Be Prepared!

Don’t be caught off guard by winter weather.

National Weather Service, Topeka
1116 NE Strait Ave
Topeka, KS 66616-1698

www.weather.gov/topeka

Why should I be concerned about winter weather?

Each year, dozens of Americans die due to exposure from the cold. Add to that number vehicle accidents and fatalities, fires due to dangerous use of heaters, and other winter weather fatalities, and you have a significant threat. Hypothermia and frostbite can lead to loss of fingers and toes or cause permanent kidney, pancreas, and liver injury or even death. You must prepare properly to avoid these dangers. You also need to know and be prepared for what to do if you see symptoms of these threats.

A major winter storm can last for several days and be accompanied by a combination of hazards including high winds, freezing rain, sleet, heavy snowfall and cold temperatures. These conditions can cause people to be trapped at home or in a car, without utilities or other assistance. Attempting to walk for help in a winter storm can be a deadly decision due to disorientation and frigid temperatures.

Who is at risk?

Anyone venturing outside during a winter storm is at risk, especially the elderly and young children. 25% of the injuries that occur during the winter happen when people are caught out in a storm. Most of these injures happen to males over 40 years of age.

The cold temperatures are also a prime culprit for injures, with 50% of injuries happening to people over 60 years of age. More than 75% of these injuries happen to males, with 20% of all injuries occurring in the home.

Health Problems and Safety Tips:

Frostbite is damage to body tissue caused by extreme cold. For instance, a wind chill of -20° F will cause frostbite in **30 minutes**. Symptoms of frostbite include loss of feeling and a white or pale appearance in extremities such as fingers, toes, ear lobes, or nose. If this occurs, get help immediately. If you must wait for help, slowly rewarm affected areas.

Hypothermia is a condition brought on when the body temperature drops to less than 95° F. **It can kill.** Warning signs include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion. If the body temperature is below 95° F, seek medical help immediately. If medical help is not available, warm the person **slowly**, starting with the body core. Warming arms and legs first can drive cold blood back to heart, which can lead to heart failure.

Wind Chill Chart

Wind (mph) \ Temperature (°F)	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	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	29	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

Frostbite Times: 30 minutes, 10 minutes, 5 minutes

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

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

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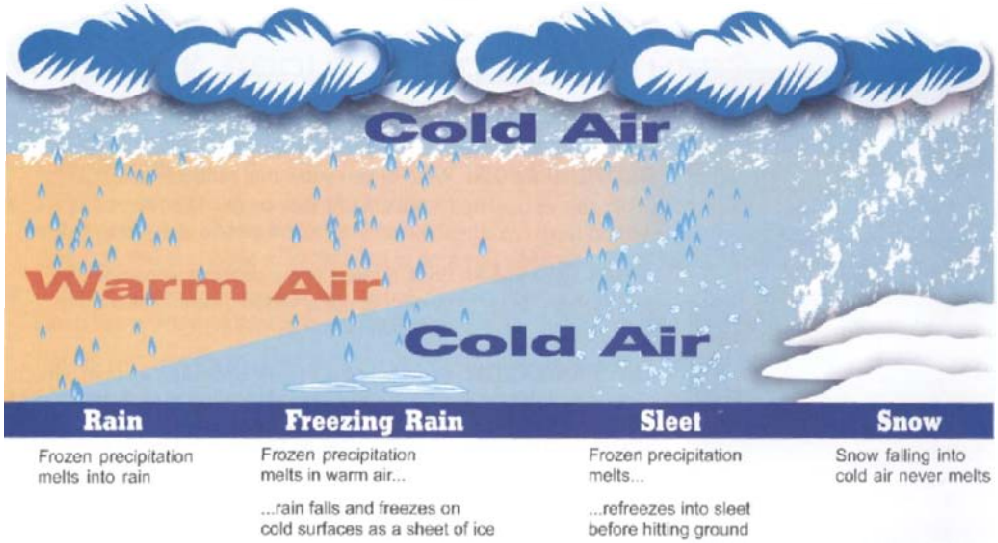

Winter Weather and the National Weather Service

The National Weather Service issues watches, warnings, and advisories to help people prepare for hazardous winter weather. These products often depend on the type of precipitation that will form.

Winter Storm Watch: Issued when there is a possibility for heavy snow, blizzard conditions, and/or significant accumulations of freezing rain/drizzle or sleet. Issued 12 to 48 hours before winter weather begins.

Blizzard Warning: Issued when both of the following are expected to last for 3 or more hours: Sustained winds or gusts of 35 mph or more and visibility less than ¼ mile due to blowing/falling snow.

Ice Storm Warning: Issued when significant and possibly damaging accumulations of ice are expected on roads, power lines or other exposed surfaces.
-if winds are calm, ice accumulations can reach up to half an inch before this warning is issued
-if winds are over 15 mph, including gusts, warning will be issued for accumulations near a quarter inch.

Wind Chill Warning: Issued for wind chill values below -25° F with wind speed of 4 mph or greater.

Winter Storm Warning: Issued for snow accumulations of 6 inches or more in 12 hours or for accumulations of 8 inches or more in 24 hours. A winter storm warning may also be issued for a combination of winter weather elements, such as freezing precipitation, blowing snow, and or bitter wind chill temperatures.

Winter Weather Advisory: Issued for the combined occurrence of any following weather elements: snow, blowing snow (near blizzard conditions), light accumulations of freezing rain/drizzle or sleet. In general accumulations that will hamper travel or pose inconvenience, but would not normally be life threatening.

Freezing Rain Advisory: Issued when travel problems are expected, but no damage to power lines or trees is anticipated.

Wind Chill Advisory: Issued for wind chill values from -15° F to -24° F with wind speeds of 4 mph or greater.

Safety Tips

If you are caught outside during a winter storm, find shelter and try to stay dry. Cover all exposed body parts to conserve body heat and avoid frostbite. If no shelter is available, build a lean-to, windbreak, or snow cave to get out of the weather. Place rocks around a fire to reflect and absorb the heat and melt snow for drinking water. Be cautious of eating snow as a water substitute since it will lower your body temperature.

If inside during a winter storm, STAY INSIDE. When using alternative heat from a fireplace, space heater, or other devices, use fire safeguards and proper ventilation. If no heat is available, close off unneeded rooms and stuff towels or rags in cracks under doors. Cover windows at night. Be sure to eat and drink. Food provides the body with energy to produce body heat. Drinking water prevents dehydration. Wear loose fitting, light weight clothing but do not wear enough to sweat. The sweat will cause you to cool too much which may result in chills.

If you need to venture outdoors, wear loose fitting, light weight clothing in layers. This will help trap air to insulate you. Be sure to wear a hat. Half of your body heat is lost through your head!

Avoid overexertion, such as when shoveling snow, pushing a car, or walking. The strain from the cold and hard labor may cause a heart attack. Sweating could lead to a chill and hypothermia.

Have a Disaster Supply Kit readily available. This includes:

- One gallon of water per person per day
- Food that won't spoil
- One change of clothes and shoes for each person
- One blanket or sleeping bag for each person
- First-aid kit
- Special items for infant, elderly or disabled members
- Prescription medications
- Emergency tools
- Battery-powered NOAA Weather Radio
- Portable radio
- Flashlight with extra batteries
- Extra set of car keys
- Cash and credit card

Use common sense and good judgment when moving about during winter weather. Remain alert to the latest forecasts if winter weather threatens and inform others of your planned activities during the day. Being accountable to others and having a practical plan of action when the weather turns hazardous will keep you from becoming a fatal statistic during the winter season.