

WHO MYUNG KIM

Curriculum Vitae

Project Scientist I
Climate and Global Dynamics Laboratory
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EDUCATION

2013 Ph.D., Oceanography, *Texas A&M University, College Station, TX*
2007 M.S., Physical Oceanography, *Florida Institute of Technology, Melbourne, FL*
2002 B.S., Oceanography, *Inha University, Incheon, Korea*

PROFESSIONAL EXPERIENCES

2018- Project Scientist I
National Center for Atmospheric Research, Boulder, CO
2015–2018 Associate Scientist II
National Center for Atmospheric Research, Boulder, CO
2014–2015 Visitor (hosts: Gokhan Danabasoglu and Stephen Yeager)
National Center for Atmospheric Research, Boulder, CO
2013–2015 Postdoctoral Research Associate (advisor: Ping Chang)
Texas A&M University, College Station, TX
2007–2013 Graduate Research Assistant (advisors: Ping Chang & Achim Stössel)
Texas A&M University, College Station, TX
2003 Research Assistant
Korea Ocean Research and Development Institute, Ansan, S. Korea

AWARDS

2001 Honor Student, *Inha University, Incheon, Korea*

PUBLICATIONS

Peer-reviewed

- Chassignet, E. P., S. G. Yeager, B. Fox-Kemper, A. Bozec, F. Castruccio, G. Danabasoglu, C. Horvat, **W. M. Kim** and Coauthors: Impact of horizontal resolution on global ocean–sea-ice model simulations based on the experimental protocols of the Ocean Model Intercomparison Project phase 2 (OMIP-2). *Geosci. Model Dev.*, 13, 4595-4637, <https://doi.org/10.5194/gmd-13-4595-2020>.
- Tsujino, H., L. S. Urakawa, S. M. Griffies, G. Danabasoglu, A. J. Adcroft, A. E. Amaral, T. Arsouze, M. Bentsen, R. Bernardello, C. W. Boning, A. Bozec, E. P. Chassignet, S. Danilov, R. Dussin, E. Exarchou, P. G. Fogli, B. Fox-Kemper, C. Guo, M. Ilicak, D. Iovino, **W. M. Kim**, and Coauthors: Evaluation of global ocean–sea-ice model simulations based on the experimental protocols of the Ocean Model Intercomparison Project phase 2 (OMIP-2). *Geosci. Model Dev.*, 13, 3643-3708, <https://doi.org/10.5194/gmd-13-3643-2020>.
- Stewart, K. D., **W. M. Kim**, S. Urakawa, A. McC. Hogg, S. Yeager, H. Tsujino, H. Nakano, and G. Danabasoglu, 2020: JRA55-based repeat year forcing datasets for driving ocean–sea-ice models. *Ocean Model.*, 147, 101557, <https://doi.org/10.1016/j.ocemod.2019.101557>.
- Kim, W. M.**, S. Yeager, and G. Danabasoglu, 2020: Atlantic Multidecadal Variability and associated climate impacts initiated by ocean thermohaline dynamics. *J. Climate*, 33, 1317-1334, <https://doi.org/10.1175/JCLI-D-19-0530.1>.
- Kim, W. M.**, S. Yeager, and G. Danabasoglu, 2018: Key role of internal ocean dynamics in Atlantic Multidecadal Variability during the last half century. *Geophys. Res. Lett.*, 45, 13449-13457, <https://doi.org/10.1029/2018GL080474>.
- Tsujino, H., S. Urakawa, H. Nakano, R. J. Small, **W. M. Kim**, and Coauthors, 2018: JRA-55 based surface dataset for driving ocean–sea-ice models (JRA55-do). *Ocean Model.*, 130, 79-139, <https://doi.org/10.1016/j.ocemod.2018.07.002>.
- Cheng, W., W. Wilbert, **W. M. Kim**, G. Danabasoglu, S. G. Yeager, P. R. Gent, D. Zhang, J. C. H. Chiang, and J. Zhang, 2018: Can the salt-advection feedback be detected in internal variability of the Atlantic meridional overturning circulation? *J. Climate*, 31, 6649-6667, <https://doi.org/10.1175/JCLI-D-17-0825.1>.
- Kim, W. M.**, S. Yeager, P. Chang, and G. Danabasoglu, 2018: Low-frequency North Atlantic climate variability in the Community Earth System Model Large Ensemble. *J. Climate*, 31, 787-813, <https://doi.org/10.1175/JCLI-D-17-0193.1>.
- Zhang, R., R. Sutton, G. Danabasoglu, T. Delworth, **W. M. Kim**, J. Robson, and S. G. Yeager, 2016: Comment on “the Atlantic multidecadal oscillation without a role for ocean circulation.” *Science*, 352, <https://doi.org/10.1126/science.aaf1660>.
- Kim, W. M.**, S. Yeager, P. Chang, and G. Danabasoglu, 2016: Atmospheric conditions associated with Labrador Sea deep convection: new insights from a case study of the 2006/07 and 2007/08 winters. *J. Climate*, 29, 5281–5297, <https://doi.org/10.1175/JCLI-D-15-0527.1>.
- Danabasoglu, G., S. G. Yeager, **W. M. Kim**, and Coauthors, 2015: North Atlantic simulations in Coordinated Ocean-ice Reference Experiments phase II (CORE-II). Part II: Inter-annual to decadal variability. *Ocean Model.*, 97, 65-90, <https://doi.org/10.1016/j.ocemod.2015.11.007>.
- Xu, Z., P. Chang, I. Richter, and **W. Kim**, G. Tang, 2014: Diagnosing southeast tropical Atlantic SST and ocean circulation biases in the CMIP5 ensemble. *Clim. Dyn.*, 43, 2123-3145, <https://doi.org/10.1007/s00382-014-2247-9>.

Submitted

- Kim, W. M.**, S. Yeager, and G. Danabasoglu, 2020: Revisiting the causal connection between the Great Salinity Anomaly of the 1970s and the shutdown of Labrador Sea deep convection. Submitted to *J. Climate*, in revision.
- Richter, J. H, K. Pegion, L. Sun, H. Kim, J. M. Caron, A. Glanville, S. Yeager, **W. M. Kim**, and A. Tawfik, 2020: Subseasonal prediction with and without a well-represented stratosphere in CESM1. Submitted to *Wea. Forecasting*, in revision.

Other Publications

- Chassignet, E. P., S. G. Yeager, B. Fox-Kemper, A. Bozec, F. Castruccio, G. Danabasoglu, C. Horvat, **W. M. Kim** and Coauthors: Impact of horizontal resolution on the energetics of global–sea-ice model simulations. *CLIVAR Exchanges*, 77, 23-30.
- Yeager, S., **W. M. Kim**, and J. Robson, 2016: What causes the Atlantic cold blob of 2015? *US CLIVAR Variations*, 14(2), 24-31.
- Kim, W. M.**, 2013: Understanding the long-term change of the Atlantic meridional overturning circulation (AMOC) during the late twentieth century. Ph.D. dissertation, *Texas A&M University*, 116 pp.

PRESENTATIONS

- Talk, Was the Great Salinity Anomaly in the 1970s induced by an extreme Fram Strait sea ice export? 25th *CESM Workshop*, Virtual, June 15-17, 2020.
- Poster, Key role of ocean thermohaline dynamics in Atlantic Multidecadal Variability: Multiple lines of evidence from both observations and simulations. *AGU Fall Meeting*, San Francisco, CA, December 7-11, 2019.
- Talk (invited), Mechanisms of Atlantic Multidecadal Variability initiated by ocean thermohaline dynamics. IBS Center for Climate Physics, Busan, South Korea, July 17, 2019.
- Talk (invited), Mechanisms of Atlantic Multidecadal Variability initiated by ocean thermohaline dynamics. Korea Institute of Ocean Science & Technology, Busan, South Korea, July 16, 2019.
- Talk, Was the Great Salinity Anomaly in the 1970s caused by an extreme Fram Strait sea ice export? *AMS 15th Conference on Polar Meteorology and Oceanography*, Boulder, Colorado, May 19-23, 2019.
- Talk, Can NAO-related buoyancy fluxes in the Labrador Sea alone produce Atlantic multidecadal variability and its associated climate impacts? *AGU Fall Meeting*, Washington, D.C., December 10-14, 2018.
- Poster, Atlantic multidecadal variability generated exclusively from Labrador Sea buoyancy forcing. *Earth and Environmental System Modeling (EESM) PI Meeting*, Potomac, Maryland, November 5-9, 2018.
- Poster, NAO-related buoyancy fluxes in the Labrador Sea as sufficient forcing for Atlantic multidecadal variability. *International AMOC Science Meeting*, Coconut Grove, Florida, July 24-27, 2018.
- Talk, Update on forced ocean–sea-ice simulations with JRA55-do. *23th CESM Workshop*, Boulder, Colorado, June 18-20, 2018.
- Poster, Multiple lines of evidence for ocean dynamics playing a dominant role in Atlantic multidecadal variability. *Ocean Sciences Meeting*, Portland, Oregon, February 11-16, 2018.
- Talk, Low-frequency North Atlantic climate variability in CESM LENS. *CESM Climate Variability and Change Working Group Meeting*, Boulder, Colorado, January 29, 2018.

- Talk, A new dataset for forcing ocean-sea-ice simulations: JRA55-do. *CESM Ocean Model Working Group Meeting*, Boulder, Colorado, January 11-12, 2018.
- Talk, Low-frequency North Atlantic climate variability in the Community Earth System Model Large Ensemble simulations. *U.S. AMOC Science Team Meeting*, Santa Fe, New Mexico, May 23-25, 2017.
- Talk, Low-frequency North Atlantic climate variability in the CESM LENS simulations. *CESM Ocean Model Working Group Meeting*, Boulder, Colorado, February 28-March 1, 2017.
- Talk, Low-frequency North Atlantic climate variability in the CESM Large Ensemble. *NOAA CVP Webinar Series*, November 3, 2016.
- Poster, Atmospheric conditions associated with Labrador Sea deep convection. *CLIVAR Open Science Conference*, Qingdao, China, September 19-23, 2016.
- Poster, Understanding multidecadal SST changes in the tropical North Atlantic. *Ocean Sciences Meeting*, New Orleans, Louisiana, February 21-26, 2016.
- Talk, CESM Large Ensemble with different ocean initial conditions. *20th CESM Workshop*, Breckenridge, Colorado, June 15-18, 2015.
- Poster, Simulated Atlantic multidecadal variability (AMV) during the 20th century in CESM large ensemble and forced ocean simulations. *U.S. AMOC Science Team Meeting*, Settle, Washington, September 15-17, 2014.
- Talk, On the long-term AMOC changes during the 20th century: An insight from CESM large ensemble and forced-ocean simulations. *19th CESM Workshop*, Breckenridge, Colorado, June 16-19, 2014.
- Poster, Impact of cold-air outbreaks on Labrador Sea deep convection and the AMOC. *U.S. AMOC PI Meeting*, Boulder, Colorado, August 15-17, 2012.
- Poster, The representation of thin ice in the Southern Ocean of a global OGCM. *Eos Trans. AGU*, **89**(53), Fall Meet. Suppl., Abstract OS13C-1209, 2008.

PROFESSIONAL SERVICE & ACTIVITY

- 2015 – Present US Clivar AMOC Science Team (Task Team 3)
- Journal reviewer:** *AGU Advances, Journal of Climate, Geophysical Research Letters, Climate Dynamics, Journal of Advances in Modeling Earth System*
- Lab helper:** 2017, 2019 NCAR Community Earth System Model tutorial, Boulder, CO
- Participant:** 2011 NCAR Community Earth System Model tutorial, Boulder, CO
- Member:** American Geophysical Union, American Meteorological Society

CRUISE/FIELD EXPERIENCE

- 2003 Hydrographic survey of the coastal area of Saemangeum, South Korea (6 days)
 Day-to-day cruise using local fishery vessels
- July 1999 Oceanographic survey of the Yellow Sea (5 days)
 R/V Eardo (KIOST, South Korea)