

Winter storms are deceptive killers!

Charleston District, Emergency Management Division
Winter Season 2012



US Army Corps of Engineers
BUILDING STRONG®



What is the threat?

Each year, dozens of Americans are killed due to exposure to cold, add to that number, the amount of vehicle accidents weather related, fires from improper use of heaters and some other winter weather fatalities and you have a

significant threat!





Exposure to cold

Exposure to cold can cause **frostbite** or **hypothermia**, both can become life-threatening. Young children and elderly people are more susceptible to the effects of frostbite and/ or hypothermia.





What is Frostbite?

Frostbite is damage to body tissue caused by extreme cold. A wind chill of -20° F will cause frostbite in 30 minutes. Frostbite causes a loss of feeling and a white or pale appearance in extremities, such as ear lobes, tip of the nose, fingers and toes. If symptoms are detected, seek medical help immediately; however, if medical help is not available, slowly re-warm the affected areas. If the individual also shows signs of **hypothermia**, warm the body core first, before addressing the extremities.





What is Hypothermia?

Hypothermia is a condition brought on when the body temperature drops to less than 95° F. It can kill, for those who survive, there are likely to be lasting kidney, liver and pancreas problems. Warning signs include uncontrollable shivering, memory loss, disorientation, incoherence, drowsiness, slurred speech and apparent exhaustion. Take the individual's temperature, if below 95° F, seek medical assistance immediately.





Hypothermia (continued)

In the event, medical care is unavailable, warm the individual slowly, starting first with the body core. Warming arms and legs first drives cold blood toward the heart and could result in heart failure. If necessary, use your body heat to assist with the gradual warming of the body core. Get the individual into dry clothing and wrap in a warm blanket covering the head and neck. Never give the individual alcohol, drugs, coffee or any hot beverage or food. Warm broth is the first food to offer.





Ice hazards

Heavy accumulations of ice can bring down trees and topple utility and communication poles. Ice can disrupt communications and power for days while utility companies make repairs. Even small accumulations of ice can be extremely dangerous to pedestrians and motorists. Bridges and overpasses are particularly vulnerable because they freeze before other surfaces.





Winter flooding hazards

Winter storms can generate **coastal flooding**, due to **melting snow** and **ice jams**, resulting in significant damage and loss of life.

Coastal floods: Winds generated from intense winter storms can cause widespread tidal flooding and severe beach erosion along coastal areas.

Melting snow: Sudden thaw of a heavy snow pack often leads to flooding.





Winter flooding hazards (continued)

Ice jams: Long cold spells can cause rivers and lakes to freeze. A rise in the water level or a thaw breaks the ice into large chunks which become jammed at man-made and natural obstructions. Ice jams can act as a dam, resulting in severe flooding.





Dress for the season

Wear loose, lightweight, warm clothes in layers. Trapped air insulates. Remove layers to avoid perspiration and subsequent chill. Other garments should be tightly woven, water repellent and hooded. Wear a hat, half your body heat loss can be from the head. Cover your mouth to protect your lungs from extreme cold. Also, mittens snug at the wrist, are far better than gloves.

Try to stay dry!





What can I do to stay informed?

Obtain a NOAA Weather Radio. This is the best means to receive warnings from the National Weather Service (NWS). The NWS continually broadcast warnings and forecasts that can be received by NOAA Weather Radios, these radios are sold in many stores. The average range is approximately 40 miles, depending on topography. If you are going to purchase a NOAA Weather Radio, look for one that has a battery back-up and a Specific Area Message Encoder feature. This feature will automatically alert you when a watch or warning is issued for your county or parish.





Outlooks, Watches, Warnings & Advisories

Outlook – Winter storm conditions are possible in the next 2-5 days. Stay tuned to local media for updates.

Watch – Winter storm conditions are possible within the next 36-48 hours. Prepare now!

Warning – Life-threatening severe winter conditions have begun or will begin within 24 hours. Act now!

Advisory – Winter weather conditions are expected to cause significant inconveniences and may be hazardous. If you are cautious, these situations should not be life threatening.





Before the storm strikes - Get prepared!

At home and work, primary concerns are the loss of heat, power and telephone services and a shortage of supplies if storm conditions continue for more than a day.

Things to have available:

- Flashlight and extra batteries
- Battery-powered NOAA Weather Radio
- Extra food and water
- Extra medicine and baby items
- First-aid supplies
- Heating fuel
- Emergency heat source
- Fire extinguisher, smoke alarm





Before the storm strikes - Get prepared! (continued)

In your vehicle. Plan your travel and check the latest weather reports to avoid the storm.

Fully check and winterize your vehicle and build a Winter Storm Survival Kit.

Things to have available:

Mobile phone, charger and batteries, blanket/ sleeping bag for each traveler, flashlight with extra batteries, first-aid kit, knife, high-calorie (non-perishable) food, extra clothing to keep dry, large empty can (emergency toilet), tissues/ paper towels (sanitary purposes), small can with waterproof matches (melt snow for drinking), windshield scraper/ brush, tool kit, battery booster cables, water container, compass, road maps, and a small shovel.

Remember to keep your gas tank near full (avoid ice in the tank and fuel lines).





If caught in a winter storm (outside)

Find shelter:

- Try to stay dry.
- Cover all exposed body parts.
- Melt snow for drinking water (eating snow will lower your body temperature).

If you can not find shelter:

- Build a lean-to, windbreak or snow cave for protection from the wind.
- Build a fire for heat and to attract attention.
- Place rocks around the fire to absorb and reflect heat.





If caught in a winter storm (vehicle)

Stay in vehicle:

- You can become quickly disoriented in wind-driven snow and cold.
- Run the motor about 10 minutes each hour for heat.
- Open the window a little for fresh air to avoid carbon monoxide poisoning.
- Make sure the exhaust pipe is not blocked.
- From time-to-time, move arms, legs fingers and toes vigorously to keep blood circulating and to keep warm.

Be visible to rescuers:

- Turn on the dome light at night when running the engine.
- Tie a colored cloth, preferably red, to your antenna or door.
- After snow stops falling, raise the hood to indicate you need help.





If caught in a winter storm (inside)

Stay inside:

- When using alternate heat from a fireplace, wood stove, space heater, etc. use fire safeguards and properly ventilate.

No heat:

- Close off unneeded rooms.
- Stuff towels or rags in cracks under doors.
- Cover windows at night.
- Eat and drink. Food provides the body with energy for producing its own heat. Keep the body replenished with fluids to prevent dehydration.
- Wear layers of loose-fitting, lightweight, warm clothing. Remove layers to avoid perspiration and subsequent chills.





Create a Family Disaster Plan

1. Gather information about hazards – Find out what types of disasters could occur and how you should respond. Learn your community’s warning signals and evacuation plans. Assess your risks and identify ways to make your home and property more secure.
2. Meet with your family to create a plan – Discuss your plan with family. Pick two places to meet: a spot outside your home for an emergency, such as a fire, and a place away from your neighborhood in case you can’t return home.





Family Disaster Plan (continued)

3. Implement your plan – Post emergency telephone numbers near phones. Install safety features in your home, such as smoke alarms and fire extinguishers. Inspect your home for potential hazards and correct them. Have your family learn basic safety measures (CPR, AED, first aid, how to use a fire extinguisher, how and when to turn off water, gas and electricity in your home. Teach children how and when to call 911 or your local emergency services. Keep enough supplies in your home for at least 3 days. Assemble a disaster supply kit.





Family Disaster Plan (continued)

4. Practice and maintain your plan – Ensure your family knows meeting places, phone numbers, and safety rules. Conduct drills. Test your safety equipment. Replace stored water and food every 6 months.





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