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# Announcement—08/14/2008

## VORTEX2: Read All About It!

The world's greatest tornado road show is coming once again to the Great Plains! In spring 2009, the second Verification of the Origins of Rotation in Tornadoes Experiment (VORTEX2) will find world-famous tornado researchers and students in exotic vehicles on the hunt for the elusive tornado. VORTEX2 is planned to be the most ambitious attempt ever to explore tornado origin, structure and evolution, with the goal of gaining new understandings that will increase the accuracy of forecasts and warnings.

With approximately 50 scientists and 30 vehicles expected to participate, this will be the largest field campaign that researchers from the National Weather Center, a collaborative facility housing University of Oklahoma and National Oceanic and Atmospheric Administration weather and climate experts, have hosted in years.

The first Verification of the Origins of Rotation in Tornadoes Experiment (VORTEX1) took place in the spring of 1994 and 1995. VORTEX1 was a highly coordinated field phase designed to investigate tornadogenesis, tornado structures, and the relationship between tornadoes and their parent thunderstorms in association with the larger-scale environment. Although instruments were not as sophisticated at that time, findings were groundbreaking in atmospheric studies. Findings include the awareness of sensitivity to supercells from the surrounding environment, the high-percentage of low-level mesocyclones that contain

circulation, and the kinematic similarities between tornadic and nontornadic supercells on the mesocyclone scale.

With increased radar availability and experienced operators, new in situ observing systems, greater communication and coordination capabilities, as well as advanced data analysis techniques, researchers now believe they are ready to tackle questions that surfaced following VORTEX1.

VORTEX2 will provide the opportunity to collect a comprehensive dataset of wind and thermodynamic measurements with a high-spatial and temporal resolution, spanning several scales of motion, designed to further knowledge of the how, when and whys of tornado formation. It will also work toward understanding why certain thunderstorms produce tornadoes while most do not, how to better forecast tornadoes, and the relationship of tornadic winds to the damage caused.

Instruments planned to be used include: mobile radars, deployable instrumentation, tornado-PODs and Sticknets, an unmanned instrumented aerial system, mobile ballooning facilities and mobile mesonets.

The VORTEX2 steering committee, who have coordinated the project and will oversee deployment, include: Howie Bluestein, University of Oklahoma; Don Burgess, Cooperative Inst. for Mesoscale Meteorological Studies, OU; David Dowell, National Center for Atmospheric Research; Paul Markowski, Pennsylvania State University; Yvette Richardson, Pennsylvania State University; Erik Rasmussen, Rasmussen Systems; Lou Wicker, National Oceanic and Atmospheric Administration; and Joshua Wurman, Center for Severe Weather Research.

***For more in depth information and status updates on VORTEX2, see [www.VORTEX2.org](http://www.VORTEX2.org).***