



Florida's Severe Weather Awareness Week takes place from February 1-5, 2021. Severe Weather Awareness Week is an opportunity for Floridians to learn about the various weather hazards that frequently impact the state and how families and businesses can prepare for these natural events.

Each day focuses on a specific weather event. **Monday's focus is on lightning.**

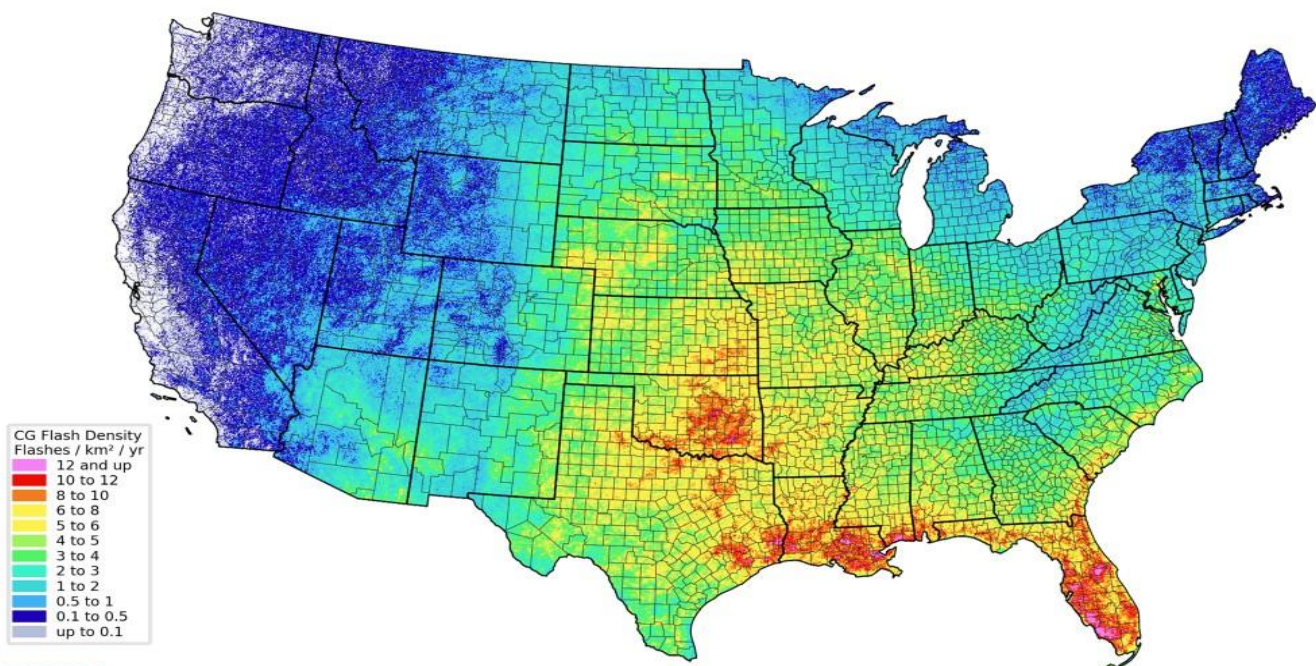
Lightning is one of nature's deadliest and most unpredictable weather phenomena. Meteorologists can forecast the general conditions that cause lightning but no one can forecast the exact location or time of the next strike of lightning.

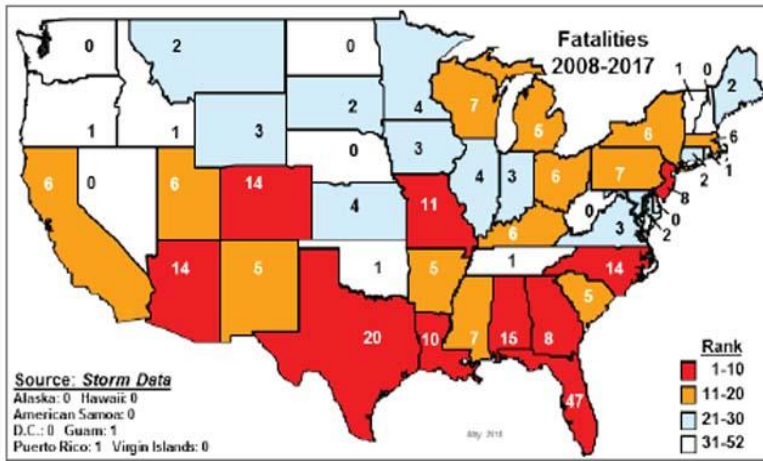
All thunderstorms contain lightning that can strike a person, tree, or an object either on the ground or in the air. Lightning strikes the ground about 25 million times each year and continues to be among the top weather-related killers in the United States.



The 2021 Florida Severe Weather Awareness Week is a perfect time to note that our state, out of all 50 states, is the lightning capital of the North America. With an average of 1.2 million cloud-to-ground lightning strikes each year, no other state experiences more lightning strikes per square mile than Florida. In 2020, Florida saw almost 200 lightning flashes per square mile on average.

Average U.S. cloud-to-ground flash density in 2015–2019





Lightning is often seen as an underrated killer because it does not generate as much attention compared to other forms of hazardous weather and usually only claims one or two victims at a time. Most people that are struck by lightning are not killed, but suffer significant injuries. On average, lightning kills 27 people each year in the United States and injures another 243. Florida averages 7 fatalities per year due to lightning and often leads the nation in lightning deaths. In 2020, Florida again claimed this unfortunate distinction, with 3 total fatalities out of 20 nationwide.

Why does Florida have this distinction? Florida's geography plays a large role, especially during the summer. Some of the elements that make Florida such a great place to live, such as sunshine and the ocean, play important roles in the development of thunderstorms. Because thunderstorm activity peaks in the summer, when most people are enjoying the warm weather, Florida often has the greatest number of lightning fatalities each year in the United States.

One characteristic that makes lightning so dangerous is its extensive range. Lightning has the ability to strike 10 miles or more away from the thunderstorm core, making it the first storm hazard to arrive and the last to leave. While it may not be raining at your location, lightning can still reach you. In addition, once the lightning strike hits the ground, it can travel *up to 60 feet outward* from the point of contact. The other characteristic that makes lightning so dangerous is its power and speed. The average lightning bolt carries 100 million volts of electrical potential.

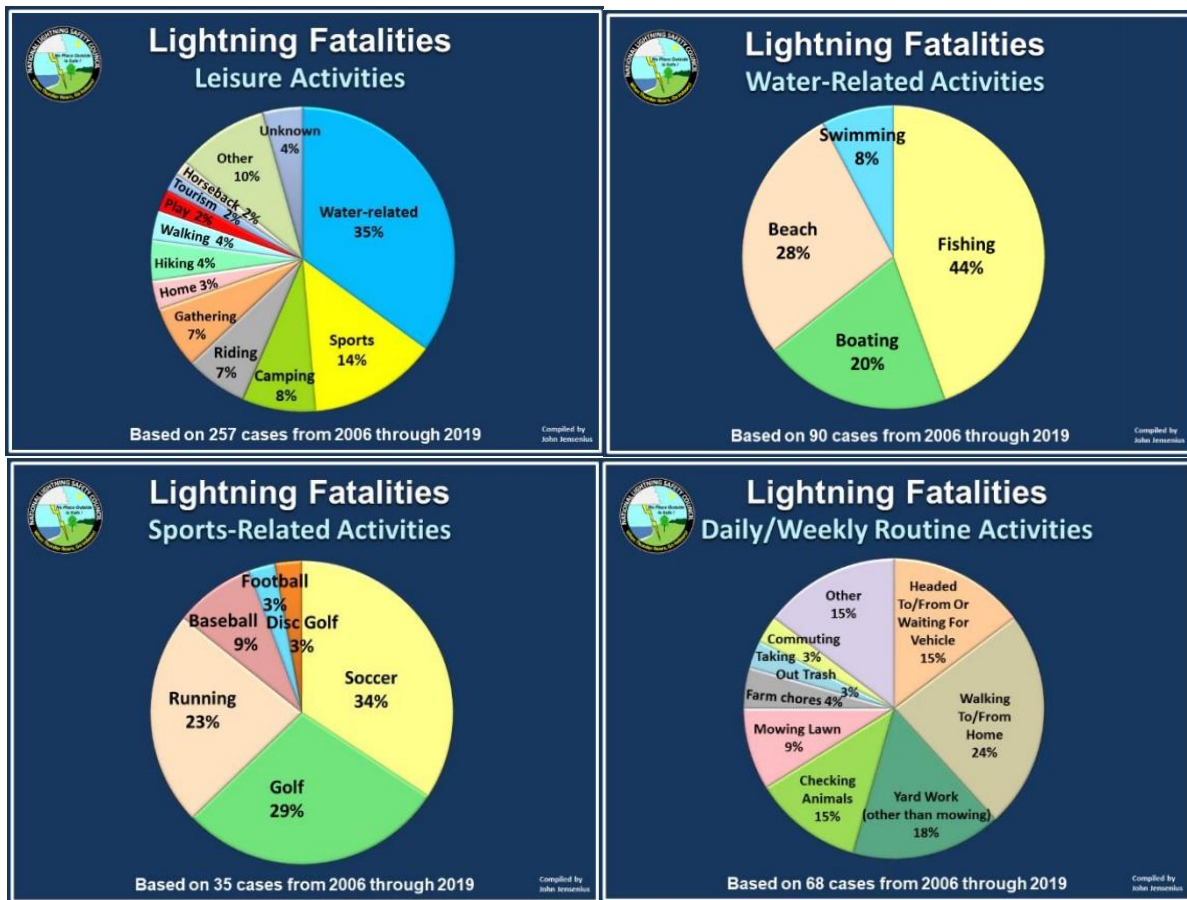


DID YOU KNOW??? *Contrary to belief, lightning CAN strike the same place twice, and rubber shoes or tires DO NOT protect you from lightning strikes.*

Thunder is a product of lightning. As lightning moves between the ground and thunderstorm, the air around the flash heats rapidly, to temperatures as high as 50,000°F – a temperature hotter than the surface of the sun. This sudden heating creates expansion of the air around the lightning bolt at speeds greater than the speed of sound. The expanding air breaks the sound barrier resulting in the explosive sound we know as thunder. Thunder is really just another form of a sonic boom.

Thunder travels at the speed of sound, which is roughly 1 mile every 5 seconds. You can determine how far away a flash of lightning is by counting the number of seconds that pass after observing a lightning bolt. For every 5 seconds that elapse, the lightning strike is one mile away. For example, if it takes 15 seconds for the thunder to reach you, then the lightning strike occurred about three miles away.

A "Bolt from the Blue" is a lightning bolt that travels a relatively large distance in clear air away from the parent thunderstorm and then strikes the ground. These lightning flashes have been documented more than 25 miles away from the thunderstorm cloud. These events can be especially dangerous, as they appear to come from "clear blue sky."



Nearly all lightning deaths occur in open areas. Many are struck when they go under a tree to keep dry during a storm. Outdoor water activities such as swimming, boating, and fishing are equally as dangerous. From 2006 to 2019, there were a total of 40 fishing deaths, 25 beach deaths, 20 camping deaths, and 18 boating deaths nationally. Of the sports activities, soccer saw the greatest number of deaths with 12, as compared to golf with 10. Around the home, yard work (including mowing the lawn) accounted for 18 fatalities. For work-related activities, ranching/farming topped the list with 19 deaths. Males accounted for 79% of all fatalities.

Based on the media reports of the fatal incidents, many victims either were headed to safety at the time of the fatal strike or were just steps away from safety. Continued efforts are needed to convince people to get inside a safe place before the lightning threat becomes significant. For many activities, situational awareness and proper planning are essential to safety.

FACTORS THAT CONTRIBUTE TO LIGHTNING FATALITIES:

- Willingness to cancel or postpone activities
- Being aware of approaching or developing storms
- Vulnerability of the activity
- Ability and willingness to get to a safe place quickly

Therefore, when thunderstorms are approaching, avoid outdoor activities as if your life depends on it – because it does! A good rule of thumb to remember is that if you can hear thunder, you are close enough to be struck by lightning. Being observant when outside is your first line of defense with lightning. A darkening cloud building in the sky is often the first sign that lightning could occur.

When thunder roars, go indoors! It is never safe to be outside during a thunderstorm.

WHEN THUNDER ROARS GO INDOORS

Lightning Fatalities For Outdoor Sports

40% SOCCER	27% GOLF
17% RUNNING	10% BASEBALL
3% FOOTBALL	3% OTHER

weather.gov/lightning

step 1 Leave the field immediately

step 2 Seek shelter in an enclosed building or car
Wait 30 minutes after hearing thunder to return outside

School Home Car Windows UP!

At the first sign of lightning or sound of thunder, you should immediately head inside an enclosed structure and remain away from windows. Even while inside, it is important to stay away from windows and not use any corded electrical devices or running water from faucets. If you cannot make it inside when a thunderstorm approaches, the most dangerous place to be is in an open area. Equally as dangerous is being caught over the open water of a lake or ocean when a thunderstorm is in the area. This is because lightning will tend to strike the tallest object in the area. This is also why standing under tall trees is very dangerous. When you cannot make it to an enclosed building, your next best course of action is to get into a vehicle with a hard-topped roof.

Although the National Weather Service does not issue specific lightning warnings, products such as the Hazardous Weather Outlook can indicate the threat levels for lightning in your area on any given day.

- [NWS Mobile Daily Hazards](#)
- [NWS Tallahassee Daily Graphical Hazards](#)
- [NWS Jacksonville Daily Hazards](#)
- [NWS Melbourne Daily Graphical Hazards](#)
- [NWS Tampa Daily Graphical Hazards](#)
- [NWS Miami Daily Graphical Hazards](#)
- [NWS Key West Daily Hazards](#)

National Lightning Safety Awareness Week is June 20-26, 2021 and more information about lightning hazards and what you can do to protect yourself and others can be found at www.weather.gov/safety/lightning, www.lightningsafetycouncil.org/LSC-LSAW.html, and <https://www.floridadisaster.org/hazards/lightning/>.



Tuesday's focus will be on marine hazards and rip currents.

Be Prepared. Be StormReady.