

With fall upon the Great Plains, now is the time to focus attention to winter weather and the dangers it can pose to life and property.

Each year, dozens of Americans die due to exposure to the cold. Winter weather accounts

for vehicle accidents and fatalities, and results in fires due to dangerous use of heaters and other winter weather fatalities.

Other hazards, such as hypothermia and frostbite, can lead to the loss of fingers and toes or cause permanent internal injuries and even death. The very young and the elderly are among those most vulnerable to the potentially harsh winter conditions.

Recognizing the threats and knowing what to do when they occur could prevent the loss of extremities or save a life.

- **Wind.** Some winter storms have extremely strong winds which can create blizzard conditions with blinding, wind driven snow, drifting, and dangerous wind chills. These intense winds can bring down trees and poles, and can also cause damage to homes and other buildings.

- **Snow.** Heavy snow accumulations can immobilize a region and paralyze a city, stranding

motorists, stopping the flow of supplies, and disrupting emergency services. Buildings may collapse and trees and power lines can be destroyed from the heavy snow. In rural regions, homes and farms may be isolated for days, and livestock could be lost.

- **Cold.** Extremely cold temperatures can accompany winter storms and be left in their wake. Infants and the elderly are most susceptible to prolonged exposure to the cold, which can cause potentially life-threatening conditions such as hypothermia and frostbite. Below freezing

temperatures can damage vegetation and cause pipes to freeze and burst inside homes.

- Ice. Heavy ice accumulations can bring down objects like trees, utility poles and lines, and communication towers. Power can be disrupted or lost for days while utility companies repair the damage. Even a small amount of ice can cause hazardous conditions for motorists and pedestrians.

A winter storm can last for several days and be accompanied by high winds, freezing rain or sleet, heavy snowfall and cold temperatures.

People can be trapped at home or in a car with no utilities or assistance, and those who attempt to walk for help could find themselves in a deadly situation.

What is the Difference?

**Outlook**—Hazardous weather outlooks are issued everyday, and serve as a “heads-up” that a significant weather event may be possible in the next seven days.

**Advisory**—An advisory is issued when winter weather events could cause a significant inconvenience, but could also lead to life threatening conditions if not cautious.

**Watch**—A watch is issued when winter weather events have the potential to threaten life and property, but the exact timing and location of the storm is uncertain. Watches are normally issued between 12 to 48 hours in advance.

**Warning**—A warning is issued when winter weather events are occurring or are imminent and pose a threat to life and property. Warnings are normally issued between two and 24 hours in advance.

### Winter Weather

#### Advisory Descriptions

- Freezing rain advisory—Small accumulation of ice (freezing rain and/or freezing drizzle), generally less than 1/4 of an inch.
- Winter weather advisory for snow—Snow accumulation of three to five inches in 12 hours.
- For sleet—Accumulation of ice pellets less than 1/2 of an inch and/or ice.
- For snow and blowing snow—Snowfall with blowing snow intermittently reducing visibility to less than 1/2 mile.
- Wind chill advisory—Wind chill values of  $-20^{\circ}\text{F}$  to  $-29^{\circ}\text{F}$ .

#### Watch Descriptions

- Blizzard watch—Conditions are favorable for a blizzard event in the next 12 to 48 hrs.
- Winter storm watch—Conditions are favorable for a winter storm event (heavy sleet, heavy snow, ice storm, heavy snow and blowing snow or a combination of events) to meet or exceed local winter storm warning criteria in the next 12 to 48 hrs.
- Wind chill watch—Conditions are favorable for wind chill temperatures to meet or exceed wind chill warning criteria in the next 12 to 48 hours.

## Warning Descriptions

- **Blizzard warning**—Sustained wind or frequent gusts greater than or equal to 35 miles per hour accompanied by falling and/or blowing snow, frequently visibilities less than 1/4 of a mile for at least three hours.
- **Ice storm warning**—Widespread ice accumulation of 1/4 of an inch or more.
- **Winter storm warning**—Heavy snow (snow accumulation of six inches or more in 12 hours or eight inches or more in 24 hours), sleet (accumulation of ice pellets 1/2 of an inch and greater), ice (accumulation of 1/4 of an inch or more) and/or heavy snow and blowing snow (wind is below blizzard criteria).
- **Wind chill warning**—Wind chills  $-30^{\circ}\text{F}$  or colder.

Remember to dress for the season.

Try to stay dry. Wear loose-fitting, light-weight, warm clothing in several layers.

Trapped air between these layers can insulate. Layers can be removed to avoid perspiration and subsequent chills.

Outer garments should be tightly woven, water repellent, and hooded.

Be sure to always wear a hat, as half of your body heat can be lost from the head.

Mittens, snug at the wrist, are better than gloves.

Exposure to cold can cause frostbite or hypothermia and become life-threatening. Infants and elderly people are most susceptible.

Wind chill is not the actual temperature, but rather how the combination of wind and cold temperatures feel on exposed skin.

It is based on the rate of heat loss from exposed skin, and as the wind speed increases, heat is carried away from the body at an accelerated rate, driving down the body temperature.

Wind chill will also impact animals, but not impact inanimate objects such as cars or exposed water pipes, because they cannot cool below the actual air temperature.

The NWS Wind Chill Index uses advances in science, technology, and computer modeling to provide an accurate, understandable, and useful formula for calculating the dangers from winter winds and freezing temperatures.

More information about the

Wind-Chill Index can be found at <http://www.nws.noaa.gov/om/windchill/>

Frostbite is damage to body tissue caused by extreme cold. A wind chill of -20° Fahrenheit (F) will cause frostbite in just 30 minutes. Frostbite causes a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes or the tip of the nose.

If symptoms are detected, get medical help immediately! If you must wait for help, slowly re-warm affected areas. However, if the person is also showing signs of hypothermia, warm the body core before the extremities.

Hypothermia is a condition brought on when extremities are excessively cold, and 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, slurred speech, drowsiness and apparent exhaustion. Take the person's temperature. If below 95°F, seek medical care immediately!

If medical care is not available warm the person slowly, starting with the body core. Warming the arms and legs first drives cold blood toward the heart and can lead to heart failure! If necessary, use your body heat to help.

Get the person into dry clothing and wrap in a warm blanket covering the head and neck. Do not give the person alcohol, drugs, coffee or any hot beverage or food. Warm broth is the first food to offer.

### Avoid Overexertion

Avoid activities such as shoveling heavy snow, pushing a car, or walking in deep snow. The strain from the cold and the hard labor could cause a heart attack, and sweating could lead to a chill and hypothermia.

Take Red Cross CPR and AED training so you can respond quickly to an emergency.

What to do if caught...

Outside: Find shelter—attempt to stay dry. Cover all exposed body parts. If there is no shelter available:

- Build a lean-to, windbreak, or snow cave to protect yourself from the wind
- Build a fire for heat and to attract attention
- Place rocks around the fire to absorb and reflect heat
- Melt snow for drinking water, eating snow will lower your body temperature.

In a Vehicle: Stay in the vehicle. You could quickly become 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.

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 the snow stops falling, raise the hood to indicate you need help

- Exercise from time to time, move arms, legs fingers, and toes vigorously to keep blood circulating and to keep warm.

Inside: Stay inside! When using alternate heat from a fireplace, wood stove, space heater, etc., use fire safeguards and properly ventilate.

If you don't have heat available:

- Close off unneeded rooms
- Stuff towels or rags in cracks under doors
- Cover windows at night
- Eat and drink, providing the body with energy and preventing dehydration
- Wear layers of loose-fitting, lightweight, warm clothing. Remove layers to avoid perspiration and subsequent chill.

Along with your home and workplace, vehicles also need to be prepared for the upcoming winter season. It is very important to fully check and winterize your vehicle, which includes having a mechanic check your battery, antifreeze, wipers, windshield washer fluid, ignition system, thermostat, lights, exhaust system, heater, brakes, and oil levels.

If you must travel during winter conditions, it is best not to travel alone. Try to plan your travel during the day, and make sure to let others know your destination, route, and when you expect to arrive. Make sure to keep your gas tank near full to avoid ice in the tank and fuel lines.



## Winter Storm Survival

### Kit for the Car

- Mobile phone, charger and batteries
- Flashlight with extra batteries
- First-aid kit
- Knife
- Shovel
- Tool kit
- Tow rope
- Battery booster cables
- Compass and road maps

- A windshield scraper and brush or small broom for ice and snow removal
- Blankets and sleeping bags, or newspapers for insulation
- Rain gear, extra sets of dry clothing,
- Socks, mittens, and stocking caps
- Large empty can to use as emergency toilet. Tissues, paper towels, and plastic bags for sanitary purposes
- Small can and waterproof matches to melt snow for drinking water
- Cards, games, and puzzles
- High calorie, non-perishable food, such as canned fruit, nuts, and high energy “munchies” (Include a non-electric can opener if necessary)
- A small sack of sand or cat litter for generating traction under wheels and a set of tire chains or traction mats
- A brightly colored (preferably red) cloth to tie to the antenna.

### Road Conditions

Before traveling, check out the latest road conditions. Road report information across Nebraska can be found at the Nebraska Department of Roads web site at: <http://www.511nebraska.org>

For in-state information call 511. When out of state use: 1-402-471-4533.