

Myong-In Lee, Ph.D.

**Professor, Dept. of Urban and Environmental Engineering
Climate-Environment Modeling Laboratory (<http://climate.unist.ac.kr>)
Ulsan National Institute of Science and Technology**

RESEARCH AREA

1. Earth System Modeling:

- Global Climate Models (GCMs) and moist physics parameterization
- Regional prediction model and urban canopy model
- Dynamic vegetation models for terrestrial carbon cycle and coupling with nitrogen

2. Sciences on Climate Variability and Change:

- Subseasonal-to-seasonal prediction, Atmosphere-Ocean coupled data assimilation
- Land data assimilation with Ensemble Kalman Filtering
- Arctic and Antarctic sea ice and climate variability
- Diurnal cycle, tropical Madden-Julian Oscillation, El-Nino and Southern Oscillation, East Asian monsoon, Heatwave and large-scale atmospheric teleconnection

EDUCATION

Ph.D., **Atmospheric Sciences**, 2001 – Seoul National University

Thesis: *Impacts of cumulus parameterization and cloud-radiation interaction processes in GCM simulation of tropical intraseasonal oscillation*

Advisor: Professor In-Sik Kang

M.S., **Atmospheric Sciences**, 1996 – Seoul National University

Thesis: *Temperature variability and its secular warming trend in Korean peninsula*

Advisor: Professor In-Sik Kang

B.S., **Atmospheric Sciences**, 1994 – Seoul National University

EMPLOYMENTS

Ulsan National Institute of Science and Technology

March 2020 – present, *Professor*

March 2014 – Feb 2020, *Associate Professor*

February 2010 – Feb 2014, *Assistant Professor*

NASA Goddard Space Flight Center & University of Maryland Baltimore County

March 2003 – January 2010

Research Associate (2003-2006), Assistant Research Scientist (2006-2010)

Climate Environment System Research Center, Seoul National University

March 2001 – March 2003

Post-doctoral Research Scientist

RESEARCH PROJECTS

- Study of Atmospheric Environment Variation Mechanism in East Asia using 3D VAR Data Assimilation system, NRF, 2018~present

- Development of Coupled Initialization of Climate Forecast System for Supporting Long-term Prediction, KMI, 2018~present,
- Research on the Long-Term Source Technology in the Heat Wave (Heat Wave Research Center), KMI, 2017~present
- Development of the GAIA Simulator Earth System Model with Atmospheric Carbon Cycle, NRF Korea, 2012-2016
- Land surface initialization for KMA GloSea5 dynamical ensemble prediction system, KMA, 2013-2015
- Evaluation of the GloSea4 Experimental Hindcasts, KMA, 2012-2013
- Development of Urban Climate and Environmental Prediction System Using WRF/UCM, NRF, 2011-2014
- Development of Tropical Cyclone Prediction System, APEC Climate Center, 2011-2013.
- Improvement of Diurnal Cycle of Warm-Season Precipitation in Global Climate Models, KMA, 2010-2012
- Development of a High-Resolution Global Climate Model for the Tropical Typhoon Simulation, KMA, 2010-2011.
- Use of cloud-resolving models to improve the simulation of convective precipitation and diurnal cycle in the NASA GEOS-5, Lee, M.-I., Principal Investigator with 5 other Co-Is, 2009 – 2012.
- Simulating and predicting sub-seasonal and longer-term changes in tropical storm characteristics using high-resolution climate models, PI: Schubert (NASA/GSFC), Co-I, 2009 – 2010.
- Improved representation of diurnal precipitation patterns in the NASA GEOS5 general circulation models, PI: Posselt (U. Michigan), Co-I, 2009 – 2010.
- Pathways to predictability on subseasonal time scales: assessing the role of tropical forcing and land surface conditions, PI: Schubert (NASA/GSFC), Co-I, 2005 – 2010.
- An assessment and analysis of the warm season diurnal cycle over the continental United States and northern Mexico in global atmospheric general circulation model, PI: Schubert (NASA/GSFC), Co-I, NOAA/OGP, 2003-2005

TEACHING EXPERIENCES

- *Climate Dynamics* (graduate), SNU, 2002
- An Introduction to the *Climate System Modeling* (graduate), SNU, 2002
- *Introduction to the Environmental Engineering* (undergraduate, co-teaching), UNIST, 2010-
- *Introduction to Climate Change* (undergraduate), UNIST, 2010
- *Global Environment* (undergraduate), UNIST, 2010-
- *Climate and Environmental Modeling* (graduate), UNIST, 2010-
- *Atmospheric Dynamics* (undergraduate), UNIST, 2011-
- *Advanced Statistics* (graduate), UNIST, 2013-
- *Statistics in Earth and Environmental Sciences* (undergraduate), UNIST, 2014-
- *Tropical Meteorology* (graduate), UNIST, 2014-
- *Remote Sensing* (undergraduate), UNIST, 2018

PROFESSIONAL SERVICES

- Professional Committee of Energy and Environment, National Scientific and Technological Advisory Conference, 2019-2020
- Ulsan Health City Committee, Ulsan, 2017-2019
- Professional Committee of Atmospheric Science in the Earth Science Field, National Research Foundation of Korea, 2016-2019
- Advisor Professor, APEC Climate Center, 2011-2016
- Advisory member, Korea Institute of Atmospheric Prediction System (KIAPS), 2011-2015
- Advisory Board, Korean Meteorological Administration, 2012-present
- Executive Member & Int'l Cooperation, Korean Meteorological Society, 2012-2013, 2015-present
- Director of International Cooperation Committee, Korean Meteorological Society, 2015-present
- Member, Working Group for the APEC Climate Center (APCC), 2007-2010
- Editor, Korean Atmospheric Scientists in America (KASA), publish on-line newsletter, 2006
- Member, Korean Meteorological Society, since 2001
- Member, American Meteorological Society, since 2008
- Member, American Geophysical Union, since 2008
- Journal Peer Reviewer: Tellus A, Atmos. Environ., J. Climate, J. Atmos. Sci., J. Geophys. Res, Geophys. Res. Lett., Climate Dynamics, Dynamics of Atmospheres and Oceans, Advances in Atmospheric Sciences, Scientific Online Letters on the Atmosphere, Asia-Pacific Journal of Atmospheric Sciences, since 2003
- Proposal/Award Reviewer: NASA Earth System Science (ESS) Fellowship (2006-2008), NOAA Oceanic and Atmospheric Research (OAR) Outstanding Paper Award (2008)

HONORS/AWARDS

- Songcheon Academic Award, Korea Meteorological Society, 2019
- Presidential Commendation, Ministry of the Interior and Safety, 2018
- Associate Member, Korean Academy of Science and Engineering, 2015
- Hallim Leading Scientist, Korean Academy of Science and Engineering, 2014
- Outstanding Performance Award, UNIST, 2014
- President Award for Best Teaching, UNIST, 2010
- Outstanding Performance Award, NASA/Goddard Space Flight Center/Global Modeling and Assimilation Office, 2004
- Best PhD Dissertation Award, Korean Meteorological Society, 2001

INVITED SEMINAR/PRESENTATIONS

- ISPRS 2019, Nanjing 2019
- The 3rd Korea-Germany Environmental Workshop 2019
- Department Seminar, Stony Brook University 2016
- The Climate Prediction Program for the Americas (CPPA) 2008
- APEC Climate Symposium, Lima, Peru 2008
- APEC Climate Symposium, Busan, Korea 2007
- Climate Diagnostics & Prediction Workshop, Boulder, USA 2006

- A Workshop on the Seasonal-to-Interannual Prediction, Taipei, Taiwan 2003

PUBLICATIONS

- [82] Kim, G., S. Lee, and **M.-I. Lee**, 2020: Aerosol data assimilation and forecast using Geostationary Ocean Color Imager aerosol optical depth and in-situ observations during the KORUS-AQ observing period. *Rem. Sens.*, to be submitted.
- [81] Kim, G., J. Lee, **M.-I. Lee***, and D. Kim, 2020: Impacts of the Urban Heat Island on the Local Circulation and Air Pollutant Distribution Simulated by the WRF-UCM Coupled with Chemistry Model. *Atmos. Env.*, revised.
- [80] Lee, J., **M.-I. Lee***, and J.-B. Ahn, 2020: Impacts of the coupled initializations for the ocean and sea ice on the seasonal prediction skill in boreal winter. *J. Clim.*, submitted.
- [79] Yasunari, T., et al., 2020: Circum-Arctic wave pattern as predictor of PM2.5 due to the Arctic wildfires, *Proc. Nat. Acad. Sci.*, submitted.
- [78] Yoon, D., Cha, D. H., **Lee, M. I.**, Min, K. H., Jun, S. Y., & Choi, Y. (2020). Comparison of Regional Climate Model Performances for Different Types of Heat Waves over South Korea. *Journal of Climate*, 1-49.
- [77] Park, C.E., S. Jeong, L. J. Harrington, **M. I. Lee**, and C. Zheng, 2020: Aging will increase the future risks of unprecedented hot summers. *Env. Res. Lett.*, accepted.
- [76] Seo, E., **Lee, M. I.**, & Reichle, R. H. (2021). Assimilation of SMAP and ASCAT soil moisture retrievals into the JULES land surface model using the Local Ensemble Transform Kalman Filter. *Remote Sensing of Environment*, 253, 112222.
- [75] Seo, E., **Lee, M. I.**, Schubert, S. D., Koster, R. D., & Kang, H. S. (2020). Investigation of the 2016 Eurasia heat wave as an event of the recent warming. *Environmental Research Letters*, 15(11), 114018.
- [74] Gyundo Pak, Yign Noh, **Myong-In Lee**, Sang-Wook Yeh, Daehyun Kim, Sang-Yeob Kim, Joon-Lee Lee, Ho Jin Lee, Seung-Hwon Hyun, Kwang-Yeon Lee, Jae-Hak Lee, Young-Gyu Park, and Young Ho Kim, 2020: Korea Institute of Ocean Science & Technology Earth System Model and its simulation characteristics. *Ocean Science Journal*, accepted.
- [73] Yoon, D., D. -H. Cha, **M.-I. Lee**, K.-H. Min, J. Kim, S.-Y. Jun, and Y. Choi, 2020: Recent Change in Heatwave Characteristics over Korea. *Clim. Dyn.*, 55, 1685-1696.
- [72] Park, S., D. Kang, C. Yoo, J. Im, and **M.-I. Lee**, 2020: Recent ENSO influence on East African drought during rainy seasons through the synergistic use of satellite and reanalysis data. *ISPRS Photogrammetry and Remote Sensing*, 162, 17-26.
- [71] Kim, G., **Lee, M. I.**, Lee, S., Choi, S. D., Kim, S. J., & Song, C. K. (2020). Numerical Modeling for the Accidental Dispersion of Hazardous Air Pollutants in the Urban Metropolitan Area. *Atmosphere*, 11(5), 477.
- [70] Lee, S., **Lee, M. I.**, Song, C. K., Kim, K. M., & da Silva, A. M. (2020). Interannual variation of the East Asia Jet Stream and its impact on the horizontal distribution of aerosol in boreal spring. *Atmospheric Environment*, 223, 117296.
- [69] Kim, H., **Lee, M. I.**, Kim, S., Lim, Y. K., Schubert, S. D., & Molod, A. M. (2020). Representation of Tropical Cyclones by the Modern-Era Retrospective Analysis for Research and Applications Version 2. *Asia-Pacific Journal of Atmospheric Sciences*, 1-15.
- [68] Choi, N., **Lee, M. I.**, Cha, D. H., Lim, Y. K., & Kim, K. M. (2020). Decadal Changes in the Interannual Variability of Heat Waves in East Asia Caused by Atmospheric Teleconnection Changes. *Journal of Climate*, 33(4), 1505-1522.

- [67] Kim, H., **M.-I. Lee***, D.-H. Cha, Y.-K. Lim, and W. M. Putman, 2019: Improved representation of the diurnal variation of warm season precipitation by an atmospheric general circulation model at a 10 km horizontal resolution. *Climate Dynamics*, 53(11), 6523-6542
- [66] Kim, S.-J., H.-O. Kwon, **M.-I. Lee**, Y. Seo, and S.-D. Choi, 2019: Spatial and temporal variations of volatile organic compounds using passive air samplers in the multi-industrial city of Ulsan, Korea, *Environmental Science and Pollution Research*, 26, 5831-5841.
- [65] Choi, N. and **M.-I. Lee***, 2019: Spatial Variability and Long-Term Trend in the Occurrence Frequency of Heatwave and Tropical Night in Korea, *Asia-Pacific Journal of Atmospheric Sciences*, 55, 101-114
- [64] Choi, N., K.-M. Kim, Y.-K. Lim, and **M.-I. Lee***, 2019: Decadal changes in the leading patterns of sea level pressure in the Arctic and their impacts on the sea ice variability in boreal summer, *The Cryosphere*, 13, 3007–3021.
- [63] Seo, E., **M.-I. Lee***, D. Kim, Y.-K. Lim, S. D. Schubert, and K.-M. Kim, 2019: Interannual variation of tropical cyclones simulated by GEOS-5 AGCM with modified convection scheme. *Int J Climatol.*, 39, 4041– 4057. <https://doi.org/10.1002/joc.6058>
- [62] Kim, M., M.-S. Park, J. Im, S. Park, and **M.-I. Lee***, 2019: Machine Learning Approaches for Detecting Tropical Cyclone Formation Using Satellite Data. *Rem. Sens.*, 11(10):1195.
- [61] Lee, S., and **M.-I. Lee***, 2019: Effects of surface vegetation on the intensity of East Asian summer monsoon as revealed by observation and model experiments. *Int J Climatol*, 1– 15. <https://doi.org/10.1002/joc.6420>
- [60] Kim, D., **Lee, M.-I.***, and E. Seo, 2019: Improvement of Soil Respiration Parameterization in a Dynamic Global Vegetation Model and Its Impact on the Simulation of Terrestrial Carbon Fluxes, *J. Climate*, 32, 127-143.
- [59] Yoon, D., D.-H. Cha, G. Lee, C. Park, **M.-I. Lee**, and K.-H. Min, 2018: Impacts of Synoptic and Local Factors on Heat Wave Events Over Southeastern Region of Korea in 2015. *J. Geophys. Res. – Atmos.*, 123 (21), 12,081-12,096.
- [58] Kim, H., **Lee, M. I.**, Kim, D., Kang, H. S., & Hyun, Y. K. (2018). Representation of Boreal Winter MJO and Its Teleconnection in a Dynamical Ensemble Seasonal Prediction System. *Journal of Climate*, 31(21), 8803-8818.
- [57] Park, S., E. Seo, D. Kang, J. Im, and **M. -I. Lee**, 2018: Prediction of drought on pentad scale using remote sensing data and MJO index through random forest over East Asia. *Remote Sens.*, 10(11), 1811.
- [56] Kim, D., **Lee, M. I.**, Jeong, S. J., Im, J., Cha, D. H., & Lee, S. (2018). Intercomparison of Terrestrial Carbon Fluxes and Carbon Use Efficiency Simulated by CMIP5 Earth System Models. *Asia-Pacific Journal of Atmospheric Sciences*, 54(2), 145-163.
- [55] Seo, E., **Lee, M. I.**, Jeong, J. H., Koster, R. D., Schubert, S. D., Kim, H. M., ... & Scaife, A. A. (2019). Impact of soil moisture initialization on boreal summer subseasonal forecasts: mid-latitude surface air temperature and heat wave events. *Climate Dynamics*, 52(3-4), 1695-1709.
- [54] Kang, D., & **Lee, M. I.** (2017). Increase in the potential predictability of the Arctic Oscillation via intensified teleconnection with ENSO after the mid-1990s. *Climate Dynamics*, 49(5-6), 2147-2160.
- [53] Kim, M., J. Im, H. Park, S. Park, M-I. Lee, and M.-H. Ahn, 2017: Detection of Tropical Overshooting Cloud Tops Using Himawari-8 Imagery, *Remote Sensing*, 9, 685.
- [52] Shin, S.-H., O.-Y. Kim, D. Kim, and **M.-I. Lee***, 2016: Cloud radiative effects and changes simulated by the Coupled Model Intercomparison Project Phase 5 models. *Adv. Atmos. Sci.*, 34, 859-876.

- [51] Lee, S., D. Kim, J. Im*, **M.-I. Lee****, and Y.-G. Park, 2017: CO2 concentration and its spatiotemporal variation in the troposphere using multi-sensor satellite data, carbon tracker, and aircraft observations. *GIScience & Remote Sensing*, 54, 592-613.
- [50] Choi, Y., D.-H. Cha, **M.-I. Lee**, J. Kim, C.-S. Jin, S.-H. Park, and M.-S. Joh, 2017: Satellite radiance data assimilation for binary tropical cyclone cases over the western North Pacific, *J. Adv. Model Earth Sys.*, 9, 832-853.
- [49] Lee, S., H. Han, J. Im, E. Jang, and **M.-I. Lee**, 2016: Detection of deterministic and probabilistic convection initiation using Himawari-8 Advanced Himawari Imager data. *Atmos. Mea. Tech.*, 10, 1859-1874.
- [48] Park, M.-S., **M.-I. Lee****, D. Kim, D.-H. Cha, M. M. Bell, and R. L. Elsberry, 2017: Land-based convection effects on formation of a tropical cyclone Mekkhala (2008). *Mon. Wea. Rev.*, 145, 1315-1337.
- [47] Kang, D., & **Lee, M. I.** (2019). ENSO influence on the dynamical seasonal prediction of the East Asian Winter Monsoon. *Climate Dynamics*, 53(12), 7479-7495.
- [46] Kim, D., H. Kim, and **M.-I. Lee***, 2017: Why does the MJO detour the Maritime Continent during Austral summer? *Geophys. Res. Lett.*, 44 2579–2587.
- [45] Kim, O.-Y., H.-M. Kim, **M.-I. Lee**, Y.-M. Min, and S.-H. Shin, 2017: Dynamical-statistical seasonal prediction for western North Pacific typhoons based on APCC multi-models. *Clim. Dyn.*, doi:10.1007/s00382-016-3063-1.
- [44] Lee, W.-S., and **M.-I. Lee***, 2016: Interannual variability of heat waves in South Korea and their connection with large-scale atmospheric circulation patterns. *Int. J. Climatol.*, DOI: 10.1002/joc.4671
- [43] Truong, S. C. H., **M.-I. Lee****, G. Kim, D. Kim, J.-H. Park, S.-D. Choi, and G. Cho, 2016: Accidental benzene release risk assessment in an urban area using an atmospheric dispersion model. *Atmos. Environ.*, 144, 146-159.
- [42] Park, M.-S., M. Kim, **M.-I. Lee****, J. Im*, S. Park, 2016: Detection of Tropical Cyclone Genesis via Quantitative Satellite Ocean Surface Wind Pattern and Intensity Analyses using Decision Trees. *Remote Sens. Env.*, 183, 205-214.
- [41] Park, M.-S., **M.-I. Lee****, H. Kim, and J.-M. Yoo, 2016: Spatial and diurnal variations of storm height in the East Asia summer monsoon: storm height regimes and large-scale diurnal modulation, *Clim. Dyn.*, 46, 3-4, 745-763, DOI 10.1007/s00382-015-2610-5.
- [40] Yoo, J.-M., Jeong, M.-J., Kim, D., Stockwell, W. R., Yang, J.-H., Shin, H.-W., **Lee, M.-I.**, Song, C.-K., and Lee, S.-D., 2015: Spatiotemporal variations of air pollutants (O3, NO2, SO2, CO, PM10, and VOCs) with land-use types, *Atmos. Chem. Phys.*, 15, 10857-10885
- [39] Pradhan, P. K., P. Venkatraman, D.-Y. Lee, and **M.-I. Lee**, 2016: El Niño and Indian Summer Monsoon Rainfall Relationship in retrospective seasonal prediction runs: Experiments with Coupled Global Climate Models and MMEs. *Meteorology and Atmospheric Physics*, 128, 1, 97-115. **DOI:** 10.1007/s00703-015-0396-y.
- [38] Min, S.-K., S.-W. Son, K.-H. Seo, J.-S. Kug, S.-I. An, Y.-S. Choi, J.-H. Jeong, B.-M. Kim, J.-W. Kim, Y.-H. Kim, J.-Y. Lee, **M.-I. Lee**, 2015: Changes in weather and climate extremes over Korea and possible causes: A review, *Asia-Pacific J. Atmos. Sci.*, **51**, 103-121.
- [37] Lim, Y.-K., S. D. Schubert, O. Reale, **M.-I. Lee**, A.M. Mold, and M. J. Suarez, 2015: Sensitivity of Tropical Cyclones to Parameterized Convection in the NASA GEOS5 Model. *J. Climate*, 28, 2, 551-573. **DOI:** 10.1175/JCLI-D-14-00104.1

- [36] Park, M.-S., H.-S. Kim, C.-H. Ho, R.L. Elsberry, and **M.-I. Lee**, 2015: Tropical cyclone Mekkhala(2008)'s formation over South China Sea: Mesoscale, synoptic-scale, and large-scale contributions. *Mon. Wea. Rev.*, 143, 88–110.
- [35] Han, H., S. Lee, J. Im, M. Kim, **M.-I. Lee**, M. H. Ahn, and S.-R. Chung, 2015: Detection of convective initiation using meteorological imager onboard Communication, Ocean, and Meteorological Satellite based on machine learning approaches. *Remote Sens.* 7, 9184-9204.
- [34] Shin, S.H., **M.-I. Lee**, and O.-K. Kim, 2014: Examinations of cloud variability and future change in the coupled model intercomparison project phase 3 simulations. *Asia-Paific J. Atmos. Sci.*, 50(4), 481-495, [DOI:10.1007/s13143-014-0038-1](https://doi.org/10.1007/s13143-014-0038-1)
- [33] **Kang, D., M.-I. Lee***, J. Im, D. Kim, H.-M. Kim, H.-S. Kang, S. D. Schubert, A. Arribas, C. MacLachlan, 2014: Prediction of the Arctic Oscillation in Boreal Winter by Dynamical Seasonal Forecasting Systems, *Geophys. Res. Lett.*, 41, 3577-3585, [DOI:10.1002/2014GL060011](https://doi.org/10.1002/2014GL060011)
- [32] **Kim, D., M.-I. Lee**, H.-M. Kim, and S. D. Schubert, 2014: The Modulation of Tropical Storm Activity in the Western North Pacific by the Madden-Julian Oscillation in the GEOS-5 AGCM Experiments. *Atmos. Sci. Lett.*, [DOI:10.1002/asl2.509](https://doi.org/10.1002/asl2.509)
- [31] **Kang, D.**, J. Im*, **M.-I. Lee**, and L. J. Quackenbush, 2014: The MODIS Ice Surface Temperature Product as an Indicator of Sea Ice Minimum over the Arctic Ocean, *Remote Sens. Environ.*, 152, 99-108, [DOI:10.1016/j.rse.2014.05.012](https://doi.org/10.1016/j.rse.2014.05.012)
- [30] **Lee, M.-I.**, H.-S. Kang, D. Kim, **D. Kim**, **H. Kim**, and **D. Kang**, 2014: Validation of the Experimental Hindcasts Produced by the GloSea4 Seasonal Prediction System. *Asia-Pacific J. Atmos. Sci.*, 50(3), 307-326, [DOI:10.1007/s13143-014-0019-4](https://doi.org/10.1007/s13143-014-0019-4)
- [29] Kim, D., **M.-I. Lee***, **D. Kim**, S. D. Schubert, D.E. Waliser, B. Tian, 2014: Representation of tropical subseasonal variability of precipitation in global reanalysis. *Clim. Dyn.*, [doi: 10.1007/s00382-013-1890-x](https://doi.org/10.1007/s00382-013-1890-x)
- [28] Kim, H.-M, **M.-I. Lee**, P.J. Webster, **D. Kim**, and J.-H. Yoo, 2013: A physical Basis for the Probabilistic Prediction of the Accumulated Tropical Cyclone Kinetic Energy in the Western North Pacific. *J. Clim.*, 26, 7981-7991, [doi: http://dx.doi.org/10.1175/JCLI-D-12-00679.1](http://dx.doi.org/10.1175/JCLI-D-12-00679.1)
- [27] Blackburn, M.*, D. L. Williamson, K. Nakajima, W. Ohfuchi, Y. O. Takahashi, Y.-Y. Hayashi, H. Nakamura, M. Ishiwatari, J. McGregor, H. Borth, V. Wirth, H. Frank, P. Bechtold, N. P. Wedi, H. Tomita, M. Satoh, M. Zhao, I. M. Held, M. J. Suarez, **M.-I. Lee**, M. Watanabe, M. Kimoto, Y. Liu, Z. Wang, A. Molod, K. Rajendran, A. Kitoh, and R. Stratton, 2013: The Aqua Planet Experiment(APE): Control SST simulation. *J. Meteor. Soc. Japan*, 91A, 17-56, [doi:10.2151/jmsj.2013-A02](https://doi.org/10.2151/jmsj.2013-A02).
- [26] Williamson, D. L.*, M. Blackburn, K. Nakajima, W. Ohfuchi, Y. O. Takahashi, Y.-Y. Hayashi, H. Nakamura, M. Ishiwatari, J. McGregor, H. Borth, V. Wirth, H. Frank, P. Bechtold, N. P. Wedi, H. Tomita, M. Satoh, M. Zhao, I. M. Held, M. J. Suarez, **M.-I. Lee**, M. Watanabe, M. Kimoto, Y. Liu, Z. Wang, A. Molod, K. Rajendran, A. Kitoh, and R. Stratton, 2013: The Aqua Planet Experiment(APE): Response to changed meridional SST fields. *J. Meteor. Soc. Japan*, 91A, 57-89 [doi:10.2151/jmsj.2013-A03](https://doi.org/10.2151/jmsj.2013-A03).
- [25] Yamada, T. J., **M.-I. Lee**, M. Kanamitsu, H. Kanamaru, 2012: Diurnal Characteristics of Rainfall over the Contiguous United States and Northern Mexico in the Dynamically Downscaled Reanalysis Dataset (US10). *J. Hydrometeor.*, 13, 1142–1148. [doi: http://dx.doi.org/10.1175/JHM-D-11-0121.1](http://dx.doi.org/10.1175/JHM-D-11-0121.1).
- [24] Jiang, X., D.E. Waliser, D. Kim, M. Zhao, K.R. Sperber, W. F. Stern, S.D. Schubert, G.J. Zhang, W. Wang, M. Khairoutdinov, R. B. Neale, and **M.-I. Lee**, 2012: Simulation of the

- intraseasonal variability over the Eastern Pacific ITCZ in climate models. *Clim. Dyn.*, 39, 3, 617-636. DOI 10.1007/s00382-011-1098-x.
- [23] **Lee, M.-I.**, S. D. Schubert. and **D. Kim**, 2011: Representaton of Tropical Storms in the Northwestern Pacific by the Modern-Era Retrospective Analysis for Research and Applications. *Asia-Paific J. Atmos. Sci.*, 47, 245-253, DOI:10.1007/s13143-011-0013-z
- [22] Frierson, D. M. W., D. Kim, I.-S. Kang, **M.-I. Lee**, J. Lin, 2011: Structure of AGCM-Simulated Convectively Coupled Kelvin Waves and Sensitivity to Convective Parameterization. *J. Atmos. Sci.*, 68, 26–45. doi: <http://dx.doi.org/10.1175/2010JAS3356.1>.
- [21] Matsui, T., D. Mocko, **M.-I. Lee**, W.-K. Tao, M. J. Suarez, and R. A. Pielke Sr., 2010: Ten-year climatology of summertime diurnal rainfall rate over the conterminous U.S. *Geophys. Res. Lett.*, **37**, L13807, doi:10.1029/2010GL044139.
- [20] **Lee, M.-I.**, I. Choi, W.-K. Tao, S. D. Schubert, I.-S. Kang, 2010: Mechanisms of diurnal precipitation over the US Great Plains: A cloud resolving model perspective. *Clim. Dyn.*, **34**, 419-437, doi 10.1007/s00382-009-0531-x.
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- [18] Bell, T. L., J.-M. Yoo, and M.-I. Lee, 2009: Note on the weekly cycle of storm heights over the SE U.S., *Journal of Geophysical Research*, **114**, D15201, doi:10.1029/2009JD012041.
- [17] Gutzler, D., L. N. Long, J. Schemm, M. Bosilovich, J. Chern, J. C. Collier, M. Kanamitsu, P. Kelly, D. Lawrence, **M.-I. Lee**, R. Lobato S., B. Mapes, K. Mo, A. Nunes, E. Ritchie, J. Roads, S. B. Roy, S. Schubert, H. Wei and G. Zhang, 2009: Simulations of the 2004 North American Monsoon circulation: NAMAP 2. *J. Climate*, **22**, 6716-6740.
- [16] **Lee, M.-I.**, M. J. Suarez, I-S. Kang, I. M. Held, and D. Kim, 2008: A moist benchmark calculations for atmospheric general circulation models. *J. Climate*, **21**, 4934-4954.
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