

You are Here: [Home](#) / [People](#) / [NRCS Employees](#) / Safety | Avoiding the Risks of Deadly Lightning Strikes

 Stay Connected     

## People


Partners  
 Teachers and Students  
 Volunteers  
 NRCS Employees

CLICK ANYWHERE on THIS  
 PAGE to RETURN to  
 LIGHTNING PROTECTION  
 SYSTEMS at  
[InspectApedia.com](http://InspectApedia.com)

## Safety | Avoiding the Risks of Deadly Lightning Strikes

### Avoiding the Risks of Deadly Lightning Strikes

With the wet, cold winter of 2007-08, all Kansas NRCS employees have a backlog of field work that will need attention as soon as field conditions allow. With the arrival of spring and summer comes the potential for thunderstorms and lightning. Please take a few minutes to read the article below so everyone can have a safe, productive spring and summer work season.

Lightning is one of the most underrated severe weather hazards, yet ranks as the second leading weather killer in the United States (U.S.). More deadly than hurricanes or tornadoes, lightning strikes in America each year kill an average of 73 people and injure 300 others, according to National Oceanic and Atmospheric Administration's (NOAA's) [National Weather Service](#) .

### Lightning Quick Facts

Twenty-five million cloud-to-ground lightning strikes occur in the U.S. each year.  
 The air within a lightning strike can reach 50,000 degrees Fahrenheit.  
 Lightning can heat its path five times hotter than the surface of the sun.  
 One ground lightning stroke can generate between 100 million and 1 billion volts of electricity

### How Lightning Works

Lightning is caused by the attraction between positive and negative charges in the atmosphere, resulting in the buildup and discharge of electrical energy. This rapid heating and cooling of the air produces the shock wave that results in thunder. During a storm, raindrops can acquire extra electrons, which are negatively charged. These surplus electrons seek out a positive charge from the ground. As they flow from the clouds, they knock other electrons free, creating a conductive path. This path follows a zigzag shape that jumps between randomly distributed clumps of charged particles in the air. When the two charges connect, current surges through that jagged path to create the lightning bolt.

### The Warning Signs

High winds, rainfall, and a darkening cloud cover are the warning signs for possible cloud-to-ground lightning strikes. While many lightning casualties happen at the beginning of an approaching storm, more than 50 percent of lightning deaths occur after the thunderstorm has passed. The lightning threat diminishes after the last sound of thunder, but may persist for more than 30 minutes. When thunderstorms are in the area, but not overhead, the lightning threat can exist when skies are clear.

### Safety Precautions

While nothing offers absolute safety from lightning, some actions can greatly reduce your risks. If a storm is approaching, avoid being in, or near, high places, open fields, isolated trees, unprotected gazebos, rain or picnic shelters, baseball dugouts, communications towers, flagpoles, light poles, bleachers (metal or wood), metal fences, convertibles, golf carts, and water.

If you can see lightning or hear thunder, the risk is already present. Louder or more frequent thunder means lightning activity is approaching, increasing the risk for lightning injury or death. If the time delay between seeing the lightning and hearing the thunder is less than 30 seconds, you are in danger.

No place is absolutely safe from the lightning threat; however, some places are safer than others. Large enclosed structures are safer than smaller, or open, structures. Avoiding lightning injury inside a building depends on whether the structure incorporates lightning protection and its size. When inside during a thunderstorm, avoid using the telephone, taking a shower, washing your hands, doing dishes, or having contact with conductive surfaces, including metal doors, window frames, wiring and plumbing. Generally, enclosed metal vehicles, with the windows rolled up, provide good shelter from lightning.

### First Aid for Lightning Victims

Ninety percent of lightning victims survive their encounter with lightning, especially with timely medical treatment. Individuals struck by lightning do not carry a charge, and it is safe to touch them and provide medical

treatment. Call 911 and start mouth-to-mouth resuscitation. If the victim has no pulse, begin cardiac compressions. In cold, wet situations put a protective layer between the victim and the ground to lower the risk of hypothermia.

[NRCS Home](#) | [USDA.gov](#) | [Site Map](#) | [Civil Rights](#) | [FOIA](#) | [Plain Writing](#) | [Accessibility Statement](#)

[Policy and Links](#) | [Non-Discrimination Statement](#) | [Information Quality](#) | [USA.gov](#) | [WhiteHouse.gov](#)