

September

Volume 3, Issue 1
Summer Edition

Works presented in this issue occurred from May – August 2019



Publications

Borque, P., K.J. Harnos, S.W. Nesbitt, and G.M. McFarquhar (2019), Improved parameterization of ice particle size distributions using uncorrelated mass spectrum parameters; results from GCPEX. *J. Appl. Meteor. Climatol.*, <https://doi.org/10.1175/JAMC-D-18-0203.1>

Camargo, S.J., J. Camp, R.L. Elsberry, P.A. Gregory, P.J. Klotzbach, C.J. Schreck, A.H. Sobel, M.J. Ventrice, F. Vitart, Z. Wang, M.C. Wheeler, M. Yamaguchi, and R. Zhan (2019), Tropical cyclone prediction on subseasonal time-scales. *Tropical Cyclone Research and Review*, accepted August 2019

Chowdhury, S., S. Dey, S. Guttikunda, A. Pillarisetti, K.R. Smith, and L. Di Girolamo (2019), Indian air quality standard is achievable by completely mitigating emissions from household sources alone. *Proceed. Nat. Acad. Sci.*, <https://doi.org/10.1073/pnas.1900888116>.

Chug, Divyansh and F. Dominguez (2019), Isolating the Observed Influence of Vegetation Variability on the Climate of La Plata River Basin, *J. Climate*, <https://doi.org/10.1175/JCLI-D-18-0677.1>.

Gray, K., and J. Frame (2019) Investigating the Transition from Elevated Multicellular Convection to Surface-based Supercells during the Tornado Outbreak of 24 August 2016 Using a WRF Model Simulation. *Wea. Forecasting*, 34, 1051-1079, <https://doi.org/10.1175/JCLI-D-18-0209.1>.

Kristovich, D.A.R., E. Takle, G.S. Young, and A. Sharma (2019), 100 Years of Progress in Mesoscale Planetary Boundary Layer Meteorological Research. In *American Meteorological Society 100-Year Anniversary Monograph.*, in press. Early Online Release: <https://doi.org/10.1175/AMSMONOGRAPHS-D-18-0023.1>.

Mallinson, H.M. and S.G. Lasher-Trapp (2019), An Investigation of Hydrometeor Latent Cooling upon Convective Cold Pool Formation, Sustainment, and Properties. *Mon. Wea. Rev.*, 147, 32053222, <https://doi.org/10.1175/MWR-D-18-0382.1>.

Markus, M., Cai, X., and Sriver, R. L. (2019), Extreme floods and droughts under future climate scenarios, *Water*, 11(8), 1720.

Riemer, N., and A. Ault (2019), The diversity and complexity of atmospheric aerosol, *Eos*, 100, <https://doi.org/10.1029/2019EO124333>.

Schraufnagel, D.E., J.R. Balmes, S. De Matteis, B. Hoffman, W.J. Kim, R. Perez-Padilla, M. Rice, A. Sood, A. Vanker, and D.J. Wuebbles (2019), Health benefits of air pollution reduction. *Annals of American Thoracic Society*, in press.

Shou, C., N. Riemer, T. B. Onasch, A. J. Sedlacek, A. T. Lambe, E. R. Lewis, P. Davidovits, M. West (2019), Mixing state evolution of agglomerating particles in an aerosol chamber: Comparison of measurements and particle-resolved simulations, *Aerosol Sci. Technol.*, <https://doi.org/10.1080/02786826.2019.1661959>

Trapp, R. J., K. A. Hoogewind, and S. Lasher-Trapp (2019), Future Changes in Hail Occurrence in the United States Determined through Convection-Permitting Dynamical Downscaling. *J. Clim.*, 32, 5493–5509, <https://doi.org/10.1175/JCLI-D-18-0740.1>

Tridon, F., A. Battaglia, A., R. J. Chase, F. J. Turk, J. Leinonen, J., S. Kneifel, K. Mroz, J. Finlon, A. Bansemer, S. Tanelli, A. J. Heymsfield, and S. W. Nesbitt (2019), The microphysics of stratiform precipitation during OLYMPEx: compatibility between triple-frequency radar and airborne in situ observations. *Journal of Geophysical Research: Atmospheres*, 124. <https://doi.org/10.1029/2018JD029858>

Publications Continued

Trumbore, S., A. Barros, E. Davidson, B. Ehlmann, J. Famiglietti, M. Hudson, T. Illangasekare, S. Kang, T. Parsons, P. Rizzoli, V. Salters, B. Stevens, D. Wuebbles, P. Zeitler, and T. Zhu (2019), AGU Advances goes Online. EOS.

Vega-Westhoff, B., Sriver, R. L., Hartin, C. A., Wong, T. E., & Keller, K. (2019), Impacts of observational constraints related to sea level on estimates of climate sensitivity. *Earth's Future*, 7, 677- 690. <https://doi.org/10.1029/2018EF001082>

Yang, Zhao and F. Dominguez (2019), Investigating land surface effect on the moisture transport over South America with a moisture tagging model, accepted, *J. Climate*

Presentations



Dominguez, F., "Land-Atmosphere Interactions over Southern South America and Their Links to Extreme Convective Systems", NCAR, Boulder, CO, Jul 2019.

Dominguez, F., "Tracking Water in the Atmosphere and Terrestrial Systems; Challenging Assumptions about Hydrologic Processes", Bjerknes Centre for Climate Research, Bergen, Norway, Jul 2019.

Dominguez, F., "Main Features of the North American Monsoon", Sao Paulo, Brazil, Aug 2019.

Elkins C. M., D. A. Hence, "Weather warning processes in Argentina during RELÁMPAGO 5th Conference on Weather Warnings and Communication", San Diego, CA, 13 June 2019.

Garg, P., S.W. Nesbitt, T. J. Lang, G. Priftis, T. Chronis, J. D. Thayer, D. A. Hence, "Identification and Characterization of Tropical Atmospheric Cold Pools using Space-borne Scatterometer, Precipitation and Modeling", 18th AMS Mesoscale Processes Conference, Savannah, GA, 29 July-2 Aug 2019

Garg, P., S.W. Nesbitt, T. J. Lang, G. Priftis, T. Chronis, J. D. Thayer, D. A. Hence, "Identification and Characterization of Tropical Atmospheric Cold Pools using Space-borne Scatterometer, Precipitation and Modeling", NASA Ocean Vector Winds Science Team Meeting, Portland, ME, 29-31 May 2019

Gray, K., and J. Frame, "Impact of Vertical Vorticity Generated along Convergence Boundaries and Stream-wise Vorticity Currents on Near-surface Vortex Intensity within Simulated Supercells. Preprints," 18th Conf. on Mesoscale Processes, Savannah, GA, 29 July- 2 Aug 2019.

Grover, M., R. May, Z. Bruick, "Converting Ugly Text to Beautiful Maps: Adding METAR Support in MetPy", Unidata Summer Internship End-of-Summer Seminar, Boulder, CO, 31 Jul 2019.

Kristovich, D., "Convective storm evolution over the Laurentian Great Lakes with respect to meteotsunami-producing conditions", speaker and co-organizer, 1st World Conference on Meteotsunamis, Split, Croatia, 8-11 May 2019.

Nesbitt S. W., "RELAMPAGO". Pacific Northwest National Laboratory, Richland, WA, August 2019

Nesbitt, S. W., Garg, P., T.J. Lang, G. Priftus, and T. Chronis, "The diurnal cycle of convectively generated cold pools in the Maritime Continent and surrounding seas", NASA Ocean Vector Winds Science Team Meeting, Portland, ME, 29-31 May 2019

Presentations Continued

Nesbitt, S. W., J. Mulholland, J. Mulholland, I. Singh, L. E. R. Zea, P. Borque, K. L. Rasmussen, R. S. Schumacher, A. K. Rowe, L. A. McMurdie, J. Marquis, P. Salio, M. D. L. M. A. Imaz, M. Cancelada, H. Bechis, and A. C. Varble, "Mesoscale Flows Leading to Convective Initiation, Upscale Growth, and Heavy Precipitation As Observed during RELAMPAGO-CACTI". 18th AMS Conference on Mesoscale Processes, Savannah, GA. 29 July- 2 Aug 2019.

Riemer, N., J. Curtis, M. West, "Quantifying spatial and temporal variation of aerosol mixing state using a particle-resolved regional aerosol model", Invited presentation at the 102nd Canadian Chemistry Conference and Exhibition (CCCE2019), Québec City, Canada, 3-7 Jun 2019.

Singh I., S. Nesbitt, C. Davis. "Numerical simulations of convection initiation over the Sierras de Córdoba mountains in Argentina", 18th Conference on Mesoscale Processes, Savannah, GA, 29 Jul-2 Aug 2019.

Striver, R. L., "Extreme temperature in downscaled climate model products", Penn State University, University Park, PA, May 2019

Striver, R. L., "The response of tropical cyclone activity to increasing CO₂ in the Community Earth System Model (CESM)", NCSA Blue Waters Symposium for Petascale Science and Beyond, Sunriver, OR, June 2019.

Trapp, R. J., "Implementation and use of a global nonhydrostatic model (MPAS) for extended prediction", Blue Waters Symposium, Sunriver, Oregon, June 2019.

Villegas Bravo J. and Y. Zhan, "NASA Multi-Angle Imager for Aerosols (MAIA) Level 2 Cloud Mask", MAIA Science Team Meeting , Cal Tech, Pasadena CA, 3 Jun. 2019.

Wang, Z., "Exploring the Key Features of Tropical Cyclogenesis", Shanghai Typhoon Institute, Shanghai, China, July 2019

Wang, Z., "Variability of Tropical Cyclone Activity: A Global Perspective", 8th COAA International Conference on Atmosphere, Ocean, and Climate Change, Nanjing, China, July 2019

Wang, Z., "Variability of Tropical Cyclone Activity: A Global Perspective", Fudan University, Shanghai, China, July 2019

Wuebbles, D., "Assessment of Climate Change Impacts on the Great Lakes: 2019", Meeting of the Great Lakes Mayors, Sheboygan, WI, 6 Jun 2019.

Wuebbles, D., "Assessment of Climate Impacts on the Great Lakes", U.S. Congress (two talks, one to House and one to Senate), Washington, DC, 9 Jul 2019.

Wuebbles, D., "Climate Change: The Science, Why We should Care, and What We All Can Do", Aurora, IL, 22 Jun 2019.

Wuebbles, D., "Impacts of Climate Change on the Great Lakes", Deer Park, IL, 15 Jul 2019.

Wuebbles, D., "Impacts of Climate Change on the Great Lakes", Great Lakes Cruise, 28 Jul 2019.

Wuebbles, D., "The 4th National Climate Assessment: Science, Impacts, and Potential Solutions", Keynote talk at the Workshop on Food, Energy, and Water Systems. Las Cruces, NM, 13-14 Aug 2019.

Wuebbles, D., "The CURES Center", Meeting with the Metropolitan Mayors Caucus, Chicago, IL, 26 Jun 2019.

Presentations Continued

Wuebbles, D., "The Science of Climate Change: The Challenges Facing Humanity. The International Economic Forum", Conference of Montreal, Montreal, Canada, 12 Jun 2019.

Wuebbles, D., and S. Sanyal, "Evolving Air Quality Under the Changing Climate: Enhanced Understanding through Blue Waters", Blue Waters Annual Symposium, Sunriver, Oregon, 2-6 Jun 2019.

Wuebbles, D., "Climate Change: The Science, Why We should Care, and What We All Can Do", Illinois Central College, Peoria, IL, 29 May 2019.

Activities and Awards



Bob Rauber was awarded The Charles Franklin Brooks Award for outstanding service Atmospheric Meteorological Society.

David Kristovich participated In the "Assessing Climate Risks to Midwest Infrastructure Workshop" at Argonne National Laboratory from July 25-26, 2019.

David Kristovich participated in the "CURES Connections Workshop" at the Discovery Partners Institute in Chicago, IL.

David Kristovich participated in the American Meteorological Society Publications Commission Meeting on May 28-30. He serves as Editor-in-Chief of the Journal of Applied Meteorology and Climatology.

Donald J. Wuebbles was elected to the Editorial Board for new journal, AGU Advances, June 2019.

Donald J. Wuebbles completed a new book on 'Downscaling Techniques for High-Resolution Climate Projections: From Global Change to Local Impacts' to be published by Cambridge University Press.

Donald J. Wuebbles co-organized a workshop sponsored by NSF on Sustainable Urban Systems: Predictive, Interconnected, Resilient, and Evolving. Northwestern University, Chicago, IL, July 16-17, 2019.

Donald J. Wuebbles organized a workshop sponsored by 4 U.S. Agencies on Workshop on Urban Scale Processes and their Representation in High Spatial Resolution Earth System Models. Event was held at Argonne National Laboratory, May 22-24, 2019.

Donald J. Wuebbles organized a workshop sponsored by NSF on CURES Connections Workshop: New Voices and Paths to Urban Sustainability.. The event was held at Discovery Partners Institute, Chicago, August 7-8, 2019.

Francina Dominguez was awarded the Ascent Award by the American Geophysical Union.

Itinderjot Singh won second place for Student Posters at the 18th Conference on Mesoscale Processes in Savannah GA in August 2019.

Jeff Trapp wrote an Op-Ed Article for Newsweek, June 2019.

Activities and Awards Continued



Max Grover recently was elected as a student representative on the American Meteorological Society Environmental Information Processing Technologies (EIPT) Committee.

Max Grover was a student representative for the NSF Funded Mind the Gap Workshop, focused on identifying solutions for preparing students to work in the private sector. This was hosted in Boulder, Colorado at NCAR

Nicole Reimer was an invited participant at the EPA Review paper writing workshop on "Acidity in the Atmosphere: Particles and Clouds"

Nicole Riemer was an invited participant at the "The State of Acidity in the Atmosphere Workshop", EPA, RTP Campus on May 30 & 31.

Zhuo Wang attended the US CLIVAR Summit Meeting in August of 2019.

Outreach Activities



David Kristovich helped organize and participated in a workshop on responses to coastal changes in a changing climate with emergency management and other decision-makers from several communities in northeast Illinois. This workshop was headed by the ISGS under funding from the Illinois-Indiana Sea Grant Program

Max Grover Co-taught a Python workshop for Unidata at SUNY-Albany's Atmospheric Science department

Job Opportunities

Web media, Illinois State Climatologist Office, ISWS/PRI/Univ. Illinois. Develop articles for the Illinois State Climatologist blog, web, and twitter accounts on current events in Illinois Climate. <https://blogs.illinois.edu/view/7426/802176>

Department of Atmospheric Sciences @ UIUC

Department of Atmospheric Sciences
3070 Natural History Building
1301 W Green St. MC-104
Urbana, IL 61801
217-333-2046
atmos-sci@mx.uillinois.edu

Atmos.illinois.edu

For Inquiries about the newsletter contact
Joe Jeffries - jeffris2@illinois.edu



*Welcoming our incoming 2019 Graduate Student Cohort
David Lafferty, Matthew Woods, Jiacheng Ye, Maxwell Grover, Tobias
Ross, Megan Varcie*



ATMOSPHERIC SCIENCES
School of Earth, Society, and Environment

Announcements



Upcoming Events

- Seminar Schedule
- 9/10 Sandra Yuter
- 9/17 Ryan Sullivan
- 9/24 Jessica Gasparik
- 10/1 Kaiyu Guan
- 10/3 David McConnell
- 10/8 Ashish Sharma

RELAMPAGO Campaign

The RELAMPAGO Data Analysis workshop will be held Nov 19-Nov 22, 2019 at the Ciudad Universitaria of the University of Buenos Aires.

University of Buenos Aires and Illinois Collaboration

The University of Illinois and the University of Buenos Aires now have a MOU that will facilitate student and faculty visits between the two organizations

MSCAR

3rd annual Midwest Student Conference on Atmospheric Research, 5-6 October 2019

Undergraduate and graduate students are invited to this cross - disciplinary conference hosted at the University of Illinois at Urbana -Champaign. Registration deadline is 15 Sept. For more information, visit: www.atmos.illinois.edu/mscar

Call for Briefing Submissions

Continue to submit your publications, presentations, activities, and awards for the month, beware of format changes <https://forms.illinois.edu/sec/518191>

