

# A Cornucopia of Knowledge

## National Weather Center Presenters

at the

## American Meteorological Society

87<sup>th</sup> Annual Meeting

January 14 – 18, 2007

San Antonio, Texas

Date	Time	Presentation / Presenter / Session
Sunday, January 14 <sup>th</sup>		<p><i>Supporting Research Efforts through Enhanced Education and Hands-on Learning: Issues of Data Quality and Quantity</i> Lauren Bodenhamer, S. Postawko, M. Morrissey and M. Koeka – Poster Session</p> <p><i>SPaRCE (Schools of the Pacific Rainfall Climate Experiment): Fifteen Years of Integrating Research and Education</i> Melissa Koeka, S. Postawko, L. Bodenhamer and M. Morrissey – Poster Session</p> <p><i>OK-WARN: Oklahoma Weather Alert Remote Notification</i> Vincent T. Wood – Poster Session</p>
Monday, January 15 <sup>th</sup>	2:15 p.m.	<p><i>Creating Spatio-Temporal Tornado Probability Forecasts</i> V. Lakshmanan, K. L. Ortega and T. M. Smith – Session 2: Artificial Intelligence and Forecasting: Part I</p>
	2:30 p.m.	<p><i>Improved Accuracy in Measuring Precipitation with the NERON Network in New England</i> Cynthia R. Morgan, G. R. Essenberg, K. C. Crawford, and C. A. Fiebrich – Joint Poster Session 1: Observation and Datasets: Part I</p> <p><i>Storing and Organizing ARM Program Measurements Documentation for Data Quality Purposes</i> Kenneth E. Kehoe, R. A. Peppler, K. L. Sonntag, and S. T. Moore Joint Poster Session 1: Observation and Datasets: Part I</p> <p><i>Evolution of NWS Severe Weather Warning Polygons: Precise Threat Area Identification and Tracking</i> Gregory J. Stumpf, K. Scharfenberg, M. A. Magsig, K. L. Ortega, and V. Lakshmanan – Poster Session I</p> <p><i>Analysis of WRF and MM5 Mesoscale Model Forecasts to Distinguish Tornado Outbreaks from Primarily Nontornadoic Severe Weather Outbreaks</i> Chad M. Shafer, A. E. Mercer, M. B. Richman, L. M. Leslie, and C. A. Doswell, III – Poster Session I</p> <p><i>Spatial Coherence of Rainfall Variations Using the Oklahoma Mesonet</i> K. Margret Sturgis, D. J. Karoly and R. A. McPherson --</p>

Monday, January 15 <sup>th</sup> (continued)		<p>Joint Poster Session I: Climate Change: In Hydrometeorological Variables, Detection &amp; Attribution</p> <p><i>Comparison of Glacier-Inferred Temperatures with Observations and Climate Model Simulations</i> Diandong Ren, and D. J. Karoly --</p> <p>Joint Poster Session I: Climate Change: In Hydrometeorological Variables, Detection &amp; Attribution</p> <p><i>Assessment of the Severe Weather Environment in the Americas Simulated by Global Climate Models</i> Patrick T. Marsh, H. Brooks and D. J. Karoly --</p> <p>Joint Poster Session 2: Model Diagnostics and General Climate Variability</p>
	4:45 p.m.	<p><i>Initial Implementation of Super-Resolution Data on the NEXRAD Network</i> Sebastian M. Torres, C. D. Curtis –</p> <p>Session 2B: International Applications: Part II</p>
	5:00 p.m.	<p><i>Assessment of US Climate Variations Using the US Climate Extremes Index</i> Bryan A. Burkholder, D. J. Karoly --</p> <p>Session 2B: General Session on Climate Variability</p>
Tuesday, January 16 <sup>th</sup>	8:30 a.m.	<p><i>The National Severe Storms Laboratory Historical Weather Data Archives Data Management and Web Access System</i> Willa H. Zhu, D. M. Schultz, D. Kennedy, K. Kelleher, and N. Soreide --</p> <p>Joint Session 2: Joint Session between 19<sup>th</sup> Conference on Climate Variability and Change and 23 IIPS</p> <p><i>Understanding the Formation of Tornadoes Through Data Mining</i> Amy McGovern, A. Kruger, D. Rosendahl, and K. Droegemeier --</p> <p>Session 4: Applications of Artificial Intelligence</p>
	8:45 a.m.	<p><i>Non-Linear Computational Instability – Its Discovery and Initial Solutions: Early Triumphs for Numerical Meteorology and Professor Arakawa</i> Douglas K. Lilly –</p> <p>Session 1: Oral Presentations</p> <p><i>Implications of Changes in the Atmospheric Circulation on the Detection and Attribution of Regional Surface Air Temperature Trends</i> Qigang Wu and D. J. Karoly --</p> <p>Session 3: Detection and Attribution of Regional Climate Change</p>
	9:00 a.m.	<p><i>Multi-Sensor QPE in the National Mosaic and QPE (NMQ) System</i> Jian Zhang, K. Howard and M. Fang --</p> <p>Session 2: Hydrometeorological Remote Sensing</p>
	9:30 a.m.	<p><i>A QPE Analysis Using Portable Automated Research Micrometeorological Stations (PARMS) Deployed at the Tar Creek Superfund Site</i> Heather R. Campbell, D. R. Cheresnick and J. B. Basara –</p> <p>Session 2: Integrated Instrumentation and Networks for Climate Studies</p> <p><i>A Principal Component Analysis of Tornado Outbreaks</i></p>

Tuesday, January 16 <sup>th</sup> (continued)		Andrew E. Mercer, C. M. Shafer, M. B. Richman, C. A. Doswell, III, and L. Leslie -- Session 3A: Applications in Meteorology, Oceanography, Hydrology and Climatology
	11:30 am	<i>Societal Aspects of Tornado Warnings</i> Somer A. Erickson and H. Brooks -- Session 3: Weather and Society Integrated Studies (WAS*IS)
	1:15 p.m.	<i>Assimilation of Simulated CASA Radar Data of Varied Storm Types Using EnSRF for Convective Storm Analyses and Forecasts</i> Elaine S. Godfrey, K. Droegemeier, M. Xue, and M. Tong -- Session 3: Assimilation of Observations (Ocean, Atmosphere and Land Surface) into Models
	2:00 p.m.	<i>Enhanced, High-Density Severe Storm Verification Utilizing Google Earth</i> Travis M. Smith -- Session 4B: GIS Applications
	2:15 p.m.	<i>Devising an Online Collaborative Decision-Support GIS for Climate Monitoring Site Selection</i> William G. McPherson, Jr., M. Yuan and N. Benson -- Session 4B: GIS Applications
	3:30 p.m.	<i>A Continuous Field Approach to Using GIS to Model Weather RADAR Terrain Occultation</i> Dustin Howard and M. Yuan -- Session 4B: GIS Applications
	3:45 p.m.	<i>Using Multiple-Sensor Quantitative Precipitation Estimation for Flood Forecasting in the Lower Colorado River Basin</i> Beth Clarke, C. Barrere, M. Luna, and D. Yates -- Joint Session 2: Water Resource Issues Associated with Weather and Climate Change
	4:00 p.m.	<i>Flash Flood Prediction in Italy: Development and Testing of a New Capability</i> J. William Conway, C. Barrere, G. Formentini, L. Lago, A. Rossa, and M. Calza -- Joint Session 2: Water Resource Issues Associated with Weather and Climate Change  <i>Modeling Road Pavement Temperatures with Skin Temperature Observations from the Oklahoma Mesonet</i> Jessica M. Rathke, and R. A. McPherson -- Session 4A – Advances and Applications in Transportation Weather  <i>Native American Representation in Weather-Related Fields . . . An Opportunity for Science Program and Policy Success</i> Suzanne Van Cooten -- Session 1: Policy and Socio-Economic Research Methodology and Applications
	4:15 p.m.	<i>Effects of Evapotranspiration and Rainfall Fluxes on the Hydrologic Water Balance in the Arbuckle-Simpson Aquifer Region</i> Baxter E. Vieux, and C. Calderon -- Joint Session 2: Water Resource Issues Associated with Weather and Climate Change
	4:30 p.m.	<i>Multiple Imputation through Machine Learning Algorithms</i>

		Michael B. Richman, T. B. Trafalis and I. Adrianto -- Joint Session 3: Artificial Intelligence and Climate Applications
Wednesday, January 17 <sup>th</sup>	8:45 a.m.	<i>The Application of Climatic Data Sets in Calibrating Ensemble Guidance for the Prediction of Hazardous Weather</i> David R. Bright, M. S. Wandishin, S. J. Weiss, R. S. Schneider, and J. T. Schaefer -- Session 4: Prediction (Use of Climate Statistics in Forecasting)  <i>An Update on the NWS WSR-88D Level II Data Collection and Distribution Network and Plans for Changes</i> Timothy Crum, C. Horvat, S. D. Smith, T. Sandman, J. Casamento, P. Cragg, W. M. Blanchard, and M. J. Istok Session 5B: Radar Applications – Part 1
	9:00 a.m.	<i>Plans for Testing the Feasibility of Site-Specific Scanning Strategies for WSR-88Ds</i> Randy M. Steadham, and R. A. Brown -- Session 5B: Radar Applications – Part I
	9:15 a.m.	<i>Open Radar Data Acquisition (ORDA) Calibration Stability and Consistency</i> Nita K. Patel, RS Information Systems Inc., Norman, Oklahoma, Norman, OK; and A. D. Free, R. W. Macemon, G. W. Jim, and J. R. Cory -- Session 5B: Radar Applications – Part I
	9:30 a.m.	<i>An Overview of the Oklahoma City Urban Micronet Test Facility</i> Thomas E. Winning, Jr., B. G. Illston, M. M. Ferris, and J. B. Basara -- Session 5: Accuracy and Calibration of Instrumentation
	10:30 am	<i>Impacts of Wind Energy Farms on WSR-88D Operations and Policy Considerations</i> Richard J. Vogt, T. Crum, J. R. Reed, J. T. Snow, and R. D. Palmer -- Session 5B: Radar Applications – Part I
	11:00 am	<i>Warning Decision Support System – Integrated Information (WDSS-II) Progress and Plans</i> Kurt D. Hondl, V. Lakshmanan, T. M. Smith, and G. J. Stumpf -- Session 6: Interactive Processing Systems
	11:30 am	<i>An Examination of Central Gulf Coast Rainfall Quantities to Characterize the Hydrologic Impacts of Gulf of Mexico Tropical Systems</i> Suzanne Van Cooten -- Joint Session 3: Forecasting Water Cycle Components at Different Spatial and Temporal Scales
	1:45 p.m.	<i>Socio-Economic Impacts of Storm-Based Warnings</i> Elliott Jacks and J. T. Ferree -- Session 2: Characterizing and Communicating Policy and Socio-Economic Information
	2:15 p.m.	<i>Update on the National Weather Radar Testbed (Phased Array)</i> Douglas E. Forsyth, J. F. Kimpel, D. S. Zrnicek, R. Ferek, J. F. Heimmer, T. McNellis, J. E. Crain, A. M. Shapiro, R. J. Vogt, and W. Benner -- Session 7: Multifunction Phased Array Radar (MPAR)
	2:30 p.m.	<i>Forging a Public-Private Partnership Through Adult Education</i> Daphne S. LaDue, P. L. Heinselmann, E. R. Johnson, J. Toohey-Morales, P. W. Thomas, and E. A. Mahoney --

<p>Wednesday, January 17<sup>th</sup> (continued)</p>	<p>Poster Session 1: Policy and Socio-Economic Research Posters</p> <p><i>Observations of Three-Body Scattering Signatures with a Polarimetric and Conventional WSR-88D Radar</i> Darren R. Clabo and D. Zrnice -- Joint Poster Session 2: Observation and Datasets – Part II</p> <p><i>INumerical Simulations of the Electrification and Microphysics of the 22<sup>nd</sup> February 1993 TOGA COARE Tropical Squall Line Case</i> Alexandre Fierro, L. M. Leslie, E. R. Mansell, and J. Straka -- Joint Poster Session 2: Observation and Datasets – Part II</p> <p><i>A Large-Scale Qualitative Investigation of Emergency Managers' Strategies for Communicating Weather Information and Warnings to the Public</i> H. Dan O'Hair -- Poster Session 2: Applied Climate Poster Session #2</p> <p><i>Common Basedata Format Supports Research and Operational NEXRAD Radar Requirements</i> Michael H. Jain, B. Bumgarner, E. Forren, and S. D. Smith -- Poster Session 2: Poster Session II</p> <p><i>The Multi-Radar Storm Cell Identification and Tracking (MR-SCIT) Algorithm</i> Travis M. Smith, R. D. Sigler, G. J. Stumpf, and K. L. Ortega -- Poster Session 2: Poster Session II</p> <p><i>New Science for the WSR-88D: Testing a Major Mode on the SIGMET RVP8</i> Rick D. Rhoton, D. S. Saxion, R. L. Ice, D. A. Warde, and O. E. Boydston -- Poster Session 2: Poster Session II</p> <p><i>New Science for the WSR-88D: Implementing a Major Mode on the SIGMET RVP8</i> Darcy S. Saxion, R. D. Rhoton, R. L. Ice, D. A. Warde, O. E. Boydston, S. M. Torres, and G. Meymaris -- Poster Session 2: Poster Session II</p> <p><i>Clutter Mitigation Decision System Performance Evaluation in the WSR-88D</i> David A. Warde, R. L. Ice, R. D. Rhoton, D. S. Saxion, O. E. Boydston, D. S. Berkowitz, and M. Dixon -- Poster Session 2: Poster Session II</p> <p><i>Optimizing Clutter Filtering in the WSR-88D</i> Richard L. Ice, RS Information Systems, Inc., Norman, OK; and D. A. Warde, A. D. Free, R. D. Rhoton, D. S. Saxion, C. A. Ray, N. K. Patel, O. E. Boydston, D. S. Berkowitz, J. N. Chrisman, J. C. Hubbert, C. J. Kessinger, M. Dixon, and S. M. Torres -- Poster Session 2: Poster Session II</p> <p><i>A Method to Reduce the Clutter Filter Induced Data Bias by Improving the Vertical Application of WSR-88D Bypass Maps</i> Joe N. Chrisman and C. A. Ray --</p>
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<p>Wednesday, January 17<sup>th</sup> (continued)</p>		<p>Poster Session 2: Poster Session II</p> <p><i>Spectral Densities of Polarimetric Variables for Retrieving Winds and Determining Scatterer Types</i> Svetlana Bachmann and D. S. Zrnice -- Poster Session 2: Poster Session II</p> <p><i>Atmospheric Refractivity Observations Using the National Weather Radar Testbed</i> Boon Leng Cheong, R. D. Palmer, T.-Y. Yu, and C. D. Curtis -- Poster Session 2: Poster Session II</p> <p><i>A Data Quality Comparison of the WSR-88D Legacy Radar Data Acquisition (RDA) to the Open RDA (ORDA), in a Challenging Clutter Regime</i> Charles A. Ray and J. N. Chrisman -- Poster Session 2: Poster Session II</p> <p><i>WSR-88D ORDA Antenna Gain and Beamwidth Algorithms</i> Nita K. Patel, A. D. Free, O. E. Boydston, R. W. Macemon, R. L. Ice, and G. W. Jim -- Poster Session 2: Poster Session II</p> <p><i>An Investigation of ENSO-Related parameters Used to Predict Australian Tropical Cyclone Activity</i> Hamish A. Ramsay, K. H. Goebbert, M. Leplastrier, and L. M. Leslie -- Joint Poster Session 4: Climate and Extremes, Linking Weather and Climate</p> <p><i>Observations and Predictability of Tropical Cyclones in the Southwest Pacific Ocean</i> Kevin H. Goebbert, H. A. Ramsay, L. M. Leslie, and M. Leplastrier -- Joint Poster Session 4: Climate and Extremes, Linking Weather and Climate</p> <p><i>Quantifying the Influence of Environmental Conditions on the Effect of Winter Wheat</i> Cynthia A. Whittier and R. A. McPherson -- Joint Poster Session 4: Climate and Extremes, Linking Weather and Climate</p>
	<p>4:00 p.m.</p>	<p><i>Comparison of Storm Evolution Characteristics: The NWRT and WSR-88D</i> Pamela L. Heinselman, K. L. Manross and D. L. Priegnitz Session 7: Multifunction Phased Array Radar (MPAR)</p> <p><i>Can Regional Surface Warming Trends be Attributed to Anthropogenic Climate Change??</i> David J. Karoly -- Session 5: Detection and Attribution of Regional Climate Change II</p>
	<p>4:15 p.m.</p>	<p><i>Optimization of Weather Update Time and Data Quality Using Phased-Array Radar</i> Tian-You Yu, M. B. Orescanin, C. D. Curtis, D. S. Zrnice, and D. E. Forsyth --</p>

Wednesday, January 17 <sup>th</sup> (continued)		Session 7: Multifunction Phased Array Radar (MPAR)
	4:30 p.m.	<i>How Severe Storm Reports Are Increasing</i> Daniel McCarthy, NOAA/NWS/NCEP/SPC, Norman, OK; and J. T. Schaefer -- Session 5: Severe Storms: Coverage You Can Count on?
	4:45 p.m.	<i>Characteristics of Microburst Events Observed with the National Weather Radar Testbed Phased Array Radar</i> Travis M. Smith, P. L. Heinselman and D. Priegnitz -- Session 7: Multifunction Phased Array Radar (MPAR)  <i>The Enhanced Fujita Scale</i> Daniel McCarthy, J. T. Schaefer and C. Maier -- Session 5: Severe Storms: Coverage You Can Count On?
	5:00 p.m.	<i>The PACRAIN/PI-GCOS Automated Rain Gauge Initiative</i> Michael D. Klatt, M. L. Morrissey and J. S. Greene -- Joint Session 4: Global Earth Observations  <i>Beam Multiplexing on the NWRT: Looking Ahead</i> Christopher D. Curtis and T.-Y. Yu -- Session 7: Multifunction Phased Array Radar (MPAR)  <i>Storm-Based Warnings – Changes to NWS Warnings for the Digital Age</i> John T. Ferree, D. Freeman, E. Jacks, and J. M. Looney – Session 5: Severe Storms: Coverage You Can Count On?
5:15 p.m.	<i>A Theory for Phased-Array Weather-Radars to Measure Crossbeam Wind, Shear and Turbulence</i> Guifu Zhang and R. J. Doviak -- Session 7: Multifunction Phased Array Radar (MPAR)	
Thursday, January 18 <sup>th</sup>	8:30 a.m.	<i>An Analysis of the Oklahoma City Urban Heat Island</i> Jeffrey B. Basara, P. K. Hall, D. R. Cheresnick, and A. J. Schroeder -- Joint Session 3: Observations and Data Sets  <i>Target Tracking at the National Weather Radar Testbed: A Progress Report on Detecting and Tracking Aircraft</i> Mark Yeary, B. McGuire, D. Forsyth, W. Benner, G. Torok, and M. B. Yeary -- Session 8A: Radar Applications – Part II  <i>A New Paradigm for Mesoscale Meteorology: Grid and Web Service-Oriented Research and Education in LEAD</i> Kelvin Drogemeier, T. Baltzer, A. Wilson, M. Ramamurthy, and K. Lawrence -- Session 8B: Linked Environments for Atmospheric Discovery (LEAD)
	8:45 a.m.	<i>Update to the National Weather Radar Testbed Radar Control Interface</i> David Priegnitz and D. E. Forsyth -- Session 8A: Radar Applications – Part II
	9:00 a.m.	<i>Putting the Puzzle Together: Building a National Climate Services Partnership</i> Mark A. Shafer -- Joint Session 5: Intersection between Climate Change Policy

Thursday, January 18 <sup>th</sup> (continued)		and Economics  <i>Improving Angular Resolution Using Adaptive Processing for Multifunction Phased Array Radar</i> Khoi D. Le, R. D. Palmer, T.-Y. Yu, G. Zhang, S. M. Torres, and B. L. Cheong -- Session 8A: Radar Applications – Part II
	11:00 am	<i>An Operational Adaptive Radar Network – CASA's Integrative Project One</i> J. Brotzge, V. Chandrasekar, S. Hill, K. Hondl, B. Johnson, F. Lopez, E. J. Lyons, B. Philips, D. Westbrook, and M. Zink -- Session 8A: Radar Applications – Part II
	11:30 am	<i>A Brief Evaluation of Precipitation from the North American Regional Reanalysis</i> Melissa S. Bukovsky and D. J. Karoly -- Joint Session 3: Observations and Data Sets
	2:00 p.m.	<i>A New Latent Heat Flux Parameterization for Land Surface Models</i> Christopher M. Godfrey, D. J. Stensrud and L. M. Leslie -- Session 6A: Land-Atmosphere Interactions 3
	2:15 p.m.	<i>Maximum Wind Gust Return Periods for Oklahoma Using the Oklahoma Mesonet</i> Andrew J. Reader – Joint Session 3: Observations and Data Sets
	2:45 p.m.	<i>Hydrological Evaluation of Radar Rainfall Retrievals for Urban Flood Forecasting</i> Baxter E. Vieux, S. Bell, R. Nichols, and P. B. Bedient -- Session 6B: Weather to Climate Scale Flood Forecasting
	3:30 p.m.	<i>The Environments of Severe Thunderstorms: Global Distribution and Temporal Changes</i> Harold Brooks -- Session 5: Comparisons between High-Resolution Regional and Global Models for Studying Climate
	4:30 p.m.	<i>Statewide Monitoring of the Mesoscale Environment: A Technical Update on the Oklahoma Mesonet</i> Kenneth C. Crawford, R. A. McPherson, C. A. Fiebrich, and R. L. Elliott -- Joint Session 3: Observations and Data Sets