MIREADY
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HOW TO PREPARE FOR A WINTER STORM

FEMA

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Introduction

Winter storms can bring extreme cold, freezing rain, ice, snow, high winds, or a combination of all of these conditions. This guide from FEMA is designed to help you properly prepare for a winter storm and know how to protect yourself before, during, and after one.

Planning and preparing can make a big difference in safety and resiliency in the wake of a winter storm. The ability to maintain or quickly recover following a winter storm requires a focus on preparedness, advanced planning, and knowing what to do in the event of a winter storm.

How to Prepare for a Winter Storm

Winter storms can cause power outages that last for days. They can make roads and walkways extremely dangerous and also negatively affect critical community services including public transportation, childcare, and health programs. Injuries and deaths may occur from exposure, dangerous road conditions, carbon monoxide poisoning, and other winter storm conditions. Be better prepared this winter, and learn more at ready.gov/prepare.

Now/Prepare

Sign up for local alerts and warnings.

Create and test emergency communication plan(s).

Stock emergency supplies, and install battery-powered or battery backed-up carbon monoxide detectors and smoke detectors.

Winterize your home. Visit **this page** to help you prepare.

Review your property insurance, and safeguard critical documents.

Get trained on specific needs your family may have. Also, consider joining your local Community Emergency Response Team (CERT).

Identify a place nearby where you can safely warm up should you lose heat in your home.

During/Survive

Stay indoors and off the roads. If you must drive, keep emergency supplies in your car.

Close off rooms to consolidate and retain heat.

Dress in layers, and use blankets to stay warm.

Bring pets into a warm place and out of the storm or severe cold.

Never use a generator, camp stove, charcoal grill, or gasoline or propane heater indoors, as these items can start accidental fires, cause electric shock, and/or cause deadly carbon monoxide poisoning.

Never heat a home with a cooktop or oven.

Limit your time outdoors, and stay dry.

After/Be Safe

Only drive if necessary. Remove snow and ice from your tailpipe before starting your car, and check regularly if idling. Clean all snow and ice from your car before driving.

Dress in warm clothing, stay dry, prevent prolonged exposure to cold and wind, and avoid overexertion clearing/shoveling snow. Overexertion can lead to a medical emergency.

Monitor local news and alerts for emergency information and instructions.

STAY INFORMED: EMERGENCY NOTIFICATIONS

The National Weather Service (NWS) provides alerts and warnings for all hazards through a National Oceanic and Atmospheric Administration (NOAA) Weather Radio (NWR) receiver. There are radio receivers that are designed to work with external notification devices for people who are deaf or hard of hearing. For more information on NWR receivers, visit **nws.noaa.gov/nwr/info/nwrrcvr.html**.

Sign up for emergency alerts and notifications that your community may offer. Download *Be Smart. Know Your Alerts and Warnings* for a summary of notifications at **ready.gov/prepare**.

Download the FEMA and American Red Cross apps on iOS or Android at no cost. These apps may provide information about finding shelters, providing first aid, and seeking assistance for recovery. Search for the FEMA or American Red Cross apps on your smartphone or other mobile devices.

WATCHES AND WARNINGS

Learn the differences between Advisories, Watches, and Warnings, which describe changing winter weather conditions. Learning what these terms mean can help you understand how an approaching storm may impact you and what actions to take to stay safe. Winter Weather related Advisories, Watches, and Warnings are issued by your local National Weather Service office and are based upon local criteria.

ADVISORY

Winter Weather Advisories are issued when snow, blowing snow, ice, sleet, or a combination of these wintry elements is expected but conditions should not be hazardous enough to meet Warning criteria. Be prepared for winter driving conditions and possible travel difficulties. Use caution when driving.

WATCH

Winter Storm Watches are issued when conditions are favorable for a significant winter storm event. Heavy sleet, heavy snow, ice storms, blowing snow, or a combination of these events are possible.

WARNING

Winter Storm Warnings are issued for a significant winter weather event including snow, ice, sleet, blowing snow, or a combination of these hazards. Travel will become difficult or impossible in some situations. Delay your travel plans until conditions improve.

For a full list of winter weather Advisories, Watches, and Warnings criteria, please visit http://www.nws.noaa.gov/om/winter/ww.shtml

EMERGENCY SUPPLIES

You may not be at home when the storm starts, so it is important to have basic supplies of food and water as well as a way to stay warm without power in several locations such as your workplace, vehicle, and/or school. You can build your supplies over time by adding a few items each week or month. Gather, in advance, the necessary supplies and items you will need to stay safe after the winter storm passes. For a complete list of emergency supplies, visit **www.ready.gov/kit.** Check these supplies off of your Winter Storm Preparedness Checklist once you add them to your emergency kit, which appears at the end of this document.

EMERGENCY COMMUNICATION

Make sure you have everything you will need to get in touch with your family either through cellular phones or email.

MEDICAL NEEDS

Be equipped to tend to any current or unexpected medical conditions your family members may have. Ask your doctor about storing prescription medication such as at least a three-days' supply of heart and blood pressure medication, insulin for diabetics, and other prescription drugs such as inhalers for those with asthma. Include battery backup power for power-dependent mobility devices, oxygen, and other assistive technology needs.

CRITICAL DOCUMENTS

Place any important documents in a sealed, waterproof container to keep them dry and easily accessible.

TOOLS AND SAFETY ITEMS

Small items like matches, flashlights, a multi-tool, pocket knife, and a whistle (to signal for help) can make a huge difference for your family while weathering a storm.

FOOD/SUPPLIES

Have at least a three-days' supply of non-perishable food and water for your family. Remember to store anything specific to your family's needs.

WARM CLOTHING & BLANKETS

Warm clothes and blankets can help prevent hypothermia. Do not forget warm, waterproof, and protective footwear as well as gloves.

Ask yourself, "What would I need for myself and my family if a winter storm struck?" and "What would I or my family require if we did not have access to a grocery store or pharmacy for at least three days?" Add any of these specific items to your Winter Storm Preparedness Checklist.

WINTER STORMS CAN BE DECEPTIVE KILLERS

The NWS refers to winter storms as "deceptive killers" because most deaths and injuries are indirectly related to the storms. The majority of deaths caused by winter storms are from vehicle accidents due to ice and snow. Heart attacks brought on by over-exertion from shoveling or clearing snow also increase during and after storms. Finally, individuals also suffer dangerous injuries (e.g., frostbite and hypothermia) because of exposure and lack of protection from the wind and cold.

Another significant danger is sickness or death from carbon monoxide poisoning. Carbon monoxide poisoning can occur when using portable generators indoors, in attached garages, too close to the house, or when starting a vehicle without clearing snow and ice from the tailpipe. Generators should be used only outdoors and should be located at least 20 feet away from doors, windows, and vents.

CREATE YOUR FAMILY EMERGENCY COMMUNICATION PLAN

Before a storm hits, it is important to know how you will contact your family and how you will get back together.

Remember, you might not always have access to your cellular phone. Keep important numbers written down in your wallet in case you cannot access the contact list in your phone. Landline and cellular phone systems are often overwhelmed following a disaster, so you may need to use text messages and social media. Designate an out-of-town contact who can help your household reconnect. Be sure to practice your plan with your family. Get more information by downloading *Be Smart. Create Your Family Emergency Communication Plan* or visit ready.gov/make-a-plan.

BUILDING AN EMERGENCY SUPPLY KIT FOR YOUR CAR

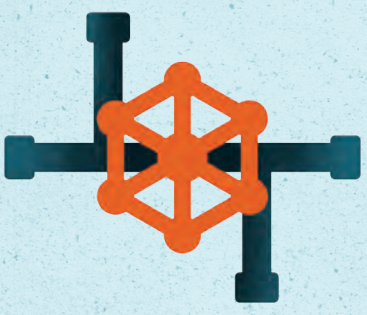
Road conditions during winter storms can be extremely dangerous. When storms are predicted, plan to stay off of the roads. However, even when the road conditions are good, preparing and maintaining your vehicle for cold weather will help keep your car dependable and reduce the chances of being stuck on the road in cold weather. Once you pack your emergency supply kit for your car, check off the items in your Winter Storm Preparedness Checklist.

WINTERIZE YOUR VEHICLE

During the fall, before winter weather sets in, make sure you or a mechanic completes a winter weather check on your vehicle by ensuring that the following car components are safely working:

- **Antifreeze levels**
- **Battery and ignition system**
- **Brakes**
- **Exhaust system (carbon monoxide is odorless and can be fatal)**
- **Fuel and air filters**
- **Heater and defroster**
- **Lights and flashing hazard lights**
- **Oil**
- **Thermostat**
- **Windshield wiper equipment**
- **Good winter tires**

ACTIONS THAT REDUCE PROPERTY DAMAGE & PROVIDE PROTECTION



WINTERIZE YOUR HOME

by insulating walls and attics, caulking and weather-stripping doors and windows, and installing storm windows or covering windows with plastic.

INSULATE WATER PIPES.

Also, allow faucets to drip or trickle during unusually cold weather or if the power and heat are out to avoid freezing. When water freezes, it expands, and this can cause water pipes to burst. Know how to shut off water valves if a pipe bursts.

CLEAR RAIN GUTTERS,

repair roof leaks, check your roof to make sure it can handle the extra weight of the snow and ice, and cut away tree branches that could fall on a house or neighboring structure. Keep pathways and driveways clear between storms to avoid buildup of snow piles and icing.

INSTALL BATTERY-OPERATED CARBON MONOXIDE DETECTORS

or electric detectors with battery backups in central locations on every level of your home. This will provide an early warning of accumulating carbon monoxide, which is a colorless, odorless, tasteless, and potentially deadly gas.

HIRE A CONTRACTOR

to check the structural ability of your roof to sustain unusually heavy weight from the accumulation of snow and/or ice.

KEEP FIRE EXTINGUISHERS ON HAND

and make sure everyone in your home knows how to use them. If your smoke alarms get power from your home's electrical system (hardwired), make sure the backup battery is replaced at least once a year, so your alarms will work during a power outage.

MAINTAIN HEATING EQUIPMENT

and chimneys by having them cleaned and inspected every year by a qualified professional.

Renters, either check with your landlord or property manager to ensure that they have taken care of these necessary building improvements or find out your responsibilities with respect to these actions.

INSURANCE

Insurance claims are an important part of recovering from storm damage. Review your homeowners, renters, or business insurance policies to ensure you have appropriate coverage for your property and personal belongings. Photograph and inventory your property to assist with post-disaster claims.

FLOOD INSURANCE

Most property insurance policies do not cover flood losses, so you will need to purchase separate flood insurance if your property is at risk for flooding due to snowmelt. Talk to your insurance agent about buying flood insurance. Flood insurance is available for homeowners, renters, and business owners through the National Flood Insurance Program in participating communities. Keep in mind that a policy purchased today will take 30 days to go into effect, so act now. Learn how to protect yourself financially from flood damage by visiting **FloodSmart.gov**.

PETS

Don't forget to make a plan for your pet too! To learn more tips, go to **ready.gov/animals**.

STAY OFF THE ROAD

Federal Highway Administration reports indicate that the risk of vehicular accidents rises sharply in winter weather conditions. In an average year, there are more than half a million vehicle crashes when the roads are snowy, slushy, or icy, resulting in nearly 2,000 fatalities and 140,000 injuries.[1]

Driving is very dangerous during and immediately after a winter storm. Plan to stay off the road when authorities issue Advisories, Watches, and Warnings.

ESSENTIAL TRAVEL ONLY

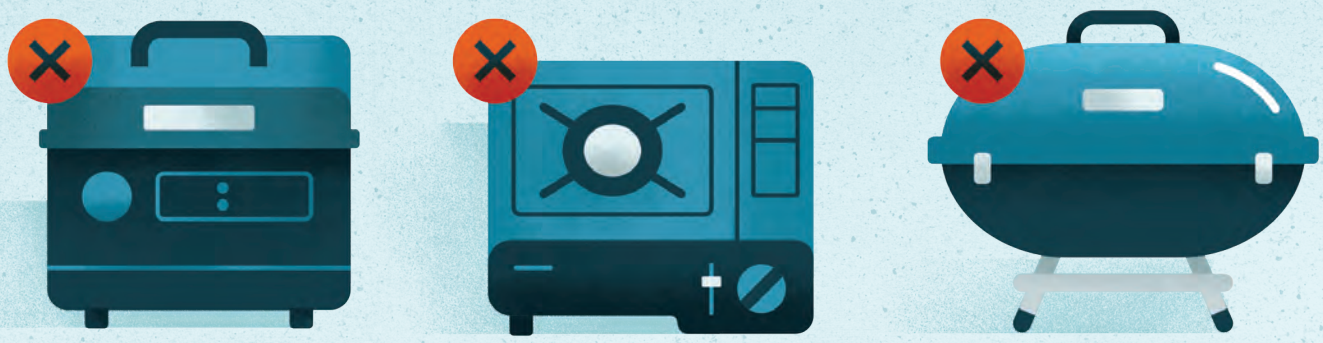
If driving is necessary, ensure you have emergency supplies of food, water, warm clothing, and a full tank of gas in case you are stuck in traffic or have an accident and have to wait several hours for assistance. If possible, travel during the day and do not travel alone. Stay on main roads and do not crowd the snowplows. Let someone know your destination, route, and expected arrival time.

If you become stranded in your car on a major highway, remain in your vehicle until help arrives. If you are stranded on a more remote road, use items around you to get attention for help.

SNOW SHOVELING: OVER-EXERTION AND INJURY

Nearly 100 people die every year from heart attacks brought on by shoveling snow.[2] Use caution, take breaks, push the snow instead of lifting it when possible, and lift lighter loads. Consider clearing the sidewalks of your elderly neighbors or neighbors with disabilities.

CAUTION: CARBON MONOXIDE KILLS



Each year, an average of 430 Americans die from unintentional carbon monoxide poisoning,[3] and there are more than 20,000 visits to the emergency room with more than 4,000 hospitalizations.[4] Carbon monoxide-related deaths are highest during colder months. These deaths are likely due to increased use of gas-powered furnaces and alternative heating, cooking, and power sources used dangerously indoors during power outages. NEVER use a generator, grill, camp stove, or charcoal burning device inside or in any partially enclosed area; keep these devices at least 20 feet from doors, windows, and vents. If your carbon monoxide alarm sounds, move quickly to a fresh-air location outdoors or by an open window or door. From the fresh-air location call or text 9-1-1 for help, and remain there until emergency personnel arrive to assist you.

1 *"How Do Weather Events Impact Roads?" U.S. Department of Transportation, Federal Highway Administration, last modified February 1, 2017, accessed April 11, 2017, www.ops.fhwa.dot.gov/weather/q1_roadimpact.htm.*

2 *"Snow Shoveling Safety," American Journal of Emergency Medicine, last updated January 2011, www.nationwidechildrens.org/cirp-snow-shoveling.*

3 *United States, Department of Health and Human Services, Centers for Disease Control and Prevention, "Average Annual Number of Deaths and Death Rates from Unintentional, Non-Fire Related Carbon Monoxide Poisoning, by Sex and Age Group United States, 1999-2010," Morbidity and Mortality Weekly Report 63, no. 3 (January 2014), 65.*

4 *United States, Department of Health and Human Services, Centers for Disease Control and Prevention, "Carbon Monoxide Poisoning: Frequently Asked Questions," last modified December 30, 2015, http://www.cdc.gov/co/faqs.htm.*

COLD WEATHER DANGERS

If you detect symptoms of frostbite, which is the freezing of the skin and body tissue beneath the skin, in either yourself or another person, seek medical care IMMEDIATELY. Additionally, hypothermia occurs when one's body temperature drops to dangerously low levels, so, before addressing symptoms of frostbite, first determine whether you or someone else is showing signs of hypothermia.

UNDERSTANDING WIND CHILL

As the wind increases, your body is cooled at a faster rate, causing the skin temperature to drop. This is why it sometimes "feels" colder than the actual temperature. Wind chill is the temperature it "feels like" when you are outside. The NWS provides a Wind Chill Chart to show the difference between air temperature, and the perceived temperature, and the amount of time until frostbite occurs.

SIGNS OF HYPOTHERMIA

- Uncontrollable shivering
- Memory loss, disorientation
- Incoherence, slurred speech
- Drowsiness
- Apparent exhaustion

SIGNS OF FROSTBITE

Loss of feeling and white or pale appearance in extremities, such as fingers, toes, earlobes, face, and the tip of the nose.

WHAT TO DO

If you detect symptoms of frostbite:

Cover exposed skin, but do not rub the affected area in an attempt to warm it up. Frostbite results in the formation of ice crystals in the tissue, and rubbing could damage the tissue. Seek medical help immediately. For more information, visit the CDC's page on **frostbite** and **hypothermia.**

If you detect symptoms of hypothermia:

- Get the victim to a warm location.
- Remove wet clothing.
- Warm the center of the body first by wrapping the person in blankets or putting on dry clothing.
- Give warm, non-alcoholic beverages if the person is conscious.
- Take the person's temperature. If it is below 95°, seek medical attention immediately.

WHAT TO WEAR

- **If you must go outside,** wear several layers of loose-fitting, lightweight, warm clothing rather than one layer of heavy clothing. The outer garments should be tightly woven and water-repellent.
- **Wear mittens,** which are warmer than gloves.
- **Cover all of your body.** Wear a hat and a scarf, covering your mouth to protect your face and to help prevent loss of body heat.

ROAD TO RECOVERY

After a winter storm, the road to recovery can be challenging. It may take several weeks for clean-up and rebuilding.

- **If your home is damaged,** no longer safe, and/or has lost power, you may want to go to a designated public shelter. Text SHELTER + your ZIP code (e.g., SHELTER 20472) to 43362 (FEMA) to find the nearest shelter in your area. Follow local media for information on shelters. You can also find a shelter near you by checking out the FEMA mobile app: fema.gov/mobile-app.
- **Friends, family, and neighbors** will likely be the first to provide help. Plan with neighbors now to help each other and share resources.
- **Nonprofit and faith-based organizations** often provide support immediately after a winter storm. If you or someone in your household has a disability, an access or functional need, and receives disability services, contact your local disability service provider for assistance.
- **Insurance** is an essential part of recovery. If you have insurance, you may receive financial compensation for some of your losses. Take pictures to document your damage, and file a claim as soon as possible. Do what you can to prevent further damage (e.g., putting a tarp on a damaged roof) because insurance may not cover damage that occurs after the winter storm.
- **The Federal Government** provides assistance only when the President declares an area to be a federal disaster. FEMA may provide financial assistance for basic needs that cannot be met by other sources. The U.S. Department of Housing and Urban Development, the U.S. Small Business Administration, and the U.S. Department of Agriculture may also provide disaster assistance.

Insurance claims and other forms of assistance may take time to arrive, and, if you are missing key documents, additional delays are possible.

LEARN FROM EVERY STORM

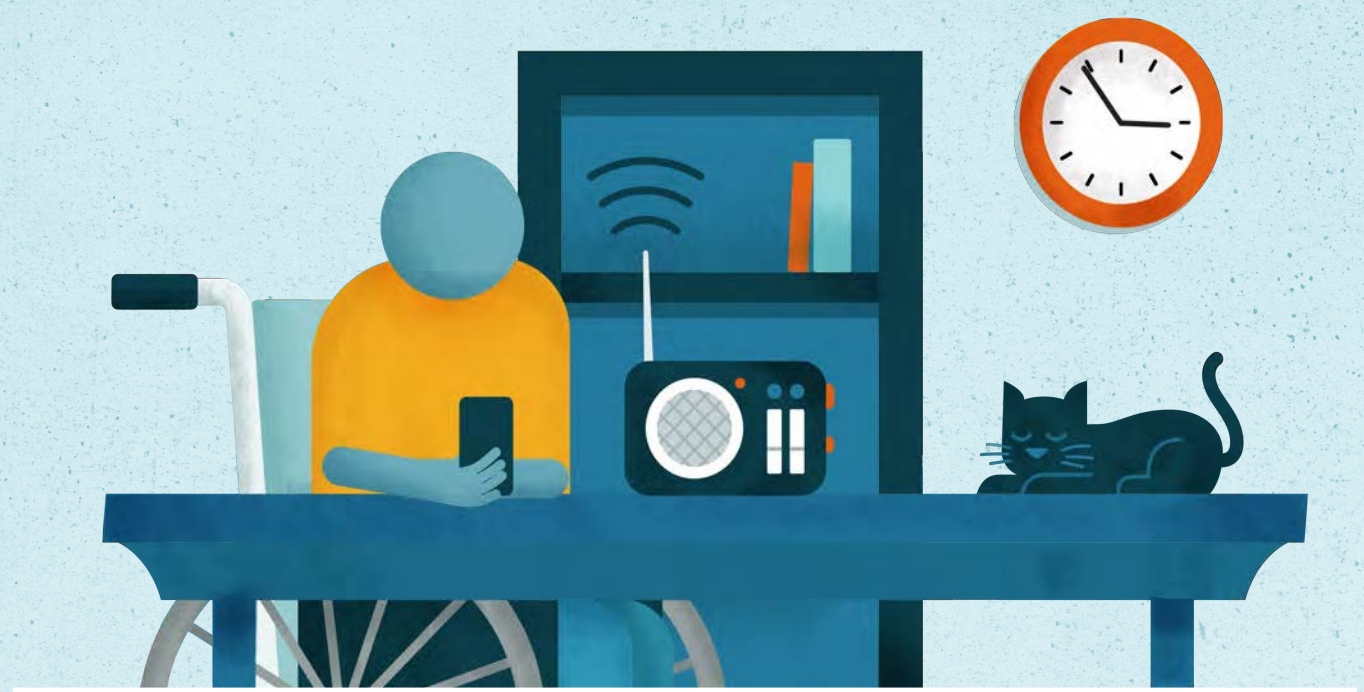
Restock your emergency supplies to be ready in case another storm hits.

Assess how well your supplies and family plan worked. What could you have done better?

Take a few minutes to improve your family plan and supplies before the next winter storm hits.

Talk to your neighbors and colleagues about their experiences and share tips with each other.

ADDITIONAL RESOURCES



The following resources and websites can help you further prepare for, respond to, and recover from a winter storm.

CDC Winter Prevention Guide:
http://emergency.cdc.gov/disasters/winter/guide.asp

Winter Driving Tips:
https://one.nhtsa.gov/nhtsa/tips/winter/index.html

Winter Storms...The Deceptive Killers:
www.nws.noaa.gov/om/winter/resources/Winter_Storms2008.pdf

Winter Weather Watches, Advisories, and Warnings :
www.weather.gov

American Red Cross, *Repairing Your Flooded Home:*
www.redcross.org/images/MEDIA_CustomProductCatalog/m4340135_file_cont333_lang0_150.pdf

RELATED WEBSITES

FEMA Mobile App: fema.gov/mobile-app

FEMA Winter Weather: www.ready.gov/winter-weather

American Red Cross Flood Safety:
http://www.redcross.org/get-help/prepare-for-emergencies/types-of-emergencies/flood

Federal Emergency Management Agency (FEMA):
www.fema.gov

National Oceanic and Atmospheric Administration (NOAA):
www.noaa.gov

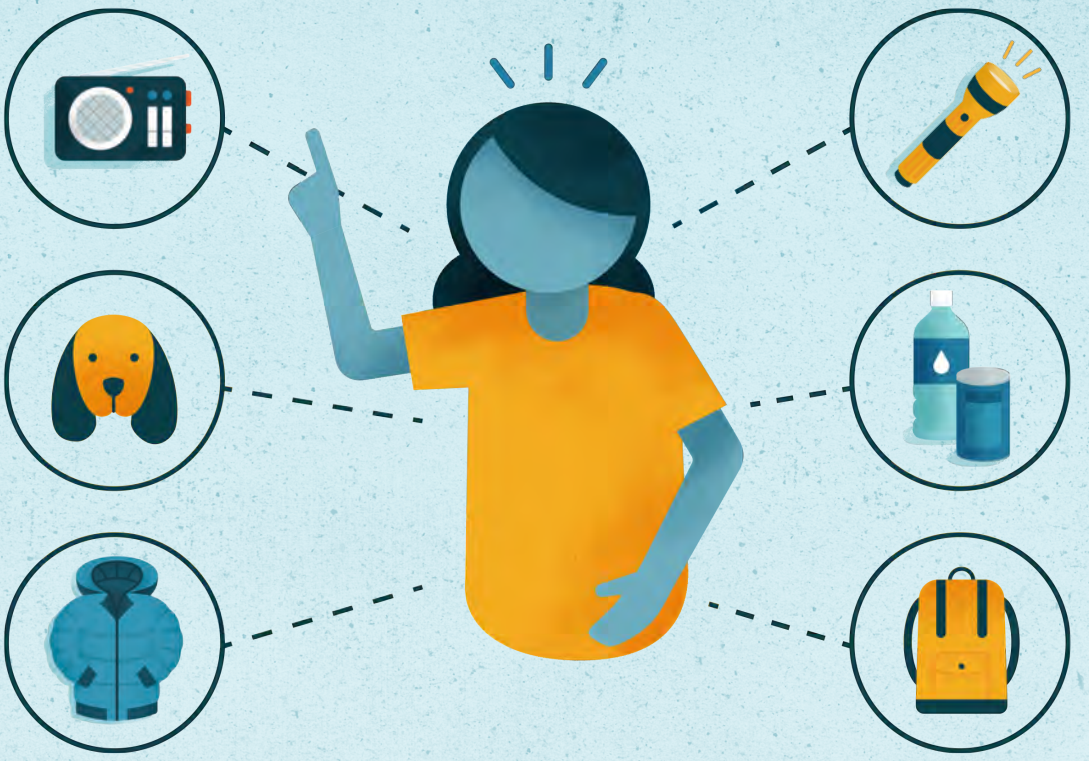
U.S. Centers for Disease Control and Prevention (CDC):
http://emergency.cdc.gov/winter/index.asp

U.S. Fire Administration Winter Fire Safety (USFA):
www.usfa.fema.gov/winter

Substance Abuse and Mental Health Services Administration Disaster Technical Assistance Center:
www.samhsa.gov/dtac.

Para obtener información y recursos en español visite
https://community.fema.gov/?lang=es

TEST YOUR WINTER STORM PREPAREDNESS KNOWLEDGE



1 **MYTH:** Preparing for disasters is time consuming and expensive.

FACT: Signing up for local alerts and warnings is free. Many preparedness apps are also free.

FACT: Your home may already contain emergency kit items.

FACT: You can purchase items for an emergency kit, and assemble it over time.

FACT: Having an adequate emergency supply of food and a communication plan can be of benefit no matter the hazard.

2 **MYTH:** My homeowners insurance should cover everything if an emergency winter storm affects me.

FACT: This is not always the case. Check your insurance policy, and consult your insurance agent.

FACT: Standard homeowners insurance does not cover flood damage.

3 **MYTH:** In an emergency, only first responders need to know what to do.

FACT: Everyone needs to know what to do before, during, and after a winter storm to protect themselves, their families, and their neighbors.

FACT: First responders may not reach you for hours or days after a winter storm strikes. Everyone needs to know what to do to stay safe.

4 **MYTH:** If I have an emergency kit packed, I am prepared for any emergency, including a severe winter storm.

FACT: Emergency preparedness requires more than a kit.

FACT: Having a family communication plan, signing up for alerts and warnings, and knowing what to do are also important.

FACT: Many emergencies require knowledge of what to do to protect yourself.

WINTER STORM PREPAREDNESS CHECKLIST

The right time to prepare for a winter storm is now. This checklist will help get you started. Make sure to include your entire family in the preparation, and discuss your emergency plan with them. Then, post this checklist in an easily accessible location so it is always close by. Every family is different, so when you fill this out, be sure to consider your family's specific needs.

BEFORE A WINTER STORM

Stock your emergency kit for sheltering with:

EMERGENCY COMMUNICATION

- ☐ Important contact information for family, school, work, doctors, etc., including phone numbers and email addresses
- ☐ Cellular phone, extra battery, and chargers for electrical equipment
- ☐ AM/FM radio/NOAA weather radio (extra batteries)
- ☐ _____

MEDICAL NEEDS

- ☐ Medications, plans for refrigeration for at least one week, and copies of prescriptions
- ☐ Extra eyeglasses/contact lens
- ☐ Medical equipment/assistive technology and backup batteries
- ☐ First aid kit
- ☐ _____
- ☐ _____

CRITICAL DOCUMENTS

- ☐ Photo ID (e.g., driver's license, passport)
- ☐ Cash and credit cards
- ☐ Personal records (e.g., birth certificates, marriage certificates)
- ☐ Medical records
- ☐ Financial information (e.g., bank account or credit card information)
- ☐ Property records (e.g., insurance policies, deed, or lease)
- ☐ Waterproof, portable container for important documents
- ☐ _____

TOOLS & SAFETY ITEMS

- ☐ Flashlight
- ☐ Multi-tool
- ☐ Matches or lighter in waterproof container
- ☐ Local Map
- ☐ Fire Extinguisher
- ☐ Bag of sand or cat litter
- ☐ Shovel
- ☐ _____
- ☐ _____

FOOD/SUPPLIES

- ☐ At least a three-day supply of non-perishable food; if possible, stock for a week or more for sheltering
- ☐ At least a three-day supply of water (1 gal per person per day), if possible stock for a week or more for sheltering
- ☐ Infant formula and diapers
- ☐ Pet food, supplies, and extra water
- ☐ _____
- ☐ _____

HYGIENE & SANITATION

- ☐ Soap/disinfectant/sanitizer
- ☐ Paper towels/moist towelettes
- ☐ Toilet paper
- ☐ Bleach
- ☐ Toothbrush and toothpaste
- ☐ _____

PROTECTIVE GEAR & CLOTHING

- ☐ Extra warm clothes
- ☐ Sturdy shoes
- ☐ Blankets or sleeping bags (sleeping bags should be labeled for low temperatures)
- ☐ Snow gear including gloves
- ☐ _____
- ☐ _____

CAR EMERGENCY SUPPLY KIT

- ☐ Cellular phone charger
- ☐ First aid kit
- ☐ Jumper cables
- ☐ Flares
- ☐ Whistle
- ☐ Water, snacks
- ☐ Full tank of gas
- ☐ Flashlight
- ☐ Tow rope
- ☐ Boots, mittens, warm clothes
- ☐ Blanket
- ☐ Shovel
- ☐ Ice scraper, snow brush
- ☐ Snow traction mats and bags of sand or cat litter (cat litter helps with the tire traction)
- ☐ Tire chains or snow tires
- ☐ _____
- ☐ _____

COMFORT & PRICELESS ITEMS

- ☐ Items like: books, puzzles, favorite stuffed toy, photo albums, valuables
- ☐ _____
- ☐ _____

DURING A WINTER STORM

When a winter storm watch or warning is issued, it is important to stay informed.

Tune in to channels: _____

Check for alerts on Apps: **FEMA App** _____

In case of an emergency, know where to go and how to get there.

Use evacuation route: _____

The closest warming shelter is: _____

Meet family at: _____

Make sure to have these important numbers with you:

Family member's name: _____

Phone #: _____

Email: _____

Family member's name: _____

Phone #: _____

Email: _____

Local contact's name: _____

Phone #: _____

Email: _____

Out-of-state contact's name: _____

Phone #: _____

Email: _____

Primary physician's name: _____

Phone #: _____

Email: _____

Hospital's phone #: _____

Insurance company's phone #: _____

HELPLINES

FEMA's helpline: 1-800-621-FEMA
TTY: 1-800-4627585
VRS: 1-800-621-3362
RedCross's helpline: 1-800-733-2727

For more information, email us at prepareathon@fema.dhs.gov, or join the conversation online at #Prepareathon.

MICHIGAN SPECIFIC TIPS

WHAT IS AN ICE JAM?

Pieces of floating ice carried with a stream's current can accumulate at any obstruction to the stream flow developing an ice jam. These accumulated ice jams can cause the water to be held back and create flooding upstream. If the obstruction suddenly breaks, flash flooding can occur downstream.

WHAT TIME OF YEAR IS AN ICE JAM LIKELY TO OCCUR?

In Michigan, the most likely times are in early winter before the surfaces are completely frozen and in early spring when the ice cover begins to break up due to melting, although ice jams can occur anytime from early winter to late spring depending upon changes in temperatures.

WHAT EFFECT DOES SNOW HAVE ON FLOODING POTENTIAL?

When snow melts, it adds water to the ground that drains away in the same way as water from rainfall. A deep snowpack in late spring increases the flood potential. On average, one inch of fresh snowfall contains about a tenth of an inch of water.

HOW FAST DOES SNOW AND ICE MELT?

Three consecutive days with the maximum temperature of about 50 degrees would create enough melting to cause ice breakup on small streams.

WHAT HAPPENS WHEN RAIN FALLS ON TOP OF SNOW?

Air temperature remains the most important factor in melting snow. Rain generally does not add to the process. At 40 degrees, one inch of rain will only produce a tenth of an inch of added water from snow melt.

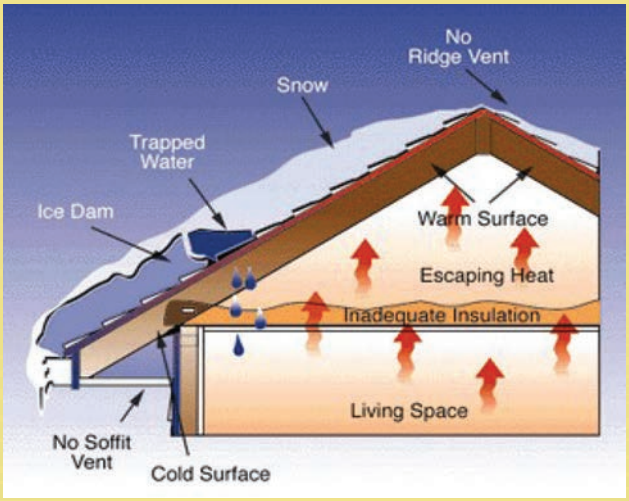
MICHIGAN SPECIFIC TIPS

DO YOU HAVE ROOF ICE DAMS?

The presence of significant icicles along the gutters or eaves may be an indication of roof ice damming.

Roof ice dams occur when snow melts over the heated area of the roof and runs down to the unheated eaves and refreezes. Ice builds up forming an ice dam. Water from melting snow backs up under the shingles and roof, leaks into the home, causing internal damage.

Research has shown that warm air from living spaces below penetrating into the attic is usually the culprit in the formation of roof ice dams.

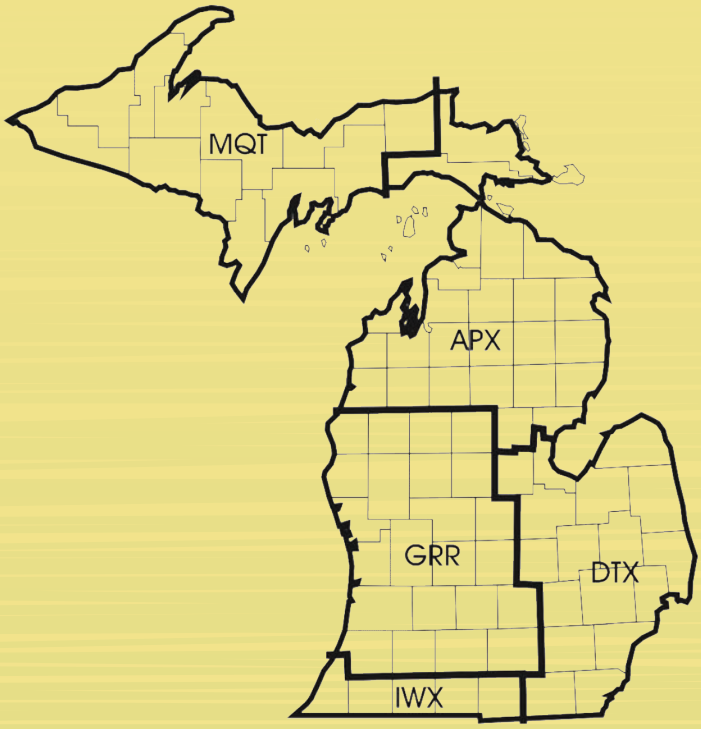


YOU CAN REDUCE THE LIKELIHOOD OF ROOF ICE DAMS FORMING ON YOUR HOME WITH THESE TIPS:

- Thoroughly clean all leaves, sticks, and other debris from rain gutters and down spouts, allowing melting roof snow to flow into gutters and through down spouts.
- Strive to keep snow on your roof to a minimum. Keeping heavy snow loads off your roof reduces the chances for both ice dam formation and roof failure due to the weight of ice and snow. Long-handled devices called “roof rakes” let you stand on the ground and pull the snow off the roof.
- Keep gutters and down spouts clear of snow and icicles all winter.
- Evaluate the insulation and ventilation in your attic. Most experts agree attic insulation should have an R-value of at least R-30 (R-38 is preferable in northern climates). In addition, good airflow from under the eaves or soffit area out through the roof vents is essential. The insulation prevents heat loss from the interior of the home. The venting allows the attic air to stay cold enough to prevent or minimize the freeze/thaw cycle on the roof. Consult a reputable roofing and/or insulation contractor about these improvements.

MICHIGAN SPECIFIC TIPS

NATIONAL WEATHER SERVICE OFFICES



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