The unusual outbreak of night tornadoes in the U.S. Midwest Wednesday morning may have been triggered by a warm winter, an expert says.

The twister outbreak, which started soon after midnight in Kansas, killed at least 13 people in

southern Illinois, northern Missouri, and western Tennessee.

The most powerful tornado touched down in Harrisburg, Illinois, with winds of about 180 miles (289 kilometers) an hour. (Learn what happens inside a twister.)

"It'd be fair to say an unusually warm winter was probably a major factor [in causing the tornadoes]," said Jeff Masters, director of the meteorological website Weather Underground.

"You get far fewer tornadoes in February during cold winters."

Warm Winter Fueled Night Tornadoes

Tornadoes are formed from rotating thunderstorms that are set in motion by upper-level winds known as the jet stream.

Only about 12 percent of tornadoes form between midnight and 6 a.m., according to the National Oceanic and Atmospheric Administration.

That's because temperatures start falling after sunset—depriving potential tornadoes of their primary ingredient: warm, moist air, which rises and creates atmospheric instability that spawns tornadoes.

But the current Northern Hemisphere winter has been the warmest since 1890, and is the fourth warmest on record—meaning there was enough warm air to fuel Wednesday's tornadoes, Masters said.

Night Tornadoes Rare but Deadly

Although nighttime tornadoes don't occur often, the phenomena can be deadly because they strike when most people are asleep.

The spectacular tornado outbreak of April 1974, which killed more than 300 people in 13 U.S. states, included twisters that formed after dark. (See tornado pictures.)

What's more, the threat isn't over for the Midwest: The combination of conditions in place before Wednesday night's outbreak will occur again Friday, Masters said.

That could prompt tornado warnings for Kentucky and Tennessee, he said.