

THUNDERSTORMS AND LIGHTNING

A PREPAREDNESS GUIDE

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Thunderstorms are our most common experience of severe weather. The typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes. Despite their small size, thunderstorms are dangerous. Every thunderstorm produces lightning which kills more people each year than tornadoes. Heavy rain from thunderstorms can lead to flash flooding. Strong winds, hail, and tornadoes are also dangers associated with some thunderstorms.

Of the estimated 100,000 thunderstorms that occur each year in the United States, only about 10% are classified as severe. The National Weather Service considers a thunderstorm severe if it produces hail at least 3/4 inch in diameter, wind 58 mph or higher or tornadoes. The five main offspring of thunderstorms are: lightning, floods, straight-line winds, large hail and tornadoes.

Lightning occurs with all thunderstorms. It averages 93 deaths and 300 injuries each year. It also causes several hundred million dollars in damage to property and forests annually.

Flash floods / floods are the number one thunderstorm killer... nearly 140 fatalities each year. Most flash flood deaths occur at night and when people become trapped in automobiles.

Straight line winds are responsible for most thunderstorm wind damage. Winds can exceed 100mph! One type of straight line wind that can cause extreme damage is a *downburst*, a small area of rapidly descending air beneath a thunderstorm. Downbursts can reach speeds equal to that of a strong tornado and can be extremely dangerous to aviation.

Hail causes nearly \$1 billion in damage to property and crops annually. Large hail stones can fall at speeds faster than 100mph. The costliest US hailstorm occurred in Denver, CO in July, 1990. Total damage was \$625 million.

Lightning is perhaps the most spectacular phenomenon associated with thunderstorms. Most lightning deaths and injuries occur when people are caught outdoors, most often in the summer months and during the afternoon and early evening. In the past decade, over 15,000 lightning-induced fires nationwide have resulted in several hundred million dollars a year in damage and the loss of 2 million acres of forest. Your chances of being

struck by lightning are estimated to be 1 in 600,000 but could be reduced by following safety rules.

What to listen for...

When conditions are favorable for severe weather to develop, a **severe thunderstorm watch** is issued.

When severe weather has been reported by spotters or indicated by radar, a **severe thunderstorm warning** is issued. Warnings indicate imminent danger to life and property to those in the path of the storm.

What you can do--Be safe!

Before the storm...

- Check weather forecasts before leaving for extended periods outdoors.
- Watch for signs of approaching storms.
- Postpone outdoor activities if thunderstorms are imminent. This is your best way to avoid being caught in a dangerous situation.

When a thunderstorm approaches...

- Remember: if you can hear thunder, you are close enough to the storm to be struck by lightning. Go to safe shelter immediately!
- Move to a sturdy building or car. DO NOT take shelter in small sheds, under isolated trees, or in convertible automobiles.
- Get out of boats and stay away from water.
- Avoid using the telephone or any other electrical appliances. Use the phone only in an emergency.
- Do not take a bath/shower.
- Turn off air conditioners.
- Get to higher ground if flooding is possible. Abandon cars and climb to higher ground. Note: most flash flood deaths occur in automobiles.

If caught outdoors and no shelter is nearby...

- Find a low spot away from trees, fences and poles. Make sure the place is not subject to flooding.
- If you are in the woods, take shelter under the shorter trees.
- If you feel your skin tingle or your hair stand on end, squat low to the ground on the balls of your feet. Place your hands on your knees with your head between them. Make yourself the smallest target possible and minimize your contact with the ground.