



Getting Geographic: Tracking Violent Storms

Martha's Study Corner

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Springtime may bring the promise of April showers and May flowers. But it also brings the possibility of extreme weather, including violent thunderstorms and tornadoes.

Most countries experience tornadoes, but they occur more frequently in the United States, east of the Rocky Mountains, than anywhere else on Earth. On average, almost 1000 tornadoes touch down in the U.S. each year, leaving in their wake destruction and sometimes death.

How Tornadoes Form

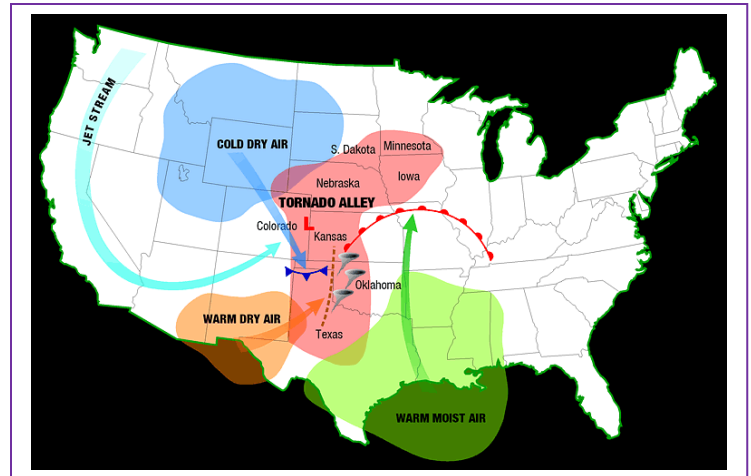
Thunderstorms form when warm, moist air collides with an eastward moving cold front. These storms often produce strong winds, damaging hail, and even tornadoes. A tornado is a rapidly rotating column of air that extends from the base of a thunderstorm to the ground. A tornado's characteristic funnel shape is visible because of water droplets, dust, and other debris that are caught up in the swirling air.

Measuring the Force of a Tornado

The force of a tornado is measured using the Fujita Scale, which ranks tornadoes based on the level of damage caused by the storm. The scale ranges from F-0 for a storm that causes light damage to F-5 for a storm that leaves incredible damage.

Mapping Tornado Frequency in the U.S.

- a) Distribute to students copies of **Activity 16 – Handout #1** Have student examine the data in the handout to identify which states average the highest number of tornadoes each year.



Courtesy NOAA National Severe Storms Laboratory

- b) Next, distribute blank U.S. maps [available at <http://education.nationalgeographic.com/education/xpeditions/atlas/>] Have students construct choropleth maps showing the frequency of tornadoes by state in the U.S.
- c) Explain to students that areas with a high occurrence of tornadoes have been given the nicknames of “Tornado Alley” and “Dixie Alley.” Have them refer to their maps to locate these two regions that experience many tornadoes each year.

Extending the Activity

Divide the class into three groups and assign each group one of the following research topics. When students have completed their research, have each group report back to the class.

- i. Structure of a tornado
- ii. Fujita Scale
- iii. Tornado Alley/Dixie Alley

See the NOAA Severe Storm web site and the Tornado Project for more information.