

# Fact Sheet

# Thunderstorms

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# FEMA

Every thunderstorm produces lightning. In the United States, an average of 300 people are injured and 80 people are killed each year by lightning. Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms. Other dangers associated with thunderstorms include tornadoes, strong winds, hail and flash flooding.

## Know Your Risk and What To Do

- Contact your local emergency management office to learn about emergency plans.
- Get additional information from the Federal Emergency Management Agency ([www.fema.gov](http://www.fema.gov)), the American Red Cross ([www.redcross.org](http://www.redcross.org)) and NOAA's National Weather Service ([www.nws.noaa.gov](http://www.nws.noaa.gov)).
- Inquire about emergency plans and procedures at your child's school and at your workplace.
- Make a family disaster plan that includes out-of-town contacts and locations to reunite if you become separated. Be sure everyone knows home, work and cell phone numbers, how to call out-of-state contacts, and how to call 9-1-1.
- Assemble a 3-day disaster supplies kit with food, water, medical supplies, battery-powered radio and NOAA Weather Radio All Hazards, batteries, flashlights, and other items. If you have space and are concerned about situations that might require lengthy shelter, consider storing food and water supplies for up to a month. For more information about assembling a disaster supplies kit, visit [www.fema.gov/areyouready/](http://www.fema.gov/areyouready/).
- Gather important documents such as birth and marriage certificates, social security cards, passports, wills, deeds, and financial and insurance records. Store them in a fire and flood safe location or safe deposit box.

## Facts about thunderstorms

- They may occur singly, in clusters, or in lines.
- Some of the most severe storms occur when a single thunderstorm affects one location for an extended time.
- Thunderstorms typically produce heavy rain for a brief period, anywhere from 30 minutes to an hour.
- Warm, humid conditions are highly favorable for thunderstorms to develop.
- About 10 percent of thunderstorms are classified as severe—one that produces hail at least three-quarters of an inch in diameter, has winds of 58 miles per hour or higher, or produces a tornado.

## Facts about lightning

- Lightning's unpredictability increases the risk to individuals and property.
- Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.
- "Heat lightning" is actually lightning from a thunderstorm too far away for thunder to be heard. However, the storm may be moving in your direction!
- Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.
- Lightning-strike victims carry no electrical charge and should be attended to immediately.

## Know the Terms

- **Severe Thunderstorm Watch** – Tells you when and where severe thunderstorms are likely to occur. Watch the sky and stay tuned to NOAA Weather Radio All Hazards, commercial radio, or television for information.
- **Severe Thunderstorm Warning** – Issued when severe weather has been reported by spotters or indicated by radar. Warnings indicate imminent danger to life and property to those in the path of the storm.

## Before Thunderstorms and Lightning

- Remove dead or rotting trees and branches that could fall and cause injury during a severe thunderstorm.
- Remember the 30/30 lightning safety rule: Go indoors if, after seeing lightning, you cannot count to 30 before hearing thunder. Stay indoors for 30 minutes after hearing the last clap of thunder.
- Postpone outdoor activities.
- Get inside a home, building, or hard top automobile (not a convertible). Although it is possible you might be injured if lightning strikes your car, you are much safer inside a vehicle than outside.
- Remember, rubber-soled shoes and rubber tires provide NO protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal.
- Secure outdoor objects that could blow away or cause damage.
- Shutter windows and secure outside doors. If shutters are not available, close window blinds or curtains.
- Avoid showering or bathing. Plumbing and bathroom fixtures can conduct electricity.
- Use a corded telephone only for emergencies. Cordless and cellular telephones are safe to use.
- Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage.
- Use your battery-operated NOAA Weather Radio for updates from local officials.

Avoid the following:

- Natural lightning rods such as a tall, isolated tree in an open area
- Hilltops, open fields, the beach, or a boat on the water
- Isolated sheds or other small structures in open areas
- Anything metal—tractors, farm equipment, motorcycles, golf carts, golf clubs, and bicycles

## During a Thunderstorm

- If you are in a forest, seek shelter in a low area under a thick growth of small trees.
- If you are in an open area, go to a low place such as a ravine or valley. Be alert for flash floods.
- If you are on open water, Get to land and find shelter immediately.
- If you feel your hair stand on end (which implies that lightning is about to strike), squat low to the ground on the balls of your feet. Place your hands over your ears and your head between your knees. Make yourself the smallest target possible and minimize your contact with the ground. DO NOT lie flat on the ground.

## After a Thunderstorm

- If someone is struck by lightning call 9-1-1 for medical assistance as soon as possible.

The following are things you should check when you attempt to give aid to a victim of lightning:

- Breathing - if breathing has stopped, begin mouth-to-mouth resuscitation.
- Heartbeat - if the heart has stopped, administer CPR.
- Pulse - if the victim has a pulse and is breathing, look for other injuries. Check for burns where the lightning entered and left the body. Be alert for nervous system damage, broken bones, and loss of hearing and eyesight.

## The Recovery Process

- For immediate needs contact the American Red Cross or other local voluntary agencies.
- Check newspapers, television, or radio news for information on disaster assistance available.
- If you have property damage, contact your insurance company as soon as possible.
- For information on helping children deal with disaster, visit [www.fema.gov](http://www.fema.gov) or get a copy of FEMA 478 **Helping Children Cope with Disaster**. To obtain other fact sheets and publications call the FEMA publication warehouse at 1-800-480-2520. You can also visit DHS' [www.ready.gov](http://www.ready.gov).

Dangerous Lightning Myth!	The Facts:
People struck by lightning carry an electrical charge and should not be touched.	Lightning-strike victims carry no electrical charge and should be attended to immediately. Contact your local American Red Cross chapter for information on CPR/AED and first-aid.