

Weather Merit Badge

Hiller Aviation Museum

Weather Conditions

Requirement 2

Name five dangerous weather-related conditions. Give the safety rules for each when outdoors and explain the difference between a severe weather watch and a warning. Discuss the safety rules with your family.

Thunderstorms



Safety during Thunderstorms

Lightning Safety

SAFEST

Go indoors and stay inside until 30 minutes after the last clap of thunder



SAFE

Take shelter in a hard-topped vehicle



NOT SAFE

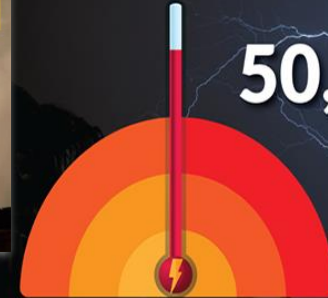
Do not take shelter under a tree, on a hilltop or in an open field



If you cannot get indoors or in a vehicle, go to the lowest area nearby and make yourself as small a target as possible

Lightning is **hotter** than the surface of the Sun and can reach temperatures around

50,000°F



When Thunder Roars Go Indoors
weather.gov/lightning



When Thunder Roars, Go Indoors!

STOP all outdoor activities

Seek shelter in a building or metal hard-topped vehicle

Wait 30 minutes after you last hear thunder to resume activities



weather.gov/lightning



Thunderstorms & Aviation



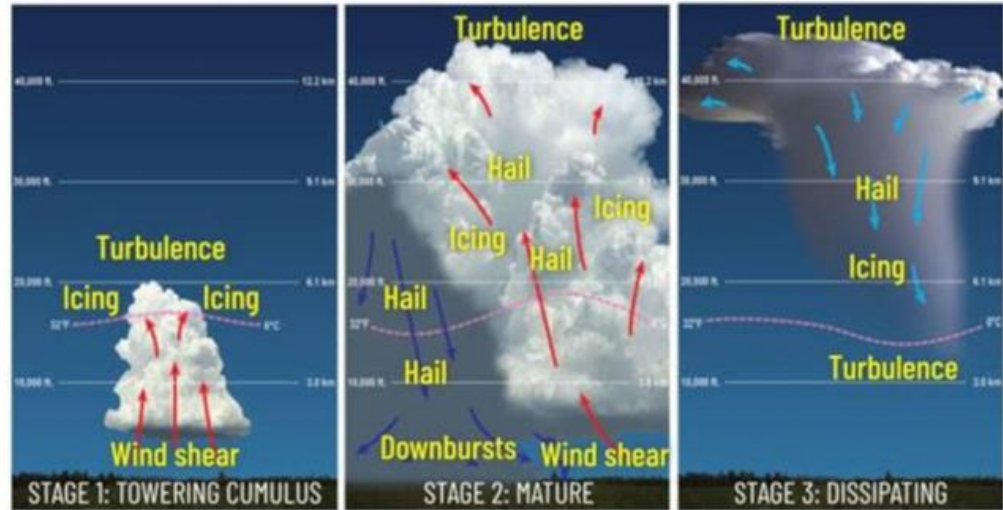
Thunderstorm life cycle & aviation safety



AVIATION WEATHER CENTER

<https://www.aviationweather.gov/>

Each stage of thunderstorm development is associated with various aviation hazards. That's why it's dangerous to fly in and near thunderstorms.



Tornadoes



Safety during Tornadoes

TORNADO SAFETY TIPS



Tornadoes can destroy buildings, flip cars and create deadly flying debris. If you are under a tornado warning, seek shelter immediately.

Home



Go to a safe room, basement or interior room on the lowest floor.



Stay away from windows. An exploding window can injure or kill.



Get under something sturdy, such as a heavy table or workbench.



Know Where to Go

When Sheltering from a Tornado



[weather.gov/tornado](https://www.weather.gov/tornado)

Tornadoes & Aviation



Floods



Safety during Floods

Surviving Catastrophic Flooding

If the highest floor of your home becomes dangerous...
GET ON THE ROOF CALL 911

Calling... 911

People escaping flood waters as a last resort
DO NOT stay in the attic. You could become trapped!

Move to a higher floor with windows. Bring your phone and supplies.

DO NOT attempt to travel in flooded areas.

NRR

FLASH FLOOD SAFETY

TURN AROUND DON'T DROWN

Rapid flowing streams or ditches can sweep you off your feet and your vehicle downstream. Remain alert if you live in flood prone areas. Move to higher ground if flooding threatens. Use caution at night.

STAY OUT OF FLOODED AREAS

Water may still be rising and very swift. Do NOT allow children to play in or around flowing water. Flood waters can hide rocks, trees, and debris.

weather.gov/mob

6" of water is enough to sweep away a person

12" of water is enough to sweep away a car

18" of water is enough to sweep away a smaller truck

TURN AROUND DON'T DROWN

BE READY! FLOODS

DURING

Gather emergency supplies and follow local radio or TV updates.

Unplug appliances to prevent electrical shock when power comes back on.

Do NOT drive or walk across flooded roads. Cars and people can be swept away.

Tie down or

RECOGNIZE FLOOD RISK

- Identify flood-prone or landslide-prone areas near you.
- Know your community's warning signals, evacuation routes, and emergency shelter locations.
- Know flood evacuation routes near you.

When power lines are down, water is in your home, or before you evacuate, TURN OFF gas, power, and water.

Throw away items that cannot be disinfected.

Flood & Aviation



Hurricanes



Safety during Hurricanes

BEFORE A HURRICANE



Listen to local area radio, NOAA radio or TV stations for information.



Be prepared to evacuate and know your routes and destinations.



Check your emergency kit and replenish as needed.



GENERAL HURRICANE SAFETY PRECAUTIONS



Stay away from windows and glass features inside.



Follow instructions to evacuate or shelter-in-place.



Draw the shades and blinds on windows and doors.



Do not assume the storm is over if there is a lull.



Monitor updates from public safety officials.



Turn off appliances and main breaker if power is lost.

Hurricanes & Aviation



Above: in the eye of a hurricane

Winter Storms



Types:

- Snowstorm
- Blizzard
- Freezing Rain
- Ice Storm
- Extreme Cold
- Wind Chill

How the wind makes you feel colder...



Safety during Winter Storms

WINTER STORM SAFETY TIPS

- Stay indoors as much as possible
- When going outside:
 - dress warmly and stay dry
 - keep trips brief
 - don't ignore shivering—it's a sign your body is losing heat
- Know the symptoms of hypothermia and frostbite
- Use caution when doing activity outdoors, like shoveling snow



Warning Signs of Hypothermia



weather.gov/cold



DRESSING FOR COLD WEATHER

adding layers will help keep you warm as the temperature drops

CHILLY	COLD	EXTREME COLD
<ul style="list-style-type: none"> 1-2 layers long layer outer layer to keep out wind, rain warm shoes water proof 	<ul style="list-style-type: none"> 2-3 layers warm hat gloves outer layer to keep out wind, wet snow boots water proof 	<ul style="list-style-type: none"> 3+ layers 1 insulating 2+ layers warm hat face mask outer layer to keep out wind boots water proof

weather.gov/safety

Burrrr!

Stay warm outside by changing wet clothing frequently to prevent body heat loss.

American Red Cross

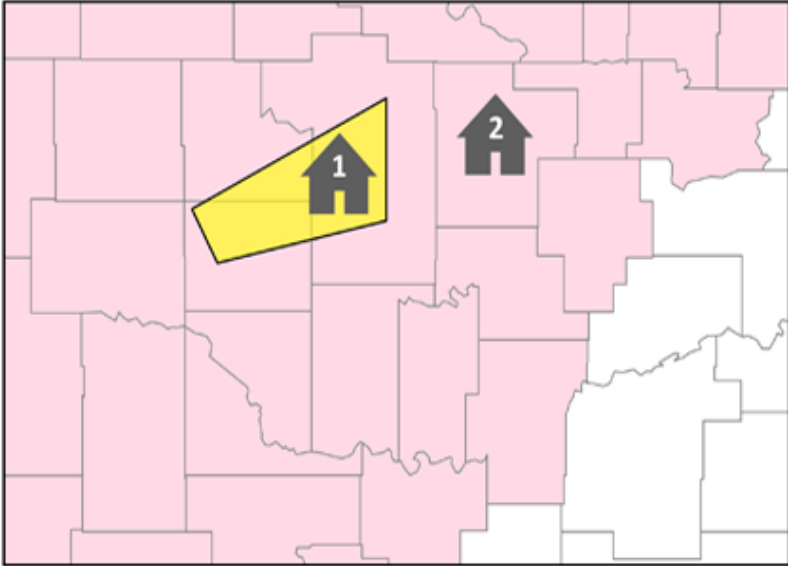
When it's freezing outdoors, stay inside if possible. Bring your pets inside too!

Winter Storms & Aviation



Severe Weather Watch vs. Warning

Be Prepared! versus Take Action!



Severe Weather Products

- Severe Thunderstorm Warning**
Severe storms expected! Seek shelter.
Large hail or damaging wind is occurring or will shortly at this location on the map.
- Severe Thunderstorm Watch**
Severe storms possible. Be prepared.
Weather conditions favor thunderstorms capable of producing large hail or damaging wind at this location on the map.

Wireless Emergency Alert

Emergency Alert
Severe thunderstorm warning for this area until 730 pm. Take shelter. Check local media. - NWS

Homework

Discuss the Weather Safety Rules
with your family.



More information at the end of the program.