

Lightning

Florida is the lightning capital of the country. Why our state? Geography is the main reason. Many elements that make our home state such a great place to live and play, such as warm annual temperatures and close proximity to large bodies of water, play key roles in generating thunderstorms that produce dangerous lightning. These thunderstorm ingredients frequently come together during the warm season when lightning is often a daily occurrence within the state. July is the deadliest month for weather related fatalities, both due to the frequency of storms and because many people are outside enjoying outdoor activities, which make them more vulnerable to lightning strikes.

Florida is bound on the east by the Atlantic Ocean and the Gulf of Mexico to the west. It is also located farther south than most of the nation. This geography allows the sun to strongly heat the ground each summer afternoon. As a result, daytime heating of the ground over inland areas causes warm air near the ground to rise. In addition, wind flow creates small frontal boundaries along the Florida coasts, called sea breezes, which form on both east and west coasts. As the sea breezes begin to progress inland, a warm and unstable atmosphere allows thunderstorms to develop along the leading edge of these sea breeze fronts.

Lightning is not just confined to thunder-

storms, as it can even be generated by the ash cloud from an erupting volcano. Lightning is also not just confined to the Earth; lightning has been observed in the clouds of Jupiter and possibly Venus.

What are Thunder and Lightning?

EVERY THUNDERSTORM contains lightning. Lightning develops from friction and static electricity as cloud particles collide with one another. The electrical charge of a lightning strike searches for the path of least resistance to complete the channel from the cloud. It might strike you, a tree, or an object in the air. Thunder is a result of lightning. When a lightning

Lightning Facts

Lightning heats the air up to 50,000 degrees Fahrenheit. This rapid heating of the air produces the shock wave that results in thunder.

A ground stroke of lightning can produce between 100 million and 1 billion volts of electricity.

The length of an average cloud-to-ground lightning channel can range from 2 to 10 miles.

You can tell how far away lightning is by counting the seconds between seeing the lightning flash and hearing thunder. For every 5 seconds you count, lightning is one mile away.

Contrary to belief, lightning **CAN** strike the same place twice and rubber shoes or tires do not protect you from lightning strikes.

Lightning Safety Actions

Avoid open ground and isolated large trees.

Avoid water. This includes swimming pools, lakes, rivers, beaches and boats.

Seek shelter inside a building or automobile, but not a convertible car or golf cart.

Stay away from doors, windows and metal objects such as pipes and faucets.

Stay off corded telephones and away from electrical devices.

Lightning Safety Week

June 20 – 26, 2010

www.lightningsafety.noaa.gov





Bolt from the Blue

It was a beautiful Saturday afternoon on the 4th of July, 2009, in Lakeland, Florida. A group of about 100 people were celebrating the holiday at a local field, playing soccer and volleyball, when a lightning bolt or series of strikes hit nearby, seemingly out of nowhere. In less than a few seconds, one of the group members was killed and 27 others were injured.

Those at the gathering witnessed just a few clouds in the area just north of the celebration, but it was not enough to suggest severe weather. Then all of a sudden, they saw two strikes of lightning and a flash on the field. Many of the people playing soccer were knocked off their feet. Meteorologists suggest that the lightning strike came from a stronger thunderstorm well south of the area

According to the National Weather Service, about 1.5 million lightning strikes occur every year in Florida. The summer months of June, July and August are also the deadliest time of year for lightning strike victims in Florida.

bolt travels through the atmosphere, it heats the air around it quickly. This rapid heating creates expansion of the air around the lightning bolt at speeds faster than the speed of sound. The speeding air breaks the sound barrier resulting in the explosive sound we know as thunder. Thunder is really just another form of a sonic boom.

Because lightning travels at the speed of light, it is possible to see lightning far off in the distance and never hear the thunder it produces. Heat lightning is seen from a very far distance, but so far away that thunder is not heard.

A “Bolt from the Blue” lightning strike is a flash which 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.”

Lightning Dangers

Lightning has been called “the underrated killer” since it usually does not get as much headline attention compared to other dangerous weather phenomena.

On average, lightning strikes kill about 100 Americans each year, more than hurricanes or tornadoes. In our state, lightning results in an average of 10 deaths and 40 injuries every year.

Most people who are struck by lightning are not killed, but they are left badly bruised and burned. It is important to realize that people struck by lightning carry no electrical charge and emergency medical services can be immediately performed safely to help resuscitate the person.

Lightning Safety

Because of our active Florida lifestyles and busy schedules, lightning plays a very important role in our daily lives. How many times each summer have you been at the beach or engaging in some outdoor activity, and have seen a thunderstorm approaching? Many of us assume that the storm is too far away to pose any danger, and many believe that if the storm is not producing rain at their location, then they are not at risk of being impacted by the storm. Many of us “roll the dice” when we try to speed-up doing yard work or have just a few more things to bring inside from the car. The fact still remains, if you are close enough to the storm to

hear thunder, then you are close enough to be struck by lightning.

A darkening cloud is often the first sign that lightning may strike. As soon as you see lightning or hear thunder, you are at risk. Go immediately inside a house or other enclosed structure to stay safe, and when inside, do not touch metal or use corded electrical devices. If lightning strikes an object nearby, the electrical current can travel into your safe place through wiring or cables.

If you are caught outside when lightning is occurring, the most dangerous place to be is an open area, such as a sports field. Outdoor water activities such as swimming, boating and fishing are also very dangerous during lightning because you are often the tallest, most vulnerable object in the area closest the storm. When a substantial building is not available and lightning is occurring or imminent, get into a vehicle with a hard-topped roof.

The best course of action for lightning safety is to monitor the weather forecast and sky conditions if you are participating in an outdoor activity. The safest lightning safety rule is this: If thunder roars, go indoors.

NWS Jacksonville, Sandrik/Enyedi