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Lightning Safety – When Thunder Roars Go Indoors

COMMUNICATIONS

For National Lightning Safety Week, June 19-25, we asked Jim McNitt about the risk associated with lightning and for advice on how to manage it. Jim is a longtime Scouter in the Baltimore Area Council's Capitol District. He teaches American Red Cross first aid and cardiopulmonary resuscitation (CPR), has more than 44 years of experience backpacking, and is a meteorologist and project manager at the National Weather Service (NWS) headquarters in Silver Spring, Maryland.

Area Scouter: Jim, what is the risk associated with lightning?

Jim: Over the last 30 years, the U.S. has averaged 58 reported lightning fatalities per year. Only about 10 percent of people who are struck by lightning are killed, leaving 90 percent with various degrees of disability. Remember, risk has two parts: impact and likelihood. For lightning, the impact ranges from long-term neurological disability to death (due to cardiac arrest). The likelihood depends on the time of year, location, and meteorological conditions but is highest in the spring and summer in the mountains. One of the eight methods of Scouting is the outdoor method, so BSA adults and youth must be vigilant when it comes to lightning.

Area Scouter: What is the latest National Weather Service guidance on lightning?

Jim: When at locations where you can take cover inside a safe building, remember and follow the guidance from the NWS: "When thunder roars, go indoors!" If you can hear the thunder, then you are in the danger zone. Stay inside until 30 minutes after you last hear thunder. A safe building is one that is fully enclosed with a roof, walls, and floor, with electrical wiring and plumbing. The NWS advises: "If lightning strikes these types of buildings, or an outside telephone pole, the electrical current from the flash will typically travel through the wiring or the plumbing into the ground. This is why you should stay away from showers, sinks, hot tubs, etc., and electronic equipment such as TVs, radios, and computers."

A safe vehicle is any fully enclosed metal-topped vehicle such as a hard-topped car, minivan, bus, truck, etc.

Lightning is a hazard, and even with proper procedures there will be a risk that lightning could injure someone in the backcountry where there are no "safe" locations to take cover from lightning. It is a risk that most of us are willing to accept in order to enjoy the backcountry, but it is a risk that must be managed through proper planning, situational awareness, and decision-making.

If caught in a thunderstorm with no “safe” location nearby, follow these last-resort tips. These will not prevent you from being hit, just slightly lessen the odds.

- Avoid open fields, bodies of water, and exposed areas such as ridges and mountaintops.
- Stay away from tall, isolated objects. Lightning typically strikes the tallest object. Do NOT seek shelter under tall isolated trees. The tree may help you stay dry but will significantly increase your risk of being struck by lightning. Rain will not kill you, but lightning can!
- Do NOT seek shelter under partially enclosed buildings (like a pavilion out in the open).
- Do NOT seek shelter in shallow caves.
- Stay away from long conductors like fences and railroad tracks. The current from a lightning flash can easily travel for long distances in a conductor.

Area Scouter: What about crouching on a sleeping pad for protection if caught in the open?

Jim: The NWS no longer recommends the crouch position. The crouch position has not been proven effective and it can take up precious time that the person at risk could use to run to a safer location. Putting foam or another insulating material under your feet will not provide any protection at all.

Area Scouter: What should an adult leading a trip think about when it comes to trip planning and lightning?

Jim: Trip leaders should select a campsite that is in the forest, among the shorter stand of trees and not prone to flooding, and should schedule trips above timberline for morning and early afternoon, ascending peaks well before noon. Also, the trip leader should conduct training and raise awareness of lightning and related hazards well before the trip. The trip leader should check the forecast several days prior to the trip and monitor the forecast, with the option of postponing activities or the trip if thunderstorms are forecast. It's far better to avoid a dangerous situation completely. If the trip leader decides to conduct the trip with thunderstorms in the forecast, then advise parents/guardians of the residual risk (on the consent form) and carry a NOAA weather radio (NWR). The NWR can receive official NWS warnings, watches, forecasts, and other hazard information, and it has an alert feature that will alert you when a watch or warning is issued.

Area Scouter: What types of training do you recommend?

Jim: All BSA adult leaders, and especially trip leaders, should take the Weather Hazards online course and stay current in cardiopulmonary resuscitation (CPR)/automated external defibrillator (AED) training and first aid. I highly recommend trip leaders take a Wilderness First Aid course. Qualified adults and youth members should conduct safety briefings and instruction before the trip, including training trip participants to read the danger signs associated with lightning.

Area Scouter: What else can the trip leader do to prepare?

Jim: Prepare a trip plan with emergency contact information, including contact info for the local search-and-rescue organization. In the trip plan, include procedures for lightning. Require every parent/guardian to sign the consent form and the hold-harmless agreement. Finally, insist that all trip participants share the responsibility for managing risks during the trip. Besides getting trained in CPR/AED and first aid, trip participants should maintain situational awareness by monitoring the weather to identify clouds associated with the stages of thunderstorm development.

Area Scouter: Where can we get more information on the lightning hazard?

Jim: Check out the NOAA website for great information about weather hazards and for the latest forecast: www.noaa.gov. The NWS lightning-safety website is at www.lightningsafety.noaa.gov
Remember: When Thunder Roars, Go Indoors!