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Public Information Statement
National Weather Service Boston/Norton MA
720 AM EDT Mon Jun 20 2022

...NATIONAL LIGHTNING SAFETY AWARENESS WEEK...LIGHTNING SAFETY...

The National Weather Service (NWS) Boston, MA has declared June 20 through June 24 as Lightning Safety Awareness Week. Each day during the awareness week will feature information about a different lightning related topic.

Lightning Safety: Although spring and summer are the most deadly seasons for strikes, lightning can occur in any of the 50 states or U.S. territories at any time of the year. Lightning claims dozens of lives each year and leaves hundreds of other with long-term or even permanent health problems including paralysis, brain injuries, depression, headaches and vision problems.

Lightning also is responsible for hundreds of fires in homes and businesses and has caused dangerous and expensive wildfires. On average, lightning causes \$30-\$50 million dollars in damages and claims 30-40 lives each year. Many of these deaths are fishermen, boaters, or other sports enthusiasts and outdoor workers who did not head in soon enough or listen to the forecast before setting out. Being prepared and knowing how to stay safe will help you and your loved ones stay alive and well. Stay safe during a thunderstorm by being prepared in advance.

Be a Force of Nature. When Thunder Roars, Stay Indoors! Find out tips for safety indoors and outdoors near and far from home at our website: weather.gov/lightning

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For the latest updates...please visit our webpage at www.weather.gov/boston

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Public Information Statement
National Weather Service Boston/Norton MA
839 AM EDT Tue Jun 21 2022

...LIGHTNING SAFETY AWARENESS WEEK CONTINUES...LIGHTNING SAFETY
INDOORS...

The National Weather Service (NWS) Boston, MA has declared June 20 through June 24 as Lightning Safety Awareness Week. Each day during the awareness week will feature information about a different lightning related topic.

Lightning Safety in Your Home or Business Lightning claims 30-40 lives each year and hundreds more are left with lifelong disabilities.

When you hear thunder, immediately head to a fully enclosed building with electricity and/or plumbing or to a hard topped vehicle. Dugouts, picnic shelters and open garages are NOT safe, nor are motorcycles and construction vehicles that aren't fully enclosed. Once inside a building or vehicle, close all the windows and do not touch electrical equipment or plumbing. Stay off corded phones, cell phones and cordless phones are OK to use. Turn off your computer and stop cooking. It's OK to use remotes, but don't touch TVs and other appliances directly. Don't take a shower or bath during a thunderstorm. Try to stay away from windows, lightning can leak in corners.

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Public Information Statement
National Weather Service Boston/Norton MA
606 AM EDT Wed Jun 22 2022

...LIGHTNING SAFETY AWARENESS WEEK CONTINUES...

Lightning Facts...

The National Weather Service (NWS) Boston, MA has declared June 20 through June 24 as Lightning Safety Awareness Week. Each day during the awareness week will feature information about a different lightning related topic.

While lightning can be fascinating to watch, it is also a potential killer. In the United States, there are between 20 and 25 million cloud-to-ground lightning flashes each year. Each one of those 25 million flashes is a potential killer.

In addition to the deaths and injuries, lightning causes considerable damage across the nation. Each year, lightning is the cause of about 25,000 fires, including about 4400 house fires, 1800 other structural fires, and numerous forest fires. Those fires are responsible for an additional estimated 12 deaths per year. All totaled, lightning causes nearly \$1 billion in damages each year.

Remember there is no safe place outside during a thunderstorm. When Thunder Roars, Go Indoors! weather.gov/lightning

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Public Information Statement
National Weather Service Boston/Norton MA
755 AM EDT Thu Jun 23 2022

...LIGHTNING SAFETY AWARENESS WEEK CONTINUES...

Lightning Safety Outdoors...

The National Weather Service (NWS) Boston, MA has declared June 20 through June 24 as Lightning Safety Awareness Week. Each day during the awareness week will feature information about a different lightning related topic.

Last Resort Tips For When You are Far from a Safe Place: When you are going camping, hiking, fishing or taking part in other activities where you will be far from an enclosed building or vehicle, you are NOT safe during a thunderstorm.

If you absolutely cannot get to a safe building or vehicle, you can slightly lessen the threat of being struck with the following tips: Avoid open fields, the top of a hill or a ridge top. Stay away from tall, isolated trees or other tall objects. If you are in a forest, stay near a lower stand of trees. If you are in a group, spread out to avoid the current traveling between group members. If you are camping in an open area, set up camp in a valley or other low area. Remember, a tent offers NO protection from lightning. Stay away from water, wet items, such as ropes, and metal objects, such as fences and poles. Water and metal do not attract lightning, but they are excellent conductors of electricity. The current from a lightning flash will easily travel for long distances.

But don't kid yourself, you are NOT safe outside. Know the weather patterns of the area you plan to visit. For example, in mountainous areas, thunderstorms typically develop in the early afternoon, so plan to hike early in the day and be down the mountain by noon. Listen to the weather forecast for the outdoor area you plan to visit. The forecast may be very different from the one near your home. If there is a high chance of thunderstorms, stay home or near a safe location you can get to easily.

Be a Force of Nature. When Thunder Roars, Stay Indoors! Find out tips for safety indoors and outdoors near and far from home at our website: weather.gov/lightning

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Public Information Statement

National Weather Service Boston/Norton MA

828 AM EDT Fri Jun 24 2022

...NATIONAL LIGHTNING SAFETY PREPAREDNESS WEEK CONTINUES...

Be Aware!

The National Weather Service (NWS) Boston, MA has declared June 20 through June 24 as Lightning Safety Awareness Week. Each day during the awareness week will feature information about a different lightning related topic.

The Science of A Lightning Strike...

At any given moment there are 1800 thunderstorms in progress somewhere on the Earth, which amounts to 25 million lightning flashes each year. Lightning researchers have a better understanding today of the process that produces lightning, but there is still much to learn about the role of solar flares in the upper atmosphere, the Earth's electromagnetic field, and ice in storms. We know the cloud conditions needed to produce lightning, but cannot forecast the location or time of the next stroke of lightning.

Lightning occurs in volcanic eruptions, intense forest fires, surface nuclear detonations, heavy snowstorms, and large hurricanes, but it is most often seen in thunderstorms. Thunderstorms form in air that is moist, unstable, and has a trigger that causes the air to rise, such as a cold front. Rising motions within the storm build the cloud to as high as 6 to 10 miles above sea level. Ice forms in the higher parts of the cloud.

The ice particles vary from small ice crystals to large hailstones. There are a lot of collisions between the particles which causes a separation of electrical charges. Positively charged ice crystals rise to the top of the storm, and negatively charged particles and hailstones drop to the middle and lower parts of the storm. Enormous charge differences then develop.

A moving thunderstorm gathers another pool of positively charged

particles along the ground that travel with the storm. Positively charged particles rise up taller objects such as trees, houses, and telephone poles. These particles can even move up you. Have you ever been under a thunderstorm and had your hair stand up? if so, you may be the lightning target.

The negatively charged area in the storm sends out a charge toward the ground called a stepped leader. It is invisible to the human eye. When it gets close to the ground, it is attracted by all of these positively charged objects and a channel develops. You see the electrical transfer in this channel as lightning. There may be several return strokes of electricity within the established channel that you will see as flickering lightning. The lightning channel heats rapidly to 30 thousand degrees or more and the rapid expansion of heated air causes the thunder. Since light travels faster than sound in the atmosphere, the sound is heard after the lightning. If you see lightning and hear thunder at almost the same time, the lightning is in your neighborhood.

Not all lightning forms in the negatively charged area low in the thunderstorm cloud. Some originates in the cirrus anvil at the top of the storm, where there is a large positive charge. A strike originating in this area is called a positive flash. It is particularly dangerous for several reasons. It frequently strikes ahead of or behind a thunderstorm, away from the rain area, thus catching people by surprise, like a bolt from the blue. Positive strikes typically last longer, so fires are more easily ignited. Also, they usually carry a high peak electrical current which increases the lightning risk to an individual.

When thunder roars, go indoors.

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