

Natural Disasters: Thunderstorm and Lightning

Definition and Characteristics:

Thunderstorms are rain storms with varying amounts of wind, thunder, lightning, heavy rain, and sometimes hail. All thunderstorms are dangerous. Every thunderstorm produces lightning – flashes of light seen in the sky when there is a discharge of atmospheric electricity in the clouds or between clouds and the earth. 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 associated dangers of thunderstorms include tornadoes, strong winds, hail, and flash flooding. Flash flooding is responsible for more fatalities—more than 140 annually—than any other thunderstorm-associated hazard.

Thunderstorm Facts:

- Thunderstorms may occur singly, in clusters, or in lines.
- Some of the most severe 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 thunderstorm development.
- About 10% of thunderstorms are classified as severe – one with hail at least ¾ inch in diameter, winds of 58 MPH or higher, or a tornado.

Lightning Facts:

- 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.
- Your chances of being struck by lightning are estimated to be 1 in 600,000, but could be reduced even further by following safety precautions.
- Lightning strike victims carry no electrical charge and should be attended to immediately.

Terminology:

Severe Thunderstorm Watch	Severe thunderstorms are possible due to current environmental conditions. Remain alert for approaching storms. Watch the sky and stay tuned to NOAA Weather Radio, local radio, or television for information.
Severe Thunderstorm Warning	A severe thunderstorm has been sighted or indicated by weather radar. There is imminent danger to life and property for those in the path of the storm.

Public Information / Recommended Actions:

Before	<p>Make a plan: Be alert to changing weather conditions. Listen to NOAA Weather Radio or local radio or television newscasts for the latest information. If storms are approaching, be prepared to take shelter immediately.</p> <ul style="list-style-type: none">• 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 vehicle. Although you may 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. <p>Prepare your home: Secure outdoor objects that could blow away or cause damage. Shutter windows and secure outside doors. If shutters are not available, close window blinds, shades, or curtains.</p>
During	<p>Take shelter immediately!</p> <ul style="list-style-type: none">• If in a forest: Seek shelter in a low area under a thick growth of small trees.• If in an open area: Go to a low place such as a ravine or valley, but be alert for flash floods. Avoid natural lightning rods such as tall, isolated trees in open areas, hilltops, open fields, the beach, a boat on the water, isolated sheds or other small structures in open areas, anything metal such as farm equipment, motorcycles, golf carts, golf clubs, or bicycles.• If on open water: Get to land and find shelter immediately.• If you feel your hair stand on end (indicates 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. <p>Indoors:</p> <ul style="list-style-type: none">• Avoid showering or bathing. Plumbing fixtures can conduct electricity.• Use corded telephone only for emergencies. Cordless and cell phones are safe.• Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage.
After	<ul style="list-style-type: none">• Stay informed. Listen to news reports.• Call 911 if medical assistance is needed.• Use extreme caution when entering damaged areas of buildings.• Stay away from downed power lines, and report them to the power company. Be alert for gas leaks and report them to the gas company.• When giving first aid to a lightning victim, administer CPR as appropriate if no breathing and/or pulse. Look for other possible 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.