

VORTEX-USA 10-year Celebration and Workshop Agenda

March 30 - April 1, 2026
National Weather Center
120 David L. Boren Blvd., Norman, OK 73072

Participants will:

- Hear from NOAA leadership on NOAA's severe weather mission and importance of investments/engagement with the community.
- Learn about the 10-year history of VORTEX-SE and VORTEX-USA.
- Understand important impacts various projects and research have had on the weather enterprise.
- Provide input on the direction and vision for VORTEX-USA.

All in-person presentations will be held in Room 1313 of the National Weather Center (David L. Boren Auditorium).

Link for remote participants and presenters: meet.google.com/jqv-qmsz-ckx

Monday, March 30

8:30-10:30a	Arrive, check-in, receive name tags 8:30-10:00am (OPTIONAL): Ribbon-cutting ceremony for NSSL mobile radars (circle drive) <ul style="list-style-type: none">- Remarks from NOAA, OAR and NSSL leadership- Hands-on tours of instrumentation
10:30-10:55a	Room 1313: Welcome & celebration from NSSL, NOAA and NWS leadership <ul style="list-style-type: none">- <i>DaNa Carlis, Director, NOAA/OAR/NSSL</i>- <i>Neil Jacobs, Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator</i>- <i>Steve Thur, Assistant Administrator for Oceanic and Atmospheric Research and Acting NOAA Chief Scientist</i>- <i>Ken Graham, Director, NWS (remote)</i>- <i>Pam Heinselman, Deputy Director for Science, NOAA/OAR/NSSL</i>
10:55-11:10a	Overview of VORTEX-USA, past workshop summaries, and workshop goals <ul style="list-style-type: none">- <i>Mike Coniglio, Physical Scientist, NOAA/OAR/NSSL and VORTEX-USA Acting Program Lead</i>
11:10-12:10a	History and highlights of specific VORTEX initiatives from the insiders (20 min for each talk, no scheduled Q&A)

	<ul style="list-style-type: none"> - <u>Ten Years of Physical Science Achievements in the VORTEX-SE/VORTEX-USA Program</u>, <i>Tony Lyza, Physical Scientist, NOAA/OAR/NSSL</i> - <u>Social Science in the Tornado Space: A Look at VORTEX Program Projects</u>, <i>Kenzie Krocak, Research Scientist and Social Science Team Lead, NOAA/OAR/NSSL</i> - <u>Reaching populations at risk: VORTEX-SE Outreach & Engagement Program</u>, <i>Tracie Sempier, VORTEX-SE Engagement Coordinator, Mississippi-Alabama Sea Grant Consortium</i>
12:10a-12:15p	Group photo roundup <ul style="list-style-type: none"> - <i>James Murnan, Media Specialist, NOAA/OAR/NSSL</i>
12:15-1:15p	Lunch (NWC atrium) provided by CIWRO
1:15-2:15p	Session 1: State of tornado forecast operations and SBS initiatives in the NWS (20 min for each talk, no scheduled Q&A) <ul style="list-style-type: none"> - <u>The State of Tornado Forecasting at SPC</u>, <i>Rich Thompson, Chief of Forecast Operations, Storm Prediction Center</i> - <u>The State of Tornado Forecasting in the NWS (remote)</u>, <i>Randy Bowers, Lead, NWS National Severe Program</i> - <u>State of Social Science Research within the NWS</u>, <i>JiSun Lee, Director, Service Delivery Evaluation Program NWS</i>
2:15-2:35p	Break
2:35-3:55p	Session 2: Retrospective on VORTEX-SE/USA supported research and paths forward (20 min for each talk, no scheduled Q&A) <ul style="list-style-type: none"> - <u>The VORTEX-SE Era: What have we accomplished, and where should we go?</u>, <i>Kevin Knupp, Professor Emeritus and Principal Research Scientist, University of Alabama Huntsville</i> - <u>Sticks in the sticks: A look back over ten years of observing during VORTEX-SE/USA</u>, <i>Chris Weiss, Professor of Atmospheric Science, Texas Tech University, Lubbock, TX</i> - <u>From Exploratory Research to Impacts and Capability Building: My Journeys with VORTEX-Supported Social Science Research</u>, <i>Daphne LaDue, Senior Research Scientist, Center for Analysis and Prediction of Storms, University of Oklahoma</i> - <u>Hazard Threat and Risk: Research, Archetypes, and Insights (remote)</u>, <i>Laura Myers, Senior Research Professor and Director of Resilience,</i>

	<i>Center for Risk and Insurance Research, University of Alabama Tuscaloosa</i>
3:55-4:10p	Break
4:10-5:10p	<p>Session 3: Social and behavioral science and hazard mitigation (12 min + 3 min Q&A for each talk)</p> <ul style="list-style-type: none"> - <u>The Rural Region Readiness Integrated Warning Team Workshop: Gathering "Insider" Insights</u>, <i>Elizabeth Marold, Research Scientist; University of Oklahoma; Center for Analysis and Prediction of Storms (CAPS)</i> - <u>Threats-in-Motion: Recent Updates with End User Testing</u>, <i>Holly Obermeier, Research Associate and CIWRO Social Science Research Team Lead, CIWRO, NOAA/OAR/NSSL</i> - <u>Identifying Emergency Management Practices and Challenges Through Post-Event Fieldwork</u>, <i>David Hogg, Research Associate, University of Oklahoma, Institute for Public Policy Research and Analysis (IPPR) & CIWRO</i> - <u>Integrating Housing Resilience into Hazard Mitigation Planning</u>, <i>Brooke Troxmondo, Planning & Policy Specialist, Smart Home America</i>
5:10-5:15p	Wrap-up and adjourn day 1

Tuesday, March 31

8:30-8:35a	Welcome back
8:35-9:35a	<p>Session 4: Southeast U.S. severe storm environments and QLCS forecast challenges (12 min + 3 min Q&A for each talk)</p> <ul style="list-style-type: none"> - <u>Updates to QLCS Tornado Nowcasting</u>, <i>Todd Murphy, Professor of Atmospheric Science, University of Louisiana Monroe</i> - <u>Recipe for Confusion: Challenges and Limitations of the Ingredients-Based QLCS Tornado Forecast Paradigm</u>, <i>Matt Brown, NSF AGS Fellow, NOAA/OAR/NSSL</i> - <u>QTor: A New Parameter for Forecasting QLCS Tornado Potential</u>, <i>Kelsey Britt, Postdoctoral Fellow, CIWRO, NOAA/OAR/NSSL</i>

	<ul style="list-style-type: none"> - <u>2,562 Soundings Later: Examining Tornadoic Environments in the Southeast</u>, Rachel Miller, Research Scientist, CIWRO, NOAA/OAR/NSSL
9:35-10:35a	<p>Session 5: Applications of novel observing systems and probabilistic guidance (12 min + 3 min Q&A for each talk)</p> <ul style="list-style-type: none"> - <u>Longitudinal Perspectives on Pre-Convection Environments from a Decade of Profiling</u>, Elizabeth Smith, Research Meteorologist, NOAA/OAR/NSSL - <u>Spatiotemporal signals of mixed-phase draft modulation in lightning mapping data</u>, Eric Bruning, Professor of Atmospheric Science, Texas Tech University - <u>Lightning activity in PERiLS storms: Research observations to operational realizations</u>, Vanna Chmielewski, Acting Collaborative Observations, Research, and Engineering (CORE) Branch Director, NOAA/OAR/NSSL - <u>Probabilistic Hazard Information (PHI): Development, Verification, and Operational Applications</u>, Kristin Calhoun, Research Scientist and Severe/Convective Probabilities and Impact Team Lead, NOAA/OAR/NSSL
10:35-11:00a	Break
11:00a-12:15p	<p>Session 6: Tornado science (12 min + 3 min Q&A for each talk)</p> <ul style="list-style-type: none"> - <u>Heavy LIFTing: Observing the Low-Level Internal Flow in Tornadoes</u>, Jeff Snyder, Research Meteorologist, NOAA/OAR/NSSL - <u>High-Resolution Numerical Simulations of Tornadoes and Interactions with Residential Buildings</u>, David Bodine, Associate Professor, School of Meteorology, University of Oklahoma - <u>Wind Engineering in the VORTEX Program Continuum: Past, Present and Future</u>, Frank Lombardo, Associate Professor, Civil and Environmental Engineering, University of Illinois - <u>The ASCE/SEI/AMS Wind Speed Estimation Standards Committee as an R2O Path</u>, Jim LaDue, Chair of the ASCE/SEI/AMS Wind Speed estimation Committee, NOAA/NWS/Operations Training - <u>From Tornado Hazard Characteristics to Tornado Loads on Buildings: Latest Science and Research Needs</u>, Marc Levitan, Lead Research Engineer, National Windstorm Impact Reduction Program, NIST

12:15-1:15p	LUNCH (NWC atrium) supported by CIWRO
1:15-2:30p	Session 7 (NWC atrium): Poster viewing and networking (see below for poster titles and presenters)
2:30-2:45p	Session 8a: Information and preparation for breakouts - Mike Coniglio, <i>Physical Scientist, NOAA/OAR NSSL and VORTEX-USA Acting Program Lead</i>
2:45-5:00p	Session 8b: Breakout groups meet, ~45 min each group
5:00p	Adjourn day 2

Wednesday, April 1

8:30-8:35a	Welcome Back
8:35-10:00a	Session 8c: Breakout group synthesizing
10:00-10:15a	Break
10:15-11:15a	Session 8d: Breakout group reports
11:15a-11:45a	Session 9: Open mic
11:45a-12:00p	Wrap-up and adjourn meeting

Poster Presentations

poster title	presenting author	presenting author job title & affiliation (how you want it to appear on the agenda)
Improved retrievals of thermodynamics profiles from infrared spectrometers in a high-moisture environment	Bianca Adler	Research Scientist, CIRES University of Colorado at Boulder and NOAA Physical Sciences Laboratory
Multi-year verification of HRRR and RAP dynamic and thermodynamic variables in the Southeast United States by in-situ and ground based remote sensing observations	Laura Bianco	Research Scientist, CIRES University of Colorado at Boulder and NOAA Physical Sciences Laboratory
Use of Ensemble Sensitivity Analysis and	Michael	Graduate Research Assistant, Texas

Sensitivity-Based Ensemble Subsetting to Identify Early Indicators of Convective Storm Rotation	Brown	Tech University
High-Frequency Radar Measurements of Spatiotemporally Varying Low-Level Vertical Wind Shear Near Supercells from the TORUS and LIFT Campaigns	Julia Buhrman	Graduate Research Assistant, Texas Tech University
Heterogenous surface roughness effects on Tornadoes	Dominic Candela	Graduate Research Assistant, OU/CIWRO/NSSL
Variability in High Shear Low CAPE Environments in the Southeast U.S.	Zach Chalmers	NOAA/Storm Prediction Center
A decade of VORTEX-USA tornado research at Purdue	Dan Dawson	Associate Professor, Department of Earth, Atmospheric, and Planetary Sciences, Purdue University
Examining the Rapid Thermodynamic Environmental Evolution of the 26 February 2023 Tornadoic QLCS	Maddy Diedrichsen	Graduate Research Assistant, OU/CIWRO/NSSL
Retrieving the Full Life Cycle of a Significantly Tornadoic Supercell Using Recent Innovations in Storm-Scale Data Assimilation	Billy Falleti	Graduate Research Assistant, OU/CIWRO/NSSL
Mobile Doppler Lidar Observations of Tornadoes during the Low-Level Internal Flow of Tornadoes (LIFT) Experiment	Josh Gebauer	Research Scientist, OU/CIWRO/NSSL
Radar Signatures Associated with Quasi-Linear Convective System Mesovortices	Charles Kuster	Research Meteorologist, NOAA/OAR/NSSL
Tornado Tales: Results from Data Collection in 2025	Taylor Maciag	Research Associate, OU/CIWRO/NSSL
Lightning Spatial Variability and Cloud Top Signatures in QLCS Mesovortices During VORTEX-SE	Bruno Medina	Postdoctoral Research Assistant, Texas Tech University
Building Towards a Climatology of Vorticity Worms via TTUKa Radar Observations	Josiah Melke	Graduate Research Assistant, Texas Tech University
Influence of Tornado-Building Interaction on Near-Surface Wind Characteristics	Sung Min Moon	Graduate Research Assistant, University of Illinois Urbana-Champaign
A CM1-Based Investigation of High-Shear, Low-CAPE QLCSs, Supercells, and their Interactions	Josh Ostaszewski	Graduate Research Assistant, Texas Tech University
A comparison between Tornadoic and Nontornadoic QLCS Mesovortices using a Multiradar Analysis of Operational and Experimental MRMS Products	Tyler Pardun	Graduate Research Assistant, OU/CIWRO/NSSL
What Parameters in Southeast US Severe Storm Environments Contribute to Increased Tornadoic	Lauren Pounds	Graduate Research Assistant, OU/CIWRO/NSSL

Potential vs. Rotational Potential?		
Comparing EVAD-Derived Wind Fields in Tornadoic and Non-Tornadoic Supercell Thunderstorms	Alec Prosser	Graduate Research Assistant, OU/CIWRO/NSSL
High-Resolution Pressure Observations of a Vortex-Like Signature in a Thunderstorm	David Roegner	Graduate Research Assistant, University of Illinois Urbana-Champaign
Simulated Convection in Tornadoic and Non-Tornadoic Environments from Collaborative Field Efforts in the SE U.S.	Bobby Saba	Graduate Research Assistant, OU/CIWRO/NSSL
Climatology of Tropical Cyclone Tornado Warning Skill	Thea Sandmael/Kristin Calhoun	Research Scientist, OU/CIWRO/NSSL and Research Meteorologist, NOAA/OAR/NSSL
Adapting a Low-Cost Eddy-Recycling Method for Injecting Turbulence into High-Resolution Tornado Simulations	Alex Schueth	Postdoctoral Fellow, OU/ARRC
Comparative Analysis of Polarimetric Signature Tracking Algorithm Performance in Tornadoic and Nontornadoic Supercells	Jacob Segall	Storm Processes Research and Knowledge (SPARK) Team Lead, OU/CIWRO/NSSL
Properties of Cold Pools from PERiLS 2022-23	Miranda Silcott	Research Associate, OU/CIWRO/NSSL
TTUKa Mobile Doppler Radar Analysis of Tornado Structure from the Low-Level Internal Flow of Tornadoes (LIFT) Experiment	Ethan Steward	Graduate Research Assistant, Texas Tech University
How lightning illustrates QLCS kinematics	Sarah Stough	Research Scientist, OU/CIWRO/NSSL
Uncrewed Aerial Systems for Tornado Damage Assessment	Elizabeth Tirone/Lydia Bunting	Research Scientist & Research Associate, OU/CIWRO/NSSL
Tornado, 龙卷风, cơn Lốc Xoáy: Advancing Multilingual Tornado Communication through the NWS AI Language Translation Program	Joseph Trujillo-Falcón	Assistant Professor, University of Illinois Urbana-Champaign
Assessment of the "Three Ingredients Method" using Radiosonde Observations	Max Ungar	National Weather Service, Weather Forecast Office, Norman, Oklahoma
Verification of WoFS Near-Surface Environments and Updraft Helicity in the Southeastern US	Andy Wade	NOAA/Storm Prediction Center
Influence of Terrain on Tornado Characteristics	Guirong Yan	Professor, Department of Civil, Architectural and Environmental Engineering at Missouri University S&T
Advancing Warn-on-Forecast Through Assimilation of Emerging Boundary Layer Observations	Nusrat Yussouf	Senior Research Scientist, CIWRO, University of Oklahoma
Multi-vortex Tornadoes and Their Wind Effects on	Yi Zhao	Graduate Research Assistant,

Buildings		Department of Civil, Architectural and Environmental Engineering at Missouri University S&T
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