technology, 2Southwest Research Institute, 3NASA Goddard Space Flight Center, 4Goddard Institute for Space Studies, 5University of Colorado Boulder, 6Georgia Institute of Technology, 7California Institute of Technology, 8Cornell University

Juno/JIRAM Observations of Jupiter’s Main Aurorae and Satellite Footprints.
Alessandro MURA1#, Alberto ADRIANI2, J. E. P. CONNERNEY3, Scott BOLTON4, Francesca ALTIERI4, Fran BAGENAL5, Bertrand BONFOND6, Bianca Maria DINELLI7, Jean-Claude GERARD8, Thomas GREATHOUSE9, Denis GRODENT10, Steven LEVIN11, Barry MAUK12, Maria Luisa MORICONI13, Christina PLAINAKI14, Joachim SAUR15, J. Hunter WAITE, JR.16
1National Institute for Astrophysics VAT: O6895721006, 2National Institute for Astrophysics, 3NASA Goddard Space Flight Center, 4Southwest Research Institute, 5University of Colorado Boulder, 6University of Liege, 7National Research Council, 8Jet Propulsion Laboratory, California Institute of Technology, 9The Johns Hopkins University Applied Physics Laboratory, 10Italian Space Agency, 11University of Cologne

New Detections of Jupiter Dispersed Pulses during Juno Perijoves
Masafumi IMAI1#, Ivana KOLMASOVA2,3, Ondrej SANTOLIK2,3, William KURTH4, George HOSPODARSKY5, Donald GURNETT6, Scott BOLTON7, J. E. P. CONNERNEY8, Steven LEVIN9
1The University of Iowa, 2Czech Academy of Sciences, 3Charles University, 4Southwest Research Institute, 5NASA Goddard Space Flight Center, 6Jet Propulsion Laboratory, California Institute of Technology

Juno-UVS Observations of Jupiter's Aurora and Airglow Emissions
Randy GLADSTONE1#, Thomas GREATHOUSE1, Maarten VERSTEEG2, Vincent HUE3, Joshua KAMMER4, Jean-Claude GERARD5, Denis GRODENT6, Bertrand BONFOND7, Scott BOLTON8, J. E. P. CONNERNEY9, Steven LEVIN10, Alberto ADRIANI11, Frederic ALLEGRINI12, Fran BAGENAL13, Emma BUNCE14, Graziella BRANDI15-RAYMONT16, George CLARK17, William DUNN18, Robert EBERT19, Candice HANSEN20, Caitriona JACKMAN21, Ralph KRAFT22, William KURTH23, Barry MAUK24, Alessandro MURA25, Glenn ORTON26, Drake RANQUIST27, Michael RAVINE28, Philip VALEK29
1Southwest Research Institute, 2University of Liege, 3NASA Goddard Space Flight Center, 4Jet Propulsion Laboratory, California Institute of Technology, 5National Institute for Astrophysics, 6University of Texas at San Antonio, 7University of Colorado Boulder, 8Leicester University, 9University College London, 10The Johns Hopkins University Applied Physics Laboratory, 11Planetary Science Institute, 12University of Southampton, 13Harvard-Smithsonian Center for Astrophysics, 14The University of Iowa, 15National Institute for Astrophysics VAT: O6895721006, 16Malin Space Systems

Results of Joint Observations of Jupiter’s Magnetosphere
Robert EBERT1#, Philip VALEK2, Frederic ALLEGRINI3, Fran BAGENAL4, Scott BOLTON5, J. E. P. CONNERNEY6, Randy GLADSTONE7, Thomas KIM8, Steven LEVIN9, Philippe LOUARN10, William KURTH11, David MCCOMAS12, Craig WILSON13
1Southwest Research Institute, 2University of Texas at San Antonio, 3University of Colorado Boulder, 4NASA Goddard Space Flight Center, 5Jet Propulsion Laboratory, California Institute of Technology, 6Institut de Recherche en Astrophysique et Planétologie (IRAP), 7The University of Iowa, 8Princeton University, 9Denali Scientific, 12Planetary Science Institute

Time
16:00 - 18:00

Chair(s)
Jack CONNERNEY, SRC
Alberto ADRIANI, JAPS
Results from the Juno JEDI Instrument and Juno’s Exploration of Jupiter’s Magnetosphere
Barry MAUK1, Dennis HAGGERTY1, Chris PARANICAS1, George CLARK1, Peter KOLLMANN1, Abigail RYMER1, Scott BOLTON1, Steven LEVIN1, Alberto ADRIANI1, Fran BAGENAL2, Bertrand BONFOND1, John CONNERNEY1, Robert EBERT2, Randy GLADSTONE1, William KURTH2, David MCCOMAS1, Drake RANQUIST1, Philip VALEK2
1The Johns Hopkins University Applied Physics Laboratory, 2Southwest Research Institute, 3Jet Propulsion Laboratory, California Institute of Technology, 4National Institute for Astrophysics, 5University of Colorado Boulder, 6Universté de Liège, NASA Goddard Space Flight Center, 7University of Iowa, 8Princeton University

Observations of >10 MeV Electron Beams in Jupiter’s Polar Regions by Juno’s Radiation Monitoring Investigation
Heidi BECKER1, Alexandre GUILLAUME1, Martin BRENNAN1, James ALEXANDER1, Kelly PERRY1, John JORGENSEN1, Troelz DENVER1, Randy GLADSTONE1, Thomas GREATHOUSE1, Vincent HUE2, Maarten VERSTEEG3, John CONNERNEY1, Scott BOLTON1, Steven LEVIN1
1Jet Propulsion Laboratory, California Institute of Technology, 2Technical University of Denmark, 3Southwest Research Institute, 4NASA Goddard Space Flight Center, 5University of Iowa, 6Princeton University

The Juno Waves Investigation Explores the Jovian Magnetosphere
William KURTH1, George HOPSDARSKY2, Masafumi IMAP3, Sadie ELLIOTT1, Donald GURNETT1, Ali SULAIMAN1, Philip VALEK1, Frederic ALLEGRINI1, Randy GLADSTONE1, Thomas GREATHOUSE1, Vincent HUE2, Maarten VERSTEEG3, John CONNERNEY1, Scott BOLTON1, Steven LEVIN1
1The University of Iowa, 2Southwest Research Institute, 3University of Texas at San Antonio, 4Institut de Recherche en Astrophysique et Planétologie, 5National Institute for Astrophysics

Bow Shock and Magnetopause Encounters at Jupiter by the Juno Spacecraft
George HOPSDARSKY1, William KURTH1, Frederic ALLEGRINI1, Scott BOLTON1, George CLARK1, John CONNERNEY1, Robert EBERT1, Daniel GERSHMAN1, Dennis HAGGERTY1, Steven LEVIN1, Chris PARANICAS1, Drake RANQUIST1, Abigail RYMER1, Philip VALEK1, Chihiro TAO1, Michael R. COLLIER, Jacob GRUESBECK1
1The University of Iowa, 2Southwest Research Institute, 3University of Texas at San Antonio, 4The Johns Hopkins University Applied Physics Laboratory, 5NASA Goddard Space Flight Center, 6Jet Propulsion Laboratory, California Institute of Technology, 7University of Colorado Boulder, 8National Institute of Information and Communications Technology

Energy Flux of Precipitating Electrons over Jupiter’s Main Auroral Emission
Frederic ALLEGRINI1, Barry MAUK1, Randy GLADSTONE1, Fran BAGENAL1, Scott BOLTON1, George CLARK1, John CONNERNEY1, Robert EBERT1, Thomas GREATHOUSE1, Vincent HUE2, George HOPSDARSKY1, William KURTH1, Steven LEVIN1, Philippe LOUARN1, David MCCOMAS1, Drake RANQUIST1, Craig POLLOCK10, Michelle THOMSEN11, Philip VALEK1, Rob WILSON1
1Southwest Research Institute, 2University of Texas at San Antonio, 3The Johns Hopkins University Applied Physics Laboratory, 4University of Colorado Boulder, 5NASA Goddard Space Flight Center, 6The University of Iowa, 7Jet Propulsion Laboratory, California Institute of Technology, 8Institut de Recherche en Astrophysique et Planétologie (IRAP), 9Princeton University, 10Denali Scientific, 11Planetary Science Institute

Identifying Aerosol Types over the Contiguous United States with Polarized Angular Light Scattering Measurements
Reed ESPINOSA1, J. Vanderlei MARTINS1, Lorraine REMER2,3, Anin PUTHUKKUDY1, Oleg DUBOVIK4
1NASA Goddard Space Flight Center, 2University of Maryland, Baltimore County, 3Airphoton LLC, 4Université Lille 1

Polarimetry of the Near Earth Asteroid (357439) 2004 Bl86 on its Closest Approach
Shashikiran GANESH1, Indhu VARATHARAJAN1, Ashish MISHRA1, Kumar VENKATARAMANI1, Kiran BALIYAN1, Umesh JOSHI1, Jorn HELBERT1, Alessandro MATURILLI1
1Physical Research Laboratory, 2German Aerospace Center
Spectro-Polarimetric Signals of Comet 2P/Encke During its 2017 Apparition
Yuna KWON$^{1,2}$
$^1$Seoul National University

Photopolarimetric Observations of Comet 2P/Encke in Apparition of 2017
Nikolai KISELEV$^1$, Vera ROSENBUSH$^2$, Olexandra IVANOVA$^3$, Ludmilla KOLOKOLOVA$^4$, Viktor AFANASIEV$^5$, Olena SHUBINA$^6$
$^1$Crimean Astrophysical Observatory, $^2$University of Kyiv, $^3$Astronomical Institute of the Slovak Academy of Sciences, $^4$University of Maryland, $^5$Russian Academy of Sciences, $^6$Main Astronomical Observatory of the National Academy of Sciences of Ukraine

High Precision Polariometry of Planets and Stars
Jeremy BAILEY$^{1,2}$, Lucyna CHUDCZER$^1$, Daniel COTTON$^1$
$^1$University of New South Wales

Exoplanet Surface Imaging: Biosignatures and Technosignatures
Svetlana BERDYUGINA$^{1,2}$, Jeff KUHN$^3$
$^1$Kiepenheuer Institute for Solar Physics, $^2$University of Hawaii

A Self-Consistent Multi-Layered Model of Saturn and Gravitational Effect of Equatorially Symmetric Zonal Winds
Dali KONG$^{1,2}$, Keke ZHANG$^3$, Gerald SCHUBERT$^4$, John ANDERSON$^5$
$^1$Chinese Academy of Sciences, $^2$University of Exeter, $^3$University of California, Los Angeles, $^4$Jet Propulsion Laboratory, California Institute of Technology

Saturn’s Gravitational Field Induced by its Equatorially Symmetric Zonal Winds
Keke ZHANG$^3$, Dali KONG$^2$, Gerald SCHUBERT$^4$, John ANDERSON$^5$
$^1$University of Exeter, $^2$Chinese Academy of Sciences, $^3$University of California, Los Angeles, $^4$Jet Propulsion Laboratory, California Institute of Technology

Initial Iron-60 Abundance in the Solar Nebula Constrained by Delayed Onset of a Planetesimal Dynamo
Huapei WANG$^1$, Benjamin WEISS$^2$, John CROWLEY$^3$
$^1$China University of Geosciences, $^2$Massachusetts Institute of Technology, $^3$Natural Resources Canada

Ultra-High Resolution Evidence for Complex Transitional Field Behaviour During the Upper Olduvai Geomagnetic Polarity Reversal
Andrew ROBERTS$^{1,2}$, Chorng-Shern HORNG$^3$, Xiang ZHAO$^4$
$^1$Australian National University, $^2$Academia Sinica

Saturn's Internal Magnetic Field Revealed by Cassini Grand Finale
Hao CAO$^{1,2}$, Michele DOUGHERTY$^3$, Krishan KHURANA$^4$, Gregory HUNT$^5$, Gabrielle PROVAN$^6$, Stephen KELLOCK$^7$, Thomas BURK$^7$, Marcia BURTON$^8$
$^1$Harvard University, $^2$California Institute of Technology, $^3$Imperial College London, $^4$University of California, Los Angeles, $^5$University of Leicester, $^6$Jet Propulsion Laboratory, California Institute of Technology

The Fluxgate Magnetometer of the Low Orbit Pearl Satellites
Hao LUO$^{1,2}$, Aimin DU$^3$, Ying ZHANG$^4$, Ye ZHU$^5$, Yasong GE$^6$, Lin ZHAO$^7$, Shuquan SUN$^8$, Jiaming OU$^9$
$^1$Chinese Academy of Sciences

Geomagnetic Reversal Records from Long Volcanic Sequences
Emilio HERRERO-BERVERA$^{1,2}$
$^1$University of Hawaii at Manoa
SE05 / Magmatism and Mineral Deposits at Anorogenic Settings
Thu - 07 Jun | MR319B

Time 16:00 - 18:00
Chair(s) Maria L. TEJADA, Japan Agency for Marine-Earth Science and Technology
Steven W. DENYSZYN, The University of Western Australia
J. Gregory SHELLNUTT, National Taiwan Normal University

SE05-D4-PM2-319B-001 | SE05-A013 (Invited)
Petrologic and Geochemical Evidence for a Paleozoic Hotspot in the Iranian Tethysides
Kwan-Nang PANG1#+, Sun-Lin CHUNG2, Mohammad Hossein ZARRINKOUB3, Liang QI4, Ben-Xun SU4, Hao-Yang LEE1, Han-Yi CHIU1
1Academia Sinica, 2National Taiwan University, 3Birjand University, 4Chinese Academy of Sciences

SE05-D4-PM2-319B-002 | SE05-A015
ID-TIMS U-Pb Geochronology of Mafic Dykes from the Yilgarn Craton (Australia) and Bastar Craton (India): New Piercing Points for Paleogeographic Reconstruction
Steven DENYSZYN1#+, Camilla STARK2, Alice LIAO3, Greg SHELLNUTT1, Zhengxiang LI2
1University of Western Australia, 2Curtin University, 3National Taiwan Normal University

SE05-D4-PM2-319B-003 | SE05-A002
Assimilation of the Mafic-Ultramafic Magma: A Case Study of Diabase Dyke at the Beidaihe, North China Craton
Haijin XU1#+, Junfeng ZHANG1
1China University of Geosciences

SE05-D4-PM2-319B-004 | SE05-A014
Precise Age Determination of Silicic Rocks from the Extended Emeishan Large Igneous Province in Phan Si Pan Uplift Area and Tu Le Basin, Northwestern Vietnam
Thuy PHAM3†, Greg SHELLNUTT1, Steven DENYSZYN3, Tuan Tran ANH1
1National Taiwan Normal University, 2Vietnam Academy of Science and Technology, 3University of Western Australia

SE05-D4-PM2-319B-005 | SE05-A003
Identification of Two Distinct Intrusive Units in the Early Paleogene Silhouette/North Island Complex, Seychelles
Greg SHELLNUTT1#, Tung-Yi LEE1, Hao-Yang LEE1, Yoshiyuki IIZUKA2
1National Taiwan Normal University, 2Academia Sinica
SE25-40 / New Advance on Tectonics of SE Asia
Thu - 07 Jun  | MR314

Time  08:30 - 10:30
Chair(s) Xiaodong SONG, University of Illinois U-C
Mian LIU, University of Missouri

Plate Tectonics, Stress Conditions and Earthquake Potential within the Indochinese Region
Kevin P. FURLONG1, Matthew HERMAN2, Passakorn PANANONT3
1Penn State University, 2Utrecht University, 3Kasetsart University

SE25-40-D4-AM1-314-014 | SE25-40-A039
Ambient Noise Love Wave Tomography Across China
Zhigao YANG1, Xiaodong SONG2,3, Xuemei ZHANG1
1China Earthquake Networks Center, 2U of Illinois Urbana-Champaign / Wuhau U, 3Wuhan University

SE25-40-D4-AM1-314-015 | SE25-40-A046
The Structure Interpretation in Southeast Margin and Adjacent Area of Qiangtang Block and the Seimogenesis of Milin M6.9 Earthquake
Guiju WU1, Shen CHANGYANG1, Hongbo TAN1, Songbai XUAN1, Jiapedi WANG1
1China Earthquake Administration

The First Portable Seismic Array in Myanmar and the Crustal and Uppermost Mantle Structures Beneath North-Central Myanmar
Yumei HE1,2, Tianyu ZHENG1, Mingming JIANG1, Chit Thei MON1, Myo THANT1, Yinshuang AP1, Qi-Fu CHEN1, Kyaing SEIN1
1Chinese Academy of Sciences, 2Monywa University, 3Myanmar Earthquake Committee, 4Myanmar Geosciences Society

SE25-40-D4-AM1-314-017 | SE25-40-A042
3D Velocity Structure of the Central Myanmar Basin from Seismic Observations and Gravity Modeling
Wang XIN1,2, Shengji WEI1,2, Yu WANG1,2
1Nanyang Technological University, 2National Taiwan University

SE25-40-D4-AM1-314-018 | SE25-40-A043
Local Seismicity and Crustal Structure in Myanmar
Phyo Maung MAUNG1,2, Chen MENG1, Xin WANG1, Shengji WEI1
1Nanyang Technological University

SE32 / Accretion and Subduction of the Oceanic Lithosphere, from Ridge to Trench
Thu - 07 Jun  | MR314

Time  16:00 - 18:00
Chair(s) Hongfeng YANG, Chinese University of Hong Kong
Shengji WEI, Nanyang Technological University

SE32-D4-PM2-314-001 | SE32-A020
Three-Dimensional Forward and Inverse Gravity Modeling of Ocean Core Complexes at the Central Indian Ridge
Seung-Sep KIM1,2, Leonardo UIEDA2, Michael CHANDLER2, Sang-Joon PAK1, Seung-Kyu SON1
1Chungnam National University, 2University of Hawaii at Manoa, 3Korea Institute of Ocean Science and Technology

SE32-D4-PM2-314-002 | SE32-A002
Structures within the Oceanic Crust of the Central South China Sea Basin and Their Implications for Oceanic Accretionary Processes
Weiwei DING1,2, Zhen SUN1
1State Oceanic Administration, 2South China Sea Institute of Oceanology, Chinese Academy of Sciences

SE32-D4-PM2-314-003 | SE32-A006
Seismic Velocity Variations in the Uppermost Oceanic Mantle of the Incoming Pacific Plate Along the Japan Trench
Koichiro OBANA1,2, Gou FUJIE1, Yasuyuki NAKAMURA1, Tsutomu TAKAHASHI1, Takashi TONEGAWA1, Yojiro YAMAMOTO1, Yuka KAIHO1, Seiichi MIURA1, Shuichi KODAIRA1
1Japan Agency for Marine-Earth Science and Technology

SE32-D4-PM2-314-004 | SE32-A014 (Invited)
Evolution of the South China Sea from Subduction to Rifting-Drilling and Modeling Constraints
Zhen SUN1,2, Fucheng LI1
1South China Sea Institute of Oceanology, Chinese Academy of Sciences, 2Chinese Academy of Sciences

SE32-D4-PM2-314-005 | SE32-A009 (Invited)
Seismic Characters of Oceanic Lithosphere Entering the Japan Trench Seismogenic Zone
Shuichi KODAIRA1,2, Yasuyuki NAKAMURA1, Koichiro OBANA1, Akane OHIRA1, Seiichi MIURA1
1Japan Agency for Marine-Earth Science and Technology
Along-Strike Variation of Earthquake Distribution in the Southern Mariana Subduction Zone Inferred from Ocean Bottom Seismic Experiments
Hongfeng YANG1#, Gaohua ZHU1, Jian LIN2,3
1Chinese University of Hong Kong, 2Woods Hole Oceanographic Institution, 3Chinese Academy of Sciences

The Xigaze Ophiolites Revisited: An Analogue to Oceanic Lithosphere Formed in Ultraslow Spreading Ridges
Chuan-Zhou LIU1#
1Chinese Academy of Sciences

Crustal Structure and Deformation in the Manila Trench: Insights on Seamount Subduction and Forearc Evolution
Leo ARMADA1,2, Carla DIMALANTA1, Shu-Kun HSU1, Cresyyl Joy ARELLANO1, Yi-Ching YEH1, Noelynna RAMOS1, Teresito BACOLCOL1, Graciano YUMUL, JR.1,3
1University of the Philippines Diliman, 2National Central University, 3Philippine Institute of Volcanology and Seismology, 4Monte Oro Resources & Energy, Inc., 5Apex Mining Co. Inc.

SE38 / Global Mass Transport, Earth Rotation and Low-degree Gravitational Change
Thu - 07 Jun | MR321B

Earth’s Oblateness J2 Variations and Geophysical Causes
Benjamin Fong CHAO1#, Yao YU2
1Academia Sinica, 2Wuhan University

Toward High-Accuracy Data-Based Geocenter Motion Determination to Complement Grace and Grace Follow-On Missions
Xiaoping WU1,2, Bruce HAINES3, Yan JIANG2, Felix LANDERER1
1Jet Propulsion Laboratory, California Institute of Technology, 2Geological Survey of Canada

Constraints and Uncertainty on Global Glacial Isostatic Adjustment Signal Using a Bayesian Approach
Lambert CARON1,2, Eric IVINS1, Surendra ADHIKARI1, Eric LAOUR1
1Jet Propulsion Laboratory, California Institute of Technology

Implication of Low-Degree Gravitational Change on Sea Level Variations
Shuang YI1#, Kosuke HEKI3
1Hokkaido University
Seismic Effect of Large Earthquakes on Recent Abrupt Departure of the Earth's Pole Secular Drifting Since 2000
Changyi Xu1,2,*, Benjamin Song Chang1
1Academia Sinica, 2China Earthquake Administration

Seismic Deformation Induced by Temperature Variation in Chinese Mainland
Weijie Tan1,*, Xueqing Xu1, Dong Danan2, Junping Chen1
1Chinese Academy of Sciences, 2East China Normal University

SE41-33 / Environmental and Applied Mineralogy and Ore Deposits
Thu - 07 Jun | MR321A

Time 08:30 - 10:30
Chair(s) Hai Thanh Tran, Hanoi University of Mining and Geology
Kotaro Yonezu, Kyushu University

Preliminary Study on Mafic Magma Contribution to Porphyry Cu-Au Mineralization at the Grasberg Deposit, Indonesia:
Evidence from Co-Ni-Cu Sulfide
Kotaro Yonezu1,*, Katsuhiro Terashima1, Thomas Tindell1, Benny Bensaman1, Mega Fatimah Rosana2
1Kyushu University, 2Padjadjaran University
Time 16:00 - 18:00
Chair(s) Carlo ARCILLA, University of the Philippines, Diliman
Tsutomu SATO, Hokkaido University

Utilization of Metastable Geomaterials as One of Intelligent Applied Mineralogy Learnt from Natural Processes
Tsutomu SATO1#
1Hokkaido University

Metallogenic Significance of Sediment-Hosted/Orogenic Gold Deposits in Mainland SE Asia
Khin ZAW1#, Charles MAKOUNDI1, Hai Than TRAN2
1University of Tasmania, 2Hanoi University of Mining and Geology

Mineralogical and Geochemical Evolution of Laterization: A Study of the Weathering Mantle of the Zambales Ophiolite Complex
Karmina AQUINO1#, Carlo ARCILLA1
1University of the Philippines Diliman

The Occurrences of Ophiolite Complex in Ciletuh Region, West Java, Indonesia as Evidence of Cretaceous Subduction of Eurasian-Indoaustralian Plates
Mega Fatimah ROSANA1#, Rinaldi IKHRAM1, Adi HARDIYONO1, Euis TINTIN YUNINGSIH2
1Padjadjaran University, 2United States Geological Survey

Comparison Between Cement and Geopolymer Matrices for Solidification of Spent Synthesized Zeolite Adsorbing- Cesium and Strontium
Hnin WINT WINT TWO1#, Tsutomu SATO1#, Kirofumi KURUMISAWA1, Tsubasa OTAKE1, Kanako TODA1, Yutaro KOBAYASHI1, Yu ARAI1
1Hokkaido University

Formation and Phase Transformation Processes of Magnesium Silicate Hydrates
Yuto NISHIKI1#, Misato SHIMBASHI1, Tsutomu SATO1#, Tsubasa OTAKE1
1Hokkaido University

SS07 / Cascading hazards
Thu - 07 Jun  |  MR319B
Time 13:30 - 15:30
Chair(s) Gerald BAWDEN, National Aeronautics and Space Administration (NASA)
Emma HILL, Nanyang Technological University

The 2015 MW7.8 Gorkha, Nepal, Earthquake: Destruction and Creation
Susan HOUGH1#
1United States Geological Survey

Cascading Hazards: Triggering Relations Between Wet Tropical Cyclones, Landslides, and Earthquakes
Shimon WDOWINSKI1#, Zhigang PENG2, Ken FERRIER2, Ya-Ju HSU3, J. Bruce H. SHYU4, Cheng-Horng LIN5
1Florida International University, 2Georgia Institute of Technology, 3Academia Sinica, 4National Taiwan University

Development of an Incorporated Platform to Characterize Hydrology-Driven Landslide Hazards in Northwestern US
Zhong LU1#, Jinwoo KIM1, Xie HU1, Yuankun XU1, David GEORGE2
1Southern Methodist University, 2United States Geological Survey

Cascading Hazards Along Tropical Orogenic Belts
J. Bruce H. SHYU1#
1National Taiwan University

Cascading Hazards: Can Excessive Precipitation Trigger Volcanic Eruptions?
Falk AMELUNG1#, Jamie FARQUHARSON1
1University of Miami

Keeping an Eye on What Happens Next
David GREEN1#, David BORGES2
1National Aeronautics and Space Administration, 2NASA
SS10 / International Land Model Benchmarking (ilamb) Package Tutorial
Thu - 07 Jun | MR304B

Time 16:00 - 18:00

Chair(s) Forrest HOFFMAN, Oak Ridge National Laboratory
Nathan COLLIER, Oak Ridge National Laboratory

ST02 / Particle Acceleration and Transport at the Sun and in the Heliosphere
Thu - 07 Jun | MR323C

Time 13:30 - 15:30

Chair(s) Linghua WANG, Peking University

ST02-D4-PM1-323C-001 | ST02-A012 (Invited)
Energetic Particles: From Sun to Heliosphere - and Vice Versa
Robert WIMMER-SCHWEINGRUBER1+, Javier RODRIGUEZ-PACHECO2, Sebastian BODEN3, Stephan BOTTCHER1, Ignacio CERNUDA4, Nina DRESING5, Wolfgang DROEGE6, Sandra ELDRUN1, Robert ELFTMANN1, Francisco ESPINOSA LARA1, Raul GOMEZ-HERRERO1, Bernd HEBER7, George HO8, Andreas KLASSEN9, Shrinivasrao KULKARNI10, Gottfried MANN11, César MARTIN12, Glenn MASON13, Laura PANITZSCH1, Manuel PRIETO1, Sebastian SANCHEZ1, Christoph TERASA1
1University of Kiel, 2University of Alcala, 3Julius-Maximilians University of Würzburg, 4The Johns Hopkins University Applied Physics Laboratory, 5Leibniz Institute for Astrophysics Potsdam

ST02-D4-PM1-323C-002 | ST02-A001 (Invited)
Integrated Science Investigation of the Sun on Parker Solar Probe
Mihir DESAI1+, David MCCOMAS2, Nathan SCHWADRON3, Alan CUMMINGS4, Stefano LIVI5, Don MITCHELL6, Eric CHRISTIAN7, Mark WIEDENBECK8, Ralph MCNUTT9, Richard MEWALDT10, E.C. STONE11, Matthew HILL12, Stamatios KRIMIGIS13, Edmond ROELOF14, Joseph GIACALONE15, William MATTHAEUS16, Tycho VON ROSENVINGE17
1Southwest Research Institute, 2Princeton University, 3University of New Hampshire, 4California Institute of Technology, 5The Johns Hopkins University Applied Physics Laboratory, 6NASA Goddard Space Flight Center, 7Jet Propulsion Laboratory, California Institute of Technology, 8University of Arizona at Tucson, 9Bartol Research Institute

ST02-D4-PM1-323C-003 | ST02-A020
Solar Flare Impulsivity and its Relationship with Other Related Phenomena
Kyoko WATANABE1+, Satoshi MASUDA2
1National Defense Academy of Japan, 2Nagoya University

ST02-D4-PM1-323C-004 | ST02-A025
Evidence of Particle Acceleration in the Outflow Regions of Coronal Magnetic Reconnection
Yang SU1+, Jianchao XUE2, Xiaohou ZHAO3, Youping LP4, Yu HUANG5, Weigun GAN6, Hui LP7, Astrid VERONIG8, Gordon HOLMAN9, Brian DENNIS10
1Purple Mountain Observatory, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3University of Graz, 4NASA Goddard Space Flight Center

ST02-D4-PM1-323C-005 | ST02-A023
Dependence of E >100 MeV Protons on the Associated Flares and CMEs
Guiming LE1+
1China Meteorological Administration

ST02-D4-PM1-323C-006 | ST02-A002 (Invited)
Comparative Study of Energetic Particle Acceleration During Solar Flare and Terrestrial Substorm
Shinsuke IMADA1+, Yu-Zhai SHI2
1Nagoya University

ST02-D4-PM1-323C-007 | ST02-A011
Suprathermal Particles at 1 AU and Their Solar Sources
George HO1+, Yuan-Kuen KO2
1The Johns Hopkins University Applied Physics Laboratory, 2Naval Research Laboratory

ST02-D4-PM1-323C-008 | ST02-A014
Solar Wind ~0.1-1 keV Electrons Within and Around the Corotating Interaction Regions at One AU During 1995-1997
Jiawei TAO1, Linghua WANG1+, Gang LI1, Robert WIMMER-SCHWEINGRUBER1, Jian JIAN2+, Jiansen HE3, Chuanyi TU4, Hui TIAN5, Stuart BALD6
1Peking University, 2The University of Alabama in Huntsville, 3National Oceanic and Atmospheric Administration, 4George Mason University, 5NASA Goddard Space Flight Center, 6University of California, Berkeley

ST02-D4-PM2-323C-009 | ST02-A006 (Invited)
The Late Cycle 24 Strong SEP Events: Result of Homologous Multiple Eruptions from a Pseudostreamer?
Janet LUIHMANN1+, M. Leila MAYS2, Y. LP3, Christina LEE4, Hazel BAIN5, Dusan ODSTRCIL6, Richard MEWALDT7, Christina COHEN8, Davin LARSON9, Christopher RUSSELL10, Antoinette GALVIN11
1University of California, Berkeley, 2Catholic University of America, 3National Oceanic and Atmospheric Administration, 4George Mason University, 5California Institute of Technology, 6University of California, Los Angeles, 7University of New Hampshire
Comparing Shock Geometry from MHD Simulation to that from the Q/A-Scaling Analysis
Gang LI1, Lulu ZHAO2, Meng JIN3
1The University of Alabama in Huntsville, 2Florida Institute of Technology, 3Lockheed Martin ATC / SETI Institute

Particle Acceleration Associated with Magnetic Islands
Gary ZANK1, Olga KHABAROVA2, Laxman ADHIKARI3, Senbei DU4, Ling-Ling ZHAO5, Jakobus LE ROUX6, Peter HUNANA7
1The University of Alabama in Huntsville, 2The Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN), 3University of Chinese Academy of Sciences

Electron and Proton Acceleration During Magnetic Reconnection in Solar Flares
Fan GUO1, Xiaocan LI1, Hui LI1, Joachim BIRN2
1Los Alamos National Laboratory, 2Space Science Institute

Data-Driven Simulations of Magnetic Connectivity in Behind-the-Limb Gamma-Ray Flares and Associated Coronal Mass Ejections
Meng JIN1, Vahe PETROSIAN2, Wei LIU3, Nariaki NITTA4, Nicola OMODEI5, Fatima RUBIO DA COSTA6, Frederic EFFENBERGER7, Gang LI1, Melissa PESCE-ROLLINS8, Alice ALLAFORT9
1Lockheed Martin ATC / SETI Institute, 2SETI Institute, 3Stanford University, 4Lockheed Martin Solar and Astrophysics Laboratory, 5International Space Science Institute, 6The University of Alabama in Huntsville, 7National Institute of Nuclear Physics

The Electron Acceleration at ICME-Driven Shocks at 1 AU
Liu YANG1, Linghua WANG2, Gang LI1, Robert WIMMER-SCHWEINGRUBER3, Jansen HE4, Chuanyi TU5
1Peking University, 2The University of Alabama in Huntsville, 3University of Kiel

Cosmic-Ray Anisotropy Observed with the Tibet Air Shower Array
Masato TAKITA1, Tibet ASGAMMA2
1The University of Tokyo, 2N/A
Longitudinal Differences in the Response of Low-Latitude Ionosphere to Sudden Stratospheric Warmings
Larisa GONCHARENKO1*, Huixin LIU1, Shunrong ZHANG1, Anthea COSTER1
1Massachusetts Institute of Technology, 2Kyushu University

Simultaneous FPI and TMA Measurements of the Lower-Thermospheric Wind in the Vicinity of the Poleward-Expanding Aurora After Substorm Onset
Shin-Ichiro OYAMA1*, Ken KUBOTA2, Takatoshi MORINAGA3, Takuo TSUDA4, Junichi KURIHARA5, Miguel LARSEN6, Masa-Yuki YAMAMOTO7, Lei CAI8
1Institute for Space-Earth Environmental Research, 2Kubota, Inc., 3Nishimu Electronics Industries Co., Ltd., 4University of Electro-Communications, 5Hokkaido University, 6Clemson University, 7Kochi University of Technology, 8University of Oulu

ENSO Effects on MLT Diurnal Tides: A 21 Year Reanalysis
Data-Driven GAIA Model Simulation
Huixin LIU1*, Y. SUN1, Y. MIYOSHI1, Hidekatsu JIN1
1Kyushu University, 2National Institute of Information and Communications Technology

Seasonal and Solar Cycle Variations of the Diurnal Tide in Thermospheric Neutral Wind Obtained from FPI Observations at Middle and Low Latitudes
Uma DAS1*, Kazuo SHIOKAWA2, Yuichi OTSUWA3, Mamoru YAMAMOTO4, David NEUDEGG5, C. YUILE5, Tharadol KOMOLMIS6, Siramas KOMONJINDA7, Clara YATINI8
1Indian Institute of Information Technology Kalyani, 2Kyoto University, 3Australian Bureau of Meteorology, 4Chiang Mai University, 5Indonesian National Institute of Aeronautics and Space

Lunar Tidal Modulation of Periodic Meridional Movement of Equatorial Ionization Anomaly Crest During Sudden Stratospheric Warming
Xiaohua MO1, Donghe ZHANG2*, Yongqiang HAO2, Zuo XIAO2
1Guangxi University for Nationalities, 2Peking University

Neutral Wind Effects on Equatorial Plasma Bubbles Simulated by High Resolution Bubble Model
Tatsuhiro YOKOYAMA1*, Hidekatsu JIN1, Hiroyuki SHINAGAWA1
1National Institute of Information and Communications Technology

On the Possibility of Tidal Forcing of the Zonal Variation of Solstice Equatorial Spread F
Loren CHANG1*, Charles LIN2, Yi-Chung CHIU2, Fei-Yun CHIU1, Yi DUANN1, Ethan DAI1, Amal CHANDRAN2
1National Central University, 2National Cheng Kung University, 3Nanyang Technological University
Long Term Observation of Medium-Scale Traveling Ionospheric Disturbances Using GPS Receivers in Japan
Yuichi OTSUKA1++, Atsuki SHINBORI1, Takuya TSUGAWA2, Michi NISHIOKA2
1Nagoya University, 2National Institute of Information and Communications Technology

Ion Friction and Geomagnetic Influence on Gravity Waves in the Thermosphere-Ionosphere
Alexander S. MEDVEDEV1++, Erdal YIĞIT2, Paul HARTOGH1
1Max Planck Institute for Solar System Research, 2George Mason University

Geomagnetic Activity Dependences of High-Latitude Dayside Ionospheric Ion Up-Flows
Hongtao CAI1++, Kangjian ZHOU1, Kun HU1, Shuying MA1
1Wuhan University

Relative Importance of CO2 and Geomagnetic Field in Ionospheric Trend over Wuhan: 70 Years Ionosonde Observations and Model Simulations
Xinan YUE1++, Lianhuan HU1, Yong WEI1, Weixing WAN1, Baiqi NING1
1Chinese Academy of Sciences

Understanding the Ionosphere and Thermosphere
Larry PAXTON1++, Hyosub KIL1, Robert SCHAEFER1
1The Johns Hopkins University Applied Physics Laboratory

Global-Scale Observations of the Limb and Disk Mission – Ultraviolet Imaging of Earth’s Space Environment from Geostationary Orbit
Richard EASTES1++, William MCCINTOCK1, Alan G. BURNS2, Stanley SOLOMON3, David ANDERSON4, Laila ANDERSSON5, Mihail CODRESCU6, Robert DANIELL5, Scott ENGLAND5, Joseph EVANS6, Jerry LUMPE7, Arthur RICHMOND8, David RUSCH9, Oswald SIEGMUND10, Tom WOODS5, Carlos MARTINISP, Scott BUDZIEN4, Kenneth DYMOND8, Frank EPARVIER8, Jens OBERHEIDE10, John CORREIRA9, Sarah JONES11, Elsayed TALAAT12
1University of Colorado Boulder, 2National Center for Atmospheric Research, 3NOAA Space Weather Prediction Center, 4Ionospheric Physics, 5Virginia Tech, 6Computational Physics, Inc., 7University of California at Berkeley, 8Boston University, 9Naval Research Laboratory, 10Clemson University, 11NASA Goddard Space Flight Center, 12National Aeronautics and Space Administration

Response of the ITM System to Solar and Geomagnetic Forcing
Martin MLYNCZAK1++, Linda HUNT1, James M RUSSELL2
1National Aeronautics and Space Administration, 2Hampton University

Improving IRI Performance with Better Drivers and Data Assimilation
Dieter BILITZA1++
1George Mason University
The Causes of Thermospheric Winds and Composition Variations During and After the March 2015 St. Patrick’s Day Major Geomagnetic Storm

Wenbin WANG1#, Alan G. BURNS1, Jing LIU1, Liying QIAN1
1National Center for Atmospheric Research

The Simulated Product of the Ionosphere Connection Explorer (ICON) and its Application

Yen-Jung WU1#, Thomas IMME1, Colin TRIPLETT1, Harald FREY1, Stephen B. MENDE1, Astrid MAUTE2, Scott ENGLAND2, G. CROWLEY3
1University of California, Berkeley, 2National Center for Atmospheric Research, 3Virginia Tech, 4Atmospheric & Space Technology Research Associates (ASTRA)

Equatorial Ionospheric Response to Geomagnetic Storms

Chaosong HUANG1#
1Air Force Research Laboratory

Long-Term Trends in the Upper Atmosphere and Their Potential Drivers: An ISR-Based Study

Shunrong ZHANG1#, Philip ERICKSON1, Larisa GONCHARENKO1, John KELLY2
1Massachusetts Institute of Technology, 2SRI International

Remote Sensing of Global Wind, Temperature and Atomic Oxygen Density in the Lower Thermosphere by the TeraHz Limb Sounder (TLS)

Jeng-Hwa YEE1, Dong WU1, Imran MEHDP1, Robert DEMAJISTRE1
1The Johns Hopkins University Applied Physics Laboratory, 2NASA Goddard Space Flight Center, 3NASA Jet Propulsion Laboratory

Strom-Time Nitric Oxide Enhancement and Thermosphere Recovery

Yongliang ZHANG1#, Larry PAXTON1
1The Johns Hopkins University Applied Physics Laboratory

The Worldwide Interplanetary Scintillation Stations (WIPSS)

Network: Status, Updates, and Space-Weather Case Studies

Mario BISI1, Richard FALLOWS3, T. Oyuki CHANG2,3, Igor CHASHEI2, Sergey TYUL/BASHEV2,3, Ernesto AGUILAR-RODRIGUEZ1, Juan Americo GONZALEZ ESPARZA1, Joris VERBIEST1
1Science & Technology Facilities Council, 2ASTRON - The Netherlands Institute for Radio Astronomy, 3Universidad Nacional Autónoma de México, 4Pushchino Radio Astronomy Observatory, 5Bielefeld University

Using the Murchison Widefield Array for Probing the Heliosphere: Status Update

Colin LONSDALE1#, 2
1Massachusetts Institute of Technology

Tracing Solar Eruptive Events by Radio Imaging-Spectroscopic Observations from the Sun to Interplanetary Space

Yihua YAN1,2, Wei WANG1, Fei LIU1, Linjie CHEN1, Lihong GENG1, Zhijun CHEN1
1Chinese Academy of Sciences, 2University of Chinese Academy of Sciences

LOFAR: A Comprehensive Tool for Space Weather Observation

Richard FALLOWS1,2, Mario BISI, Biagio FORTE1, Maaijke MEVIUS1
1ASTRON - The Netherlands Institute for Radio Astronomy, 2Science & Technology Facilities Council, 3University of Bath
Reconstruction of Global Solar Wind Structure from 1975 to 2016 by Using Interplanetary Scintillation and Solar Magnetogram Observations
Ken’ichi FUJIKI1#+, Munetoshi TOKUMARU1
1Nagoya University

A Systematic Search of the Nearest Stars for Exoplanetary Radio Emission: Strong Radio Bursts from ROSS 614 AB
Daniel WINTERHALTER1, Mary KNAPP2, Tim BASTIAN3
1NASA Jet Propulsion Laboratory, 2Massachusetts Institute of Technology, 3National Radio Astronomy Observatory

ST12-23 / Ionospheric Response to Extreme Terrestrial and Space Weather Events Including Geomagnetic Storms not Caused by CMEs
Thu - 07 Jun | MR302A
Time 16:00 - 18:00
Chair(s) Mario M. BISI, Science & Technology Facilities Council

ST12-23-D4-PM2-302A-001 | ST12-23-A005 (Invited)
Study of Ionosphere Storm-Time Effects Using Data Assimilation Model
Charles LIN1, Chia-Hung CHEN1, P. K. RAJESH1
1National Cheng Kung University

ST12-23-D4-PM2-302A-002 | ST12-23-A014 (Invited)
The Role of Solar Wind Interaction Regions and Fast Streams in Causing Space Weather at Earth
E. KILPUA1, Andre BALOGH1, Ruedi VON STEIGER2, Ying LIU1, Hannu KOSKINEN2, Tuija PULKKINEN3
1University of Helsinki, 2Imperial College London, 3International Space Science Institute, 4Chinese Academy of Sciences, 5Aalto University

ST12-23-D4-PM2-302A-003 | ST12-23-A003
F-2 Region Response to the Storms Near St. Patrick’s Day in March 2013 and 2015 at the Low and Mid Latitude Stations in the Southern Hemisphere
Sushil KUMAR1
1The University of the South Pacific

ST12-23-D4-PM2-302A-004 | ST12-23-A007
Temporal and Spatial Variations of Ionospheric Irregularities Around Storm-Enhanced Density on the Basis of GPS Total Electron Content Data Analysis
Toshiki SUGIYAMA1, Yuichi OTSUKA1, Atsuki SHINBORI1, Takuya TSUGAWA1, Michi NISHIOKA1
1Nagoya University, 2National Institute of Information and Communications Technology

ST12-23-D4-PM2-302A-005 | ST12-23-A009
Significantly Large Impact of Disturbance Dynamo on Equatorial Ionosphere: Case Studies
Kuldeep PANDEY1,2, Dibyendu CHAKRABARTY1, R. SEKAR1
1Physical Research Laboratory, 2Indian Institute of Technology Gandhinagar

ST12-23-D4-PM2-302A-006 | ST12-23-A011
The 04-10 September 2017 Sun-Earth Connection Events: Solar Flares, Coronal Mass Ejections/Magnetic Clouds, and Geomagnetic Storms
Chin-Chun WU1,2, Lynn HUTTING1, Kan LIOU1, Simon PLUNKETT1, Harry WARREN1, Brian WOOD1, Dennis SOCKER1
1U.S. Naval Research Laboratory, 2The Johns Hopkins University Applied Physics Laboratory

ST12-23-D4-PM2-302A-007 | ST12-23-A013
Can Geomagnetic Substorms be Triggered by Northward Magnetic Field of SMFR and MFR?
Kyang Sun PARK1, Dae-Young LEE1, Rok-Soon KIM1, Kyungsuk CHO1
1Chungbuk National University, 2Korea Astronomy and Space Science Institute

ST-PS15 / Future and Current Space Missions and Instrumentation for Space and Planetary Science
Thu - 07 Jun | MR317A
Time 08:30 - 10:30
Chair(s) Takeshi SAKANOI, Tohoku University

ST-PS15-D4-AM1-317A-001 | ST-PS15-A020
ASHI: An All Sky Heliospheric Imager for Viewing Thomson-Scattered Light
Bernard JACKSON1, Andrew BUFFINGTON1, Hsiu-Shan YU1, Paul HICK1, Mario BISI1
1University of California, San Diego, 2Science & Technology Facilities Council

ST-PS15-D4-AM1-317A-002 | ST-PS15-A011
STEPS: An Experiment to Investigate the Energetic Particle Environment at the Sun-Earth L1 Point
Shiv Kumar GOYAL1, Dibyendu CHAKRABARTY1, Janardhan PADMANABHAN1, Santosh VADAWALE1, M. SHANMUGAM1, Aavek SARKAR1, Neeraj Kumar TIWARI1, Arpit PATEL1, Aaditya SARDA1, Tinkal LADIYA1, Mamta CHAUHAN1, Prashant KUMAR1, Pranav ADHYARU1, Arup Kumar HAJ1, Rakesh R. BHAVSAR1
1Physical Research Laboratory, 2Space Applications Centre, 3Indian Institute of Science Education and Research
ST-PS15-D4-AM1-317A-003 | ST-PS15-A010
The Fast 3D Ion Spectrometer for Solar Wind Analyzer Plasma
Package Onboard of Solar Orbiter ESA Mission
Andrey FEDOROV1**, Philippe LOUARN2, Christopher OWEN3
1University of Toulouse, 2Institut de Recherche en Astrophysique et Planétologie (IRAP), 3University College London

ST-PS15-D4-AM1-317A-004 | ST-PS15-A036
CuSP: The Cubesat Mission for Studying Solar Particles
Mihir DESAI1**, Frederic ALLEGRINI1,2, Eric CHRISTIAN3, Shri KANEKAL3, Keiichi OGASAWARA1, Robert EBERT1
1Southwest Research Institute, 2University of Texas at San Antonio, 3NASA Goddard Space Flight Center

ST-PS15-D4-AM1-317A-005 | ST-PS15-A040
A Space Coronal Magnetometry Mission
Haosheng LIN1
1University of Hawaii

ST-PS15-D4-AM1-317A-006 | ST-PS15-A032 (Invited)
Updates on Diwata-1: The First Philippine Microsatellite
Gay Jane PEREZ1**, Yukihiro TAKAHASHI1, Joel MARCIANO1, Marc Caesar TALAMPAS1, Alvin RETAMAR1, Mark Edwin TUPAS1, Enrico PARINGIT1, Tetsumo ISHIHATA1, Yuji SAKAMOTO1, Kazuya YOSHIDA1
1University of the Philippines Diliman, 2Hokkaido University, 3Advanced Science and Technology Institute, 4Tohoku University

ST-PS15-D4-AM1-317A-007 | ST-PS15-A038
CONNEX: The Magnetosphere-Ionosphere Connections Explorer
Geoffrey REEVES1**, Eric DORS1, Alexander BOYD2
1Los Alamos National Laboratory, 2New Mexico Consortium

ST-PS15-D4-PM1-317A-008 | ST-PS15-A018
NASA’s Planetary Science Missions Present and Future Plans
Doris DAOU1**, James GREEN1, Lori GLAZE1
1NASA Headquarters

ST-PS15-D4-PM1-317A-009 | ST-PS15-A026
Science and Exploration of Indian Mars and Venus Missions
S.A. HAIDER1**, Anil BHARDWAJ1, Durga Prasad KARANAM1, Varun SHEEL1, Jayesh PABARI1, M. SHANMUGAM1, Shiv Kumar GOYAL1
1Physical Research Laboratory

ST-PS15-D4-PM1-317A-010 | ST-PS15-A030
Martian Moons Exploration: A Planned JAXA’s Mission to the Martian System
Kiyoshi KURAMOTO1**, Shingo KAMEDA1, Yasuhiro KAWAKATU1, Masaki FUJIMOTO2, Hidenori GENDA1, Takeshi IMAMURA1, Koji MATSUMOTO1, Hideaki MIYAMOTO1, Tomokatsu MOROTA1, Hiroshi NAGAOKA2, Tomoki NAKAMURA1, Kazunori OGAWA1, Hisashi OTAKE2, Masanobu OZAKI1, Sho SASAKI1, Hiroki SENSHU1, Shogo TACHIBANA1, Naoki TERADA1, Tomohiro USUI1, Koji WADA1, Sei-Ichi WATANABE1
1Hokkaido University, 2Rikkyo University, 3Japan Aerospace Exploration Agency, 4Tokyo Institute of Technology, 5The University of Tokyo, 6National Astronomical Observatory of Japan, 7Nagoya University, 8Tohoku University, 9Kobe University, 10Osaka University, 11Chiba Institute of Technology

ST-PS15-D4-PM1-317A-011 | ST-PS15-A039 (Invited)
Radar Sounder for Exploration of Ices Below the Surface of the Moon and the Mars
Atsushi KUMAMOTO1**, Hideaki MIYAMOTO2, Toshiyuki NISHIBORI1, Fuminori TSUCHIYA1, Takahiro IWATA2, Tomohiro USUI3, Hiroyuki KUROKAWA4, Rina NOGUCHI4, Shintaro AZUMA4, Ken ISHIYAMA4, Mitsunori OZAKI5, Naoki TERADA5, Kanako SEKI2, Atsushi YAMAZAKI1, Makiko OHTAKE2
1Tohoku University, 2The University of Tokyo, 3Tokyo Institute of Technology, 4Tokyo Institute of Technology, 5Kyushu University, 6National Research Council, 7National Institute for Astrophysics, 8National Research Council, 9Politecnico di Milano, 10Luleå University of Technology

ST-PS15-D4-PM1-317A-012 | ST-PS15-A019
VIsta: A Miniaturized PCM–Based Instrument for Volatiles and Dust Characterization in Space and Planetary Environments by Using TGA Technique
Ernesto PALOMBA1**, Fabrizio DIRRI1, Andrea LONGOBARDO1, David BIONDI1, Angela BOCCACCINI1, Anna GALLIANO1, Emiliano ZAMPETTI1, Bortolino SAGGIN1, Diego SCACCABAROZZI1, Javier MARTIN-TORRES1
1National Institute for Astrophysics, 2National Research Council, 3Politecnico di Milano, 4University of Technology

ST-PS15-D4-PM1-317A-013 | ST-PS15-A027
Automated Subcritical Water Extraction and Analysis Platform for Martian Regolith: Remote Operation on Rover in the Atacama Desert
Florian KEHL1**, Eric TAVARES DA COSTA1, Nathan A. KOVARIK1, Peter A. WILLIS1
1NASA Jet Propulsion Laboratory

Time 13:30 - 15:30
Chair(s) Andrew YAU, University of Calgary
ST-PS15-D4-PM1-317A-014 | ST-PS15-A006

NOIRE Study Report: Towards a Low Frequency Radio Interferometer in Space

Baptiste CECCONI1#, Moustapha DEKKALI1, Carine BRIAND1, Boris SEGRET1, Julien GIRARD1, André LAURENS1, Alain LAMY1, David VALAT1, Michel DELPECH1, Mickael BRUNO1, Patrick GÉLARD1, Martin BUCHER1, Quentin NENON1, Jean-Mathias GRIEßMEIER2, Albert-Jan BOONSTRA2, Mark BENTUM2,

1Paris Observatory, 2National Center for Scientific Research, 3Paris Diderot University, 4National Center for Space Studies, 5National Office for Aerospace Studies and Research, 6National Center for Scientific Research/ Université d’Orléans, 7ASTRON - The Netherlands Institute for Radio Astronomy, 8Technische Universität Eindhoven

ST-PS15-D4-PM2-317A-018 | ST-PS15-A013

A Study on Exploring Uranus and Neptune: Science Objectives and Mission Requirements

Mark HOFSTADTER1#, Amy SIMON-MILLER1, Sushil ATREYA1, Don BANFIELD2, Jonathan FORTNEY3, Alex HAYES3, Matthew HEDMAN3, George HOSPODARSKY3, Adam MASTERS3, Kathleen MANDT3, Mark SHOWALTER3, Krista SODERLUND3, Diego TURRINI4, Elizabeth TURTLE4

1Jet Propulsion Laboratory, California Institute of Technology, 2NASA Goddard Space Flight Center, 3University of Michigan, 4Cornell University, 5University of California, 6University of Idaho, 7The University of Iowa, 8Imperial College London, 9The Johns Hopkins University Applied Physics Laboratory, 10SETI Institute, 11University of Texas, 12National Institute for Astrophysics

ST-PS15-D4-PM3-317A-019 | ST-PS15-A024

Radiation Science at Earth’s Moon Using the Crater Instrument on the LRO Spacecraft

Lawrence TOWNSEND1#, Fahad ZAMAN1, Wouter DE WET2, Nathan SCHWADRON2, Jody WILSON2, Andrew JORDAN2, Mark LOOPER2, Gary ZEITLIN2, Harlan SPENCE2, Fatemeh RAHMANI-FARD2, Colin JOYCE2, William M. FARRELL3, Noah PETRO3, Timothy STUBBS3, Anthony CASE2

1University of Tennessee, 2University of New Hampshire, 3The Aerospace Corporation, 4National Aeronautics and Space Administration, 5NASA Goddard Space Flight Center, 6Harvard-Smithsonian Center for Astrophysics

ST-PS15-D4-PM2-317A-016 | ST-PS15-A003 (Invited)

Lessons Learned from the Rosetta Mission

Bonnie BURATTI1#, Matt TAYLOR1, Mathieu CHOUKROUN1

1Jet Propulsion Laboratory, California Institute of Technology, 2European Space Agency

ST-PS15-D4-PM2-317A-017 | ST-PS15-A025

In-Situ Analysis of a Jupiter Trojan Asteroid by High Resolution Mass Spectrometry in the Solar Power Sail

OKEANOS Mission

Yoko KEBUKAWA1, Tatsuaki OKADA1, Jun AOKI1, Yosuke KAWAI1, Shoichiro YOKOTA2, Morio ISHIHARA2, Motoo ITO2, Jun MATSUMOTO2, Hisayoshi YURIMOTO2, Kentaro TERADA2, Michisato TOYODA3, Hikaru YABUTA3, Hajime YANO3, Ryo KAWAMURA3, Hervé COTTIN3, Noel GRAND3, Arnaud BUCH3, Cyril SZOPA3, Takahiro IWATA3, Osamu MORI3

1Yokohama National University, 2Japan Aerospace Exploration Agency, 3Osaka University, 4Japan Agency for Marine-Earth Science and Technology, 5Hokkaido University, 6Hiroshima University, 7National Institute of Advanced Industrial Science and Technology, 8Université Paris-Est Créteil, 9École Centrale de Paris, 10Laboratory Atmospheres, Environments, Spatial Observations (LATMOS)
OS Poster Presentations
Thu - 07 Jun, 13:30 - 15:30 | Ballroom B

OS01-D4-PM1-P-007  |  OS01-A003
Explaining the Opposite Salinity Change at Ocean Subsurface After 2005
Guancheng LI1+, Lijing CHENG1+, Jiang ZHU1
1Chinese Academy of Sciences

OS01-D4-PM1-P-008  |  OS01-A010
The Surface Salinity Front in the Equatorial Atlantic Ocean
Laura RUIZ-ETCHEVERRY1++, Nikolai MAXIMENKO2, Oleg MELNICHENKO2
1University of Hawaii at Manoa, 2University of Hawaii

OS01-D4-PM1-P-009  |  OS01-A012
Development of NEMO-TOPAZ: A New Coupled Ocean-Biogeochemistry Model
Hyun-Chae JUNG1+, Byung-Kwon MOON1+, Jieun WIE1, Hyomee LEE2, Ki-Young KIM3, Johan LEE3, Young-Hwa BYUN6
1Chonbuk National University, 2Jeonbuk National University, 3Cray Korea Inc., 4D Solution Co., Ltd, 5National Institude of Meteorological Science, 6Korea Meteorological Administration

OS02-AS-D4-PM1-P-016  |  OS02-AS-A003
Impact of SST Cooling on Tropical Cyclone in AGCM-Slab Ocean Model
Nobuhito MORI1+, Daisuke URANO1+, Tomoya SHIMURA1
1Kyoto University

OS02-AS-D4-PM1-P-017  |  OS02-AS-A005
Upper Ocean Response to Typhoon Kalmaegi and Sarika in the South China Sea
Xinxin YUE1++, Biao ZHANG2, Guoqiang LIU3, Xiaofeng LI4, Yijun HE4, Han ZHANG6
1Nanjing University of Information Science, 2Nanjing University of Information Science & Technology, 3Bedford Institute of Oceanography, 4National Oceanic and Atmospheric Administration, 5State Oceanic Administration

OS02-AS-D4-PM1-P-018  |  OS02-AS-A010
Tropical Storm-Forced Turbulent Mixing and Chlorophyll-A Enhancement in the Southeast Continental Shelf Region of Hainan Island
Shuwen ZHANG1++, Faqin CHEN1, Qiang LI1
1Guangdong Ocean University

OS02-AS-D4-PM1-P-019  |  OS02-AS-A011
Can We Derive the Tropical Cyclone Size from its Induced Cold Wake?
Jishi ZHANG1++, Yanluan LIN1++, Daniel CHUVAS2
1Tsinghua University, 2Purdue University

OS02-AS-D4-PM1-P-020  |  OS02-AS-A014
Sea Surface Temperature Changes Caused by Typhoon Cold Wakes
Yuan-Jane LO1++
1National Taiwan Ocean University

OS02-AS-D4-PM1-P-021  |  OS02-AS-A016
Impacts of El Niño Phase and SST Shift on Tropical Cyclone Genesis and Intensity over the Western North Pacific
Liang MEI1++, Jianjun XU1, Xu HUA2
1Guang Dong Ocean University, 2South China Sea Institute of Marine Meteorology

OS02-AS-D4-PM1-P-022  |  OS02-AS-A019
An Increase of Super-Typhoon and Northward Extension of Their Passages in the Western-North Pacific
You-Hyun BAEK1++, Il-Ju MOON1+
1Jeju National University

OS02-AS-D4-PM1-P-023  |  OS02-AS-A021
Effects of a Warm Ocean Eddy on Typhoon Megi
Caixia SHAO1++, Weimin ZHANG2, Xuefeng ZHANG3, Xidong WANG3, Hongli FU1
1National Marine Data and Information Service, 2National University of Defense Technology, 3Hohai University

OS02-AS-D4-PM1-P-024  |  OS02-AS-A022
Potential Impact of the Pacific Decadal Oscillation and Sea Surface Temperature in the Tropical Indian Ocean–Western Pacific on the Variability of Typhoon Landfall on the China Coast
Sheng CHEN1++, Lei YANG1, Chunzai WANG7, Dongxiao WANG7, Xin WANG1
1Chinese Academy of Sciences, 2South China Sea Institute of Oceanology, 3South China Sea Institute of Oceanology, Chinese Academy of Sciences

OS02-AS-D4-PM1-P-025  |  OS02-AS-A028
Reinforcing Effect of Warm Ocean Anomalies in the South China Sea on the Long-Lived Tropical-Depression-Induced Heavy Rainfall Event on Hainan Island
Sai HAO1++
1National Marine Environmental Forecasting Center, State Oceanic Administration
Large Eddy Simulation of the Influence of Varying Winds on the Vertical Eddy Viscosity
Ying QIU
1School

Large Eddy Simulation of the Influence of Ocean Cooling Induced by Tropical Cyclones on Upper Ocean Mixing
Dehua YANG
1Zhejiang University

New Approach to Retrieve Rain Rate Inside Tropical Cyclone Using 6.9- & 10.7Ghz Channel Measurements
Qingliu BAO
1Beijing PIEAT Information Technology Co., Ltd, 2National Satellite Ocean Application Service

Effects of Extratropical Cyclones on Surface Mixed Layer in the Western Subtropical North Pacific
Fumiaki KOBASHI
1Tokyo University of Marine Science and Technology

The Initial Errors that Induce a Significant “Spring Predictability Barrier” for Two Types of El Niño Events with GFDL CM2p1 Model
Qianqian QI
1Chinese Academy of Sciences

The Response of Available Gravity Potential Energy to Global Warming in the Southern Ocean
Ran LIU
1Fudan University

Structure of the Subpolar Gyre in the Australian-Antarctic Basin Derived from Argo
Kaihe YAMAZAKI
1Hokkaido University, 2Japan Agency for Marine-Earth Science and Technology, 3Tokyo University of Marine Science and Technology

Turbulence in a Hypertidal Estuary (Qiantang, China): The Influences of Tidal Straining and Suspended Sediment
Daidu FAN
1Ocean University of China, 2Southern University of Science and Technology

Radiocarbon Compositions in Dissolved Inorganic Carbon and Particulate Organic Carbon from the Changjiang (Yangtze) Estuary and the East China Sea
Shing-Lin WANG
1National Taiwan University, 2Tongji University, 3National Sun Yat-sen University

Future Projection of the North Pacific Ocean State with Ensemble CMIP5 Forcing for Coastal Applications
Tsuyoshi WAKAMATSU
1Nansen Environmental and Remote Sensing Center, 2Japan Agency for Marine-Earth Science and Technology, 3Japan Meteorological Agency

Internal Tide-Induced Vertical Heat Flux and Lateral Mass Transport over Coastal Shelf
Zhiwen WANG
1Ocean University of China, 2Southern University of Science and Technology

Seasonal Variations of Suspended Sediment Flux Through Bohai Strait - An Observational Study
Haiqin DUAN
1Ocean University of China, 2Southern University of Science and Technology

A Numerical Study of Sediment Budget and Dynamics Through the Bohai Strait
Chenghao WANG
1Ocean University of China, 2Southern University of Science and Technology

Future Coast and Ocean Under Increasing Stormy and Anthropogenic Scenarios
Jing DUAN
1Chinese Academy of Sciences
Sea Surface Heights in the Pacific and Atlantic: Variability, Mechanisms, and Predictability
Xiaoyu LONG1,2, Matthew WIDLANSKY1, H. ANNAMALAI1, Philip THOMPSON1, Mark MERRIFIELD2, Yoshimitsu CHIKAMOTO1, Arun KUMAR1
1University of Hawaii, 2University of California San Diego, Utah State University, National Oceanic and Atmospheric Administration

Leeuwin Current Transport and its Loaded Energy off Lower-West Coast of Western Australia
Qin-Yan LIU1,2, Ming FENG1, Dongxiao WANG1, Weiqiang WANG1, Andreas SCHILLER1, Ju CHEN1
1Chinese Academy of Sciences, 2Commonwealth Scientific and Industrial Research Organisation, South China Sea Institute of Oceanology, Chinese Academy of Sciences

Why the Major Stream of the Yellow Sea Warm Current Shifts Westward to Isobaths of 50~70 M in the Southern Yellow Sea?
Zhigang YAO1,2, Xianwen BAO1, Lingling ZHOU1
1Ocean University of China

Fate of Sedimentary Radiocesium in Semi-Enclosed Coastal Area: A Numerical Case Study of Matsukawaura Lagoon, Japan
Hironori HIGASHI1,2, Koichi ARITA1, Seiji HAYASHI3
1National Institute for Environmental Studies

Multiple Time-Scale Variability of Cross-Slope Transport Induced by Mesoscale Eddy in the Northern South China Sea
Na LIU1,2, Huijie XUE1, Bingxu GENG3
1State Key Laboratory of Tropical Oceanography, South China Sea Institute of Oceanology, Chinese Academy of Sciences, 2University of Maine, 3Chinese Academy of Sciences

Estimation of Ocean Wave Parameter Based on CCD Camera
Dongseob SONG1
1Kangwon National University

Effect of Continental Shelf Waves Originating from the Northern Slope on the Westward Shift of the Yellow Sea Warm Current
Yong-Jin TAK1,2, Yang Ki CHO1,2, Sung-Hyun NAM1
1Seoul National University

Surface Wave Development Under Explosive Cyclone Conditions and a Comparison with Typhoons
Yuki KITA1,2, Takuji WASEDA1, Adrian WEBB2
1The University of Tokyo, 2Kyoto University

Comparison of Slip Distribution Models of the 2011 Tohoku Earthquake Based on Diffracted and Up-Lift Induced Tsunami Waves in Korea
Sat-Byul KIM1,2, Tae-Seob KANG1, Junkeet RHEE1, So-Young BAAG2
1Pukyong National University, 2Seoul National University

Distribution and Physical Controls of Algal Blooming off the Changjiang River Estuary
Yihe WANG1, Hui WU1
1East China Normal University

The Interannual Variability of the Upwelling in the Northern South China Sea
Yeqiag SHU1,2, Dongxiao WANG1, Jianglong YAO1, Ju CHEN1, Qiang XIE1, Ming FENG1
1Chinese Academy of Sciences, 2South China Sea Institute of Oceanology, Chinese Academy of Sciences, Commonwealth Scientific and Industrial Research Organisation

Using a Multi-Frequency Acoustic Instrument to Investigate Suspended Sediment of Different Grain Sizes Carried by the Plume of Pearl River
Yi-Hsuan CHIANG1,2, James LIU1, Linus CHIU1
1National Sun Yat-sen University

Stratification Structure of the Pearl River Plume in Summer Season
Yanzhen GU1,2, Peiliang LI1, Changwei BIAN1
1Ocean University of China
OS12-D4-PM1-P-018 | OS12-A009

Generation Mechanism of High Swell-Like Waves in East/Japan Sea
Sang-Hun JEONG1,2*, Jin-Yong CHOI1, Ki-Young HEO1, Jung-Woo CHOI1, Kwang-Soon PARK1
1Korea Institute of Ocean Science and Technology, 2Pusan National University

OS12-D4-PM1-P-012 | OS12-A012

Case Study of Meso-Scale and Microstructures in Daya Bay, South China Sea
Huabin MAO1*, Zhijun DONG1
1Chinese Academy of Sciences

OS12-D4-PM1-P-020 | OS12-A013

Genetic Diversity Analysis of Jellyfish Sugiura Chengshanense in the Yellow River Estuary’s Adjacent Sea
Xiang SHI1*, Zhijun DONG1
1Chinese Academy of Sciences

OS12-D4-PM1-P-021 | OS12-A014

Diffusion of Buoyant Substances in Wind-Induced Ocean Surface Layer with Langmuir Circulation
Bong-Gwan KIM1*, Yang Ki CHO1, Yign NOH1
1Seoul National University, 2Yonsei University

OS12-D4-PM1-P-022 | OS12-A018

Numerical Simulations of Nearshore Waves and Circulations on the Dongsha Island
Te-Yun CHIANG1*, Yi-Hao LIN1, Shih-Feng SU1
1Tamkang University

OS12-D4-PM1-P-023 | OS12-A023

The Observation and Simulation Low Salinity Dispersions by Yangtze River Discharge in the Yellow Sea and the East China Sea
Jin-Yong CHOI1*, Yong-Chim MIN1, Kwang-Soon PARK1
1Korea Institute of Ocean Science and Technology

OS12-D4-PM1-P-024 | OS12-A025

A New 3-D Physical Model for the Drag Force of Submerged Aquatic Vegetation (SAV) in a Shallow Coastal Waters
Hirotada MOKI1*, Koichi TAGUCHI1, Yasuyuki NAKAGAWA1, Shigeru MONTAN1, Tomohiro KUWAE1
1Port and Airport Research Institute, 2Science and Technology, 3Kyushu University, 4Hokkaido University

OS12-D4-PM1-P-025 | OS12-A027

A Data Assimilation System for Coastal Wave Modeling in the East Sea
Kwang-Soon PARK1*, Sang-Kwon HYUN1, Jin-Yong CHOI1
1Korea Institute of Ocean Science and Technology, 2Ocean Research and Strategy Corporation

OS12-D4-PM1-P-026 | OS12-A030

Monitoring Coastal Sea Level Changes Using GNSS-Based Tide Gauges - A Case Study in Taiwan
Shao-Lun HUNG1*, Chung-Yen KUO1, Chi-Ming LEE1, Jian SUN1, C. K. SHUM1, Yuchan YP1, Tzu-Pang TSENG1, Kwo-Hwa CHEN1, Kuo-En CHING1
1National Cheng Kung University, 2Ohio State University, 3National Central University, 4National Taipei University

OS12-D4-PM1-P-027 | OS12-A032

The Palaeoenvironment Reconstruction of Reef-Mud Conversion Based on Diatom Analysis from the Top and Bottom Muddy Sediments of Buried Oyster Reef, Northwest Bohai Bay
Jing FANG1*, Hong WANG1, Fu WANG1
1Tianjin Normal University, 2China Geological Survey

OS12-D4-PM1-P-028 | OS12-A033

Biogeochemistry of Chromophoric Dissolved Organic Matter in the Changjiang Estuary and the Adjacent East China Sea
Lei GAO1*, Yongqiang GAO1
1East China Normal University

OS12-D4-PM1-P-029 | OS12-A034

Physical Control on the Biogeochemical Processes of the Changjiang (Yangtze) River Plume
Zhaoru ZHANG1*, Meng ZHOU1, Yisen ZHONG1
1Shanghai Jiao Tong University

OS12-D4-PM1-P-030 | OS12-A036

Identifying the Sources and Seasonal Variation of Particulate Organic Matters in the Pearl River Estuary and its Adjacent Region
Shaohui YAO1*, Chunyu ZHAO1, Li ZHANG1
1South China Sea Institute of Oceanology, Chinese Academy of Sciences, 2South China Sea Institute of Oceanology

OS13-D4-PM1-P-015 | OS13-A001

Evaluation of Three Temperature Profiles of a Sublayer Scheme to Simulate SST Diurnal Cycle in a Global Ocean General Circulation Model
Zhenya SONG1*, Xiaodan YANG1, Yu-Heng TSENG1, Fangli QIAO1, Qi SHU1
1State Oceanic Administration, 2National Taiwan University
Kuroshio Intrusion in Luzon Strait in an Eddy-Resolving Ocean and Coupled Model
Qian YANG1*, Hailong LIU1, Pengfei LIN1
1Chinese Academy of Sciences

Seasonal Prediction over Indo-Pacific Ocean with a High-Resolution Coupled Regional Climate Model
Mingkui LI1*, Shaoqiong ZHANG1
1Ocean University of China

Dynamical Downscaling of Climate Change in the Northwestern Pacific Ocean
Chan Joo JANG1*,
1Korea Institute of Ocean Science and Technology

Sea Temperature Influenced by Galápagos Islands in Eastern Tropical Pacific Ocean
Yue CHEN1*, Xiaomeng HUANG1*
1Tsinghua University

Openarray: A User-Friendly, Automatic Parallel and High Performance Operator Library for Ocean Model
Xing HUANG1*
1Tsinghua University

Effects of Langmuir Circulation and Tide on Mixed Layer and Meridional Overturning Circulation
Seungho LEE1*, Funmiaki KOBASHI1, Hojin LEE2, Naoto IWASAKA1
1Tokyo University of Marine Science and Technology, 2Korea Maritime and Ocean University

The Role of Rossby Waves on Multidecadal Sea Level Variability in the Tropical Pacific Ocean
Meixiang CHEN1*
1Nanjing University of Information Science & Technology

Interannual-To-Decadal Variability and Trends of Sea Level in the South China Sea
Xuhua CHENG1*
1Nanjing University of Information Science & Technology

Atlantic Multi-Decadal Oscillation Controls the North Pacific Subtropical Mode Water Variability
Baolan WU1*, Xiaopei LIN1, Lisan YU1
1Ocean University of China, 2Woods Hole Oceanographic Institution

Corrections and Analyses of Taiwan Tide Gauge Records
Wen-Hau LAN1*, Chung-Yen KAO1, Huan-Chin KAO2, Li-Ching LIN3, C. K. SHUM3, Kuo-Hsin TSEN3, Jung-Chieh CHANG3
1National Cheng Kung University, 2Academia Sinica, 3Ohio State University, 4National Central University, 5National Chung Hsing University

Consensuses and Discrepancies of Basin-Scale Ocean Heat Content Changes in Different Ocean Analyses
Gongjie WANG1*, Lijing CHENG2*, John ABRAHAM3, Chongyin LI2, Huadong DU4
1National University of Defense Technology, 2Chinese Academy of Sciences, 3University of St. Thomas, 4PLA University of Science and Technology

Combined Impacts of SSTA in Tropical Pacific and Indian Oceans on Area Changes of Summertime Western Pacific Subtropical High
Daili QIAN1*, Zhaoyong GUAN1, Weiyang TANG1
1Nanjing University of Information Science & Technology

One Hundred Parallel Worlds in Seasonal Prediction
Takeshi DOI1*, Swadhin BEHERA1, Toshio YAMAGATA1
1Japan Agency for Marine-Earth Science and Technology

A Dynamic Study of Simulated Atlantic Seasonal Upwelling in CMIP5 Models
Li-Chiaoa WANG1*, Fei-Fei JIN2, Chau-Ron WU1
1National Taiwan Normal University, 2University of Hawaii, 3Chinese Meteorological Agency

Experimental Seasonal Climate Prediction Using CFES: Preliminary Results
Nobumasa KOMORI1*, Bunmei TAGUCHI1, Akira KUWANO-YOSHIDA1, Takeshi DOP1, Masami NONAKA1
1Japan Agency for Marine-Earth Science and Technology, 2The University of Tokyo, 3Kyoto University
Spectral Interpretation of Mesoscale-to-Submesoscale Processes in the Northern South China Sea
Haijin CAO1*, Zhiyou JING2, Tong YAN2
1Hohai University, 2Chinese Academy of Sciences

Spatio-Temporal Features of Submesoscale Processes in the Northeast South China Sea
Jihai DONG1*, Yisen ZHONG2
1Nanjing University of Information Science & Technology, 2Shanghai Jiao Tong University

Impact of Mesoscale Air-Sea Interaction on Wind Work Done on Oceanic Mesoscale Eddies
Chi XU1*, Xiaodong SHANG1
1Chinese Academy of Sciences

The Evolution of Mode-2 Internal Solitary Waves Modulated by Background Shear Currents
Peiwen ZHANG1*, Zhenhua XU1, Qun LJ, Baoshu YIN1, Yijun HOU1, Antony LIU3
1Chinese Academy of Sciences, 2Polar Research Institute of China, 3Ocean University of China

Mesoscale Eddy Generation Mechanisms in the Central South China Sea
Jiajia CHEN1*, Xuhua CHENG1, Xiao CHEN2
1Hohai University, 2Chinese Academy of Sciences

Tropical Meridional Overturning Circulation Observed by Subsurface Moorings in the Western Pacific
Lina SONG1*
1Chinese Academy of Sciences

Energy Diagnostic of the Mesoscale Processes Loaded by the South China Sea Throughflow
Jinglong YAO1*, Dongxiao WANG2, Qin-Yan LIU3, Fuan XIAO1
1Chinese Academy of Sciences, 2South China Sea Institute of Oceanology, Chinese Academy of Sciences, 3Guangzhou University

Interdecadal Change in Upper Ocean Heat Content Around the Late 1990s in the South China Sea: Role of Interdecadal Pacific Oscillation
Fuan XIAO1*, Lili ZENG1, Qin-Yan LIU3, Wen ZHOU1, Dongxiax WANG2
1Guangzhou University, 2Chinese Academy of Sciences, 3City University of Hong Kong, 4South China Sea Institute of Oceanology, Chinese Academy of Sciences

The Mixed Layer Variations off the Western Coast of Sumatra Associated with the MJO Passage During the Pre-YMC and YMC
Qoosaku MOTEKI1*, Masaki KATSUMATA1, Kentaro ANDO1, Kunio YONEYAMA1, Takuya HASEGAWA1
1Japan Agency for Marine-Earth Science and Technology

Observations of Intraseasonal Variability in the Sunda Strait Throughflow
Shujiang LI1*, Xuequn WEI1, R. Dwi SUSANTO2, Yaohua ZHU1, Agus SETIAWAN3, Tengfei XU1, Bin FAN1, Teguh AGUSTIADI1, Mukti TRENGGONO1, Guohong FANG1
1State Oceanic Administration, 2University of Maryland, 3Ministry of Marine Affairs and Fisheries, 4Jenderal Soedirman University

A Case to Calculate Transit Time from Western Pacific Ocean to the South China Sea Based on CFC-12 Observations
Hengxiang DENG1, Peng HUANG2,3, Toste TANHUA4, Tim STÖVEN4, Hongwei KE1, Weimin WANG2, Kaiwen SHI1, Weidong GUO1, Minggang CAI1, Minggang CAI1
1Xiamen University, 2, 3Guangdong Ocean University, 4GEOMAR Helmholtz Centre for Ocean Research Kiel

Impact of ENSO Events on the Interannual Variability of Sea Surface Temperature and Sea Surface Height During 1980 – 2016 in the Mindanao Dome, Northwestern Pacific Ocean
Amali HETTIARACHCHI1,2*, Yi-Chia HSIN2
1National Central University, 2Academia Sinica

Hundred-Year Tendencies of the North Equatorial Current and North Equatorial Countercurrent in the Western Pacific Ocean
Yi-Chia HSIN1*
1Academia Sinica
Polymer Identification of Plastic Marine Debris Throughout the Hawaiian Archipelago by FT-IR to Determine Sources

Kayla BRIGNAC1)#, Melissa JUNG2, Cheryl KING3, Sarah-Jeanne ROYER4, Jens CURRIE5, Megan LAMSON6, Lauren BLICKLEY7, Stephanie STACK8, Kevin O'BRIEN9, Jim POTEMRA1, Jennifer LYNCH9

1University of Hawaii at Manoa, 2Hawaii Pacific University, 3SHARKastics, University of Hawaii, 4Pacific Whale Foundation, 5Hawaii Wildlife Fund, 6Swell Consulting, 7National Oceamic and Atmospheric Administration, 8National Institute of Standards and Technology

Sea-Level Rise and Storm Surge Study Using Integrated Geodetic Datasets and Circulation Modeling in the Hawaiian Islands

Linqiang YANG1)#, Oceana FRANCIS1

1University of Hawaii at Manoa

Water Mass Mixing Characteristics Analysis from Glider Observations in the South China Sea

Zongshang SI1)#, Zhisong FAN2, Chongguang PANG3, Zhiliang LIU1

1Chinese Academy of Sciences, 2Ocean University of China, 3Institute of Oceanology, Chinese Academy of Sciences

On Four-Dimensional Internal Wave Spectrum in the Northern South China Sea

Hui SUN1), Qingxuan YANG1), Liming FAN1, Jianing LI1

1Ocean University of China

Lagrangian Diffusivity in Contour-Based Coordinates

Yu-Kun QIAN1), Shiqiu PENG1)

1Chinese Academy of Sciences

The Possible Mechanism of Subtropical Countercurrent in the Pacific Ocean

Zhichun ZHANG1), Huijie XUE2

1Chinese Academy of Sciences, 2University of Maine

Precession-Paced Thermocline Water Temperature Changes in Response to Upwelling Conditions of Southern Sumatra over the Past 300,000 Years

Xingxing WANG1), Zhimin JIAN1, Andreas LUECKGE1, Yue WANG1, Haowen DANG1, Mahyar MOHTADI1, Tongji University, 2Federal Institute of Geosciences and Natural Resources, 3University of Bremen

The Application of Organic Biomarkers in Late Quaternary Paleoceanography in the Banda Sea

Hung-Lin TSAI1)

1National Taiwan Ocean University

Sea-Surface Temperature Variability Across the Indo-Pacific Warm Pool for the Past 30,000 Years

Andreas LUECKGE1, Markus KIENAST2), Martina HOLLSTEIN3, Stephan STEINKE4, Mahyar MOHTADI5

1Federal Institute of Geosciences and Natural Resources, 2Dalhousie University, 3University of Bremen, 4Xiamen University

1,500 Years of Anchovy and Sardine Population Response to Coastal Upwelling off Southern California

Gabrielle FARINA1), Ingrid HENDY1, Sam MCCLATCHIE2, Yi WANG1

1University of Michigan, 2National Oceanic and Atmospheric Administration

The Effects of Wave Forcing and Reef Morphology on the Low-Frequency Wave Motions over Fringing Reefs

Yu YAO1)

1Changsha University of Science & Technology

Wave Power Extraction from a Dual Oscillating Water Column Device with a Surging Mid-Wall

Zhengzhi DENG1), Lixian WANG2

1Zhejiang University, 2Wuhan University of Technology
Multivariate Analysis of Extreme Storm Surges in a Semi-Enclosed Bay
Weihong HE1+*
1South China Sea Institute of Oceanology, Chinese Academy of Sciences

Analysis of Sea Surface Temperature Variation in South China Sea Based on High Resolution Satellite Data
Yue XU1+*, Xiping YU1
1Tsinghua University

Trend Analysis of Tropical Cyclone Genesis
Kaiyue SHAN1+*, Xiping YU1
1Tsinghua University

An Experimental Study of Scour Around a Row of Closely-Spaced Circular Piles: Solitary Waves
Conghao XU1+*, Zhenhua HUANG1#
1University of Hawaii at Manoa

Nonlinear Numerical Simulation of Wave Transmission Through a Fluid-Filled Semi-Circular Membrane and its Application for Shoreline Protection
Chunrong LIU1+*, Zhenhua HUANG2#
1Xiamen University of Technology, 2University of Hawaii at Manoa

Tsunami Attenuation over Coral Reefs in a Context of Climate Change
Bernard DUDON1+*, Gael ARNAUD1, Yann KRIEN2, Narcisse ZAHIBO1
1Université des Antilles, 2University of the French West Indies and Guiana

Reexamination of Proudman Resonance by Boussinesq Wave Model
Tien-Chi LIU1+*, Tso-Ren WU1, Yu-Lin TSAP1, Chun-Wei LIN1, Muqun HUANG1, Pay-Liam LIN1
1National Central University

Development and Application of the Reflection Coefficient Diagram
Hayong KIM1+*, Haseog KIM1, Insang YU1, Sangman JEONG1
1Kongju National University

Temporal and Spatial Variations of Bio-Optical Properties of the Surface Waters of the East China Sea: An Analysis of the Impacts by Two Major Environmental Events
Jinchun YUAN1+*
1Elizabeth City State University

Storm-Induced Beach Erosion of Embedded Beach in Haundae, Korea
Kideok DO1+*, Jesseon YOO2
1Korea Maritime and Ocean University, 2Korea Institute of Ocean Science Technology

Insights into Potential Submarine Landslide Tsunamis in the South China Sea
Linlin LI1+*, Adam SWITZER1, Gangfeng MA2, Fengyan SHI3, Qiang QIU1, Robert WEISS4
1Nanyang Technological University, 2Old Dominion University, 3University of Delaware, 4Virginia Tech

An Experimental Study on Wave Damping by a Model Mangrove Forest
Che-Wei CHANG1+*, Naoki TSURUTA2, Kojiro SUZUKI2, Nobuhito MORI1#
1Kyoto University, 2Port and Airport Research Institute

Characteristics of Wave Overtopping and Overtopping Flow on a Sloped Seadike Under the Superstandard Tides and Waves
Qin JIANG1+*, Menghua AN2
1Hohai University, 2CCCC Third Harbor Consultant Co., Ltd.

Numerical Modeling of Wave Generation by Submarine Granular Slides Using a Three-Phase Flow Approach
Ming-Lan YU1+*, Cheng-Hsien LEE1#
1Tamkang University

Tide-Interaction Based Tsunami Inundation Impact Assessment – A Case Study in Hawaii
Xi FENG1+*, Suwan SHEN1
1Hohai University, 2University of Hawaii
Simulating Tsunami Wave Generation Using a Two-Layer Non-Hydrostatic Landslide Model
Gangfeng MA1#, Cheng ZHANG1,2, James KIRBY1, Stephan GRILLI1, Fengyan SHI1
1Old Dominion University, 2University of Delaware, 3University of Rhode Island

Alternating Gravel and Mud Deposits in Southern Cebu: Origin and Implications for Coastal Hazards
Regina Martha LUMONGSOD1#, Noelynna RAMOS1, Kathrine MAXWELL1, Raul Benjamin MENDOZA1, Carla DIMALANTA1
1University of the Philippines Diliman

Wave-Induced Currents at Haeundae Beach in Busan
Seung-Nam SEO1,2, Young-Kwang CHOI1
1Korea Institute of Ocean Science and Technology

Risk Assessment of Sea Level Rise and Storm Surge
Compound Disaster in the Coastal Zone of Bohai Sea, China
Lifen XU1, Xuegong XU1,2
1General Office of Tongren Municipal Government, 2Peking University

Community Composition of Photosynthetic Picoeukaryotes in a Subtropical Coastal Ecosystem, with Particular Emphasis on Micromonas
Kuo-Ping CHIANG1#
1National Taiwan Ocean University

Export of Particulate Organic Carbon and Soot Black Carbon on the Northern South China Sea Slope Based on Po-210/Pb-210 Disequilibria
Wei-feng YANG1#, Haoyang MA1, Ziming FANG3
1Xiamen University

Regulation Mechanism of Phytoplankton Community on Sinking of Zooplankton Fecal Pellets
Yong QIU1, Wupeng XIAO1, Yiwei SHANG1, Xin LIU1, Bangqin HUANG1#
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Controlling Factors and Cross Linkages of Ecosystem Metabolism and Atmospheric CO2 Flux in the Northern South China Sea
Jia-Jang HUNG1#
1National Sun Yat-sen University

Diel Vertical Distribution of Zooplankton in Yongle Blue Hole, Xisha Islands, South China Sea and its Implication to Carbon Cycling
Hongjiu CHEN1#, Yunyun ZHUANG1, Guangxing LIU1
1Ocean University of China

Seasonal Variations of Picoplankton Abundance at the SEATS Station in the South China Sea: From Diel Surveys
Tzong-Yueh CHEN1#, Fub-Kwo SHIAH2
1National Taiwan Ocean University, 2Academia Sinica

Phosphorus Stress of Phytoplankton in the East China Sea and the Northern South China Sea
Yu MO1, Lizhen LIN2#, Bangqin HUANG2#
1Guangxi University for Nationalities, 2Xiamen University

Intrusion of the Kuroshio into the South and East China Seas
Chau-Ron WU1#, You-Lin WANG1, Yong-Fu LIN1, Shenn-Yu CHAO2
1National Taiwan Normal University, 2University of Maryland

Surface and Subsurface Thermal Conditions on the Multidecadal Timescale: South China Sea vs. Tropical Northwest Pacific Ocean
Tzu-Ling CHIANG1#, Yi-Chia HSIN2, Chau-Ron WU1
1National Taiwan Normal University, 2Academia Sinica

Intrusion of the Kuroshio into the South and East China Seas
Chau-Ron WU1#, You-Lin WANG1, Yong-Fu LIN1, Shenn-Yu CHAO2
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Environmental Baseline Study for Deep-Sea Mining
Kyoko YAMAOKA1#, Atsushi SUZUKI1, Masahiro SÜZUMURA1, Nobuo TSURUSHIMA1, Yuichiro TANAKA1, Akifumi SHIMAMOTO1, Yuki OTA1, Hiroki MATSUS1, Hideki SUGISHIMA1, Takaaki MATSUS1, Nobuyuki OKAMOTO2
1National Institute of Advanced Industrial Science and Technology, 2Japan Oil, Gas and Metals National Corporation (JOGMEC)
Cs-137 Inventory in the Eastern Indian Ocean Water Column
Masatoshi YAMADA¹+
¹Hirosaki University

Temporal Variation of Dissolved 137Cs in Seawater
Collected in the Western North Pacific in 2011-2013
Miho FUKUDA¹+, Tatsuo AONO¹, Shinnosuke YAMAZAKI¹, Makio HONDA¹, Hajime KAWAKAMI¹, Toshiro SAINO³
¹National Institute of Radiological Science (NIRS), ²Tokyo Nuclear Services Co. Ltd, ³Japan Agency for Marine-Earth Science and Technology

Radiocarbon Content in Dissolved Organic Carbon in the East China Sea
Taehee NA¹+, Jeomshik HWANG¹
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Monitoring Water Level Variations Based on CryoSat-2 LRM and SAR Altimetry Retracked Data
Huan-Chin KAO¹+; Chung-Yen KUO¹, C. K. SHUM¹, Yuchan YF¹
¹National Cheng Kung University, ²Ohio State University

Retrieve Ocean Surface Roughness from Delay-Doppler Map Made by Oceanic Reflected GNSS Signal
Wen-Hao YEH¹+, Hwa CHIEN¹, Guang-Huy LU¹, Cheng-Yung HUANG¹
¹National Space Organization, ²National Central University

Li, Mg, and S Purification from Seawater Using an Ion Chromatograph with a Fraction Collector System for Stable Isotope Measurements
Toshihiro YOSHIMURA¹+, Daisuke ARAOKA¹, Yusuke TAMENORI¹, Junichiro KURODA¹, Hodaka KAWAHATA¹, Naohiko OHKOUCHI¹
¹Japan Agency for Marine-Earth Science and Technology, ²National Institute of Advanced Industrial Science and Technology, ³Spring-8, ⁴The University of Tokyo

The Long-Term Variability of Wave Height in East Indian Ocean, South China Sea and Northwest Pacific Ocean Regions
Shaotian LI¹, Yineng LI¹, Shiqiu PENG¹
¹Chinese Academy of Sciences
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SE01-D4-PM1-P-018  |  SE01-A007
Anomalous Variation of Magnetic Anisotropy with Low-Field in Some Volcanic Dikes
Martin CHADIMA1,2, Frantisek HROUDA1, Josef JEZEK3
1Advanced Geoscience Instruments Company, 2Czech Academy of Sciences, 3Charles University

SE01-D4-PM1-P-019  |  SE01-A013
Kinematics of Mass Transport Deposits Revealed by Magnetic Fabrics
Ram WEINBERGER1,2, Tsafir LEVI1, G. Ian ALSOP2, Shmuel MARCO3
1Geological Survey of Israel, 2University of Aberdeen, 3Tel Aviv University

SE01-D4-PM1-P-020  |  SE01-A014
Termination of Fluvial-Alluvial Sedimentation in the Xining Basin, NE Tibet Plateau, and Successive Geomorphologic Evolution
Weilin ZHANG1
1Chinese Academy of Sciences

SE01-D4-PM1-P-021  |  SE01-A015
Characterizing Seismites and Co-Seismic Faults with Anisotropy of Magnetic Susceptibility, Dead Sea Basin
Tsafir LEVI1,2, Ram WEINBERGER1, G. Ian ALSOP2, Shmuel MARCO3
1Geological Survey of Israel, 2University of Aberdeen, 3Tel Aviv University

SE01-D4-PM1-P-022  |  SE01-A025
Contribution of Anisotropy of Magnetic Susceptibility (AMS) to Structures and Evolution Precambrian Rocks of Southwestern Nigeria
Cyril OKPOLI1,2, Emilio HERRERO-BERVERA1, Michael OLADUNJOYE2
1Adekunle Ajasin University, 2University of Hawaii at Manoa

SE01-D4-PM1-P-023  |  SE01-A026
Rock Magnetic Characterization of Southwestern Nigeria Precambrian Shield: Constraints of Remagnetization
Cyril OKPOLI1
1Adekunle Ajasin University, 2University of Hawaii at Manoa

SE01-D4-PM1-P-024  |  SE01-A030
Unusual Magnetic Properties of Sedimentary Pyrrhotite in Methane-Seeage Sediments: Comparison with Metamorphic Pyrrhotite and Sedimentary Greigite
Chorng-Shern HORNG1
1Academia Sinica

SE01-D4-PM1-P-025  |  SE01-A032
Possible Mutuyama-Brunhes Boundary in Cave Sediment of the Czech Republic
Gunther KLETETSCHKA1, Emilio HERRERO-BERVERA2, Tereza KAMENIKOVA1, Jaroslav KADLEC3, Hakan UCAR1
1Charles University, 2University of Hawaii at Manoa, 3Geophysical Institute

SE02-D4-PM1-P-017  |  SE02-A003
The Thermochemical Structure of the Lithosphere and Upper Mantle Beneath South China: Results from Multi-Observable Probabilistic Inversion
Bin SHAN1
1China University of Geosciences

SE02-D4-PM1-P-018  |  SE02-A005
Waveform Inversion Based on the Curvilinear-Grid Finite-Difference Seismic Wavefield Simulation
Qi LIU1, Jiayu KANG1, Xiaofei CHEN1, Wei ZHANG2
1University of Science and Technology of China, 2Southern University of Science and Technology

SE02-D4-PM1-P-019  |  SE02-A006
High-Resolution Tomographic Models of the Crust and Uppermost Mantle Beneath Southern Sumatra
Yongsheng LIU1, Muzli MUZLI1,2, Iman SUARDF, Xueyuan HUANG1, Shengji WEI1, Ping TONG1
1Nanyang Technological University, 2Meteorological, Climatological, and Geophysical Agency

SE02-D4-PM1-P-020  |  SE02-A008
A New Method to Extract Fundamental and Higher Mode Surface Wave Dispersion Curves Using USAarray Ambient Noise Data
Gaoxiong WU1, Jiannan WANG1, Xiaofei CHEN2
1University of Science and Technology of China, 2Southern University of Science and Technology

SE02-D4-PM1-P-021  |  SE02-A010
Rupture Process of the M5.5 Orkney Earthquake Using Strainmeters at Very Close Distance
Tatsunami YASUTOMI1, Jim MORI1, Hiroshi OGASAWARA2, Masumi YAMADA1, Makoto OKUBO1, Bennie LIEBENBERG1
1Kyoto University, 2Ritsumeikan University, 3Kochi University, 4AngloGold Ashanti
Tomographic Models of the Philippine Sea Slab Beneath Kyushu, Japan and the 2016 Kumamoto Earthquake (MW 7.1) Area
Yongzhi ZHOU\textsuperscript{1,}, Yuejun WANG\textsuperscript{1,}, Ping TONG\textsuperscript{2,}
\textsuperscript{1}Sun Yat-sen University, \textsuperscript{2}Nanyang Technological University

Reverse-Time Migration Using the Dominant Frequency Component of the Spectral Decomposed Wavefield
Jiho HA\textsuperscript{1,}, Seongpil KIM\textsuperscript{1,}, Young-Ju KIM\textsuperscript{1,}, Nam-Sub WOO\textsuperscript{1,}, Sang-Mok HAN\textsuperscript{1,}, Wookeen CHUNG\textsuperscript{2,}, Sungryul SHIN\textsuperscript{3,}
\textsuperscript{1}Korea Institute of Geoscience and Mineral Resources, \textsuperscript{2}Korea Maritime and Ocean University

Detailed Velocity and Stress Distributions of Deep Seismic Zone Under Izu-Bonin in Japan
Guoming JIANG\textsuperscript{1,}, Guoming JIANG\textsuperscript{2,}
\textsuperscript{1}China University of Geosciences

Application of Full Waveform Inversion to Local Imaging in South China
Guibin ZHANG\textsuperscript{1,}, Guoming JIANG\textsuperscript{2,}
\textsuperscript{1}China University of Geosciences

Surface Wave Tomography of Northeastern Tibetan Plateau Using Beamforming Method Based on Seismic Noise
Laiyu LU\textsuperscript{1,}, Kaiming WANG\textsuperscript{1,}, Zhifeng DING\textsuperscript{2,}
\textsuperscript{1}Institute of Geophysics, China Earthquake Administration, \textsuperscript{2}China Earthquake Administration

Preliminary Constraints on the Crustal Thickness of Luzon Island, Philippines by Using P-to-S Wave Receiver Function
Nghia Cong NGUYEN\textsuperscript{1,}, Bor-Shouh HUANG\textsuperscript{3,}, Van-Duong NGUYEN\textsuperscript{1,}, Po-Fei CHEN\textsuperscript{1,}, Chin-Shang KU\textsuperscript{4,}, Win-Gee HUANG\textsuperscript{4,}, Bautista BARTOLOME C\textsuperscript{4,}, Ishmael NARAG\textsuperscript{5,}, Sevilla WINCHELLE IAN\textsuperscript{1,}, Melosantos ARNALDO\textsuperscript{6,}
\textsuperscript{1}Academia Sinica, \textsuperscript{2}National Central University, \textsuperscript{3}Philippine Institute of Volcanology and Seismology

Cross-Correlation Analysis of Ambient Noise Recorded by Accelerometer in the Korean Peninsula
Eunjin PARK\textsuperscript{1,}, Sangmin KWAK\textsuperscript{1,}, Seok Goo SONG\textsuperscript{1,}
\textsuperscript{1}Korea Institute of Geoscience and Geothermal Resources

Comparative Study of the Crustal Structure Between North China Craton and South China Block
Yong Hong DUAN\textsuperscript{1,}, Yanna ZHAO\textsuperscript{1,}, Yunhao WANG\textsuperscript{1,}, Jiyan LIN\textsuperscript{1,}
\textsuperscript{1}China Earthquake Administration

Tomographic Imaging of P and S Wave Velocity Structure Beneath Northeast China and Surrounding Regions
Jinli HUANG\textsuperscript{1,},
\textsuperscript{1}China University of Geosciences

About Crustal Velocity Model and Application of Inner Mongolia Region
Fang LIU\textsuperscript{1,},
\textsuperscript{1}China Earthquake Administration

Numerical Simulation of Seismic Wave Propagation Across Lake-Shaped Fluid-Solid Interface Model by Curvilinear Grid Finite Difference Method
Yao-Chong SUN\textsuperscript{1,}, Nan SUN\textsuperscript{1,}, Wei ZHANG\textsuperscript{1,}, Xiaofei CHEN\textsuperscript{1,},
\textsuperscript{1}Southern University of Science and Technology, \textsuperscript{2}Wuhan University, \textsuperscript{3}University of Science and Technology of China

Crustal Structure Research Based on Zhenkang-Luxi Controlled Source Profile
Suzhen PAN\textsuperscript{1,}, Yong Hong DUAN\textsuperscript{1,}, Fuyun WANG\textsuperscript{1,}
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Imaging of the Crustal and Upper Mantle Structures Beneath the North America Using Receiver-Based Stacking and Inversion Techniques
Seongryong KIM\textsuperscript{1,}, Junkee RHIE\textsuperscript{1,}, Sanghyun LEE\textsuperscript{1,}
\textsuperscript{1}Seoul National University

Seismic Investigation Revealed Characteristics of the Littoral Fault Zone in the Pearl River Estuary, Northern Continental Margin of the South China Sea
Jinlong SUN\textsuperscript{1,}, Cheng XIONG\textsuperscript{1,}, Cao JINGHE\textsuperscript{1,}, Shaohong XIA\textsuperscript{2,}, Hui-long XU\textsuperscript{3,}
\textsuperscript{1}Chinese Academy of Sciences, \textsuperscript{2}South China Sea Institute of Oceanology, \textsuperscript{3}Chinese Academy of Sciences
A Crustal Velocity Model of the Southern Korean Peninsula from Local Earthquake Data
Euna PARK1##, Tae-Seob KANG1
1Pukyong National University

Ambient Noise Cross-Correlation Analysis of Active Seismic Experiment Data in the East Sub-Basin of South China Sea
Jian WANG1##, Ting YANG1, Be Manh LE1, Xuelin QIU3, Minghui ZHAO3
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Modeling Regional Waveforms from Explosion Sources with Realistic Surface Topography
Yi-Ching LO1##, Li ZHAO1, Shu-Huei HUNG3
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3D Variable Density Model Cooperating with Seismic Data Constraints to Improve the Reliability of Moho Inversion Based on Gravity Anomaly in South China Sea
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1China University of Geosciences

Constraints on Water Content in the Mantle Transition Zone from Seismic Anisotropy and Mineral Physics Data
Sung-Joon CHANG1##
1Kangwon National University

Geodynamic Implications of Complex Seismic Anisotropy Beneath Tienshan
Kelly LIU1##, Solomon CHERIE1, Ahmed ELSHEIKH1, Fansheng KONG1, Cory REED1, Bin YANG1, Stephen GAO1
1Missouri University of Science and Technology

A New Method to Extract Fundamental and Higher Mode Dispersion Curves Using Europe and Some Special Areas Ambient Noise Waveform Data
Qingbo MA1##, Xiaofei CHEN1
1University of Science and Technology of China

A Wavelet-Based Gravity Method to Multilayer Densities and its Applications in the Tibet
Chuang XU1##, Zhicai LUO1, Jiajuan WAN1
1Huaizhong University of Science and Technology

Hydraulic Fracturing Reservoir Interpretation Based on Microseismic Source Parameters
Zheng LI1##, Xu CHANG1, Zhenxing YAO1, Yibo WANG1
1Chinese Academy of Sciences

P and S Wave Tomography and Anisotropy in Northwest Pacific Subduction Zones
Wei WEI1##
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Crustal Structure Beneath the NE Tibetan Plateau and its Adjacent Constrained by the Receiver Functions and Rayleigh Wave Dispersions
Yonghua LI1##, Xingchen WANG1, Ruixing ZHANG1, Qingju WU3, Zhiheng DING2
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2017 Jiuzhaigou Mw6.5 Earthquake - A Sinistral Strike-Slip Event Promoted by Historical Earthquakes
Wei XIONG1##
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Earthquake Source Parameter of the Ninger Ms6.4 Earthquake Inferred from Insar Data and Analysis of Coulomb Stress Disturbance
Wei CHEN1##, Wei XIONG1
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Crustal Seismic Structure of Southwest Japan Constrained by Noise Interferometry
Kai-Xun CHEN1##, Yuancheng GUNG1, Ban-Yuan KUO1, Tzu-Ying HUANG2
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Near Real-Time Monitoring System of the Seismic Velocity Changes in Taiwan
Kuan-Fu FENG1##, Hsin-Hua HUANG2, Yih-Min WU3
1National Taiwan University, 2Academia Sinica
Crustal Anisotropy of Cascadia Subduction Zone Revealed by Ambient Noise Tomography
Tzu-Ying HUANG1#, Ban-Yuan KUO1, Ying-Nien CHEN2
1Academia Sinica, 2National Taiwan University

Building Empirical Impulse Response Function (IRF) Database in the Southeastern Region of the Korean Peninsula for 3D Ground Motion Modeling, Using Ambient Seismic Noise
Sangmin KWAK1#, Seok Goo SONG1
1Korea Institute of Geoscience and Mineral Resources

Differential Development on Frontal Thrust Belt from Central to Southern Taiwan: Revealed by Seismogenic Faults
Yue-Gau CHEN1, Yu-Ting KUO1, Chien-Hsin CHANG2, Tz-Shin LAF, Hsin-Hua HUANG2, Yi-H-Min WU1
1National Taiwan University, 2Central Weather Bureau, 3Academia Sinica

Imaging the Lithosphere Structure Beneath Intraplate Volcanoes in Jeju Island, South Korea Using Teleseismic Traveltime Tomography
Jung-Hun SONG1, Junkee RHIE1, Seongryong KIM1, Sanghyun LEE1
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Strong S-Wave Attenuation in the Mantle Wedge Beneath Northeastern Japan Retrieved by High-Frequency Later Phases of Intraslab Earthquakes
Takahiro SHINA1, Kie KATSUMATA2, Kiyoshi YOMOGIDA2
1University of Tokyo, 2Hokkaido University

Distribution of Localized Fluid Inferred from S Wave Reflectors Beneath the Earthquake Swarm in Yonezawa-Aizu Area, NE Japan
Manami SUZUKI1, Akiko HASEMP, Tomomi OKADA1, Toru MATSUZAWA1, Norihiko UMINO1, Noriko TSUMURA1, Tadashi YAMASHINA1, Member GROUP2
1Tohoku University, 2Yamagata University, 3Chiba University, 4Kochi University, 5Group for the Aftershock Observations of the 2011 Off the Pacific of Tohoku Earthquake

3D Basin Structure of the Santa Clara Valley Constrained by Ambient Noise Tomography
Hyejeong CHO1#, Sang-Jun LEE1, Junkee RHIE1, Seongryong KIM1
1Seoul National University

Upper Crustal Isotropic and Anisotropic Shear-Wave Velocity Structures Beneath Jeju Island from Ambient Noise Tomography
Sang-Jun LEE1, Junkee RHIE1, Seongryong KIM1, Tae-Seob KANG2, Young-Hee KIM3
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Offshore Seismicity in the Southeastern Part of the Korean Peninsula: Regional Distribution of Microearthquakes and its Seismotectonic Implication
Hyejin PARK1#, Tae-Seob KANG1
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Stress Drop Estimates from Coda Wave Measurements of the 2016 Gyeongju Earthquake Sequence
Miji KIM1, Tae-Seob KANG1
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Characterization of a Potential Collapse Structure by 3D Seismic Imaging
Roland GRITTO1, Daniel O'CONNELL2, Ali Elobaid ELNAIEM3, Fateh Alrahman MOHAMED3, Fadhil SADOONIP
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Imaging of Subsurface Voids with Active-Seismic and Anthropogenic Sources
Roland GRITTO1, Valeri KORNEEV1, Magomed MAGOMEDOV1, Michael ZUEV1, Ali Elobaid ELNAIEM3, Fateh Alrahman MOHAMED3, Fadhil SADOONIP
1Array Information Technology, 2WaveLab, 3Qatar University

Origin and Seismogenic Fault of the Wenchuan-Yingxiu Ms 8.0 Earthquake
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Mantle Anisotropy of Upper Mantle in the NE Margin of the Tibetan Plateau and Related Crust-Mantle Coupling Pattern
Lijun CHANG1#+, Zhifeng DING2, Lucy FLESCH3
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Western Pacific Sub-Slab Anisotropy: Izu-Bonin and Mariana Regions
Li-Chen HSU1#+, Cheng-Chien PENG1, Ban-Yuan KUO2, Yuancheng GUNG3
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Mantle Plume Pulses and Multiple Eruptions in Deccan Trap
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The Pressure Torque Exerted by Core Motions on an Irregularly Shaped Core-Mantle Boundary
Dong DANAN1#+, Xueqing XU2
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Mantle Potential Temperature Estimates and Primary Magma Compositions of the Low-Ti Emeishan Flood Basalt
Greg SHELLNUTT1#+, Thuy PHAM1,2
1National Taiwan Normal University, 2Vietnam Academy of Science and Technology

Alkali Olivine Basalts as Alternate Conduits for Diamond Transport from Deep Mantle
Yongqiang YANG1#+, Xinquan LIANG2
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Petrogenesis of Xitian Granites from Eastern Hunan Province, SE China: Constrains from U-Pb Zircon Ages and Geochemistry
Qing LIU1#+, Jing CAO2
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Polymetallic Droplets in a Quartz Diorite Porphyry from the Gangcha-Kemo Gold Deposit, China: Implications for Petrogenesis and Prospecting
Junfeng SHEN1#+, Haiming LIU2, Zhaohua LUO1, Xiao NIE3, Zidong PENG1, Jinchun LI1, Liwei XU1, Shuhao WANG1, Baisong DU1
1China University of Geosciences, 2Université Laval, 3Chinese Academy of Sciences, 4Heli mining Co.Ltd

Osmium Evidence for Synchronicity Between an Increased Magmatic Activity and the Mid-Miocene Climatic Optimum
Kosuke GOTO1#+, Maria Luisa TEJADA1, Gregory RAVIZZA2, Takashi ITO1, Junichiro KURODA1, Katsuhiko SUZUKI2
1Geological Survey of Japan, 2Japan Agency for Marine-Earth Science and Technology, 3University of Hawaii, 4Baraki University, 5The University of Tokyo

The Geochronology and Mantle Potential Temperature of Mafic Lavas and Dyke Sin Emeishan Large Igneous Province, SW China: Constraints on the Baddeleyite Srs U-Pb Ages and Geochemical Characteristic of Mafic Rocks in Funing Area
Baohua WANG1#+, Xijun LIU1#, Yu SHI1, Zhenglin LI1, Zhiguo ZHANG1
1Guilin University of Technology

Petrogenesis of Late Permian Ferroan Granitic Rocks of the Emeishan Large Igneous Province in the Phan Si Pan Uplift and Tu Le Basin (NW Vietnam)
Thuy PHAM1,2#+, Greg SHELLNUTT1, Tuan Tran ANH2
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Constraining the Chronology and Petrogenesis of a Magmatic Complex with a Single Lava Flow: The Middle Tertiary Atascosa Lookout Lava Flow, Atascosa Mountains, Southern Arizona, USA
Christine BURRILL1#+, Sheila SEAMAN2
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Three-Dimensional Deformation Characteristics in Southwestern Segment of Longmenshan Fault
Jing ZHAO1#+
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Thermal Infrared Changing Patterns Associated with Moderate-Strong Earthquakes in Tibet
Xian LU1*, Xiaodong ZHANG2, Qingyan MENG3, Tao XIE1
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Geochemical Characterizations of the Observations Well of Anninghe Fault and Longmenshan Fault
Tian LEI1*, Zhihua ZHOU1, Yu HUAIZHONG1
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A Study on Seismic Quiescence Phenomena Prior Great Earthquakes in the North-South Seismic Belt
Yang ZANG1*, Lingyuan MENG1, Yanyan HAN1
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Focal Depths and Mechanisms of Earthquakes in the South Mariana Trench Region from Local Array Data
Cheng CHENG1*, Tianyao HAO1*
1Chinese Academy of Sciences

Study on the Relationship Between Argillaceous Content and Distance to Main Faulted Belt and Fractures Development in the Middle and Lower Ordovician Carbonate Rocks of Shunbei Area, Tarim Basin
Bowen ZHOU1*, Honghan CHEN1*
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Precise Age Determination on a Historical Gigantic Earthquake and the Resultant Catastrophic Rock Avalanche in the Southern Japan Alps, Based on Dendrochronological Analysis Using Oxygen Isotope Composition
Ryuu YAMADA1*, Yoshikiko KARIYA2, Takashi KIMURA1, Masaki SANO1, Zhen LI1*, Takeda NAKATSUKA4
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Occurrence, Evidences and Age of Brittle Faulting and the Largest-Scale Bonggil Pseudotachylyte, Gyeongju, Se Korea
Da-Hyun KANG1*, Hee-Cheol KANG2, Youngbeom CHEON1, Moon SON1
1Pusan National University

Offshore Fault Geometrics in the Pearl River Estuary, Southeastern China: Evidence from Seismic Reflection Data
Huiling XU1*, Cao JINGHE1, Shaohong XIA1, Jinlong SUN2, Zhao FANG1, Wan KUIYUAN2
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Insight into the 2017 Ms7.0 Jiuzhaigou, Sichuan Earthquake for a Partial Rupture on the Northern Huya Fault in Eastern Tibet
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1China Earthquake Administration

The November 15, 2017, Pohang Earthquake Sequences: Hypocenter Distribution and Focal Mechanism Analysis
Jeong-Ung WOO1*, Jung-Hun SONG1, Seongryong KIM1, Junkee RHIE1, Tae-Seob KANG2
1Seoul National University, 2Pukyong National University

Analysis on Anomaly Characteristics of Underground Fluid Before Xinjiang Jinghe Ms6.6 Earthquake in 2017
Jun ZHONG1*, Bo WANG1, Zhihua ZHOU1, Lei TIAN1
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Studies on Dehydration Kinetics of Talc with Different Iron Content
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Earthquake Triggers Over-Pressurized Mid-to-Lower Crustal Fluid Migration in SW Taiwan
Yu-Fang HSU1*, Hsin-Hua HUANG2, Meng-Han HUANG2, Ray Y. CHUANG1, Kuan-Fu FENG2
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Influence of Lithofacies on Shale Reservoir and Oil-Gas Bearing Capacity: A Case from Zhanhua Sag
Siyuan SU1*, Xuanlong SHAN1, Zherouxue JANG2
1Jilin University, 2China University of Petroleum-Beijing
The 2006 M3.0 Dangan Island Earthquake Offshore Hong Kong: Effect of Intersecting Faults and High-Speed Intruded Bodies
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Seismicity and B-Values Spatial Features in the Coastal Area of Northern South China Sea
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Hydraulic Changes of Head and Permeability Related to Active Fault: A Case Study of the Chihshang Fault in Eastern Taiwan
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Relationship Between Frictional Heating and Water Adsorption in Simulated Fault Gouge Sheared at Elevated Slip Rates
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Norika YAMAMURA1*, Yasuyuki KANO1
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Seismic Wavefield Properties in Cracked Solids in the Lowermost Mantle
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Frictional Properties of Accretionary Sediments/Rocks and Their Implications for The Shallow Transition of Aseismic to Seismic Faulting at the Nankai Trough Subduction Zone
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Spatiotemporal Pattern of Seismicity and Seismotectonics of the Jiangsu Province and Southern Yellow Sea, East China
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1Chinese Academy of Sciences, 2China Earthquake Administration

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Jing WANG1++, Tan K. WANG1, Yu Hsuan CHENG1, Yi Feng ZHANG1, Zhi Zhao XIE1
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Toshiya FUJIIWARA++, Toshiya KANAMATSU1, Shuichi KODAIRA1, Akihiko MURATA1, Kazuho YOSHIDA1, Ryo KIMURA2
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Pop-Up Structures Below Forearc Basins North of the Ryukyu Trench Imaged from OBS/MCS Data Off Northeast Taiwan
Jia-Ming DENG1++, Wan Ting HU1, Tan K. WANG1, Louis S. TENG1
1National Applied Research Laboratories, 2National Taiwan Ocean University, 3National Taiwan University

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Seismotectonics of the 2017 Ms7.0 Jiuzhaigou Earthquake
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1Chinese Academy of Sciences, 2Guangzhou Institute of Geochemistry, Chinese Academy of Sciences

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Shaowei SONG1++, Di-Cheng ZHU1, Qing WANG1, Shi-Min LI1, Peter A. CAWOOD2, Zhidan ZHAO1
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Evolution of Late-Stage Magmatism in the Comei Large Igneous Province, Southeast Tibet
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Himalayan Versus Carpathian Continental Lithosphere: Based on Integrated Density Modelling
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Fertilizing Porphyry Cu Deposits Through Deep Crustal Hot Zone Melting in Collisional Orogen
Bo WAN1#+
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The Isotopic Characteristics of Tethyan and Paleo-Asian Mantle Domains
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Geochemistry and Geochronology of Back-Arc Like Mafic Rocks from Chongzuo Area, South China: Implication of the Subduction of Paleo-Tethys Ocean
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Effect of Variations in Long-Duration Rainfall Intensity on Unsaturated Slope Stability
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A Landslide-Quake Auto-Detection Algorithm with Diagnostic Functions of Moving Average and Scintillation Index
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1National Cheng Kung University

Automating Landslide Identification and Localization Using Seismic Recordings
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Structure and Tectonics of the Pyeongchang and Yeongweol Areas in the Taebaeksan Zone, Korea
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Slow Slip Events and Seismicity-Induced Continued Slip in the Southernmost Ryukyu Trench
Kuan-Hsiang CHEN1#, Ya-Ju HSU1, Yih-Min WU2, Yu-Chang CHAN1
1Academia Sinica, 2National Taiwan University

Seismic Heterogeneity and Anisotropy in Eastern Taiwan from Dense Seismic Array
Ching-Yu CHENG1#, Hao KUO-CHEN1, Zhuo-Kang GUAN1, Hsuan-Yu KUO1, Wei-Fang SUN2
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Seismicity, Focal Mechanisms, and the Crustal Structure in the North Part of Eastern Taiwan from Dense Seismic Array
Pei-Yu ZHONG1#, Hao KUO-CHEN1, Zhuo-Kang GUAN1, Ching-Yu CHENG1
1National Central University
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The Sedimentation and Volcanic Activity of the Jinan Basin and its Uplifting History to Form the Noryeong Mountain Range

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The Effect of Dehydration on B, Sr, and Nd Isotopic Behavior During Low-Grade Metamorphism: Observations from Metapelite in the Central Range, Taiwan

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Review of Historical Collapse Events at the Trench of the Chelungpu Fault Preservation Park

Ling-Ho CHUNG, Xin-He LI, Cheng-Shing CHIANG

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Rollback Structure in the Eastern Flank of the Central Range

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Fluid Source and Precipitation Environment of Open-Filling Calcites in Hoping Area, NE Taiwan

En-Chao YEH*, Mai NGUYEN, Horng-Sheng MIK, Huei-Fen CHEN, Pei-Ling WANG, Jianneng FANG, Wayne LIN

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Tectonic Activity of the Eastern Central Range Front in Taiwan: Perspective from in Situ Cosmogenic 10Be

Chu-Chun KANG*, Siame LIONEL, Chung-Pai CHANG, Hao KUO-CHEN

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Structural Evolution of the Lichi Melange in the Southern Tip of the Coastal Range, Eastern Taiwan

Chi-Hsiu PANG*, Chih-Tung CHEN, Yi-Chun HSU, Chung-Pai CHANG

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Modeling the Effects of Inhomogeneous Pressure Distribution in the Evolution of Metamorphic Rocks

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SE18-34-37-D4-PM1-P-021 | SE18-34-37-A002

Determination of Damage Thresholds and Characteristics of Acoustic Emission of the Pocheon Granite, Korea

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A Study on the Correlation of the Stress and Earthquake Frequency-Magnitude Distribution B Value in Taiwan

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SE18-34-37-D4-PM1-P-023 | SE18-34-37-A006

Stress States in the Source Regions of M2-5.5 Earthquakes Estimated by the ICDP DSis Drilling in South African Deep Gold Mines

Yasu YABE*, Shuhei ABE, Akimasa ISHIDA, Akio FUNATO, Takatoshi ITO, Harumi KATO, Halil YILMAZ, Raymond DURRHEIM, Siyanda MNGADI, Gerhard HOFMANN, Tatsunari YASUTOMI, Kosuke SUGIMURA, Taku NODA, Michael RICKENBACHER, Martin ZIEGLER, Bennie LIEBENBERG, Hiroshi OGASAWARA

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SE18-34-37-D4-PM1-P-024 | SE18-34-37-A012

Stress Change Due to the Large Earthquake Along the Nankai Trough, SW Japan, in a Viscoelastic Medium

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SE18-34-37-D4-PM1-P-025 | SE18-34-37-A013

Stress States in the Source Regions of M2-5.5 Earthquakes Estimated by the ICDP DSis Drilling in South African Deep Gold Mines

Yasu YABE, Shuhei ABE, Akimasa ISHIDA, Akio FUNATO, Takatoshi ITO, Harumi KATO, Halil YILMAZ, Raymond DURRHEIM, Siyanda MNGADI, Gerhard HOFMANN, Tatsunari YASUTOMI, Kosuke SUGIMURA, Taku NODA, Michael RICKENBACHER, Martin ZIEGLER, Bennie LIEBENBERG, Hiroshi OGASAWARA

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SE18-34-37-D4-PM1-P-026 | SE18-34-37-A014

Stress Change Due to the Large Earthquake Along the Nankai Trough, SW Japan, in a Viscoelastic Medium

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Effect of Water on the Rheology of Clinopyroxene at High Temperature and Pressure
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Source Information Included in 1 Hz GNSS Displacement and 20 Hz Dynamic Strain Seismogram
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Crustal Structure Variation Across NW Himalaya, India from P to S Converted Phases
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Comprehensive Study on Reservoir-Induced Seismicity in the Xiaowan Reservoir, Yunnan Province, China
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Stress Change of the Seismic Gap in the Southwestern of Kathmandu
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Study on the Crustal Deformations and Seismic Risk Assessments in the Hutubi Underground Gas Storage by GPS and InSAR Measurements
Di-Jin WANG1*, Xuejun QIAO1, Zhengsong CHEN2, Pengfei YU1, Mu LIN1, Wei CHEN1
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Metamorphic P-T Evolution and U-Pb Dating of the Garnet-Cordierite-Sillimanite Metapelitic Rocks from the Ji’an Area, Jiao-Liao-Ji Belt, North China Craton
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Crustal and Uppermost Mantle Structure of the Alpine Region Unraveled by Trans-Dimensional Inversion of Receiver Functions and Surface-Wave Dispersion Data
Liang ZHAO1*, Huaiyu YUAN2*, Anne PAUL3, Yang LU3, Thomas BODIN4
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The Metamorphic History of the Paleoproterozoic Salma Eclogite on the Kola Peninsula, Russia
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Detrital Zircon U-Pb Study of the Paleoproterozoic Ji’an and Laoling Groups, Northernmost Jiao-Liao-Ji Belt of the North China Craton and Theri Tectonic Implications
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Crustal Structure of the Canning Basin, NW Australia: Preliminary Results
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Finite-Frequency P Wave Tomography of the Upper Mantle Beneath Capricorn Orogen and Adjacent Areas
Xiaobing XU1*, Liang ZHAO2, Huaiyu YUAN2, Simon JOHNSON1, Mike DENTITH1, Ruth Elaine MURDIE1, Klaus GESSNER1, Fawna KORHONEN5, Perla VARAS4
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Crustal Velocity Structure of the Paloproterozoic Capricorn Orogen in the West Australian Craton
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Transdimensional Inversion of Ambient Noise Dispersion and Receiver Functions - Application to East China
Tingzi LI1#, Kun WANG2, Xiaobing XU1, Liang ZHAO1, Huayu YUAN2, Thomas BODIN3
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In-Situ Oxygen and Sulfur Isotopes of the Katbasu Gold Deposit from South Tianshan, Northwest China: Implications for the Nature of Ore-Forming Fluids and Regional Subduction Environments
Leilei DONG1+, Bo WAN1#, Chen DENG1, Jilei LI1, Keda CAI2
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The Thermal Evolution and its Implications of Chinese Tianshan: Insights from (U-Th)/He Thermochronometry
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Differential Structural Evolution and Petroleum Accumulation in Luliang Uplift of the Junggar Basin, Northwest China
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Crustal Lg Wave Attenuation Tomography in Xinjiang and its Adjacent Regions
Xiao MA1*, Li-an FENG ZHAO1, Xiao-Bi XIE1, Zhen-Xing YAO1
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The Relationship Between the Hydrocarbon and the Evolution Characteristic of the Pre-Jurassic Structure in Tuha Basin
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Distinctive Pb Isotopic Mantle Evolution Beneath the Tethyan Tectonic Domain and Central Asian Orogenic Belt
Xijun LIU1*, Wenjiao XIAO1, Jifeng XU1, Yu SHI1, Zhenglin LI1, Zhiguang ZHANG6
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Surface Creep and Slip-Behavior Segmentation Along the Northwestern Xianshuiehui Fault Zone of Southwestern China Determined from Decades of Fault-Crossing Short-Baseline and Short-Level Surveys
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Source Fault and Slip Distribution of the 2017 Mw 6.5 Jiuzhaigou, China, Earthquake and its Tectonic Implications
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Creep Experiment of Crystalline Rocks in the Taiwan Orogen from Geodesy
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Post-Seismic Deformation Mechanism of the Mw 9.0 Tohoku-Oki Earthquake Detected by GPS and GRACE Observations
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Vertical Deformation Analysis in Tibetan Plateau by Using GRACE and GNSS Data
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Long- and Short-Term Deformation Along the Manila Trench: Preliminary Constraints from Emergent Coral Reef Terraces and Coral Microatolls in La Union, Philippines
Katherine MAXWELL1**, Jennifer WEIL-ACCARDO1, Aron MEITZNER2, Noelynnan RAIMOS1, Ke LIN3, Yanbin LU2, Xianfeng WANG2, Chuan-Chou SHEN3, Hiroyuki TSUTSUMI4
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A New Method of Terrace Analysis to Determine Precise Altitudes of Former Shoreline
Hideki AMANO1#+, Shigeyuki SUZUKI1, Makoto YANAGIDA1, Masaru SATO2, Nobuhito IZUMI3, Hiroaki WATANABE3
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Coseismic Deformation Fields and Fault Slip Models for the Mw7.8 Mainshock and Mw7.3 Aftershock of Nepal 2015 Earthquake Derived from Sentinel-1A Data
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Coulomb Stress Changes of the Devastating 26 July 1969 Yangjiang Earthquake, South China Coastal Region
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Fault Model of the 2017 Jiuzhaigou Mw6.5 Earthquake Estimated from Coseismic Deformation Observed by GPS and InSAR
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An Analysis of the Deformation and Kinematic Characteristics of the Sanyi-Chelungpu Fault System by Incorporating Ground Penetrating Radar Surveys, the Resistivity Imaging Results, and the Outcrop Analysis
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Neotectonic Crustal Deformation and Current Stress Field in the Korean Peninsula and Their Tectonic Implication: A Review
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Preliminary Study on Applying Grid Searched Stochastic Point Source Simulation Database for Earthquake Early Warning System in Santa
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Toward a Near Real-Time Emergency Response Using Dense Accelerometers in Taiwan
Peih-Lin LEU1#, Dayi CHEN1, Nai-Chi HSIAO1, Tzay-Chyn SHIN1, I-Ming TAI1, Chi-Ting WENG1, Mei-Yi HU1
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Probability on Seismic Hazard Assessment of Taiwan: Progress and Challenge
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The Stress Field in Iwaki Region Estimated by the Shear-Wave Splitting Analysis
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The Seismic Swarm Analysis and its Implications Beneath the Central-Western Foothills, Taiwan
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Strong Motion Database and GMPE in Sumatra
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Shallow S-Wave Velocity Structures of Taichung City, Taiwan, Using Microtremor Array Recordings
Huey-Chu CHU HUANG1#, Tien-Han SHIH1, Cheng-Ta HSU1, Cheng-Feng WU1
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Neotectonics of the Bogo Fault in Cebu, Philippines: Constraints from Coastal Terraces and Surface Geology
Raul Benjamin MENDOZA1+, Noelynna RAMOS1, Katherine MAXWELL2, Regina Martha LUMONGSOD3, Keanu Jershon SARMIENTO1, Carla DIMALANTA1
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Preliminary Results of Stress Drop for Oceanic Crust and Mantle Intraplate Earthquakes in Northeastern Japan
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Composite Megathrust Rupture from Deep Interplate to Trench of the 2016 Solomon Islands Earthquake
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Lateral Variations in Anisotropy Along the 2004 Niigata Earthquake Source Fault Inferred from Local Shear Wave Splitting
Lingmin CAO1+, Honn KAO1, Kelin WANG1, Chuanxu CHEN1, Jim MORI1, Shiro OHMI1, Yuan GAO1
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A Study on Site Effects in the Kathmandu Valley Nepal for the 2015 Gorkha Earthquake Aftershocks
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Liquefaction Damage of the 2016 Kumamoto Earthquake
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Ocean Bottom Electro-Magnetometer (OBEM) Development and Calibration in Taiwan
Ching-Ren LIN1+, Chih-Wen CHIANG2, Ban-Yuan KUO1, Yu-Hung HSIAO1, Chau-Chang WANG1, Jia-Pu JANG3, Hsu-Kuang CHANG1, Feng-Sheng LIN1, Kun-Hui CHANG1, Kuei-Yi HUANG2
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Xingong TANG1+, Zhita XIONG2, Qinghua HUANG2
1Yangtze University, 2Peking University

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1China Earthquake Administration, 2Earthquake Administration of Hainan Province

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1University of Illinois Urbana-Champaign, 2University of Illinois Urbana-Champaign

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1Kyushu University, 2Kyoto University, 3The University of Tokyo

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1Japan Agency for Marine-Earth Science and Technology

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1National Taiwan University, 2Central Weather Bureau, 3National Chiao Tung University

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1China Earthquake Networks Center, 2Kerogen Energy Services, 3Chinese Academy of Sciences

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1National Institute of Oceanography

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1University of Hawaii at Manoa

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1China Earthquake Networks Center, 2FM Global, 3China Earthquake Administration

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1Institute of Geology, China Earthquake Administration, 2China Earthquake Administration, 3Oregon State University

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1Institute of Seismology, Wuhan, China Earthquake Administration
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1Japan Agency for Marine-Earth Science and Technology, 2University of Hawaii at Manoa

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1Japan Agency for Marine-Earth Science and Technology, 2GEOMAR Helmholtz Centre for Ocean Research Kiel, 3National Oceanography Centre

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1Institute of Geosphere Dynamics of Russian Academy of Sciences, 2Russian Academy of Sciences

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1International Institute of Seismology and Earthquake Engineering, 2Japan Agency for Marine-Earth Science and Technology, 3Kyoto University

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1University of Oxford, 2Nanyang Technological University

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1Huazhong University of Science and Technology, 2Wuhan University

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1Chosun University

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1Chosun University, 2Korea University

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1University of the Philippines Diliman

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1University of the Philippines Diliman

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1University of the Philippines Diliman

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Xianrong LUO1**, Fei OUYANG1, Meilan WEN1
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**Ballroom B**
Sessions & Conveners
* Main Conveners

AS04-Atmospheric Chemistry in Highly Polluted Environments: Emissions, Fate, and Impacts
*Jianlin HU Nanjing University of Information Science & Technology, Hongliang ZHANG Louisiana State University, Sri H. KOTA Indian Institute of Technology Guwahati, Qi YING Texas A and M University

AS05-The Science and Prediction of Heavy Rainfall and Floods
*Yali LUO Chinese Academy of Meteorological Sciences, Johnny CHAN City University of Hong Kong

AS24-25-Natural and Anthropogenic Aerosols-Experiments, Measurements and Simulations from Regions of Different Optical Domains
*Cheol-Hee KIM Pusan National University, Chung-Shin YUAN National Sun Yat-sen University, Harilal MENON Goa University, Suresh Babu S. Vikram Sarabhai Space Centre

AS32-Analysis and Prediction of Aviation Weather Hazards Including the Impact of Climate Variability and Change
*Jung-Hoon KIM National Oceanic and Atmospheric Administration, Hye-Young CHUN Yonsei University, Todd LANE The University of Melbourne

AS38-Nexus in the Arctic-midlatitude-tropical Interactions and their Impact on Weather/climate Extremes
*Jin-Ho YOON Gwangju Institute of Science and Technology, S. Y. Simon WANG Utah State University, Jee-Hoon JEONG Chonnam National University, Baek-Min KIM Korea Polar Research Institute

AS45- Middle Atmosphere Science
*S. K. DHAKA University of Delhi, Shigeo YODEN Kyoto University, Zeyu CHEN Chinese Academy of Sciences, Hye-Young CHUN Yonsei University

AS47-Regional Climate Downscaling and Cordex: Challenges and Prospects
*Dong-Hyun CHA Ulsan National Institute of Science and Technology, Hyun-Suk KANG Korea Meteorological Administration, Jason EVANS University of New South Wales, Shuyu WANG Nanjing University, Koji DAIRAKU National Research Institute for Earth Science and Disaster Resilience

AS52-Chemistry-Climate Interactions
*Shiliang WU Michigan Technological University, Xiaofeng HUANG Peking University Shenzhen Graduate School, Ling-Yan HE Peking University Shenzhen Graduate School

BG02-IG-Remote Sensing of Essential Climate Variables and Its Applications
*Wei YANG Chiba University, Hideki KOBAYASHI Japan Agency for Marine-Earth Science and Technology, Xin CAO Beijing Normal University, Xiaolin ZHU The Hong Kong Polytechnic University

BG09-OS-Ocean Deoxygenation in the Asia-pacific Region
*S. W. A. NAQVI Council of Scientific, Gil JACINTO The Marine Science Institute, University of the Philippines, Moriaki YASUHARA The University of Hong Kong, Jing ZHANG East China Normal University, S. W. A. NAQVI Council of Scientific

HS15-Hydrologic Extremes in a Changing Climate
*Rajib MAITY Indian Institute of Technology Kharagpur, C. T. DHANVA Indian Institute of Technology Delhi, Harald KUNSTMANN Institute of Meteorology and Climate Research - Atmospheric Environmental Research, Karlsruhe Institute of Technology (KIT/IMK-FU), Shallesh SINGH National Institute of Water and Atmospheric Research, Harrie-Jan Hendriks FRANSSEN Forschungszentrum Jülich and RWTH Aachen

HS22-Climate Change Risk Assessment and Adaptation on Water-related Disaster and Water Resources in Asia and the Pacific
*Eiichi NAKAKITA Kyoto University, Deg-Hyo BAE Sejong University, Ching-Pin TUNG National Taiwan University, Yasuto TACHIKAWA Kyoto University, Izuru TAKAYABU Meteorological Research Institute, Japan Meteorological Agency

IG11-Integrated Analysis of Geoscience Observations from the Floor to Surface of the Ocean
*Keisuke ARIYOSHI Japan Agency for Marine-Earth Science and Technology, James FOSTER University of Hawai`i at Manoa, Wu-Cheng CHI Academia Sinica, Akira KUWANO-YOSHIDA Kyoto University

IG15-Lake Studies of Environmental Change
*Christos GOURAMANIS National University of Singapore, Sean PYNE-O’DONNELL Nanyang Technological University, Stefan ENGELS University of London

IG17-Geo-science Education
*Hoe Teck TAN School of Science and Technology, I-Te LEE Central Weather Bureau

IG25-Tracing Hydrometeorological, Ecolhydrological and Hydrological Processes Using Stable Water Isotopes
*Huade GUAN Flinders University, Xinpeng ZHANG Hunan Normal University, Grzegorz SKRZYPEK The University of Western Australia

OS09-Regional Oceanic Numerical Modeling and Observations
*Changming DONG Nanjing University of Information Science & Technology, Yusuko UCHIYAMA Kobe University, Hui WU East China Normal University

PS19-Rosetta, Comets, and Other Icy Bodies
*Bin YANG Yun Nan observatories, Chinese Academy of Sciences, Arika HIGUCHI National Astronomical Observatory of Japan, Ramon BRASSER Earth Life Science Institute
SE12-17-Formation and Evolution of the Tethyan Orogenic Belt: Multi-disciplinary Constraints
*Chuan-Zhou LIU Chinese Academy of Sciences, Di-Cheng ZHU China University of Geosciences, Bo WAN Chinese Academy of Sciences, Ling CHEN Chinese Academy of Sciences

SE24-29-Active Volcanic Processes from the Mantle to the Atmosphere: Multidisciplinary Approaches to Monitoring, Hazards, and Impacts
*Florian M. SCHWANDNER Jet Propulsion Laboratory, California Institute of Technology, Clara SOLARO University of Hawaii at Manoa-School of Ocean and Earth Science and Technology SOEST, Helena ALBERT Nanyang Technological University, Yosuke AOKI The University of Tokyo

SE27-Modeling of Slow and Regular Earthquakes
*Yuta MITSUI Shizuoka University, Keisuke ARIYOSHI Japan Agency for Marine-Earth Science and Technology, Naofumi ASO Tokyo Institute of Technology, Suguru YABE Japan Agency for Marine-Earth Science and Technology

SE36-Bridging Scales at Mobile Belts: Fault Rheology and Earthquake Physics
*James Daniel Paul MOORE Nanyang Technological University, Yukitoshi FUKAHATA Kyoto University

ST01-Flare Activity: Observation, Physics, and Forecasting
*Han HE Chinese Academy of Sciences, Ya-Hui YANG National Central University, Robertus ERDELYI University of Sheffield

ST05-The Responses of Earth’s Inner Magnetosphere to Extreme Solar Events
*Xinlin LI University of Colorado Boulder, Yoshizumi MIYOSHI Nagoya University, Qiugang ZONG Peking University, Wenlong LIU Beihang University
AS04 / Atmospheric Chemistry in Highly Polluted Environments: Emissions, Fate, and Impacts
Fri - 08 Jun  |  MR325B

Time  08:30 - 10:30
Chair(s)  Xinlei GE, Nanjing University of Information Science & Technology
         Hongliang ZHANG, Louisiana State University

AS04-D5-AM1-325B-018  |  AS04-A067 (Invited)
Aerosol-Boundary Layer Interaction and its Impact to Haze
Pollution: Multi-Year Observational Evidences in North China
Xin HUANG1**, Aijun DING1
1Nanjing University

AS04-D5-AM1-325B-019  |  AS04-A048
Aerosol Radiation Feedback Aggravates Heavy Haze in the North China Plain
Jiarui WU1**, Guohui LI1*, Junji CAO1
1Chinese Academy of Sciences

AS04-D5-AM1-325B-020  |  AS04-A009
Changes in Meteorology Caused by Anthropogenic Heat and Their Impacts on Regional Air Quality in Typical Megacities of China
Min XIE1**, Tijian WANG1
1Nanjing University

AS04-D5-AM1-325B-021  |  AS04-A014
Characteristics of Solar Radiation of China’s Three Major Economic Regions and its Relationship with O3 and PM2.5 in the Past 10 Years
Xuejiao DENG1**, 2
1China Meteorological Administration
2Nanjing University

AS04-D5-AM1-325B-022  |  AS04-A054
Characteristics of Black-Carbon Containing Particles: Comparisons Between Very Clean and Highly Polluted Environments
Xinlei GE1**, Junfeng WANG1
1Nanjing University of Information Science & Technology

AS04-D5-AM1-325B-023  |  AS04-A021 (Invited)
Distribution and Sources of Air Pollutants in the North China Plain Based on On-Road Mobile Measurements
Tong ZHU1**, Yi ZHU1, Junxia WANG1, Yingru LI1, Yiqun HAN1, Jiping ZHANG1, Jun LIU1
1Peking University, 2Institute of Atmospheric Physics, 3International Institute for Applied Systems Analysis

AS04-D5-AM2-325B-024  |  AS04-A016
Global Sources of Ozone over China in the Context of Globalizing Air Pollution
Jintai LIN1**, Yingying YAN1, Ruijing NI1, Lulu CHEN1
1Peking University

AS04-D5-AM2-325B-025  |  AS04-A029
Probable Source Region and Associated Health Risk due to PM2.5 in Indian Cities
Shovan SAHU1**, Hao GUO2, Hongliang ZHANG2, Jianlin HU3, Qi YING1, Sri H. KOTA1
1Indian Institute of Technology Guwahati, 2Louisiana State University,
3Nanjing University of Information Science & Technology, 4Texas A and M University

AS04-D5-AM2-325B-026  |  AS04-A002
On the Origin of Surface Ozone Episode in Shanghai over Yangtze River Delta During a Prolonged Heat Wave
Huansheng CHEN1**, Jianbin WU1, Oliver WILD2
1Chinese Academy of Sciences, 2Lancaster University

AS05 / The Science and Prediction of Heavy Rainfall and Floods
Fri - 08 Jun  |  MR325A

Time  11:00 - 12:30
Chair(s)  Jintai LIN, Peking University
         Sri H. KOTA, Indian Institute of Technology Guwahati

AS05-D5-AM2-325A-024  |  AS05-A016
Hydrologic Applications of Ensemble Precipitation Forecasts over the Huaihe River Basin Based on the GEFS Reforecast Data
Huiling YUAN1**, Chunlei YANG1
1Nanjing University

AS05-D5-AM1-325A-024  |  AS05-A039 (Invited)
Hydrologic Applications of Ensemble Precipitation Forecasts over the Huaihe River Basin Based on the GEFS Reforecast Data
Huiling YUAN1**, Chunlei YANG1
1Nanjing University
Spatial Uncertainties in Heavy Precipitation Estimation and its Impact on Flood Modelling
Huan WU1, Zhen GAO2, Yan YAN1
1Sun Yat-sen University, 2Wuhan University

Real-Time Storm-Scale Ensemble Precipitation Prediction for the NOAA Flash Flood and Intense Rainfall Experiments
Fanyou KONG1, Nathan SNOOK1, Keith BREWSTER1, Ming XUE2, Kevin W. THOMAS1, Tim SUPINIE1
1University of Oklahoma, 2Nanjing University

Ensemble Flood Forecasting Based on Two Ways of Regional Ensemble Prediction Systems: Simple Downscaling of Global EPS and Regional Data Assimilation
Tomoki USHIYAMA1,2
1Public Works Research Institute, 2National Graduate Institute for Policy Studies

Chih-Chien TSAI1,2, Youngsun JUNG2
1Taiwan Typhoon and Flood Research Institute, 2Center for Analysis and Prediction of Storms

Ensemble Data Assimilation and Ensemble Forecasting for Heavy Rainfall Events
Hong LI1, Jingyao LUO1
1Shanghai Typhoon Institute of China Meteorological Administration

Multiscale Data Assimilation Impact on Heavy Rain Forecast by Space and Time Multiscale Analysis System (STMAS)
Yuanyu XIE1,2, Xiangxi PENG1, Jen-Hsin TENG1
1Chinese Academy of Meteorological Sciences, 2China Meteorological Administration

Development of Machine Learning Based Warning System for Extreme Rainfall Events in Taipei Metropolitan Area
Shih-Hao SU1,2, Jung-Lien CHU2, Ming-Yu YAO3
1Chinese Culture University, 2National Science Center for Disaster Reduction, 3DataQualia Lab Co. Ltd.

Chemical Fingerprint and Source Apportionment of PM2.5 During Heavy Urban Haze Episodes in Southern Taiwan
Chung-Shin YUAN1
1National Sun Yat-sen University

WRF-Chem Simulation of Aerosol Effects on Mesoscale Radiation-Cloud-Precipitation Variables over Northeast Asia during MAPS-Seoul 2015 Campaign
Shin-Young PARK1,2, Hyo-Jung LEE1, Jeong-Eon KANG3, Tae-hyoung LEE4, Cheol-Hee KIM1
1Pusan National University, 2Hankuk University of Foreign Studies

Chemical Compositions of Particulate Matter Observed in Urban and Background Area in South Korea
Yu-Jin JO1,2, Hyo-Jung LEE3, Hyun-Young JO1, Cheol-Hee KIM1
1National Sun Yat-sen University, 2Hankuk University of Foreign Studies
AS24-25-D5-AM1-326B-004 | AS24-25-A008
Socioeconomic and Atmospheric Factors Affecting Aerosol Radiative Forcing: Production-Based Versus Consumption-Based View
Jingxu WANG1#+, Jintai LIN1, Ruijing NI1, Qiang ZHANG2, Dabo GUAN3, Yongyuan HU4, Yi HUANG5, Da PAN5, Dan TONG2, Hongyan ZHAO1
1Peking University, 2Tsinghua University, 3University of East Anglia, 4McGill University, 5Princeton University

AS24-25-D5-AM1-326B-005 | AS24-25-A009
Diagnostic Study of Nitrate Formation from Nighttime N2O5 Heterogeneous Process for Fine Particulate Prediction over Urban Area in South Korea
Hyun-Young JO1#, Hyo-Jung LEE1, Yu-Jin JO1, Jongjae LEE1, Cheol-Hee KIM1
1Pusan National University

AS24-25-D5-AM1-326B-006 | AS24-25-A001
Dust Transported from Africa to Asia and Even Pacific Areas: Results of the Central Asian Dust Experiment (CADEX)
Dietrich ALTHAUSEN1#, Julian HOFER1
1Leibniz Institute for Tropospheric Research

Time 11:00 - 12:30
Chair(s) Harilal MENON, Goa University
Hongbin YU, NASA Goddard Space Flight Center
Cheol-Hee KIM, Pusan National University

AS24-25-D5-AM1-326B-007 | AS24-25-A006 (Invited)
Satellite Observations and Model Simulations of Aeolian Dust and Combustion Aerosol: Consistent Inter-Annual Variability and Trend in Major Outflow Regions in Recent Decades
Hongbin YU1++, Qian TAN2, Yang YANG1, Hailong WANG2, Mian CHIN1, Tiantie YUAN2, Lorraine REMER3, Robert LEVY1, Steven SMITH1
1NASA Goddard Space Flight Center, 2Bay Area Environmental Research Institute, 3Pacific Northwest National Laboratory, 4NASA Goddard Space Flight Center/UMBC JCET, 5University of Maryland, Baltimore County, 6Airphoton LLC

AS24-25-D5-AM1-326B-008 | AS24-25-A012 (Invited)
Physico-Chemical Characteristics of Aerosols and its Implications on Aerosol Radiative Forcings- Results of a Study Carried Out Between 15 0 N and 550 Over North Indian Ocean and Indian Ocean Sector of Southern Ocean
Harilal MENON1++, Shrivardhan HULSWAR2
1Goa University

AS24-25-D5-AM1-326B-009 | AS24-25-A020
Direct Aerosol Radiative Forcing over Centrally Located Indo-Gangetic Basin: Impact of Absorbing and Scattering Aerosols
Atul K. SRIVASTAVA1, Bharat MEHROTRA2, S.N. SINGH3, Suresh TIWARI1, Deewan Singh BISHT1, Rajeev SINGH1, Manoj K. SRIVASTAVA2
1Indian Institute of Tropical Meteorology, 2Banaras Hindu University, 3National Physical Laboratory

AS24-25-D5-AM2-326B-007 | AS24-25-A019
Spatiotemporal Variation and Long-Range Transport of Atmospheric Speciated Mercury in the Intersectional Region of Taiwan Island, Luzon Island, and Northern South China Sea
Chung-Shin YUAN1
1National Sun Yat-sen University

AS24-25-D5-AM2-326B-010 | AS24-25-A016
Metals in Marine Aerosol in Western Pacific: Spatial Distribution, Sources and Deposition
Mei ZHENG1
1Peking University

AS24-25-D5-AM2-326B-011 | AS24-25-A018
Chemical and Isotopic Characteristics of Ambient Aerosols over the Bay of Bengal: Impact of Continental Outflow
Neeraj RASTOGI1++, Rajesh AGNIHOTRI, Ravi SAWLANI, Anil PATEL, Rangu SATISH, Suresh Babu S.
1Physical Research Laboratory, 2National Physical Laboratory, 3Vikram Sarabhai Space Centre

AS32 / Analysis and Prediction of Aviation Weather Hazards Including the Impact of Climate Variability and Change
Fri - 08 Jun | MR303A
Time 08:30 - 10:30
Chair(s) Jung-Hoon KIM, NOAA/NWS/NCEP/Aviation Weather Center
Hye-Yeong CHUN, Yonsei University
Todd P. LANE, The University of Melbourne
Global Aviation Turbulence Forecasting Using the Graphical Turbulence Guidance (GTG)
Robert SHARMAN1#
1National Center for Atmospheric Research

Estimation of Aviation Turbulence Using High Vertical-Resolution Radiosonde Data and Comparison with In-Situ Flight Data
Hye-Yeong CHUN1##, Han-Chang KO1
1Yonsei University

Forecasting Convectively Induced Turbulence
Wiebke DEIERLING1##, Robert SHARMAN1, Julia PEARSON2, Domingo MUNOZ-ESPARZA3, Gregory MEYMARIS4
1National Center for Atmospheric Research

Properties of Convectively-Induced Turbulence over Developing Oceanic Convection
Katelyn BARBER1##, Wiebke DEIERLING2, Gretchen MULLENDORE1, Robert SHARMAN2, Cathy KESSINGER3
1University of North Dakota, 2National Center for Atmospheric Research

Application of a Convective Gravity-Wave Drag Parameterization to Development of Near-Cloud Turbulence Diagnostics
Soo-Hyun KIM1##, Hye-Yeong CHUN1, Robert SHARMAN2, Stanley TRIER2, Dan-Bi LEE1
1Yonsei University, 2National Center for Atmospheric Research

A Case Study of Upper-Level Near-Cloud Turbulence
Dragana ZOVKO-RAJAK1##, Todd LANE2##, Robert SHARMAN1, Stanley TRIER3
1Bureau of Meteorology, 2The University of Melbourne, 3ARC Centre of Excellence for Climate Extremes, 4National Center for Atmospheric Research

Multi Model-Based Probabilistic Clear-Air Turbulence (CAT) Forecast Using Ellrod-Knox Index
Dan-Bi LEE1##, Hye-Yeong CHUN1, Jung-Hoon KIM2##, Robert SHARMAN4
1Yonsei University, 2National Oceanic and Atmospheric Administration, 3Colorado State University, 4National Center for Atmospheric Research

Global Response of Clear-Air Turbulence to Climate Change
Paul WILLIAMS1##, Luke STORER1, Manoj JOSHI2
1University of Reading, 2University of East Anglia

Impact of Large-Scale Variability on Trans-Oceanic Flight Routes
Jung-Hoon KIM1##, Daehyun KIM3, Robert SHARMAN4, Paul WILLIAMS5
1National Oceanic and Atmospheric Administration, 2Colorado State University, 3University of Washington, 4National Center for Atmospheric Research, 5University of Reading

NCEP’s Global Icing Ensemble Prediction and its Evaluation
Binbin ZHOU1##
1IMSG/EMC/NCEP

A Case Study of Icing Conditions in the Spring in South China
Sun JING1##
1Chinese Academy of Meteorological Sciences

Evaluation of 300m Resolution Wind Prediction with the Unified Model from KMA’s Operational Global Forecast by Modification of Ancillary Files over Incheon International Airport
Prasanna VENKATRAMAN1##, Hee-Wook CHOF, Seon-Ok HONG2, Kim GEUN-HOF, Lee YOUNG-GON2, Baek-Jo KIM3
1National Institute of Meteorological Sciences, 2Korea Meteorological Research, 3Korea Meteorological Administration
**AS38 / Nexus in the Arctic-midlatitude-tropical Interactions and Their Impact on Weather/climate Extremes**

Fri - 08 Jun | MR302B

**Time** 08:30 - 10:30

**Chair(s)** Jin-Ho YOON, Gwangju Institute of Science and Technology

Jee-Hoon JEONG, Chungnam National University

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**AS38-D5-AM1-302B-001 | AS38-A011**

Could the North Pacific Oscillation be Modified by the Initiation of East Asian Winter Monsoon?

Yu-Heng TSENG1++, Ruiqiang DING2, Sen ZHAO1,4

1National Taiwan University, 2Chinese Academy of Sciences, 3University of Hawaii at Manoa, 4Nanjing University of Information Science & Technology

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**AS38-D5-AM1-302B-002 | AS38-A002**

Contribution of Stratospheric Pathway to Warm Arctic Cold Siberia

Yutian WU1++, Pengfei ZHANG2, Isla SIMPSON3, Karen SMITH4

1Lamont-Doherty Earth Observatory of Columbia University, 2Purdue University, 3National Center for Atmospheric Research, 4University of Toronto Scarborough

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**AS38-D5-AM1-302B-003 | AS38-A003**

On the Atmospheric Response Experiment to a Blue Arctic Ocean

Tetsu NAKAMURA1++, Koji YAMAZAKI1, Meiji HONDÂA1, Jinro UKITA1, Ralf JAIser1, Dörthe HANdORF1, Klaus DETHLOFF2

1Hokkaido University, 2Niigata University, 3Alfred Wegener Institute for Polar and Marine Research

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**AS38-D5-AM1-302B-004 | AS38-A004**

Effects of Northern Hemispheric Midlatitude Transient Wave on Tropospheric Arctic Amplification in Their Changing Relationship with Arctic Oscillation

Dong XIAO1++,

1Chinese Academy of Meteorological Sciences

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**AS38-D5-AM1-302B-005 | AS38-A016**

Impact of Additional Arctic Radiosonde Observations on 5-Day Weather Forecasts over Alaska During August 2015

Min-Hee LEE1, Joo-Hong KIM1, Hye-Jong SONG2, Jun INOUE3, Kazutoshi SATO1, Akira YAMAZAKI1

1Korea Polar Research Institute, 2Korea Institute of Atmospheric Prediction Systems (KIAPS), 3National Institute of Polar Research, 4Japan Agency for Marine-Earth Science and Technology

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**AS38-D5-AM2-302B-007 | AS38-A014**

Eurasian Winter Temperature Change in Recent Decades and its Association with Arctic Sea Ice Loss

Hyee-Jin KIM1++, Seok-Woo SON1

1Seoul National University

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**AS38-D5-AM2-302B-009 | AS38-A009**

Sensitivity of the Arctic Climate Forcing Due to Atmospheric Physical Parameterizations

Jin-Ho YOON1++, Baek-Min KIM2, Jee-Hoon JEONG2, Philip J. RASCH2, Hailong WANG3, Ben KRAVITZ2, S. Y. Simon WANG4

1Gwangju Institute of Science and Technology, 2Korea Polar Research Institute, 3Chonnam National University, 4Pacific Northwest National Laboratory, 5Utah State University
Time: 08:30 - 10:30
Chair(s): Shigeo YODEN, Kyoto University
Yoshio KAWATANI, JAMSTEC

The Contrasting Dynamical Roles of the Tibetan Plateau and the Rocky Mountain in Formulating the Northern Winter Stratospheric Circulation
Rongcai REN1*, Xin XIA1
1Chinese Academy of Sciences

The Coupling Between the Tropospheric and Stratospheric Polar Vortex and its Impact on Mid-Latitude Weather
Wenshou TIAN1*
1Lanzhou University

Recovery of the Disrupted Quasi-Biennial Oscillation
Larry COY1*, Paul A. NEWMAN1, Steven PAWSON1
1NASA Goddard Space Flight Center

Relationships Between Antarctic Ozone Hole and Dynamical Fields
Guangyu LIU1*, Toshihiko HIROOKA1, Nawo EGUCHI1
1Kyushu University

A Mechanism to Explain the Variations of Tropopause and Tropopause Inversion Layer in the Arctic Region During a Sudden Stratospheric Warming in 2009
Rui WANG1*, Yoshihiro TOMIKAWA2, Takaji NAKAMURA2, Kaiming HUANG2, Shaoding ZHANG2, Yehui ZHANG2, Huigen YANG2, Hongqiao HU1
1Polar Research Institute of China, 2National Institute of Polar Research, 1Graduate University for Advanced Studies, 2Wuhan University, 3Nanjing University of Information Science & Technology

Multi-Instrument Study of MLT-Region Airglow Intensities, Temperatures and Winds: Initial Findings
Iain REID1*, Andrew SPARGO1, Jonathan WOITHE1
1ATRAD Pty Ltd, 2University of Adelaide

Time: 11:00 - 12:30
Chair(s): Shigeo YODEN, Kyoto University
Surendra Kumar DHAKA, University of Delhi
Yoshio KAWATANI, JAMSTEC

QBO Modulation of Tropical Convection and UTLS Synoptic Structures
Matthew HITCHMAN1*
1University of Wisconsin - Madison

Coupling Between Stratosphere and Troposphere During Major Warming Events with Strong Polar-Night Jet Oscillations Using Era-Interim and CMIP5-MPI-ESM Data Sets
Dieter H.W. PETERS1*, Andrea SCHNEIDER-EIT1
1Leibniz-Institute for Atmospheric Physics

Propagating Annular Modes
Aditi SHESHADRI1*, R. Alan PLUMB2
1Stanford University, 2Massachusetts Institute of Technology

Trends in the Northern Hemisphere Stratospheric Polar Vortex During the 20th and 21st Centuries
Jason FURTADO1*, Carly NAROTSKY2
1University of Oklahoma, 2University of North Carolina at Asheville

Possible Influence of Elevated Stratopause Events on the Lower Atmospheric Circulation
Shunsuke NOGUCHI1*, Kohei YOSHIDA1, Makoto DEUSHI1, Yuhji KURODA1
1Japan Meteorological Agency

Estimation of the QBO Forcing by the Equatorial Waves Using High Resolution Radiosoundings at Pacific Islands
Liji WANG1*, Zeyu CHEN1°, Daren LYU1°
1Chinese Academy of Sciences, 2Zhejiang Meteorological Administration, 3Institute of Atmospheric Physics, Chinese Academy of Sciences, 4University of Chinese Academy of Sciences
AS47 / Regional Climate Downscaling and Cordex: Challenges and Prospects
Fri - 08 Jun  | MR303B

Time 08:30 - 10:30
Chair(s) Shuyu WANG, Nanjing University

AS47-D5-AM1-303B-001 | AS47-A019 (Invited)

Spatiotemporal Characteristics of Heat Waves over China in Regional Climate Simulations within the CORDEX-EA
Jianping TANG1#, Pinya WANG1
1Nanjing University

AS47-D5-AM1-303B-002 | AS47-A014

Evaluating Summer Precipitation Using Multiple High-Resolution Regional Climate Models over South Korea
Changyong PARK1#, Dong-Hyun CHA1, Seung-Ki MIN2, Gayoung KIM3, Gil LEE4, Minkyu LEE5, Myoung-Seok SUH5, Joong-Bae AHN6, Hyun-Suk KANG7
1Ulsan National Institute of Science and Technology, 2Pohang University of Science and Technology, 3Kongju National University, 4Pusan National University, 5Korea Meteorological Administration

AS47-D5-AM1-303B-003 | AS47-A006

Climate Change Evolution of Precipitation Characteristic over Korea: Assessment of a Regional Climate Model Using Joint Probability Distribution Function
Ji-Woo LEE1#, Huikyo LEE2, Peter GLECKLER1, Duane WALISER2
1Lawrence Livermore National Laboratory, 2Jet Propulsion Laboratory, California Institute of Technology

AS47-D5-AM1-303B-004 | AS47-A026

Comparison of East Asian Monsoon Evolution Simulated by HadGEM3-RA and HadGEM2-AO
Seon-Yong LEE1#, Seok-Woo SHIN2, Jin-Uk KIM2, Young-Hwa BYUN2
1National Institute of Meteorological Sciences, 2Korea Meteorological Administration

AS47-D5-AM1-303B-005 | AS47-A020

The Robustness and Uncertainty Analysis of the Relationship of Extreme Precipitations with Temperature
Sridhara NAYAK1#, Koji DAIKAKU2
1Kyoto University, 2National Research Institute for Earth Science and Disaster Resilience

AS47-D5-AM1-303B-006 | AS47-A001

A Hybrid Dynamical-Statistical Downscaling Technique and its Applications to Future Warming Projections in the Great Los Angeles Area
Fengpeng SUN1#
1University of Missouri - Kansas City
Effects of Horizontal Grid Spacing on Simulated Consecutive Dry Days and Near-Surface Temperature over the Central Mountains in Japan

Shiori SUGIMOTO1#, Rui ITO2, Koji DAIRAKU3, Hiroaki KAWASE4, Hidetaka SASAKI5, Shingo WATANABE6, Yasuko OKADA7, Sho KAWAZOE8, Takeshi YAMAZAKI9, Takahiro SASA10
1Japan Agency for Marine-Earth Science and Technology, 2Japan Meteorological Business Support Center, 3National Research Institute for Earth Science and Disaster Resilience, 4Japan Meteorological Agency, 5Tohoku University

Evaluation Procedure of Uncertainty Source Due to GCM Projections in Downscaled Regional Climate

Sachiho ADACHI1#, Seiya NISHIZAWA2,3, Ryuji YOSHIDA2,4, Tsuyoshi YAMAURA5, Kazuto ANDO6, Hisashi YASHIRO7, Yoshiyuki KAJIKA8, Hirofumi TOMITA9
1RIKEN Center for Computational Science, 2RIKEN Advanced Institute for Computational Science, 3Japan Meteorological Agency, 4Kobe University

Attribution of Ozone and Methane Radiative Forcing in the Last Decade

Kevin BOWMAN1#, Thomas WALKER2, Le KUAI3, Zhe JIANG4, Helen WORDEN5
1Jet Propulsion Laboratory, California Institute of Technology, 2Carleton University, 3National Center for Atmospheric Research

Identification of Emission and Climatological Factors Shaping Hong Kong’s PM10 and Ozone Levels During 1998-2015

Zibing YUAN1#
1South China University of Technology

Impact of Wild Fire on U.S. Air Quality over the Past 20 Years – A Modeling Study in the Satellite Era

Zhining TAO1#, Hao HE2, Chao SUN3, Daniel TONG4, Xinzhong LIANG5, Mian CHIN6
1Universities Space Research Association GESTAR, 2University of Maryland, 3National Oceanic and Atmospheric Administration, 4NASA Goddard Space Flight Center

Mechanistic Connections Among Wild Fire, Climate Change, and Aerosols: Observational Evidence and Modeling Results

Tianle YUAN1#, Hongbin YU2, Lazaros OREOPOLOS3, Huisheng BIAN4, Steven GOODMAN5, Lorraine REMER6, Kenneth PICKERING7, 8NASA Goddard Space Flight Center/LMRC JICT, 9NASA Goddard Space Flight Center, 10National Aeronautics and Space Administration/ National Oceanic and Atmospheric Administration, 11University of Maryland, Baltimore County, 12National Aeronautics and Space Administration

Benchmarking Chemistry-Climate Models’

Top-of-Atmosphere Flux in the 9.6-Micron Ozone Band Using AURA TES Instantaneous Radiative Kernel

Le KUAI1#, Kevin BOWMAN2, Helen WORDEN3, Andrew CONLEY4, Jean-François LAMARQUE5, Fabien PAULOT6, David PAYNTER7, Luke OMAN8, Sarah STRODE9, Eugene ROZANOV10, Andrea STENKE11, Laura REVELL12, David PLUMMER13, Patrick JÖCKEL14
1UCLA / JPL-Caltech, 2Jet Propulsion Laboratory, California Institute of Technology, 3National Center for Atmospheric Research, 4NASA Geophysical Fluid Dynamics Laboratory, 5NASA Goddard Space Flight Center, 6World Radiation Center and ETH Zürich, 7Institute for Atmospheric and Climate Science, 8Bodeker Scientific, 9Environment Canada, 10German Aerospace Center

The Equilibrium Response of Climate and Composition to Lightning

Lee MURRAY1#
1University of Rochester

Oxalate in PM2.5 in Shanghai-Temporal Variation and Sources

Jialiang FENG1#
1Shanghai University

Global High-Resolution Simulations of Tropospheric Nitrogen Dioxide Using CHASER V4.0

Takashi SEKIYA1#, Kazuyuki MIYAZAKI2, Koji OGOCHI3, Kengo SUDO4, Masayuki TAKIGAWA5
1Japan Agency for Marine-Earth Science and Technology, 2Nagoya University
Predicting High Pollution Episodes Based on Extreme Air Pollution Meteorology
Pei HOU1+, Shiliang WU1
1Michigan Technological University

BG02-IG / Remote Sensing of Essential Climate Variables and Its Applications
Fri - 08 Jun | MR322A

Time 08:30 - 10:30
Chair(s) Xiaolin ZHU, The Hong Kong Polytechnic University
Wei YANG, Chiba University

Youngryel RYU1+, Chongya JIANG1, Benjamin DECHANT1, Yan HUANG1
1Seoul National University

Retrieval of BRDF/Albedo by the Angular and Spectral Kernel-Driven Model Using a Simple Parameterization
Dongqin YOU1+, Jianguang WEN1, Yingtong ZHANG1, Qiang LIU1, Qing XIAO2, Qinhuo LIU2
1Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3Beijing Normal University

The Uncertainty of Mixed Pixels for Land Surface Phenology: A Simulation Study
Licong LIU1+, Qiang LI1, Jin CHEN1
1Beijing Normal University

Tempo-Spatial Distribution of Vegetation Response to Precipitation Across the Belt and Road Regions
Liqun SUN1+, Ji CHEN2, Qinglan LI1
1Chinese Academy of Sciences, 2The University of Hong Kong

Study on Proportion Estimation of Young Leaves Based on Computer Simulation
Chishan ZHANG1+, Jin CHEN1
1Beijing Normal University
BG09-OS / Ocean Deoxygenation in the Asia-Pacific Region
Fri - 08 Jun  |  MR304B

Time 08:30 - 10:30

Chair(s) Moriaki YASUHARA, University of Hong Kong
S.Wajih A. NAQVI, Council of Scientific & Industrial Research

BG09-OS-D5-AM1-304B-001  |  BG09-OS-A004 (Invited)
Bio-Argo Autonomous Profiling Float Observations Reveal the Dynamics of Deep Biomass Distributions in the Denitrifying Oxygen Minimum Zone of the Arabian Sea
Bozena WOJTASIEWICZ1#, Tom TRULL2, Udaya Bhaskar TVS3, Mangesh GAUNS4, Satya PRAKASH5, Ravichandran M3, Damodar SHENOY5, Dirk SLAWINSKI1, Nick HARDMAN-MOUNTFORD1
1Commonwealth Scientific and Industrial Research Organisation, 2Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC), 3Indian National Centre for Ocean Information Services, 4National Institute of Oceanography

BG09-OS-D5-AM1-304B-002  |  BG09-OS-A007
Deoxygenation in the North Indian Ocean
S. W. A. NAQVI6#
6Council of Scientific Research

BG09-OS-D5-AM1-304B-003  |  BG09-OS-A010 (Invited)
Deoxygenation over the Eastern Arabian Sea Shelf
GVM GUPTA1#, Maruthadu SUDHAKAR1
1Ministry of Earth Sciences

BG09-OS-D5-AM1-304B-004  |  BG09-OS-A006
Hypoxia in Coastal Waters of China and the Controlling Mechanisms for Oxygen Deficiency in the Bohai Sea
Huade ZHAO1#, Juying WANG1, Kunpeng ZANG1, Nan ZHENG1, Xueimei LU1, Cheng HUO1, Jingli MU1
1National Marine Environmental Monitoring Center

BG09-OS-D5-AM1-304B-005  |  BG09-OS-A008
A Modeling Study on Hypoxia Dynamics and Oxygen Budget Off the Changjiang Estuary
Haiyan ZHANG1#, Katja FENNEL2, Arnaud LAURENT3, Liang ZHAO3, Changwei BIAN4
1Tianjin University, 2Dalhousie University, 3Tianjin University of Science and Technology, 4Ocean University of China

BG09-OS-D5-AM1-304B-006  |  BG09-OS-A002
Coastal Seasonal Hypoxia and Plankton Ecology of the Western Continental Shelf of India
Mangesh GAUNS1#, Anil PRATHIARY1, Damodar SHENOY1, Siby KURIAN1, Hema NAIK1, S. W. A. NAQVI2
1National Institute of Oceanography, 2Council of Scientific Research

BG09-OS-D5-AM2-304B-007  |  BG09-OS-A013
Paleo-Records of Histories of Deoxygenation and Its Ecosystem Impact
Moriaki YASUHARA1#, Nancy N. RABALAI3, Daniel J. CONLEY3, Dimitri GUTIÉRREZ AGUILAR4
1The University of Hong Kong, 2Louisiana State University, 3Lund University, 4Instituto del Mar del Perú

BG09-OS-D5-AM2-304B-008  |  BG09-OS-A014 (Invited)
Hypoxia in the East China Sea
Zhuoyi ZHU1#, Hui WU1, Sumei LIU1, Ying WU1, Wenxia ZHANG, Jing ZHANG1
1East China Normal University, 2Ocean University of China

BG09-OS-D5-AM2-304B-009  |  BG09-OS-A015
Oxygen Deoxygenation Processes in the Pearl River Estuarine Coastal Waters
Kedong YIN1#, Jianzhang HE1
1Sun Yat-sen University

BG09-OS-D5-AM2-304B-010  |  BG09-OS-A015
Isotopomer and Isotopologue Abundance of Nitrous Oxide in Mid and Deep Oceans for its Source and Sink Indicator
Naohiro YOSHIDA1#, Sakae TOYODA1, Osamu YOSHIDA2, Shuichi WATANABE3
1Tokyo Institute of Technology, 2Rakuno Gakuen University, 3Japan Agency for Marine-Earth Science and Technology

HS15 / Hydrologic Extremes in a Changing Climate
Fri - 08 Jun  |  MR318B

Time 11:00 - 12:30

Chair(s) Ashish SHARMA, University of New South Wales
Rajib MAITY, Indian Institute of Technology Kharagpur

HS15-D5-AM1-318B-001  |  HS15-A015
A Comparative Analysis of Regional Drought Characterization over Krishna River Basin in India Using Potential and Actual Evapotranspiration
Rehana SHAIK1#, Nellibilli TINKUMONISH2, Sireesha NAIDU1
1International Institute of Information Technology

HS15-D5-AM1-318B-002  |  HS15-A016
Risk Evaluation of Forest Fire in Whole Japan in the Future Using Land Surface Model
Yoshiya TOUGE1#, Grace Puyang EMANG1, So KAZAMA1
1Tohoku University
HS15-D5-AM1-318B-003 | HS15-A018
Evaluation on the Adaptability of Water Resources to Climate Change in Huaihe River Basin
Cuishan LIU1++, Junliang JIN1, Guoqing WANG1, Jianyun ZHANG1, Yanli LIU1, Zhenxin BAO1
1Nanjing Hydraulic Research Institute

HS15-D5-AM1-318B-004 | HS15-A002
Trivariate Probabilistic Assessment of Meteorological Drought to Develop Drought Severity Maps
Kironmala CHANDA1++, Rajib MAITY2
1Indian Institute of Technology (Indian School of Mines) Dhanbad, 2Indian Institute of Technology Kharagpur

HS15-D5-AM1-318B-005 | HS15-A019 (Invited)
Hydrological Changes Under Specific Warming Levels in the Ganga River Basin
Ashvani GOSAIN1++
1Indian Institute of Technology Delhi

Time 11:00 - 12:30
Chair(s) Ashvani K GOSAIN, Indian Institute of Technology Delhi
Rajib MAITY, Indian Institute of Technology Kharagpur

HS15-D5-AM2-318B-006 | HS15-A005 (Invited)
Urban Flooding Increasing While the Countryside Dries Up - A Global Assessment of Water (IN) Security Due to Rising Temperatures
Ashish SHARMA1++, Conrad WASKO1
1University of New South Wales, 2University of Melbourne

HS15-D5-AM2-318B-007 | HS15-A003
Regional Climate Change Impact on Hydrologic Extremes of Watersheds in North America and Africa
Thian Yew GAN1++, Xiaoheng QIN1, Jianfeng LI1, Chun Chao Kuo1, Mesgana GIZAW2, Tebikachew TARIKU3, Xuezhi TAN1
1Research Ambassador, 2Nanyang Technological University, 3Hong Kong Baptist University, 4University of Alberta, 5Sun Yat-sen University

HS15-D5-AM2-318B-008 | HS15-A010
Temporal Shifts in Peak Flow Magnitudes Across the Island of Maui, Hawai‘i
Yu-Fen HUANG1++, Ayron STRAUCH1, Yin-Phan TSANG1, Hannah CLILVERD1
1University of Hawai‘i at Manoa, 2Department of Land and Natural Resources

HS15-D5-AM2-318B-009 | HS15-A014
Candidate Distributions for Drought Characterization Using Standardized Precipitation Evapotranspiration Index for Meteorological Zones of India
Rehana SHAIK1++, Neelibilli TINKUMONISH1, Sireesha NAIDU1
1International Institute of Information Technology

HS22 / Climate Change Risk Assessment and Adaptation on Water-related Disaster and Water Resources in Asia and the Pacific
Fri - 08 Jun | MR301

Time 08:30 - 10:30
Chair(s) Kenji TANAKA, Kyoto University
Tae-woong KIM, Hanyang University

HS22-D5-AM1-301-030 | HS22-A056
Re-Evaluation of Boryeong Dam Conduit Project’s Economic Feasibility with Real Options Analysis
Seung Beom SEO1++, Sun Hoo IHM2, Young-Oh KIM1
1Seoul National University, 2Korea Environment Institute

HS22-D5-AM1-301-031 | HS22-A035
Risk Assessment of Future Extreme Drought According to Climate Change Scenarios
Ji-Eun KIM1++, Si-Jung CHOI2, Jisoo YU1, Tae-woong KIM1
1Hanyang University, 2Korea Institute of Civil Engineering and Building Technology

HS22-D5-AM1-301-032 | HS22-A055
Fluvial and Pluvial Flood Risk Curve and its Future Changes in Urban Areas: A Case Study of the Shonai River Basin, Japan
Tomohiro TANAKA1++, Keiko KIYOHARA1, Yasuto TACHIKAWA1, Yutaka ICHIKAWA1, Kazuaki YOROZU1
1Kyoto University

HS22-D5-AM1-301-033 | HS22-A059
Estimation of Public Preference for High-Tide Disaster Risk Reduction Under Uncertainty
Toshio FUJIMI1++
1Kumamoto University
Development of Bias Correction Methods and of Extreme Values Assessment Technology
Toshikazu KITANO\(^{1}\),
\(^{1}\)Nagoya Institute of Technology

A Comparison of Stochastic Extreme Downscaling Models for an Assessment of Changes in Rainfall Intensity-Duration-Frequency Curves over South Korea
Hyun-Han KWON\(^{1,2}\), Yong-Tak KIM\(^{1}\), Huy NGUYEN DINH\(^{1}\), Hong-Geun CHOI\(^{1}\)
\(^{1}\)Chonbuk National University

Assessing Quantile Mapping Method for GCM Outputs Bias Correction
Ke-Sheng CHENG\(^{1}\), Bo-Yu CHEN\(^{1}\)
\(^{1}\)National Taiwan University

Dual Window Bias Correction for Hourly Precipitation Projected by Super Ensemble Experiments
Satoshi WATANABE\(^{1}\)
\(^{1}\)The University of Tokyo

Impact Assessment of Climate Change on Coastal Hazards in East Asia
Nobuhito MORI\(^{1,2}\)
\(^{1}\)Kyoto University

Potential Wave-Attacked Risk Maps for Extreme Typhoon Events Along the Coast of Taiwan
Hung-Ju SHIH\(^{1}\), Ting-Yu LIANG\(^{1}\), Chih-Hsin CHANG\(^{1}\), Wei-Bo CHEN\(^{1}\), Lien-Kwei CHIEN\(^{1}\)
\(^{1}\)National Science and Technology Center for Disaster Reduction, \(^{2}\)National Taiwan Ocean University

Downscaling of Coastal Current in the Eastern Japan with Included Freshwater Impact
Josko TROSELJ\(^{1,2}\), Yuko IMAI\(^{1}\), Junichi NINOMIYA\(^{2}\), Nobuhito MORI\(^{1}\)
\(^{1}\)Kyoto University, \(^{2}\)Kanazawa University

High-Resolution Wave Climate Projection for Northwestern Atlantic and Coastal Eastern USA
Adrean WEBB\(^{1,2}\), Tomoya SHIMURA\(^{1}\), Nobuhito MORI\(^{1}\)
\(^{1}\)Kyoto University

Quantifying Recent Precipitation Change and Predicting Lake Expansion in the Inner Tibetan Plateau
Kun YANG\(^{1,2}\)
\(^{1}\)Institute of Tibetan Plateau Research, Chinese Academy of Sciences, \(^{2}\)Chinese Academy of Sciences, \(^{3}\)University of Science and Technology of China, \(^{4}\)Chengdu University of Information Technology, \(^{5}\)University of Twente

Study on Replacing Land Surface Parameters to WRF Model and Validate Heat Fluxes over the Tibetan Plateau
Weiqiang MA\(^{1,2}\), Yaoming MA\(^{1}\), Zeyong HU\(^{2}\), Lei ZHONG\(^{2}\), Maoshan LI\(^{3}\), Fenglin SUN\(^{1}\), Binbin WANG\(^{1}\), Cunbo HAN\(^{1}\), Zhangwei DING\(^{1}\), Zhikun ZHU\(^{1}\), Xuelong CHEN\(^{1}\)
\(^{1}\)Chinese Academy of Sciences, \(^{2}\)University of Science and Technology of China, \(^{3}\)Chengdu University of Information Technology, \(^{4}\)University of Twente

Exploring the Water Storage Changes in the Largest Lake (Selin Co) over the Central Tibetan Plateau
Lei WANG\(^{1}\), Jing ZHOU\(^{1}\)
\(^{1}\)Chinese Academy of Sciences

Quantitative Analysis of Surface Warming Amplification over the Tibetan Plateau After the Late 1990s Using Surface Energy Balance Equation
Anmin DUAN\(^{1}\), Jiayi SU\(^{1}\), Haiming XU\(^{1}\)
\(^{1}\)Chinese Academy of Sciences, \(^{2}\)Nanjing University of Information Science & Technology
IG11 / Integrated Analysis of Geoscience Observations from the Floor to Surface of the Ocean

Fri - 08 Jun | MR323A

Time 08:30 - 10:30
Chair(s) Keisuke ARIYOSHI, JAMSTEC
Akira KUWANO-YOSHIDA, Kyoto University
James FOSTER, University of Hawaii

IG11-D5-AM1-323A-001 | IG11-A001
A Total Station Plan Combined with “Chikyu” and Donet: A Trial of Simultaneous Observation from Seafloor to Atmosphere
Keisuke ARIYOSHI1,*, Shuhei NISHIDA1, Yuya MACHIDA1, Takeshi INUMA1, Hiroshi UCHIDA1, Akira NAGANO1, Takuya HASEGAWA1, Toru MIYAMA1, Yasumasa MIYAZAWA1, Masahide WAKITA1, Tatsu KUWATANI1, Kan AOIKE1, Mikiko FUJITA1, Akiko TO1, Akira KUWANO-YOSHIDA1, Kaoru ICHIKAWA2
1Japan Agency for Marine-Earth Science and Technology, 2Kyoto University

IG11-D5-AM1-323A-002 | IG11-A005 (Invited)
A Modular Geodesy System for Subsea Monitoring
Jacob SOBIN1,*, Che Keong LEE1, Carsten FRANK2, Mathias MEYER3
1Kongsberg Maritime, 2Kongsberg Maritime Contros GmbH

IG11-D5-AM1-323A-003 | IG11-A004
Atypical Large-Meander Path of the Kuroshio South of Japan Occurred in September 2017
Akira NAGANO1,*, Yusuke YAMASHITA2, Keisuke ARIYOSHI1, Takuya HASEGAWA1, Masanao SHINOHARA2
1Japan Agency for Marine-Earth Science and Technology, 2Kyoto University, 3The University of Tokyo

IG11-D5-AM1-323A-004 | IG11-A009
Waveglider-enabled Low-cost Sea-floor Geodesy and Ocean Tomography
James FOSTER1,*, Todd ERICKSEN2, Brian BINGHAM3, Bruce HOWE4
1University of Hawaii at Manoa, 2United States Geological Survey, 3Naval Postgraduate School, 4University of Hawaii

IG11-D5-AM1-323A-005 | IG11-A006
Impact of Explosive Cyclones on the Deep Ocean in the North Pacific: Simulations and Observations
Akira KUWANO-YOSHIDA1,*, Hideharu SASAKI2, Shigeki HOSODA2, Yoshikazu SASAI1, Yasumasa MIYAZAWA2, Katsufumi SATO3, Akira FUKUOKA4, Tomoko NARAZAKI4
1Kyoto University, 2Japan Agency for Marine-Earth Science and Technology, 3Frontier Research Center for Global Change, 4The University of Tokyo

IG15 / Lake Studies of Environmental Change

Fri - 08 Jun | MR322B

Time 11:00 - 12:30
Chair(s) Chris GOURAMANIS, National University of Singapore

IG15-D5-AM2-322B-001 | IG15-A006
Heavy Metals in Lacustrine Sediments from Laguna De Bay, Philippines: Analysis of Contamination History Using Geochemical and GIS Methods
Bertrand Aldous SANTILLAN1,*, Decibel FAUSTINO-ESLAVA2, Jonathan MACUROY1, Clarisse Ann SIABABA1, Loucel CUI1, Betchaida PAYOT1, Carla DIMALANTA2, Juan Miguel GUOTANA2, Maria Victoria ESPALDON3
1University of the Philippines Los Baños, 2University of the Philippines, 3University of the Philippines Diliman

IG15-D5-AM2-322B-002 | IG15-A007
Did Climate Drive the Human Colonisation of the South Pacific? New Evidence from Multi-Proxy Lake Sediment Records
David SEAR1,*, Luke JUDGE2, John HUNTLEY2, Scott THOMAS2
1University of Southampton, 2University College London
IG17 / Geo-science Education
Fri - 08 Jun  |  MR322B

Time 08:30 - 10:30
Chair(s) I-Te LEE, Central Weather Bureau

IG17-D5-AM1-322B-001 | IG17-A007
The Sydney Schools Weather and Air Quality (SWAQ)
Network
Melissa HART1, Angela MAHARAJ1, Giovanni DI VIRGILIOi
iUniversity of New South Wales

IG17-D5-AM1-322B-002 | IG17-A009
The Copernicus Academy Network and the EO4GEO Project
Valerio TRAMUTOLI1
iUniversity of Basilicata

IG17-D5-AM1-322B-003 | IG17-A010
The Best Educational Tool for Interdisciplinary Earth Science -
Giovanni
Jennifer WEI1, Jim ACKERi, Mahabaleshwara HEGDE, David MEYER1
NASA Goddard Earth Sciences Data and Information Services Center,
NASA Goddard Earth Sciences Data and Information Services Center/Adnet Systems,
NASA Goddard Space Flight Center

IG17-D5-AM1-322B-004 | IG17-A003
Earth Science Education with a Portable 3D Digital Globe
System
A. SATO1, Takuya TSUGAWA1, Takahito KAZAMA1, Noriyuki NISHI#, Yoko ODAGI#
Kyoto University, National Institute of Information and Communications Technology, Fukuoka University

IG17-D5-AM1-322B-005 | IG17-A004
In-School Service for the Geoscience by Central Weather
Bureau in Taiwan
I-Te LEE1, Jia-Chi CHEN1, Fu-Yu WU1, Mark CHENG1
Central Weather Bureau, National Central University

IG17-D5-AM1-322B-006 | IG17-A005
Creating and Using OER Materials in an Intro-Level
Atmospheric Science Class
Alison D. NUGENT1, Jennifer GRISWOLD1, Christina KARAMPERIDOU1
University of Hawaii at Manoa

IG17-D5-AM1-322B-007 | IG17-A006
Carbonator: A Simple Climate Model for Secondary Science
Angela MAHARAJ1, Alexander SEN GUPTA1
University of New South Wales

IG25 / Tracing Hydrometeorological,
Ecohydrological and Hydrological Processes Using
Stable Water Isotopes
Fri - 08 Jun  |  MR323A

Time 11:00 - 12:30
Chair(s) Xinping ZHANG, Hunan Normal University
Huade GUAN, Flinders University

IG25-D5-AM2-323A-006 | IG25-A009 (Invited)
Data Assimilation of Water Isotope Information for
Constraining Hydrometeorological Processes
Kei YOSHIMURA1
University of Tokyo

IG25-D5-AM2-323A-007 | IG25-A005
Stable Isotope Variations in Precipitation over an Endorheic
Lake Basin (Siling Co) in the Central Tibetan Plateau During
Different Seasons Related to Various Meteorological Factors
and Moisture Sources
Yinsheng ZHANG1, Teng ZHANG1,2, Yanhong GUO1,2
Chinese Academy of Sciences, University of Chinese Academy of Sciences

OS09 / Regional Oceanic Numerical Modeling and
Observations
Fri - 08 Jun  |  MR317B

Time 08:30 - 10:30
Chair(s) Changming DONG, Nanjing University of Information
Science and Technology

OS09-D5-AM1-317B-014 | OS09-A057 (Invited)
M2 Internal Tide Generation and Propagation Modulated by
Kuroshio to the Northeast of Taiwan
Zhenhua XU1, Hang CHANG1, Baoshu YIN1
Chinese Academy of Sciences

OS09-D5-AM1-317B-015 | OS09-A032
Assessment of Fine-Scale Parameterizations in the Deep Ocean
of the North Pacific
Guiting CHEN1, Changrong LIANG1, Xiaodong SHANG1
Chinese Academy of Sciences
Observation of Enhanced Nonlinear Interactions After the Passage of Typhoon in the Western South China Sea
Xiaodong SHANG1#+, Changrong LIANG1, Guiyong CHEN1
1Chinese Academy of Sciences

Fortnightly Variation of the Tsushima Warm Current on the Continental Shelf of the Southwestern Japan Sea
Tetsutaro TAKIKAWA1#+, Akhihiko MORIMOTO2, Moeto KYUSHIMA3, Kaoru ICHIKAWA4, Masashi ITO5, Kei YUFU6
1Nagasaki University, 2Ehime University, 3Nagoya University, 4Kyushu University, 5Japan Fisheries Research and Education Agency

Research on the Multi-Scale Spatial and Temporal Variation of Waves in the Southern California Bight
Yuhan CAO1,2#+, Changming DONG1,3, Yusuke UCHIYAMA4, Jin WANG1, Xunqiang YIN1
1Nanjing University of Information Science & Technology, 2State Oceanic Administration, 3University of California, Los Angeles, 4Kobe University

Numerical Study on the Tidal Dynamics and Asymmetry in Zhoushan Archipelagoes, East China with a High Resolution Finite Volume Model
Dongdong CHU1, Jici ZHANG1, Anzhou CAO1, Li LI1
1Zhejiang University

Variation of the Long-Term Yangtze River Discharge and its Impact on Salt-Water Intrusion in the Yangtze River Estuary
Haiyun SHI1,2#, Changming DONG1,2, Haixia SHAN1, Bin ZOU3
1Nanjing University of Information Science & Technology, 2State Oceanic Administration, 3National Satellite Ocean Application Center

Time 11:00 - 12:30
Chair(s) Changming DONG, Nanjing University of Information Science and Technology
Yusuke UCHIYAMA, Kobe University

Simulation Studies on the Coastal and Interior Circulation Dynamics of the South China Sea
Dongxiao WANG1, Tingting ZU1, Dongxiao WANG2, Yeqiang SHU2
1South China Sea Institute of Oceanology, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3South China Sea Institute of Oceanology
PS19 / Rosetta, Comets, and Other Icy Bodies
Fri - 08 Jun  |  MR304A

Time  08:30 - 10:30
Chair(s)  Arika HIGUCHI, National Astronomical Observatory of Japan
Michael S. P. KELLEY, University of Maryland

PS19-D5-AM1-304A-001 | PS19-A001
Inner Solar System Objects with Hyperbolic Orbits:
Interstellar Origin or Oort Cloud Comets?
Arika HIGUCHI1,*, Eiichiro KOKUBO1
1National Astronomical Observatory of Japan

PS19-D5-AM1-304A-002 | PS19-A018 (Invited)
Water Chemistry on Early Ceres: Its Implications for Planetary Formation
Yasuhiito SEKINE1,*, Takazo SHIBUYA2
1The University of Tokyo, 2Japan Agency for Marine-Earth Science and Technology

PS19-D5-AM1-304A-003 | PS19-A021
Geological Processes on Comets: Insights from the Rosetta Mission
M. Ramy EL-MAARRY1,*
1University of Colorado Boulder

PS19-D5-AM1-304A-004 | PS19-A010 (Invited)
The Seasonal Cycle of Water Ice at the Surface of Comet 67P/Churyumov-Gerasimenko as Observed by Virtis Onboard Rosetta
Mauro CIARNIELLO1,*, Gianrico FILACCHIONE1, Fabrizio CAPACCIONI1, Maria Cristina DE SANCTIS1, Maria Teresa CAPRIA1, Andrea RAPONI1, Federico TOSI1, Michelangelo FORMISANO1, Andrea LONGOBARDO1, Giovanna RINALDI1, Stephane ERARD1, Dominique BOCKELEE-MORVAN1, Cedric LEYRAT1, Gabriele ARNOLD2, Maria Antonietta BARUCCF1, Eric QUIRICO2, Sonia FORNASIER2, David KAPPEL3, Batiste ROUSSEAU4, Stefano MOTTOLA1
1National Institute for Astrophysics, 2Paris Observatory, 3German Aerospace Center, 4Centre National de la Recherche Scientifique, 5Institut de Planétologie et d’Astrophysique de Grenoble

PS19-D5-AM1-304A-005 | PS19-A023 (Invited)
Manx Comets: A Test of Solar System Dynamics Evolutionary Models
Karen MEECH1,*, Jan KLEYNA1, Jacqueline KEANE1, Olivier HAINAUT1, Richard WAINSCOAT1, Bin YANG1, Marco MICHELI1, Alessandro MORBIDELLI1
1University of Hawaii at Manoa, 2University of Hawaii, 3European Southern Observatory, 4European Space Agency, 5Observatoire de la Cote d’Azur

PS19-D5-AM1-304A-006 | PS19-A028 (Invited)
On the Orbital History and the Outburst Activity of Centaurs
Wing-Huen IP1,*, Yu-Chi CHENG1
1National Central University

PS19-D5-AM1-304A-007 | PS19-A020 (Invited)
Rotational Evolution of Comets
Nalin SAMARASINHA1,*, Beatrice MUELLER1
1Planetary Science Institute

PS19-D5-AM1-304A-008 | PS19-A006
A Fireball and Potentially Hazardous Binary Asteroid (164121) 2003 YT1
Toshihiro KASUGA1,*, Mikiya SATO2, Masayoshi UEDA2, Yasunori FUJIWARA2, Chie TSUCHIYA3, Junichi WATANABE3
1NAOJ / Kyoto Sangyo University, 2The Nippon Meteor Society, 3National Astronomical Observatory of Japan

PS19-D5-AM2-304A-009 | PS19-A025
Modeling the Diurnal Cycle of Water Sublimation/Condensation on Comet 67P
Liang Liang YU1,*, Tilman SPOHN2, Wing-Huen IP3
1Macau University of Science and Technology, 2German Aerospace Center, 3Wing-Huen IP1

PS19-D5-AM2-304A-010 | PS19-A022 (Invited)
Six Years of TRAPPIST Comet Survey
Cyrielle OPITOM1,*, Emmanuel JEHIN2, Damien HUTSEMÈKERS2
1European Southern Observatory, 2University of Liège

PS19-D5-AM2-304A-011 | PS19-A027
Rosetta/Osiris Imaging of Variable Emission of Volatile Fragment Species in the Inner Coma of Comet 67P/Churyumov-Gerasimenko
Fiorangela LA FORGIA1,*, Monica LAZZARIN1, Dennis BODEWITS2
1University of Padova, 2University of Maryland

PS19-D5-AM2-304A-012 | PS19-A009
Photometric and Spectroscopic Study of Comet C/2017 K2 Xiliang ZHANG1,*, Bin YANG1,2
1Chinese Academy of Sciences, 2Yunnan observatories, Chinese Academy of Sciences, 3European Southern Observatory
The Search for Unexpected and Infrequent Ultraviolet Coma Emission Features at 67P/Churyumov-Gerasimenko with Data from the Alice Ultraviolet Spectrograph

John NOONAN1+, S. Alan STERN1, Joel PARKER2, Brian KEENEY3, Paul FELDMAN4, Andrew STEFFL4, Ronald VERVACK5, Jean-Loup BERTAUX5, Harold WEAVER5, Lori FEAGA5, Matthew KNIGHT5
1Lunar and Planetary Laboratory, 2Southwest Research Institute, 3Johns Hopkins University, 4University of Versailles Saint-Quentin-en-Yvelines, 5University of Maryland

Thermal Modeling of Comet-Like Objects from AKARI Observations

Yoonsoo BACH1+, Masateru ISHIGURO1#, Fumihiko USUI2
1Seoul National University, 2Kobe University

SE12-17 / Formation and Evolution of the Tethyan Orogenic Belt: Multi-disciplinary Constraints

Fri - 08 Jun  |  MR321A
Time 08:30 - 10:30
Chair(s) Chuan-Zhou LIU, Chinese Academy of Sciences
Di-Cheng ZHU, China University of Geosciences

Late Miocene Tectonic Complexity in the Arabia-Eurasia Collision Zone from a Magmatic Perspective

Kwan-Nang PANG1++, Sun-Lin CHUNG1, Mohammad Hossein ZARRINKOUB1, Aliakbar BHARIFAR1, Han-Yi CHIU1, Hao-Yang LEE1
1Academia Sinica, 2National Taiwan University, 3Birjand University, 4Payame-Noor University

Initiation of Continental Underthrusting: Insights from Intracontinental Deformation of Northeast Iran

Yang CHU1++, Bo WAN1, Ling CHEN1
1Chinese Academy of Sciences

High Pressure Granulite-Facies Overprinting During the Exhumation of Eclogites in the Bangong–Nuijiang Suture Zone, Central Tibet: Link to Flat-Slab Subduction

Xiu-Zheng ZHANG1++, QiAN WANG2, Yong-Sheng DONG2, Chunfu ZHANG2
1Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3Jilin University, 4Fort Hays State University

New U–Pb Zircon Ages and Hf Isotopic Composition of Abor Volcanics of Eastern Himalaya, Northeast India

Krishnakanta ATHOKPAM SINGH1+
1Wadia Institute of Himalayan Geology

Paleocene (Ca. 62 Ma) Leucogranites in Southern Lhasa, Tibet: Products of Syn-Collisional Crustal Anatexis During Slab Roll-Back?

Lin MA1++, Qiang WANG2, Andrew KERR3
1Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, 2Chinese Academy of Sciences, 3Cardiff University

SE12-17-05-AM2-321A-004  |  SE12-17-A024

Sn Wave Attenuation Beneath the Tibetan Plateau

Lian-Feng ZHAO1++, Xiao-Bi XIE2, Xiao MA1, Zhen-Xing YAO1
1Chinese Academy of Sciences, 2University of California, Santa Cruz

Source of Ore-Related and Ore-Barren Magmas of Miocene Porphyry Copper Deposits in the Eastern Tethyan Orogenic Belt: Evidence from Sr, O Isotopes and Sr/Y Ratios

Chen DENG1++, Bo WAN1++, Leilei DONG1, Talebian MORTEZA2, B.F. WINDLEY3
1Chinese Academy of Sciences, 2Geological Survey of Iran, 3University of Leicester

SE12-17-05-AM2-321A-007  |  SE12-17-A027

Geodynamical Evolution of the India-Asia Collision Zone Since the Late Cretaceous

Di-Cheng ZHU1++, Qing WANG1, Peter A. CAWOOD1, Zhidan ZHAO1, Sun-Lin CHUNG1
1China University of Geosciences, 2Monash University, 3National Taiwan University

SE12-17-05-AM2-321A-008  |  SE12-17-A007
SE24-29 / Active Volcanic Processes from the Mantle to the Atmosphere: Multidisciplinary Approaches to Monitoring, Hazards, and Impacts
Fri - 08 Jun  |  MR319B
Time  08:30 - 10:30
Chair(s)  Armin KLEINBOEHL, NASA-JPL, Florian M. SCHWANDNER, NASA-JPL

SE24-29-D5-AM1-319B-001  |  SE24-29-A025
Petrogenesis of the Layered Mafic-Ultramafic Cumulates of the Palawan Ophiolite, Philippines
Betchaida PAYOT1#+, Gabriel Theophilus VALERA1, Jeanne Myrtia MACALALAD1, Valerie Shayne OLFINDO2, Juan Miguel GUOTANA1
1University of the Philippines Diliman, 2University of the Philippines

SE24-29-D5-AM1-319B-002  |  SE24-29-A022 (Invited)
Water Transport of Subducting Slabs
Lijuan HE1#+
1Chinese Academy of Sciences

SE24-29-D5-AM1-319B-003  |  SE24-29-A035
3-D Crustal and Upper Mantle Velocity Structure Beneath the Cenozoic Intraplate Volcanic Belt in Northeast China
Ying CHEN1, Yinhuang Ai1#+, Yingjie YANG1, Jianshe LEI1
1Chinese Academy of Sciences, 2Macquarie University, 3China Earthquake Administration

SE24-29-D5-AM1-319B-004  |  SE24-29-A037
Calcic Amphibole Thermobarometry: Refinement and Application to Volcanic Rocks
Filippo RIDOLFI1#, Francois HOLTZ1, Renat ALMEEV1, Chao ZHANG1, Dongmei QI1, Adriana Miriam CURRIN SALA1, Robert BALZER1, Stefan Andreas LINSLER1
1Leibniz Universität Hannover

SE24-29-D5-AM1-319B-005  |  SE24-29-A002 (Invited)
Volcanoes and Lunar Cycles: Towards Using Tidal Stresses to Forecast Eruptions
Társillo GIRONA1#, Christian HUBER1, Corentin CAUDRON3
1Jet Propulsion Laboratory, California Institute of Technology, 2Brown University, 3Royal Observatory of Belgium

SE24-29-D5-AM1-319B-006  |  SE24-29-A034
Magma Chamber and Volcanic Conduit Interaction: A Tale from Long-Period Tremor Activities in Aso Volcano, Japan
Teh-Ru Alex SONG1#, Jieming NIU1
1University College London

SE24-29-D5-AM1-319B-007  |  SE24-29-A032
Temporal Variation of Magma Feeding System from BC466 to Present in Chokai Volcano, NE Japan
Masao BAN1, Takuya TAKAHASHI1, Takanori SATO1, Shintaro HAYASHI1, Tsukasa OHBA1, Ryuichi SHINJO1, Yuki NISHI1
1Yamagata University, 2Akita University, 3University of the Ryukyus

SE24-29-D5-AM1-319B-008  |  SE24-29-A008 (Invited)
Analyzing the Continuous Volcanic Tremors Detected During the 2015 Phreatic Eruption of the Hakone Volcano
Yohei YUKUTAKE1, Ryou HONDA1, Masatake HARADA1, Ryosuke DOKE1, Tatsuhiko SAITO1, Tomotake UENO1, Shin’ichi SAKAI1, Yuichi MORITA1
1Hot Springs Research Institute of Kanagawa Prefecture, 2National Research Institute for Earth Science and Disaster Resilience, 3The University of Tokyo

SE24-29-D5-AM1-319B-009  |  SE24-29-A004
Processes and Timescales Leading to Eruption of Monogenetic Volcanism in Ocean Islands
Helena ALBERT1#, Fidel COSTA1
1Nanyang Technological University

Time  11:00 - 12:30
Chair(s)  Florian M. SCHWANDNER, NASA-JPL

SE24-29-D5-AM2-319B-010  |  SE24-29-A017 (Invited)
Silent Degassing from Volcanoes: Implications for Monitoring and Global Flux Budgets
Nemesio PEREZ1, Pedro HERNANDEZ2,3, Padron ELEAZAR2,3, Gladys MELIAN2
1Instituto Volcanológico de Canarias (INVOLCAN), 2Instituto Volcánologo de Canarias (INVOLCAN), 3Institute of Technology and Renewable Energy

SE24-29-D5-AM2-319B-011  |  SE24-29-A009
Remote Sensing of Volcanic CO2: Satellites, Aircraft, sUAS, and Proxies
Florian M. SCHWANDNER1,2,3, Simon A. CARN1, Charles MILLER1, Robert R. BOGUE1, David PIERI1, Akihiko KUZE1, Kei SHIOMI1, Fumie KATO1, Elicerpt DUARTE1, Jorge Andres DIAZ1, Joshua B. FISHER2, Kerry-Anne CAWSE-NICHOLSON2
1Jet Propulsion Laboratory, California Institute of Technology, 2California Institute of Technology, 3University of California, Los Angeles, 4Michigan Technological University, 5California Institute of Technology, 6Japan Aerospace Exploration Agency, 7Remote Sensing Technology Center of Japan (RESTEC), 8National University of Costa Rica
SE24-29-D5-AM2-319B-012 | SE24-29-A003 (Invited)
HCN Emissions from the Explosive Volcanic Eruption of Mt. Pinatubo in 1991
Armin KLEINBOEHL†, Geoffrey TOON†, Max COLEMAN†, Florian M. SCHWANDNER‡, Debra WEISENSTEIN§, Yuk YUNG$, Tamsin MATHER†, Vlada STAMENKOVIC†
†Jet Propulsion Laboratory, California Institute of Technology, ‡Gas Monitoring Solutions, †Harvard University, ©California Institute of Technology, $Oxford University

SE24-29-D5-AM2-319B-013 | SE24-29-A020 (Invited)
The Causes of the Little Ice Age
Brian ZAMBRI†, Alan ROBOCK†
†Rutgers University

SE24-29-D5-AM2-319B-014 | SE24-29-A036
Structural Characteristics and Collapse Mechanism of the Cretaceous Geumseongsan Caldera, South Korea
Seongjun LEE††, Yongbeom CHEON†, Moon SON†
†Pusan National University

SE24-29-D5-AM2-319B-015 | SE24-29-A007
Impact of Accumulation Period and Seasonality on Ashfall Approximation via an Inverse Power Law Model
Alexandros POULIDIS††, Tetsuya TAKEMI†, Atsushi SHIMIZU‡, Masato IGUCHI‡, Susanna JENKINS‡
†Kyoto University, ‡National Institute for Environmental Studies, ‡Nanyang Technological University

SE24-29-D5-AM2-319B-016 | SE24-29-A028 (Invited)
Translating Volcanic Hazard Complexity into an Interactive Game of Risk Mitigation Management
Isaac KERLOW††
†Nanyang Technological University

SE27 / Modeling of Slow and Regular Earthquakes
Fri - 08 Jun | MR321B
Time 08:30 - 10:30
Chair(s) Yuta MITSUI, Shizuoka University
Naofumi ASO, University of Tokyo
Suguru YABE, JAMSTEC

SE27-D5-AM1-321B-001 | SE27-A015
Along Strike Variation and Migration of Long-Term Slow Slip Event in the Nankai Subduction Zone
Ryota TAKAGI†, Naoki UCHIDA†, Kazushige OBARA†
†Tohoku University, ‡The University of Tokyo

SE27-D5-AM1-321B-002 | SE27-A004
Moment Tensor Inversion of Shallow Very Low-Frequency Earthquakes Around off the Kii Peninsula, Japan, Using a Three-Dimensional Velocity Structure Model
Shunsuke TAKEMURA††, Takanori MATSUZAWA†, Takeshi KIMURA‡, Takashi TONEGAWA‡, Katsuhiko SHIMOF†
†National Research Institute for Earth Science and Disaster Resilience, ‡National Research Institute for Earth Science and Disaster Prevention, §Japan Agency for Marine-Earth Science and Technology

SE27-D5-AM1-321B-003 | SE27-A001
Focal Mechanism Estimation of Low-Frequency Earthquakes Using High Frequency Seismogram: Method and Synthetic Test
Suguru YABE††, Shunsuke TAKEMURA‡
†Japan Agency for Marine-Earth Science and Technology, §National Research Institute for Earth Science and Disaster Resilience

SE27-D5-AM1-321B-004 | SE27-A006
Numerical Experiments for Estimating CMT Solutions Using Inland and Offshore Seismic Networks in Tohoku
Tatsuya KUBOTA††, Shunsuke TAKEMURA‡, Tatsuhiko SAITO†
†National Research Institute for Earth Science and Disaster Resilience

SE27-D5-AM1-321B-005 | SE27-A019
Effects of Fractal Roughness on Critical Jump Distance for Propagating Earthquake Ruptures Across Step-Overs in Virtual Quake Simulations
Molly LUGINBUHL††, John WILSON†, John RUNDLE†, Donald TURCOTTE§
†University of California, Davis

SE27-D5-AM1-321B-006 | SE27-A011
Stochastic Dynamic Modeling to Reproduce Variability of Earthquakes
Naofumi ASO††, Ryouuke ANDO†, Satoshi IDE‡
†Tokyo Institute of Technology, ‡The University of Tokyo

SE27-D5-AM1-321B-007 | SE27-A021
A 2D Stochastic Cell-Automaton Model for Slow Earthquakes
Satoshi IDE††, Suguru YABE‡
†The University of Tokyo, §Japan Agency for Marine-Earth Science and Technology
Time 11:00 - 12:30
Chair(s) Keisuke ARIYOSHI, JAMSTEC
Yuta MITSUI, Shizuoka University

SE27-D5-AM2-321B-008 | SE27-A007
Deformation of Lawsonite Blueschist at High Pressure and High Temperature and Implications for Slow Earthquakes in Subduction Zones
Haemyeong JUNG1,*, Seungsoon CHOI1, Sejin JUNG1
1Seoul National University

SE27-D5-AM2-321B-009 | SE27-A014
Effect of Pore-Fluid Pressure on the Frictional Velocity Dependence of Subduction-Zone Faults
Akito TSUTSUMI1,*, Saki HIGA1
1Kyoto University

SE27-D5-AM2-321B-010 | SE27-A005
Dehydration Faulting in Layered Serpentinized Peridotite: Implications for the Genesis of Regular and Slow Earthquakes in Subduction Zones
Junfeng ZHANG1,*, Yongfeng WANG1
1China University of Geosciences

SE27-D5-AM2-321B-007 | SE27-A000

SE36 / Bridging Scales at Mobile Belts: Fault Rheology and Earthquake Physics
Fri - 08 Jun | MR314
Time 08:30 - 10:30
Chair(s) James D P MOORE, Earth Observatory of Singapore
Yukitoshi FUKAHATA, Kyoto University

SE36-D5-AM1-314-001 | SE36-A008 (Invited)
Lithosphere and Shallow Asthenosphere Rheology from Observations of Post-Earthquake Relaxation
Fred POLLITZ1,*,
1United States Geological Survey

SE36-D5-AM1-314-002 | SE36-A009
Characteristics of Crustal Deformation of an Elastic-Viscoelastic Composite System: Very Long Effective Relaxation Time than the Intrinsic One
Yukitoshi FUKAHATA1,*, Mitsuhiro MATSU'URA2
1Kyoto University, 2Institute of Statistical Mathematics

SE36-D5-AM1-314-003 | SE36-A017 (Invited)
Transient Behavior of the Earthquake Cycle Associated with Change of Slip Direction and Fault Strength
Kiyokazu OOHASHI1
1Yamaguchi University

SE36-D5-AM1-314-004 | SE36-A020
Stress-Constrained Inversion for Interseismic Coupling on Shallow Megathrusts: Life in the Stress Shadow
Eric LINDESEY1,*, Rishav MALICK1, Uija FENG1, Rafael ALMEIDA1, Kyle BRADLEY1, Judith HUBBARD1, Emma HILL2
1Nanyang Technological University, 2Earth Observatory of Singapore / NTU

SE36-D5-AM1-314-005 | SE36-A011
Transient Mantle Wedge Flow Along the Sumatran Subduction Zone Accelerated by Decade of Great Earthquakes
Qiang QIU1,*, James Daniel Paul MOORE1, Sylvain BARBOT1, Luija FENG1, Emma HILL2
1Nanyang Technological University, 2Earth Observatory of Singapore / NTU

SE36-D5-AM1-314-006 | SE36-A005
Frictional Sliding of Limestone Fault Gouge Under Hydrothermal Conditions
Yongsheng ZHOU1,*, Helen LACEY2, Jiao YU1, Lei ZHANG1, Wenming YAO1, Changrong HE1
1China Earthquake Administration, 2Imperial College London

SE36-D5-AM1-314-007 | SE36-A016 (Invited)
Near-Field Surface Displacement of the 2016 Norcia & Kaikoura Earthquakes Measured Using Low-Cost GNSS
Maxwell WILKINSON1,*, Richard JONES1, Kenneth MCCAFFREY1, Gerald ROBERTS1, Robert HOLDSWORTH1, Laura GREGORY1, Richard WALTERS1, Edward RHODES1, Luke WEDMORE1, Simon LAMB1, Huw GOODALL1, Francesco IEZZI1
1Geospatial Research Limited, 2Durham University, 3University College London, 4University of Leeds, 5University of Sheffield, 6Victoria University of Wellington

SE36-D5-AM1-314-008 | SE36-A007
Origin of a Foreland-Dipping Seismogenic Zone and its Basal Decollement in Southwestern Taiwan
Wei-Hau WANG1,*, Strong WEN1
1National Chung Cheng University
SE36-D5-AM2-314-009 | SE36-A010 (Invited)

Modeling the Strain Concentration Zone in the Japanese Island Arc Crust to Understand the Generation Processes of Large Intraplate Earthquakes

Bunichiro SHIBAZAKI1++, Takuya NISHIMURA2, Satoshi MATSUMOTO3, Takumi MATSUMOTO3
1International Institute of Seismology and Earthquake Engineering, 2Kyoto University, 3National Research Institute for Earth Science and Disaster Prevention

SE36-D5-AM2-314-010 | SE36-A003 (Invited)

The 3-D Tectonic Stress Field in and Around Japan Inferred from CMT Data Inversion

Toshiko TERAKAWA++
1Nagoya University

SE36-D5-AM2-314-011 | SE36-A004 (Invited)

Stress Rotation Near the Main Fault of the 2000 Tottori Earthquake

Takaki IWATA++
1Tohoku University

SE36-D5-AM2-314-012 | SE36-A006 (Invited)

Earthquake Swarms and Their Relation to Crustal Fluid as Revealed by Dense Seismic Observation in Hakone Volcano, Central Japan

Yohei YUKUTAKE++
1Hot Springs Research Institute of Kanagawa Prefecture

SE36-D5-AM2-314-013 | SE36-A013

The Role of Active Minor Faults in the Tectonic Deformation Budget of the Inland High-Strain Rate Zone, Central Japan

Tomonori TAMURA++, Kiyokazu OOHASHI, Makoto OTSUBO, Ayumu MIYAKAWA, Masakazu NIWA
1Yamaguchi University, 2National Institute of Advanced Industrial Science and Technology, 3Japan Atomic Energy Agency

SE36-D5-AM2-314-014 | SE36-A014

Thermochronologic Reconstruction of the Long-Term Uplift-Denudation of the Japan Arc

Takahiro TAGAMI+++, Shigeru SUEOKA
1Kyoto University, 2Japan Atomic Energy Agency

SE36-D5-AM2-314-015 | SE36-A024

A Hierarchical Clustering of Dense Gnss Data in Taiwan to Identify Active Tectonic Boundaries

Atsushi TAKAHASHI++, Manabu HASHIMOTO, Jyr-Ching HU, Yukitoshi FUKAHATA
1Kyoto University, 2National Taiwan University

ST01 / Flare Activity: Observation, Physics, and Forecasting
Fri - 08 Jun | MR317A

Time 08:30 - 10:30
Chair(s) Han HE, National Astronomical Observatories of Chinese Academy of Sciences

Robertus ERDELYI, University of Sheffield

ST01-D5-AM1-317A-001 | ST01-A013 (Invited)

Solar Flare Probability Prediction Using Deep Neural Networks: Deep Flare Net

Naoto NISHIZUKA++, Komei SUGIURA, Yuki KUBO, Mitue DEN, Mamoru ISHI
1National Institute of Information and Communications Technology

ST01-D5-AM1-317A-002 | ST01-A001

Deep Learning Based Solar Flare Forecasting Model

Xin HUANG++, Huaning WANG
1National Astronomical Observatories, Chinese Academy of Sciences, 2Chinese Academy of Sciences

ST01-D5-AM1-317A-003 | ST01-A002 (Invited)

Tracking the Evolution of Flaring Active Regions in 3D

Marianna KORSOS++
1University of Sheffield

ST01-D5-AM1-317A-004 | ST01-A017

AI-generated Magnetograms of the Sun

Taeyoung KIM++, Eunsu PARK, Harim LEE, Yong-Jae MOON, Daye LIM, Soojeong JANG, Sung-Ho BAE, Lokwon KIM, II-Hyun JO, Myungjin CHOF
1Kyung Hee University, 2InSpace Co., Ltd

ST01-D5-AM1-317A-005 | ST01-A016

A Coronal Force-Free Field Construction Method and its Application to AR 11974 that Produced Two Flares and a Coronal Mass Ejection

Sibaek YI++, Gwang-Son CHOE, Kap-Sung KIM, Kyungsuk CHO
1Kyung Hee University, 2Korea Astronomy and Space Science Institute
ST01-D5-AM1-317A-006 | ST01-A020
On the Topological Feature of a Flare-CME Event
Juan GUO1,‡, Huaning WANG2, Xiaoshuai ZHU3, Xinghua DAF1
1National Astronomical Observatories, Chinese Academy of Sciences, (NAOC), ²Chinese Academy of Sciences

Time 11:00 - 12:30
Chair(s) Robertus ERDELEYI, University of Sheffield

ST01-D5-AM2-317A-007 | ST01-A007 (Invited)
Formation of Coronal Magnetic Flux Ropes
Rui LIU1,‡
1

ST01-D5-AM2-317A-008 | ST01-A008
Magnetic Configuration Associated with Two-Ribbon Solar Flares: AR 10930 vs. AR 11158
Han HE1,‡, Huaning WANG1, Yihua YAN1, Bo LF, Peng-Fei CHEN2
1Chinese Academy of Sciences, ²Shandong University, ³Nanjing University

ST01-D5-AM2-317A-009 | ST01-A009 (Invited)
Multi-Episode Chromospheric Evaporation Observed in a Solar Flare
Hui TIAN1,‡, N.-H. CHEN2
1Peking University, ²Korea Astronomy and Space Science Institute

ST01-D5-AM2-317A-010 | ST01-A011 (Invited)
Observation of a Large-Scale Quasi-Circular Secondary Ribbon Associated with Successive Flares and a Halo CME
Eun-Kyung LIM1,‡, Vasyl YURCHYSHYN1, Pankaj KUMAR1, Kyuhyouin CHO2, Chaowei JIANG2, Su Jin KIM1, Heesu YANG1, Jongchul CHAE3, Kyungsuk CHO4, Jeongwoon LEE5
1Korea Astronomy and Space Science Institute, ²New Jersey Institute of Technology, ³National Aeronautics and Space Administration, ⁴Seoul National University, ⁵Harbin Institute of Technology, ⁶Kyunghee University

ST01-D5-AM2-317A-011 | ST01-A010
Statistical Investigation of Low Atmospheric Response During Flares Using the Multi-Wavelengths Observations by Hinode, IRIS, and SDO
Kyoung Sun LEE1,‡, Kyoko WATANABE1, Shinseuke IMADA3, David BROOKS4, Hirohisa HARA1
1National Astronomical Observatory of Japan, ²National Defense Academy of Japan, ³Nagoya University, ⁴George Mason University

ST05 / The Responses of Earth’s Inner Magnetosphere to Extreme Solar Events
Fri - 08 Jun | MR302A

Time 08:30 - 10:30
Chair(s) Wenlong LIU, Beihang University

ST05-D5-AM1-302A-001 | ST05-A003 (Invited)
Radiation Belt Enhancements Due to Strong Solar Wind Forcing
Daniel BAKER1,‡
1University of Colorado Boulder

ST05-D5-AM1-302A-002 | ST05-A021 (Invited)
Shock-Driven Instant Relativistic Electron Dynamics in the Outer Belt
Yixin HAO1,‡, Zhiyang LIU1, Ying LIU1, Xu zhi ZHOU1
1Peking University

ST05-D5-AM1-302A-003 | ST05-A017
On the Relation of Deep Penetration of MeV Electrons and Extreme Solar Wind Conditions
Xinlin LI1,‡, Daniel BAKER1, Hong ZHAO1, Allison JAYNES3, Shri KANEKAL1, Berhard BLAKE1, Michael TEMERIN3
1University of Colorado Boulder, ²University of Iowa, ³NASA Goddard Space Flight Center, ⁴The Aerospace Corporation, ⁵University of California, Berkeley

ST05-D5-AM1-302A-004 | ST05-A026
Energetic Electron Penetration into Inner Radiation Zone
Joseph FENNELL1,‡, Drew TURNER1, James ROEDER1, Seth CLAudePIERRE1, Berhard BLAKE1, James CLEMMONS, Craig KLETZING1, Shri KANEKAL1, Allison JAYNES3
1The Aerospace Corporation, ²The University of Iowa, ³NASA Goddard Space Flight Center, ⁴University of Iowa

ST05-D5-AM1-302A-005 | ST05-A018 (Invited)
Quasiperiodic Modulations of Energetic Electron Fluxes in the ULF Range Observed by the ERG Satellite
Mariko TERAMOTO1,‡, Tomoaki HORI1, Satoshi KURITA1, Shinji SAITO1, Nana HIGASHIPO1, Takehumi MITAN1, Ayako MATSUOKA1, Inochu PARK1, Takeshi TAKASHIMA1, Reiko NOMURA1, Masahito NOSE3, Akiko FUJIMOTO1, Yoshimasa TANAKA1, Manabu SHINOHARA1, Iku SHINOHARA2
1Nagoya University, ²Japan Aerospace Exploration Agency, ³Kyoto University, ⁴Kyushu University, ⁵National Institute of Polar Research, ⁶National Institute of Technology, Kagoshima College

ST05-D5-AM1-302A-006 | ST05-A004
Substorm Related ULF Waves Observed in the Magnetosphere
Qiugang ZONG1,‡
1Peking University
A Statistical Study on GLE and Non-GLE Events
Kazi FIROZ1, Yong-Jae MOON1
1Kyung Hee University

Time 11:00 - 12:30
Chair(s) Xinlin LI, University of Colorado at Boulder

New Epoch-Based Plasmapause Model, with Van Allen Probes
Validation
Jerry GOLDSTEIN1
1Southwest Research Institute

Temporal and Spatial Variations of the Plasmasphere and Ionosphere During Geomagnetic Storms Based on Global GNSS-TEC and Arase Satellite Observations
Atsuki SHINBORI1, Yuichi OTSUKA1, Takuya TSUGAWA2, Michi NISHIOKA3, Atsushi KUMAMOTO4, Fuminori TSUCHIYA5, Shoya MATSUDA6, Yoshiya KASAHARA7
1Nagoya University, 2National Institute of Information and Communications Technology, 3Tohoku University, 4ISAS/JAXA, 5Kanazawa University

Instabilities of Charged Particle Energy Spectrum and Plasma Waves Trigged by Changes in Solar Wind Dynamic Pressure
Liuyuan LI1, Jiang YU1, Bin LIU1, Jinbin CAO1
1Beihang University

High-Time Resolution Optical Observations of Pulsating Aurora in Coordination with Arase Satellite
Keisuke HOSOKAWA1, Yoshizumi MIYOSHI1, Shin-Ichiro OYAMA1, Yasunobu OGAWA1, Satoshi KURITA2, Yoshiya KASAHARA3, Yasumasa KASABA4, Satoshi YAGITANI5, Shoya MATSUDA6, Mitsunori OZAKI7, Fuminori TSUCHIYA8, Atsushi KUMAMOTO9, Ryuho KATAOKA10, Kazuo SHIOKAWA11, Hiroshi MIYAOKA12, Yoshimasa TANAKA13, Satonori NOZAWA14, Mariko TERAMOTO15, Iku SHINOHARA16, Takeshi TAKASHIMA17
1University of Electro-Communications, 2Nagoya University, 3Institute for Space-Earth Environmental Research, 4National Institute of Polar Research, 5Kanazawa University, 6Tohoku University, 7ISAS/JAXA, 8Japan Aerospace Exploration Agency
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EXHIBITORS & BOOTH LOCATIONS

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Exhibitor Registration
Sun – 3 Jun | From 14:00
Mon – Fri, 4 – 8 Jun | From 08:00

Booth Dressing
Mon – 4 Jun | 15:00 – 18:00

Exhibition Opens/Welcome Reception
Mon – 4 Jun | 18:30 – 20:30

All Day Exhibition
Tues – Thu, 5 – 7 Jun | 09:30 – 18:00
Fri – 8 Jun | 09:30 – 16:00

Innovation Theatre
Mon – 4 Jun | 18:45 – 19:15 & 19:30 – 20:00
Tue – Fri, 5 – 8 Jun | 10:30 – 11:00 & 15:30 – 16:00

Tear Down / Ship-Out
Fri – 8 Jun | By 17:00

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<td>European Geosciences Union (EGU)</td>
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<td>IBS Center for Climate Physics</td>
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<td>IUGG General Assembly 2019 in Montreal</td>
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<td>Taiwan Earthquake Research Center</td>
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EXHIBITION FLOOR PLAN (Ballroom B, Level 4)

*Floorplan subjected to change
Booth Size: 10’ x 10’
EXHIBITORS

A01-A02: 36Th International Geological Congress 2020, New Delhi, India

Secretary General, 36 IGC 2020, Secretariat, Puspha Bhawan, Madangir Road, New Delhi, India, Pin-110062
Email: himangshu1970@gmail.com
Website: www.36igc.org

The 36th International Geological Congress themed “Geosciences: The Basic Science for Sustainable Future” will be organised by the Government of India funded body-the 36th IGC during 2-8 March 2020 with support from Indian National Science Academy. The Co-host Nations includes Bangladesh, Nepal, Pakistan, and Sri Lanka. The Geological Survey of India is the Nodal Agency for organizing the Event.

E04: ADC BioScientific Ltd
Global House Geddings Road Hoddesdon Herts EN11 0NT, United Kingdom
Tel: +44 (0)1992 464527 | Fax: +44 (0)1992 444245
Email: Steve@adc.co.uk | Website: http://www.adc.co.uk

For nearly 50 years ADC’s name has been synonymous with quality bioscience instrumentation. This year we will be exhibiting our latest range of instrumentation for the measurement of photosynthesis, transpiration, leaf area, chlorophyll fluorescence, chlorophyll content and soil respiration. Stop by our exhibition stand to discuss your monitoring needs.

F06: AGICO
AGICO, S.R.O., Jecna 29A, Czech Republic
Tel: +420 511116303 | Fax: +420 541634328
Email: vejmelek@agico.cz | Website: www.agico.com

AGICO (Advanced Geoscience Instruments Company) situated in Brno, Czech Republic, is one of the most respected world producers of scientific instruments for rock magnetism, palaeomagnetism and environmental magnetism. AGICO instruments enable measurement of remanent magnetization, AF demagnetization, measurement of magnetic susceptibility and anisotropy of low-field magnetic susceptibility, measurement of frequency-dependent magnetic susceptibility, investigation of temperature variation of bulk susceptibility, investigation of anisotropy of isothermal and anhysteretic magnetic remanence.

E02: Earth Science Research Promotion Center & TAO Journal
No. 300, Jhongda Rd., Jhongli District, Taoyuan City 32001 Taiwan (R.O.C)
Tel: +886-3-4276264 | Fax: +886-3-4227443
Email: esrpc@ncu.edu.tw
Website: http://esrpc.ncu.edu.tw/

The Earth Science Research Promotion Center (ESRPC) is operated under the Ministry of Science and Technology, Taiwan. Our mission is to promote collaborative research with global scientists in a broad spectrum of earth sciences by supporting scientific activities of inviting visiting scholars to Taiwan and holding international conference in Taiwan. We also promote the circulation of Terrestrial, Atmospheric and Oceanic Sciences (TAO), a SCI journal since 1990.

E06: Earthquake Research Institute, The University of Tokyo
1-1-1 YayouBunkyo-ku, Tokyo 113-0032 Japan
Tel: +81 3 5841 0394 | Fax: +81 3 5841 5643
Email: moe@eri.u-tokyo.ac.jp
Website: http://www.eri.u-tokyo.ac.jp/en/

Earthquake Research Institute, University of Tokyo, Japan, is the largest university institute for Solid Earth Science in our country, and is one of the oldest and renowned of its kind in the world with over 80 top-notch academics. We deal with: earthquake, tsunami, volcano, and Earth’s interior.

F02: European Geosciences Union (EGU)
European Geosciences Union EGU Executive Office Luisenstrasse 37, Germany
The European Geosciences Union (EGU) is, with over 15,000 members, Europe’s premier geosciences union. It is dedicated to the pursuit of excellence in the earth, planetary, and space sciences for the benefit of humanity. The EGU has a current portfolio of 17 diverse Open Access journals and its annual General Assembly is the largest European geosciences event.

A04: Gangwon Convention & Visitors Bureau
5, Jungang-ro, Chuncheon-S1,Gangwon-do South Korea
Tel: +82332494426 | Fax: +82332515495
Email: bkpark@visitgangwon.or.kr
Website: visitgangwon.or.kr

A report's paradise city, a pleasant convention in Gangwon South Korea. The Gangwon Convention Visitors & Bureau is an excellent partner for superior one-stop support service for international conference. As testimony to its excellence, hosting the 2018 Pyeongchang Winter Olympic Games will propel Gangwon Province to the top of the leisure convention destination.

B04: Geological Society of America
3300 Penrose Place, P.O Box 9140, United States
Tel: +1 303-357-1004 | Fax: +1 303-357-1071
Email: rfreeman@geosociety.org
Website: https://www.geosociety.org/

Established in 1888, The Geological Society of America is a global professional society with a growing membership of more than 26,000 individuals in 115 countries. GSA recognizes earth science excellence with awards, promotes lifelong learning through scientific conferences, and publishes a wide range of peer-reviewed publications.

C02: IBS Center for Climate Physics
2 Busandaehak-ro, 63 beon-gil Geumjeong-gu, Korea, South
Tel: +82 51 510 7691
Email: jikim0204@pusan.ac.kr | Website: iccp.ibs.re.kr

The IBS Center for Climate Physics (ICCP) was established in January, 2017 as the first Earth Science center within the Institute for Basic Science (IBS). ICCP seeks to expand the frontiers of earth system science by conducting cutting edge research into climate dynamics and utilizing high-performance computer simulations, with the goal of improving decadal earth system forecasts and longterm projections.

G01: Institute of Oceanology, Chinese Academy of Science
7 Nanhai Road, China
Tel: +86-532-82898902; +86-532-82896912
Fax: +86-532-82898612
Email: jzhao15@qdio.ac.cn
Website: http://english.qdio.cas.cn/

The Institute of Oceanology, Chinese Academy of Sciences (IOCAS) is the first ocean research institute in China. During its 68-year history, the institute has...
trained around 1,000 senior scientists and technicians. At present, the institute has nearly 500 scientific and technical personnel, including 175 senior research technicians and 101 doctoral instructors.

**IOP Publishing**

**A05: IOP Publishing**  
Temple Circus, Temple Way, United Kingdom  
Tel: +441179297481  
Email: lisa.searle@iop.org | Website: ioppublishing.org

IOP Publishing provides a range of journals, ebooks, conference proceedings, and digital products services covering research in the physical sciences and beyond. Visit our booth at AOGS to find out more about our environmental products and to see what we can offer you.

**Isotopx**

**E03: Isotopx**  
12 Pinewood Lane, United States  
Tel: +1 4406558994  
Email: steve.shuttleworth@isotopx.com  
Website: www.isotopx.com

Isotopx manufactures a range of thermal ionization and noble gas mass spectrometers for analysis in isotope geochemistry.

**G05: IUGG General Assembly 2019 in Montreal**  
1555 Peel Street, suite 500, Canada  
Tel: +1 514-287-1804  
Email: acarbonneau@jpdl.com  
Website: iugg2019montreal.com

The International Union of Geodesy and Geophysics (IUGG; www.iugg.org) will hold its next General Assembly in Montréal, Canada, in July 2019. We will offer a diverse scientific program for geoscientists from around the globe, including special events to celebrate IUGG’s centennial year. We look forward to welcoming you to Montréal.

**F01: Japan Geoscience Union**  
4F Gakkai Center Bldg., 2-4-16 Yayoi, Bunkyo-ku, Tokyo 113-0032, Japan  
Tel: +81-3-6914-2080 | Fax: +81-3-6914-2088  
Email: office@jpgu.org  
Website: http://www.jpgu.org/index-e/

The Japan Geoscience Union (JpGU), with more than 8,500 members, is a multidisciplinary geoscience organization based in Japan promoting excellence in all fields related to Earth and planetary science. This year we had the first joint meeting with AGU, the JpGU-AGU Joint Meeting 2017. The JpGU also publishes a peer-reviewed open access e-journal, Progress in Earth and Planetary Science (PEPS) in partnership with SpringerOpen.

**C03: Kinematics, Inc.**  
222 Vista Avenue Pasadena, CA 91107 USA  
Tel: +1-626-795-2220 | Fax: +1-626-795-0868  
Email: mathias.franke@kmi.com | Website: www.kmi.com

Kinematics has been a leader in the earthquake instrumentation business for over forty years, creating innovative products and solutions for seismic arrays and networks, for monitoring bridges, dams, structures and nuclear power industry. We also support and run several large seismic networks including DPC Italy, USAArray, US PBO.

**B02: Korea Institute of Ocean Science and Technology (KIOST)**  
Haeyang-ro 385, Yeongdo-gu, BUSAN, 49111, South Korea  
Tel: +82-51-664-3140 | Fax: +82-70-4275-1211  
Email: han77@kiost.ac.kr  
Website: http://www.kiost.ac.kr

KIOST (Korea Institute of Ocean Science and Technology is a state-run institution tasked with discovering new scientific knowledge about the ocean, developing cutting-edge scientific technology. KIOST/KOSC (Korean Ocean Satellite Center) is also a designated operation agency for the Geostationary Ocean Color Imager (GOCI) and GOCI-II which will be launched in 2019.
B03: Korean Meteorological Society
1510 Renaissance Tower Bldg14 Mallijae-ro, Mapo-gu, Seoul 04195 Korea
Tel: +82-2-835-1619 | Fax: +82-2-849-1541
Email: komes@komes.or.kr
Website: http://www.komes.or.kr/

The Korean Meteorological Society (KMS), with over 2,600 members, has been devoted to improving our understanding of earth systems with a particular focus on atmospheric sciences, meteorology, and climate change, and also communicating potential or predicted catastrophic events caused by severe weather systems, climate change, and local/regional air pollution to the public. The KMS publishes both international and domestic peer-reviewed journals, ‘Asia-Pacific Journal of Atmospheric Sciences’ and ‘Atmosphere’.

D01-D06: NASA
NASA Goddard Space Flight Center, Building 33, Room E112 Greenbelt, MD 20771. United States
Tel: +1 301 614-5560 | Fax: +1 301 614-6530
Email: winnie.h.humberson@nasa.gov
Website: www.nasa.gov

NASA leads the United States on a great journey of discovery, seeking new knowledge and understanding of our Sun, Earth, solar system, and the universe. NASA, together with its domestic and international partners, uses space observatories to conduct scientific studies of the Earth and Sun, to visit and return data and samples from other planetary bodies, and to peer out into the universe.

C01: METER Group, Inc. USA
2365 NE Hopkins Court, United States
Tel: +1 5093322756 | Fax: +1 5093325158
Email: sandra@metergroup.com
Website: www.metergroup.com

METER features the ATMOS41 & EM60G data logger for an advanced all-in-one weather station that remotely collects weather data in real time. Combined with METER’s market-leading soil moisture sensors, these instruments are an essential part of any field research study. Stop by booth C1 to learn more.

C04: Picarro, Inc
3105 Patrick Henry Drive., United States
Tel: +1 408 4600688
Email: gabhun2015@gmail.com
Website: www.picarro.com

Picarro is the world’s leading provider of stable isotope and gas concentration measurement systems for many scientific applications. The ultra-precise and easy-to-use instruments are deployed across the globe offering unmatched performance and enabling scientists around the world to measure GHGs, trace gases and stable isotopes found in the air, water, and land.

G06: Nanometrics
250 Herzberg Rd, Canada
Tel: +1 613-505-5079
Email: alyssaparks@nanometrics.ca
Website: www.nanometrics.ca

For over 30 years, Nanometrics has provided award-winning monitoring solutions and equipment for studying man-made and natural seismicity. Nanometrics delivers world-class network design, installation and training services throughout the globe in a safety conscious environment that is utilized by the world’s leading scientific institutions, universities and major corporations.

E05: Springer
233 Spring Street, United States
Tel: +1 212-726-9367
Email: exhibits-ny@springer.com
Website: http://www.springernature.com/gp/

Springer Nature is one of the world’s leading global research, educational and professional publishers, home to an array of respected and trusted brands providing quality content through a range of innovative products and services. Springer Nature is the world’s largest academic book publisher and numbers almost 13,000 staff in over 50 countries. www.springernature.com
TEC (Taiwan Earthquake Research Center), a platform to present our most state-of-the-art earthquake science studies and to deliver our knowledge to the general public.

**INNOVATION THEATRE**

By Taiwan Earthquake Research Center

"Innovative Earthquake Science and Technologies Developed in Taiwan"

J. Bruce H. SHYU  
National Taiwan University

Mon – 4 Jun, 18:45 – 19:15  
Ballroom B, Level 4

In the past decade, the Taiwan Earthquake Research Center (TEC) has promoted a series of studies on real-time seismology, earthquake early warning (EEW) and seismic hazard and risk analysis with support from the Minister of Science and Technology (MOST). In addition to the Taiwan Central Weather Bureau (CWB), who is doing a great job in monitoring regional seismicity, the earthquake science communities have been constantly developing new technologies to contribute to seismic hazard mitigation.

An automated near real-time moment tensor monitoring system (RMT) has been constructed to monitor the seismic activity by taking advantage of a grid-based moment tensor inversion technique and long-period broadband seismic recordings. All source parameters, including the event origin time, hypocentral location, moment magnitude and focal mechanism can be determined simultaneously with 117 seconds after the occurrence of an earthquake.

The P-Alert, a MEMS accelerometer that is specially designed for on-site earthquake early warning, has been widely deployed island-wide in Taiwan. It can detect first P-wave arrival and provide an alert with predicted intensity when the amplitude of vertical P-wave is over 0.35 cm. This EEW system is not only providing the on-site EEW but also reinforce the earthquake disaster prevention education.

By integrating the earthquake science, earthquake engineering, and social science communities of Taiwan, the Taiwan Earthquake Model (TEM) program is to improve our understanding of Taiwan earthquake mechanisms and therefore provide new insight into seismic hazard and risk assessments for Taiwan. We have published the first science-based hazard model of Taiwan on the basis of the Probability of Seismic Hazard Assessment (PSHA) approach.

The TEC not only acts as a platform for the advanced researches in earthquake science and technology, but also presenting real-time earthquake information and creative and diversity tools and materials for seismic education outreach.

By Kinematics, Inc.

"Q8 - Ultra-Low Power, High-Resolution Seismic System"

Mathias FRANKE  
Kinematics, Inc.

Mon – 4 Jun, 19:30 – 20:00  
Ballroom B, Level 4

The very successful USArray has illuminated the geological structure below the continental US (and now Alaska), with over 2,000 deployments over the last 14 years with a data return of 99.5% used for 130+ Ph.D. dissertations and 250+ peer-reviewed papers. The project is part of the EarthScope Program that was declared the "most epic science project of the last 15 years" by Popular Science Magazine. The experience gained over the years as both instrument providers and operators went into the design of the Qantix Q8. It is the newest member of the Quanterra family of ultra-high resolution data acquisition systems at ultra-low power consumption. Small in size and volume, the Q8 is designed for "plug'n play" into permanent seismic networks or portable deployments and offering improved reliability, extraordinary temperature stability and data redundancy. Woods Hole Oceanographic Institution, who is currently using Quanterra digitizers as OEM dataloggers in their Ocean Bottom Seismographs (OBS), will exploit these qualities.

The Q8 features 6+1 high-resolution channels for seismic data and loopback of calibration signals, while the 6 additional low-resolution channels could be used to monitor other ancillary equipment, such as meteorological stations, power monitoring, etc. A built-in ±2g MEMS 3-component accelerometer can provide critical information on near-field measurements or location-awareness of an OBS. The Q8 has Wi-Fi, Ethernet and Mesh communication, the latter enabling onsite maintenance without needing direct instrument access. Mirroring data on a removable USB flash drive (250GB) increases data availability and facilitates rapid
data retrieval when needed. The Q8 also uses GNSS or external timing. For EEWs the Q8 provides low-latency (<1s) streaming. All this at 250mW.

The most innovative and unique feature however is the new low-noise mode with very low thermal drift increasing the already exceptional 142dB full RMS sinewave to RMS noise by another 3dB.

**By Earthquake Research Institute, The University of Tokyo**

“Earthquake Research Institute at your service”
Masataka KINOSHITA
Earthquake Research Institute, The University of Tokyo

Tue – 5 Jun, 10:30 – 11:00
Ballroom B, Level 4

The primary mission of the Earthquake Research Institute (ERI) is to promote basic & advanced researches of the solid earth to better understand earthquakes and volcanic activities. These understandings will promote basic researches for predicting earthquakes and volcanic eruptions and for mitigating their hazards. We also pursue basic researches on geodynamics of the solid earth. We have 80 researchers (professors, associate professors and research associates) expertized in seismology to volcanology, geophysics, geochemistry, geology, geodesy, applied mathematics, information science, civil engineering and seismic engineering. We have ~70 graduate students, and many of them are from overseas. We have a visiting professors/post-docs program up to one year (fully-funded by ERI).

During the AOGS 2018 general assembly, we have our exhibit booth at E06 with a dedicated staff standing by. We have some breaking events in Japan (Shin-Moe Dake eruption, Kumamoto earthquake, etc.) on display.

Also, our staff will help you guide for joining us with our researchers, either as a graduate student, post-docs, or visiting researchers.

**By METER Group, Inc. USA**

“Advances in All-in-one Weather Station Technology, a Practical Option for On-ground Microclimate Monitoring”
Shannon MITCHELL
METER Group

Tue – 5 June, 15:30 – 16:00
Ballroom B, Level 4

Today, weather data improves the lives of many people. But, there are still parts of the globe where weather monitoring doesn’t exist. There is a need for a new type of microclimate monitoring station that is less cluttered, complicated, and frustrating to install and maintain, especially for remote locations and novice users. Compact all-in-one weather stations solve many of these problems. The microclimate station developed by METER packages 12 weather sensors into a single, compact device. There are no moving parts to fail, installation and maintenance have been simplified, making it ideal for long-term data monitoring. The data are transmitted over a single cable, and the weather station works seamlessly with a plug-and-play data logger and cloud-based data storage. The Trans-African Hydro-Meteorological Observatory (TAHMO) and the Montana Mesonet (Montana, USA) are key development partners, testing and verifying the microclimate station under various environmental conditions. The TAHMO initiative seeks to install and operate 20,000 weather stations in sub-Saharan Africa. To date, TAHMO has installed 300 weather stations since 2012. The main goals are to provide high-quality microclimate data, freely available to governments, scientists, and farmers in near-real time. Most TAHMO weather stations are being installed at schools where teachers are using the data in their classroom lessons. The Montana Mesonet will build out a system of over 150 weather stations in Montana, USA. To date, 26 stations have been installed since 2016. The stations are installed in locations representing the range of environments and land uses across Montana. The main goals are to support adaptive management of agricultural lands, rangelands, and natural ecosystems with the aim of building resilient and sustainable economic and ecological systems. This talk will highlight the advances in METER’s all-in-one microclimate sensor suite technology and describe case studies that have validated the instrument design.

**By Picarro, Inc**

“Real-time Measurements of Formaldehyde in an Urban Airshed by Near-infrared Cavity Ring-down Spectroscopy”
Thomas GOTTSCHALK
Picarro, Inc

Wed – 6 Jun, 10:30 – 11:00
Ballroom B, Level 4

Formaldehyde is a critically important species in atmospheric chemistry. There are multiple direct emission sources of HCHO, and it is the photochemically-driven decay product of volatile organic compounds from both natural and anthropogenic sources. For this reason, real-time formaldehyde measurements provide critical insights into the mechanisms of tropospheric ozone formation. We describe a new commercial instrument based on cavity ring-down spectroscopy that provides real-time quantitative analysis of formaldehyde concentration in ambient air. In this presentation, we report on a 12-month measurement campaign of ambient HCHO at a 10m urban tower in the San Francisco
Bay area. Measurements of HCHO (one-minute averages) are analyzed, along with other key trace species H2O, CO2, CO, and CH4. Clear diurnal, synoptic, and seasonal cycles are apparent in this data set, and we observe transient HCHO signals from the August 2017 partial eclipse and the October 2017 Northern California wildfire event. The new analyzer used for this campaign has a precision (1-sigma) of about 1 ppb at a measurement rate of 1 second, and provides measurements of less than 100 ppb with minutes of averaging. Repeated measurements of a single gas standard over a period of months demonstrate that the instrument provides stable measurements (drift < 1 ppb) over long periods of time. The instrument has been ruggedized for both mobile (ground and flight) applications or for unattended operation at ground monitoring stations, and with a fast response time of a couple of seconds, it is suitable for ground-based vehicle deployments for fence line monitoring of formaldehyde emissions.

By Earth Science Research Promotion Center & TAO Journal

“Collaborative Research Action of Belmont Forum: Disaster Risk Reduction and Resilience”
Yue-Gau CHEN
National Taiwan University

Wed – 6 Jun, 15:30 – 16:00
Ballroom B, Level 4

The Belmont Forum intends to support the co-development of science and stakeholder-based approaches to natural disaster risk reduction and hazard prevention through this joint call for proposals on the theme of Disaster Risk Reduction and Resilience. For the purpose of this call, we define disasters as extreme environmental events that significantly impact the well-being of economic, health, infrastructure, social, and other aspects of the coupled human-nature systems. In recent decades, through national, regional, and international endeavors, our global society has gradually learned to manage devastating consequences of natural disasters and acknowledge that disaster mitigation can be most efficiently and effectively managed by collaborative engagement of all sectors of our society and through integration of interdisciplinary scientific understanding with stakeholder knowledge. Hence, this call specifically focuses on research efforts involving co-engagement and collective actions of all stakeholders to ameliorate natural disaster risk and enhance overall societal resilience to natural disasters. A good context for this call are the four priority areas for disaster risk reduction identified in the Sendai Framework for Disaster Reduction, namely: (1) understanding disaster risk; (2) strengthening disaster risk governance; (3) investing in disaster reduction for resilience; and (4) enhancing disaster preparedness for effective response, and to “build back better” in recovery, rehabilitation and reconstruction.

By Isotopx

“Recent Advances in Mass Spectrometric Technologies For The Earth Sciences”
Stephen SHUTTLEWORTH
Isotopx Inc

Thu – 7 Jun, 10:30 – 11:00
Ballroom B, Level 4

This talk will discuss isotope fractionation in the earth sciences, their causes, and how new advances in mass spectrometer detector technology can better measure this fractionation with greater accuracy and precision. Mass spectrometric techniques are somewhat limited by the performance characteristics of their detector. In this work we discuss how the ATONA amplifier can replace the resistor in the detector feedback circuit with a capacitor. This results in extremely low noise Faraday detector systems when compared with resistors while at the same time providing for a very large dynamic range. This unique combination of low noise with a dynamic range in excess of nine orders of magnitude offers the opportunity to measure extremely small ion signals (samples) on Faraday collectors and also large isotope ratios using the same detector, without requiring a range of resistors, or combining Faraday with ion counting detection. This technology is opening up new opportunities for higher precision and better accuracy on dating techniques across a wide range of isootope ratio measurements in noble gas mass spectrometry and thermal ionization mass spectrometry (TIMS).

By IBS Center for Climate Physics

“The IBS Center for Climate Physics: scientific vision and research opportunities”
Axel TIMMERMANN
IBS Center for Climate Physics

Thu – 7 Jun, 15:30 – 16:00
Ballroom B, Level 4

The mission of the newly founded IBS Center for Climate Physics (ICCP) in Busan, South Korea is to enhance the basic understanding and improve the predictability of natural climate variability, man-made climate change and their impacts on the hydrological cycle, regional processes, ice-sheets, marine biogeochemistry and sea level. ICCP strives to make breakthroughs in the understanding of our climate system, its predictability and its interactions with humans. ICCP will provide basic scientific knowledge on the evolution of the climate system and its environmental and potential societal impacts. This information can eventually help the general public and policymakers in planning, decision making, and in optimizing adaption and mitigation.
efforts to climate-induced risks. The ICCP complements research activities in other Korean universities and international institutions by exploring and advancing new research frontiers in earth system science and by training a new generation of climate scientists in atmospheric sciences, oceanography, hydrodynamics, cryosphere and marine biogeochemistry, dynamical systems’ analysis, numerical methods and advanced statistics. The ICCP pursues a holistic research approach to gain a deeper understanding of the interactions between the components of the climate system (i.e. atmosphere, ocean, vegetation, ice-sheets, marine biosphere and carbon cycle) and on a variety of timescales (days to millennia). My presentation will describe our current research portfolio, our future plans and future research opportunities for enthusiastic scientists.

By Springer

**SPRINGER NATURE**

*“Springer Services and Tutorials for Journal Authors”*

Petra VAN STEENBERGEN

Springer

Fri – 8 Jun, 10:30 – 11:00

Ballroom B, Level 4

Looking to publish your research? Discover Springer’s print and electronic publication services, including open access! Get high-quality review, maximum readership and rapid distribution. Visit our booth or springer.com/authors.

You can also browse key titles in your field and buy (e)books at discount prices. With Springer you are in good company.

By Güralp Systems Limited

**“Smart Seismic Hardware: New Strategies for networking”**

Clare SWEENEY

Güralp

Fri – 8 Jun, 15:30 – 16:00

Ballroom B, Level 4

Limitations in communication infrastructures and seismic instrumentation are common challenges faced by network operators seeking to install an efficient and accurate seismic network capable of handling the requirements of Earthquake Early Warning Systems (EEWS) Güralp’s range of ‘smart’ seismic hardware offer a simple interface with advanced on-board processing and can issue triggered event details and alerts with ultra-low-latency. This means a delay time of just 40-60ms from system triggering to issuing an alert. Güralp Data Interchange, (GDI) is an ultra-low latency data transmission protocol used by Guralp hardware which allows seismic waveforms to be transmitted sample by sample as they are acquired by the instrumentation. GDI adapts the size of the data packets to suit the network bandwidth available. This flexibility within the protocol means the lowest possible latency for the given network can be achieved.

A configurable voting mechanism is implemented on the Minimus to eliminate false positives which can incorporate a ‘score’ from different data sources i.e. Z channel on seismometer, N/S E/W channels on accelerometer and the internal Minimus MEMS. If the score exceeds the set threshold then an alert, in the form of a UDP packet, is sent to a predefined ‘Master Minimus’. If the pre-configured threshold on the Master Minimus is triggered then the Master will issue the triggered event data and/or an alert.

Minimus can issue alerts using Common Alert Protocol (CAP). CAP is the XML based data format used for exchanging and describing public warnings and emergencies. Whenever the trigger conditions are met the Minimus can send a signed UDP packet to the configured CAP receiver which will then send the alert via SMS, e-mail or CAP forwarding, or multiples thereof. Being able to stream the alerts to multiple destinations provides increased network redundancy.
CONTACTS & TEL

AOGS Secretariat

<table>
<thead>
<tr>
<th>Secretariat Services</th>
<th>Email: <a href="mailto:admin@asiaoceania.org">admin@asiaoceania.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alex ANG</td>
<td>HP: +65 9189 0822</td>
</tr>
<tr>
<td>Cheng Hoon KHOO</td>
<td>HP: +65 9819 9462</td>
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Exhibition Services

<table>
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<tr>
<th>Email: <a href="mailto:geomeet@asiaoceania.org">geomeet@asiaoceania.org</a></th>
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<td>Edwiana GAN</td>
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Conference Services

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<tr>
<th>Email: <a href="mailto:info@asiaoceania.org">info@asiaoceania.org</a></th>
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<tr>
<td>Jolene TAN</td>
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<td>Si Ying HO</td>
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Hawaii Convention Centre

Address: 1801 Kalakaua Avenue, Honolulu, HI 96815

Emergency Services

Police, Fire & Ambulance 911
Non-Emergency 935-3311

About Hawaii

Hawaii Visitors and Convention Bureau +1 (808) 923-1811
Honolulu International Airport Visitor Information +1 (808) 836-6413
National Weather Service Forecast Office - Hawaii +1 (808) 973-5286
Visitor Aloha Society of Hawaii (Oahu) +1 (808) 926-8274

Transport Services

Charley’s Taxi & Tour +1 (808) 233-3333
Elite Limousine Service Inc +1 (800) 776-2098
Roberts Hawaii Airport EXPRESS Shuttle Service +1 (808) 439-8800
TheBus Information Department +1 (808) 848-5555
Waikiki Trolley +1 (808) 593-2822

Credit Card

American Express 1-800-992-3404
MasterCard Global Services 1-800-307-7309
Visa 1-800-847-2911

Conference Hotels

Ala Moana Hotel +1 (808) 955-4811
Aqua Palms Waikīkī +1 (808) 947-7256
Doubletree by Hilton Alana - Waikīkī Beach +1 (808) 941-7275
East West Center – Lincoln Hall +1 (808) 944-7805
Equus Hotel +1 (808) 949-0061
Holiday Inn Express – Waikīkī +1 (808) 947-2828
Luana Waikīkī +1 (808) 955-6000
Prince Waikīkī +1 (808) 956-1111
Ramada Plaza – Waikīkī +1 (808) 947-1799

NECESSITIES GUIDE

Currency

Hawaii uses standard United States currency (USD). Money changing services can be found at major shopping centres, hotels, at the airport & banks. Cash machines (ATMs) are also available all over the islands, at banks, hotels and convenience stores. However, on top of the differences in currency exchange, you may also have to pay a surcharge for withdrawing your money in such ATMs.

Most locations in Hawaii accept major international credit cards, including American Express, MasterCard and Visa. If you’re traveling from a foreign country, it is advisable to activate the magnetic strip of your credit card for overseas use. Conversely, you can also call your credit card companies in advance to let them know you will be travelling abroad. This way they won’t question charges that start appearing from an international venue.

Tipping

Tipping is a customary in the USA and generally, a 15-20% gratuity is standard for restaurants. It is also a customary to tip taxi drivers (around 15% of your taxi fare). Baggage porters, bellboys and valet parking attendants will also appreciate a tip of $1-2 whenever they help you with your bags/cars.

Electricity and Voltage

Electric power is standardized in all states across the USA at 110 Volts. Type A (flat blade attachment) and Type B (two flat parallel pins and a round grounding pin) electrical sockets are used. Therefore, if you are bringing any electrical appliance to the USA, you may need an adaptor to fit the US electrical receptacle. You may also need a converter to change the voltage from 110 volts to 220 volts.
Connectivity
International calls can be made directly from hotel rooms with IDD phones. 011 is the international prefix used to dial somewhere outside of USA, plus country code, area/city code and number. In some countries, some cell phone providers have an international calling plan. As such, you can also try to contact your cell phone providers in advance to activate an international calling plan which can potentially be less expensive.

Local Prepaid SIM Cards are readily sold around Hawaii; from major grocery stores like Walmart to local telco providers like AT&T, Verizon, etc.

Maps, Apps & City Guides
Have ready-access information on everything about Hawaii in the palm of your hands! From places of interests, upcoming events, food guides to booking of transportation services, these mobile apps will ensure that you will not miss any highlights and happenings during your stay in Hawaii. You can also download the GoHawaii App (by the Hawaii Tourism Authority).

Transport
There are myriad of ways to get around from place to place in Hawaii. From resort shuttles, trolleys, car rentals to the City & County of Honolulu’s award-winning bus system (TheBus), you will find a number of convenient transportation options at your disposal.

Resort Shuttles
Many resorts do provide shuttle transportation to popular tourist spots within the vicinity of the resort. For more information, do check with your hotel concierge.

The Bus
Honolulu’s award-winning transportation system, aptly named “TheBus”, is a popular visitor’s choice to explore the islands. TheBus currently offers 93 routes serving the entire island of Oahu. There are also special visitor passes available for multiple day uses. For more information on fares, bus routes to popular attractions and other useful information visit http://www.thebus.org.

The Waikiki Trolley
The open-air trolley is a convenient means of transportation around Oahu’s most popular visitor attractions, including the Waikiki Aquarium, King Kamehameha Statue, Iolani Palace, Bishop Museum and more. For more information, visit http://www.aloha-hawaii.com/oahu/waikiki-trolley/.

Rental Cars & Taxis
Most visitors get around by either renting a car or taxi. Taxi stands can be found at most major hotels, shopping centres, and at the airport. Major car rental companies, including Alamo, Avis, Budget, Dollar, Hertz, National, Thrifty are also available around Hawaii. Service desks are located at the airports and at major hotels.
EOS conducts fundamental research on earthquakes, volcanic eruptions, tsunamis and climate change in and around Southeast Asia, toward safer and more sustainable societies.

The Earth Observatory of Singapore is an institute for geohazard research, focusing on tectonics, volcanoes, climate change and risk in and around Southeast Asia. Situated in Nanyang Technological University, the Observatory is committed to acquiring knowledge of these natural hazards, passing this information on to at-risk communities by contributing to forecasts of such natural phenomena, and helping them adapt to these challenges.

To find out more about EOS research projects and other activities, please visit earthobservatory.sg or join EOS mailing list at earthobservatory.sg/subscribe and follow EOS on earthobservatorysg.
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