

GLOBAL WARMING AND TORNADOES

The Fourth National Climate Assessment has similar reservations about any links between climate change and tornadoes. It says.

Texas, Kansas, Missouri and Oklahoma were among the states hardest hit, although tornadoes also popped up outside the region typically known as Tornado Alley, in places like New Mexico, northern Minnesota and Maryland. The effect appears to be strong in April, but is much less certain in May, according to the study. Even if the overall number of tornadoes doesn't increase, the shift toward the southeast, toward areas that are more populated than the southern plains, would put more people in harm's way. *Science*, 2012, doi: 10.1126/science.1220122. It doesn't guarantee storms will occur. In a paper published in the journal *Nature* last year, Victor Gensini, a professor of meteorology at Northern Illinois University, showed that Tornado Alley is slow-creeping east, with fewer twisters in the Great Plains and an increasing number in the more densely populated Midwest and Southeast. Image by Keith Irwin via Storyful Related. During a presidential campaign stop in disaster-stricken Iowa, Sen. At ground level, the winds blow from the equator; at high elevation, from the west. But the changes in winds with height wind shear, is projected to decrease on average. But weather patterns can speak to a warming planet. March ushers in tornado season in the U. Diffenbaugh points to the work of Columbia University's Michael Tippett, whose research has shown that tornado outbreaks, or clusters of tornadoes occurring together within a short time span, have become more common and more powerful since the late 1990s though Tippett and his colleagues did not say that climate change played a role in this shift. This contrast in the density of air masses gives rise to storm systems that spawn severe weather. More than 100 tornadoes were reported in a day period, according to the National Weather Service Storm Prediction Center. The first ingredient needed to make a tornado, he explains, is energy in the form of warm, moist, unstable air. The U. That makes it difficult to compare more recent records with older ones it may appear that tornado activity has been steadily increasing, when in fact people are just reporting it more frequently than they used to. Senior Munich Re research meteorologist Mark Bove warned in a insurance industry newsletter that "an increase of atmospheric heat and moisture due to our warming climate will likely increase the number of days per year that are favorable for thunderstorms and their associated hazards, including tornadoes. Scientists can detect that extreme rain events, for instance, are already happening more often than they used to, and that a warmer atmosphere with more water vapor in it is making such events more likely. For example, though it's not clear yet how many of the fatalities in Alabama and Georgia occurred in mobile homes, overall, history shows an unexpectedly high number of deaths during tornadoes occur in these weak-framed structures. The trend toward more tornado clusters could also test the limits of emergency responders, and the economic impacts of tornado damage can spread beyond the area immediately affected, he said. Warming in the Gulf of Mexico, for instance, is generally likely to make conditions more favorable for the kinds of storms that tend to produce tornadoes, said meteorologist John Allen of Central Michigan University. As of Thursday, the preliminary tornado count for May stood at 10, with the vast majority touching down over the last two weeks. The second ingredient is wind shear—a measure of how much the wind changes speed and direction between the ground and higher levels of the atmosphere. And it's also difficult to study the effects of global warming on tornadoes than it is with other types of weather events, he added. For now, scientists can say that certain types of weather patterns related to tornado formation, like severe thunderstorms, are subject to the influence of climate change. They looked at tornado frequency data dating back to 1950, and found that, since then, the number of twisters has been rising in the mostly southeastern states of Mississippi, Alabama, Arkansas, Missouri, Illinois, Indiana, Tennessee, and Kentucky, and falling in the traditionally tornado-prone states of Texas, Colorado, and Oklahoma. The damage caused by tornadoes and severe storms is already increasing, according to Munich Re, one of the world's top reinsurance companies. A man hugs Julie Morrison while looking at the remains of her home following a string of tornadoes that resulted in several fatalities in Beauregard, Alabama, U.