

Masaki Satoh - Curriculum Vitae

Professor, Atmosphere and Ocean Research Institute, The University of Tokyo
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Vice Director, Professor, Typhoon Science and Technology Research Center, Yokohama National University (Cross Appointment)
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Research themes atmospheric general circulation, dynamic meteorology, tropical meteorology, tropical cyclones, mesoscale systems, climate change, numerical modeling, global nonhydrostatic model, satellite data analysis

Education

1993 Ph.D., The University of Tokyo, Geophysics; 1988: M.S., The University of Tokyo, Geophysics

Employment

1993-2005: Saitama Institute of Technology, Japan (1993- Lecturer; 1997- Associate professor)
1998-1999: Senior visiting scholar at Department of Applied Mathematics and Theoretical Physics, Cambridge Univ., UK
2005-2011: Associate professor, Atmosphere and Ocean Research Institute, The University of Tokyo, Japan (formally Center for Climate System Research: Apr. 2005-Mar 2010)
2011-present: Professor, Atmosphere and Ocean Research Institute, The University of Tokyo, Japan
2024-present: Vice Director, Professor, Typhoon Science and Technology Research Center, Institute for Multidisciplinary Sciences, Yokohama National University (Cross Appointment)

Awards

2007: Japan Meteorological Society Award
2011, 2016: JMSJ Award
2016: Science and Technology award of the Minister of Education, Culture, Sports, Science and Technology's commendation
2016, 2017, 2019, 2020, 2021: Progress in Earth and Planetary Science Most Accessed/Cited Paper Award
2023: The HPCI Outstanding Research Proposal Award for "Fugaku" project

Synergistic activities

Vice Section President of Atmospheric Sciences, the Asia Oceania Geosciences Society (2020-2024: Section President of AS); Director of the Meteorological Society of Japan; Section Board Member and Delegate of Japan Geoscience Union; Editorial Board Member for Current Climate Change Reports; Member of the Meteorological Society of Japan, the American Meteorological Society, Japan Geoscience Union, and the Asia Oceania Geosciences Society; Chief Editor of Journal of the Meteorological Society of Japan (2010-2022); Lead Author of The Intergovernmental Panel on Climate Change (IPCC), Sixth Assessment Report: Working Group I (Chapter 11)

Selected publications

Satoh, M. et al. (2008) Nonhydrostatic Icosahedral Atmospheric Model (NICAM) for global cloud resolving simulations. *Journal of Computational Physics*, 227, 3486-3514.
Satoh, M. (2013) Atmospheric Circulation Dynamics and General Circulation Models, 2nd edition. Springer-PRAXIS, 757 pp.
Satoh, M. et al. (2014) The Non-hydrostatic Icosahedral Atmospheric Model: Description and development. *Prog. Earth Planet. Sci.*, 1, 18.
Miyakawa, T., Satoh, M. et al. (2014) Madden-Julian Oscillation prediction skill of a new-generation global model. *Nature Commun.*, 5, 3769.
Satoh, M. et al. (2015) Constraint on future change in global frequency of tropical cyclones due to global warming. *J. Meteorol. Soc. Japan*, 93, 489-500.
Illingworth, A., ..., Satoh, M. et al. (2015) The EARTHCARE satellite: The next step forward in global measurements of clouds, aerosols, precipitation and radiation. *Bull. Amer. Meteorol. Soc.*, 96, 1311-1332.
Satoh, M. et al. (2019) Global Cloud-Resolving Models. *Current Climate Change Reports*, 5, 172-184.
Knutson, T., ..., Satoh, M. et al. (2019) Tropical Cyclones and Climate Change Assessment: Part I. Detection and Attribution. *Bull. Amer. Meteor. Soc.*, 100, 1987-2007.
Stevens, B., Satoh, M. et al. (2019) DYAMOND: The Dynamics of the Atmospheric general circulation Modeled On Non-hydrostatic Domains. *Prog. Earth Planet. Sci.*, 6, 61.
Sui, C.-H., Satoh, M., Suzuki, K. (2020) Precipitation efficiency and its role in cloud-radiative feedbacks to climate variability. *J. Meteor. Soc. Japan*, 98, 261-282.
Seneviratne, S., ... Satoh, M. et al. (2021) Weather and climate extreme events in a changing climate. Chapter 11, IPCC AR6 Climate Change 2021: The Physical Science Basis. <https://www.ipcc.ch/report/ar6/wg1/>
Stevens, B., ..., Satoh, M. et al. (2024) Earth Virtualization Engines (EVE). *Earth Syst. Sci. Data*, 16, 2113-2122.
Roh, W., Satoh, M., et al. (2024) An evaluation of microphysics in a numerical model using Doppler velocity measured by ground-based radar for application to the EarthCARE satellite. *Atmos. Meas. Tech.*, 17, 3455-3466.
Takasuka, D., Satoh, M. et al. (2024) A protocol and analysis of year-long simulations of global storm-resolving models and beyond. *Prog. Earth Planet. Sci.*, accepted.

Full list of papers: <https://cesd.aori.u-tokyo.ac.jp/satoh/papers.html>