



# When Thunder Roars.... Go Indoors!

## BEING OUTSIDE IN A THUNDERSTORM

There is no safe place outside in a thunderstorm. Plan ahead to avoid this dangerous situation!

If you are outside and hear thunder, then get inside a substantial building or hard-topped metal vehicle **as fast as you can**. Remember – there is no substitute for getting to a safe place.

- Avoid the rim trail, viewpoints, and other open areas.
- Do not be the tallest object in the area.
- Stay away from isolated tall trees.

If someone is injured or unresponsive **CALL 9-1-1**. Provide the most accurate location information you can.

If you do not have cell phone communications then send 2 people for help with as much information about the incident as possible.

The information in this brochure was derived from the NOAA National Weather Service Lightning Safety brochure and the National Outdoor Leadership School (NOLS) Lightning Risk Management brochure and was coordinated with the NWS and NOLS.



## BRYCE CANYON NATIONAL PARK



### LIGHTNING SAFETY



### Important Safety Information!

Please read this brochure **BEFORE** you start your adventure in the park.

**Lightning is deadly! Thunder associated with lightning strikes can warn you of danger.**

**When Thunder Roars, Go Indoors!**

**There is no safe place outside during a thunderstorm.**

### WHAT YOU NEED TO KNOW

1. All thunderstorms produce lightning and are dangerous.
2. Lightning often strikes outside the area of heavy rain and may strike as far as 10 miles from any rainfall.
3. Lightning is possible year-round at Bryce Canyon, even in the winter!
4. Thunderstorms are most common in the spring and during late July, August, and September.
5. If you can hear thunder, you are in danger – lightning is close enough to pose an immediate threat.
6. Lightning can cause respiratory and cardiac arrest.
7. Lightning leaves many victims with permanent disabilities, including lifelong pain and neurological disabilities.

### BEFORE HITTING THE TRAIL

Check the forecast for thunderstorms. The latest weather observations and forecasts are on display in the Visitor Center.

1. Consider postponing a hike below the rim in order to avoid lightning.
2. Have a lightning safety plan. Know where you will go for safety and how much time it will take to get there.
3. When you plan your trip to Bryce Canyon include time for alternative activities during severe weather.
4. Alternative activities include driving to Rainbow Point, attending an indoor Ranger-led program, and going to the Visitor Center to view the movie, tour the museum, or visit the gift shop.

### HEAD TO SAFETY EARLY!

Thunderstorms can be deadly. Monitor the weather. Look for signs of a developing thunderstorm such as darkening skies, flashes of lightning or increasing wind. If you hear thunder, get to a safe shelter. Remember: **When Thunder Roars, Go Indoors!**

A safe shelter is a substantial building with electricity and plumbing. At Bryce Canyon, Safe shelters include the Visitor Center and Lodge. The restrooms at the campsites and Sunset Point parking lot also offer protection. Note that the shuttle bus stops and pit toilets are not safe shelters. If a safe shelter is not available, then seek shelter in a hard-topped metal vehicle. Remain inside at least 30 minutes after you last hear thunder.

### HOW THUNDERSTORMS FORM

Thunderstorms often develop when the sun heats the air near the ground and pockets of warmer air start to rise in the atmosphere. As these pockets of air rise, cumulus clouds form.



Photographed by Brian B. Roanhorse 2015

These clouds grow vertically as “towering cumulus,” and may be one of the first signs of a developing thunderstorm.



The final stage of development is when anvil-shaped clouds, known as "cumulonimbus" form. These clouds are higher and wider, and are associated with lightning.



Photographed by Brian B. Roanhorse 2015

A mature thunderstorm can have an anvil-shaped top. You can expect lightning in and near a cloud like this.

## HOW LIGHTNING KILLS

Lightning can kill or injure a person by direct strike, ground current, side flash, and conduction. Although not as common as the other ways, a person struck directly by lightning becomes a part of the main lightning discharge channel. Most often, direct strikes occur to victims who are in open areas. More than 50% of the fatalities and injuries are due to the ground current. With the ground current, the lightning enters the body at the contact point closest to the lightning strike, travels through the cardiovascular and/or nervous systems, and exits the body at the contact point farthest from the lightning. A side flash occurs when lightning strikes a taller object near the victim and a portion of the current jumps from the taller object to the victim. Conduction occurs when the victim is in direct contact with the object struck by lightning or in contact with a long conductor, such as a wire fence.

