

Winter Weather Awareness 2007



Summer has come and gone across the Central Plains, meaning now is the time to focus attention to winter weather and the dangers it can pose to life and property. The National Weather Service, along with the State of Nebraska, has declared **November 1st as Nebraska Winter Weather Awareness Day**. And the National Weather Service, along with the State of Kansas, has declared **November 14th as Kansas Winter Weather Awareness Day**. The National Weather Service is using this day as an opportunity to get information out to the public about winter weather, its impacts, and how to protect life and property.

There are a number of different ways that winter storms can impact a region and the people who live there. Winter storms are considered deceptive killers because most deaths are indirectly related to the storm itself. People could be in an automobile accident on icy roads, have a heart attack while shoveling snow, or suffer frostbite or hypothermia from prolonged exposure to the cold.

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.

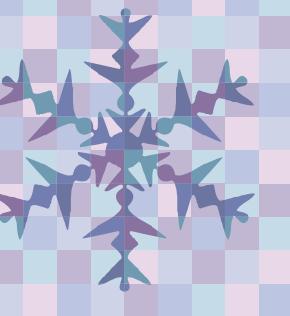
Ice—Heavy ice accumulations can bring down objects like trees, utility poles and lines, and communication towers. Power can be disrupted or lost for days while utility companies repair the damage. Even a small amount of ice can cause hazardous conditions for motorists and pedestrians.

Anytime there is a significant winter weather event across South Central Nebraska or North Central Kansas, you will be able to find summaries of these events on our web page. Information in these summaries will include snowfall reports and any impacts. If you receive any reports of snowfall accumulations or any damage from a winter storm in your area, we would greatly appreciate that information.

We hope that you will find the enclosed information useful. Please stress to others the importance of tuning into NOAA Weather Radio All-Hazards or a local radio or television station when winter weather strikes. If you have any questions about the information given here, please do not hesitate to contact us.

National Weather Service
6365 Osborne Drive West
Hastings, Nebraska 68901
(402) 462-4287

<http://www.weather.gov/hastings>



Winter Weather Dangers

Why Talk About Winter Weather?

Every year there are people who die due to exposure to the cold. When you add in the number of automobile accidents and deaths, accidental fires due to dangerous use of heaters, and other winter weather related fatalities, one can see the threat winter weather can pose if not cautious. Very young people and the elderly are the most vulnerable to exposure to the cold and its dangers. Recognizing the threats and knowing what to do when they occur could prevent the loss of extremities or save a life.

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.

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.

Hypothermia

- * A condition brought on when the body temperature drops below 95°F, it can kill if not treated. Those who do survive could have lasting kidney, liver, and pancreas problems.
- * Symptoms include: uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and exhaustion.
- * Take the person's temperature, if is below 95°F, seek medical attention immediately!

If medical care is not available...

- * Begin warming the person **SLOWLY**!
- * Warm the body core first! Warming extremities first can drive cold blood to the heart, which can cause heart failure.
- * Get the person into dry clothing, and do **NOT** give them alcohol, drugs, or any **HOT** beverage or food. Warm broth is the best to offer.

Frostbite

- * Causes damage to body tissue by exposure to extreme cold.
- * Symptoms include: loss of feeling, and a white or pale appearance in the extremities.
- * Seek medical attention immediately! If not available, slowly rewarm the affected areas. **HOWEVER**, if the person is also showing signs of hypothermia, warm the **BODY CORE** first, not the extremities!

		Temperature (°F)																	
		40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	Calm	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77	
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81	
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84	
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87	
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89	
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91	
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93	
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95	
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97	
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98	

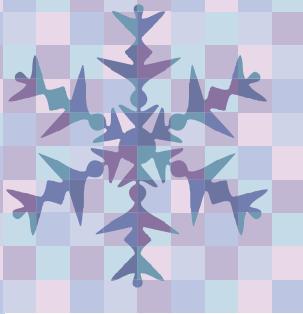
Wind chill

- * Based on the rate of heat loss from exposed skin caused by combined effects of wind and cold.
- * The higher the wind, the greater the rate at which heat is carried away, driving down body temperature.
- * Animals are also affected by wind chill, but cars, plants, and other objects are not.

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01



Winter Weather Terminology

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 2 to 7 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 2 and 24 hours in advance.



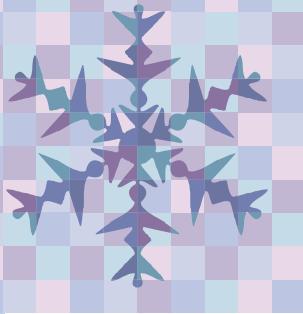
Winter Weather Product Criteria

Advisory Products

- * **Freezing Rain**—Small accumulation of ice, generally less than 1/4 of an inch.
- * **Sleet**—Accumulation of ice pellets less than 1/2 of an inch.
- * **Snow**—Snowfall accumulation of 3 to 5 inches in 12 hours.
- * **Snow & Blowing Snow**—Snowfall with wind speeds of 25 to 34 miles per hour and visibilities of a 1/2 of a mile or less for at least 3 hours.
- * **Wind Chill**—Wind Chill values of -20°F to -29°F with wind speeds of at least 10 miles per hour for 2 or more hours.
- * **Winter Weather**—A combination of 2 or more of the following:
 - Snow accumulations of 3 to 5 inches in 12 hours
 - Visibilities of 1/2 of a mile or less with snow and blowing snow
 - Light freezing rain or freezing drizzle with ice accumulation of less than 1/4 of an inch
 - Sleet accumulation of less than 1/2 of an inch
 - Wind speeds between 25 and 34 miles per hour

Watch and Warning Products

- * **Blizzard**—Snow and blowing snow with wind speeds of 35 miles per hour and greater and visibilities less than 1/4 of a mile for at least 3 hours.
- * **Heavy Snow**—Snowfall accumulation of 6 inches or more in 12 hours or 8 inches or more in 24 hours.
- * **Ice Storm**—Widespread ice accumulation of 1/4 of an inch or more.
- * **Sleet**—Accumulation of ice pellets 1/2 of an inch and greater.
- * **Winter Storm**—A combination of two or more of the following:
 - Snow accumulations of 6 inches or more in 12 hours or 8 inches or more in 24 hours
 - Visibilities of 1/2 of a mile or less with snow and blowing snow
 - Freezing rain with ice accumulation of 1/4 of an inch or more
 - Sleet accumulation of 1/2 of an inch or more
 - Wind speeds between 25 and 34 miles per hour



Winter Weather Safety Tips

It is very important to be prepared in case a winter storm strikes, and everyone should create a plan for what you and your family will do in case of a storm. Having your car fully checked and winterized, along with having supplies available if you are stranded for a period of time in your home or at work, are things that should be done before each winter season arrives.

Be Prepared—Before the Storm Strikes!!

At Work and Home...

Be aware that you may lose heat, power, or phone service for several days. Make sure you have enough supplies to last if the storm goes on for more than one day.

Make sure to have...

- * First aid supplies.
- * Flashlight, battery powered AM/FM or NOAA weather radio, and extra batteries.
- * Extra food and water. Have high calorie foods that require no cooking or refrigeration.
- * Extra medicine and items to take care of infants and the elderly.
- * Emergency heating source, such as a fireplace, wood stove, or space heater.
- * Heating fuel. Fuel carriers may not be able to reach you for days after a winter storm.
- * Fire extinguisher and smoke alarm.
- * Shelter, food, and water for any pets.



On the Farm or Ranch...

- * Move animals to sheltered areas.
- * Haul extra feed to nearby feeding areas.
- * Have plenty of water available for the animals.

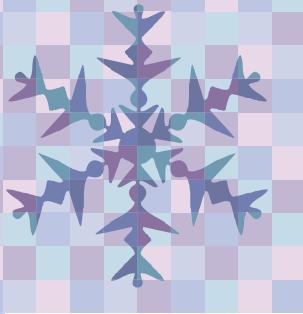
In Vehicles...

- * Make sure to fully check and winterize your vehicle before the winter season.
- * Always check the latest weather reports and forecasts before heading out on the road.
- * Plan out your trip and let someone know of your timetable and primary and alternate routes.
- * Avoid traveling alone.
- * Never let your gas tank get close to empty, to avoid ice in the tank and fuel lines.



Always carry a WINTER STORM SURVIVAL KIT!

- * Compass and road maps
- * Mobile phone, charger, and batteries
- * Blankets/sleeping bags, and extra clothes
- * Flashlight and extra batteries
- * First aid kit
- * High calorie, nonperishable foods
- * Small can and waterproof matches to melt snow for drinking water
- * Water container
- * Sand or cat litter for traction and a shovel
- * Tool kit, knife, battery booster cables, and tow rope
- * Windshield scraper



Winter Weather Safety Tips

When Caught in a Storm

When a winter storm strikes, the best thing to do is take shelter inside of your home or another building and to avoid travel. Unfortunately, there are times when this isn't always possible. Below are safety tips if you are inside, outside, or stranded in your vehicle during a winter storm.

If inside...

Stay inside!

- * When using an alternate heat source, such as a fireplace, wood stove, or space heater, make sure to use safeguards and properly ventilate.

If no heat is available...

- * Close off rooms which are not needed.
- * Stuff towels or rags in cracks under doors or around windows.
- * Cover the windows at night.
- * Be sure to eat and drink. It is essential to prevent dehydration and to give your body energy to produce heat.



If caught outside...

Find Shelter!

- * Try to stay dry.
- * Cover all exposed body parts.

If no shelter is available...

- * 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.
- * Melt snow for drinking water.

If caught inside a vehicle...

Stay inside your vehicle!

- * Don't panic!
- * Attempting to walk for help in a winter storm can be a deadly decision.
- * You could become quickly disoriented in wind-driven snow and cold.
- * Run the motor about 10 minutes each hour for heat, but be sure to open a window a bit for fresh air to avoid carbon monoxide poisoning.
- * Make sure the exhaust pipe is not blocked.
- * Occasionally, vigorously move your arms, legs, fingers, and toes to keep blood circulating and to keep warm.

Be visible to rescuers...

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