

LIGHTNING SAFETY

SUGGESTIONS & RECOMMENDATIONS

A COMPILATION FOR SUSSEX RURAL ELECTRIC MEMBERS



SUSSEX
RURAL ELECTRIC COOPERATIVE

A Touchstone Energy® Partner 
The power of human connections

LIGHTNING SAFETY

COMPILED FROM A VARIETY OF SOURCES FOR THE MEMBERS OF SUSSEX RURAL ELECTRIC COOPERATIVE

FACTS, FIGURES & STATISTICS



- Lightning flashes approximately 44 times every second, or 1.4 billion times per year.
 - 80% is cloud-to-cloud, 20% is cloud-to-ground.
 - 70% of all lightning occurs in the Tropics.
 - A village in the Congo is the lightning capital – 158 strikes per km² per year.
 - Central Florida's Lightning Alley is highest in the US with 20 strikes per km².
 - The Empire State Building averages 23 strikes per year.
 - Roy Sullivan held a Guinness World Record after surviving seven (7) different lightning strikes across 35 years.
 - All thunderstorms create lightning.
 - Typical thunderstorms are 15 miles in diameter and last 30 minutes.
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- 100 people per year are killed by lightning – more than tornadoes.
 - Survival rate is between 5 and 30%, according to sources. But, 25% suffer some long term effects.
 - Lightning heats surrounding air to 50,000° F, hotter than the surface of the sun.

SAFETY MEASURES

1. Be aware of the warning signs – thunder or lightning.
2. Count the time between the flash and thunder, divide by five and you have the distance in miles
3. Suspend outdoor activities if the storm is within six miles because lightning strikes can reach six to eight miles away.
4. If caught outdoors, seek immediate shelter in a safe place. Unsafe places include:
 - Under canopies and park shelters.
 - Under lone trees.
 - Near metal structures and fences.
 - Golf carts.
 - Convertible cars.
 - High ground.
 - Open fields.
 - Bodies of water.
5. Move at least 15 feet away from anyone near you.
6. If you feel your hair rise or hear crackling, lightning is imminent, crouch in a catcher's position (on the balls of your feet without knees or hands on the ground), feet together and hands over ears. DO NOT lie flat.



If you are in your home, do the following:

- Stay away from appliances and electronics.
- Stay off the telephone.
- Turn off / unplug high value equipment like air conditioners, TVs and computers.
- Do not bathe or take a shower, stay away from plumbing and running water.
- Avoid contact with concrete floors and walls.
- Stay off porches.
- Bring pets inside – dog houses are not good protection for pets.

Lightning can enter your home via plumbing, electric wires, cable and telephone connections
Wait 30 minutes after the last instance of thunder or lightning to resume outdoor activities

The National Lightning Safety Institute urges us to teach this safety slogan:

"If you can see it, flee it; if you can hear it, clear it."

Or, as the State of Minnesota urges, "When thunder roars, go indoors."

Or, as NOAA suggests, practice the 30/30 rule: Suspend outdoor activities if you cannot count to 30 between seeing lightning and hearing thunder and for 30 minutes after storms.



AFTER THE STORM

1. Stay away from damaged areas, especially downed power lines. Contact us in the case of downed wires or damage to your service.
2. Inspect your home and possessions for damage. Record any damage for insurance purposes.
3. Stay away from flood waters even if you think you know the area.
4. If anyone has been struck by lightning, provide first aid and CPR in the following instances:
 - The area is safe
 - Someone is available to contact 911
 - You are qualified to give CPR
5. If someone comes in contact with a live electric wire, DO NOT attempt to assist them. Call 911 for assistance.

MYTHS AND FACTS

Myth: If it is not raining, there is no danger from lightning. **Fact:** Lightning often strikes away from heavy rainfall. It may occur as far as ten miles away from any rainfall.

Myth: Rubber soles on shoes or rubber tires on a car will protect you from being injured by lightning. **Fact:** Rubber provides no protection from lightning. However, the steel frame of a hard-topped vehicle provides some protection if you are not touching metal.

Myth: People struck by lightning carry an electrical charge and should not be touched. **Fact:** Lightning victims carry no electrical charge and should be attended to immediately.

Myth: Heat lightning occurs on very hot summer days and poses no threat. **Fact:** What is referred to as heat lightning is actually lightning from a thunderstorm too far away for thunder to be heard. However, the storm may be moving in your direction.

SOURCES:

The National Lightning Safety Institute
St. Paul – Ramsey County (MN) Department of Public Health
State of New York
State of Minnesota
Palm Beach County (FL) Department of Public Safety
National Oceanic and Atmospheric Administration – National Weather Service
Wikipedia
United States Golf Association

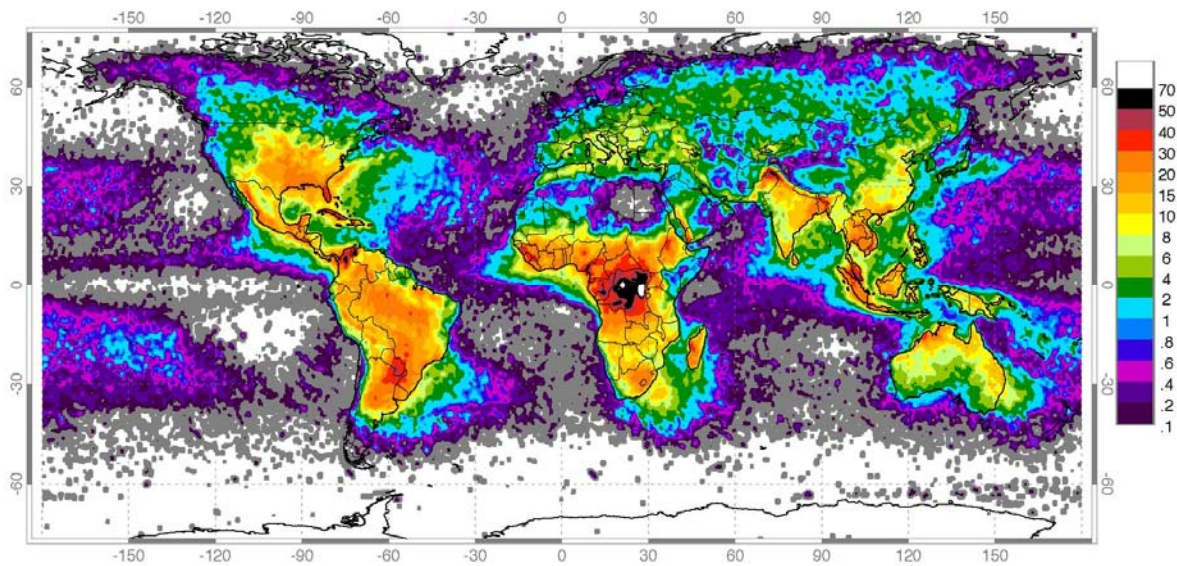


Figure 1 Strikes per square km



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Lightning Safety Quiz

1. Where is the safest place to be during a lightning storm?

- A. In a car
- B. In the middle of a field
- C. In a house
- D. Lying face down on the ground

2. Using a telephone during a lightning storm is dangerous.

- True
- False

3. A car is a safe place to be in an electrical storm because it has rubber tires.

- True
- False

4. The average number of people who die in the United States each year from being struck by lightning is about

- A. 10
- B. 100
- C. 1,000
- D. 100,000

5. The greatest number of people who die from being struck by lightning are

- A. Golfers
- B. Fishermen
- C. Farmers
- D. Joggers

Lightning Safety Quiz Answers

1. Where is the safest place to be during a lightning storm?

Correct! You said **C**.

By far the safest place to be during an electrical storm is in a house or building. The metal plumbing and wiring in the walls of the building form a protective barrier. It is important to remember not to be touching that metallic cage, i.e. stay away from electrical appliances, plumbing fixtures, etc.

2. Using a telephone during a lightning storm is dangerous.

Correct! You said **True**.

Lightning can strike telephone and electrical wires and travel into your house, through your phone cord, into your telephone, to the handset, and SHOCK you! Cordless phones are not dangerous because there is no physical connection to the wires. It is, however, rude to use your cordless phone during an electrical storm to call your neighbor who does not have a cordless phone.

3. A car is a safe place to be in an electrical storm because it has rubber tires.

Correct! You said **False**.

While cars are a very safe place to be, it is not the tires that protect you! This is a very common misconception. It is actually the metal that is surrounding you that affords the protection. This is due to something called the Skin Effect, which says that electricity, like lightning, will travel only on the surface of enclosed metal objects. Therefore, while your car may be hit by lightning, as long as you stay inside, you are safe. This is, of course, if you have a metal car that is not a convertible. Incidentally, your tires would have to be about a mile thick and made of solid rubber to afford you adequate protection.

4. The average number of people who die in the United States each year from being struck by lightning is about how many?

Correct! You said **B**.

About 100 people die each year in the United States as the result of being struck by a lightning bolt.

5. The greatest number of people who die from being struck by lightning are who?

Correct! You said **C**.

According to a study by Dr. Martin A Uman, in his 1971 book, "Understanding Lightning," 29 percent of those killed were farmers. This compares to 19 percent being golfers, and nearly 15 percent were fishermen. Joggers were not mentioned in the study.

Thanks for taking this safety quiz. Hope you had fun and learned some new facts about lightning!