

# Tornado Safety

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**There is no such thing as guaranteed safety inside a tornado. Freak accidents happen; and the most violent tornadoes can level and blow away almost any house and its occupants. Extremely violent EF5 tornadoes are very rare, though. Most tornadoes are actually much weaker and can be survived using these safety ideas...**

☒ **Prevention and practice before the storm:** At home, have a family tornado plan in place, based on the kind of dwelling you live in and the safety tips below. Know where you can take shelter in a matter of seconds, and practice a family tornado drill at least once a year. Have a pre-determined place to meet after a disaster. Flying debris is the greatest danger in tornadoes; so store protective coverings (e.g., mattress, sleeping bags, thick blankets, etc) in or next to your shelter space, ready to use on a few seconds' notice. When a tornado watch is issued, think about the drill and check to make sure all your safety supplies are handy. Turn on local TV, radio or NOAA Weather Radio and stay alert for warnings. Forget about the old notion of opening windows to equalize pressure; the tornado will blast open the windows for you! If you shop frequently at certain stores, learn where there are bathrooms, storage rooms or other interior shelter areas away from windows, and the shortest ways to get there. All administrators of schools, shopping centers, nursing homes, hospitals, sports arenas, stadiums, mobile home communities and offices should have a tornado safety plan in place, with easy-to-read signs posted to direct everyone to a safe, closeby shelter area. Schools and office building managers should regularly run well-coordinated drills. If you are planning to build a house, especially east of the Rockies, consider an underground tornado shelter or an interior "safe room".

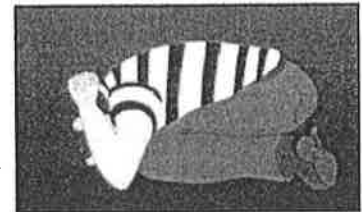
☒ **Know the signs of a tornado:** Weather forecasting science is not perfect and some tornadoes do occur without a tornado warning. There is no substitute for staying alert to the sky. Besides an obviously visible tornado, here are some things to look and listen for:

- Strong, persistent rotation in the cloud base.
  - Whirling dust or debris on the ground under a cloud base -- tornadoes sometimes have no funnel!
  - Hail or heavy rain followed by either dead calm or a fast, intense wind shift. Many tornadoes are wrapped in heavy precipitation and can't be seen.
  - Day or night - Loud, continuous roar or rumble, which doesn't fade in a few seconds like thunder.
  - Night - Small, bright, blue-green to white flashes at ground level near a thunderstorm (as opposed to silvery lightning up in the clouds). These mean power lines are being snapped by very strong wind, maybe a tornado.
  - Night - *Persistent* lowering from the cloud base, illuminated or silhouetted by lightning -- especially if it is on the ground or there is a blue-green-white power flash underneath.
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## WHAT TO DO...

☑ **In a house with a basement:** Avoid windows. Get in the basement and under some kind of sturdy protection (heavy table or work bench), or cover yourself with a mattress or sleeping bag. Know where very heavy objects rest on the floor above (pianos, refrigerators, waterbeds, etc.) and do not go under them. They may fall down through a weakened floor and crush you. Head protection, such as a helmet, can offer some protection also.

☑ **In a house with no basement, a dorm, or an apartment:** Avoid windows. Go to the lowest floor, small center room (like a bathroom or closet), under a stairwell, or in an interior hallway with no windows. Crouch as low as possible to the floor, facing down; and cover your head with your hands. A bath tub may offer a shell of partial protection. Even in an interior room, you should cover yourself with some sort of thick padding (mattress, blankets, etc.), to protect against falling debris in case the roof and ceiling fail. A helmet can offer some protection against head injury.



☑ **In an office building, hospital, nursing home or skyscraper:** Go directly to an enclosed, windowless area in the center of the building -- *away from glass* and on the lowest floor possible. Then, crouch down and cover your head. Interior stairwells are usually good places to take shelter, and if not crowded, allow you to get to a lower level quickly. Stay off the elevators; you could be trapped in them if the power is lost.

☑ **In a mobile home:** Get out! Even if your home is tied down, it is not as safe as an underground shelter or permanent, sturdy building. Go to one of those shelters, or to a nearby permanent structure, using your tornado evacuation plan. Most tornadoes can destroy even tied-down mobile homes; and it is best not to play the low odds that yours will make it. This mobile-home safety video from the State of Missouri may be useful in developing your plan.

☑ **At school:** Follow the drill! Go to the interior hall or windowless room in an orderly way as you are told. Crouch low, head down, and protect the back of your head with your arms. Stay away from windows and large open rooms like gyms and auditoriums.

☑ **In a car or truck:** Vehicles are extremely risky in a tornado. There is no safe option when caught in a tornado in a car, just slightly less-dangerous ones. If the tornado is visible, far away, and the traffic is light, you may be able to drive out of its path by moving at right angles to the tornado. Seek shelter in a sturdy building, or underground if possible. If you are caught by extreme winds or flying debris, park the car as quickly and safely as possible -- out of the traffic lanes. Stay in the car with the seat belt on. Put your head down below the windows; cover your head with your hands and a blanket, coat, or other cushion if possible. If you can safely get noticeably lower than the level of the roadway, leave your car and lie in that area, covering your head with your hands. Avoid seeking shelter under bridges, which can create deadly traffic hazards while offering little protection against flying debris.

☑ **In the open outdoors:** If possible, seek shelter in a sturdy building. If not, lie flat and face-down on low ground, protecting the back of your head with your arms. Get as far away from trees and cars as you can; they may be blown onto you in a tornado.

☑ **In a shopping mall or large store:** Do not panic. Watch for others. Move as quickly as possible to an interior bathroom, storage room or other small enclosed area, away from windows.

☑ **In a church or theater:** Do not panic. If possible, move quickly but orderly to an interior bathroom

or hallway, away from windows. Crouch face-down and protect your head with your arms. If there is no time to do that, get under the seats or pews, protecting your head with your arms or hands.

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### **AFTER THE TORNADO...**

Keep your family together and wait for emergency personnel to arrive. Carefully render aid to those who are injured. Stay away from power lines and puddles with wires in them; they may still be carrying electricity! Watch your step to avoid broken glass, nails, and other sharp objects. Stay out of any heavily damaged houses or buildings; they could collapse at any time. Do not use matches or lighters, in case of leaking natural gas pipes or fuel tanks nearby. Remain calm and alert, and listen for information and instructions from emergency crews or local officials.

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