

## Assured Comment: NOAA to Conduct Extensive Study of Southeast Tornadoes

*Recent spate of storms and their destructive impact prompted expanded research*

The substantial number of severe storms in the Southeastern part of the country over the course of the winter (and over a dozen fatalities) illustrates the importance of NOAA’s recently begun research efforts. **NOAA is conducting an intensive study to understand “how, why, when and where” storms in the southeastern U.S. form.**

This should contribute a great deal toward providing insight into why **tornadoes are moving toward the South-Central part of the country and, to some extent, away from the traditional tornado alley states.** NOAA’s motivations and concerns are cited in their February 8<sup>th</sup> press excerpted in the nearby quote.

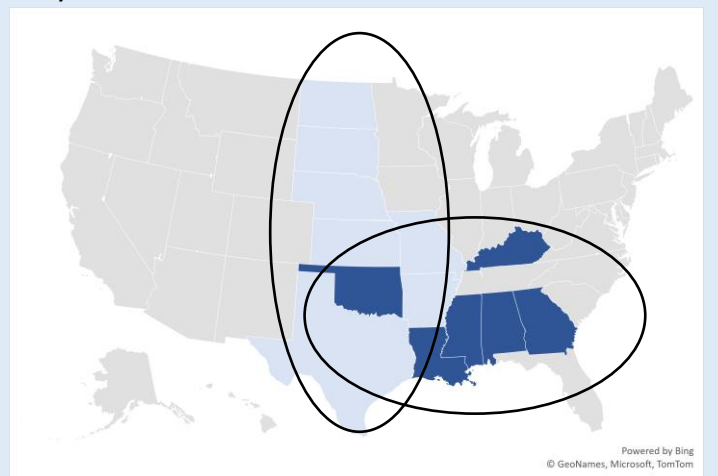
**Using NOAA’s Storm Events Database**, which captures all significant weather events, **we can see that there has been a modest shift in the tornado pattern over the last 20+ years.** During this period **the number of events in the tornado alley states has declined at a 1.2% annual rate, while south-central tornadoes have increased 1.4% annually.** We don’t want to overstate the case, but Figure 1 shows the states (in light blue) where the number of tornadoes has been trending downward versus those (dark blue) that have seen an increase over the years. With the exception of Oklahoma, which is in tornado alley, the growth states are in the Southeast. Further to NOAA’s point regarding density, **the states where tornadoes are growing have an average of 104 persons per square mile versus 67 in the downward trending states.** **More people, more potential losses.** In its announcement, NOAA points out that the study will concentrate on areas from the Southeast corner of Missouri southward toward the Gulf Coast and in areas along the Appalachian foothills. These are precisely where the map shows there has been an upward trend in tornadoes.

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*“...the southeast U.S. tends to be more vulnerable because of...the frequency of nighttime tornadoes, larger population density relative to other tornado-prone areas in the U.S., and the larger amount and distribution of mobile and manufactured homes that pose added risks for residents when tornadoes strike.” Source: [NOAA](#)*

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**Fig 1: States with a Decreasing (light blue) and Increasing (dark blue) Number of Tornadoes: 2000-2022**



Source: NOAA, Assured Research

We consider this study to be a major step in understanding natural catastrophes, which is why we are calling it to people’s attention. **Better understanding of tornado patterns should be helpful in allowing for earlier warnings with considerable potential for reduced losses. To say the least this has significant implications for the P/C industry.**