

KEI YOSHIMURA

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As of August 28, 2015

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 University of Tokyo, Tokyo, Japan
September 2002 M.S. Civil Engineering from University of Tokyo, Tokyo, Japan
March 2000 B.S. Civil Engineering from University of Tokyo, Tokyo, Japan

PROFESSIONAL EXPERIENCE

March 2010 to present *Associate Professor* at Atmosphere and Ocean Research Institute, University of Tokyo, Tokyo, 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 Institution of Industrial Science, 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, 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 on "Innovative Technology and System for Sustainable Water Use", JST, \$500K
2011-2013 *PI*: "Development of isotope-CGCM for comprehensive understanding of climate proxy

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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. Yoshimura, K., 2015: Stable water isotopes in climatology, meteorology, and hydrology: A review. *J. Meteor. Soc. Japan*, **93**, doi:10.2151/jmsj.2015-036.
 2. Ham, S., K. Yoshimura(cor.), H. Li, 2015: Historical dynamical downscaling for East Asia with the atmosphere and ocean coupled regional model, *J. Meteor. Soc. Japan*, **93**, doi:10.2151/jmsj.2015-046.
 3. 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.
 4. Yoshimura, K. and M. Kanamitsu, 2013: Incremental correction for the dynamical downscaling of ensemble mean atmospheric fields, *Mon. Wea. Rev.*, **141**, 3087-3101.
 5. 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.
 6. Yoshimura, K., C. Frankenberg, J. Lee, M. Kanamitsu, J. Worden, T. Röckmann, 2011: Comparison of an isotopic AGCM with new quasi global satellite measurements of water vapor isotopologues, *J. Geophys. Res.*, **116**, D19118, doi:10.1029/2011JD016035.
 7. 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.
 8. 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.
 9. Yoshimura, K. and M. Kanamitsu, 2009: Specification of external forcing for regional model integrations, *Mon. Wea. Rev.*, **137**, 1409–1421.
 10. Yoshimura, K., M. Kanamitsu, D. Noone, and T. Oki, 2008: Historical isotope simulation using reanalysis atmospheric data, *J. Geophys. Res.*, **113**, doi:1029.10/2008JD010074.
 11. 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.
 12. 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.
 13. Yoshimura, K., T. Oki, N. Ohte, and S. Kanae, 2004: Colored moisture analysis estimates of variations in 1998 Asian monsoon water sources, *J. Meteor. Soc. Japan*, **82**, 1315-1329.
 14. Yoshimura, K., T. Oki, N. Ohte, and S. Kanae, 2003: A quantitative analysis of short-term ¹⁸O variability with a Rayleigh-type isotope circulation model. *J. Geophys. Res.*, **108**(D20), 4647, doi:10.1029/2003JD003477.
- (63 others)