

Daehyun Kim

CONTACT INFORMATION	Lamont-Doherty Earth Observatory of Columbia University 61 Route 9W, Palisades, NY 10964-1000 <i>E-mail:</i> dkim@ldeo.columbia.edu <i>Phone:</i> 845-365-8317 <i>Website:</i> http://www.columbia.edu/~dk2558/home.html
RESEARCH INTERESTS	Climate dynamics, Climate modeling, Cloud physics, Cumulus parameterization
EMPLOYMENT	Lamont-Doherty Earth Observatory of Columbia University, New York, NY Lamont Assistant Research Professor, October 2012-present Postdoctoral Research Scientist, March 2010- September 2012 <ul style="list-style-type: none">• Advisor: Adam H. Sobel, Columbia University
EDUCATION	Seoul National University, Seoul, Republic of Korea Ph.D., Atmospheric Sciences, February 2010 <ul style="list-style-type: none">• Thesis title: “Development of a Bulk Mass Flux Convection Scheme and Its Impacts on Simulation of the Madden-Julian Oscillation”• Advisor: In-Sik Kang, Seoul National University B.S., Atmospheric Sciences, August 2003
HONORS AND AWARDS	American Geophysical Union James R. Holton Junior Scientist Award , 2012. Best Thesis Award , Seoul National University SPARC, 2010. The 3 rd place, National Undergraduate Student Science Paper Contest. 2002.
PROFESSIONAL SERVICES	Member, WMO joint WCRP/WWRP–THORPEX, Year of Convection Madden-Julian Oscillation Task Force, 2009-Present. Member, US CLIVAR Madden-Julian Oscillation Working Group, 2006-2009
RESEARCH GRANTS	Collaborative research: DYNAMO observations and MJO simulation in the GFDL high-resolution coupled global model, PI, NOAA , 2013-2015 (pending). Intraseasonal variability and tropical cyclones in the NASA GISS general circulation model: phase 2, co-PI, NASA , 2013-2017 (pending). Tropical cyclones and climate - a model intercomparison project, co-PI, NSF , 2012-2014 (funded).

- Wilson, E. A., A. L. Gordon, and **D. Kim**, 2013: Effects of the Indian Ocean dipole on the Madden-Julian events. *J. Geophys. Res.*, In press.
- Hung, M-P., J.-L. Lin, W. Wang, **D. Kim**, T. Shinoda, and S. J. Weaver, 2013: MJO and convectively coupled equatorial waves simulated by CMIP5 climate models, *J. Climate*, In press.
- Linter, B. R., G. Bellon, A. H. Sobel, **D. Kim**, and D. J. Neelin, 2012: Implementation of the Quasi-equilibrium Tropical Circulation Model2 (QTCM2): Global simulations and convective sensitivity to free tropospheric moisture. *J. Adv. Model. Earth Syst.*, In press.
- Jang, Y.-S., **D. Kim**, Y.-H. Kim, D.-H. Kim, M. Watanabe, F.-F. Jin, and J.-S. Kug, 2012: Simulation of two types of El Nino from different convective parameters. *Asia-Pacific J. Atmos. Sci.*, In Press.
- Ham, Y.-G., J.-S. Kug, **D. Kim**, Y.-H. Kim, and D.-H. Kim, 2012: What controls phase-locking of ENSO to boreal winter in coupled GCMs? *Clim. Dyn.*, In Press.
- Sobel, A. H., and **D. Kim**, 2012: The MJO-Kelvin wave transition. *Geophys. Res. Lett.*, **39**, L20808.
- Ramsay, H. A., S. Camargo, and **D. Kim**, 2012: Cluster analysis of tropical cyclone tracks in the Southern Hemisphere. *Clim. Dyn.*, **39**, 897-917.
- Jiang, X., D. E. Waliser, **D. Kim**, M. Zhao, K. R. Sperber, W. Stern, S. D. Schubert, G. Zhang, W. Wang, M. Khairoutdinov, R. Neale, and M.-I. Lee, 2012: Simulation of the intraseasonal variability over the eastern Pacific ITCZ in climate models. *Clim. Dyn.*, **39**, 617-636.
- Ham, Y.-G., I.-S. Kang, **D. Kim**, and J.-S. Kug, 2012: El-Nino Southern Oscillation simulated and predicted in the SNU coupled GCMs. *Clim. Dyn.*, **38**, 2227-2242.
- Kim, D.**, A. H. Sobel, A. D. Del Genio, Y. Chen, S. J. Camargo, M.-S. Yao, M. Kelley, and L. Nazarenko, 2012: Tropical intraseasonal variability simulated in the NASA GISS general circulation model. *J. Climate*, **25**, 4641-4659.
- Sperber, K. R. and **D. Kim**, 2012: Simplified metrics for the identification of the MJO. *Atmos. Res. Lett.*, **13**, 187-193.
- Del Genio, A. D., Y. Chen, **D. Kim**, and M.-S. Yao, 2012: The MJO transition from shallow to deep convection in CloudSat/CALIPSO data and GISS GCM simulations. *J. Climate*, **25**, 3775-3770.
- Kim, D.** and I.-S. Kang, 2012: A bulk mass flux convection scheme for climate model - Description and moisture sensitivity. *Clim. Dyn.*, **38**, 411-429.

- Kim, D.**, Y.-S. Jang, D.-H. Kim, Y.-H. Kim, M. Watanabe, F.-F. Jin, and J.-S. Kug, 2011: ENSO sensitivity to cumulus entrainment in a coupled GCM. *J. Geophys. Res.*, **116**, D22112.
- Kim, D.**, A. H. Sobel, and I.-S. Kang, 2011: A mechanism denial study on the Madden-Julian Oscillation. *J. Adv. Model. Earth Syst.*, **3**, M12007.
- Kim, D.**, A. H. Sobel, D. M. W. Frierson, E. D. Maloney, and I.-S. Kang, 2011: A systematic relationship between intraseasonal variability and mean state bias in AGCM simulations. *J. Climate*, **24**, 5506-5520.
- Kug, J.-S., K. P. Sooraj, and F.-F. Jin, Y.-G. Ham, and **D. Kim**, 2011: A possible mechanism for El Niño-like warming in response to the future greenhouse warming. *Int. J. Climatol.*, **31**, 1567-1572.
- Frierson, D. M. W., **D. Kim**, I.-S. Kang, M.-I. Lee, J.L. Lin, 2011: Structure of AGCM-simulated convectively coupled Kelvin waves and sensitivity to convective parameterization. *J. Atmos. Sci.*, **68**, 26–45.
- Kang, I.-S., **D. Kim**, and J.-S. Kug, 2010: Mechanism for northward propagation of boreal summer intraseasonal oscillation: Convective momentum transport. *Geophys. Res. Lett.*, **37**, L24804.
- Kim, D.**, K. Sperber, W. Stern, D. Waliser, I.-S. Kang, E. Maloney, W. Wang, K. Weickmann, J. Benedict, M. Khairoutdinov, M.-I. Lee, R. Neale, M. Suarez, K. Thayer-Calder, and G. Zhang, 2009: Application of MJO simulation diagnostics to climate models. *J. Climate*, **22**, 6413-6436.
- CLIVAR Madden-Julian Oscillation Working Group; D. Waliser, K. Sperber, H. Hendon, **D. Kim**, E. Maloney, M. Wheeler, K. Weickmann, C. Zhang, L. Donner, J. Gottschalck, W. Higgins, I.-S. Kang, D. Legler, M. Moncrieff, S. Schubert, W. Stern, F. Vitart, B. Wang, W. Wang, S. Woolnough, 2009: MJO simulation diagnostics. *J. Climate*, **22**, 3006-3030.
- Sooraj, K. P., **D. Kim**, J.-S. Kug, S.-W. Yeh, F.-F. Jin and I.-S. Kang, 2009: Effects of the low-frequency zonal wind variation on the high frequency atmospheric variability over the tropics. *Clim. Dyn.*, **33**, 495-507.
- Liu, P., Y. Kajikawa, B. Wang, A. Kitoh, T. Yasutari, T. Li, H. Annamalai, X. Fu, K. Kukuchi, R. Mizuta, K. Rajendran, D. E. Waliser and **D. Kim**, 2009: Tropical intraseasonal variability in the MRI-20km60L AGCM. *J. Climate*, **22**, 2006-2022
- Kug, J.-S., K. P. Sooraj, **D. Kim**, I.-S. Kang, F.-F. Jin, Y. N. Takayabu, M. Kimoto, 2009: Simulation of state-dependent high-frequency atmospheric variability associated with ENSO. *Clim. Dyn.*, **32**, 635-648.
- Lee, M.-I., M. J. Suarez, I.-S. Kang, I. M. Held and **D. Kim**, 2008: A moist benchmark calculation for the atmospheric general circulation models. *J. Climate*, **21**, 4934-4954.

Kim, D., J.-S. Kug, I.-S. Kang, F.-F. Jin, and A. Wittenberg, 2008: Tropical Pacific impacts of convective momentum transport in the SNU coupled GCM. *Clim. Dyn.*, **31**, 213-226.

Lin, J. L., M.-I. Lee, **D. Kim**, I.-S. Kang, and D. Frierson, 2008: The impacts of convective parameterization and moisture triggering on AGCM-simulated convectively coupled equatorial waves. *J. Climate*, **21**, 883-909.

Lin, J. L., **D. Kim**, M.-I. Lee, and I.-S. Kang, 2007: Effects of cloud-radiative heating on AGCM simulations of convectively coupled equatorial waves. *J. Geophys. Res.*, **112**, D24107.

SUBMITTED/IN
PREPARATION

D. Kim, J.-S. Kug, and A. H. Sobel: Propagating vs. Non-propagating Madden-Julian oscillation events. *J. Climate*, Submitted.

TRAVEL
AWARDS

1st Pan-GASS Conference, September 2012, Boulder, CO.

Workshop on the Physics of Weather and Climate Models, March 2012, Pasadena, CA.

WCRP Open Science Conference, October 2011, Denver, CO.

15th Annual CCSM Workshop, June 2010, Breckenridge, CO.

INVITED TALKS

Stony Brook University SoMAS seminar, October 2012.

University of Washington Department of Atmospheric Sciences seminar, August 2012

Max Planck Institute for Meteorology seminar, September 2011.

Ewha Womans University Environmental Science and Engineering department seminar, March 2011.

Seminar at Asia-Pacific Economic Cooperation Climate Center, January 2011.

Korea-Japan Joint workshop on Climate System Modeling, September 2010.

Seminar at Korea Ocean Research and Development Institute, June 2010.

Workshop on Modelling Monsoon Intraseasonal Variability, June 2010.

Seminar at Center for Climate System Research/University of Tokyo, September 2009.

International Workshop on Global Climate Monitoring and Modeling, June 2009.

Seminar at Korea Ocean Research and Development Institute, October 2008.

MJO workshop, November 2007.

OTHER
EXPERIENCES

Field campaign: Dynamics of the Madden-Julian Oscillation (DYNAMO), Gan Island, Maldives, October 3-20, 2011.

Completion of an intensive course, American Language Program, School of Continuing Education, Columbia University, July 9 – August 3, 2012.

ACADEMIC
SERVICES

Reviewer for Atmosphere, Climate Dynamics, Climate Research, Journal of Atmospheric Sciences, Journal of Climate, Journal of Geophysical Research, Journal of the Meteorological Society of Japan, and the National Science Foundation.