

**TORNADO ALLEY**  
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NORMAN - As March rapidly approaches, Oklahomans start to think about tornado season. Tornadoic activity across Oklahoma typically begins to increase during March, with the peak occurring during May and June. National statistics indicate that Oklahoma has the second highest annual rate of tornadoes, with an average of 54 tornadoes per year. Per square mile, central Oklahoma reports more tornadoes than anywhere else in the world. Why? Because all of the ingredients needed to generate tornadoes occur frequently during Oklahoma's typical springtime.

Tornadoes develop from thunderstorms. Hence, areas where thunderstorms occur regularly are likely locations for tornadoes to occur. Only a small percentage of thunderstorms will spawn tornadoes, however. This is evident by the fact that states such as Louisiana, Arkansas, and Alabama experience more thunderstorms, yet are struck by fewer tornadoes than Oklahoma.

Rain, snow, thunderstorm systems, and most other active weather phenomena are associated with systems of low air pressure ("lows") moving from west to east across the U.S. The High Plains just east of the Rocky Mountains are a favored spot for the formation of low-pressure systems. The mountain barrier has a "damming" effect on the upper-level winds that encourages the development of such systems, much like eddies develop behind large rocks in a fast-moving stream.

The near-surface winds ahead of a low draw air from the south toward the north. Thus, when a low crosses the Rocky Mountains, air from the Gulf of Mexico moves northward or northwestward over the Central U.S. The near-surface winds behind the center of the low bring cooler and drier air from the northwest. Interaction along the boundary between the warm, moist Gulf air and the cooler, drier air from the High Plains often initiates or enhances thunderstorm development. Depending on the exact atmospheric conditions, a

tornado or a series of tornadoes may develop from one or more of these thunderstorms. Occasionally, large outbreaks of tornadoes occur with this type of weather pattern.

The southern Great Plains of the U.S. also is affected by “dryline” thunderstorms. The dryline marks the boundary between moist air from the Gulf (eastern side) and very dry air from the Mexican Plateau (western side). The dryline typically is confined to eastern Colorado, eastern New Mexico, southern Kansas, Texas, and Oklahoma. Storms occurring along the dryline usually develop in the mid-afternoon and persist through early evening. Many of the strongest, most deadly tornadoes are generated from dryline thunderstorms.

Oklahoma begins to experience an increase in tornadic activity during March, when an average of four tornadoes are reported. By April and May, the monthly average number of tornadoes reported peaks at 11 and 18 per month, respectively. More tornadoes occur during the late afternoon and evening than during any other time of the day or night. Between 1950 and 1996, Kay County has reported 86 tornadoes – the most statewide. Oklahoma County is second with 70 occurrences, and Caddo County runs a close third with 69.

Tornadoes can occur at any time of year, time of day, or location within Oklahoma. Take the time now to verify that tornado safety plans are up-to-date for your work, school, and home. Practice emergency drills, especially with children and the elderly.