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Scientists, thrill-seekers on trail of fearsome 'supertwisters'

By Robert Davis, USA TODAY

For much of the nation, spring brings tornadoes, and storm chasers dash from state to state trying to understand and anticipate the deadly twisters.



This 'supertwister' with a wind speed of 260 mph devastated Manchester, S.D., last June.

By Roger Hill, WGBH

Because weather radar primarily sees the tops of storms, understanding what pushes a funnel cloud to the ground requires that it be seen from the ground up. (**Related:** [USATODAY.com Tornado resource page](#))

A *Nova* documentary, *Hunt for the Supertwister* (PBS, Tuesday, 8 ET), follows scientists and tornado groupies — from noted researchers driving trucks equipped with huge Doppler radar antennas to vanloads of thrill-seeking tourists. It shows giant "supertwisters" being born.

These storm chasers have multiplied in recent years, and many use fleets of cars with roof-mounted monitoring equipment to analyze twisters from several angles. From now until June, they will be working from Texas to South Dakota in what is commonly called Tornado Alley.

This month's *National Geographic* magazine also contains gripping photos from tornado chasers. Its television documentary, *Inside the Tornado*, airs April 18 on MSNBC at 8 p.m. ET.

Tonight's *Nova* show focuses on how meteorologists try to understand the chaotic events that create a tornado.

Using dramatic video of twisters forming and computer animation used by scientists, the show explains how warm downdrafts appear to play a key role. If science can pinpoint what causes a tornado to form within storms, forecasters might be able to provide better warnings. Today, warnings often come too late.

Researcher Kelvin Droegemeier of the University of Oklahoma says more Doppler devices installed closer together would give a more complete picture. The radar equipment is often 100 miles apart. From afar, the detailed view is limited to the top of the storm.

"The stuff that is actually affecting society happens down near the ground where we don't really observe things

very well," Droegemeier tells *Nova*.

More monitoring devices are being installed on cell phone towers and buildings in Oklahoma. But giant twisters crop up all over, not just in Tornado Alley. The program shows the devastation that a giant tornado caused in LaPlata, Md., in 2002 just south of Washington, D.C. That storm cut a 62-mile-long path of destruction.

Had that storm been "north about 30 or 40 miles, you would have gone from beltway to beltway, right across the Potomac (River) and in through the nation's capital," Tim Marshall, an expert on tornado damage assessment, says on the show.

"We are now expanding our cities bigger and bigger, so the targets for tornado hits are getting bigger and bigger."

Susan Erikson describes her encounter with the LaPlata twister. The forecast had called for thunderstorms, she says, "no big deal." But she and her husband, Erik, were inspecting the construction of what was to be their dream home when everything went quiet. "No birds, no anything."

The next thing she recalls is waking up in a pile of rubble with two broken arms. Her husband was one of five who died.

Gary England, a weatherman in Oklahoma, tells *Nova* that the highest-category tornadoes, known as F5s, roar across the nation nearly every year. "If an F5 comes down your street, if you're not in a safe room or a basement or a cellar, you're probably going to be history."

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