

NOAA National Severe Storms Laboratory



saving
lives & property



NOAA National Severe Storms Laboratory enhances NOAA's capabilities to provide information for more accurate and timely forecasts and warnings of hazardous weather events to save lives, protect property and enhance economic viability.

NSSL supports NOAA's National Weather Service by conducting research to advance our understanding of weather processes and improve forecasting and warning tools used by forecasters. Severe weather is NSSL's passion and mission.

NSSL conducts field projects aimed at improving our understanding of various aspects of the atmosphere and severe weather to improve NOAA's ability to perform its mission. For example, the lab aims to improve its understanding of how environmental factors characteristic of the southeastern United States affect the formation, intensity, structure, and path of tornadoes in the southeast through the field project the Verification of the Origins of Rotation in Tornadoes EXperiment-Southeast, or VORTEX-SE. In addition, more than 50 researchers deployed to the Great Plains in 2019 for TORUS, or Targeted Observation by Radars and UAS of Supercells, to understand the relationships between severe thunderstorms and tornado formation.

NSSL employs meteorologists, hydrologists, physicists, engineers, computer specialists and social scientists to meet their mission to move experimental tools and techniques into operations.

For more information, contact:

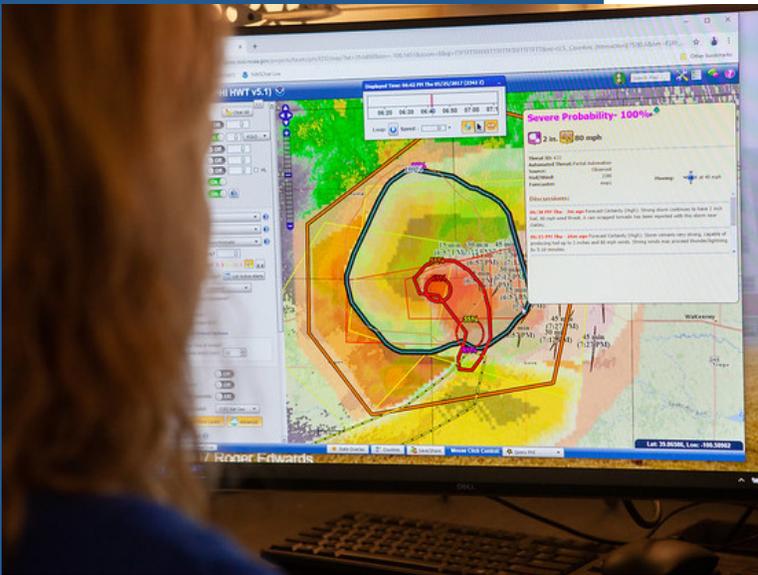
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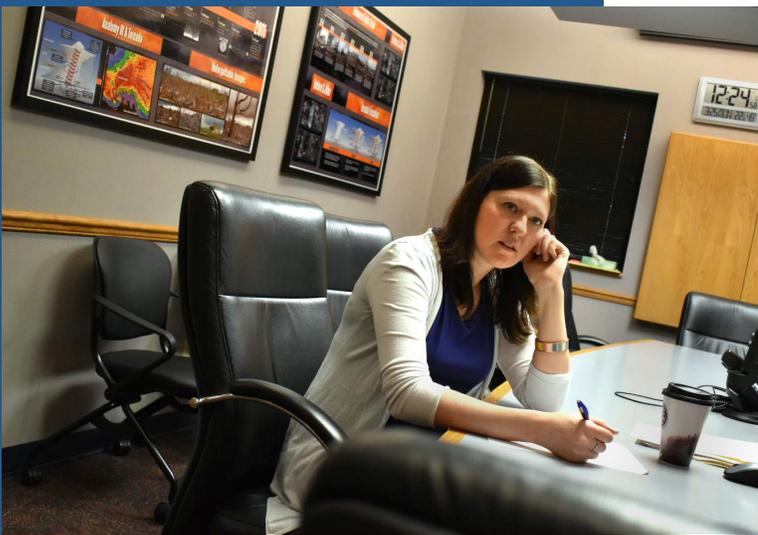
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The United States experienced several flooding events in 2019, including the Washington, D.C. metro area. The NWS issued the first ever flash flood emergency for D.C. on July 8, as intense rainfall resulted in hundreds of water rescues and damage to businesses. NSSL's Multi-Radar Multi-Sensor System, with improved rainfall estimation rate, and the Flooded Locations And Simulated Hydrographs Project, or FLASH, proved indispensable to forecasters. This research-to-operations success is making a significant, tangible difference to improving NWS capabilities to warn the public in advance and NSSL continues to advance research in the physical and social science.



The Forecasting a Continuum of Environmental Threats, or FACETS paradigm, is a proposed next-generation hazardous weather watch and warning framework. It is modern, flexible, and designed to communicate clear and simple hazardous weather information to serve the public. It aims to provide continuous probabilistic hazard information guidance on environmental hazards from time frames of multiple weeks through less than one hour. The effective communication is being studied via social science and behavioral sciences.



Kim Klockow-McClain is a researcher on The Verification of the Origins of Rotation in Tornadoes EXperiment-Southeast, or VORTEX-SE project. In April she visited Lee County, Alabama, one month after a tornado killed 23 people. She is studying how emergency management agencies, broadcast meteorologists and NWS forecasters work together in an attempt to impact the public, how they operate individually and how current practices ultimately affect severe weather safety messages the public receives in the United States. She hopes her research will lead to a better understanding of the needs of vulnerable communities to reduce tornado deaths.

