

Tornadoes

Tornadoes are one of the most severe types of weather phenomena. While many people fear tornadoes and their destructive power, few people understand their real causes and effects, nor are they aware of how to protect themselves from their devastating force.

Tornadoes, violently rotating columns of air, occur when a change in wind direction, coupled with an increase in wind speed, results in a spinning effect in the lower atmosphere. These whirling movements, which may not be visible to the naked eye, are exacerbated when the rotating air column shifts from a horizontal to a vertical position. As the revolving cloud draws in the warm air that surrounds it at ground level, its spinning motion begins to accelerate, thereby creating a funnel that extends from the cloud above it to the ground below. In this way, tornadoes become pendent from low-pressure storm clouds.

When a tornado comes into contact with the ground, it produces a strong upward draft known as a vortex, a spiraling column of wind that can reach speeds in excess of 200 miles per hour. Traveling across the landscape, the tornado wreaks a path of concentrated destruction. It is not uncommon for these twisters to lift heavy objects, like cars or large animals, and throw them several miles. Houses that succumb to the force of the tornado seem to explode as the low air pressure inside the vortex collides with the normal air pressure inside the buildings.

Tornadoes can occur at any time of the year, but are typically most frequent during the summer months. Equally, tornadoes can happen at any time during the day, but usually occur between 3:00 in the afternoon and 9:00 in the evening. While these fierce funnels occur in many parts of the world, they are most common in the United States. On average, there are 1,200 tornadoes per year in this vast nation, causing 70 fatalities and 1,500 injuries.

Although taking myriad shapes and sizes, tornadoes are generally categorized as weak, strong, or violent. The majority of all tornadoes are classified as weak, meaning that their duration is less than 10 minutes and they have a speed under 110 miles per hour. Comprising approximately 10 percent of all twisters, strong tornadoes may last for more than 20 minutes and reach speeds up to 205 miles per hour. Violent tornadoes are the rarest, occurring less than one percent of the time. While uncommon, tornadoes in this classification are the most devastating, lasting more than one hour and resulting in the greatest loss of life. Even though only violent tornadoes can completely destroy a well-built, solidly-constructed home, weaker ones can also cause great damage.

Owing to the powerful and destructive nature of these winds, there are, perhaps not surprisingly, a number of myths and misconceptions surrounding them. For instance, many people mistakenly believe that tornadoes never occur over rivers, lakes, and oceans; yet, waterspouts, tornadoes that form over bodies of water, often move onshore and cause extensive damage to coastal areas. In addition, tornadoes can accompany hurricanes and tropical storms as they move to land. Another common myth about tornadoes is that damage

to built structures, like houses and office buildings, can be avoided if windows are opened prior to the impact of the storm. Based on the misunderstanding that open windows might equalize the pressure inside the structure and minimize the damage to it, this action can instead result in fatal injury.

Because of the profound effects that tornadoes have on communities and their inhabitants, safety measures are of paramount importance during adverse weather conditions. Drivers often attempt to outrun tornadoes in their cars, but it is extremely unsafe to do so. Automobiles offer very little protection when twisters strike, so drivers should abandon their vehicles and seek safe shelter. Mobile homes afford little shelter, so residents of these homes should go to an underground floor of the sturdiest nearby building. In the case of a building having no underground area, a person should go to the lowest floor of the building and place him or herself under a piece of heavy furniture. If no building is available, a person caught in a tornado should lie prostrate in a nearby ditch or other depressed areas of land and cover his or her head.

Question 1:

All of the following key facts about tornadoes are mentioned in the passage EXCEPT

- A. the number of deaths from tornadoes
- B. the time of day when tornadoes usually take place
- C. the time of year when tornadoes are most common
- D. the average wind speed of most tornadoes

Question 2:

Which of the following best explains the term waterspouts?

- A. Tornadoes that move away from coastal areas
- B. Tornadoes that occur over oceans, rivers, and lakes
- C. Tornadoes that occur onshore
- D. Tornadoes that accompany tropical storms and hurricanes.

Question 3:

What is the safest place to be when a tornado strikes?

- A. an abandoned vehicle
- B. mobile homes
- C. the basement of a building
- D. under a piece of sturdy furniture

ANSWER
1) D 2) B 3) C