

# SEVERE THUNDERSTORMS AND YOUR FAMILY

Natural Disasters



Severe thunderstorms can produce lightning, hail, high winds, even tornadoes or flash flooding, all of which can cause injury to you or your family. Know how to protect your family before, during and after severe storms.

## Before a Severe Storm

- **Know the warning system for your community.**
  - Learn the thunderstorm warning system for your county or locality.
  - Monitor for severe thunderstorms in your area at NOAA's National Weather Service National Storm Prediction Center - <http://www.spc.noaa.gov>
- **Know the terminology.**
  - A **severe thunderstorm WARNING** means storms are likely in your area—Be ready to take necessary action.
  - A **severe thunderstorm WATCH** means storms have been reported by spotters or indicated by radar – Take immediate action to stay safe.
- **Know the safest location for shelter in your home, workplace and school.**
- **Prepare an emergency kit. You may experience power outages or need to shelter-in-place due to the storm.**
  - Food, water and necessities for all members of the family to last at least 24 hours
  - Any medications needed for family members
  - First aid kit
  - Battery powered radio
  - Flashlight with extra batteries
  - Sleeping bags or blankets, and extra clothing

## During a Severe Storm

- **Stay informed.**
  - Listen to the radio or television about the situation.
- **If a WATCH is issued – Seek shelter immediately.**
- **If you are home,**
  - Remain indoors; stay off porches.
  - Stay away from windows and doors.
- **If you are outdoors,**
  - Seek shelter immediately – such as a nearby home or building.
  - If no shelter is available – take shelter in a hard top (not convertible) automobile, but avoid touching any metal.
  - If you are in the woods, go to a low area such as a ravine or valley under a thick growth of small trees; be alert for flash flooding.

- **Avoid** natural lightning rods: tall, isolated tree in an open area • hilltops in open fields • the beach or a boat on the water • isolated sheds/small structures in open areas • anything metal—tractors, motorcycles, golf carts or clubs, bicycles.

- **Lightning safety tips, if you are inside your home.**
  - Avoid contact with corded phones; cordless and cellular telephones are safe to use.
  - Avoid contact with electrical equipment or cords; if you plan to unplug any electronic equipment, do so well before the storm arrives.
  - Avoid contact with plumbing, it can conduct electricity – do not wash your hands, shower, wash dishes, or do laundry.
- **Lightning safety tips, if you are caught outdoors.**
  - Squat low to the ground on the balls of your feet.
  - Place your hands over your ears and your head between your knees.
  - Make yourself the smallest target possible and minimize your contact to the ground.
  - DO NOT lie flat on the ground.
  - Rubber-soled shoes and rubber tires provide NO protection from lightning.

## After a Severe Storm

- **Stay away from storm-damaged areas.**
- **Clean up safely.**
  - Wear sturdy shoes or boots, long sleeves, and gloves.
  - Stay away from downed power lines and report them immediately.
  - Be aware of hazards that may cause injury to you or others cleaning up (e.g., chain saws, electrical or chemical hazards).
  - Use caution with gas powered equipment – dangerous carbon monoxide can be generated; use in well ventilated areas.
- **If someone has been injured by lightning,**
  - Call 911 or your local Emergency Medical Services.
  - Check the person for burns or other injuries; being struck by lightning can also cause nervous system damage, broken bones, loss of hearing or eyesight.
  - If breathing has stopped, begin rescue breathing.
  - If the heart has stopped beating, a trained person should give CPR.

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# SEVERE THUNDERSTORMS AND YOUR HOME

Natural Disasters



Damage to your home from severe thunderstorms can occur from lightning, hail, high winds, even tornadoes or flash flooding. Prepare your home before the storm, to minimize the impact.

## Before a Severe Storm

- **Pick a safe place in your home to gather during a thunderstorm.**
  - This should be a place where there are no windows, skylights, or glass doors, which could be broken by strong winds or hail and cause damage or injury.
- **Identify potential hazards on your property.**
  - Know how to turn off electrical power, gas and water supplies.
  - Secure unstable materials that are outside your home (e.g., patio furniture, fuel tanks).
  - Remove dead or rotting trees and branches that could fall and cause injury or damage.
- **Prepare your home.**
  - Shutter windows and secure outside doors.
  - Keep your roof clean and free of debris regularly and check for loose shingles or leaks on a regular basis.
  - Make sure there is proper drainage around your home to help reduce the possibility of flooding.
  - Consider having a lightning protection system installed.
  - Install surge protectors to protect electronic equipment.
- **Safeguard your possessions.**
  - Create a room-by-room inventory of your possessions, include receipts and photos.
  - Keep these lists in a secure place (e.g., safe deposit box).
  - Review your insurance coverage.

## During a Severe Storm

- **Stay informed.**
  - Listen to the radio or television about the situation.
- **If a WATCH is issued – Seek shelter immediately.**
- **Avoid hazards in your home.**
  - Avoid corded telephones and metal; telephone lines and metal pipes can conduct electricity.
  - Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage to equipment.
  - Draw blinds and shades over windows to prevent glass (if high winds break the windows) from shattering into your home.

## After a Severe Storm

- **Assess the situation.**
  - Check the area for downed power lines; if found, notify your electric company immediately.
  - Check for power outages.
- **Cleanup safely.**
  - During cleanup, wear sturdy shoes or boots, long sleeves, and gloves to protect your body from injury.
  - Stay away from downed power lines and report them immediately.
  - Be aware of hazards that may cause injury to you or others cleaning up (e.g., chain saws, electrical or chemical hazards).
  - Clear broken tree branches away, but use caution, downed or damaged power lines can send electrical currents through tree branches and metal fences.

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High winds, thunder and lightning during severe storms often produce anxiety, fear and a need to escape for some pets. Take preparedness measures to protect and care for your pet during severe storms.

## Before a Severe Storm

- **Identification.**
  - Major storms can destroy fences allowing frightened pets to run away.
  - Make sure your pet has some form of identification (collar, microchip) that will let people contact you if your pet becomes separated from you.
- **Create a safe haven.**
  - Try to create a safe place for your animals.
  - Practice loading your pet into their cage or carrier.
  - Know their favorite hiding locations.
  - Some animals will feel more comfortable in a small crate or under a bed.
- **Try to desensitize your pet.**
  - Over a period of time, expose your pet to an intensity level of noise that doesn't frighten the animal.
  - Pair the noise with something pleasant, like a treat or a fun game.

## During a Severe Storm

- **Pet behavior.**
  - A pet's behavior may change before, during and after the storm.
  - Consult your veterinarian. Medication may be available which can help reduce your pet's anxiety levels for short time periods.
  - Distract your pet. Encourage them to engage in any activity that captures their attention and distracts them from being fearful.
- **Pet safety.**
  - Bring pets indoor well in advance of a storm.
  - NEVER leave animals tied up outside.
  - If they are frightened, reassure them and remain calm.
  - Animals should take the same cover that humans do during severe weather.
  - Keep them away from windows.
  - Do not give your pet a bath during a storm.

## After a Severe Storm

- **Pet behavior.**
  - Be aware that a pet's behavior may change before, during and after a disaster.
  - In the first few hours after the storm, leash your pets when they go outside until they readjust to the situation.
- **Pet safety.**
  - Keep your pet away from storm damaged areas.
- **Lost pets.**
  - If pets cannot be found after a disaster, contact the local animal control office.
  - Bring along a picture of your pet, if possible.

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# SEVERE THUNDERSTORMS AND YOUR BUSINESS

Natural Disasters



Severe thunderstorms can occur at any time – leading to property damage, power outages, or even employee injury. Preventive actions can help to protect your business, ensure the safety of your employees, minimize damage to your property and speed the recovery process.

## Before the Storm

- **Monitor for severe thunderstorms in your area.**
  - NOAA's National Weather Service  
<http://www.spc.noaa.gov/products/wwa/>
- **Know the warning system for your community.**
  - Learn the thunderstorm warning system for your county or locality.
- **Know the terminology.**
  - A **severe thunderstorm WARNING** means storms are likely in your area—be ready to take necessary action.
  - A **severe thunderstorm WATCH** means storms have been reported by spotters or indicated by radar – Take immediate action to stay safe.
- **Establish shelter locations on your property.**
  - Choose a place where there are no windows, skylights, or glass doors.
  - Have enough room for all employees, any customers or suppliers who may be at your business during the hazardous situation.
  - Stock the shelter with emergency supplies such as flashlights, battery powered radio, and a first aid kit.
- **Prepare your employees.**
  - Inform your employees of the business emergency plan; review it with them regularly.
  - Ensure employees know the location of the sheltering area.
- **Make plans regarding customers.**
  - Determine the likelihood of customers being present if a severe storm situation.
  - Have an emergency plan for customers; review it with employees regularly.
  - Label shelter locations for the building.
- **Have a business emergency/continuity plan.**
  - Be prepared for power outages.
  - Determine any essential equipment or processes that rely on electrical power.
  - Have emergency power (e.g., backup generators) available.
  - Maintain an inventory of all equipment and assets for your business in the event of structural damage.
  - Install surge protectors to protect electronic equipment.

## Identify potential hazards on your property.

- Secure unstable materials that are outside your business (e.g., lumber, equipment, fuel tanks).
- Remove dead or rotting trees and branches that could fall and cause injury or damage.
- Check the roof for signs of deterioration or leaks; make sure all drains and gutters are clear.

## During A Severe Thunderstorm

- **Stay informed.**
  - Listen to the radio or television about the situation.
- **If a WATCH is issued – Seek shelter immediately.**
- **Lightning safety tips.**
  - Avoid contact with corded phones; cordless and cellular telephones are safe to use.
  - Avoid contact with electrical equipment; if you plan to unplug any electronic equipment, do so before the storm arrives.

## After a Severe Thunderstorm

- **Assess the situation.**
  - Survey the outside and inside of the building for structural damage, sharp objects, downed power lines, damaged gas lines, or other hazards (e.g., chemicals).
- **Contact your insurance agent to report any losses and obtain advice about restoration needs.**
- **Clean up safely.**
  - Wear sturdy shoes or boots, long sleeves, and gloves for protection.
  - Use caution with gas powered equipment – dangerous carbon monoxide can be generated.
  - Report any hazardous materials (e.g., fuels, agricultural chemicals) that have leaked to emergency response personnel.
- **If someone has been injured by lightning,**
  - Call 911 or your local Emergency Medical Services.
  - Check the person for burns or other injuries; being struck by lightning can also cause nervous system damage, broken bones, loss of hearing or eyesight.
  - If breathing has stopped, begin rescue breathing
  - If the heart has stopped beating, a trained person should give CPR

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The destructive forces of thunderstorms and lightning can be particularly dangerous and costly on the farm. High winds can damage buildings, overturn vehicles, uproot or damage trees. Lightning is the leading cause of farm fires and hail can injure animals left outdoors and damage crops. Preparing ahead can help minimize damage and speed your recovery.

## Before a Severe Storm

- **Check weather reports before planning work activities.**
  - Have a way of receiving weather information while you work, especially at remote locations.
  - Monitor for severe thunderstorms in your area at NOAA's National Weather Service National Storm Prediction Center - <http://www.spc.noaa.gov>
- **Develop a communication plan with your family and employees or co-workers.**
  - Know how to contact each other in the event of severe weather, especially if you are in separate locations.
  - Establish shelter locations on your property.
- **Identify potential hazards on your property.**
  - Secure structurally unstable materials (e.g., lumber, logs, equipment, fuel tanks) and loose equipment and materials (e.g., buckets, tools, etc.) which can become dangerous projectiles in high winds.
  - Fix loose siding, roofing, fence posts, etc., as these can become dangerous projectiles in high winds.
  - Know how to turn off electrical power, gas and water supplies for buildings on the farm.
  - Remove or fence off single trees in pastures to prevent animals from congregating under them.
  - Ground wire fences; current can travel up to two miles through a wire fence, which could be harmful to both livestock and humans.
- **Stockpile emergency materials**
  - Plywood, lumber, nails, hammer, saw, pry bar
  - Wire and rope to secure objects
  - Fire extinguishers at all barns and in all vehicles
  - A gas-powered generator in case of power failure
- **Make a list of your farm inventory, include:**
  - Livestock (species, number of animals)
  - Crops (acres, type).
  - Machinery and equipment (make, model #).
  - Hazardous substances (e.g., pesticides, fertilizers, fuels, medicines, other chemicals).
- **Review your insurance coverage.**

## During a Severe Storm

- **Stay informed.**
  - Listen to the radio or television for situation developments.
- **If there is time, turn off electrical power to machines, barns, and other structures that may become damaged.**
- **If a WATCH is issued – Seek shelter immediately!**
  - **Avoid** natural lightning rods • tall, isolated tree in an open area • hilltops in open fields.
  - In the woods, go to a low area (ravine or valley) under a thick growth of small trees; be alert for flash flooding.
  - If you have no shelter, make yourself the smallest target by squatting low to the ground on the balls of your feet, minimizing contact with the ground, and placing your hands on your knees with your head between them.
  - In a tractor or other vehicle, stay put. Vehicles often provide better protection than lying exposed in open fields, but avoid touching any metal.

## After a Severe Storm

- **Assess the situation.**
  - Survey damage to your home, buildings, equipment, livestock and crops.
  - Report any downed power lines.
- **Account for your inventory.**
  - Account for all livestock, fuels, chemicals, machinery and equipment; use the inventory list previously prepared.
  - Note any livestock losses.
  - Check machinery and equipment for damage.
  - Take photographs of all damage for insurance or emergency assistance purposes.
  - Report any hazardous materials (e.g., fuels, agricultural chemicals) spills or leaks to emergency response personnel.
- **Cleanup safely.**
  - Wear sturdy shoes or boots, long sleeves, and gloves to protect your body from injury.
  - Stay away from downed power lines and report them.
  - Be aware of hazards that may cause injury to you or others cleaning up (e.g., chain saws, electrical or chemical hazards).
  - Use caution when clearing broken tree branches; downed or damaged power lines can send electrical current through them.
  - Use caution with gas powered equipment – dangerous carbon monoxide can be generated; use in well ventilated areas.

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Livestock can become injured or die during thunderstorm situations. Debris displaced by high winds, or hail - especially large sized pellets - can cause injury to animals left outdoors. Lightning can kill animals when they are near a fence or tree that receives a lightning discharge. Protect your livestock during thunderstorms by following the following guidelines.

## Before a Severe Storm

- **Maintain an inventory.**
  - Keep a current list of all animals on your farm; include their location and any records of ownership.
- **Have identification for all animals.**
  - Make sure animals have some form of permanent identification (e.g., ear tags, tattoos).
- **Prepare an emergency kit.**
  - Severe storms can lead to power outages, animal escape or injury, have the following items on hand: Handling equipment (e.g., halters, nose leads) • water, feed, and buckets • medications • tools and supplies needed for manure cleanup • safety and emergency items for your vehicles and trailers.
  - Have well maintained backup generators or alternate power sources for livestock production operations.
- **Ensure a safe environment.**
  - Assess the stability and safety of barns and other structures.
  - Remove dead trees or objects from fields or livestock areas that may serve as potential flying debris.
  - Fence off or remove single trees in pastures to prevent animals from congregating under them; ground any trees left in pastures.
  - Ground wire fences. Current can travel up to two miles through a wire fence, which could be harmful to both livestock and humans.

## During a Severe Storm

- **Be aware animal behavior may change before, during and even after a disaster.**
- **Livestock safety.**
  - If possible, bring animal into a barn or shelter well in advance of a storm.
  - Make sure they have plenty of food and water.
  - Keep them away from areas with windows.
  - NEVER leave animals tied up or restrained outside.

## After a Severe Storm

- **Assess your animals and building structures.**
  - Survey damage to your barns and other structures; assess the stability and safety.
  - Examine your animals closely; contact your veterinarian if you observe injuries.
- **Cleanup safely.**
  - Gather and dispose of trash, limbs, wire, and damaged equipment that could harm livestock.
- **Provide non-contaminated feed or water.**
  - Provide clean, uncontaminated water.
  - Do not feed flood damaged or moldy feed or hay.
  - Do not use any feed or forage that may have been contaminated by chemical or pesticides.
- **Animal disposal.**
  - Record any animal deaths.
  - Dispose of dead carcasses.
  - Check with your state or local authorities for proper disposal methods for animal carcasses.

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Thunderstorms can cause crop damage by a variety of means. High winds can break and damage plants. Hail can cause leaf damage reducing yield or destroying plants. Flooded fields can lead to loss of top soil as well as damage to crops. All of these hazards can have significant economic impacts. While little can be done prior to the storm situation, prompt action after may help minimize the impact to your crops.

## Before a Severe Storm

- **Open all drainage ditches.**
- **Remove any debris from fields and pastures that could damage plants, if airborne.**

## After a Severe Storm

- **Assess your crops.**
  - Survey the damage to your crops from wind, hail or flooding.
  - Determine how much of your crops are water logged (only roots flooded) and how much are fully submerged (entire plants under water).
  - Evaluate injured plants to determine whether the growing potential is still viable; this is best done 3-5 days after the storm to allow time for plant recovery – if it occurs.
  - Factors affecting the extent of crop damage include:
    - . Degree of submergence of plant
    - . Weather conditions prior to the situation (e.g., temperature)
    - . Plant growth stage and height – younger stages are more vulnerable
    - . Significant loss of soil nitrogen
    - . Mud deposited on plants can stress plants and reduce photosynthesis
  - Yield losses due to hail damage may include:
    - . Stand reduction due to plant death
    - . Leaf area reduction due to hail damage to leaves
    - . Severe bruising of leaf tissue
- **Replant considerations.**
  - Contact your crop insurance agent prior to destroying or replanting crops to discuss coverage.
  - The USDA Farm Service Agency has a number of disaster assistance programs to aid farmers in recovering from severe weather damage to crops. [www.fsa.usda.gov/](http://www.fsa.usda.gov/)
- **Evaluating whether to replant will depend on:**
  - The existing plant stand
  - Distribution of the plant stand
  - Calendar date
  - Weed situation
  - Seed availability of earlier maturing hybrids
  - Cost to replant
  - Yield potential of the existing crop

- **Monitor for diseases.**
  - Flood conditions can increase disease incidence in surviving plants; scout the fields often to determine if and when problems occur.
- **Do not feed heated, molded or sour feeds or moldy legume hays (alfalfa, clover) to any livestock.**
  - Rain damaged grain is likely to contain toxins as warm wet conditions are ideal for mold growth.
- **Do not use flood damaged or wet feeds until tested.**
  - It may be possible to dry and clean rain damaged grain, but it must be tested for mycotoxins before use.
  - Soaked grain will spoil within a day or two at high moisture and summer temperatures.
  - Flood damaged grain should always be destroyed due to the potential contaminants that can enter through the water.
  - Wet seed grain will probably not be suitable for planting, as wetness causes the seed to germinate.

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