

Winter Storms & Extreme Cold



While the danger from winter weather varies across the country, nearly all Americans, regardless of where they live, are likely to face some type of severe winter weather at some point in their lives. Winter storms can range from a moderate snow over a few hours to a blizzard with blinding, wind-driven snow that lasts for several days. Many winter storms are accompanied by dangerously low temperatures and sometimes by strong winds, icing, sleet and freezing rain.

One of the primary concerns is the winter weather's ability to knock out heat, power and communications services to your home or office, sometimes for days at a time. Heavy snowfall and extreme cold can immobilize an entire region.

The National Weather Service refers to winter storms as the “Deceptive Killers” because most deaths are indirectly related to the storm. Instead, people die in traffic accidents on icy roads and of hypothermia from prolonged exposure to cold. It is important to be prepared for winter weather before it strikes.

Before Winter Storms and Extreme Cold

To prepare for a winter storm you should do the following:

- Before winter approaches, add the following supplies to your [emergency kit](#):
 - Rock salt or more environmentally safe products to melt ice on walkways. Visit the [Environmental Protection Agency](#) for a complete list of recommended products.
 - Sand to improve traction.
 - Snow shovels and other snow removal equipment.
 - Sufficient heating fuel. You may become isolated in your home and regular fuel sources may be cut off. Store a good supply of dry, seasoned wood for your fireplace or wood-burning stove.
 - Adequate clothing and blankets to keep you warm.
- Make a [Family Communications Plan](#). Your family may not be together when disaster strikes, so it is important to know how you will contact one another, how you will get back together and what you will do in case of an emergency.

- A NOAA Weather Radio broadcasts alerts and warnings directly from the NWS for all hazards. You may also sign up in advance to receive notifications from your local emergency services. Download FEMA's Be Smart. Know Your Alerts and Warnings for a summary of notifications at: www.ready.gov/prepare. Free smart phone apps, such as those available from FEMA and the American Red Cross, provide information about finding shelters, providing first aid, and seeking assistance for recovery.
- Minimize travel. If travel is necessary, keep a disaster supplies kit in your vehicle.
- Bring pets/companion animals inside during winter weather. Move other animals or livestock to sheltered areas with non-frozen drinking water.

Winterize Your Vehicle

Check or have a mechanic check the following items on your car:

- **Antifreeze levels** - ensure they are sufficient to avoid freezing.
- **Battery and ignition system** - should be in top condition and battery terminals should be clean.
- **Brakes** - check for wear and fluid levels.
- **Exhaust system** - check for leaks and crimped pipes and repair or replace as necessary. Carbon monoxide is deadly and usually gives no warning.
- **Fuel and air filters** - replace and keep water out of the system by using additives and maintaining a full tank of gas. A full tank will keep the fuel line from freezing.
- **Heater and defroster** - ensure they work properly.
- **Lights and flashing hazard lights** - check for serviceability.
- **Oil** - check for level and weight. Heavier oils congeal more at low temperatures and do not lubricate as well.
- **Thermostat** - ensure it works properly.
- **Windshield wiper equipment** - repair any problems and maintain proper washer fluid level.
- **Install good winter tires** - Make sure the tires have adequate tread. All-weather radials are usually adequate for most winter conditions. However, some jurisdictions require that to drive on their roads, vehicles must be equipped with chains or snow tires with studs.

Update the emergency kits in your vehicles with:

- a shovel
- windshield scraper and small broom
- flashlight
- battery powered radio
- extra batteries
- water
- snack food
- matches
- extra hats, socks and mittens
- first aid kit with pocket knife
- necessary medications
- blanket(s)
- tow chain or rope
- road salt and sand

- booster cables
- emergency flares
- fluorescent distress flag

Winterize Your Home

- Winterize your home to extend the life of your fuel supply by insulating walls and attics, caulking and weather-stripping doors and windows, and installing storm windows or covering windows with plastic.
- Winterize your house, barn, shed or any other structure that may provide shelter for your family, neighbors, livestock or equipment. Clear rain gutters; repair roof leaks and cut away tree branches that could fall on a house or other structure during a storm.
- Maintain heating equipment and chimneys by having them cleaned and inspected every year.
- Insulate pipes with insulation or newspapers and plastic and allow faucets to drip a little during cold weather to avoid freezing. Running water, even at a trickle, helps prevent pipes from freezing.
- All fuel-burning equipment should be vented to the outside and kept clear.
- Keep fire extinguishers on hand, and make sure everyone in your house knows how to use them. House fires pose an additional risk, as more people turn to alternate heating sources without taking the necessary safety precautions.
- Learn how to [shut off water valves](#) (in case a pipe bursts).
- Insulate your home by installing storm windows or covering windows with plastic from the inside to keep cold air out.
- Hire a contractor to check the structural ability of the roof to sustain unusually heavy weight from the accumulation of snow - or water, if drains on flat roofs do not work.

Know the Terms

Know the terms used to describe changing winter weather conditions and what actions to take. These terms can be used to determine the timeline and severity of an approaching storm. (Advisory / Watch / Warning). The NWS also issues advisories and warnings for other winter weather, including blizzards, freezes, wind chill, lake effect snow, and dense fog. Be alert to weather reports and tune in for specific guidance when these conditions develop.

Freezing Rain - Rain that freezes when it hits the ground, creating a coating of ice on roads, walkways, trees and power lines.

Sleet - Rain that turns to ice pellets before reaching the ground. Sleet also causes moisture on roads to freeze and become slippery.

Wind Chill- Windchill is the temperature it “feels like” when you are outside. The NWS provides a Windchill Chart to show the difference between air temperature and the perceived temperature and the amount of time until frostbite occurs. For more information, visit: www.nws.noaa.gov/om/windchill.

Winter Weather Advisory - Winter weather conditions are expected to cause significant inconveniences and may be hazardous. When caution is used, these situations should not be life threatening. The NWS issues a winter weather advisory when conditions are expected to cause significant inconveniences that may be hazardous. If caution is used, these situations should not be life-threatening.

Winter Storm Watch - A winter storm is possible in your area. Tune in to NOAA Weather Radio, commercial radio, or television for more information. The NWS issues a winter storm watch when severe winter conditions, such as heavy snow and/or ice, may affect your area but the location and timing are still uncertain. A winter storm watch is issued 12 to 36 hours in advance of a potential severe storm. Tune in to NOAA Weather Radio, local radio, TV, or other news sources for more information. Monitor alerts, check your emergency supplies, and gather any items you may need if you lose power.

Winter Storm Warning - A winter storm is occurring or will soon occur in your area.

Blizzard Warning - Sustained winds or frequent gusts to 35 miles per hour or greater and considerable amounts of falling or blowing snow (reducing visibility to less than a quarter mile) are expected to prevail for a period of three hours or longer.

Frost/Freeze Warning - Below freezing temperatures are expected.

Carbon Monoxide

Caution: Each year, an average of 430 Americans die from unintentional carbon monoxide poisoning, and there are more than 20,000 visits to the emergency room with more than 4,000 hospitalizations. Carbon monoxide-related deaths are highest during colder months. These deaths are likely due to increased use of gas-powered furnaces and alternative heating, cooking, and power sources used inappropriately indoors during power outages.

- Never use a generator, grill, camp stove or other gasoline, propane, natural gas or charcoal-burning devices inside a home, garage, basement, crawlspace or any partially enclosed area. Locate unit away from doors, windows and vents that could allow carbon monoxide to come indoors. Keep these devices at least 20 feet from doors, windows, and vents.
- The primary hazards to avoid when using alternate sources for electricity, heating or cooking are carbon monoxide poisoning, electric shock and fire.
- Install carbon monoxide alarms in central locations on every level of your home and outside sleeping areas to provide early warning of accumulating carbon monoxide.
- If the carbon monoxide alarm sounds, move quickly to a fresh air location outdoors or by an open window or door.
- Call for help from the fresh air location and remain there until emergency personnel arrive to assist you.

During Winter Storms and Extreme Cold

- Stay indoors during the storm.
- Walk carefully on snowy, icy, walkways.
- Avoid overexertion when shoveling snow. Overexertion can bring on a heart attack—a major cause of death in the winter. Use caution, take breaks, push the snow instead of lifting it when possible, and lift lighter loads.
- Keep dry. Change wet clothing frequently to prevent a loss of body heat. Wet clothing loses all of its insulating value and transmits heat rapidly.
- Signs of Frostbite: Occurs when the skin and body tissue just beneath it freezes. Loss of feeling and white or pale appearance in extremities, such as fingers, toes, earlobes, face, and the tip of the nose.
What to Do: Cover exposed skin, but do not rub the affected area in an attempt to warm it up. Seek medical help immediately.
- Signs of Hypothermia: Dangerously low body temperature. Uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion.
What to Do: If symptoms of hypothermia are detected take the person's temperature. If it is below 95°, seek medical attention immediately. Get the victim to a warm location. Remove wet clothing. Warm the center of the body first by wrapping the person in blankets or putting on dry clothing. Give warm, non-alcoholic beverages if the victim is conscious. Seek medical help immediately.
 - The U.S. Centers for Disease Control and Prevention (CDC) recommends, if you detect symptoms of frostbite, seek medical care. Because frostbite and hypothermia both result from exposure, first determine whether the victim also shows signs of hypothermia. Hypothermia is a more serious medical condition and requires emergency medical assistance.
- Drive only if it is absolutely necessary. If you must drive: travel in the day; don't travel alone; keep others informed of your schedule; stay on main roads and avoid back road shortcuts.
- Let someone know your destination, your route, and when you expect to arrive. If your car gets stuck along the way, help can be sent along your predetermined route.
- If the pipes freeze, remove any insulation or layers of newspapers and wrap pipes in rags. Completely open all faucets and pour hot water over the pipes, starting where they were most exposed to the cold (or where the cold was most likely to penetrate).
- Maintain ventilation when using kerosene heaters to avoid build-up of toxic fumes. Refuel kerosene heaters outside and keep them at least three feet from flammable objects.
- Conserve fuel, if necessary, by keeping your residence cooler than normal. Temporarily close off heat to some rooms.
- If you will be going away during cold weather, leave the heat on in your home, set to a temperature no lower than 55°F.

Stay or Go

STAY:

- If stuck on the road to avoid exposure and/or rescue is likely
- If a safe location is neither nearby or visible
- If you do not have appropriate clothing to go outside
- If you do not have the ability to call for help

GO:

- If the distance to call for help is accessible.
- If you have visibility and outside conditions are safe.
- If you have appropriate clothing.
- Once the storm has passed, if you are not already home, follow instructions from your local transportation department and emergency management agency to determine which route will be safest for you to get home. Drive with extra caution.

Dress for the Weather

- If you must go outside, wear several layers of loose-fitting, lightweight, warm clothing rather than one layer of heavy clothing. The outer garments should be tightly woven and water repellent.
- Wear mittens, which are warmer than gloves.
- Wear a hat. A hat will prevent loss of body heat.
- Cover your mouth with a scarf to protect your lungs.

Stranded in a Vehicle

If a blizzard traps you in the car:

- Pull off the highway. Turn on hazard lights and hang a distress flag from the radio antenna or window.
- Remain in your vehicle where rescuers are most likely to find you. Do not set out on foot unless you can see a building close by where you know you can take shelter. Be careful; distances are distorted by blowing snow. A building may seem close, but be too far to walk to in deep snow.
- Run the engine and heater about 10 minutes each hour to keep warm. When the engine is running, open a downwind window slightly for ventilation and periodically clear snow from the exhaust pipe. This will protect you from possible carbon monoxide poisoning.
- Exercise to maintain body heat, but avoid overexertion. In extreme cold, use road maps, seat covers, and floor mats for insulation. Huddle with passengers and use your coat for a blanket.
- Take turns sleeping. One person should be awake at all times to look for rescue crews.
- Eat regularly and drink ample fluids to avoid dehydration, but avoid caffeine and alcohol.
- Be careful not to waste battery power. Balance electrical energy needs - the use of lights, heat, and radio - with supply.
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- Turn on the inside light at night so work crews or rescuers can see you.
- If stranded in a remote area, stomp large block letters in an open area spelling out HELP or SOS and line with rocks or tree limbs to attract the attention of rescue personnel who may be surveying the area by airplane.
- Leave the car and proceed on foot - if necessary - once the blizzard passes.

After Winter Storms and Extreme Cold

- If your home loses power or heat for more than a few hours or if you do not have adequate supplies to stay warm in your home overnight, you may want to go to a designated public shelter if you can get there safely. Text **SHELTER** + your **ZIP code** to **43362** (4FEMA) to find the nearest shelter in your area (e.g., SHELTER20472)
- Bring any personal items that you would need to spend the night (such as toiletries, medicines). Take precautions when traveling to the shelter. Dress warmly in layers, wear boots, mittens, and a hat.
- Continue to protect yourself from frostbite and hypothermia by wearing warm, loose-fitting, lightweight clothing in several layers. Stay indoors, if possible.

Learn From Every Storm

Restock your emergency supplies to be ready in case another storm hits.

- Assess how well your supplies and family plan worked. What could you have done better?
- Take a few minutes to improve your family plan and supplies before the next winter storm hits.
- Talk to your neighbors and colleagues about their experiences and share tips with each other

This information is taken from: <http://www.ready.gov/winter-weather>

This and other training modules from this website will be helpful to your family and you as an ARES member. It might be advisable to print these modules out and keep them in a binder for your family to be able to refer to in your absence. Being prepared is no accident.

