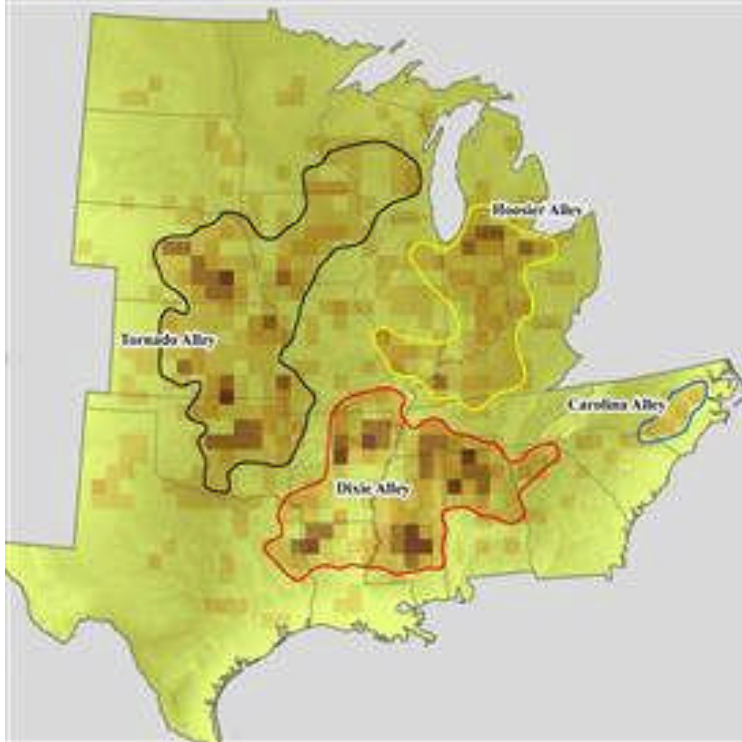


# 'Tornado Alley' actually four regions?

Analysis plots data, comes up with zones across eastern U.S.



University of Akron researcher Michael Frates came up with four areas with high twister activity. The busiest was "Dixie Alley".

Courtesy of Michael Frates, University of Akron

**By John D. Cox**

[DiscoveryNews](#)

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It may come as little surprise and no comfort to survivors of the weekend tragedy in Mississippi, but recent research confirms that they are living in the most dangerous region in the most dangerous tornado country in the world.

"Tornado Alley" is an unofficial term traditionally used to describe a vaguely outlined swath of countryside from the deep south, through the southern plains and into the upper Midwest, but the label really doesn't tell you very much.

New research on display recently at the annual meeting of the American Association of Geographers in Washington, D.C., adds new levels of detail and potential usefulness to the term.

The analysis identifies four distinct regions in the eastern half of the U.S. as worthy of the tornado alley label.

Michael Frates, a graduate assistant at the University of Akron in Ohio, devised the new boundaries and a more nuanced set of "Tornado Alleys" by analyzing the spatial distribution of F3 to F5 tornadoes with tracks greater than 20 miles in the Central and Eastern U.S. from 1950 to 2006. The output of that work is spread across a grid of more than 3,000 cells across the region.

Each cell was then given a different "frequency value" depending on the frequency of tornadoes with intersected the unit, and out of this process came "major spatial patterns, which served as the basis for delineating new tornado alleys," as shown on his map, above.

"Results from this analysis indicate that Dixie Alley has the highest frequency of long-track F3 to F5 tornadoes, making it the most active region in the United States," Frates concluded. Dixie Alley had a frequency value of 2.92, followed by Tornado Alley (2.59), Hoosier Alley (2.37) and Carolina Alley (2.00).

"Based on this analysis," wrote Frates, "colloquial tornado alley fails to represent the areas of highest activity in the United States," a subject he suggested the National Weather Service might want to take up.

For what it is worth, computer models saw the potential for tornadoes and other severe weather across a large region several days in advance as a cold storm system rolled in from the West toward the warm moisture of the Gulf.

The first major outbreak of tornadoes arrived unusually late this spring, probably because El Nino conditions in the tropical Pacific Ocean have held the subtropical jet stream at a more southerly latitude than normal for this time of year.