



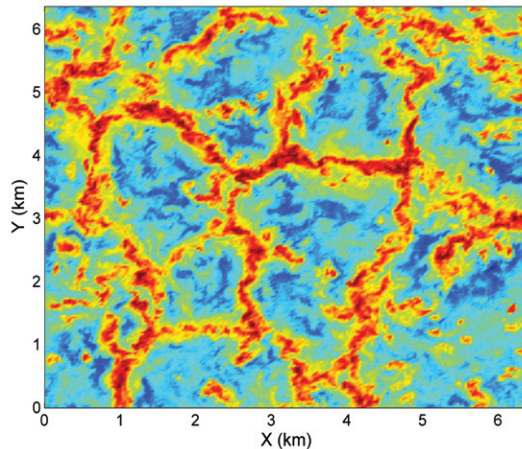
**SUPPORT** Teaching assistantships are available for qualified applicants. These assistantships provide the opportunity for students to acquire instruction skills while further developing their understanding of topics in atmospheric science. Out-of-state tuition and fees are waived.

Research assistantships are available for qualified applicants, and allow students to participate in research projects within the department. Out-of-state tuition and fees are waived.

**APPLICATION PROCEDURE** Admission to the graduate degree program is granted by the Dean of the Graduate School and is contingent upon acceptance by the department. Each applicant seeking admission to the Atmospheric Science program should apply through the Office of Graduate Admissions and the Atmospheric Science Group. Visit our website at [www.atmo.ttu.edu](http://www.atmo.ttu.edu) and follow the prospective student link on the left hand side to access the ATMO application information and tools.

Applications for assistantships for the fall semester should be received by February 15.

Large Eddy Simulation of a Free-Convective Boundary Layer



**CONTACT** Questions regarding admission to the ATMO program should be directed to:

Atmospheric Science Graduate Advisor  
Texas Tech University  
Box 42101 | Lubbock, Texas 79409-2101  
806.742.3113  
[atmo@ttu.edu](mailto:atmo@ttu.edu)



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Department of Geosciences

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**FOR OVER 30 YEARS**, the Atmospheric Science Group at Texas Tech University has been dedicated to the research of the lower atmosphere. An extensive array of observational and modeling facilities is available to students and faculty, permitting the exploration of a wide variety of meteorological phenomena. The field facilities are routinely used for data collection in proximity to extreme severe weather events, including tornadoes and hurricanes.

Degrees offered include Master of Science in Atmospheric Science and Ph.D. in Geosciences. Graduates from the program have many employment opportunities available, including positions at universities, government research labs, the National Weather Service, and private forecasting firms.

**MAJOR RESEARCH THRUSTS** Topics of interest include, but are not limited to, the following:

- Supercell thunderstorms, tornadogenesis, tornado structure
- Mesoscale convective systems
- Tropical meteorology
- Radar meteorology
- Convection initiation
- Dust storms
- Numerical weather prediction/data assimilation
- Boundary layer/wind power meteorology
- Turbulence modeling
- Wind engineering
- Lightning



- The High Performance Computing Center (HPCC) – Several linux clusters available for the development of numerical simulations. Visualization facilities are also accessible, including a virtual reality theatre.
- 200 m Tower – An instrumented tower sampling meteorological variables (30 Hz) at ten levels.
- Mobile Mesonet – Vehicle-mounted instrument racks providing standard atmospheric measurements in proximity to severe weather phenomena.
- The Measurements and Analysis Laboratory – An NSF-sponsored lab dedicated to topics in instrumentation and signal processing.
- Vaisala Sounding System – Radiosonde platform used to support operations and research.
- Vertical radar wind profiler – A 900 MHz lower-troposphere wind profiler providing routine data at 30-minute intervals.

**FACILITIES** immediately available to students and faculty for research and teaching include:

- The Texas Tech Ka-band Radars (TTUKa) — Two Ka-band mobile high-frequency Doppler radars to analyze the fine-scale structure of atmospheric phenomena.
- StickNet — A large array of portable, rapidly-deployable atmospheric measurement stations.
- VorTECH - A 10 m diameter chamber used to simulate the velocity and pressure profiles of scaled tornado-like vortices.
- West Texas Mesonet – Approximately 60 instrumented sites across northwest Texas providing measurements of atmosphere and soil properties at an average inter-station spacing of 50 km.

