

CURRICULUM VITAE

Masayuki Kondo Ph.D.

The IDEC Institute, Center for Peaceful and Sustainable Futures (CEPEAS)

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Seto Inland Sea Carbon Neutral Research Center (S-CNC)

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EDUCATION:

- Ph.D. September 2015 Agricultural/Environmental Sciences
Hokkaido University, Sapporo, Japan
Dissertation Title: “*Effects of the model-data integration on the carbon cycle simulation of terrestrial ecosystems*”
- M.S. December 2007 Physics (High Energy Particle Physics)
University of Texas at Dallas, Richardson, Texas, U.S.A.
- B.S. December 2006 Physics
University of Texas at Dallas, Richardson, Texas, U.S.A.
- A.S. May 2003 General Science
Hill College, Hillsboro, Texas, U.S.A.

EMPLOYMENT

- Feb 2024 - Present **Director of the sustainability division**
Seto Inland Sea Carbon Neutral Research Center (S-CNC)
Hiroshima University, Higashi-Hiroshima, Japan
- Mar 2023 - Present **Associate professor**
The IDEC Institute
Hiroshima University, Higashi-Hiroshima, Japan
- Apr 2021 - Feb 2023 **Assistant professor**
Institute of Space-Earth Environmental Research-
Nagoya University, Aichi, Japan
- Apr 2020 - Mar 2021 **Researcher**
Center for Global Environmental Research

- National Institute of Environmental Studies, Tsukuba, Japan

• Apr 2017 - Mar 2020 **Assistant professor**
 Center for Environmental Remote Sensing
 Chiba University, Chiba, Japan
- Apr 2015 - Mar 2017 **Senior Engineer**
 Department of Environmental Geochemical Cycle Research
 Japan Agency for Marine-Earth Science and Technology, Yokohama, Japan
- May 2014 - Mar 2015 **Technical Assistant**
 Department of Environmental Geochemical Cycle Research
 Japan Agency for Marine-Earth Science and Technology, Yokohama, Japan
- Jun 2010 - Apr 2014 **Researcher**
 Faculty of Symbiotic Systems Science
 Fukushima University, Fukushima, Japan
- Sep. 2008 - May 2010 **Research Assistant**
 Department of Physics
 University of Texas at Dallas, Richardson, Texas, U.S.A.
- Jan 2007 - May 2010 **Teaching Assistant**
 Department of Physics
 University of Texas at Dallas, Richardson, Texas, U.S.A.

PROFESSIONAL EXPERIENCE

- Mar 2023 – Present **Global and tropical GHG budgets and recent changes due to natural and anthropogenic effects**
 The IDEC Institute
 Hiroshima University, Higashi-Hiroshima, Japan
- April 2021 – Mar 2023 **The impact of autumn cooling on terrestrial carbon emissions in central Siberia**
 Institute for Space-Earth Environmental Research
 Nagoya University, Nagoya, Japan
- April 2020 – Apr 2021 **Synthesis of increasing trend of carbon uptake in land and ocean**
 Center for Global Environmental Research
 National Institute for Environmental Studies, Tsukuba, Japan
- Apr 2017 – Mar 2020 **Evaluating the increasing tendency of carbon uptake and the role of forest regrowth**
 Center for Environmental Remote Sensing
 Chiba University, Chiba, Japan
- Jan 2016 – Mar 2017 **Evaluating the effects of El Niño and land use change on carbon budget in Southeast Asia**

- Jan 2014 – Dec 2015

Department of Environmental Geochemical Cycle Research
Japan Agency for Marine-Earth Science and Technology, Yokohama, Japan

Synthesis of forest ecological observation data for detection of characteristics of carbon balance in East Asia

Department of Environmental Geochemical Cycle Research
Japan Agency for Marine-Earth Science and Technology, Yokohama, Japan
- June 2010 – Dec 2014

Modeling and evaluation of human disturbance effects on terrestrial carbon cycle for the new generation biosphere model

Faculty of Symbiotic Systems Science
Fukushima University, Fukushima, Japan
- Jan. 2007 – May 2010

Simulation study for detection of new particles generated from B meson decay

Department of Physics
University of Texas at Dallas, Richardson, Texas, U.S.A.

HONORS AND AWARDS

- Aug. 2019 Asia Oceania Geosciences Society (AOGS) Kamide Lecture Award
- Jan. 2007 - May 2010 University of Texas at Dallas Graduate Scholarship
- May 2007 University of Texas at Dallas HEP Scholarship
- December 2006 Golden Key International Honor Society
- Jan. 2003 Phi Theta Kappa Honor Society

PRESS RELEASE

- Dec 12th 2019

Presenters: **Kondo M.**, Saeki T., Patra P. K.,

Press Title: Accurate estimation of CO₂ emissions and uptake - progress from the IPCC fifth assessment report and challenges for the sixth assessment report- (based on **Kondo** et al., 2020 Global Change Biology).

Location: Press Conference at the Ministry of Environment
- May 16th 2018

Presenters: **Kondo M.**, Ichii K., Patra P. K.

Press Title: Land CO₂ uptake in the 2000s was the greatest in the past 100 years – vegetation recovered from past large-scale land use change is one of the causes (based on **Kondo** et al., 2018 Geophysical Research Letters)

Location: Press Conference at Chiba University Faculty of Engineering Shonin Annex
- Mar 20th 2018

Presenters: **Kondo M.**, Ichii K., Patra P. K., Maki T.

Press Title: The world's first phenomenon that natural fluctuations in

climate offset the emission of carbon dioxide from large-scale deforestation! Elucidated the reason why CO₂ emissions from ecosystems in Southeast Asia decreased in the 2000s (based on **Kondo** et al., 2018 Nature Communications

- July 16th 2015

Location:

Press Conference at the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT)

Presenters:

Kondo M., Ichii K., Takagi H., Sasakawa M.

Press Title:

Future pathway of atmospheric carbon dioxide indicated by ground and satellite observation data (based on **Kondo** et al., 2015 Journal of Geophysical Research – Biogeoscience

Location:

Press Conference at the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT)

SELECTED PUBLICATIONS (peer-reviewed journal articles)

- Satriawan T. W., Luo X., Tian L., Ichii L., Juneng L., & **Kondo M.** (2024) Strong Green-up of Tropical Asia during the 2015/16 El Niño, *Geophysical Research Letters*, 51, e2023GL106955.
- Tashiro Y., Hiyama T., Kanamori H., **Kondo M.** (2024) Impact of permafrost degradation on the extreme increase of dissolved iron concentration in the Amur River during 1995–1997, *Progress in Earth and Planetary Science (PEPS)*, 11, 17.
- Jones C.D., Ziehn T., Anand J., Bastos A., Burke E., Canadell J.G., Cardoso M., Ernst Y., Jain A.K., Jeong S., Keller E.D., **Kondo M.**, Lauerwald R., Lin T.-S., Murray-Tortarolo G., Nabuurs G.-J., O’Sullivan M., Poulter B., Qin X., von Randow C., Sanches M., Tian H., Villalobos Y., Wang X., Yun J., RECCAP2 Future component: consistency and potential for regional assessment to constrain global projections, *AGU Advances*, 4, e2023AV001024.
- Kondo M.**, Sasakawa M., Machida T., Arshinov M., Hiyama T. (2023) Autumn cooling paused the increased net CO₂ release in central Eurasia, *Nature Climate Change*, 13, 334–337.
- Chandra N., Patra P. K., Niwa Y., Ito A., Iida Y., Goto D., Morimoto S., **Kondo M.**, Takigawa M., Hajima T., and Watanabe M. (2022) Estimated regional CO₂ flux and uncertainty based on an ensemble of atmospheric CO₂ inversions, *Atmospheric Chemistry and Physics*, 22, 9215–9243.
- Ciais P., Bastos A., Chevallier F., Lauerwald R., Poulter B., Canadell P., Hugelius G., Jackson R.B., Jain A., Jones M., **Kondo M.**, Luijkx I., Patra P.K., Peters W., Pongratz J., Roxana Petrescu A.M., Von Randow C., Regnier P., Saunois M., Scholes R., Shvidenko A., Tian H., Wang X., Zheng B. (2022) Definitions and methods to estimate regional land carbon fluxes for the second phase of the REgional Carbon Cycle Assessment and Processes Project (RECCAP-2), *Geoscientific Model Development*, 15, 1289–1316.
- Kondo M.**, Sitch S., Ciais P., Achard F., Kato E., Pongratz J., Houghton R.A., Canadell J.G., Patra P.K., Friedlingstein P., Li W., Anthoni P., Arneth A., Chevallier F., Ganzenmüller R., Harper A., Jain A.K., Koven C., Lienert S.,

- Lombardozzi D., Maki T., Nabe J.E.M.S., Nakamura T., Niwa Y., Peylin P., Poulter B., Pugh T.A.M., Rödenbeck C., Saeki T., Stocker B., Viovy N., Wiltshire A., Zaehle S. (2022) Are land-use change emissions in Southeast Asia decreasing or increasing? *Global Biogeochemical Cycles*, e2020GB006909.
- Zhu L., Ciais P., Bastos A., Ballantyne A., Chevallier F., Gasser T., Kondo M., Rodenbeck C., Pongratz J., Li W. (2021) Decadal variability in land carbon sink efficiency, *Carbon Balance and Management*, 16, 15.
- Patra P.K., Hajima Y., Saito R., Chandra N., Yoshida Y., Ichii K., Kawamiya M., Kondo M., Ito A., Crisp D. (2021) Evaluation of Earth Systems Models and Atmospheric Inversions using Total Column CO₂ Observations from GOSAT and OCO-2 (2021), *Progress in Earth and Planetary Science*, 8, 1-18.
- Kondo M.**, Patra P.K., Sitch S., Friedlingstein P., Poulter B., Ciais P., Chevallier F., Canadell J.G., Calle L., Bastos A., Lauerwald R., Ichii K., Anthoni P., Arneth A., Harverd V., Jain A.K., Kato E., Kautz M., Law R.M., Lombardozzi D., Maki T., Nakamura T., Peylin P., Rödenbeck C., Zhuravlev R., Saeki T., Tian H., Vuichard N., Zhu D., Ziehn T. (2020) State of the science in reconciling top-down and bottom-up approaches for terrestrial CO₂ budget, *Global Change Biology*, 26, 1068–1084.
- Kondo M.**, Ichii K., Patra P.K., Poulter B., Calle L., Koven C., Pugh T.A.M., Kato E., Harper A., Zaehle S., Wiltshire A. (2018) Plant regrowth as a driver of recent enhancement of terrestrial CO₂ uptake, *Geophysical Research Letters*, 45, 4820-4830.
- Kondo M.**, Ichii K., Patra P.K., Canadell J.G., Poulter B., Sitch S., Calle L., Liu Y.Y., van Dijk A.I.J.M., Saeki T., Saigusa N., Friedlingstein P., Arneth A., Harper A., Jain A.K., Kato E., Koven C., Li F., Pugh T.A.M., Zaehle S., Wiltshire A., Chevallier F., Maki T., Nakamura T., Niwa Y., Rödenbeck C., (2018) Land use change and El Niño-Southern Oscillation drive decadal carbon balance shifts in Southeast Asia, *Nature Communications*, 9, 1154.
- Ichii K., Ueyama M., **Kondo M.**, Saigusa N., Kim J., Alberto M. C., Ardö J., Euskirchen E.S., Kang M., Hirano T., Joiner J., Kobayashi H., Marchesini L.B., Merbold L., Miyata A., Saitoh T.M., Takagi K., Varlagin A., BretHarte M.S., Kitamura K., Kosugi Y., Kotani A., Kumar K., Li S.-G., Machimura T., Matsuura Y., Mizoguchi Y., Ohta T., Mukherjee S., Yanagi Y., Yasuda Y., Zhang Y., Zhao F. (2017) New data-driven estimation of terrestrial CO₂ fluxes in Asia using a standardized database of eddy covariance measurements, remote sensing data, and support vector regression, *Journal of Geophysical Research – Biogeosciences*, 122, 767-795.
- Kondo M.**, Saitoh T.M., Sato H., Ichii K. (2017) Comprehensive synthesis of spatial variability in carbon flux across monsoon Asian forests, *Agricultural and Forest Meteorology*, 232, 623-634.
- Kondo M.**, Saeki T., Takagi H., Ichii K., Ishijima K. (2016) The effect of GOSAT observations on estimates of net CO₂ flux in semi-arid regions of the Southern Hemisphere, *Scientific Online Letters on the Atmosphere*, 12, 181-186.
- Calle L., Canadell J.G. Patra P.K., Ciais P., Ichii K., Tian H., **Kondo M.**, Piao S., Arneth A., Harper A.B., Ito A., Kato E., Koven C., Sitch S., Viovy N., Wiltshire A., Zaehle S., and Poulter B. (2016) Regional carbon emissions from land use and land cover change in Asia, 1980-2009, *Environmental Research Letters*, 11, 074011.
- Sekizawa R., Ichii K., and **Kondo M.** (2015) Satellite-based detection of evacuation-induced landcover changes around the Fukushima Daiichi Nuclear Power Plant after its disaster, *Remote Sensing Letters*, 6, 824–833.

- Kondo M.**, Ichii K., Takagi H., Sasakawa, M. (2015) Comparison of the data-driven top-down and bottom-up global terrestrial CO₂ exchanges: empirical eddy flux upscaling and GOSAT CO₂ inversion, *Journal of Geophysical Research – Biogeosciences*, 120, 1226–1245.
- Kondo M.**, Ichii K., Ueyama M. (2015) Impact of anomalous climates on carbon allocation to biomass production of leaves, woody components, and fine roots in a cool-temperate deciduous forest, *Agricultural and Forest Meteorology*, 201, 38-50
- Ichii K., **Kondo M.**, Okabe Y., Ueyama M., Kobayashi H., Lee S.-J., Saigusa N., Zhu Z., Myneni R. B. (2013) Recent changes in terrestrial gross primary productivity in Asia from 1982 to 2011, *Remote Sensing*, 5, 6043-6062.
- Kondo M.**, Ichii K., Ueyama M., Hirata R., Mizoguchi Y., Saigusa N. (2013) Role of carbon flux and pool observations to constrain terrestrial ecosystem model: a case study in disturbed forests in East Asia, *Ecological Research*, 28, 893-905.
- Ichii K., **Kondo M.**, Lee Y. H., Wang S. Q., Kim J., Ueyama M., Lim H.J., Shi H., Suzuki T., Ito A., Kwon H. Ju W., Huang M., Sasai T., Asanuma J., Han S.J., Hirano T., Hirata R., Kato T., Li S.G., Li Y.N., Maeda T., Miyata A., Matsuura Y., Maruyama S., Nakai Y., Ohta T., Saitoh T.M., Saigusa N., Takagi K., Tang Y.H., Wang H.M., Yu G.R., Zhang Y.P., Zhao F.H. (2013) Site-level model-data synthesis of terrestrial carbon fluxes in the CarboEastAsia eddy-covariance observation network: Toward future modeling efforts, *Journal of Forest Research*, 18, 13-20.

BOOK CHAPTER

- Kondo M.**, Birdsey R., Pugh T. A. M., Lauerwald R., Raymond P., Niu S., Naudts K. (2022) State of science in carbon budget assessments for temperate forests and grasslands, Chapter 7 of "Balancing Regional Greenhouse Gas Budgets", Elsevier, p237-270, <https://www.elsevier.com/books/balancing-greenhouse-gasbudgets/poulter/978-0-12-814952-2>
- Ichii K., **Kondo M.** (2019) Global forest environment under future climate, Chapter 7 of "Grasping changes in forest environment based on global observation data", Forest Science series, Vol. 6 Forest and Global Environmental Change, Kyoritsu Publishing Co., Ltd., <https://www.kyoritsu-pub.co.jp/book/b10003220.html> (in Japanese)

SELECTED PRESENTATION

- **Kondo M.**, Progress and Uncertainties in Land-Use and Land-Cover Changes (LULCC) Flux Estimation, American Geophysical Union Fall (AGU) Meeting 2023, Washington USA, December 11-15, 2023 (Invited Speaker).
- **Kondo M.**, On reliable pattern of historical land-use and land-cover change transition in Southeast Asia, JpGU-AGU Joint Meeting 2020 (international session), online, July 12-16, 2020 (invited Speaker)
- **Kondo M.**, the Kamide Lecture: the role of CO₂ release and uptake induced by land use changes in recent terrestrial carbon balance, Asia Oceania Geosciences Society (AOGS) 16th Annual Meeting, July 31, 2019.
- **Kondo M.**, The effect of land use changes on current terrestrial carbon cycle, the 3rd international Conference of Climate Change 2019, Kuala Lumpur, Malaysia, February 21-22, 2019 (keynote speaker).

- **Kondo M.**, Patra P.K., Sitch S., Ciais P., Chevallier F., Canadell J.G., Bastos A., Poulter B., Calle L., Ichii K., Global and regional CO₂ budget comparison between top-down and bottom-up approaches, American Geophysical Union Fall (AGU) Meeting 2018, Washington USA, December 10-14, 2018 (Invited Speaker).
- **Kondo M.**, Patra P.K., Sitch S., Ichii K., Current status of terrestrial carbon budget estimates, Asia Oceania Geosciences Society (AOGS) 15th Annual Meeting, Hawaii, USA, June 3-8, 2018 (oral).
- **Kondo M.**, Ichii K., Patra P.K., Poulter B., Calle L., The role of plant regrowth in recent enhancement of terrestrial carbon uptake, Japan Geoscience Union (JPGU) meeting 2018 (international session), Chiba, Japan, May 20-24, 2018 (oral)
- **Kondo M.**, Ichii K., Patra P.K., Canadell J.G., Poulter B., Calle L., Sitch S., Saeki T., Saigusa N., Decadal carbon balance shifts controlled by land use change and ENSO in Southeast Asia, 10th International Carbon Dioxide Conference (ICDC10), Interlaken, Switzerland, August 21-25, 2017 (oral)
- **Kondo M.**, Toward integrated understanding of spatial variability in Asian carbon fluxes using AsiaFlux network and AsiaMIP datasets, the joint conference of AsiaFlux Workshop 2017 and the 15th Anniversary Celebration of ChinaFLUX, Beijing, China, August 17-19, 2017 (oral)
- **Kondo M.**, Ichii K., Spatial variation in global scale estimates of carbon-use efficiency: ecosystem model, remote sensing, and empirical upscaling, the 12th Asiaflux workshop, Los Banos, Philippines, August 18-22, 2014 (oral)
- **Kondo M.**, Ichii K., Estimation of global forest age by biosphere model inversion, Asia Oceania Geosciences Society (AOGS) 2014, Sapporo, Japan, July 28-August1 2014 (oral)

CONFERENCE SESSION CONVENER

- **Kondo M.** (organizer), League of geophysical research eXcellences for tropical asia (LeXtra) Kick-off meeting, Tokyo, February 2024.
- Hoffman F. (session chair), Sharma B., Bala G., **Kondo M.**, Xia J., Integrated Understanding of Global Carbon and Other Biogeochemical Cycles and Their Feedbacks, Asia Oceania Geosciences Society (AOGS) the 23 Annual Meeting, Singapore, August 2023.
- Fatichi S. (session chair), **Kondo M.**, Impacts of Global Change Drivers on Ecosystems - Models, Experiments, "Model-experiment developments", iLEAPS - OzFlux Joint Conference 2023, Auckland, February 2023.
- Hoffman F. (session chair), Bala G., Ichii K., **Kondo M.**, Yang C.-E. Integrated Understanding of Global Carbon and Other Biogeochemical Cycles and Their Feedbacks, Asia Oceania Geosciences Society (AOGS) the 22 Annual Meeting, Singapore, August 2022.
- **Kondo M.** (session chair), Patra P. K., Recent Trend of Land and Ocean Biogeochemical Cycles in Asia, Asia Oceania Geosciences Society (AOGS) the 16 Annual Meeting, Singapore, 2019.
- **Kondo M.** (session chair), Hoffman F. M., Current Status of Terrestrial Carbon Budget and Process Understanding, Asia Oceania Geosciences Society (AOGS) the 15th Annual Meeting, Honolulu, June 7, 2018.

- **Kondo M.** (session chair), Takagi H., Li X., Zhang G., Current Status of Greenhouse Gases Emissions in Asian and World Terrestrial Ecosystems, Asia Oceania Geosciences Society (AOGS) the 14 th Annual Meeting, Singapore, August 2017.
- Wang S. (session chair), **Kondo M.**, Flux upscaling: Flux network-based carbon flux upscaling from canopies to regional and global scales by remote sensing and models, the joint conference of AsiaFlux Workshop 2017 and the 15th Anniversary Celebration of ChinaFLUX, Beijing, China, August 2017.
- **Kondo M.** (session chair), Melling L., Model-data integrative analysis towards better understanding of terrestrial carbon budget in Asia, the 12th Asiaflux workshop, Los Banos, Philippines, August 2014.

PROFESSIONAL ASSOCIATION

- American Geophysical Union (AGU)
- Japan Geoscience Union (JpGU)
- Asia Oceania Geosciences Society (AOGS)
- iLEAPS Scientific Steering Committee (iLEAPS SSC)
- League of geophysical research eXcellences for tropical asia (LeXtra)