WHO MYUNG KIM

Curriculum Vitae

Project Scientist I
Climate and Global Dynamics Laboratory
National Center for Atmospheric Research
1850 Table Mesa Dr., Boulder, CO 80305

Email: whokim@ucar.edu
Tel: 303-497-1736
https://staff.ucar.edu/users/whokim
ORCiD: https://orcid.org/0000-0001-5754-9852

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

Chiang, J. C. H., W. Cheng, **W. M. Kim**, and S. Kim, 2021: Untangling the relationship between AMOC variability and North Atlantic upper-ocean temperature and salinity. *Geophy. Res. Lett.*, 48, e2021GL093496, https://doi.org/10.1029/2021GL093496.

Kim, W. M., S. Yeager, and G. Danabasoglu, 2021: Revisiting the causal connection between the Great Salinity Anomaly of the 1970s and the shutdown of Labrador Sea deep convection. *J. Climate*, 34, 675-696, https://doi.org/10.1175/JCLI-D-20-0327.1.

Richter, J. H, K. Pegion, L. Sun, H. Kim, J. M. Caron, A. Glanville, S. Yeager, **W. M. Kim**, A. Tawfik, and D. Collins, 2020: Subseasonal prediction with and without a well-represented stratosphere in CESM1. *Wea. Forecasting*, 35, 2589-2602, https://doi.org/10.1175/WAF-D-20-0029.1.

Chassignet, E. P., S. G. Yeager, B. Fox-Kemper, A. Bozec, F. Castruccio, G. Danabasoglu, C. Horvat, **W. M. Kim** and Coauthors, 2020: 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, 2020: 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. *Geophy. 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

Rodgers, K. B., and Coauthors, 2021: Ubiquity of human-induced changes in climate variability. *Earth Syst. Dynam. Discuss*. [preprint], https://doi.org/10.5194/esd-2021-50, in review.

Richter, J. H, and Coauthors, 2021: A subseasonal Earth system prediction framework with CESM2. submitted to *J. Adv. Model. Earth Syst.*, 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, 2020: 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.

Chang, K.-I., and Coauthors, 2004: Integrated preservation study on the oceanic environments in the Saemangeum Area (2nd year). Ministry of Oceans and Fisheries, Report BSPM1950A, 357 pp (Korean).

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:	*Nature Reviews Earth & Environment, Communications Earth & Environment, AGU Advances, Journal of Climate, Geophysical Research Letters, Climate Dynamics, Journal of Geophysical Research, 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)