**WEDNESDAY, 14 DECEMBER**

A31A-04Climatology of the vertical profiles of polarimetric radar variables and retrieved microphysical parameters in continental / tropical MCSs and landfalling hurricanes
Alexander Ryzhkov and Jiaxi Hu, Cooperative Institute for Mesoscale Meteorological Studies, University of Oklahoma, Norman, OK

- *Wednesday, 14 December 2022*
- *08:30 - 08:40*
- *Online Only*

A32C-1430The Sensitivity of Mesoscale Convective System Tracking Algorithms to Detection Thresholds and Data Resolution
Ross D Dixon, University of Nebraska Lincoln, Department of Earth and Atmospheric Sciences, Lincoln, NE, Thomas Galarneau, University of Oklahoma Norman Campus, Norman, OK, Xubin Zeng, University of Arizona, Department of Hydrology and Atmospheric Sciences, Tucson, AZ, Hui Su, NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, and Amir Ouyed Hernandez, University of Arizona, Department of Hydrology and Atmospheric Sciences, Tucson, AZ

- *Wednesday, 14 December 2022*
- *09:00 - 12:30*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

A32D-1433The Behaviors of Intraseasonal Cloud Organization during DYNAMO/AMIE
Naoko Sakaeda, University of Oklahoma Norman Campus, Norman, OK, and Giuseppe Torri, University of Hawai‘i at Mānoa, Atmospheric Sciences, Honolulu

- *Wednesday, 14 December 2022*
- *09:00 - 12:30*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

GC32F-0667Applying Convolutional Neural Network (CNN) Classification of WorldView-3 Satellite Imagery to Distinguish Vegetation Species at Treeline in Rocky Mountain National Park
Laurel Sindewald[1], Matthew Cross[2], Ted A Scambos[3], Ryan Lagerquist[4], Peter Anthamatten[5] and Diana Tomback[1], (1)University of Colorado Denver, Integrative Biology, Denver, CO, (2)University of Colorado Denver, Denver, CO, (3)University of Colorado, Boulder, CIRES, Earth Science and Observation Center, Boulder, CO, (4)University of Oklahoma, Norman, OK, (5)University of Colorado Denver, Geography and Environmental Science, Denver, CO

- *Wednesday, 14 December 2022*
- *09:00 - 12:30*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

GC32F-0678 - Mapping Eucalyptus Plantation in Guangxi, China Using PALSAR-2, Sentinel-2, and Landsat Images in 2020
Chenchen Zhang[1], Xiangming Xiao[2], Yuanwei Qin[3] and Xuebin Yang[1], (1)University of Oklahoma Norman Campus, Norman, OK, (2)Department of Microbiology and Plant Biology, Center for Spatial Analysis, University of Oklahoma, Norman, OK, (3)University of Oklahoma, Department of Microbiology and Plant Biology, Norman, OK

- *Wednesday, 14 December 2022*
- *09:00 - 12:30*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

GC32F-0687Using Satellite Observations to Understand Urban Expansion Dynamics of the West Africa Urban System
Andrews Korah, Michael C Wimberly and Michael R Glessner, University of Oklahoma Norman Campus, Geography and Environmental Sustainability, Norman, OK

- *Wednesday, 14 December 2022*
- *09:00 - 12:30*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*
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GC32G-0699Probabilistic Precipitation Estimation with the GOES16 Advanced Baseline Imager: A Machine Learning Approach

Shruti Ashok Upadhyaya, University of Oklahoma, Advanced Radar Research Center (ARRC), Norman, OK, Pierre-Emmanuel Kirstetter, University of Oklahoma, School of Meteorology and School of Civil Engineering and Environmental Science, Norman, OK, and Robert Joseph Kuligowski, NOAA Center for Satellite Applications and Research, Silver Springs, MD

- *Wednesday, 14 December 2022*
- *09:00 - 12:30*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

H32AAdvances in Machine Learning for Earth Science: Observation, Modeling, and Applications III Oral

Yixin Wen, University of Florida, Department of Geography, Ft Walton Beach, FL, Guoqiang Tang, University of Saskatchewan, Centre for Hydrology, Saskatoon, SK, Canada, Mengye Chen, The University of Oklahoma, Norman, OK, and Phu Nguyen, University of California, Irvine, Department of Civil and Environmental Engineering, Irvine, CA

- *Wednesday, 14 December 2022*
- *09:00 - 10:30*
- *McCormick Place - E450b (Lakeside, Level 4)*

S32C-0272Investigating the Effects of Permeability and Porosity on Reservoir Deformation and Pore Pressure Evolution at Geothermal Fields

Ganiyat O Shodunke and Junle Jiang, University of Oklahoma Norman Campus, School of Geosciences, Norman, OK

- *Wednesday, 14 December 2022*
- *09:00 - 12:30*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

T32E-0221Characterizing Spatial Patterns and Timescales of Early Postseismic Deformation of Megathrust Earthquakes

Segun Bodunde and Junle Jiang, University of Oklahoma Norman Campus, School of Geosciences, Norman, OK

- *Wednesday, 14 December 2022*
- *09:00 - 12:30*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

T32A-01Comparing fault healing in laboratory experiments to repeating earthquakes: A case study of Prague, Oklahoma, U.S.A.

Kristina Okamoto[1], Heather M Savage[1], Elizabeth S Cochran[2], Emily E Brodsky[3], Brett M Carpenter[4] and Jack Sullivan[1], (1)University of California Santa Cruz, Earth and Planetary Sciences, Santa Cruz, CA, (2)U.S. Geological Survey, Earthquake Science Center, Pasadena, CA, (3)University of California Santa Cruz, Earth and Planetary Sciences, Santa Cruz, CA, (4)University of Oklahoma, School of Geosciences, Norman, OK

- *Wednesday, 14 December 2022*
- *09:01 - 09:11*
- *McCormick Place - S103ab (South, Level 1)*

A32B-02 - Exploring ARM's Shortwave Spectral Measurements to Quantify Cloud and Aerosol Radiative Effects Invited Paper

Laura Riihimaki, Cooperative Institute for Research in Environmental Sciences, Boulder, CO, Connor J. Flynn, University of Oklahoma, School of Meteorology, Norman, OK, and Allison C McComiskey, Brookhaven National Laboratory, Environment and Climate Sciences Department, Upton, NY

- *Wednesday, 14 December 2022*
- *09:11 - 09:21*
- *McCormick Place - E258 (Lakeside, Level 2)*

Relationships Between Lidar Aerosol Extinction and Backscatter Coefficients and Cloud Concentration Nuclei (CCN) Number Concentrations for Different Aerosol Types (Invited)

Emily Lenhardt[1], Jens Redemann[2], Lan Gao[2], Feng Xu[3], Sharon P Burton[4], Brian Cairns[5], Richard Anthony Ferrare[4], Chris A Hostetler[6], Athanasios Nenes[7], Snorre Stamnes[4], Mary Kacarab[8] and Jenny Wong[9], (1)University of Oklahoma Norman Campus, Norman, OK, (2)University of Oklahoma, School of Meteorology, Norman, OK, (3)University of Oklahoma, School of Meteorology, Norman, OK, (4)NASA Langley Research Center, Hampton, VA, (5)NASA Goddard Institute for Space Studies, New York, NY, (6)NASA Langley Research Center, Hampton, (7)Ecole Polytechnique Federale de Lausanne, School of Architecture, Civil and Environmental Engineering (ENAC), Laboratory of Atmospheric Processes and their Impacts (LAPI), Lausanne, Switzerland, (8)University of California Riverside, Riverside, CA, (9)Mount Allison University, Sackville, NB, Canada

- *Wednesday, 14 December 2022*
- *09:40 - 09:45. McCormick Place*
- *AGU Central Career Center Pod - Hall A (South, Level 3)*

A32B-05 - A more transparent infrared window

Eli Jay Mlawer, Atmospheric and Environmental Research, Lexington, MA, Jeana Mascio, Atmospheric and Environmental Research Lexington, Lexington, MA, David D Turner, NOAA Global Systems Laboratory, Boulder, CO, Vivienne Payne, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, Connor J. Flynn, University of Oklahoma, School of Meteorology, Norman, OK and Robert Pincus, Columbia University, Lamont-Doherty Earth Observatory, Palisades, NY.

- *Wednesday, 14 December 2022*
- *09:41 - 09:51*
- *McCormick Place - E258 (Lakeside, Level 2)*

H32E-07How land surface characteristics influence the development of flash drought

Lauren Lowman, Wake Forest University, Engineering, Winston-Salem, NC, Jordan I Christian, University of Oklahoma, School of Meteorology, Norman, OK and Eric D Hunt, Atmospheric and Environmental Research, Lexington, MA

- *Wednesday, 14 December 2022*
- *10:00 - 10:10*
- *McCormick Place - E352 (Lakeside, Level 3)*

H32J-05Using machine learning to improve multi-wavelength spaceborne radar precipitation retrievals

Stephen W Nesbitt[1], Alfonso Ladino[2], Randy Chase[3], Greg M McFarquhar[4], Robert Rauber[5] and Larry Di Girolamo[5], (1)University of Illinois at Urbana Champaign, Atmospheric Sciences, Urbana, IL, (2)Urbana, Illinois, (3)University of Oklahoma, Norman Campus, Norman, OK, (4)Cooperative Institute for Severe and High-Impact Weather Research and Operations, University of Oklahoma, Norman, OK, (5)University of Illinois at Urbana-Champaign, Department of Atmospheric Sciences, Urbana, IL

- *Wednesday, 14 December 2022*
- *09:40 - 09:50*
- *McCormick Place - E270 (Lakeside, Level 2)*

A33A-05Multimodal Ice Crystal Size Distributions in Atlantic Coast Snowstorms: Results from IMPACTS 2020

Peter Brechner[1], Greg M McFarquhar[1], David J Delene[2], Christian Nairy[2], Kenneth Lee Thornhill II[3], Joseph Finlon[4], Darin W Toohey[5], Andrew Heymsfield[6], Aaron Bansemer[7], Robert Rauber[8], Emma Järvinen[9] and Martin Schnaiter[10], (1)Cooperative Institute for Severe and High-Impact Weather Research and Operations, University of Oklahoma, Norman, OK, (2)University of North Dakota, Atmospheric Sciences, Grand Forks, ND, (3)NASA Langley Research Center, Hampton, (4)University of Illinois at Urbana Champaign, Urbana, IL, (5)Univ Colorado, Boulder, CO, (6)National Center for Atmospheric Research, Boulder, CO, (7)NCAR, Boulder, CO, (8)University of Illinois at Urbana-Champaign, Department of Atmospheric Sciences, Urbana, IL, (9)Karlsruhe Institute of Technology, Karlsruhe, Germany, (10)Karlsruhe Institute of Technology, Institute of Meteorology and Climate Research, Atmospheric Aerosol Research (IMK-AAF), Karlsruhe, Germany

- *Wednesday, 14 December 2022*
- *11:40 - 11:50*
- *McCormick Place - E258 (Lakeside, Level 2)*

A33A-06 - The Horus All-Digital Phased Array Weather Radar – System Overview and First Results
Robert Dean Palmer[1], David Schvartzman[2], David Joseph Bodine[3], Boon Leng Cheong[4], Caleb Fulton[2], Pierre-Emmanuel Kirstetter[5], Jorge Salazar-Cerreno[6], Hjalti Sigmarsson[2], Mark B Yeary[7] and Tian-You Yu[6], (1)University of Oklahoma, Advanced Radar Research Center, Norman, OK, (2)University of Oklahoma Norman Campus, Norman, OK, (3)University of Oklahoma, Advanced Radar Research Center, Norman, OK, (4)University of Oklahoma Norman Campus, Norman, OK, (5)University of Oklahoma, School of Meteorology and School of Civil Engineering and Environmental Science, Norman, OK, (6)University of Oklahoma, Norman, OK, (7)University of Oklahoma, Advanced Radar Research Center, Norman, OK

- *Wednesday, 14 December 2022*
- *11:50 - 12:00*
- *McCormick Place - E258 (Lakeside, Level 2)*

H33D-06Future US floods under a warmer climate: frequency, flashiness, spatial extent, and seasonality
Zhi Li[1], Shang Gao[2], Mengye Chen[3], Jonathan J Gourley[4] and Yang Hong[2], (1)Univ of Oklahoma Norman Campus, Norman, OK, (2)Univ of Oklahoma, Civil Engineering and Environmental Science, Norman, OK, (3) Univ of Oklahoma, Norman, OK, (4)National Severe Storms Lab, Oklahoma City, OK

- *Wednesday, 14 December 2022*
- *11:50 - 12:00*
- *McCormick Place - E352 (Lakeside, Level 3)*

A34D - Boundary Layer Processes and Turbulence I Online Poster Discussion
Scott Salesky, Univ of Oklahoma, School of Meteorology, Norman, OK, Marco Giovanni Giometto, Columbia Univ, Civil Eng and Eng Mechanics, NY, Shane Mayor, Cal State University Chico, Earth and Environmental Sciences, Chico, CA, and Paola Crippa, Univ of Notre Dame, Civil and Environmental Eng and Earth Sciences, Notre Dame, IN

- *Wednesday, 14 December 2022*
- *13:45 - 14:45*
- *Online Only*

A35H-1550On the Detection of Cloud Seeding Effects with Radar in Winter Orographic Cloud Systems
Troy Zaremba[1], Robert Rauber[2], Jesse Loveridge[2], Larry Di Girolamo[2] and Greg M McFarquhar[3], (1)Univ of Illinois at Urbana Champaign, Atmospheric Sciences, Urbana, IL, (2)Univ of Illinois at Urbana-Champaign, Atmospheric Sciences, Urbana, IL, (3)Coop Inst for Severe and High-Impact Weather Research & Operations, Univ of Oklahoma, Norman, OK

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

A35H-1553Precipitation Microphysics in Tropical Cyclones: A Global Perspective
Noah Brauer, University of Oklahoma Norman Campus, Advanced Radar Research Center, School of Meteorology, Norman, OK, Pierre-Emmanuel Kirstetter, Univ of Oklahoma, School of Meteorology and Civil Engineering and Environmental Science, Norman, OK, Jeffrey B Basara, Univ of Oklahoma, School of Meteorology; School of Civil Engineering and Environmental Science, Norman, OK, Svetla M Hristova-Veleva, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, and Simone Tanelli, Jet Propulsion Laboratory, Pasadena, CA

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

A35K - Boundary Layer Processes and Turbulence II Poster Session
Scott Salesky, University of Oklahoma, School of Meteorology, Norman, OK, Marco Giovanni Giometto, Columbia University, Civil Engineering and Engineering Mechanics, New York, Shane Mayor, California State University Chico, Earth and Environmental Sciences, Chico, CA, and Paola Crippa, University of Notre Dame, Department of Civil and Environmental Engineering and Earth Sciences, Notre Dame, IN

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

A35K-1591The Effects of Nonstationary Forcings on Organization and Turbulent Transport in the Convective Boundary Layer

Robert Frost, University of Oklahoma, Norman, Oklahoma, Scott Salesky, University of Oklahoma Norman Campus, Norman, OK, and Brian R Greene, University of Oklahoma, School of Meteorology, Norman, OK

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

A35N-1652A Multi-Probe Automated Classification of Ice Crystal Habits During the IMPACTS Campaign

Julian Schima, Cooperative Institute for Severe and High-Impact Weather Research and Operations (CIWRO), University of Oklahoma, Norman, OK, Greg M McFarquhar, Cooperative Institute for Severe and High-Impact Weather Research and Operations, University of Oklahoma, Norman, OK, David J Delene, University of North Dakota, Atmospheric Sciences, Grand Forks, ND, Andrew Heymsfield, National Center for Atmospheric Research, Boulder, CO, Aaron Bansemer, NCAR, Boulder, CO, Martin Schnaiter, Karlsruhe Institute of Technology, Institute of Meteorology and Climate Research, Atmospheric Aerosol Research (IMK-AAF), Karlsruhe, Germany, Joseph Finlon, University of Illinois at Urbana Champaign, Urbana, IL, Emma Järvinen, Karlsruhe Institute of Technology, Karlsruhe, Germany and Fritz Waitz, Karlsruhe Institute of Technology, Institute of Meteorology and Climate Research, Karlsruhe, Germany

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

A35N-1659Particle Shattering of Tube-type Cloud Microphysical Probes

David J Delene[1], Christian Nairy[1], Nicholas Camp[2], Marwa Majdi[1], Andrew G Detwiler[3], Aaron Bansemer[4], Andrew Heymsfield[5], Greg M McFarquhar[6], Joseph Finlon[7], Robert Rauber[8] and Martin Schnaiter[9], (1)University of North Dakota, Atmospheric Sciences, Grand Forks, ND, (2)University of North Dakota, Atmospheric Sciences, Grand Forks, ND, (3)South Dakota School of Mines and Technology, Atmospheric and Environmental Sciences, Rapid City, SD, (4)NCAR, Boulder, CO, (5)National Center for Atmospheric Research, Boulder, CO, (6)Cooperative Institute for Severe and High-Impact Weather Research and Operations, University of Oklahoma, Norman, OK, (7)University of Illinois at Urbana Champaign, Urbana, IL, (8)University of Illinois at Urbana-Champaign, Department of Atmospheric Sciences, Urbana, (9)Karlsruhe Institute of Technology, Institute of Meteorology and Climate Research, Atmospheric Aerosol Research (IMK-AAF), Karlsruhe, Germany

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

A35O-1669The Performance of Filtered Leapfrog Schemes in Benchmark Simulations

Paul Williams, University of Reading, Reading, United Kingdom, Jerry M. Straka, University of Oklahoma, School of Meteorology, Norman, OK and Katharine M Kanak, Norman, OK

- *Wednesday, 14 December 2022*
- 14:45 - 18:15
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

H35P-1317Evaluation of the performance of IMERG from the precipitation event perspective in CONUS

Runze Li[1], Clément Guilloteau[2], Efi Foufoula-Georgiou[1,3] and Pierre-Emmanuel Kirstetter[4,5], (1)University of California Irvine, Department of Civil and Environmental Engineering, Irvine, CA, (2)University of California Irvine, Civil and Environmental Engineering, Irvine, CA, (3)University of California Irvine, Department of Earth System Science, Irvine, CA, (4)University of Oklahoma, Hydrometeorology and Remote Sensing Laboratory, Norman, OK, (5)NOAA/National Severe Storms Laboratory, Norman, OK

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

NS35B-0383Clay Volume Estimation Using Electrical Resistivity Tomography Utilizing ResIPy

John McKnight, Univ of Oklahoma, Norman, OK, and Sina Saneiyan, Univ of Oklahoma, School of Geosciences, Norman, OK

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

NS35A-0382Evaluation of Saltwater Intrusion using Electrical Resistivity and Geochemical Measurements in Brazoria County, Texas

Vanessa Rios Perez[1], Leah E Jackson[2], Kato T. Dee[1] and Sina Saneiyan[1], (1)Univ of Oklahoma, School of Geosciences, Norman, OK, (2)Oklahoma Geological Survey, Norman, OK

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall A (South, Level 3)*

GC35L-0830 - Large spatial variation and stagnation of cropland gross primary production increases the challenges of sustainable grain production and food security in China

Fang Liu, Univ of Oklahoma, Norman, OK, Xiangming Xiao, Microbiology and Plant Biology, Center for Spatial Analysis, Univ of Oklahoma, Norman, OK, Yuanwei Qin, Univ of Oklahoma, Microbiology and Plant Biology, Norman, OK, HuiMin Yan, CAS Chinese Academy of Sciences, Beijng, China, Jikun Huang, Peking University, Beijing, China, Xiaocui Wu, Univ of Illinois, Urbana-Champaign, IL, Yao Zhang, Peking University, Sino-French Institute for Earth System Science, Urban and Environmental Sciences, Beijing, China, Zhenhua Zou, Univ of Maryland College Park, Geographical Sciences, College Park, MD, and Russell Doughty, Univ of Oklahoma, GeoCarb Mission and the College of Atmospheric and Geographic Sciences, Norman, OK

- *Wednesday, 14 December 2022*
- *14:45 - 18:15*
- *McCormick Place - Poster Hall, Hall - A (South, Level 3)*

ED35A-02Is DEI Work Valued? A Survey of Geoscience Faculty

Morgan Woodle[1], Alisa Kotash[1], Joyeeta Bhattacharya[1], Megan Elwood Madden[1], Amy Cerato[1], Mashhad Fahs[1], Jane Irungu[1], Elinor R Martin[2], Lori Snyder[1] and Gerilyn S Soreghan[3], (1)Univ of Oklahoma, Norman, OK, (2)Univ of Oklahoma, School of Meteorology, Norman, OK, (3)Univ of Oklahoma, Norman, OK

- *Wednesday, 14 December 2022*
- *15:00 - 15:10*
- *McCormick Place - N426c (North, Level 4)*

ED35A-03Raising Our Expectations for DEI Work in Geoscience Faculty Evaluation Systems: An Insight Into Who Sustains This Work and How This Labor is Recognized and Rewarded

Alisa Kotash[1], Morgan Woodle[1], Joyeeta Bhattacharya[1], Megan Elwood Madden[1], Amy Cerato[1], Mashhad Fahs[1], Jane Irungu[1], Elinor R Martin[2], Lori Snyder[1] and Gerilyn S Soreghan[3], (1)Univ of Oklahoma, Norman, OK, (2)Univ of Oklahoma, School of Meteorology, Norman, OK (3)Univ of Oklahoma, Geology and Geophysics, Norman, OK

- *Wednesday, 14 December 2022*
- *15:10 - 15:20*
- *McCormick Place - N426c (North, Level 4)*

B35A-04 - Annual Forest Maps in the Contiguous United States during 2015-2017 from Analyses of PALSAR-2 and Landsat Images

Xiangming Xiao[1], Jie Wang[1], Yuanwei Qin[2], Jinwei Dong[3], Geli Zhang[4], Xuebin Yang[5] and Xiaocui Wu[6], (1)Univ of Oklahoma Norman Campus, Microbiology and Plant Biology, Norman, OK, (2)Univ of Oklahoma, Microbiology and Plant Biology, Norman, OK, (3)Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China, (4)China Agricultural University, College of Land Science and Technology, Beijing, China, (5)Univ of Oklahoma Norman Campus, Norman, OK, (6)Univ of Illinois, Urbana-Champaign, IL

- *Wednesday, 14 December 2022*
- *15:24 - 15:36*
- *McCormick Place - S405b (South, Level 4)*