

KEI YOSHIMURA

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As of September, 2016

RESEARCH INTERESTS

- Study of stable water isotope (HDO and H₂¹⁸O) circulation
- Data assimilation, particularly for stable water isotopes with the ensemble Kalman filter
- Reconstruction of past climate using isotopic proxies
- Dynamical downscaling and development of a Regional Earth System Model
- Study on terrestrial hydrologic cycles and development of river and land surface models

EDUCATION

February 2006 Ph.D. Civil Engineering from The University of Tokyo, Tokyo, Japan
September 2002 M.S. Civil Engineering from The University of Tokyo, Tokyo, Japan
March 2000 B.S. Civil Engineering from The University of Tokyo, Tokyo, Japan

PROFESSIONAL EXPERIENCE

April 2016 to present *Associate Professor* at Institute of Industrial Science, The University of Tokyo, Japan
March 2010 to March 2016 *Associate Professor* at Atmosphere and Ocean Research Institute, The University of Tokyo, Kashiwa, Japan
August 2008 to March 2010 *Project Scientist* at Scripps Institution of Oceanography, UCSD, La Jolla, CA, USA
(*Visiting Scholar* during June 2006 to May 2008)
October 2002 to July 2008 *Assistant Professor* at Institute of Industrial Science, The University of Tokyo, Tokyo, Japan (*Research Associate* during May 2004 to March 2007)

HONORS AND AWARDS

March 2014 *Thesis Award* from Japan Society of Civil Engineering
April 2012 *The Young Scientists' Prize, The Commendation for Science and Technology* from the Minister of Education, Culture, Sports, Science and Technology
October 2011 *Innovation Award for ACRS2011* from AARS Foundation
August 2008 *Thesis Award for Young Scientists* from Japan Society of Hydrology and Water Resources Engineering
June 2006 *Postdoctoral Fellowships for Research Abroad* from Japan Society for the Promotion of Science
March 2004 *Thesis Award for Young Scientists* from Japan Society of Civil Engineering
September 2002 *Furuichi Award* (upper 10% of master course graduates) from Civil Engineering Department, The University of Tokyo Graduate School

GRANTS

2015-2016 *PI*: Development of weather data assimilation system, JSPS, \$50K.
2014-2016 *PI*: Detailed investigation on hydrologic cycles in atmosphere and land surface using isotope data assimilation system, JSPS, \$200K.
2012-2016 *PI*: Improvement in Cost-Efficiency of Dynamical downscaling for Ensemble data, Program for Risk Information on Climate Change, MEXT, \$1,000K
2011-2016 *PI*: A tracer simulator of fallout radionuclides for safe and sustainable water use, CREST

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- on “Innovative Technology and System for Sustainable Water Use”, JST, \$500K
- 2011-2013 *PI*: “Development of isotope-CGCM for comprehensive understanding of climate proxy data”, JSPS, \$300K.
- 2010-2011 *PI*: “20th century Reanalysis with stable water isotope information,” Japan Society for the Promotion of Science, \$30,000.
- 2010-2013 *Co-PI*: “Is the current drought affecting the Western US unique from earlier droughts of the 20th Century and therefore attributable to anthropogenic climate change?” NOAA/CPO, \$544,022.
- 2006-2008 *PI*: “Study on processes of Earth hydrological cycle with stable water isotopes,” Japan Society for the Promotion of Science, \$88,000.
- 2005-2006 *PI*: “Development of a stable water isotope circulation model with land surface process,” Japan Society for the Promotion of Science, \$30,000.

SELECTED PUBLICATIONS

1. Bhattarai, R., K. Yoshimura, S. Seto, S. Nakamura, T. Oki, 2016: Statistical model for economic damage from flood inundation in Japan using rainfall data and socio-economic parameters, *Natural Hazards and Earth System Sciences*, **16**, 1063-1077.
 2. Ham, S., K. Yoshimura(cor.), H. Li, 2016: Historical dynamical downscaling for East Asia with the atmosphere and ocean coupled regional model, *J. Meteor. Soc. Japan*, **94**, doi:10.2151/jmsj.2015-046.
 3. Yoshimura, K., 2015: Stable water isotopes in climatology, meteorology, and hydrology: A review. *J. Meteor. Soc. Japan*, **93**, doi:10.2151/jmsj.2015-036.
 4. Wei, Z., K. Yoshimura, A. Okazaki, W. Kim, Z. Liu, M. Yokoi, 2015: Partitioning of evapotranspiration using high frequency water vapor isotopic measurement over a rice paddy field, *Water Resour. Res.*, **51**, doi:10.1002/2014WR016737.
 5. Nitta, T., K. Yoshimura, K. Takata, R. O’ishi, T. Sueyoshi, S. Kanae, T. Oki, A. Abe-Ouchi, and G. E. Liston, 2014: Representing variability in subgrid snow cover and snow depth in a global land model: Offline validation, *J. Clim.*, **27**, 3318–3330.
 6. Yoshimura, K., T. Miyoshi, M. Kanamitsu, 2014: Observation System Simulation Experiments using Water Vapor Isotope Information, *J. Geophys. Res. Atmos.*, **119**, doi:10.1002/2014JD021662.
 7. Yoshimura, K. and M. Kanamitsu, 2013: Incremental correction for the dynamical downscaling of ensemble mean atmospheric fields, *Mon. Wea. Rev.*, **141**, 3087-3101.
 8. Welp, L., R.F. Keeling, H.A.J. Meijer, A.F. Bollenbacher, S.C. Piper, K. Yoshimura, R.J. Francey, C.E. Allison, and M. Wahlen, 2011: El Nino effects on the isotopic composition of oxygen in atmospheric CO₂, *Nature*, **477**, 579–582, doi:10.1038/nature10421.
 9. Yoshimura, K., M. Kanamitsu, and M. Dettinger, 2010: Regional downscaling for stable water isotopes: A case study of an Atmospheric River event, *J. Geophys. Res.*, **115**, doi:10.1029/2010JD014032.
 10. Frankenberg, C., K. Yoshimura, I. Aben, A. Butz, N. Deutscher, D. Griffith, F. Hase, J. Notholt, M. Schneider, H. Schrijver, T. Warneke, T. Röckmann, 2009: Dynamic processes governing lower-tropospheric HDO/H₂O ratios as observed from space and ground, *Science*, **325**, 1374-1377.
 11. Yoshimura, K., M. Kanamitsu, D. Noone, and T. Oki, 2008: Historical isotope simulation using reanalysis atmospheric data, *J. Geophys. Res.*, **113**, doi:10.1029/2008JD010074.
 12. Yoshimura, K., S. Miyazaki, S. Kanae, and T. Oki, 2006: Iso-MATSIRO, a land surface model that incorporates stable water isotopes, *Glob. Planet. Change*, **51**, 90-107.
 13. Yoshimura, K., T. Oki, and K. Ichiyonagi, 2004: Evaluation of two-dimensional atmospheric water circulation fields in reanalyses by using precipitation isotopes databases. *J. Geophys. Res.*, **109**(D20), D20109, doi:10.1029/2004JD004764.
- (72 others)