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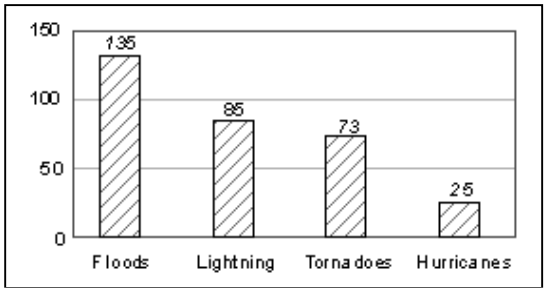
Lightning Safety

Lightning Facts

- New Mexico has the highest per capita lightning-caused fatality rate and the second-highest per capita lightning-caused injury rate in the nation.
- Most lightning strikes and most lightning-caused injuries occur in the afternoon during the summer months.
- Lightning may strike 10 miles from the parent storm.
- Lightning current can travel through power lines, telephone lines, or plumbing pipes to a person who is contact with an electric appliance, telephone, or plumbing fixture.
- On average, lightning causes more deaths annually than any other storm-related phenomenon except floods.

How Can You Protect Yourself?

In general, if you can see lightning and/or hear thunder, you are already at risk. To reduce the risk of injury or death when a thunderstorm approaches, follow these lightning safety guidelines.



Average annual number of storm-related deaths in the United States from 1966 to 1995

Move to a Safe Location during a Thunderstorm

Large, enclosed buildings provide the greatest safety from lightning strikes. Fully enclosed metal vehicles with the windows rolled up are generally safe, if you don't touch the metal surfaces of the vehicle. NOTE: Golf carts and convertibles are not considered fully enclosed metal vehicles. ***Avoid*** using land-line telephones, taking showers, washing dishes, and contacting conductive surfaces that are exposed to the outside, such as metal door frames and cable TV wiring.

If you are caught outdoors without shelter, find a low spot that is not prone to flooding, away from trees, fences, and poles. If you are caught in the woods, take shelter under shorter trees. ***Avoid*** areas that will place you at greater risk, such as higher elevations, wide-open areas, tall isolated objects such as trees or light poles, lakes, pools, and unprotected open structures such as picnic pavilions, rain shelters, and bus stops.

As a last resort, if you are nowhere near a safe place and you feel your skin tingle or your hair stand on end, use the ***lightning crouch***—put your feet together and squat low to the ground on the balls of your feet (heels raised) to minimize contact with the ground. If you are in a group, spread out so there are several body lengths between each person.

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Minimize Your Risk

Schedule outdoor work to avoid thunderstorms whenever possible. Most thunderstorms occur between noon and 9 p.m. When planning outdoor work, obtain current Los Alamos weather and thunderstorm forecasts at http://weather.lanl.gov/ .

Plan ahead for thunderstorms—Determine when to stop outdoor work, how personnel will be notified that outdoor work has been suspended, and all-clear signals for returning to work—and make sure everyone is familiar with the plan.

Observe the weather around you—Keep an eye out for very tall clouds with cauliflowerlike tops and dark areas at the base and listen for approaching thunder.

Follow the "30-30" Rule

If you see lightning and then hear thunder within ***30 seconds***, seek shelter immediately—lightning is within a six-mile radius! If you hear thunder but do not see lightning, assume that lightning is within a six-mile radius and seek shelter immediately. Remain in the sheltered location for at least ***30 minutes*** following the last lightning strike.

Consider the Use of Lightning Detectors

Lightning detectors such as handheld static-potential meters can be especially useful if a thunderstorm develops directly over your location and the 30-30 rule will not provide adequate warning. Lightning detectors may be stationary or portable, and may be equipped with audible alarms and/or visual alarms. Some models provide information on the range, approach speed, estimated time of arrival, and severity of a thunderstorm. Ensure that everyone knows when and how to respond to an alarm. For more information on handheld static-potential meters, contact the Meteorology & Air Quality Group at 7-7079.

Handheld lightning detector

Use these guidelines at work and at home to protect yourself, your co-workers, and your families from the hazards of lightning strikes.

References

http://www.nssl.noaa.gov/researchitems/lightning.shtml National Severe Storms Laboratory webpage provides information about lightning and links to other sources
http://www.nssl.noaa.gov/edu/ltg/ Questions and Answers about Lightning
Laboratory Implementation Guidance (LIG) 402-10-01A.0, *Lightning Safety*