

# FACT SHEET



Federal Emergency Management Agency

## TORNADOES

When a tornado is coming, you have very little time to make life-or-death decisions. Advance planning and quick response are the keys to surviving a tornado.

### TORNADO FACTS

- A tornado is a violently rotating column of air extending from a thunderstorm to the ground.
- Tornadoes are capable of destroying homes and vehicles and can cause fatalities.
- Tornadoes may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel. The average tornado moves SW to NE but have been known to move in any direction.
- The average forward speed is 30 mph but may vary from stationary to 70 mph and have rotating winds in excess of 250 mph.
- Tornadoes can accompany tropical storms and hurricanes as they move onto land.
- Waterspouts are tornadoes that form over water.

### WHERE and WHEN

- Tornadoes can occur at any time of the year.
- Tornadoes have occurred in every state, but they are most frequent east of the Rocky Mountains during spring and summer months.
- In the southern states, peak tornado occurrence is March through May, while peak months in the northern states are during the late spring and early summer.

- Tornadoes are most likely to occur between 3 and 9 p.m. but can happen at any time.

### HOW TO PREPARE

- Develop a plan for you and your family at home, work, school and when outdoors. The Federal Emergency Management Agency offers planning tips on its Internet site: [www.fema.gov/pte/displan.htm](http://www.fema.gov/pte/displan.htm)
- Identify a safe place to take shelter. Information on how to build a "Safe Room" in your home or school is available from the Federal Emergency Management Agency at [www.fema.gov/mit/saferoom](http://www.fema.gov/mit/saferoom).
- Conduct frequent tornado drills each tornado season.
- Keep a highway map nearby to follow storm movement from weather bulletins.
- Have a NOAA Weather Radio with a warning alarm tone and battery backup to receive watches and warnings.
- NWS watches and warnings are also available on the Internet. Go to the NWS Home Page at [www.nws.noaa.gov](http://www.nws.noaa.gov) for services or [weather.gov](http://weather.gov) for weather and forecasts.
- Listen to radio and television for weather information.
- Check the weather forecast before leaving for extended periods outdoors. Watch for signs of approaching storms.

- If severe weather threatens, check on people who are elderly, very young, or physically or mentally disabled.
- Practice having everyone in your family go to your designated safe place in response to a tornado threat.
- Contact your local emergency management office and NOAA for more information on tornadoes.

### *Develop a communications plan*

Pick two places to meet: a spot outside your home for an emergency and a place away from your neighborhood in case you can't return home.

Choose an out-of-state friend as your "family check-in contact" for everyone to call if the family gets separated. Discuss what you would do if advised to evacuate.

### *Prepare a Disaster Supply Kit*

- A 3-day supply of water (one gallon per person per day) and food that won't spoil.
- One change of clothing and footwear per person.
- One blanket or sleeping bag per person.
- A first aid kit including prescription medicines.
- Emergency tools, including a battery powered NOAA Weather Radio and portable radio, flashlight, and extra batteries.
- An extra set of car keys and a credit card or cash.
- Special items for infant, elderly, or disabled family members.
- Copies of ID cards or driver's licenses for all family members.

## ***Tornado Watches and Warnings***

The National Weather Service issues a tornado watch when tornadoes are possible in your area. Remain alert for approaching storms. This is the time to remind family members where the safest places within your home are located, and listen to the radio or television for further developments.

A tornado warning is issued, by NWS, when a tornado has been sighted or indicated by weather radar. If a tornado warning is issued for your area and the sky becomes threatening, move to your pre-designated place of safety. Turn on a battery-operated radio and wait for further instructions.

### **TORNADO DANGER SIGNS**

*Occasionally, tornadoes develop so rapidly that advance warning is not possible.*

#### ***Look out for:***

- Dark, often greenish sky
- Large hail
- Wall cloud
- Loud roar, similar to a freight train

#### ***Caution:***

- Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others.
- Before a tornado hits, the wind may die down and the air may become very still.
- A cloud of debris can mark the location of a tornado even if a funnel is not visible.
- Tornadoes generally occur near the trailing edge of a thunderstorm. It is not uncommon to see clear, sunlit skies behind a tornado.

### **SAFETY RULES DURING**

- Do not get under an overpass or bridge. You are safer in a low, flat location.
- In a home or building, move to a pre-designated shelter, such as a basement (under a sturdy piece of furniture) or a Safe Room.

- If an underground shelter is not available, move to a small interior room or hallway on the lowest floor and get under a sturdy piece of furniture. Put as many walls as possible between you and the outside.
- Stay away from windows. Go to the center of the room. Stay away from corners because they attract debris.
- Get out of automobiles immediately and seek shelter in a nearby building. If a building is unavailable or there is no time, get out of the car and lie in a ditch or low-lying area away from the car. Be aware of potential for flooding. In urban or congested areas, never try to outrun a tornado in a car or truck; instead, leave it immediately for safe shelter. Tornadoes can change direction quickly and can lift up a car or truck and toss it in the air.
- If caught outside, lie flat in a nearby ditch or depression and cover your head with your hands. Be aware of potential for flooding.
- Be aware of flying debris. Flying debris from tornadoes causes most fatalities and injuries.
- Mobile homes, even if tied down, offer little protection from tornadoes. You should leave a mobile home and go to the lowest floor of a sturdy nearby building or a storm shelter.
- Avoid places with wide-span roofs such as auditoriums, cafeterias, large hallways, or shopping malls.
- Do not open windows, use time to seek shelter.
- Use arms to protect head and neck.

### **AFTER THE TORNADO**

- Help injured or trapped persons. Give first aid when appropriate. Don't try to move the seriously injured unless they are in immediate danger of further injury. Call for help.
- Stay out of damaged buildings. Return home when authorities say it is safe.

- Turn on radio or television to get the latest emergency information. Use the phone only for emergency calls.
- Clean up spilled flammable liquids immediately. Leave the building if you smell gas or chemical fumes.
- Take pictures of the damage – both the house and contents – for insurance purposes.

## ***Inspect Utilities in a Damaged Home***

**Check for gas leaks** – If you smell gas or hear a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call the gas company from a neighbor's home. If you turn off the gas, a professional must turn it back on.

**Look for electrical damage** – If you see sparks or broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. If you have to step in water to get to the fuse box or circuit breaker, call an electrician for advice.

**Check for sewage and water line damage** – If you suspect sewage lines are damaged, avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid using water from the tap. Melt ice cubes for safe water.

### **Mitigation**

Mitigation includes any activities that prevent an emergency, reduce the chance of an emergency happening, or lessen the effects of unavoidable emergencies. Investing in preventative mitigation steps now, such as building a Safe Room, checking local building codes and ordinances about wind resistant designs and strengthening unreinforced masonry, will help reduce the impact of tornadoes in the future.

You can print or download copies of FEMA publications from [www.fema.gov/library](http://www.fema.gov/library). Order printed copies from FEMA's Distribution Center (800-480-2520). For *Taking Shelter Before the Storm*, call 888-565-3896