

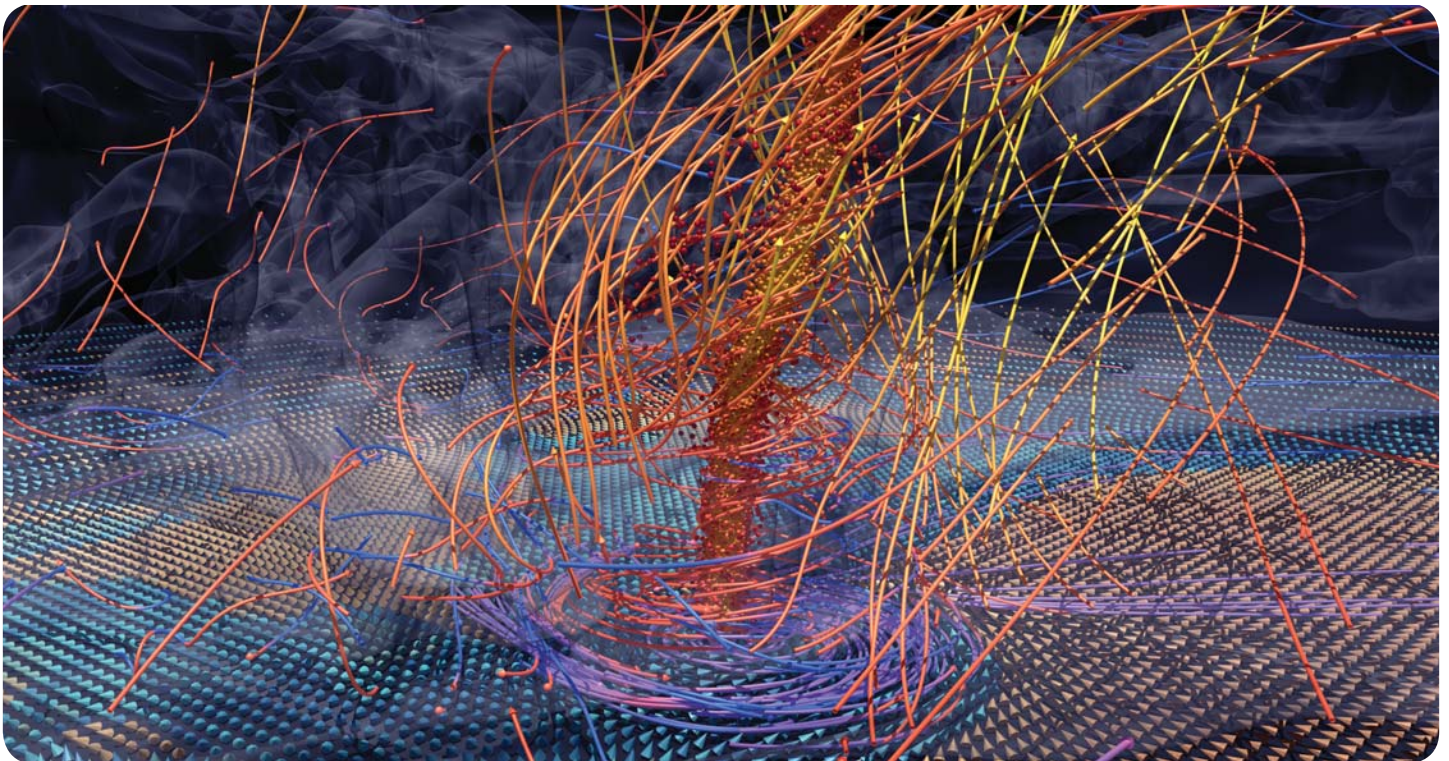
NSF is unique—the only federal agency with a mandate to support U.S. fundamental research and education across all fields of science and engineering. Enhancing the nation’s research infrastructure and collaborative environments is one critical component of this mandate.

This document provides an overview of the various types of programs and mechanisms by which NSF achieves excellence in supporting the national science and engineering research infrastructure. It includes descriptions of many current and planned instruments, facilities and centers, with evidence of the frontier research they enable. Where appropriate, the story of transition from research to the market place and examples of excellence in educational programs and public outreach are also provided. Our continued support for cutting-edge instrumentation, unique national facilities, shared cyberinfrastructure and centers—along with the scientists, engineers, teachers and students who use them—will be essential to enabling the discoveries, innovation and learning that will help the U.S. meet critical national needs.

A world class research infrastructure enables frontier discovery and innovation, trains future generations of scientists and engineers, prepares the workforce needed to keep the 21st century knowledge economy growing, and ensures that the U.S. science and engineering enterprise is a global leader.

To learn more about NSF-supported research infrastructure, visit our Web site at <http://www.nsf.gov>.

CONCLUSION



This visualization, created in 2004 from data generated by a tornado simulation calculated on the computing cluster of the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign, shows the tornado by spheres colored according to pressure. Orange and blue tubes represent the rising and falling airflow around the tornado. NCSA's Blue Waters facility will be able to detail even more complex simulations. Credit: Bob Wilhelmson, NCSA and the University of Illinois at Urbana-Champaign; Lou Wicker, National Oceanic and Atmospheric Administration's National Severe Storms Laboratory; Matt Gilmore and Lee Counce, University of Illinois atmospheric science department. Visualization by Donna Cox, Robert Patterson, Stuart Levy, Matt Hall and Alex Betts, NCSA

