State of Illinois
Illinois Emergency Management Agency

Winter Storm Preparedness Guide

IEMA
Illinois Emergency Management Agency

American Red Cross

NOAA

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It's Time to Prepare for Winter Weather

Every year, Illinois averages at least five major winter storms that impact millions of people. The best time to prepare for winter's snow, cold and ice is before such weather hits.

Being prepared for winter doesn't have to cost a lot of money or take a lot of time. It could be as simple as making sure your vehicle is in good winter driving condition, adding a winter survival kit to your car, changing your furnace filter and stocking or updating a home emergency supply kit.

Preparing for winter also means adjusting your driving habits. Snowy or ice-coated roads and reduced visibility due to fog or blowing snow result in thousands of motor vehicle crashes in Illinois every year. Many of these can be avoided by simply slowing down on city streets, rural roads and highways. Recent traffic studies have shown that many times, minor accumulations of snow or ice on roads can be just as dangerous for motorists as major snowstorms.

Use this Winter Weather Preparedness Guide, developed by the Illinois Emergency Management Agency (IEMA) and the National Weather Service (NWS), to help you and your family prepare for and stay safe during winter weather. It includes information about winter travel safety guidelines, winter weather terminology and tips on how to prepare your home and vehicle for winter storms.

Take time now to prepare your family, home, vehicles and driving habits for everything from a dusting of snow to a major winter storm!

Illinois Winter Weather Facts

COLD TEMPERATURES

- There have been 664 cold related deaths in Illinois over the last ten years. (2008-2017)
- The coldest temperature on record occurred on Jan. 5, 1999, when the mercury dipped to minus 36 degrees near Congerville in Woodford County.

WINTER STORMS

- On average, Illinois experiences five severe winter storms each year. The winter and spring of 2017-18 there were eight severe winter storms, one of which occurred on April 1st. There has not been a winter in Illinois without at least one winter storm in the past century.
- Winter driving conditions contribute to an average of 27,629 vehicle crashes, 4,311 injuries and 47 fatalities in Illinois each year.

SNOWFALL

- Average annual snowfall ranges from 37 inches of snow in Rockford and Chicago, to as little as 6 to 10 inches at the southern tip of Illinois.
- The greatest snowfall on record from a single storm occurred near the town of Astoria in Fulton County, where 37.8 inches was recorded on Feb. 27-28, 1900. More recently, 27.9 inches of snow was measured near Waukegan in Lake County, from Jan. 3-5, 2015.

ICE STORMS

- On average, locations from just south of Quincy, through Lincoln, to Watseka experience more freezing rain and ice storms than any other part of the state.

Winter Weather Terms

The National Weather Service uses the terms below to convey the weather threat to the public.

WATCHES, WARNINGS & ADVISORIES

- **Winter Storm Watch:** Issued for **potentially significant** winter weather, including heavy snow, ice, sleet, and/or blowing snow within the next day or two. Now is the time to prepare!
- **Winter Storm Warning:** Indicates heavy snow, blowing snow, sleet or a combination of winter weather hazards are expected to cause a **significant impact to life or property**. Stay indoors and adjust travel plans.
- **Blizzard Warning:** Strong winds (35 mph or greater) will produce blinding snow and near zero visibility, resulting in **potentially life-threatening conditions** – particularly for travelers. Blizzards can occur with minimal accumulations of snow.
- **Ice Storm Warning:** Heavy accumulations of ice are expected to cause a **significant impact to life or property**, resulting in hazardous travel conditions, tree damage and extended power outages.
- **Winter Weather Advisory:** Snow, blowing snow, ice and/or sleet is expected to produce **potentially dangerous travel conditions** within the next 12 to 36 hours.
- **Wind Chill Warning:** Life-threatening wind chills of minus 25 degrees or colder.
- **Wind Chill Advisory:** Dangerous wind chills of minus 15 degrees to minus 24 degrees.

WINTER WEATHER TERMS

- **Freezing Rain:** Precipitation that falls from the clouds as rain, but freezes into a glaze of ice on groundbased objects (trees, power lines, roads, cars, etc.).
- **Sleet:** Small pellets of ice created by frozen raindrops. Sleet bounces when hitting a surface and does not stick to objects.
- **Wind Chill:** A calculation of how cold it feels outside when the effects of temperature and wind speed are combined. **Wind chill ONLY applies to bare, human skin.** The effects of wind chill are different for animals and don't apply to non-living objects.

Before a Winter Storm or Extreme Cold

WEATHER TERMS: Know the terms related to winter storms and extreme cold.

COUNTY NAMES: Know the names of the counties in which you live, work and travel. County names are used to identify areas at risk.

HEALTH PRECAUTIONS: Learn how to protect your family's health during the winter months.

- Dress appropriately for the winter.
- Learn the physical dangers to your body.

DISASTER KITS: Gather emergency supplies for work and home.

Create a Family Emergency Supply Kit. See box below for important items for your kit.

FAMILY EMERGENCY SUPPLY KIT

A few important kit items are listed below:

- A battery-powered National Oceanic and Atmospheric Administration (NOAA) Weather Radio and a battery-powered commercial radio and extra batteries.
- Foods that do not require cooking or refrigeration are best. Include high energy foods such as dried fruit and granola bars.
- Extra medications and special items for babies, the disabled or elderly.
- Extra water in clean containers.
- Flashlights and extra batteries. Do not use candles.
- A first-aid kit, non-prescription drugs and personal sanitary items.
- Pet supplies.

For details, go to: https://www.illinois.gov/ready/plan/Pages/EmergencyKit.aspx.

WINTERIZE YOUR HOME: Winterize your home to extend your fuel supply.

- Insulate walls and attics.
- Caulk and weatherize doors and windows.
- Install storm windows or cover windows with plastic.

FROZEN PIPES: Take steps to prevent frozen water pipes.

- Locate and insulate the pipes most susceptible to freezing: typically those near outer walls, in crawl spaces or in attics.
- Heat tape or thermostatically controlled heat cables can be used to wrap pipes. Be sure to use products approved by an independent testing organization, such as Underwriters Laboratories Inc., and only for the use intended (exterior or interior). Closely follow all manufacturers' installation and operation instructions.
- Seal any leaks that allow cold air inside where pipes are located.
- Disconnect garden hoses and shut off and drain water from pipes leading to outside faucets.
- Make sure you know how to shut off the water, in case pipes burst.

PREPARE FOR POSSIBLE ISOLATION IN YOUR HOME FOR SEVERAL DAYS:

- Make sure you have sufficient heating fuel. After a severe winter storm, regular fuel carriers may not reach you for days.
- Have emergency heating equipment (fireplaces, wood burning stoves or space heaters) and ample fuel so you can keep at least one room of your house warm. Always ensure proper ventilation to avoid carbon monoxide poisoning.
- NEVER use an outdoor grill to heat your home or to cook food indoors.
- Keep fire extinguishers on hand and make sure your family knows how to use them.

PREPARE YOUR VEHICLE FOR THE WINTER:

- Winterize your vehicle or have your vehicle serviced by a reputable dealer, garage or mechanic.
- Check your wipers, tires, lights and fluid levels regularly. Make sure the brakes and transmission are working properly. Lubricate door and trunk locks to prevent them from freezing.
- Prepare a Winter Storm Survival Kit and carry it in your vehicle. A kit is important even for short trips. If you have an accident or vehicle breakdown, you may be waiting several hours for assistance to arrive. See below for "Winter Storm Survival Kit for Travelers."

Winter Storm Survival Kit for Travelers

- ☐ Cell phone and charger
- ☐ Blankets/sleeping bags
- ☐ Flashlight with extra batteries
- ☐ First-aid kit
- ☐ Knife
- ☐ High calorie, non-perishable food
- ☐ Water
- ☐ Extra clothing to keep dry
- ☐ A large empty can and plastic cover with tissues and paper towels for sanitary purposes
- ☐ A smaller can and water-proof matches to melt snow for drinking water
- ☐ Sack of sand (or cat litter)
- ☐ Shovel
- ☐ Windshield scraper and brush
- ☐ Tool kit
- ☐ Tow rope with loops (avoid chains and hooks if at all possible)
- ☐ Booster cables
- ☐ Water container
- ☐ Compass and road maps

Illinois Winter During Winter Storms and Extreme Cold

WHEN AT HOME

- Stay indoors in a heated room as much as possible.
- Hang blankets over windows at night, but let the sun shine in during the day. Cover cracks around doors with rugs, newspapers, towels or other such material.
- When using alternative heat from a fireplace, wood stove, space heater, etc., use safeguards and ensure proper ventilation to avoid carbon monoxide poisoning.
- Refuel kerosene heaters outside and keep them at least three feet away from flammable objects.
- If you have no heat, close off unneeded rooms and place towels or rags under the doors.
- If your water pipes freeze:
    - Shut off water at the main source. This can minimize the damage to your home.
    - Call a plumber and contact your insurance agent.
    - Never try to thaw a frozen pipe with an open flame or torch.
    - Always be aware of the potential for electric shock in and around standing water.

WHEN OUTSIDE

- Avoid overexertion, such as shoveling heavy snow, pushing a car or walking in deep snow. The strain from the cold and the hard labor of snow shoveling could cause a heart attack at any age – a major cause of death in the winter. Don't ignore chest pain or tightness in your chest.
- If you become stranded outdoors, seek shelter to stay dry. Cover all exposed parts of the body.
- If no shelter is nearby, prepare a lean-to, windbreak or snow cave for protection from the wind. Build a fire for heat and to attract attention.
- Do not eat snow as it will lower your body temperature. Melt it first.
- Watch for signs of frostbite and hypothermia.
- **Frostbite** is a severe reaction to cold exposure of the skin that can permanently damage fingers, toes, the nose and ear lobes. Symptoms are numbness and a white or pale appearance to the skin. When symptoms are apparent, seek medical help immediately. If medical help is not immediately available, slowly warm the affected areas.
- **Hypothermia**, or low body temperature, is a life-threatening condition brought on when the body temperature falls below 95 degrees.

  Symptoms of hypothermia include slow or slurred speech, incoherence, memory loss, disorientation, uncontrollable shivering, drowsiness, repeated stumbling and apparent exhaustion.

  If these symptoms are detected, take the person's temperature. If below 95 degrees, immediately seek medical attention. If medical help is not available, begin warming the person slowly. Always warm the body core first. Do NOT warm the arms and legs first – this can force the cold blood toward the heart and can lead to heart failure.

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

RECOMMENDED WINTER ATTIRE

- Wear loose fitting, lightweight, warm clothing in several layers. The trapped air between the layers insulates. Layers can be removed to avoid perspiration and subsequent chill.
- Wear outer garments that are tightly woven, water repellent and hooded.
- Wear a hat. A significant amount of body heat is lost through the top of the head.
- Wear mittens that are snug at the wrist. Mittens offer better protection. Gloves allow your fingers to cool much faster than mittens.
- Cover the mouth and nose with scarves to help protect lungs from cold air.
- Keep your feet as dry as possible. Wear wool socks.

ON THE FARM

- Move animals to sheltered areas.
- Haul extra feed to nearby feeding areas.
- Have a water supply available. Most animal deaths in winter storms occur from dehydration.

WHEN TRAVELING

If you decide a trip cannot be delayed, consider using public transportation if it is available. If you decide to drive your vehicle, take the following precautions:

Before You Leave

- Check the latest weather conditions along your planned travel route. Listen to weather forecasts on TV, local radio stations or on a NOAA Weather Radio. Call 1-800-452-IDOT or go to the IDOT website (www.gettingaroundillinois.com) to get current road conditions for Illinois' interstate systems.
- Check your wipers, tires, lights and fluid levels. Lubricate door and trunk locks with lock lubricant to prevent freezing. Start with a full tank of gas.
- Travel during daylight hours on main roads and don't travel alone.
- Carry a Winter Storm Survival Kit in your vehicle. (see page 4)
- Provide your itinerary to a friend, relative or co-worker. Include information on your destination, the routes you will travel and when you expect to arrive. When you reach your destination, make a call to report that you have arrived.

On the Road

- Buckle your seat belts!
- Be prepared to turn back and seek shelter if conditions become threatening.
- Keep your windows clear of snow and ice. Do not start driving until your windshield is defrosted.
- Drive slower and increase your following distance. Your speed should be adjusted for the conditions and match the flow of traffic.
- Only use a cell phone if you are safely over to the side of the road or in a parking lot. Never talk on a cell phone while driving. This is especially dangerous in winter weather conditions.

- Roadway conditions may vary depending on the sun, shade or roadway surface. Watch for slick spots especially under bridges, on overpasses and in shaded areas.
- If the pavement is snow or ice covered, start slowly and brake gently. Begin braking early when you come to an intersection. If you start to slide, ease off the gas pedal or brakes. Steer into the direction of the skid until you feel you have regained traction, and then straighten your vehicle.
- If your vehicle becomes stuck in the snow, contact a towing company, but be prepared to wait in the cold weather for up to several hours. If you can be safely pulled out by another vehicle, make sure you use tow ropes with loops on the ends. Avoid chains or hooks if at all possible, since these can slip off and recoil very quickly, causing injury or death.
- When a snowplow is coming toward you, allow plenty of room for the truck to pass. When the center line is being cleared and salted, the plow tip may be on or over the line.
- When you approach a snowplow from behind, pass with care and only when you can see the road ahead of the truck. You should not try to pass in blowing snow; there may be a vehicle in that cloud of snow. Allow more distance than usual between you and the plow.
- Refuel often, keeping your gas tank near full to prevent ice in the tank and fuel lines, which could leave you stranded. These frequent stops should also help relieve tense muscles.

If Stranded

- Pull as far off the road as possible, set your hazard lights to "flashing," and hang or tie a colored cloth (preferably red) to your antenna, window or door. After the snow stops falling, raise the hood to indicate trouble. If you have a cell phone, call for help.
- Stay 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.
- Make sure the exhaust pipe is not blocked by snow, and then run the engine and heater about 10 minutes each hour to keep warm. Turn on the dome light at night when running the engine. When the engine is running, open a window slightly for ventilation. Periodically clear away snow from the exhaust pipe.
- Exercise to keep blood circulating and to maintain body heat by vigorously moving arms, legs, fingers and toes. In extreme cold, or if you don't have a Winter Storm Survival Kit, use road maps, seat covers and floor mats for insulation.
- Take turns sleeping. One person should be awake at all times to watch for rescue crews.
- Be careful not to deplete battery power. Balance electrical energy needs such as lights, heat and radio, with electrical energy supply.

Safety for Schools

Children can be especially susceptible to the dangers associated with winter weather. Even if they are cold, wet or exhausted, they often are not conscious of the potential threats these conditions could pose. School administrators, principals and teachers need to be aware of the risks of winter weather. Emergency plans and procedures must be established or reviewed before the onset of the winter season to ensure children's safety.

WINTER SAFETY PROCEDURES FOR SCHOOLS

Procedures for schools should include:

- A means of receiving current weather information. The National Weather Service (NWS) provides this information via NOAA Weather Radio and websites (see listing on page 10). Commercial radio and television also air winter weather conditions.
- Guidelines for children's outdoor activities.
- Plans for closures, early dismissal or holding children and staff at school due to snow, ice or extreme cold.
- Provisions for children who arrive earlier than usual or stay later than usual due to driving conditions parents may encounter.

Transportation–Related Considerations:

- Bus driver training for winter conditions.
- Changes in routes (alternate) during winter conditions.
- Procedures for altered school schedules.
- Procedures to deal with stranded buses.

Wind Chill

Most of the time, cold is judged in terms of a thermometer reading. With people and other living things though, both temperature and wind speed are needed to produce a “wind chill factor.” The wind chill is based on the rate of heat loss from exposed skin caused by the combined effects of the wind speed and cold temperatures. As the wind increases, heat is carried away from the body at an accelerated rate, driving down the body temperature. The wind chill shows how cold the wind makes exposed flesh feel and is a good way to determine the potential for frostbite or hypothermia.

Remember, wind chill only applies to people. The effects of wind chill are different for animals. If the temperature is 35 degrees and the wind chill is 10 degrees, objects such as pipes or cars will only cool to 35. The wind chill factor does not apply to non-living objects.

NATIONAL WEATHER SERVICE WIND CHILL CHART

Read right, and down from the calm-air line. For example, a temperature of zero combined with a 20 mph wind has an equivalent cooling effect of minus 22 degrees.

Wind (mph)	Temperature (°F)																	
Calm	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	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

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)

Effective 11/01/01

Additional Sources of Information

For additional information on winter storms or other hazards, contact the following:

Your local emergency management agency (EMA or ESDA)
Ready Illinois web page: http://ready.illinois.gov

The website of the nearest National Weather Service (NWS) office:

Davenport, IA	www.weather.gov/Davenport
Romeoville, IL	www.weather.gov/Chicago
Lincoln, IL	www.weather.gov/Lincoln
St. Louis, MO	www.weather.gov/StLouis
Paducah, KY	www.weather.gov/Paducah

Your local chapter of the American Red Cross (ARC) or www.redcross.org
Illinois Dept. of Transportation – Road Conditions: www.gettingaroundillinois.com

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