

Lightning Safety

In the United States there are an estimated 25 million cloud-to-ground lightning flashes each year. Amazing to watch, lightning can also be extremely dangerous. Lightning kills an average of 73 people and injures over 300 a year in the United States, more than tornadoes or hurricanes. Summertime seems to bring some of the most dramatic thunderstorms to Oregon. This year, with drier than normal conditions, lightning and the fires it starts could be even more destructive.






A typical thunderstorm is 15 miles in diameter and lasts 20 to 30 minutes. Only 10 percent of the estimated 100,000 thunderstorms that occur each year are classified as “severe.”

All thunderstorms are dangerous and are capable of producing lightning that can cause death, injury, and property damage and can start fires.








A thunderstorm is considered “severe” by the National Weather Service if it produces hail that is at least three quarters of an inch in diameter, has winds in excess of 58 miles per hour, or produces a tornado. In these conditions, National Weather Service will issue a **WARNING** – which means that a hazardous event is imminent or occurring.

If conditions favor the occurrence of a severe thunderstorm within the next six to twenty-four hours for a particular region, a **WATCH** will be issued.

Stay alert to the signs of an approaching thunderstorm: darkening skies, flashes of lightning, thunder, increasing winds. Listen to a NOAA Weather radio or local media for broadcast of warnings or watches.

-  Thunderstorms may occur singly, in clusters or in lines.
-  Lightning can strike as far as 10 miles away from any rainfall – possibly beyond the distance where any thunder can be heard.
-  If you can hear thunder, you are in danger from lightning.
-  Strong thunderstorms can produce large and damaging hail.
-  High winds and powerful downbursts can accompany thunderstorms.

If you suspect that conditions that could bring lightning are developing:

-  Find shelter in a fully enclosed building or car. Keep car windows up and avoid convertibles.
-  Stay clear of telephone lines and metal pipes (irrigation, fences, etc.) that can conduct electricity. Unplug appliances. Avoid using the telephone or any plug-in electrical appliances.
-  Keep away from open doors and windows, fireplaces, radiators, stoves, sinks and any plug-in electrical appliances.
-  Postpone taking a bath, shower or running water for any other purpose. Remember, in older houses, tubs and the plumbing may be metal.
-  Turn off the air conditioner and other electrical appliances. Power surges from lightning can overload the compressor and result in a costly repair job.
-  Draw blinds and shades over the windows, as difficult as that may be when you want to watch the lightning. When lightning strikes close by, it can cause windows to break due to outdoor objects blown about by the wind or struck by lightning.
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If you're caught outside:

- ⚡ The summits of mountains, crests of ridges, slopes above the timberline and large meadows are extremely hazardous places to be during lightning storms. If you are caught in an exposed place, quickly descend to a lower elevation, away from the direction of the approaching storm, and squat down with feet together – keeping your head low. A dense forest located in a depression provides the best protection. Avoid taking shelter under isolated trees or trees much taller than adjacent trees. Stay away from water, metal objects and other substances that will conduct electricity long distances.
- ⚡ Stay in the car if you are travelling. Automobiles generally offer good lightning protection.
- ⚡ If you are in the woods, take shelter under shorter trees.
- ⚡ If you are boating, swimming or in the open (golf, agriculture work, sports, etc.) - get to dry land and find shelter immediately.

Protect yourself outside:

- ⚡ Don't take clothes off the clothesline.
- ⚡ Don't "hurry" to finish mowing your lawn before the storm comes.
- ⚡ Keep away from fences, metal clotheslines, irrigation pipes, telephone lines, power lines, pipelines and any electrically conductive elevated objects.
- ⚡ Avoid hilltops, open spaces, isolated buildings, exposed sheds or other metal structures. Descend from ridges and mountains on the leeward side.
- ⚡ Don't handle flammable materials in the open.
- ⚡ Don't use metal objects such as fishing rods and golf clubs! Golfers wearing cleated shoes and holding metal clubs are particularly good lightning rods!
- ⚡ Avoid the highest object in the area. If only isolated trees are nearby, the best protection is to crouch (not lay down) in the open, keeping twice as far away from isolated trees as the trees are high. Whenever lightning is nearby, take off backpacks with either external or internal metal frames. In tents, stay at least a few inches away from metal tent poles.
- ⚡ Don't pitch your tent close to the larger trees in an area. These are the trees at risk of lightning strikes.
- ⚡ Go to a low-lying, open place away from trees, poles or metal objects.
- ⚡ Make sure the place you go to is not subject to flooding.
- ⚡ Stop tractor work, especially when the tractor is pulling metal equipment and dismount. Tractors are often struck by lightning.
- ⚡ Get out of the water and off small boats. If this is possible, position yourself as low in the boat as possible.

BE A VERY small TARGET:

- ⚡ Lightning takes the path of least resistance to the ground. Since air is a very poor conductor, lightning seeks anything better - and an upright human being is far better for its purpose than air. Stick up above the grass and trees when you are hiking and you become a prime target!
- ⚡ Squat low to the ground. Place your hands on your knees and your head between them. Make yourself the smallest target possible. By squatting with your feet close together, you have minimal contact with the ground, thus reducing danger from ground currents.
- ⚡ If the threat of lightning strikes is great, your group should not huddle together but spread out at least 15 feet apart. If one member of your group is jolted, the rest of you can help.
- ⚡ If you can't get out of the open, put your pack, walking stick, other belongings, about 30 feet away from you, propped up high, and huddle on the ground.
- ⚡ Don't sit down, you make a larger target. Crouch down (between two boulders if possible) on your feet on top of your rolled up sleeping bag, foam pad, coiled rope or any other supplementary insulation you have and ride out the storm.
- ⚡ Do not lie flat on the ground -- this makes you a larger target.

Yes, you can count the number of seconds between the lightning flash and the sound of thunder to determine your distance from the lightning stroke. Light travels at about 186,000 miles per second.

Sound travels considerably more slowly. The distance to a lightning stroke is the time it takes for the sound to reach you after you've seen the lightning, divided by the speed of sound. If you assume the speed of sound to be .2 (2/10) miles per second it would take 5 seconds for the sound of thunder to travel one mile; or for every second – the lightning is 1000 feet away.

More about Thunderstorms and Lightning:

For more information on lightning safety, visit the National Weather Service on line at <http://www.lightningsafety.noaa.gov/>

Lightning and Lightning Safety - An Introduction
Why do some clouds produce lightning and others don't?
Lightning Safety Outdoors
Safe Shelters and Indoor Safety
The Medical Aspects of Lightning

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