



Each year about a thousand tornadoes touch down in the US. Only a small percentage actually strike occupied buildings, but every year a number of people are killed or injured. The chances that a tornado will strike a building that you are in are very small, however, and you can greatly reduce the chance of

injury by doing a few simple things.

One of the most important things you can do to prevent being injured in a tornado is to be **ALERT** to the onset of severe weather. Most deaths and injuries happen to people who are unaware and uninformed. Young children or the mentally challenged may not recognize a dangerous situation. The ill, elderly, or invalid may not be able to reach shelter in time. Those who ignore the weather because of indifference or overconfidence may not perceive the danger. Stay aware, and you will stay alive!

If you don't regularly watch or listen to the weather report, but strange clouds start moving in and the weather begins to look stormy, turn to the local radio or television station to get the weather forecast.

Check [The Weather Channel](#) for additional information, or if you have trouble getting up-to-the-minute forecasts on a regular radio, then a ["NOAA weather radio"](#) is a wise investment.

If a tornado **"watch"** is issued for your area, it means that a tornado is "possible."

If a tornado **"warning"** is issued, it means that a tornado has actually been spotted, or is strongly indicated on radar, and it is time to go to a safe shelter immediately.

Be alert to what is happening outside as well. Here are some of the things that people describe when they tell about a tornado experience:

- A sickly greenish or greenish black color to the sky.
- If there is a watch or warning posted, then the fall of hail should be considered as a real danger sign. [Hail](#) can be common in some areas, however, and usually has no tornadic activity along with it.
- A strange quiet that occurs within or shortly after the thunderstorm.
- Clouds moving by very fast, especially in a rotating pattern or converging toward one area of the sky.
- A sound a little like a waterfall or rushing air at first, but turning into a roar as it comes closer. The sound of a tornado has been likened to that of both railroad trains and jets.
- Debris dropping from the sky.
- An obvious "funnel-shaped" cloud that is rotating, or debris such as branches or leaves being pulled upwards, [even if no funnel cloud is visible](#).

If you see a tornado and it is not moving to the right or to the left relative to trees or power poles in the distance, it may be moving towards you! Remember that although tornadoes usually move from southwest to northeast, they also move towards the east, the southeast, the north, and even northwest.

Encourage your family members to plan for their own safety in many different locations. It is important to make decisions about the safest places well BEFORE you ever have to go to them.

IN HOMES OR OTHER SMALL BUILDINGS:

The best places are:

- [In a storm shelter specifically designed for that use](#)--within the basement or outside the home entirely. Some companies manufacture pre-fab shelters that you drop into a hole in the ground, and that blends in with home landscaping(some more, some less).
- In a basement, away from the west and south walls. Hiding under a heavy work-table or under the stairs will protect the family from crumbling walls, chimneys, and large airborne debris falling into the cellar. A family in the [April 8th, 1998 tornado in the Birmingham, Alabama](#) area survived because a hutch toppled and was held up by the dining room table they were under. That hutch helped deflect the debris that would have struck **them**. Old blankets, quilts and an unused mattress will protect against flying debris, but they should be stored in the shelter area. Precious time can be lost by trying to find these items at the last minute.
- In a small, windowless, first floor, interior room like a closet or bathroom. The bathtub and commode are anchored directly into the ground, and sometimes are the only thing left in place after the tornado. Getting into the bathtub with a couch cushion over you gives you protection on all sides, as well as an extra anchor to the foundation. Plumbing pipes may or may not help hold the walls together, but all the extra framing that it takes to put a bathroom together may make a big difference. If there is no downstairs bathroom and the closets are all packed with "stuff," a hall may be the best shelter. Put as many walls as you can between yourself and the tornado. In a pinch, put a metal trash over as much of you as you can. It will keep some flying debris from injuring you. Even that may make the difference between life and death.

Wherever it is, the shelter should be well known by each member of the family. If you and your family will conduct annual emergency drills(fire, tornado, etc), everyone will remember what to do and where to go when a tornado is approaching--automatically and without panic. Choose a friend or family member in another part of town or elsewhere to be a "contact person" that will be called by everyone should the family members become separated.

<http://www.hsus.org/disaster/tips.html>

The [Red Cross](#) suggests that you assemble a "disaster supplies kit" that you keep in your shelter area. It should contain:

- A first aid kit with essential medication in addition to the usual items.
- A battery powered radio, flashlight, and extra batteries.
- Canned and other non-perishable food and a hand operated can opener.
- Bottled water.
- Sturdy shoes and work gloves.
- Written instructions on how to turn off your homes utilities.

IN SCHOOLS

Leave auditoriums, [gyms](#), and other free-span rooms, exiting in an orderly fashion. Go to [interior rooms and halls on the lowest floor](#), but avoid halls that open to the outside in any direction. If there are no interior hallways, avoid those that open to the southwest, south, or west, since that is the usually the direction the tornado will come. Stay away from glass, both in windows and doors. [Crouch down, and make as small a "target" as possible](#). If you have something to cover your head, do so, otherwise, use your hands. Don't assume that there will always be a teacher or other adult there to tell you what to do--if there is, you should follow their direction, but you need to know these things too. Peak time for tornadoes to strike varies from region to region. In some southeastern states, early morning tornadoes are almost as common as late afternoon ones. In western and northern states, peak hours are from 3 to 7 PM, just at the end of the school, but including the hours of afterschool activities.

http://www.nssl.noaa.gov/~doswell/tstm_camping_safety.html **TO AND FROM SCHOOL, WORK, OR AFTERSCHOOL ACTIVITIES:**

If really severe weather is expected, your school may be dismissed early in order that you can reach home before the worst of the weather reaches the area. If you are on foot or riding a bike, it is doubly important that you go home immediately, and not linger with your friends. If caught in the open, you should seek a safe place immediately. The chances of encountering falling trees, power lines, and lightning is greater than encountering the tornado itself. The basement of a sturdy building would be best, but lying flat in a ditch or low-lying area may be the only thing available. A culvert in a ditch MAY be a good choice if there is no rain, but if there IS rain, flash flooding may be more dangerous and likely than the tornado.

If you are in a car, and you can see a tornado forming or approaching, you should leave the car and take shelter as above. You may think you can escape from the tornado by driving away from it, but [you can't know what you may be driving into!](#) A tornado can blow a car off a road, pick a car up and hurl it, or tumble a car over and over. Many people have been killed in cars while they were trying to outrun the tornado, and although it is sometimes possible to escape, it is generally not a good idea. The photo to the left shows you what can happen to a car that encounters a tornado.

A few years ago a fellow contacted us and tell us his experiences with the Wichita Falls tornado of 1979. When he was a young man, he outran the Wichita Falls, Texas tornado in a car. He survived, but many people that day tried the same thing and were killed. You can read [his story here.](#))

An underpass may seem like a safe place, but may not be. While videos show people surviving under an underpass, those tornadoes have been weak. No one knows how survivable an underpass is in a strong or violent tornado. The debris flying under the underpass could be very deadly... head for a ditch.

IN HIGH-RISE BUILDINGS:

Interior rooms and halls are the best locations in large buildings. Central stairwells are good, but elevators are not. If the building loses power, you may be in the elevator for a long time. Stay away from glass walls and windows, no matter how small.

MOBILE HOMES:

Most tornado deaths occur in cars and mobile homes. If you live in a mobile home park, you should find out from the manager where you should go in the event of a tornado--but don't wait until you really need the information--ask him/her on a nice day! Mobile home parks may have a designated tornado shelter, or a steel reinforced concrete laundry room. If they don't, you need to find another substantial structure that you can reach very quickly. You may have only seconds to get to it. The photo below shows what an 60-80 mph wind can do to a mobile home. At 100 mph, they may start to disintegrate.

Two articles that explore the stay in a "mobile home or leave in a car" debate were published recently on the web--one by Dr. Thomas Schmidlin of Kent State University is called [Closet, Car, or Ditch? The Mobile Home Dilemma During a Tornado](#). The other, [The Alternate Dilemma: How to Explain and Encourage Counterintuitive Behavior](#) is by Rocky Lopes of the National Headquarters of the Red Cross. They are interesting and informative reading.

SHOPPING CENTERS, HOSPITALS, AND FACTORIES:

Go to interior rooms and halls on the lowest floor. Stay away from glass enclosed places or areas with wide-span roofs such as auditoriums, theaters, and warehouses. Crouch down and cover your head. Deaths have occurred in large, single story department stores. They have occurred inside the building when the roof or [wide span brick walls](#), which collapsed. A corner would be safer than the [middle of the wall](#). A bathroom, closet, office, or maintenance room with short walls would be the safest area, especially if it was on the north or east side of the building.

Is it likely that a tornado will strike your home or school? No. But being ready for the possibility will keep you safer!

Deaths and injuries from tornadoes have dropped dramatically in the past 50 years. Casualties numbers are holding steady as scientists learn more about tornadoes and develop the technologies that detect them sooner. Forecasters must continue to improve techniques because the population is increasing. The National Weather Service, [Storm Prediction Center](#), and television and radio weather people have taken full advantage of the advancements in tornado prediction to improve warnings. In addition, many people generously donate their time and expertise to help protect their neighbors and communities in another way--by tornado and severe storm "spotting." "Spotters" combine an interest in the weather, a willingness to serve and often, ham radio experience to make tornado prone areas safer for all. Spotting can provide a focus to a person's interest in the weather, and ham radio helps you meet other like-minded people. It is not often that something that starts out as a hobby can potentially do so much good. If you are interested in Skywarn training and becoming a spotter, check out the [National Skywarn page](#).