

# How to Survive a Tornado

It is often said that tornadoes are nature's most violent storms, and for good reason. Not only do tornadoes carry winds up to 300 mph--winds that can level buildings and carry cars through the air 80 feet or more--they are also often accompanied by lightning, heavy rains (and flash floods), and hail. When a tornado strikes, your every choice can mean the difference between life and death. Here's how to survive these powerful storms.

**Prepare for a tornado.** Even with significant advances in tornado prediction and tracking, you seldom have much time to prepare when a tornado actually strikes. Planning ahead is the most important thing you can do to improve your chances of surviving a tornado. Read the accompanying article for more information on how to prepare for a tornado and how to recognize the signs of an impending tornado.

**Move to shelter.** At the first sign of a tornado, or if a tornado warning has been issued, stop whatever you're doing and seek appropriate shelter immediately, even if you don't see a tornado.

- An underground tornado shelter or a specially designed tornado safe room is the safest place to be during a tornado. Many homes, businesses, and schools in areas prone to tornadoes already have these shelters. If you live in a high-risk area, consider building a tornado shelter or buying a prefabricated shelter. The Federal Emergency Management Agency (FEMA) has produced a guide to building a shelter (see the external links section below).
- If a tornado shelter is not available go to the basement of a building. Stay away from windows, and cover yourself with a mattress, cushions, or sleeping bags. If possible, get under a heavy table, which can protect you from falling debris. Make note of where very heavy objects are on the floor above you, and avoid the area beneath these, as they could fall through a collapsing floor.
- In a building with no basement, avoid windows and go to the lowest floor and seek shelter in a small room (a bathroom or closet, for example) that is located near the center of the house, under a stairwell, or in an interior hallway with no windows. Bathrooms can be particularly effective because they are fortified by pipes and you can lie in a bathtub. Regardless of where you are, crouch low to the ground or lie down, face down and cover your head with your hands and arms. Take cover under a strong table if possible, and cover yourself with a mattress, cushions, or blankets.
- If you are in a vehicle and a tornado is very near you, get out and seek shelter as soon as possible. Park your car at the side of the road, out of traffic lanes. Cars are not safe shelters, and as tornadoes can travel at more than 60 mph, you should not take the risk of attempting to outrun it. Mobile homes are also unsafe (see warning below).
  - If the tornado is far away and you aren't near a good shelter, your best option--if traffic allows--is probably to attempt to drive to shelter or at least out of the path

of the storm. Pick a stationary object near you and watch how the tornado moves relative to that object. If the tornado is moving to your left, you should drive to your right if possible, and if it's headed to your right, drive to your left. If the tornado does not appear to be moving either right or left, it's either moving directly away from you or, if it appears to be getting bigger or closer to you, right at you. If it's moving at you, leave your car and seek safety as instructed above.

**Remain in your shelter until the danger of tornadoes has passed.** If possible, listen for advisories from the National Weather Service (in the U.S.) on a NOAA weather radio or on local radio or TV. Keep in mind that multiple tornadoes often form in an area, and it may not be safe to leave shelter even after one tornado has passed.

**Exit your shelter carefully, and exercise caution moving around in a tornado stricken area.** After a tornado strikes, you are likely to encounter hazards such as flooding, falling debris, collapsing buildings, and blocked roads. Avoid fallen power lines and puddles with wires in them, and avoid using matches or lighters in case of natural gas or fuel tank leaks. Be alert and proceed with caution, as there may be sharp objects scattered about the ground. Do not enter damaged buildings.

- In large, multistory buildings without basements, interior stairwells are usually good places to seek shelter. Try to get to the lowest floor possible. A room in the center of your house or a bathroom is also good...why a bathroom? The "foundation" is reinforced by pipes, and the tornado's high *winds* will only damage it, and not completely destroy it.
- If your home has been hit by a tornado, turn off utilities, especially gas and electric, once the tornado danger has passed. If you smell something that is burning or if you see a spark, **get out immediately**. It could start a fire.
- Remain calm and try to keep your family together during and after the tornado. Provide first aid as needed. Even get duplicate packs if necessary.
- Your pantry, if you have one, would be a good form of shelter but in really violent tornadoes (F4 and F5), watch out for stairs falling on you. If possible get under a really strong table. However, make sure that there is no mattress on the 2nd floor above your table. It will crush it, and the debris would get onto you.
- Waterspouts, tornadoes that form over water, pose a special problem. While they are generally weaker and slower than tornadoes on land, it's not possible to seek shelter on the open water. If waterspouts have been sighted in the area, get out of the water if possible. If you're in the water when a waterspout hits, experts recommend trying to avoid it by sailing at right angles to its path. If a strike is imminent, it's probably best to dive overboard, as you then have a better chance of avoiding injury from debris if your boat is torn to pieces.
- Contrary to popular belief, opening the windows of a house will not reduce tornado damage. In fact, it may increase damage from weaker tornadoes by drawing more debris inside the house.
- Purchase Self Powered lights and self powered radios, light sticks. After a tornado hits, you will NOT be able to find badly needed batteries. Radio Shack has the self powered radio, Walmart sells Self powered flashlights and glow sticks. Use of candles, smoking is ill advised due to gas lines being mangled and explosive gas may be present.
- Understand what a tornado watch and a tornado warning means.

- A tornado watch means that there is a threat of tornadoes within the accompanied area (usually a red box surrounding the affected area on Doppler Radar) and that you should keep an eye on the news. A tornado watch usually comes after a severe thunderstorm warning and that the clouds could be capable of producing rotation that can eventually turn into a mesocyclone and then a tornado. Tornado watches are not as serious as a tornado warning but it does not mean that you should forget about it. Such clouds that are involved in a tornado watch are cumulonimbus and nimbus clouds. Keep an eye on the *time* as you can point out whether the clouds are dark or light depending on the time. 75% of the time, tornado watches will go out without any sign of tornadoes but if a tornado has been detected, read on.
- A tornado warning is much more serious. Tornado warnings mean that a sign of rotation has been detected on Doppler Radar and that you should take immediate action depending on the tornado's location and it's predicted (usually right) track. Don't worry; if the actual tornado has been sighted the tornado siren will sound throughout the *entire* area. Get the stuff needed in the kit in the Things You'll Need section of the article and you should be safe. Some people tend to call tornado watches a threat, tornado warnings mean a *possible* tornado has been detected, and tornado **danger** as the actual tornado touches down.
- Many tornadoes strike during the evening hours, be sure to have closed toe shoes either stored at your shelter location or ready to be put on in case of tornadic weather. In the aftermath of a storm there will be debris everywhere that can cause severe lacerations.
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- **Keep an eye on the news, especially if this sort of weather is in the area.** Some Self Powered Radios, especially the Eton model, endorsed by the Weather Channel and the Red Cross, has the weather band on it, so that if you lose power, you still be "in the know" **If a tornado is coming at you!**
- Mobile homes, even if tied-down, are unsafe during tornadoes. Get out of mobile homes immediately and seek appropriate shelter.
- Don't seek shelter under bridges or overpasses. It's a common misconception that these structures are safe, but research suggests that they are in fact extremely dangerous, as they can act as wind tunnels, actually strengthening the tornado's high winds.
- Stay out of elevators, as you could be trapped in them if power is lost. Instead, use the stairs to get down from one floor to another. Hitting the alarm button will do you no good as the power will be out.
- Since tornadoes are sometimes accompanied by heavy rains, use caution when taking shelter in low-lying areas, especially in ditches along roadways. While these areas offer some protection from flying debris, they pose a serious risk of flash-flooding.

## Things You'll Need

- Flashlight
- Batteries
- Battery-powered radio
- Self Powered Radio
- Self Powered Flashlight
- Glowsticks (Candles may ignite gas)
- Clean clothes
- First-aid kit
- 5-10 gallons of water
- Non-perishable foods