Lightning

by KI5UAJ

Lightning Training

Lightning may be awesome to watch, but it can also be dangerous—even deadly. Did you know that lightning strikes more than 40 to 50 times a second during June, July and August? Know your "flash" facts from fiction. Here's some information that I have gathered up from various sources…I'm actually really interested in this, charge up about it… some of this info might be shocking to you even,

What is Lightning?

What you are watching are spectacular electric sparks! Just as you build up static charges when you shuffle your feet along a carpet, so do the collision of ice and slush churning in a thundercloud build up charges. Lightening is the discharge of electricity. The extreme heating causes the air to expand explosively fast. The expansion creates a shock wave that turns into a booming sound wave, known as thunder.

The slush near the bottom of the cloud builds up a negative charge while the tiny ice crystals carried to the top become positive. Finally, the charges equal out, just like that irritating spark that stings you when you touch something. The giant discharge flows somewhere and about 25% of the time—BANG!—it hits the ground. Lightning can occur between clouds or between the earth and a cloud,

How Far Away is Lightning?

When you see a flash of lightning, start counting the seconds until you hear the following thunder. Then divide that number by five. The resulting number will tell you how many miles away you are from where lightning just struck.

For example, if that resulting number was 5 seconds, then the lightning struck 1 mile away. If the resulting number was 10 seconds, the lightning was 2 miles away.

How do you calculate the distance of a thunderstorm?

Don’t be fooled by blue skies. Lightning often strikes from 3 to 6 miles away, though it can be as far as 10 miles. According to safety experts, the time to take cover is 6 miles, at minimum.

Follow the 30-30 rule:

If the time between the lightning flash and the crack of thunder is 30 seconds or less, the lightning is about **6 miles away** or closer.

- After you see lightning, start counting to 30. Count “One-Mississippi, Two-Mississippi, Three-Mississippi,” etc.)
- If you hear thunder before you reach 30, seek shelter indoors immediately.
- Stay inside for at least 30 minutes after hearing the last clap of thunder.

When the storm passes and the skies turn blue again, don’t be fooled. Lightning threats continue for much longer period than most people realize. This is why we have 30-minute safety rules.

Predicting Lightning

First, know that ***every*** thunderstorm produces lightning.

Warm, humid summer days are the times when thunderstorms are most likely to develop, especially in the afternoons, as the sun heats the air and heat rises into the atmosphere. Watch as those puffing cumulus clouds start to form. As they build, they’ll start to “tower” vertically upward, and likely to develop into a thunderstorm.

Flash Fact: If your hair stands up in a storm, it could be a bad sign that positive charges are rising through you. Get yourself indoors immediately.

Can Lightning Kill You?

Surprisingly, lightning is one of the leading weather-related causes of death and injury in the United States. 3,696 deaths were recorded in the U.S. between 1959 and 2003) or cause cardiac arrest.

What Are the Odds of Being Struck by Lightning?

The odds of being killed by lightning is 1 in 700,000. But the odds of being struck in your lifetime is 1 in 3,000.

About 70% of those struck by lightning suffer serious long-term effects such as severe burns, permanent brain damage, memory loss, and personality change.

Even then, statistics show that not all people face the same risks. Little old ladies are safe, but guys between the ages of 20 and 30 seem to be lightning rods. Lightning strikes the United States about 25 million times a year. Although most lightning occurs in the summer, people can be struck at any time of the year. Lightning kills about 20 people in the United Staes each year and hundreds are severely injured.

Lightning injures many more people than it kills and can cause permanent lifelong injuries. A lightning bolt can reach 54,000 degrees Fahrenheit, about five times hotter than the surface of our sun. Lightning strikes the United States 20 million times per year. Lightning moves about 30,000 times faster than a bullet.

Safety Guidelines

To minimize your personal risk of being struck by lightning when outside, Plan Ahead! Make sure you get the latest weather forecast at weather.gov before going out, and always know where safe shelter is if thunderstorms threaten.

Your behavior when thunderstorms are in the area determines your personal risk of being struck by lightning. The best way for you to protect yourself from lightning is to avoid the threat. You simply don't want to be caught outside in a storm.

Utilize tools like smartphones with weather apps and NWS local radar to track the weather around you, especially if you will be away from sturdy shelter (such as while boating, camping, etc.). Portable NOAA Weather Radios and AM/FM Radio can also be utilized. If the forecast changes on weather.gov or you notice storms beginning to develop around you, move towards shelter immediately; do not wait

for the rain to begin or for the first instance of thunder. If the sky looks threatening or if you hear thunder, get inside a safe place immediately.

This also goes for groups you may be with outdoors, like your local Lee County ARES group.

Designate one of the members to monitor the weather via their smartphone using weather.gov, NWS Doppler radar, and other mobile weather apps so you will always have the latest forecast. Portable NOAA Weather Radios and AM/FM Radio can also be utilized. If thunderstorms are expected and you go ahead with your planned outdoor activity, have a lightning safety plan in place. Upon arriving on-site, determine how far away your shelter is in case lightning threatens. Remember to account for the time it will take to get to your safe location. Using lightning strike mobile apps or even a portable lightning strike detector, you can help keep your group safe.

If you hear thunder, even a distant rumble, immediately move all to a safe place. Do not wait. You are in danger of being struck by lightning. Do not resume outdoor activities until 30 minutes after the last thunderclap.

Why wait 30 minutes after lightning?

Because electrical charges can linger in clouds after a thunderstorm has seemingly passed, experts agree that people should wait at least 30 minutes after the last thunder before resuming outdoor activities.

With that said, Quite often these electric fields accumulate on flagpoles, light poles, steel structures and large trees. As the storm moves away and the standing electrical fields remain strong, they may connect with a leader from the distant storm and create a back strike. These are dangerous and often kill because they are totally unexpected. You could wait an hour after the last strike six, eight or ten miles away and still be caught off guard.