



A PREPAREDNESS GUIDE TO WINTER STORMS COLD WEATHER

It's 40° Fahrenheit outside but there is a 15-mile-per-hour wind. Factoring in wind chill, what would be the actual air temperature?

If you guessed 32 degrees (i.e., freezing), you would be smart enough to dress warmly and protect yourself before heading out. Subtract another five degrees, and the wind chill temperature plummets to a frosty 25 degrees.

You don't have to live in Buffalo or Toronto to face the hazards of cold temperatures with winds, snow, and ice. In the cold wave of January 1977, for example, Miami International Airport recorded a frigid 25 degrees.

How prepared are you and your family and how prepared is your employer to cope with cold weather? What are the warnings you should heed and precautions you should take before a storm? What warnings will you receive? Can you identify cold-related illnesses like frostbite and hypothermia? What are the symptoms of cold stress in people who work out in the cold?

This guide will assist you in answering those questions. It is a summary of the best advice from the American Red Cross, FEMA, and the Centers for Disease Control and Prevention, as well as OSHA. You can take measures to protect yourself, your home, and your family from cold weather hazards before and during a cold weather event. Employers are likewise responsible for ensuring the health and safety of their employees in cold weather situations.

WINTER WEATHER WARNINGS

Taking sensible precautions requires a basic knowledge of the threat. Here are seven cold weather warning terms you should know:

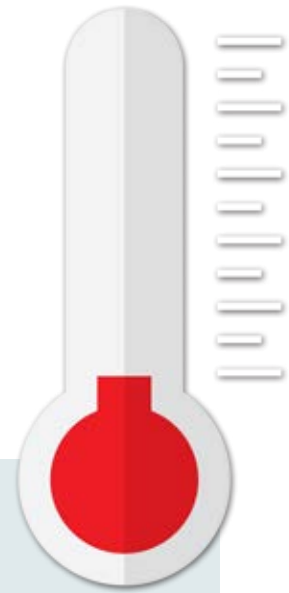
1. **Frost/Freeze Warning** – Expect below-freezing temperatures.
2. **Wind Chill** – As in our example above, wind chill lowers the actual temperature effect on humans and exposed animals. It is what the temperature “feels like” and affects how quickly warmth can dissipate from your body. Another example: A temperature of 20 degrees F coupled with a wind speed of 35 miles an hour results in a “feels-like” temperature of 0 degrees.
3. **Winter Weather Advisory** – Warnings that weather conditions will cause hazardous and inconvenient conditions, which are not necessarily life-threatening.
4. **Winter Storm Watch** – Reports that a winter storm is possible in your area. Expect heavy snow and/or ice within the next 12 to 36 hours. Stay tuned to radio, TV, or internet alerts. Check your emergency supplies and gather up what you would need in case of a power outage.
5. **Winter Storm or Blizzard Warning** – The storm or blizzard is occurring or will soon occur in your area. A blizzard will produce sustained winds or gusts up to or in excess of 35 miles per hour with falling or blowing snow. Expect reduced visibility to less than one-quarter mile, lasting three hours or longer. Stay inside!
6. **Freezing Rain** – Creates a coat of ice on the roads, walkways, trees, and powerlines. Be prepared for hazardous driving and potential power outages. The roads will be like a skating rink.
7. **Sleet** – Turns rain to ice pellets before it reaches the ground. Be prepared for slippery driving conditions. As the

temperature drops, watch for black ice on the road.

COLD-RELATED AFFLICTIONS

Know the symptoms of these three cold-related illnesses:

1. **Hypothermia** occurs when the body begins to lose heat from its central core at a rate faster than it can produce it. Prolonged exposure to cold will use up the body’s stored energy and affect the victim’s ability to react sensibly.
2. **Frostbite** injures the body through freezing of tissues. It most often affects the body’s extremities: fingers, toes, chin, cheeks, ears, and nose. Frostbite, in severe cases, can lead to amputation. Anyone with reduced blood circulation or who has not dressed properly is at increased risk for frostbite during extreme cold temperatures.
3. **Chilblains** are caused by repeated skin exposure to temperatures just above freezing to as high as 60 degrees. Exposure to the cold causes damage to groups of small blood vessels in the skin. The result is permanent redness and itching, typically to the cheeks, ears, fingers, and toes.



For a complete list of symptoms and first aid for cold-related physical dangers, see the Centers for Disease Control Prevention webpage, <https://www.cdc.gov/niosh/topics/coldstress/coldrelatedillnesses.html>. Download the NIOSH Fast Facts on Protecting Yourself From Cold Stress at <https://www.cdc.gov/niosh/docs/2010-115/pdfs/2010-115.pdf>.

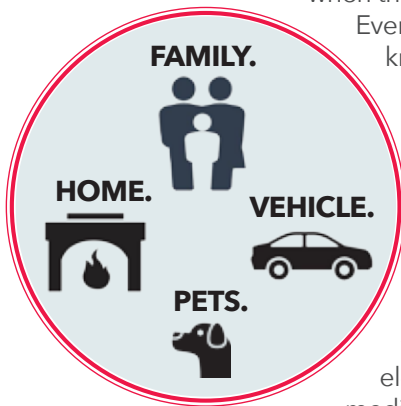
BEFORE THE STORM OR EXTREME COLD



Prepare 1) your family, 2) your home, and 3) your vehicle to cope with cold weather:

STEP 1 - PREPARE YOUR FAMILY

Have a family communications contingency plan in effect. You may not all be together when the storm strikes.



Everyone needs to know how to contact each other, how to reunite, and what to do in an emergency.

Have alternatives available for family members who depend on electricity to operate medical equipment over an extended period of time.

Remember to check on neighbors who are elderly or have mobility issues.

STEP 2 - PREPARE YOUR HOME.

Follow these seven suggestions.

1. Make sure your home is storm ready. Ensure your home is well-insulated and has storm windows and weather stripping around doors and windows to retain warmth.
2. Hire a professional contractor to check the structural ability of your roof. Can it sustain the weight of an unusually heavy accumulation of snow? Will your drains handle the runoff?
3. Prepare a home emergency kit with at least three days' supply of food, water, and other emergency supplies.

4. Keep space heater safety in mind. Buy a space heater that has an automatic shut-off switch. Keep any heat source 3 feet from furniture and drapes. Keep fire extinguishers handy and make sure everyone knows how to use them in case of a space heater fire.
5. If you have a wood-burning fireplace, store an extra supply of wood as an alternative heating source. When was the last time you had your chimney inspected and cleaned? If it was over 12 months ago, it is time to call a chimney sweeper.
6. Install a working carbon monoxide detector. If the detector sounds, open all windows to ventilate the area. Turn off any appliances and shut down your furnace. Then reset the detector. If anyone displays symptoms of carbon monoxide poisoning – headache, nausea, dizziness, vomiting, confusion – get the victim to fresh air and call 911. If breathing stops, begin CPR. Follow-up treatment for carbon monoxide treatment will be at a medical facility that has access to pure oxygen.
7. Locate the master water valve and know how to shut it down in case of a burst pipe.

STEP 3 - PREPARE YOUR VEHICLE

Fully winterize your car with antifreeze. Make sure the brakes, heater, defroster, and windshield wipers are in good working condition. Prepare an extra vehicle emergency kit. Add these items to your list: a portable cellphone charger, ice scraper, sand, and tire chains for traction, as well as battery jumper cables.

DURING THE STORM OR COLD WEATHER EVENT

Stay indoors. If you must go outside, wear multiple layers of loose-fitting, lightweight, warm clothing, rather than a single layer of heavy clothing. Wear mittens, which are warmer than gloves. Wear a hat and cover your mouth with a scarf to slow heat loss. Stay dry by changing wet clothing frequently. Remember your precautions against carbon monoxide poisoning. Do not use a generator, camp stove, gasoline/propane or charcoal-burning device inside the home, garage, or any enclosed area in the home.

AFTER THE STORM

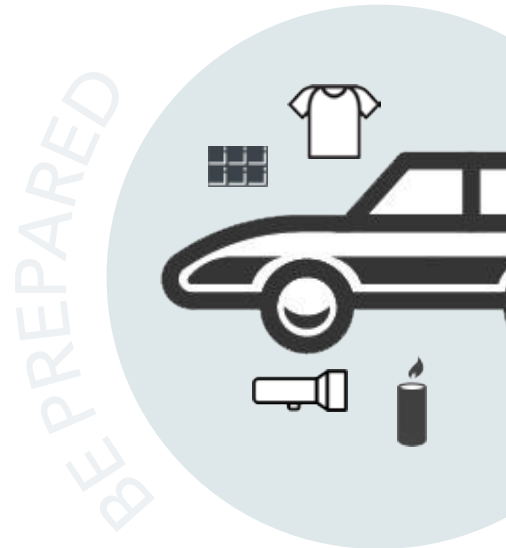
If you do not have power or the supplies to keep warm in your home overnight, you may need to proceed to a designated public shelter if you can travel there safely. Have a plan on where to go (**text SHELTER + your ZIP to 4FEMA (43362)**) to locate the nearest shelter.

Bring personal items for an overnight stay. Dress warmly to protect yourself from frostbite and hypothermia.

IF YOU GET STUCK

If you must travel during a snowstorm, make sure you followed the above advice on preparing your vehicle. Remember that traveling by car during any extreme weather is dangerous. If you get stuck in a storm, however, there are ways to survive this worst-case scenario.

To repeat, your winter survival kit for the car is crucial. If you live in an area where heavy snow conditions are common, add the following to your emergency kit:



- a good sleeping bag
- extra warm clothes
- food (including pet food)
- a metal container (to melt snow for drinking water)
- candles and roadside flares
- matches
- a flashlight or other signal light

If stuck in a snowdrift, stay put unless you see a building nearby. Clear and continually check the exterior exhaust on the car to avoid carbon monoxide buildup. Restart the car only to keep warm. Conserve fuel by turning off the ignition when the car is heated up. Stay hydrated: The more you drink, the warmer you will be.

Finally, turn on your hazard lights and place roadside flares near the car to alert rescuers and other traffic. Keep your seatbelt fastened. You could still be hit even if you have pulled over.

EMPLOYER RESPONSIBILITIES

OSHA does not publish a specific standard covering employees working in a cold environment. Nevertheless, according to OSHA, “employers have a responsibility to provide workers with employment and a place of employment which are free from

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Employers should, therefore, “train workers on the hazards of the job and the safety measures to use... [to] protect workers’ safety and health.” So, employers are responsible for training workers on how to prevent, recognize, and treat cold-related illnesses. Among other measures, OSHA recommends placement of heaters to warm workers in outdoor security

stations to shield work areas from cold weather effects.

For additional guidance and answers to frequently asked questions, see OSHA’s online “Cold Stress” guide at <https://www.osha.gov/SLTC/emergencypreparedness/guides/cold.html>.



CONCLUSIONS AND TAKEAWAY

You don’t have to live in Juno, Alaska, to be subject to the adverse effects of cold weather. You need to be aware of broadcast warnings as cold weather approaches. You should also know the causes and effects of hypothermia, frostbite, and chilblains. You should



prepare your family (including pets), home, and vehicle to withstand cold weather and provide safe shelter.

During a storm, you should stay in place, but if you must travel, make sure you know the dangers. If you get stuck, stay in the car, and take steps to prevent carbon monoxide buildup as well as keeping yourself visible on the side of the road.

Finally, employers should become familiar and comply with OSHA guidance on keeping employees safe during cold weather.

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