

Winter Preparedness & To Do's



Although a winter scene can be beautiful, failure to plan *ahead* can cause you a misery unlike any other season of the year; especially without cold country experience, so hopefully you have completed the [Fall To-Do's](#) and you are ready for anything.



Just in case you are not, here are some tips you can *still* accomplish *before* a winter storm strikes and what to do if one does.



Why prepare for winter storms?

Most of the United States is at risk for winter storms. Severe storms can cause dangerous or life-threatening conditions. The dangers include blinding wind-driven snow, extreme cold, ice road conditions, avalanches and downed trees and power lines. It's important to prepare before the winter storm season.

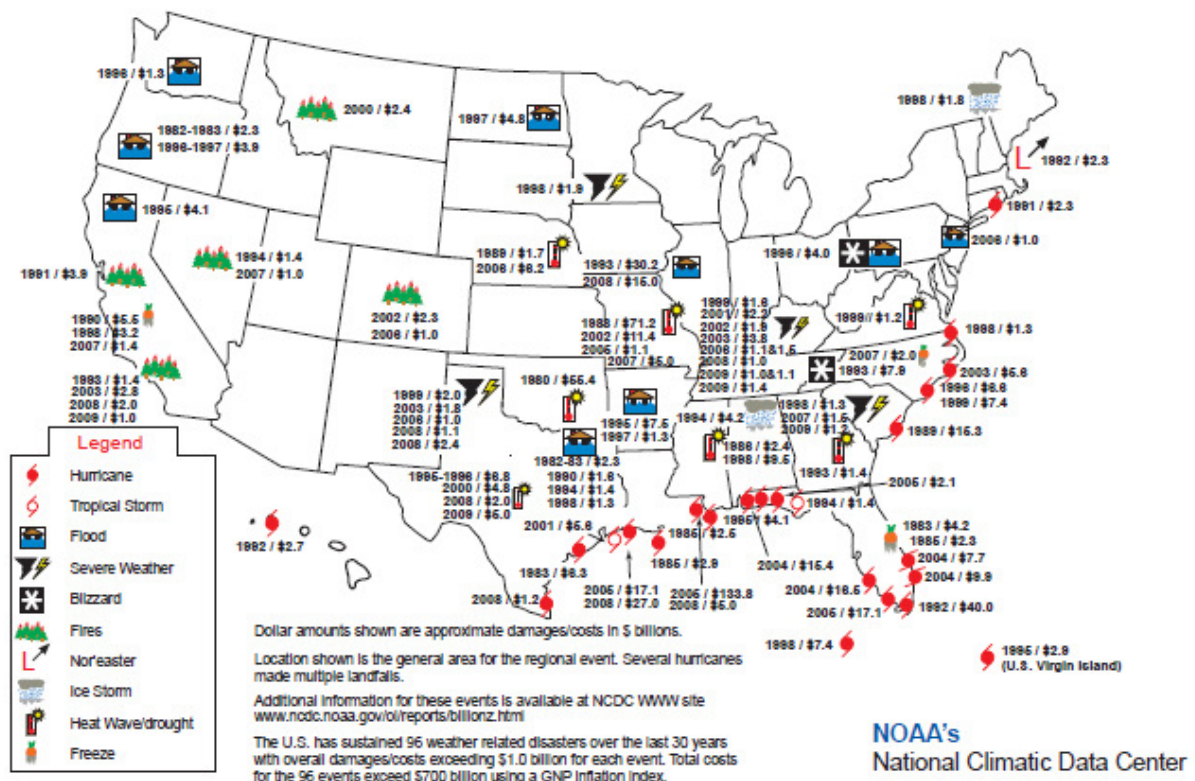


Winter storms can range from a moderate snow over a few hours to a blizzard with blinding wind driven snow that lasts for several days. Some winter storms are large enough to affect several states, while others affect only a single community. Many winter storms are accompanied by dangerously low temperatures and sometimes by strong winds, icing, sleet and freezing rain.



Besides, our country has historically been hit by a wide variety of deadly winter (and other seasonal) storms.

Billion Dollar Weather Disasters 1980 - 2009



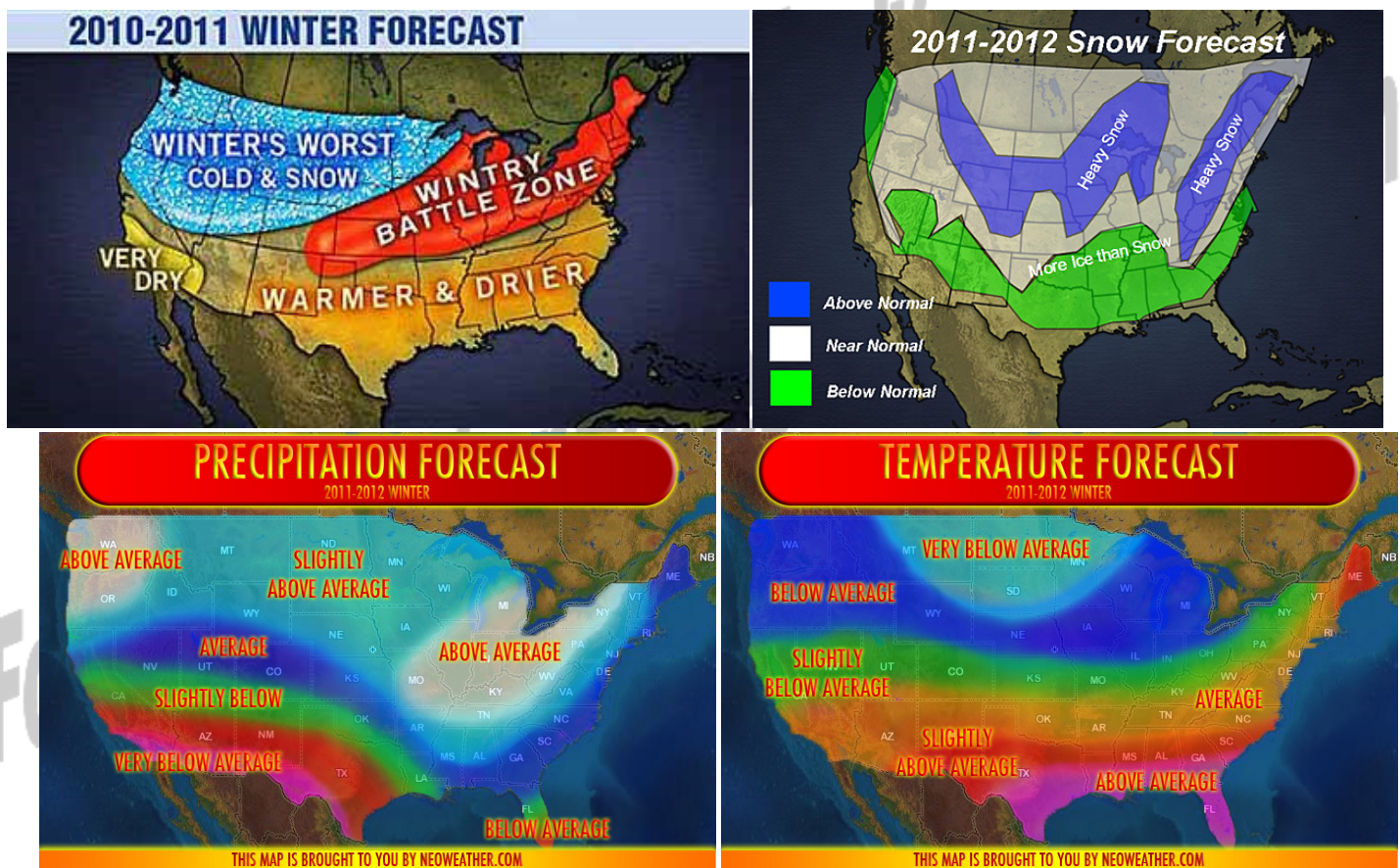
<http://www.ncdc.noaa.gov/bi/reports/billion2009.pdf>

North America had major blizzards in 1978, 1993, 1996, 2009, two blizzards in 2010 which according to NOAA caused: "Approximately \$3 billion in damage and 187 deaths were caused by the Blizzard of 1996 and the flooding that followed." Granted a lot of those deaths were caused by vehicular accidents and heart attacks from people overexerting themselves. But these are usually in situations where most people have electricity or gas to heat their homes. Some blizzards cause floods when the snow and ice melt.



Winter Long Range Forecasts for 2010-2011

Now let's take a look at some long range Winter Forecasts for the United States for 2011-1012. (I collected these images from various "professional" sites. You can find the links in the 'Resources' section at the end of this article.)



As this data shows us, almost the entire United States (except Hawaii and some territories) are at some risk from winter storms. The level of risk depends on the severity of the local winter weather. Winter storms known as "northeasters" have traditionally caused coastal flooding, erosion and property losses in the northeastern and middle Atlantic states. Shifts in the jet stream often bring very cold 'arctic' temperatures and wind to the central and northwestern states causing frozen pipes, power and natural gas outages.

Did You Know?

- That minus 40 degrees is the same regardless of the scale used? Yep, 40 below is 40 below in both Celsius and Fahrenheit. Also, mercury freezes at minus 38 degrees Celsius. So if it gets really cold, your old-fashioned mercury thermometer will stop at minus 38 degrees.
- Just because the sun is out on a winter day does not mean it is warm. In northern climates, the coldest days are usually the clear ones – no clouds to hold in what little heat may be radiating away from the earth. A wind chill rating of minus 25 degrees Fahrenheit or lower can cause skin to freeze (frostbite). If it is that cold out, make sure all exposed skin is covered – except your eyes, of course.
- Winter storms produce hidden hazards in addition to snow fall and cold temperatures.
- The leading cause of death during winter storms is from automobile or other transportation accidents. Exhaustion or heart attacks caused by overexertion are the second most likely cause of winter storm-related deaths.
- 70% of injuries result from vehicle accidents – 20% of injuries occur in people caught out in a storm. Most injuries happen to males over 40 years old. Several fatal heart attacks occur in middle age males from overexertion shoveling heavy snow.
- Fire during winter storms presents a great danger because water supplies may freeze and it may be difficult for firefighting equipment to get to the fire.
- Ice storms can topple trees and power lines causing widespread blackouts and injuries.
- Hypothermia and frostbite are realistic hazards and can lead to the loss of fingers and toes or cause permanent kidney, pancreas and liver damage and can easily lead to death.
- Elderly people account for the largest percentage of hyperthermia victims and way too many “freeze to death” in their own homes after being exposed to dangerously cold indoor temperatures. Others, of all ages, are asphyxiated by carbon monoxide because of improper use of fuels or heating system failures.
- In March 1993, the ‘Blizzard of ‘93’ dumped record amounts of snow on an area that stretched from Alabama to New England. The storm left more than 170 people dead and caused hundreds of thousands of people to be without power for several days. Total damages were estimated at upward of \$800 million.
- Each year dozens of Americans die due to exposure to the cold. This number is increased dramatically by adding deaths related to motor vehicle accidents, heart attacks and house fires (commonly caused by the use of electric heaters).



We all know that to be prepared and ready for something you have to understand the beast's characteristics and have some idea that it is coming your way. This means that we must pay attention to our local weather forecasts, be it on the radio or TV, understand terms used – and – we must be alert to our own immediate environment; which means looking outside and understanding what we see.

Once you know it is coming, you have to understand the various terms that the newscasters, forecasters and governments use.



Terms for Watches and Warnings:

The National Weather Service (NWS) Storm Prediction Center issues watches and warnings of hazardous weather, including winter storms. Please remember that *weather forecasting is NOT 100%*, hence the need for us to be personally and visionally alert to what is going on outside our window.

- **Winter Storm Outlook:** Winter storm conditions are possible in the next 2 to 5 days.
- **Winter Weather Advisory:** Winter weather conditions are expected to cause significant inconveniences and may be hazardous. When caution is used, these situations should not be life threatening.
- **Winter Storm Watch:** Winter storm conditions are possible within the next 36 to 48 hours. People in a watch area should review their winter storm plans and stay informed about weather conditions.
- **Winter Storm Warning:** Life-threatening, severe winter conditions have begun or will begin within 24 hours. People in a warning area should take precautions immediately.

**** For NOAA's terms - See the section on NOAA Weather Radio (NWR), under "Stay Informed" ****



Different kinds of Snowfall:

- **Blizzards** are accompanied by winds of 35 mph or more with snow and blowing snow, reducing visibility to less than one-quarter mile for at least 3 hours.
- **Blowing snow** is wind-driven snow that reduces visibility. Blowing snow may be falling snow and/or snow on the ground that is picked up by the wind.
- **Snow squalls** are brief, intense snow showers accompanied by strong, gusty winds. Accumulation may be significant.
- **Snow showers** are a short duration of moderate snowfall. Some accumulation is possible.



ICE

Heavy accumulations of ice can disrupt communications and power for days while utility companies repair extensive damage. Even small accumulations of ice can be extremely dangerous to motorists and pedestrians as tree branches lose their flexibility, snap and fall. Bridges and overpasses are particularly dangerous because they freeze before other surfaces.



Different kinds of Ice:

- **Sleet:** Raindrops that freeze into ice pellets before reaching the ground are called sleet. Sleet usually bounces when hitting a surface and does not stick to objects. Sleet, however, can accumulate like snow and cause a hazard to motorists.
- **Freezing rain:** Rain that falls onto surfaces with temperatures below freezing—causing it to freeze to those surfaces is called freezing rain. Even small accumulations of ice can cause a significant hazard.
- **Ice storm:** Ice storms occur when freezing rain falls and freezes immediately on impact. Communications and power can be disrupted for days.



Cold

What constitutes extreme cold varies in different parts of the country:

- In the *south*, near-freezing temperatures are considered extreme cold. Vegetation may be damaged and pipes may freeze and burst.
- In the *north*, extreme temperatures are well below zero.



Well those are the 'weather' terms you need to know. Now, on to our 'building block' first steps to be prepared for 'Ol Man Winter'.



Key Steps in Winter Storm Preparedness:

- **Understand the risk.** Take time to learn about the winter storm risk in your area. Realize the seriousness of such storms; they may leave you on your own for a long period of time.
- **Stay Informed - Pay attention to warnings.** Use a NOAA Weather Radio with a tone-alert feature or listen to local radio or television for Emergency Alert System (EAS) broadcasts.

Part of the [Fall To Do's](#) that should already be done are (if not you better get cracking):

- Prepare your home with insulation, caulking, and weatherstripping. Learn how to keep pipes from freezing and how to thaw frozen pipes.
- Store sufficient fuel (or emergency heating equipment). Install and test smoke alarms on all levels of your home. Contact your local utility company about conducting an energy audit. Most will perform a basic audit free of charge.
- Service snow removal equipment before the winter storm season. Maintain the equipment in good working order, and ensure that you have an adequate supply of gas. Clearing snow can be dangerous; use caution!
- Keep your car's gas tank full for emergency use and to keep the fuel line from freezing.

Note: If you haven't completed the above key building blocks there is *no more time* – you must get this done soonest.

Ok, let's get on to the general winter risks that you may be up against.



General Winter & Cold Weather Risks

- A major winter storm can *last for several days* and be accompanied by *high winds, freezing rain or sleet, heavy snowfall and or extremely cold temperatures*.
- *People can become stranded on the road or trapped at home – without utilities or other services including water, natural gas and phone* (both landline and cellular).



- Exposure to cold can cause *frostbite or hypothermia* and become life threatening. Infants and the elderly are the most susceptible.
- Accumulations of snow can cause *roofs to collapse and knock down trees and power lines*.
- *Attempting to walk for help during a winter storm can be a deadly decision.*
- *Homes and farms may be isolated for days .*



- Unprotected livestock may be lost.

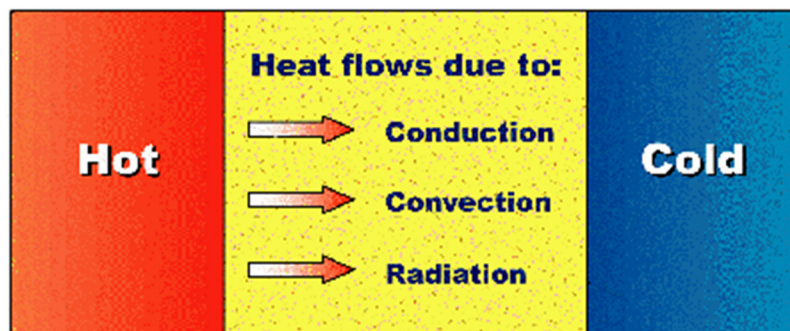


- The cost of removing snow, repairing damage and the resulting loss of business can have severe economic impacts on cities and towns.
- In the mountains, heavy snow can lead to masses of tumbling snow called *avalanches*. More than 80% of midwinter avalanches are triggered by a rapid accumulation of snow and 90% of those occur within 24 hours of snowfall. An avalanche may reach a mass of a *million tons* and *travel at speeds of up to 200 miles per hour* (mph).



Common Risks to Human Life caused by Winter Storms:

- **Automobile or other transportation accidents:** This is the *leading cause of death* during winter storms.
- **Exhaustion and heart attacks:** Caused by overexertion, these are the two most *likely* causes of winter storm-related deaths.
- **House fires:** These occur more frequently in the winter because of the lack of proper safety precautions when using alternate heating sources (unattended fires, disposal of ashes too soon, improperly placed space heaters, etc.) and of course *Holiday Fires* caused by lack of appropriate safety precautions with decorations and lighting. Fire during winter storms presents a great danger because water supplies may freeze and it may be difficult for firefighting equipment to get to the fire.
- **Asphyxiation/Carbon Monoxide Poisoning:** In an effort to get warm, people asphyxiate because of improper use of fuels such as charcoal briquettes, or failures in their heating systems, which produce carbon monoxide.
- **Wind chill:** Wind chill is not the actual temperature, but rather how wind and cold feel on exposed skin. As the wind increases, heat is carried away from the body at a faster rate, driving down the body's temperature.



<http://www.ornl.gov/sci/>

- **Hypothermia and Frostbite:** Elderly people account for the largest percentage of hypothermia victims due to the decreased ability to feel temperature changes. Many older Americans literally freeze to death in their own homes after being exposed to dangerously cold indoor temperatures.

- **Frostbite:** Frostbite is damage to body tissue caused by extreme cold and resulting in a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes, or the tip of the nose. Frostbite victims require immediate medical treatment. If you must wait for help, slowly rewarm the affected areas. If signs of hypothermia appear, however, warm the body core before the extremities.
- **Hypothermia:** Hypothermia occurs when the body temperature drops below 95 degrees Fahrenheit. Hypothermia can kill. For those who survive, there are likely to be lasting kidney, liver, and pancreas problems. If you suspect hypothermia, take the victim's temperature. If it is below 95 degrees Fahrenheit, seek medical care immediately! If medical care is not available, warm the person slowly, starting with the body core. Warming the arms and legs first drives cold blood toward the heart and can lead to heart failure. Dress the person in dry clothing and wrap him or her in a warm blanket, covering the head and neck. Do not provide alcohol, drugs, coffee, or any hot beverage or food. Warm broth is the first food to offer.

Winter Flooding



Winter storms can generate flooding, resulting in significant damage and loss of life. Winter flooding includes:

- **Coastal floods:** Winds generated from intense winter storms can cause widespread tidal flooding and severe beach erosion along coastal areas.
- **Ice jams:** Long cold spells can cause rivers and lakes to freeze. A rise in the water level or a thaw breaks the ice into large chunks that become jammed at manmade and natural obstructions. An ice jam can act as a dam, resulting in severe flooding.
- **Snowmelt:** A sudden thaw of a heavy snow pack that often leads to flooding.



Other Winter Storm Hazards

- Alternative heating devices used incorrectly create fire hazards.
- Damaged or downed utility lines can present a fire and life safety hazard.
- Water damaged appliances and utilities can be electrically charged.
- Frozen water pipes can burst and cause safety hazards.
- Leaking gas lines, damaged or leaking gas propane containers, and leaking vehicle gas tanks may explode or ignite.

- Generators are often used during power outages. Generators that are not properly used and maintained can be hazardous.

Stay Informed



To stay aware of what weather may be approaching your area you need to take advantage of all the weather news stations on both TV and radio that you can.

- For national weather there is The Weather Channel on TV and the internet and they have email and iPhone alerts too.
- Your local TV and or radio stations also have internet and often email or iPhone alerts as well.
- Most states have a department of transportation web site and or phone number to call for road conditions.
- If you live in a ski area many ski/winter resorts have weather status on their web pages or sponsor a broadcast on conditions with local TV and radio stations.
- And always, there is the NOAA Weather Radio (NWR). NOAA Weather Radio (NWR) is a nationwide network of radio stations broadcasting National Weather Service (NWS) warnings, watches, forecasts and other hazard information 24 hours a day. NWR requires a special radio receiver or scanner capable of picking up the signal.

Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the National Oceanic & Atmospheric Administration (NOAA), part of the Department of Commerce. As of October 1, 2002, NWR includes more than 760 transmitters, covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories.

NWR service depends on reliable signal reception, typically a 40 mile radius from the transmitter, assuming level terrain. Some counties, especially in mountainous areas, may not have reliable reception due to signal blockages or excessive distance from the transmitter.

NWR Specific Area Message Encoder (SAME) receivers employ digital coding to automatically activate for specific weather or emergency conditions in specific areas (typically a county or portion of a county). You program SAME receivers for the county(s) and types of products you require. Your receiver will then automatically alert you only of weather and other emergencies in areas you programmed. SAME county code numbers are available by telephone, 1-888-NWR-SAME (1-888-697-7263), or website, <http://www.nws.noaa.gov/nwr/indexnw.htm>

NOAA Weather Radio receivers can be purchased at many retail stores and through mail order catalogues and Internet web sites that sell electronic merchandise. They are often available at boat and marine accessory outlets. Broadcasts are found in the public service band at 7 frequencies.

NOAA Weather Radio (NWR) Terms:

- A **Warning** is issued when the specific hazard is a significant threat to public safety and/or property, probability of occurrence and certainty of location is high, and the onset time is relatively short.

- A **Watch** means conditions are favorable for the hazard but either the start time, probability of occurrence or location is uncertain. Stay alert and tuned to local radio, TV, or NWR.
- An **Emergency** refers to an event that by itself would not kill, injure or do property damage but indirectly may lead to other things that could result in a hazard.

(New Mexico falls under NOAA's Southern Region along with Texas and Oklahoma. Colorado is in the Central Region and Arizona is in the Western Region.)

Warnings, watches and statements that may activate the NWR SAME system include, but are not limited to, the following products:

- **NOAA-NWR Weather Hazards:** Tornado Warning, Tornado Watch, Severe Thunderstorm Warning, Severe Thunderstorm Watch, Flood and Flash Flood Warning, Flood and Flash Flood Watch*, Severe Weather Statement, Flash Flood Statement*, Special Marine Warning*, *Winter Storm Warning**, Hurricane Warning, Hurricane Statement*, Tropical Storm Warning, Tropical Storm Watch
- **NOAA-NWR Hazards Relayed from Local Authorities:** Avalanche Watch*, Avalanche Warning, Child Abduction Emergency, Civil Danger Warning, Civil Emergency Message, Law Enforcement Warning, Evacuation Immediate, Shelter in Place Warning, Hazardous Materials Warning, 911 Telephone Outage Emergency, Nuclear Power Plant Warning, Radiological Hazard Warning

*NWR SAME activation determined by local needs.

All righty then, that takes care of the terms and conditions we need to comprehend. That leaves us with some *"during the storm"*, *"after the storm"*, *special considerations* and a few specific *How-To's*.



Personal Safety

Extreme Cold

When winter temperatures drop significantly below normal, staying warm and safe can become a challenge. Extremely cold temperatures often accompany a winter storm, so you may have to cope with power failures, gas outages, frozen pipes and icy roads.

Although staying indoors as much as possible can help reduce the risk of car crashes and falls on the ice, you may also face indoor hazards. Many homes will be too cold—either due to a power failure or because the heating system isn't adequate for the weather.

When people must use space heaters and fireplaces to stay warm, the risk of household fires increases, as well as the risk of carbon monoxide poisoning.

Exposure to cold temperatures, whether indoors or outside, can cause other serious or life-threatening health problems.



Infants and the elderly are particularly at risk, but anyone can be affected. Your ability to feel a change in temperature decreases with age and older people are more susceptible to health problems caused by cold. **If you are over 65 years old**, place an easy-to-read thermometer in an indoor location where you will see it frequently and check the temperature of your home often during the winter months.

To keep yourself and your family safe, you should know how to prevent cold-related health problems and what to do if a cold-weather health emergency arises.

The emergency procedures outlined here are NOT a substitute for training in first aid. However, these procedures will help you to know when to seek medical care and what to do until help becomes available.

Since extreme cold is *almost always* a possibility – prepare ahead and reduce your risks.



Asphyxiation or Carbon Monoxide Poisoning: Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness and death if inhaled. It is found in combustion fumes, such as those produced by small gasoline engines, stoves, generators, lanterns and gas ranges, or by burning charcoal and wood. CO from these sources can build up in enclosed or partially enclosed spaces.

Tips:

- Never use a generator, grill, camp stove or other gasoline, propane, natural gas or charcoalburning devices inside a home, garage, basement, crawlspace or any partially enclosed area. Locate unit away from doors, windows and vents that could allow carbon monoxide to come indoors.
- The primary hazards to avoid when using alternate sources for electricity, heating or cooking are carbon monoxide poisoning, electric shock and fire.
- Install carbon monoxide alarms in central locations on every level of your home and outside sleeping areas to provide early warning of accumulating carbon monoxide. Change the batteries when you change the clocks.

Recognizing:

- Headache
- Heaviness
- Dizziness
- Weakness
- Nausea
- Vomiting
- Chest pain
- Confusion

Treatment:

- If the carbon monoxide alarm sounds, move quickly to a fresh air location outdoors or by an open window or door.
- Call for help from the fresh air location and remain there until emergency personnel arrive to assist you.



Frostbite: Frostbite is damage to body tissue caused by extreme cold and resulting in a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes, or the tip of the nose.

Frostbite victims require immediate medical treatment.

If you must wait for help, slowly re-warm the affected areas. If signs of hypothermia appear, however, warm the *body core* before the extremities.

NOTE: *Never* give a frostbite or hypothermia victim something with caffeine in it (like coffee or tea) or alcohol. Caffeine, a stimulant, can cause the heart to beat faster and hasten the effects the cold has on the body. Alcohol, a depressant, can slow the heart and also hasten the ill effects of cold body temperatures.

Recognizing:

At the first signs of redness or pain in any skin area, get out of the cold or protect any exposed skin—frostbite may be beginning.

- A white or grayish-yellow skin area

- Skin that feels unusually firm or waxy
- Numbness

A victim is often unaware of frostbite until someone else points it out because the frozen tissues are numb.

Treatment:

If (1) there is frostbite but no sign of hypothermia and (2) immediate medical care is not available, proceed as follows:

- Get into a warm room as soon as possible.
- Unless absolutely necessary, do not walk on frostbitten feet or toes—this increases the damage.
- Immerse the affected area in warm—not hot—water (the temperature should be comfortable to the touch for unaffected parts of the body).
- Or, warm the affected area using body heat. For example, the heat of an armpit can be used to warm frostbitten fingers.
- Do not rub the frostbitten area with snow or massage it at all. This can cause more damage.
- Don't use a heating pad, heat lamp, or the heat of a stove, fireplace, or radiator for warming. Affected areas are numb and can be easily burned.

These procedures are not substitutes for proper medical care.



Hypothermia: Hypothermia occurs when the body temperature drops *below* 95 degrees Fahrenheit. Hypothermia can kill. When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. Body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know it is happening and won't be able to do anything about it.

Hypothermia is most likely at very cold temperatures, but it can occur even at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water.

Victims of hypothermia are often (1) elderly people with inadequate food, clothing, or heating; (2) babies sleeping in cold bedrooms; (3) people who remain outdoors for long periods—the homeless, hikers, hunters, etc.; and (4) people who drink alcohol or use illicit drugs.

Prevention:

- Avoid overexertion. Don't kill yourself shoveling snow - it is extremely hard work.

- The cold puts and extra strain on your body. Heart attack or stroke is a possible result even for younger people with good stamina.
- Take frequent breaks, pace yourself.
- Have a warm non-alcoholic beverage handy.
- Ask a friend or neighbor to help with the heavy work.
- Keep a thermos of warm beverage close by.

Recognizing: Warnings signs of hypothermia:

Adults:

- Shivering, exhaustion
- Confusion, fumbling hands
- Memory loss
- Slurred speech
- Drowsiness

Infants:

- Bright red, cold skin
- Very low energy

Treatment:

If you notice any of these signs, take the person's temperature. If it is below 95°, the situation is an emergency—get medical attention immediately.

If medical care is *not* available, begin warming the person, as follows:

- Get the victim into a warm room or shelter.
- If the victim has on any wet clothing, remove it.
- Warm the center of the body first—chest, neck, head, and groin—using an electric blanket, if available. Or use skin-to-skin contact under loose, dry layers of blankets, clothing, towels, or sheets.
- Warm beverages can help increase the body temperature, but do not give alcoholic beverages. Do not try to give beverages to an unconscious person.
- After body temperature has increased, keep the person dry and wrapped in a warm blanket, including the head and neck.
- Get medical attention as soon as possible.

A person with severe hypothermia may be unconscious and may not seem to have a pulse or to be breathing. In this case, handle the victim gently, and get emergency assistance immediately. Even if the victim appears dead, CPR should be provided. CPR should continue while the victim is being warmed, until the victim responds or medical aid becomes available. In some cases, hypothermia victims who appear to be dead can be successfully resuscitated.

NOTE: *Never* give a frostbite or hypothermia victim something with caffeine in it (like coffee or tea) or alcohol. Caffeine, a stimulant, can cause the heart to beat faster and hasten the effects the cold has on the body. Alcohol, a depressant, can slow the heart and also hasten the ill effects of cold body temperatures.



Overexertion: Cold weather puts an extra strain on the heart, because your body is already working harder to keep warm. If you are elderly or have heart disease or high blood pressure, follow your doctor's advice about shoveling snow or performing other hard work in the cold.

Recognizing: Although any symptom should be clarified, these are particularly important:

- Chest pain
- Severe breathlessness
- Dizziness
- Loss of muscle control and nausea
- Discomfort in the upper body including the chest, arm, neck, or jaw, during exercise. The discomfort may be of any intensity and may be present as an aching, burning, tightness, or sensation of fullness.
- Faintness accompanying the activity. Sometimes brief light-headedness may follow unusually vigorous exercise or a limited cool-down period. This condition does not usually indicate heart disease and may be managed by immediately ceasing the activity with a gradual cool-down.
- If a "fainting spell" or feeling of faintness occurs during the activity, discontinue the activity until after evaluation by a physician.
- Discomfort in bones and joints either during or after exercise. There may be slight muscle soreness when beginning exercise, but if back or joint pain develops, discontinue exercise until after evaluation by a physician.

Treatment:

If you experience any of these symptoms, stop what you are doing immediately and rest! If they continue, contact a physician.



Heart Attack, Angina, Stroke & TIA:

There is a growing body of evidence that indicates the increased likelihood of suffering a heart attack or stroke during periods of cold, or extremely cold weather conditions. This is supported by data from hospital admission statistics, that the number of people admitted with heart attacks tends to increase during the winter months. The problem is more likely to affect the elderly and those who are already suffering from the symptoms of coronary heart disease, or angina, and is backed up by several scientific studies.

Why the cold can affect the heart? While this is NOT one of the primary coronary heart disease causes, the cold weather can still cause problems for the heart and the circulation, when the temperature dives, or for existing sufferers can exacerbate the symptoms of a heart problem. Why?

Very cold weather may cause changes to the thickness of the blood by activating blood platelets, which means that a person has an increased risk of developing blood clots when their blood is cold.

If the person already has arteries which are clogged with cholesterol, high levels of saturated fat, and narrowed through atherosclerosis, this additional blood thickening may be enough to tip the balance and trigger a clotting related heart attack or stroke.

Most harsh winter weather increases a person's risk of heart attack due to over exertion. There is a double whammy of physical exertion combined with the effects of the cold on their body. How many of us have gone charging out into the yard to shovel away the snow, when we usually lead physically inactive lifestyles? Most folks are just not conditioned to the physical stress associated with this type of heart exercise and don't recognise the dangers of being outdoors in cold weather. (This applies equally to Winter sports fans who do not take proper precautions).

Extremely cold weather may also affect the heart by increasing the heart rate and raising the blood pressure. The combined cold and extra strain on the heart causes the increased risk of heart attack. People with coronary heart disease often suffer heart chest pain or discomfort, called angina pectoris when they are exposed to cold weather. Many people with high risk factors may be unable to differentiate between muscular chest pain, and angina symptoms, as both types of chest pain may be related to over exertion.



Some **heart attacks** are sudden and intense. But most heart attacks start slowly, with mild pain or discomfort. Often people affected aren't sure what's wrong and wait too long before getting help. During a heart attack, blood flow to heart muscle is reduced or cut off, often because a blood clot blocks an artery. When heart muscle is starved of oxygen-rich blood, it can die.

Angina: A heart attack can be hard to distinguish from angina, which is temporary chest pain or pressure that happens when heart muscle isn't getting enough oxygen. Angina usually occurs because arteries that supply blood and oxygen to the heart have become narrowed or blocked. Strong emotion, physical exertion, hot and cold temperature extremes, or a heavy meal can trigger angina. If you have stable angina, symptoms usually happen with predictable triggers. They usually stop if you rest or take nitroglycerin that your doctor has prescribed. Follow your doctor's orders for when to call 911.

Recognizing Angina:

- Pressure, pain, squeezing, or a sense of fullness in the center of the chest
- Pain or discomfort in the shoulder, arm, back, neck, or jaw

Recognizing Heart Attacks:

- Chest Discomfort: Uncomfortable pressure, fullness, squeezing, or pain in the center of the chest. These symptoms can range from mild to severe, and they may come and go.
- Discomfort in other Areas of the Upper Body: Symptoms can include pain or discomfort in one or both arms, neck, jaw, back, or stomach.
- Shortness of Breath: With or without chest discomfort.
- Other Signs: May include breaking out in a Cold Sweat, Nausea or Lightheadedness.

Women may get chest pain or discomfort, but in many cases, it's not the most obvious symptom. Instead, they're more likely than men to have these symptoms:

- Unusual fatigue
- Nausea or indigestion
- Dizziness or lightheadedness
- Abdominal discomfort that may feel like indigestion
- Discomfort described as pressure/ tightness or an ache in the neck, shoulder, or upper back

In the weeks before an actual heart attack, some women may get these signs as a warning that an artery is blocked. If you develop unexplained fatigue, shortness of breath, or abdominal pressure that feels like indigestion, call your doctor.

Treatment Heart Attack:

- The patient should chew and swallow an aspirin.
- The patient should stop all activity, lie still, and try to remain calm.
- If an automated external defibrillator (AED) is on hand, follow instructions on the device and use it immediately. The device can deliver an electrical shock that can restore normal heart rhythm and make the heart beat again.

- If the heart doesn't start beating, a trained person should begin cardiopulmonary resuscitation (CPR).
- If the patient becomes unconscious, doesn't have a pulse, or isn't breathing, a trained person should perform CPR. If you're not CPR-trained, a 911 dispatcher may be able to talk you through the steps until help arrives.

A **stroke** happens when a part of the brain dies from lack of blood, also known as a "brain attack". There are two ways this can happen: 1) Clogged vessel or ischemic stroke or 2) Burst vessel or hemorrhagic stroke.

Stroke is a common and often misunderstood condition and its early symptoms are often ignored. Some brain cells deprived of oxygen die within minutes. Others may take a few hours to die depending on the nature of the blockage or hemorrhage. The loss of physical and mental functions is often permanent and can include motor-function disability.

The most effective treatment for stroke can be administered if it is within three hours of the onset of stroke. Although strokes can occur at any age, most stroke patients (two-thirds) are over the age of 65.



A **Transient ischemic attack or TIA** is often described as a mini-stroke. Unlike a stroke however, the symptoms can disappear within a few minutes. A TIA happens when blood flow to part of the brain is blocked or reduced, often by a blood clot. After a short time, blood flows again and the symptoms go away. With a stroke, the blood flow stays blocked, and the brain has permanent damage.

In the past by definition, a TIA resolves within 24 hours, the majority of TIAs resolve within 60 minutes and most resolve within 30 minutes. However newer neuroimaging studies demonstrate that 30% to 50% of TIAs show brain injury on diffusion-weighted magnetic resonance (MR) imaging.

A TIA is a warning: It means you are likely to have a stroke in the future. If you think you are having a TIA, call 911. Early treatment can help prevent a stroke. If you think you have had a TIA but your symptoms have gone away, you still need to call your doctor right away.

Recognizing Stroke:

- Sudden numbness or weakness of the face, arm, or leg, especially if it occurs on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes, double vision
- Sudden trouble walking, dizziness, loss of balance or coordination

- Sudden severe headache with no known cause

FAST stands for face, arms, speech and time, and is being used as part of a campaign by the Stroke Awareness Foundation to educate the public about warning signs of stroke and seek proper medical services immediately.

If you think a person is having a stroke, call 9-1-1, especially if the person has trouble with these basic commands.

Face Does one side of the face droop? Ask the person to smile.

Arms Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?

Speech Is speech slurred? Ask the person to repeat a simple sentence. Is the sentence repeated correctly?

Time If the person shows any of these symptoms, CALL 9-1-1 Immediately!

Ask to be Transported to a Certified Stroke Center.

Ask if t-PA is Right For You.

Recognizing TIA:

WALK (Is balance off?)

TALK (Is speech slurred or face droopy?)

REACH (Is vision all or partly lost?)

FEEL (Is headache severe?)

If you recognize any of these signs – even if they go away – call 9-1-1 immediately and tell the operator, paramedics, or emergency room staff, “I think this is a stroke.”



Dress for the Weather – Layering

Winter Survival Clothing System - Layering is a key to keeping warm – indoors and out.

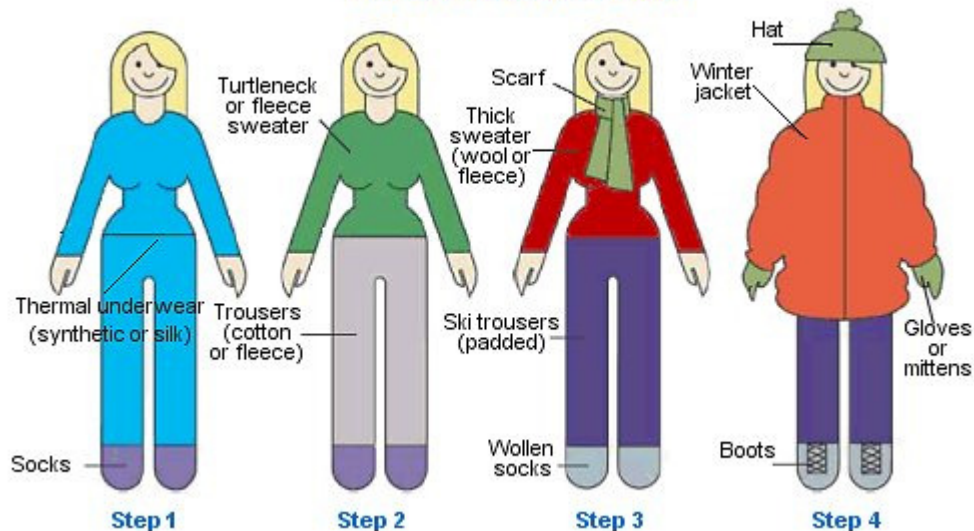
The main culprit to avoid in any outdoor environment is sweating. Over heating and heavy sweating will compromise the ability of your clothing to keep you protected from the elements. In addition, the loss of sweat can adversely affect your physical condition.



The system of clothing you choose and your ability to use it to advantage is important for your survival. Optimum use of the three layer clothing system requires you to actively add and remove layers as needed in order to stay cool and stay dry. Remember: *"cool and dry stays alive"*.

- Wear several layers of loose-fitting, lightweight, warm clothing rather than one layer of heavy clothing.
- Remove a layer or two if necessary to avoid overheating, perspiration, and subsequent chill.
- Make sure outer garments are tightly woven and water-repellent.
- Wear mittens -- they are warmer than gloves.
- Wear a hat.
- Cover your mouth with a scarf to protect your lungs from extremely cold air.
- Wear sturdy, waterproof boots in snow or flooding conditions.

How to Dress for Snow Fun



Be sure the outer layer of your clothing is tightly woven, preferably wind resistant, to reduce body-heat loss caused by wind. Wool, silk, or polypropylene inner layers of clothing will hold more body heat than cotton. Stay dry—wet clothing chills the body rapidly. Excess perspiration will increase heat loss, so remove extra layers of clothing whenever you feel too warm. Also, avoid getting gasoline or alcohol on your skin while de-icing and fueling your car or using a snow blower. These materials in contact with the skin greatly increase heat loss from the body. Do not ignore shivering. It's an important first sign that the body is losing heat. Persistent shivering is a signal to return indoors.



Base Layer

The main function of the base layer is to wick moisture away from your body.

Here I am wearing a base layer consisting of a thinsulate hat, capilene shirt, Under Armour bottom, and polypropylene socks



Middle Layer

The main function of the middle layer is to trap body heat.

Over the base layer I am wearing a wool hat,



Outer Shell

The main function of the outer shell is to repel water and wind.

My outer shell consists of a hooded Gortex parka, nylon pants, rubber pack boots and leather overmitts

The first layer wicks moisture away from your body.
The second layer traps body heat in order to keep you warm.
The third layer sheds water and wind.

Snow Blindness and Sunburn:



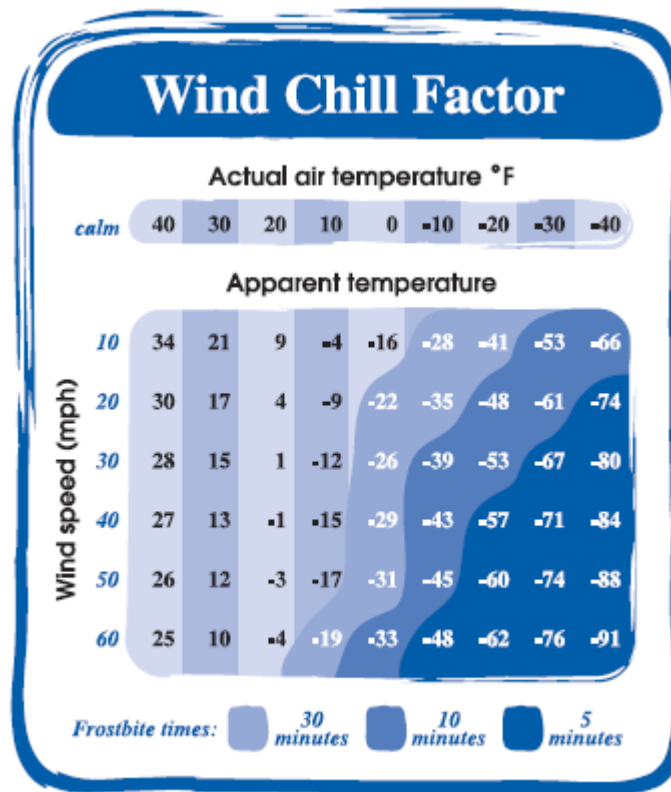
Snow Blindness is caused by unprotected eye exposure to the glare off of snow and may be compounded by high altitude. Treatment of snow blindness is cold compresses, aspirin and bandages over eyes for 16-20 hours. *Prevention is the wearing of protective glasses.*

Sunburn can occur in snow country, especially high altitudes. The injury can be very painful but responds well to treatment and time. Protection is the ample use of sunscreens. Cover as much exposed skin as possible while outdoors.



Wind Chill:

Wind chill is not the actual temperature, rather, it is a calculation of how cold it *feels* on exposed skin when outside with the effects of temperature and wind speed are combined. A strong wind combined with a temperature of just below freezing can have the same effect as a still air temperature of about 35 degrees or colder.



National Weather Service (NWS) Wind Chill Chart adapted May 2004 from <http://www.nws.noaa.gov/om/windchill/>

Spending Time Outdoors



- **Avoid ice:** Walking on ice is extremely dangerous. Many cold-weather injuries result from falls on ice-covered sidewalks, steps, driveways, and porches. Keep your steps and walkways as free of ice as possible by using rock salt or another chemical de-icing compound. Sand may also be used on walkways to reduce the risk of slipping.
- **Don't stay out in the cold.** If you have to stay out in the cold for work, be sure to take frequent breaks where it is warm.
- **Avoid getting wet.** Moisture can speed the onset of hypothermia and can be very dangerous. If you expect to get wet, keep a dry set of clothing nearby – especially a hat, gloves, socks, and boots.
- **Drink non-caffeinated fluids.** Dehydration occurs more quickly in cold, dry weather. Be sure to keep yourself well hydrated, especially if you are exerting yourself
- **Notify friends and family where you will be before** you go hiking, camping, or skiing.
- **Do not leave areas of the skin exposed to the cold.**
- **Avoid perspiring or becoming overtired.**
- **Be prepared to take emergency shelter.** Pack dry clothing, a two-wave radio, waterproof matches and paraffin fire starters with you.
- **Carefully watch for signs of cold-weather health problems.**
- **Don't ski, ice skate, snowboard, or sled alone.**
- **Skate only in areas that have been approved for skating.** Teach children to skate in the same direction as the crowd to avoid collision. Avoid darting across the ice and never skate alone.
- **Enroll in at least one ski lesson.** Use caution around lifts, control speed, and be aware of other skiers. Wear eye and sun protection. Ski helmets are recommended.



Children

- Restrict infants' outdoor exposure when it is colder than 40 degrees Fahrenheit.
- Dress children warmly and in bright colors. Set reasonable time limits on outdoor play.
- Teach children to only sled on terrain that is free of obstacles. Make sure the bottom of the slope is far from streets and traffic. Always use a sled with a steering mechanism. Don't lie flat while sledding downhill. Don't overload a sled with children.
- Make sure kids are wearing helmets when they are skiing, sledding, snowboarding, and playing ice hockey. Parents should also wear helmets – remember, your children learn safety habits by watching you.



Older Family and Neighbors

- Check on elderly family and neighbors. The elderly are particularly susceptible to cold-related illness.
- Ensure elderly family and neighbors have adequate heat and nutritious food.
- If you are 65 or older, be sure to install an indoor and outdoor, large font, easy to read thermometer to assist in tracking temperature changes.

Shoveling Snow



Keep in mind that outdoor activities can be risky. Snow shoveling, for example, can be especially dangerous. Exercise experts say shoveling heavy snow requires as much energy as running 9 miles per hour! In addition, breathing cold air, and being exposed to the cold all make the heart work harder.

If you are over 45, sedentary, smoke, have elevated blood pressure, are overweight and/or have a heart condition, play it safe and get someone else to do the shoveling. Experts warn that snow shoveling is not the exercise to use to start getting in shape.

To prevent injury:

- ✓ Don't shovel snow after smoking, or eating a heavy meal -- these activities all put an extra load on our cardiovascular system.
- ✓ Dress in layers so clothing can be peeled off as the body becomes warm. Overheating puts extra strain on the heart.
- ✓ Wear a scarf over nose and mouth to avoid breathing cold air.
- ✓ Wear a hat to retain body heat.
- ✓ Pace yourself taking frequent rest breaks.

- ✓ Shovel safely by bending legs slightly at the knee, letting thigh muscles do most of the pushing and lifting work; this will reduce strain on the heart and back. Use a shovel with a small scoop and keep loads light and small.

Fire Safety



- ❖ Be careful when using candles.
- ❖ Keep the flame away from combustible objects and out of the reach of children.
- ❖ Some smoke alarms may be dependent on your home's electrical service and could be inoperative during a power outage. Check to see if your smoke alarm uses a back-up battery and install a new battery at least once a year.
- ❖ Smoke alarms should be installed on every level of your home.
- ❖ All smoke alarms should be tested monthly. All batteries should be replaced with new ones at least once a year.
- ❖ If there is a fire hydrant near your home, keep it clear of debris for easy access by the fire department.
- ❖ Home fires are a threat after a power outage and fire trucks may have trouble getting to your home. If the power is out, use flashlights or other battery-powered lights if possible, instead of candles. If you must use candles, place them in safe holders away from anything that could catch fire. Never leave a burning candle unattended. Never leave candles burning when you are not at home or while you are sleeping.
- ❖ Never use a blowtorch or open flame to thaw frozen water pipes. Use UL labeled device such as a hand held dryer. Or open every faucet completely, remove pipe insulation, wrap pipes in rags and pour hot water over the pipes.
- ❖ Have a home fire plan. If windows are used as emergency exits, practice using them; make sure all windows open easily. Have home escape ladders for second floors.
- ❖ Keep the fire hydrant near your home clear of snow, in the event it is needed.
- ❖ Never use a range or an oven as a supplementary heating devise. It is a fire hazard and a source of toxic fumes.
- ❖ Never burn charcoal indoors (carbon monoxide hazard). Do not attempt to use your grill as supplemental heat indoors - use it and all portable cooking units to cook outdoors only.
- ❖ Keep handy simple tools and equipment needed to fight a fire should the help of local fire department not be available.
- ❖ Have fire extinguishers and learn how to use them effectively.



Fireplaces, Wood Stove Safety

- Have chimney inspected annually and cleaned to prevent soot and creosote buildup.
- Do not use flammable liquids to start or accelerate fire.
- Use a glass or metal screen in front of the fireplace opening.
- Keep flammable materials away from mantel.
- Make sure fire is out before you go to sleep.
- Never close the damper with hot ash in the fireplace.
- Never discard hot ashes inside or near the home. Place them in metal container outside and away from the house.
- Make sure wood stoves are properly installed, and at least 3 feet away from combustible materials. Ensure they have the proper floor support and adequate ventilation.
- Use a glass or metal screen in front of your fireplace to prevent sparks from igniting nearby carpets, furniture or other combustible items.



Generator Safety

- Follow the manufacturer's instructions and guidelines when using generators.
- Use a generator or other fuel powered machines outside the home. CO fumes are odorless and can quickly overwhelm you indoors.
- Use the appropriate sized and type power cords to carry the electric load. Overloaded cords can overheat and cause fires.
- Never run cords under rugs or carpets where heat might build up or damage to a cord may go unnoticed.
- Never connect generators to another power source such as power lines. The reverse flow of electricity or "backfeed" can electrocute an unsuspecting utility worker.
- Never use charcoal grills or portable gas camp stove indoors—the fumes are deadly.
- Use battery-powered flashlights or lanterns.
- Avoid using candles.
- Never leave lit candles alone.



Heating Pad and Electric Blanket Safety



- Follow manufacturers instructions on care and use.
- Do not use safety pins.
- Do not leave unattended. When you leave them, turn them off.
- Do not use them on persons who have lost feeling in extremities - the heat may be too hot and burn them.

Heat Your Home Safely



- If you plan to use a wood stove, fireplace, or space heater, be extremely careful. Follow the manufacturer's instructions as well as the home safety measures on page 3, and remember these safety tips:
- Use fireplace, wood stoves, or other combustion heaters only if they are properly vented to the outside and do not leak flue gas into the indoor air space.
- Do not burn paper in a fireplace.
- Ensure adequate ventilation if you must use a kerosene heater.
- Use only the type of fuel your heater is designed to use—don't substitute.
- Do not place a space heater within 3 feet of anything that may catch on fire, such as drapes, furniture, or bedding, and never cover your space heater.
- Never place a space heater on top of furniture or near water.
- Never leave children unattended near a space heater.
- Make sure that the cord of an electric space heater is not a tripping hazard but do not run the cord under carpets or rugs.
- Avoid using extension cords to plug in your space heater.
- If your space heater has a damaged electrical cord or produces sparks, do not use it.

- Store a multipurpose, dry-chemical fire extinguisher near the area to be heated.
- Protect yourself from carbon monoxide (CO) poisoning by installing a battery-operated CO detector and never using generators, grills, camp stoves, or similar devices indoors. Light and Cook Safely.
- Do not use the kitchen oven range to heat your home. In addition to being a fire hazard, it can be a source of toxic fumes.

Kerosene Heater Safety



- Kerosene heaters may not be legal in your area and should only be used where approved by authorities.
- Alternative heaters need their space. Keep anything combustible at least 3 feet away.
- Make sure your alternative heaters have "tip switches." These "tip switches" are designed to automatically turn off the heater in the event they tip over.
- Only use the type of fuel recommended by the manufacturer and follow suggested guidelines.
- Never refill a space heater while it is operating or still hot.
- Refuel heaters only outdoors.
- Check to make sure heater is in good working order.
- Inspect exhaust parts for carbon buildup.
- Be sure it automatically shuts off if tipped over.
- Use proper room ventilation to prevent carbon monoxide buildup.
- Use only fuel recommended by the manufacturer.
- Store fuels in approved metal containers in ventilated area outside the house.
- Never fill the heater while it is operating or hot.
- Avoid overfilling the fuel tank on the heater because cold fuel will expand as it warms up.
- Refueling should be done out of doors.
- Keep young children away from the space heater.
- Loose clothing can be easily ignited.

Electric Space Heater Safety



- Make sure the circuit is rated for the heater being used.

- Do not overload the same circuit with other appliances.
- Use only extension cords which have the necessary rating to carry the amp load.
- Avoid using in bathrooms or where contact with water is possible.

General Health Safety



- ✓ Stretch before you go out: If you go out to shovel snow, do a few stretching exercises to warm up your body. Also take frequent breaks.
- ✓ Cover your mouth: Protect your lungs from extremely cold air by covering your mouth when outdoors. Try not to speak unless absolutely necessary.
- ✓ Avoid overexertion: Cold weather puts an added strain on the heart. Unaccustomed exercise such as shoveling snow or pushing a car can bring on a heart attack or make other medical conditions worse. Be aware of symptoms of dehydration.
- ✓ Watch for signs of frostbite and hypothermia.
- ✓ Keep dry: Change wet clothing frequently to prevent a loss of body heat. Wet clothing loses all of its insulating value and transmits heat rapidly.
- ✓ Remember to help your neighbors who may require special assistance--infants, elderly people, and people with disabilities.
- ✓ Eat and Drink Wisely & Avoid Alcohol: Eating high-energy, well-balanced meals will help you stay warmer. Do not drink alcoholic beverages -- they cause your body to lose heat more rapidly. Instead, drink warm, sweet beverages such as hot chocolate or sweetened coffee or tea to help maintain your body temperature. If you have any dietary restrictions, ask your doctor. Drink plenty of fluids to avoid dehydration.
- ✓ Older adults and very young children should avoid prolonged outdoor exposure.
- ✓ Check on older friends, relatives and neighbours who live alone. During periods of extreme cold weather, offer to shop for older friends and relatives
- ✓ While indoors, try to keep at least one room heated to 20 degrees Celsius. Be careful when using fireplaces, stoves or space heaters to stay warm. Carbon monoxide poisoning and home fires are very real winter hazards.
- ✓ Dress in layers of warm, dry clothing, so that you can adjust to changing conditions. Be sure to wear a warm hat that covers your ears and a pair of loose-fitting gloves or mitts – Up to 40% of our body heat is lost through the head and hands.
- ✓ Eat high-energy foods along with warm beverages and soup. Avoid drinking alcoholic beverages.
- ✓ Avoid fatigue and exhaustion during cold weather. Overexertion, such as shoveling snow or pushing a car, can strain your heart.
- ✓ Cover exposed skin surfaces to protect from frostbite. Warm affected areas gradually by wrapping or placing the affected area next to warm skin or in warm water. Do not rub areas of frostbitten skin.

- ✓ Recognize the symptoms of hypothermia: confusion, dizziness, exhaustion and severe shivering. If these symptoms are present, seek immediate medical attention. Severe hypothermia can be life threatening.
- ✓ Use particular caution on slippery surfaces during winter weather. Many injuries are caused by falls on ice-covered sidewalks, steps and driveways. Keep these areas clear of snow and use salt or sand on ice.
- ✓ Wear winter footwear with good treads, foot traction aids and/or ice picks on canes. Reschedule outings or appointments on days that are particularly slippery.
- ✓ When traveling by automobile, monitor weather conditions carefully and adhere to travel advisories.
- ✓ Keep a winter storm survival kit in your car. This should include extra clothing, blankets, food, flares, chains, gloves and first aid supplies. Keep your gas tank full and to the extent possible, avoid traveling alone.

Holiday Safety



FACTS

- One-quarter of home decoration fires happen in December.
- More than half of the December home decoration fires are started by candles.
- Half of the holiday decoration fires happen because decorations are placed too close to a heat source



TIPS

- Be careful with holiday decorations. Choose decorations that are flame resistant or flame retardant.
- Keep lit candles away from decorations and other things that can burn.
- Some lights are only for indoor or outdoor use, but not both.
- Replace any string of lights with worn or broken cords or loose bulb connections. Connect no more than three strands of mini light sets and a maximum of 50 bulbs for screw-in bulbs. Read manufacturer's instructions for number of LED strands to connect.
- Use clips, not nails, to hang lights so the cords do not get damaged.
- Keep decorations away from windows and doors.
- Use only non-combustible decorations such as tinsel; be especially careful with spray and angel hair decorations
- Decorative lights
- Don't overload outlets and circuits
- Inspect carefully and repair or replace worn or frayed cords or other defects.
- Use care in windows where curtains can ignite easily.
- Do not leave on all night. Use a timer to turn lights on and off automatically.



Candles

- If you must use candles, place carefully and NEVER leave unattended.
- Do not burn candles on a Christmas tree. Do not allow any open flames near the tree.



Christmas Trees

- Live trees should be fresh as possible. Hold the tree upright and thump the base on the ground a few times; if the needles fall off, the tree has begun to dry.
- Before you mount your tree in a stand, cut an inch or two off the bottom so it will absorb water more easily.
- Flame-retardants, whether homemade or commercial, might not be fully effective if applied to only part of the tree.
- Always keep the base in water and check it daily.
- Keep tree away from stairways; trees should never block hallways, doorways, or exits to prevent escape.
- Keep tree away from fireplaces, radiators, room heaters, and other sources of heat to slow the drying process.
- Natural trees should be on display for no more than two weeks.
- Dispose of tree soon after the holidays, before it dries out. Take it outside, to a dump or designated trash pick-up area.
- Don't burn your tree indoors in a fireplace or furnace.
- Artificial trees should be flame resistant. Use the same care with an artificial tree as with a live one.
- Do not use electric lights on metal trees.
- Toys, trains, or any device that generates sparks should be kept away from the tree.
- When lit, the tree should not be left alone. All electrical decorations should be disconnected at night or when leaving the house.
- Smoke detectors make great gifts.



Holiday Entertaining

- Test your smoke alarms and tell guests about your home fire escape plan.
- Keep children and pets away from lit candles.
- Keep matches and lighters up high in a locked cabinet.
- Stay in the kitchen when cooking on the stovetop.
- Ask smokers to smoke outside. Remind smokers to keep their smoking materials with them so young children do not touch them. Provide large, deep ashtrays for smokers. Wet cigarette butts with water before discarding.
- Before Heading Out or to Bed: Blow out lit candles when you leave the room or go to bed. Turn off all light strings and decorations before leaving home or going to bed.



Animals, Pets & Livestock

All animals, domestic and wild suffer from the winter weather just as we humans do. Below are some common sense tips to help you help them.



Pets

- Stock an emergency supply of food and water for yourself and your pets. If you or your pets are on continual medications, be sure to always have at least a two-week supply on hand.
- Keep indoor pets in a dry, warm area free of drafts. Elevate your pet's bed off the floor.
- Provide outdoor dogs or cats with a dry, insulated pet house or shelter out of the wind. Staying warm demands extra calories, so feed your pet accordingly whenever the temperatures drop. Bring your pet inside if the wind chill or other weather conditions become too severe.
- Remove ice, salt and caked mud from your pet's paws and coat at once. Contact your veterinarian immediately if you suspect your pet has frostbite. Frostbitten skin may turn reddish, white or gray and it may be scaly or sloughing.
- Cats and kittens often nap on car engines. Knock on the hood or honk the horn, then wait a minute or two before starting your engine.
- Pets like the smell and taste of antifreeze, but even a small amount can kill them. Thoroughly clean up spills at once. Tightly close containers and store them where pets cannot get to them.

- Holiday paraphernalia can hurt pets. Cover or tack down electrical cords. Keep tinsel and glass ornaments out of reach. Read warnings on items like spray-on snow. Never put ribbon around a pet's neck or allow it to play with plastic or foil wrappings or six-pack beverage holders.
- Keep your pet on its regular diet. Holiday treats such as chocolate and bones can be harmful or even toxic.
- Many plants - including Christmas Rose, holly, mistletoe, philodendron and dieffenbachia - are toxic to pets. Keep them out of your pet's reach.
- Always have fresh, clean water available and if your pet is outdoors you may want a water dish heater to keep it ice free.
- Avoid leaving animals outside or confined to hard surfaces (e.g., in garages).
- If you routinely take your dog (pet) in the car, be sure to keep a leash or other restraint in the car. Put extra blankets in the car to keep the animal warm.
- After the storm, check on your neighbors and their animals. Be sure they have proper heating and sufficient supplies to get them through the emergency.



In case of evacuation:

- Emergency managers strongly recommend that you plan in advance to leave pets with friends or family or a boarding facility, or that you research hotels and motels that accept pets and where you could stay if you needed to evacuate.
- A supply kit for your pet is also a must, for evacuation situations but also in case you need to get through an emergency -- such as a blizzard -- at home. The kit should include:
- A leash and a carrier. A pet friendly shelter will require your animal to be leashed and/or crated. The pet carrier should be large enough for the animal to stand up and turn around in.
- Pet identification. Your pet should wear an identification tag and rabies tag.
- Contact information and a photo of you and your pet. The County's Animal Control Center will require these.
- At least three days worth of food and plenty of extra water.
- Extra medications, if your pet takes them.
- Pet sanitation supplies.
- The pet's immunization and medical records. The County's Animal Control Center will require these if your pet stays there during an emergency.
- Your pet should be licensed, as required by County law. And consider micro-chipping; you can have your pet micro-chipped at all local veterinary offices.



Livestock



Winter storms and blizzards take a terrible toll on livestock. For both humane and economic reasons, stockmen should take precautions in advance of severe winter storms.

- Move livestock, especially young livestock, into sheltered areas. Shelter belts properly oriented and laid out, provide better protection for range livestock than shed type shelters.
- Sheds may cause cattle to overcrowd, with consequent overheating and respiratory disorders. Cattle running in brush country or lowlands with timber usually survive all right if feed, water and salt are available.
- Well fed stock with reserve nutrition supply will weather a blizzard much better than a herd which is fed only the minimum. It is recommended that stockmen check with their local county agent to determine the correct feed portion to ensure an adequate reserve.
- Haul extra feed to feeding areas before the storm arrives. Storm duration is the largest determinant of livestock losses. If the storm lasts more than 48 hours, emergency feed methods may be required. Concentrates in the form of pellets or cake are excellent for providing emergency rations to livestock.
- A storm lasting more than 48 hours requires emergency feed methods.
- Provide water tanks with heaters to provide water. Autopsies of cattle killed by winter storms have shown the majority of deaths to be caused by dehydration, not cold or suffocation. Because cattle cannot eat enough snow to satisfy their water intake, stockmen are advised to use water tank heaters to provide livestock with unobstructed water.
- After a blizzard of several days duration, cattle that have been without salt frequently suffer from salt starvation. Stockmen must take care that stock do not get too much salt during the recovery period.



Moreno Valley, NM

Livestock Shelterbelt-A Living Barn

Many livestock producers realize the importance of shelterbelts. As reference, German immigrants brought the idea of planting shelterbelts to protect farmsteads from drying winds and provide shelter for livestock, crops and homes. In the early 1930s, a severe drought triggered the dust bowl on the Great Plains, devastating over 100 million acres of farmland, which impacted farms, families and communities. This prompted Franklin D. Roosevelt, in 1935, to institute a massive shelterbelt project to promote large-scale planting of trees across the Great Plains to minimize wind erosion. Today, shelterbelts are still an important landscape feature. They provide living snow fences, wildlife habitat, noise barriers, help conserve energy for adjacent dwellings, protect livestock, beautify property and increase privacy.



If you are considering planting windbreaks on your farm, here are a few tips to keep in mind:

- Planted windbreaks/shelterbelts can be very effective in reducing weather effects on livestock. The numbers vary, but a figure of 20 percent or more reduction in energy costs is often noted with proper windbreaks around farmsteads.
- You need space for at least two rows of trees, shrubs or a combination of the two. These should be staggered. Three rows is better, and four or five are excellent if you have the needed space.
- At least one or two of the rows needs to be coniferous. These plants retain their needles during the winter and are more effective.
- More rows allow planting various trees and/or shrubs to take advantage of differences in height and growth habit.
- Survival the first year after planting is critical. Many times, watering is necessary. After the initial establishment year, mortality should lower dramatically.



Before a Storm

If you are prepared for the unexpected, in the worst way it can happen in your area, then you WILL get through just about any winter emergency with the least trials and tribulations. If you have put off preparing (for any and all reasons), then prepare yourself mentally for a rough road.



The basics to ANY and ALL preparedness are:

- Know your risks
- Have a plan and practice it
- Become a go-bagger or at the very minimum have a home and vehicle kit (one for each vehicle). Being super prepared is to have an individual emergency go-bag for each individual and pet in your household.
- Stay Informed
- Learn about the emergency plans that have been established in your area by your state and local government. In any emergency, always listen to the instructions given by local emergency management officials.



Prepare Your Home for Winter

Although periods of extreme cold cannot always be predicted far in advance, weather forecasts can sometimes provide you with several days' notice. Listen to weather forecasts regularly and check your emergency supplies whenever a period of extreme cold is predicted.

Since our advance prediction of extreme cold and winter storms is still not quite sufficient enough; that is why we covered most of the Winter Prep stuff in the [Fall To Do's](#). Get these tasks done before winter settles in and you WILL be ready and prepared for the majority of issues that can arise with these weather patterns.

Below is a recap of some of the extreme cold preparedness tasks:

- If you plan to use a fireplace or wood stove for emergency heating, have your chimney or flue inspected each year. Ask your local fire department to recommend an inspector, or find one in the yellow pages of

your telephone directory under "chimney cleaning." Also, when utilizing a fireplace, wood stove, or kerosene heater, install a smoke detector and a battery-operated carbon monoxide detector near the area to be heated. Test them monthly and replace batteries twice yearly.

- Insulate any water lines that run along exterior walls so your water supply will be less likely to freeze. To the extent possible, weatherproof your home by adding weather-stripping, insulation, insulated doors and storm windows, or thermal-pane windows.
- If you have pets, bring them indoors. If you cannot bring them inside, provide adequate shelter to keep them warm and make sure that they have access to unfrozen water.

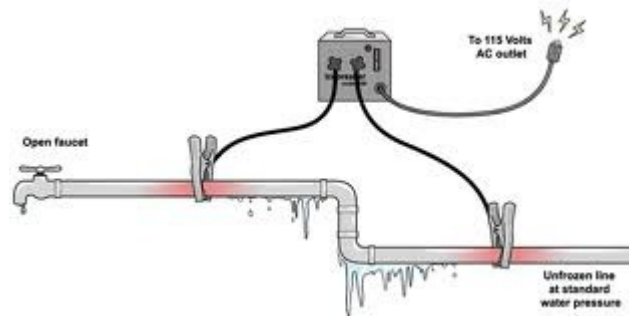
Preventing Frozen Pipes



- Before the onset of cold weather, prevent freezing of these water supply lines and pipes by following these recommendations:
- Drain water from swimming pool and water sprinkler supply lines following manufacturer's or installer's directions. Do not put antifreeze in these lines unless directed. Antifreeze is environmentally harmful, and is dangerous to humans, pets, wildlife, and landscaping.
- Remove, drain, and store hoses used outdoors. Close inside valves supplying outdoor hose bibs. Open the outside hose bibs to allow water to drain. Keep the outside valve open so that any water remaining in the pipe can expand without causing the pipe to break.
- Check around the home for other areas where water supply lines are located and are in unheated areas. Look in the basement, crawl space, attic, garage, and under kitchen and bathroom cabinets. Both hot and cold water pipes in these areas should be insulated. A hot water supply line can freeze just as a cold water supply line can freeze if the water is not running through the pipe and the water temperature in the pipe is cold.
- Consider installing specific products made to insulate water pipes like a "pipe sleeve" or installing UL-listed "heat tape," "heat cable," or similar materials on exposed water pipes. Many products are available at your local building supplies retailer. Pipes should be carefully wrapped, with ends butted tightly and joints wrapped with tape. Follow manufacturer's recommendations for installing and using these products. Newspaper can provide some degree of insulation and protection to exposed pipes - even ¼" of newspaper can provide significant protection in areas that usually do not have frequent or prolonged temperatures below freezing.



Future Pipe Protection



- Consider relocating exposed pipes to provide increased protection from freezing. Pipes can be relocated by a professional if the home is remodeled.
- Add insulation added to attics, basements, and crawl spaces. Insulation will maintain higher temperatures in these areas.
- For more information, please contact a licensed plumber or building professional.

Keep a Food & General Home Emergency Supply

- Have a week's worth of food and safety supplies. If you live far from other people, have more supplies on hand.
- Drinking water
- Canned/no-cook food (bread, crackers, dried fruits)
- Non-electric can opener
- Baby food and formula (if baby in the household)
- Prescription drugs and other medicine
- First-aid kit
- Rock-salt to melt ice on walkways
- Supply of cat litter or bag of sand to add traction on walkways
- Flashlight and extra batteries
- Battery-powered lamps or lanterns
(To prevent the risk of fire, avoid using candles.)
- Have at least one of the following heat sources in case the power goes out:
 - Fireplace with plenty of dry firewood or gas log fireplace
 - Portable space heaters or kerosene heaters
- Check with your local fire department to make sure that kerosene heaters are legal in your area.
- Never place a space heater on top of furniture or near water.
- Use electric space heaters with
 - automatic shut-off switches and
 - nonglowing elements.
- Keep heat sources at least 3 feet away from furniture and drapes.
- Never leave children unattended near a space heater.

- Have the following safety equipment:
 - Chemical fire extinguisher
 - Smoke alarm in working order (Check once a month and change batteries once a year.)
 - Carbon monoxide detector
- Never use an electric generator indoors, inside the garage, or near the air intake of your home because of the risk of carbon monoxide poisoning:
 - Do not use the generator or appliances if they are wet.
 - Do not store gasoline indoors where the fumes could ignite.
 - Use individual heavy-duty, outdoor-rated cords to plug in other appliances.

Power outages present problems with food safety as well as with heating. If there has been a loss of power for more than four hours, take the following precautions with refrigerated food products:

- Keep refrigerator and freezer doors closed as much as possible.
- Frozen foods in a freezer can normally be kept up to 48 hours+ without power. Again, the 41 F rule applies. A frozen product that has thawed should not be refrozen—it should be used immediately or disposed of. Thawed foods that have not reached 41 F can be cooked and consumed.
- Discard any potentially hazardous foods such as meats, eggs, dairy products and leftovers that may have exceeded 41 F.
- When in doubt, throw it out.

Communication Checklist

- Make sure you have at least one of the following in case there is a power failure:
 - Battery-powered radio (for listening to local emergency instructions). Have extra batteries.
 - National Oceanic and Atmospheric Administration (NOAA) weather radio receiver (for listening to National Weather Service broadcasts). See www.nws.noaa.gov/nwr for more information.
- Find out how your community warns the public about severe weather:
 - Siren
 - Radio
 - TV
- Listen to emergency broadcasts.
- Know what winter storm warning terms mean

Prepare Your Car for Winter

You can avoid many dangerous winter travel problems by planning ahead. Have maintenance service on your vehicle as often as the manufacturer recommends.

In addition, every fall: (this is covered in detail in the [Fall To-Do's](#))

- Have the radiator system serviced, or check the antifreeze level yourself with an antifreeze tester. Add antifreeze, as needed.
- Replace windshield-wiper fluid with a wintertime mixture.
- Replace any worn tires, and check the air pressure in the tires.
- During winter, keep the gas tank near full to help avoid ice in the tank and fuel lines.
- Modern diesels are much easier to start than they were just a few years ago, but be aware that all the problems listed for a gasoline engine are multiplied with a diesel, and there's one additional fun item: paraffin in non-winterized No. 2 diesel fuel starts to "gel up" at approximately 10 degrees Fahrenheit. See your manual on starting and winterizing your diesel vehicles.
- Get a timer like one you use on your lamps at night to start the block heater a couple of hours before you leave for work. It will cut your power bill by not having it run all night.
- Save money by getting a spare set of wheels to keep your studded snow tires permanently mounted. You can find them at a tire dealer or a wrecking yard. This will save you the cost of mounting and balancing summer/winter tires twice a year.
- Fuel additives will help with both carburetor and fuel injection engines. They can be very helpful with diesel engines, too. Again, consult your vehicle's manual or a trusted mechanic.

During a Storm



If you are stuck at home the best thing to do is to be prepared with emergency food and water stores (if you completed your [Fall Chores](#) this is a given for you). Above all stay indoors as much as possible and dress warmly by wearing loose-fitting, layered, lightweight clothing.

- Stay indoors and dress warmly. Wear layers of loose-fitting, lightweight, warm clothing. When necessary, remove layers to avoid perspiration and subsequent chill.
- If outside, protect yourself from hazards. Dress warmly, keep dry, and watch for signs of hypothermia and frostbite. Avoid overexertion. Walk carefully on snowy, icy sidewalks, and use public transportation, if possible.
- Conserve fuel. Great demand may be placed on electric, gas, and other fuel distribution systems (fuel oil, propane, etc.). Suppliers may not be able to replenish depleted supplies during severe weather. Lower the thermostat to 65 degrees Fahrenheit during the day and 55 degrees at night. Close off unused rooms, stuff towels or rags in cracks under doors, and cover windows at night. You may need fresh air coming in for your heater or for emergency cooking arrangements. However, if you don't need extra ventilation, keep as much heat as possible inside your home. Avoid unnecessary opening of doors or windows. Close off unneeded rooms, stuff towels or rags in cracks under doors, and close draperies or cover windows with blankets at night.

- If using kerosene heaters, maintain ventilation to avoid build-up of toxic fumes. Keep heaters at least three feet from flammable objects. Refuel kerosene heaters outside.
- Avoid travel if possible. If you must travel, do so during daylight. Don't travel alone. Stay on main roads, and keep others informed of your schedule.
- Eat and Drink Wisely: Eating well-balanced meals will help you stay warmer. Do not drink alcoholic or caffeinated beverages—they cause your body to lose heat more rapidly. Instead, drink warm, sweet beverages or broth to help maintain your body temperature. If you have any dietary restrictions, ask your doctor.
- Monitor Body Temperature: Infants less than one year old should never sleep in a cold room because (1) infants lose body heat more easily than adults; and (2) unlike adults, infants can't make enough body heat by shivering. Provide warm clothing for infants and try to maintain a warm indoor temperature. If the temperature cannot be maintained, make temporary arrangements to stay elsewhere. In an emergency, you can keep an infant warm using your own body heat. If you must sleep, take precautions to prevent rolling on the baby. Pillows and other soft bedding can also present a risk of smothering; remove them from the area near the baby. Older adults often make less body heat because of a slower metabolism and less physical activity. If you are over 65 years of age, check the temperature in your home often during severely cold weather. Also, check on elderly friends and neighbors frequently to ensure that their homes are adequately heated.
- Listen to your radio, television, or NOAA Weather Radio for weather reports and emergency information.
- Maintain ventilation when using kerosene heaters to avoid build-up of toxic fumes. Refuel kerosene heaters outside and keep them at least three feet from flammable objects.



If you are outdoors

- Avoid overexertion when shoveling snow. Overexertion can bring on a heart attack—a major cause of death in the winter. If you must shovel snow, stretch before going outside.
- Cover your mouth. Protect your lungs from extremely cold air by covering your mouth when outdoors. Try not to speak unless absolutely necessary.
- Keep dry. Change wet clothing frequently to prevent a loss of body heat. Wet clothing loses all of its insulating value and transmits heat rapidly.
- Watch for signs of frostbite. These include loss of feeling and white or pale appearance in extremities such as fingers, toes, ear lobes, and the tip of the nose. If symptoms are detected, get medical help immediately.
- Watch for signs of hypothermia. These include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion.
 - If symptoms of hypothermia are detected:
 - get the victim to a warm location
 - remove wet clothing
 - put the person in dry clothing and wrap their entire body in a blanket

- warm the center of the body first
- give warm, non-alcoholic or non-caffeinated beverages if the victim is conscious
- get medical help as soon as possible.



Pipes

Extreme cold can cause water pipes in your home to freeze and sometimes rupture. When very cold temperatures are expected:

- Open the hot and cold water faucets where the pipes are located on an outside wall and allow just a trickle to flow overnight.
- Keep the indoor temperature warm.
- Improve the circulation of heated air near pipes. For example, open kitchen cabinet doors beneath the kitchen sink.
- Have bottled water on hand.
- In an emergency—if no other water is available—snow can be melted for water. Bringing water to a rolling boil for one minute will kill most germs but won't get rid of chemicals sometimes found in snow.



If Pipes Freeze

If you turn on a faucet and only a trickle comes out, suspect a frozen pipe.



- Locate the suspected frozen area of the water pipe. Likely places include pipes running against exterior walls or where your water service enters your home through the foundation.
- Keep the faucet open. As you treat the frozen pipe and the frozen area begins to melt, water will begin to flow through the frozen area. Running water through the pipe will help melt more ice in the pipe.
- If you detect that pipes have frozen and burst, turn off the water at the main shut-off valve; leave the water faucets turned on.
- Remove any insulation or layers of newspapers, starting where they were most exposed to the cold (or where the cold was most likely to penetrate).
- Apply heat to the section of pipe using an electric heating pad wrapped around the pipe, an electric hair dryer, a portable space heater (kept away from flammable materials), or wrapping pipes with towels soaked in hot water. *Do not use a blowtorch, kerosene or propane heater, charcoal stove, or other open flame device.* A blowtorch can make water in a frozen pipe boil and cause the pipe to explode. All open flames in homes present a serious fire danger, as well as a severe risk of exposure to lethal carbon monoxide.
- If you are unable to locate the frozen area, if the frozen area is not accessible, or if you can not thaw the pipe, call a licensed plumber.
- Check all other faucets in your home to find out if you have additional frozen pipes. If one pipe freezes, others may freeze, too.
- A hair dryer is a safer choice as long as care is taken to avoid electrocution (avoid using around standing water). Start by warming the pipe close to the faucet and work towards the coldest section of pipe.
- If you cannot thaw your pipes, or if the pipes have broken open, use bottled water or get water from a neighbor's home.



If you are away:

- Set the thermostat in your house no lower than 55 degrees
- Have a friend or neighbor check your house daily to make sure it is warm enough to prevent freezing

- Shut off and drain water system. (If you have a sprinkler system for fire protection, it will be deactivated when you shut off the water).

If there is a power failure:

- Use battery-powered flashlights or lanterns rather than candles, if possible.
- Never leave lit candles unattended.
- Never use a charcoal or gas grill indoors—the fumes are deadly.
- Never use an electric generator indoors, inside the garage, or near the air intake of your house because of the risk of carbon monoxide poisoning:
 - Plug in appliances to the generator using individual heavy-duty, outdoor-rated cords.
 - Do not use the generator or appliances if they are wet because of the risk of electrocution.
 - Do not store gasoline indoors where the fumes could ignite.



Winter Driving

Driving puts stress and strain on your vehicle and all its parts; and winter driving triples this. Keep your vehicle in the best possible driving condition. The lights, tires, brakes, windshield wipers, defroster, and radiator are especially important for winter driving. And remember the **S.A.F. E.T.Y.** rule of thumb:

Slow down for wet, snowy, icy conditions.

Avoid quick braking or acceleration.

Find out about driving conditions before you go.

Every time you travel - Buckle Up.

Turn signals, brake lights and windows need to be clear of snow.

You should never use cruise control in winter weather conditions.



Be Cautious About Travel

- Listen for radio or television reports of travel advisories issued by the National Weather Service.
- Do not travel in low visibility conditions.
- Avoid traveling on ice-covered roads, overpasses, and bridges if at all possible.
- If you must travel by car, use tire chains and take a mobile phone with you.
- If you must travel, let someone know your destination and when you expect to arrive. Ask them to notify authorities if you are late.
- Check and restock the winter emergency supplies in your car before you leave.
- Never pour water on your windshield to remove ice or snow; shattering may occur.
- Don't rely on a car to provide sufficient heat; the car may break down.
- Always carry additional warm clothing appropriate for the winter conditions.

Driving in Snow and Ice



When handling slippery winter roads, the keys to safety are slower speeds, gentler stops and turns, and increased following distances.

- Stay alert
- Slow down
- Stay in control



Driving Tips

- DO NOT travel if advised against it or if not necessary.
- If you must travel, check the forecast for your area and your destination. Major winter storms are often followed by even colder temperatures.
- Travel in the day, don't travel alone, and keep others informed of your schedule.
- Plan long trips carefully and notify someone of your destination, route and expected time of arrival.

- Stay on main roads; avoid back road shortcuts.
- Keep a cell phone or two-way radio with you when traveling in winter weather. Make sure that the batteries are charged. (This should be part of your vehicle and or personal go-bag or emergency kit.)
- Keep a disaster supplies kit in the trunk of each and every vehicle used by household members.
- Sweep the snow off the car, including all windows, headlight and tail lights, start the car, turn on the defroster, then go back in and wait for the vehicle and defroster to do their thing. It makes you more visible plus snow and ice flying off a vehicle can be dangerous to other drivers.
- Keep your windows clear. Don't start driving until the windows are defrosted and clean - even if you're only going a short distance.
- Correctly operating windshield wipers and defrosters are essential to safety while driving in snow and ice conditions. Properly maintained windshield wipers are a must; there are also special blades available that are better equipped to assist in the removal of snow from the windshield. Defroster effectiveness is essential in the initial clearing of snow and ice from the windshield – and in some instances the rear window when a vehicle is so equipped – and should be checked well in advance of need. In certain cases, a change of the vehicle thermostat will restore appropriate heat to the defroster system.
- Never throw hot water on a frosty windshield; it might crack the glass. Use a scraper or start your car early and let the defroster do the job.
- Sometimes you will want a cold windshield, and sometimes you will want a warm windshield. If it's raining and ice is forming on the car, you want a warm windshield to melt the ice and let the wipers work. If it's cold and snowing, you want the windshield cold so the snow won't stick, and will just blow off with the wind and wipers.
- Plan your route to avoid stop signs and lights on the top of a hill. People spin their wheels to get started and this creates a bed of ice.
- Tire pressure usually lowers itself in winter and raises itself in summer. Under-inflated tires can cause a car to react more slowly to steering. Every time the outside temperature drops ten degrees, the air pressure inside your tires goes down about one or two PSI. Tires lose air normally through the process of permeation. Drivers should check their tire pressures frequently during cold weather, adding enough air to keep them at recommended levels of inflation at all times.
- Don't try to stretch more miles from your tires during the winter months. If your tread depth is getting low, it can have serious effects on dry pavement, but those effects are multiplied in wet and snowy conditions. When in doubt, get new tires.
- Equip your vehicle with chains or snow tires. Chains are by far the most effective, and they should be used where ice and snow remain on the roadway. Remember that snow tires will slide on ice or packed snow so keep your distance.
- Four and all-wheel drive vehicles will NOT stop or steer better in icy conditions.
- The safest tires are studded mud and snow (M/S) tires on all four wheels. Some states do not permit studded tires, so check with your local dealer.
- Chains are best. They give more traction than anything else. Put a set of chains on the two driving tires, or better yet, keep a spare pair of tires in the trunk with chains on them. It's lots easier to change 2 tires than it is to install chains in the snow and muck. Plus, the chains on the spares are fiddle string tight, so they won't hammer the bottom of your car.
- If you take your car through an automatic wash on a freezing day, don't try to use the power windows until all the water dries up – wind will evaporate the ice as you drive around.

- Do not use the cruise control when there is ice on the road. If the cruise accelerates on ice, you may lose control of the car.
- Carry some emergency items in your car – flares, blanket, candle, matches, tire chains and a small folding shovel like soldiers carry, clothing (stocking cap, snow boots, mittens, a pair of coveralls, and a blaze orange vest so you will be seen if you have to walk). They may save your life if you go off a rural country road during winter.
- Getting Stuck and Freeing your vehicle: Be careful if you have to get out of your vehicle when on the shoulder of a busy road. If possible, use the door away from traffic.
- If you attempt to free your vehicle from the snow, be careful. Dress warmly, shovel slowly and do not overexert yourself. Do not attempt to shovel or push your vehicle if you have a medical condition. Body heat is retained when clothing is kept dry. Wet clothing, due to the weather or perspiration, can lead to a dangerous loss of body heat.
- Draw attention to your vehicle. Use emergency flashers, flares or a Call Police sign.
- It is critical for drivers to see and be seen in low light conditions and when blowing snow and white-outs impair your visibility. Turn on your vehicle's full lighting system in poor visibility. Use your headlights: If it's snowing or blowing, put on your lights. If there's a blizzard, put on your flashers.



Spacing: It takes longer to stop on a slippery road. It's important to leave plenty of space between you and the vehicle ahead. Also remember, big trucks take longer to stop. A guide to safe spacing under normal driving conditions is the two-second rule.



Two second rule:

1. Pick a marker on the road ahead, such as a road sign or telephone pole.
2. When the rear of the vehicle ahead of you passes the marker, start counting "one thousand and one, one thousand and two."

3. When the front of your vehicle reaches the marker, stop counting. If you reach the marker before you count "one thousand and two," you are following too closely.

In winter, and especially during poor weather conditions, double the two-second rule.



Braking: Winter driving conditions such as rain, snow, and ice dramatically affect the braking distance of a vehicle. The driver's capability to complete a smooth and safe stop is severely limited due to reduced tire traction. In order to stop safely, the vehicle's wheels must maintain traction by remaining on contact with the road surface while rolling, referred to as "rolling traction."

For instance travelling at 55 miles per hour (90 kilometers per hour), the stopping distance for the average passenger vehicle on loose snow is 697 feet (213 meters) or 54 car lengths, compared to 396 feet (121 meters) or 30 car lengths on dry roads. For the average commercial vehicle, the stopping distance jumps to 996 feet (304 meters) or 14 tractor-trailer lengths.

Make sure you know how to use your braking system in all weather and road conditions. Consider taking an advanced driving course that teaches emergency driving skills.

Every city block and every mile of highway may be different, depending upon sun or shade and the surface of the roadway.

(Check your vehicle owner's manual, if the vehicle has anti-lock brakes, you may apply steady pressure to the brake pedal.)

- When stopping, avoid sudden movements of the steering wheel and pump the brake gently.
- Avoid locking of brakes on glazed ice as it will cause a loss of steering and control.



Speed: It is recommended that drivers reduce their speed to half the posted speed limit or less under snowy road conditions. There is no such thing as a "safe" speed range at which you may drive on snow or ice. You must be extremely cautious until you are able to determine how much traction you can expect from your tires.

- Just because you have four-wheel drive and studded snow tires or chains, does NOT mean you can still drive safely at 75 mph on ice or packed snow, yet alone stop on a dime.
- Slow down when approaching intersections, off-ramps, bridges, or shady spots.



Sand and salt play a big role in keeping roads safe. The spreading of road salt prevents snow and ice from bonding to the road surface, which is why salt is usually spread early in a storm to prevent snow build-up and to aid in snow removal operations.



Kitty litter is a good way to get traction under your wheels. Carry the litter in a couple of gallon plastic milk jugs.

Unlike salt, sand and Kitty Litter does not melt and therefore helps by providing traction on slippery surfaces. Sand is often used when temperatures are too low for salt to be effective or at higher temperatures for immediate traction, particularly on hills, curves, bridges, intersections and on snow-packed roads.

Although kitty litter, sand and dirt are ok, they tend to freeze solid if any moisture collects on them. To counter this some people carry metal treads, but you have to stop and go back for them. While others carry a few evergreen branches or coarse gravel (that bits into the ice and packed snow).

Chain-up/down Areas: Slow down and be extra cautious near the chain-up and removal areas. There are often people out of their vehicles moving around.



Snowplows: Caution must be used when snowplows are on the roadways as snowplows and salt and sand trucks travel much slower than regular traffic. Passing a snowplow can be extremely dangerous as sight lines and visibility near a working snowplow are severely restricted by blowing snow. Stay back (15 car lengths) until you're sure it is safe to pass or until the plow pulls off the road.



Large Trucks and Semis: Do not run parallel to semis during a snow storm or when driving on ice. Either pass them or stay well behind them.



If you get stopped on an uphill slope, try this to get started again.

- Manual transmissions, take off in second gear. Try to get rolling as slowly as possible, if you can, get started without even using the gas pedal.
- Automatics, it's even easier. Never, ever, spin your wheels, just take off as slowly as possible. Spinning heats up the tires and just handicaps you further. If you can get rolling those first few inches, you can keep rolling.



Get the feel of the road by starting out slowly and testing your steering control and braking ability. Avoid spinning your tires when you start by gently pressing your gas pedal until the car starts to roll. Start slowing down at least three times sooner than you normally would when turning or stopping.

- Drive for conditions – slower speeds, slower acceleration, slower steering, and slower braking in winter conditions.



Roads are typically cooler in shady areas and drivers may encounter another extremely dangerous element known as “black ice.” Always slow down your vehicle when you see shady areas under these types of conditions.

- Watch for danger or slippery spots ahead. Ice may remain on bridges even though the rest of the road is clear. Snow and ice also stick longer in shaded areas.



Snowy Roads: Snow on a road may be hard-packed and slippery as ice. It can also be rutted and full of hard tracks and gullies. Or it can be smooth and soft.

Wet snow can make for slushy roads. Heavy slush can build up in the wheel wells of your vehicle and can affect your ability to steer.

Remember, look far ahead as you drive, so you can recognize hazards and have plenty of time to respond. Adjust your driving to the road and weather conditions. Slow down and avoid sudden turns of the steering wheel, and sudden braking and accelerating which could cause a skid.



Ice: Be careful when approaching shaded areas, bridges, and overpasses, as these sections of road freeze much sooner in cold weather and stay frozen long after the sun has risen. Watch out for black ice — areas of the road that appear black and shiny — as they can cause your vehicle to suddenly lose traction. Slow down, keep your foot off the brake, and be ready to shift to neutral or step on the clutch as your vehicle crosses these areas.



- Let off the accelerator as you approach a bridge.
- Black ice is nearly invisible and will accumulate on bridge overpasses – especially those crossing water.
- When driving on ice, always try to drive with 2 tires on the right shoulder of the road. It is usually gravel, and provides better traction than the smooth streets or highways. This won't work if there is snow.



Skidding: In a skid, it's important to regain control of your vehicle, especially if it begins to skid sideways. To do this, decelerate by taking your foot off the gas and the brake, step on the clutch or shift to neutral, then look where you want your vehicle to go and steer in that direction. If the back of your vehicle is sliding to the right, turn the front wheels to the right to counteract the skid until the vehicle straightens out. If the rear is skidding to the left, turn to the left.



Snow Spray: On snow-covered highways, large trucks and buses can raise or blow snow onto your windshield leading to a sudden loss of visibility. Always drive defensively and leave enough space to avoid their snow spray.

Should you get Stuck, Stranded or Trapped in your Vehicle



- Don't panic
- Pull off the road
- If you are in an area with cell phone service and have a cell phone, call for help.
- Set hazard lights to flashing, and hang a distress flag from the radio antenna or window.
- Do not leave your car to search for assistance unless help is visible within 100 yards. Stay in your vehicle where rescuers are most likely to find you.
- Wait for help to arrive.
- Move anything you need from the trunk into the passenger area. Food, water, blankets, extra clothing, additional vehicle supplies (shovel, radio, etc.) and the like. Again if you have completed your [Fall Chores](#), your vehicle and individual emergency kits should provide you with the necessities of survival for up to three days.



- Draw attention to your vehicle.
 - Use emergency flashers, flares or a Call Police sign or distress flag (preferably red). You may want to keep some kind of 'dayglow' flag or cloth (like what bicyclists have) that can be attached to your antenna or window.
 - Turn on the inside dome light so rescue teams can see you at night, but be careful not to run the battery down.
 - In remote areas, spread a large cloth over the snow, stomp large block letters in an open area spelling out HELP or SOS and line with rocks or tree limbs to attract the attention of rescue personnel who may be surveying the area by airplane.
 - Or after snow stops falling, raise the hood to indicate trouble.
- Use tools from the vehicle e-kit to keep the exhaust pipe free of obstruction and if possible downwind from any window you open for ventilation. You may have to exit your vehicle occasionally to make sure the exhaust pipe is clear of drifting snow before running the engine.

Conserve fuel, but run the engine and heater about ten (10) minutes each hour to keep warm. Keep a window cracked open when engine is running. For fresh air, slightly open a window away from the wind. *(This will protect you from possible carbon monoxide poisoning.)*
- Be careful not to waste battery power.
 - Balance electrical energy needs - the use of lights, heat and radio - with supply.
- Drink fluids to avoid dehydration. Avoid Caffeine and Alcohol: Caffeine, a stimulant, can cause the heart to beat faster and hasten the effects the cold has on the body. Alcohol, a depressant, can slow the heart and also hasten the ill effects of cold body temperatures.
- Do not eat unmelted snow because it will lower your body temperature.
- Stay awake. You will be less vulnerable to cold-related health problems. If you cannot: Take turns sleeping. One person should be awake at all times to look for rescue crews.
- Watch for signs of frostbite and hypothermia; do minor exercises to keep up circulation.

- Exercise frequently to keep blood circulating and to maintain body heat, but avoid overexertion. Clap hands and move arms and legs occasionally. Try not to stay in one position for too long.
- For warmth, huddle together.
- In extreme cold, available material, such as newspapers, maps, and removable car mats, seat covers or extra clothing for covering—anything to provide additional insulation and warmth.
- After the storm has passed and only if necessary - Leave the car and proceed on foot. Follow the road if possible. If you need to walk across open country, use distant points as landmarks to help maintain your sense of direction.



After a Storm



- Report downed power lines and broken gas lines immediately.
- After blizzards, heavy snows or extreme cold, check to see that no physical damage has occurred and that water pipes are functioning. If there are no other problems, wait for streets and roads to be opened before you attempt to drive anywhere.
- Check on neighbors, especially any who might need help.
- Beware of overexertion and exhaustion. Shoveling snow in extreme cold causes many heart attacks. Set your priorities and pace yourself after any disaster that leaves you with a mess to clean up. The natural tendency is to do too much too soon.
- Go to a designated public shelter if your home loses power or heat during periods of extreme cold.
- Avoid driving when conditions include sleet, freezing rain or drizzle, snow or dense fog.
- Before tackling strenuous tasks in cold temperatures, consider your physical condition, the weather factors and the nature of the task.
- Protect yourself from frostbite and hypothermia by wearing warm, loose-fitting, lightweight clothing in several layers. Stay indoors, if possible.

- Help people who require special assistance such as elderly people living alone, people with disabilities and children.
- Check on your animals and make sure that their access to food and water is not blocked by snow drifts, ice or other obstacles. If possible, bring them indoors.
- Check on neighbors or anyone who may need assistance.
- Use common sense when going outdoors Dress warmly and always wear a hat. Stretch before shoveling heavy snow. Take frequent breaks. Use caution when walking on snowy walkways.
- Supervise children at all times. Children should be told to play only in safe, supervised areas outdoors—never in the street or snow banks on the side of the road.
- If you want to help other victims, give cash donations to the appropriate relief agencies to buy what the victims need. Donated goods such as used clothing, unlabeled and unsorted by size, are usually more of a logistical problem than a help. If particular items are needed, there will be public announcements and instructions concerning these. Don't go to the disaster scene on your own to volunteer. If you are already a volunteer, you will know where you are to report. If additional volunteers are needed for labor-intensive work like sandbagging, public announcements will be made.



Returning to Your Home AFTER a Winter Flood

- Do not turn electricity back on if you smell gas or if the electric system has been flooded.
- Wear sturdy work boots and gloves.
- Do not handle electric equipment in wet areas.
- Use flashlights, not lanterns, candles or matches, to check buildings containing natural gas, propane, or gasoline.
- Follow directions from local officials regarding the safety of drinking water.
- Clean and disinfect everything that was touched by flood waters and throw out any such foodstuffs.



Chemical Safety

- Look for combustible liquids like gasoline, lighter fluid, and paint thinner that may have spilled. Thoroughly clean the spill and place containers in a well ventilated area.
- Keep combustible liquids away from heat sources, children and animals.

Electrical Safety

- If your home has sustained flood or water damage and you can safely get to the main breaker or fuse box, turn off the power.
- Assume all wires on the ground are electrically charged. This includes cable TV feeds.
- Look for and replace frayed or cracked extension and appliance cords, loose prongs, and plugs.
- Exposed outlets and wiring could present a fire and life safety hazard.
- Appliances that emit smoke or sparks should be repaired or replaced.
- Have a licensed electrician check your home for damage.

Natural Gas Safety

- Smell and listen for leaky gas connections. If you believe there is a gas leak, immediately leave the house and leave the door(s) open.
- Never strike a match. Any size flame can spark an explosion.
- Before turning the gas back on, have the gas system checked by a professional.

Resources

Experience - Just plain living and driving in urban and rural areas in big snow country

19 Ways to Prepare for Winter <http://www.grit.com/Property/19-Ways-to-Prepare-for-Winter.aspx>

CERT Basic Training Participant Manual <http://www.justincasearizona.com/be-informed/natural-disasters/winter-weather.asp>

Extreme Cold Prevention Guide http://www.bt.cdc.gov/disasters/winter/pdf/cold_guide.pdf

Facts About Cold Weather <http://www.grit.com/Property/Facts-About-Cold-Weather.aspx>

Long-Range Weather Forecasts 2011-2012 for Albuquerque, NM

<http://www.almanac.com/weather/longrange/NM/Albuquerque>

Long-Range Weather Forecasts 2011-2012 for major cities in NM <http://www.almanac.com/weather/longrange/NM>

NFPA National Fire Prevention Association www.nfpa.org

NOAA www.noaa.gov

Preparing for Winter Driving – How to Drive in Snow and Ice http://www.safemotorist.com/articles/winter_driving.aspx

Red Cross www.redcross.org

Rural Winter Preparation <http://www.acreagelife.com/rural-living-articles/rural-winter-preparation>

Winter Driving Survival - Backwoods Home Newsletter November 2009 <http://www.backwoodshome.com/nl/nl0910.html>

Winter Forecast 2011-2012 <http://www.farmersalmanac.com/long-range-weather-forecast/>

Winter of 2011-2012 Snow Forecast <http://www.accuweather.com/blogs/meteomadness/story/53551/snow-forecast-for-the-winter-of-20112012.asp>

Winter Preparedness Checklist <http://organizedhome.com/seasonal-spin/winter-preparedness-checklist>

Winter Preparedness Information & Safety Tips <http://www.prepindustries.com/wintertips.html>

Winter Storm Fire Safety www.usfa.dhs.GOV

Winter Storms www.PioneerLiving.net

Winter Survival and Personal Health & Safety Guide <http://www.prepindustries.com/wintersurvivaltips.html>

Winter Survival Clothing System <http://www.survivaltopics.com/survival/winter-survival-clothing-system/>

Winter Survival Montana www.modernsurvivalonline.COM

Winter Weather Forecast 2011-2012 <http://www.exactaweather.com/>

Winter Weather Forecast 2011-2012 <http://www.neoweather.com/2011-2012winterforecast.html>

Winter Weather Forecast 2011-2012 (Another extreme winter for many parts of the US)

<http://unofficialnetworks.com/winter-weather-forecast-20112012-extreme-winter-parts-31096/>

Winter Weather Information: How to be safe this winter! <http://www.state.ia.us/emergencymanagement/>

Winter Weather Safety Tips For Rural Residents www.extension.missouri.EDU

Don't Live Paranoid - Live Prepared

TNT

