

Here's the Spin on Tornadoes

by RV Staff Writer J.C.H.

Over the years, movies and books have used tornadoes to sweep their characters off to magical lands, to destroy entire cities, or to defeat a superhero's dangerous super villain. All of these tornadoes have one thing in common: they are incredibly powerful.

Tornadoes are large, destructive columns of spinning air that stretch from a thunderstorm to the ground. They can have wind speeds over 300 miles per hour (mph), grow over a mile wide, and travel over 50 miles before dissolving. Tornadoes are incredibly dangerous and should be avoided at all costs.

Tornadoes, also known as twisters, need a few ingredients in order to form. They require warm, moist winds in the lower atmosphere; cold, dry winds in the upper atmosphere; and a thunderstorm's updraft, or an upward current of air. A tornado forms when the warm, moist winds meet the cold, dry winds. This causes the warm and cold air to spin around each other in an invisible horizontal tube. The updraft then tilts the horizontal spinning winds vertical, causing the winds to spin more violently and form a funnel cloud. Once this funnel cloud grows longer and touches the Earth's surface, it becomes a tornado.

Scientists can't go inside tornadoes which means that they are extremely hard to research. As a result, we know surprisingly little about them. In order to tell how powerful a tornado is, scientists look at how much destruction it causes. Scientists then rank the tornado on the Enhanced Fujita Scale (EF-Scale), which ranges from EF0 to EF5. For example, a tornado that only damages trees but doesn't significantly damage buildings would be rated EF0 with wind speeds between 65 and 85 mph. A tornado that blows away buildings and rips up sidewalks, on the other hand, would be rated EF5 with wind speeds over 200 mph.

The most powerful tornado in United States history occurred near Oklahoma City in 1999. It had wind speeds over 310 mph, the highest wind speed ever recorded on Earth. A tornado with wind speeds that high can not only pick up and throw automobiles, it can also knock over trains and tear up roadways. As a comparison, a Category 5 hurricane has wind speeds that exceed 156 mph.

Luckily for anyone living in an area that experiences the occasional tornado, they usually only last one to 10 minutes. More powerful tornadoes can last over an hour in the right conditions, but they are very rare.

If you find yourself experiencing a tornado, find a safe place inside, like an interior hall, basement, or closet. Stay away from windows and heavy objects that could fall on you, and lay on your stomach with your hands protecting the back of your head. Having a tornado emergency plan is extremely important as tornadoes can appear very quickly. Make sure to listen to the radio or television to stay updated on severe weather patterns in your area.

Questions

1. What is another name for a tornado?
2. Where and when was the most powerful tornado in U.S. history?
3. What does *updraft* mean?
4. Is it a good idea to go outside if a tornado is coming?