

Southern tornadoes hallmark of La Nina.(Brief Article)

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Early predictions of next summer's weather suggest that a La Nina weather pattern may persist until next fall. If that is the case, then Arkansas, Indiana, Mississippi and the western parts of Kentucky and Tennessee could be in store for more tornadoes.

"The findings show clear evidence of geographical shifts in tornado activity within the U.S. when comparing strong El Nino years to La Nina years," says Ernest Agee, Purdue University professor of atmospheric sciences, commenting on the research findings of a graduate student Suzanne Zurn-Birkhimer.

Zurn-Birkhimer compared tornado activity during El Nino and La Nina events by calculating the ratio of tornadoes on a state-by-state basis. Her findings show more tornadoes occurring in the central and south plains and Gulf Coast during strong El Nino years. That "tornado alley" shifts to the lower Midwest, the Ohio and Tennessee valleys and the mid-Atlantic region during La Nina years.

"During an El Nino event, the polar jet stream - which carries cold, dry air from the north - shifts south, bringing cooler air to the Midwest and southeastern regions of the country," says Zurn-Birkhirner. "There has to be a threshold of heat and moisture to build severe thunderstorms. If the atmosphere's too dry or too cold, you just can't get large dynamic cloud systems like the super cell storms. When the jet stream is farther north, as it is in a La Nina event, you have a better chance of achieving these kinds of temperatures and dew points."

Zurn-Birkhimer also discovered that tornado activity is much higher during a La Nina event. "They seem to favor an above-average number of tornadoes in select geographical region, such as those mentioned above."

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