

Thunder and Lightning Fact Sheet

Thunderstorms with lightning and winds can be very dangerous and can cause significant injury and damage to buildings and foliage.

Lightning is the result of the buildup and discharge of electrical energy in clouds. Lightning can kill or seriously hurt people and animals and cause fires and other property damages.

AM I AT RISK?

Thunderstorms with lightning normally do not cause significant issues but they do put people and property at risk from lightning strikes and associated heavy rain and straight line winds can cause damage and present various life and safety issues.

Lightning is a major cause of storm related deaths in the U.S. A lightning strike can result in a cardiac arrest (heart stopping) at the time of the injury, although some victims may appear to have a delayed death a few days later if they are resuscitated but have suffered irreversible brain damage. However, the risk of any one person being struck by lightning is slim (over one in a million in a given year).

FACT CHECK

1. What is the 30/30 rule?
2. True or False? Only some thunderstorms are dangerous.
3. Circle the rules you should follow below when thunder and lightning are happening in your area:
 - a. Avoid contact with corded phones and devices that are plugged in to the wall.
 - b. Avoid contact with plumbing. Don't take a shower, and don't wash your hands.
 - c. Hide under a tree.
 - d. Stay away from windows, doors, and porches.
 - e. Do not lie on concrete floors or lean against concrete walls.
 - f. Avoid contact with anything metal.
 - g. Avoid hilltops, open fields, the beach, or a boat on the water.

DID YOU KNOW?

Lightning can strike as far as 10 miles away from any rainfall.

BE PREPARED

Before

- Build an emergency kit.
- Make a family communications plan.
- Use the 30/30 rule!
 - o Go indoors if you see lightning and can't count to 30 before hearing thunder.
 - o Stay inside for 30 minutes after hearing the last clap of thunder.

During

- Immediately move to safe shelter: a substantial building with electricity or plumbing or an enclosed, metal-topped vehicle with windows up.
- Stay inside. Don't use corded phones or items that plug into electrical outlets. Power surges from lightning can come through the cords and hurt you.
- Don't wash your hands, take a bath or take a shower. Faucets can conduct electricity.
- Stay away from windows and doors.
- Don't lie on concrete floors or lean against concrete walls. They conduct electricity.
- Don't touch anything metal outside – bikes, playgrounds, fences.
- Stay away from open fields, hills, or the beach.
- Don't stand near "lightning rods," like tall trees in an open area, or flagpoles.

After

- Stay away from loose or dangling power lines.
- Stay away from areas damaged by the storm or flood

ANSWERS TO QUESTIONS

1. Take appropriate shelter when you can count 30 seconds or less between lightning and thunder. Remain sheltered for 30 minutes after the last thunder.
2. False. They are all dangerous! Every thunderstorm produces lightning. Some storms can include tornadoes, strong winds, flash floods, and hail.
3. Follow all rules except for C – Never hide under a tree during thunder and lightning!

THUNDER AND LIGHTNING DO'S AND DON'TS

Do

- Be alert, listen for official information and instructions
 - Monitor weather
 - Use your battery-operated NOAA Weather Radio for updates from local officials.
- Do suspend outdoor events and activities when a warning is issued
- When Thunder Roars...GO INDOORS!
- Avoid areas where you will be the highest object
- If caught on high ground or in an open area, seek shelter in a low area and stay away from trees
 - If there is no shelter around you, stay away from trees. Crouch down in the open area, keeping twice as far away from a tree as far as it is tall. Put your feet together and place your hands over your ears to minimize hearing damage from thunder
- Avoid hilltops, open fields, the beach or a boat on the water.
- Take shelter in a sturdy building.
- Stay clear of fences or isolated trees. Keep away from telephone poles, power lines, pipelines or other electrically conductive objects
- Stay off corded telephone! In your home, don't stand near open windows, doorways or metal piping. Stay away from the TV, plumbing, sinks, tubs, radiators and stoves. Avoid contact with small electric appliances such as radios, toasters and hairdryers.
 - Unplug any electronic equipment well before the storm arrives.
- Stay away from windows and doors, and stay off porches.
- Avoid contact with anything metal—tractors, farm equipment, motorcycles, golf carts, golf clubs, and bicycles.
- If you are driving, try to safely exit the roadway and park. Stay in the vehicle and turn on the emergency flashers until the heavy rain ends. Avoid touching metal or other surfaces that conduct electricity in and outside the vehicle
- While golfing or at a sporting event:
 - Toss your clubs, bats, or other gear aside and get far away from them
 - Get away from your golf cart, do not sit in it while the rain passes
 - Get away from all metal objects and tall objects - goal posts, score boards, fences, bleachers, light poles, flag poles, baseball bats, ...
- While boating:
 - If the boat has no cabin, get off the water as soon as skies become threatening
 - Go below deck in a boat with a cabin
 - Avoid all metal fixtures and objects
 - Put away your fishing pole
 - Stay out of the water
 - Do not use the radio or other electronics
- If you or someone you know has been struck by lightning, call 911 immediately.

Do Not

- Wash your hands, do not take a shower, do not wash dishes, and do not do laundry. Plumbing and bathroom fixtures can conduct electricity.
- Lie on concrete floors and do not lean against concrete walls.
- Touch electrical devices / appliances during the storm as they may conduct electricity. Don't touch phone chords as they're connected to all the underground wires as well.
- Hug a tree: Stay away from tall or isolated trees, as lightning commonly strikes both, and please do not hug one for safety.
- Seek shelter near conductors: Conductors of electricity are highly dangerous during a storm. Avoid any electrical fences, wires or poles or industrial machinery. Water is also a conductor, so stay away.
- Stay in the water: Row or swim to shore as quickly as possible and seek shelter.
- Seek shelter here: At all costs, avoid waiting out a storm in an open field, near a mountain peak or ridge, at the mouth of a cave.

WORDS TO KNOW

OUTDOOR WARNING SIRENS

Sirens are owned by Minneapolis and are activated by Hennepin County at the recommendation of the National Weather Service. Sirens are used for severe weather warnings, as well as for other situations when people should take shelter. Weather-related sirens are triggered when the National Weather Service has issued a tornado warning, and/or if there are reports of sustained straight-line winds in excess of 70 mph.

Outdoor warning sirens are meant to be heard outside. The system is not designed to provide notification inside your home or business. When sirens sound, residents should always seek shelter and tune to local weather information on radio, television, or NOAA Weather Radio for more information.

Hennepin County does not issue an “all-clear” tone from the outdoor sirens. The threat of severe weather does not stop when the sirens stop. Continue to shelter and stay tuned to local weather information on radio, television or NOAA Weather Radios for the duration of the warning period.

If the siren sounds while you are in your vehicle, seek shelter immediately. The safest place to be is in a sturdy building, on the lowest level away from windows. If there is not a building nearby, and the tornado is approaching quickly, get as far away from the road and cars as possible and lie in a low area covering your head with your arms. Do not go under an overpass; the bridge could collapse or become a wind tunnel with flying debris.

Note: Per Minnesota policy, the sheriff’s communication division tests/activates all sirens in Hennepin County at 1 p.m. on the first Wednesday of each month.

If you are caught outside with no safe shelter anywhere nearby the National Weather Service³ suggests that following actions may reduce your risk:

- Immediately get off elevated areas such as hills, mountain ridges or peaks
- Never lie flat on the ground
- Never shelter under an isolated tree
- Never use a cliff or rocky overhang for shelter
- Immediately get out and away from ponds, lakes and other bodies of water
- Stay away from objects that conduct electricity (barbed wire fences, power lines, windmills, etc.)

- **Electrocution** - Death caused by electric shock, like a lightning strike
- **Power Surge** - A spike, or huge, quick increase, in the amount of electricity coming through a power line
- **Heat Lightning** - Lightning seen from a thunderstorm that is too far away for the thunder to be heard