



pennsylvania
EMERGENCY MANAGEMENT AGENCY



MONTHLY
February 2017

EXTREME COLD

Winter in Pennsylvania almost always includes periods of extreme cold weather. Exposure to cold can cause frostbite or hypothermia and has the potential to become life-threatening. Although anyone can suffer from cold-related health issues, some people are at greater risk than others, such as older adults, young children, those who are sick, and those without adequate shelter. To reduce the risks of extreme cold conditions, take the proper safety precautions to protect yourself and your family.



Before Extreme Cold Weather

- Be Informed by receiving alerts, warnings, and public safety information before, during, and after emergencies.
- Create your family emergency plan and commit to reviewing it regularly.
- Assemble an emergency kit. Add seasonal supplies to your emergency kit such as extra winter clothing and blankets.
- Prepare your home for possible emergencies.
- Know where your electricity, gas, and water switches and valves are located and how to shut them off. You may need to turn off water pipes if your pipes freeze or burst.
- Maintain heating equipment and chimneys by having them cleaned and inspected every year.
- Make sure your home is properly insulated. Caulk and weather-strip doors and windows to keep cold air out. Install storm windows or cover windows with plastic from the inside to provide insulation.
- Ensure you have sufficient heating fuel and safe backup heating options like fireplaces, wood stoves, or a generator in case you lose electricity.
- Check that your smoke and carbon monoxide detectors are working and have fresh batteries.
- Ensure your vehicle is ready for safe winter driving. Keep the gas tank at least half-full and have a Winter Emergency Car Kit in the trunk.



During Extreme Cold Weather

- Continue to monitor the media for emergency information.
- Follow instructions from public safety officials.
- Minimize outdoor activities for the whole family, including pets.
- Dress in several layers of loose-fitting, lightweight clothing instead of a single heavy layer. Outer garments should be tightly woven and water repellent. Wear a hat, mittens (not gloves), and sturdy waterproof boots to protect your extremities. Cover your mouth with a scarf to protect your lungs.
- Take recommended safety precautions when using space heaters, a fire place, or a woodstove to heat your home. Keep a fire extinguisher handy.
- Make sure emergency generators or secondary heating systems are well ventilated.
- If you lose heating, move into a single room. Seal off unused areas by stuffing towels against the cracks under the doors, and at night, cover windows with extra blankets or sheets.
- Wrap pipes in insulation or layers of newspapers covered in plastic to prevent them from freezing. Let a trickle of warm water run from a faucet to keep water moving through your pipes.
- If your pipes freeze, remove any insulation, pour hot water over them or wrap them with towels soaked in hot water, and completely open all faucets. You can also use a hair dryer, with caution, to thaw pipes. Never use an open flame to thaw pipes.
- Check with your county or local authorities to find warming centers or shelters near you.
- In the event of a power outage, you may need to take additional precautions or go to an emergency shelter to stay warm.
- Know the symptoms of and watch out for cold-related illnesses. Call 9-1-1 to report emergencies.
- Be a good neighbor. Check on family, friends, and neighbors, especially the elderly, those who live alone, those with medical conditions, and those who may need additional assistance.

Cold-related Illnesses

Extreme cold can cause cold-related illness, including:



- **Frostnip** is a mild form of Frostbite

Symptoms — Skin irritation, redness and cold feeling followed by numbness. Frostnip doesn't permanently damage the skin

Treatment—Cover affected areas with gloves, hats, earmuffs, hoods, and scarves. Medical treatment is not necessary.

- **Frostbite** is the freezing of the skin and body tissue.

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

Treatment — Get the victim into a warm location. Cover exposed skin, but do not rub the affected area. Seek medical attention immediately.

- **Hypothermia** is abnormally low body temperature and is life-threatening.

Symptoms — Shivering, exhaustion, confusion, memory loss, and slurred speech.

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



Cold Weather and Pets

Exposure to winter's dry, cold air and chilly rain, sleet and snow can cause chapped paws and itchy, flaking skin, but these aren't the only discomforts pets can suffer. Winter walks can become downright dangerous if chemicals from ice-melting agents are licked off of bare paws. To help prevent cold weather dangers from affecting your pet's health, please heed the following advice from our experts:

Repeatedly coming out of the cold into the dry heat of your home can cause itchy, flaking skin. Keep your home humidified and towel dry your pet as soon as he comes inside, paying special attention to his feet and in-between the toes. Remove any snow balls from between his foot pads.

Never shave your dog down to the skin in winter, as a longer coat will provide more warmth. If your dog is long-haired, simply trim him to minimize the clinging ice balls, salt crystals and de-icing chemicals that can dry his skin, and don't neglect the hair between his toes. If your dog is short-haired, consider getting him a coat or sweater with a high collar or turtleneck with coverage from the base of the tail to the belly. For many dogs, this is regulation winter wear.

Bring a towel on long walks to clean off stinging, irritated paws. After each walk, wash and dry your pet's feet and stomach to remove ice, salt and chemicals, and check for cracks in paw pads or redness between the toes.

Bathe your pets as little as possible during cold spells. Washing too often can remove essential oils and increase the chance of developing dry, flaky skin. If your pooch must be bathed, ask your vet to recommend a moisturizing shampoo and/or rinse.

Massaging petroleum jelly or other paw protectants into paw pads before going outside can help protect from salt and chemical agents. Booties provide even more coverage and can also prevent sand and salt from getting lodged between bare toes and causing irritation. Use pet-friendly ice melts whenever possible.

Like coolant, antifreeze is a lethal poison for dogs and cats. Be sure to thoroughly clean up any spills from your vehicle, and consider using products that contain propylene glycol rather than ethylene glycol.



Pets burn extra energy by trying to stay warm in wintertime. Feeding your pet a little bit more during the cold weather months can provide much-needed calories, and making sure she has plenty of water to drink will help keep her well-hydrated and her skin less dry.

Make sure your companion animal has a warm place to sleep, off the floor and away from all drafts. A cozy dog or cat bed with a warm blanket or pillow is perfect.

Remember, if it's too cold for you, it's probably too cold for your pet, so keep your animals inside. If left outdoors, pets can freeze, become disoriented, lost, stolen, injured or killed. In addition, don't leave pets alone in a car during cold weather, as cars can act as refrigerators that hold in the cold and cause animals to freeze to death.



Wind Chill

Wind Chill is the temperature it “feels like” outside and is based on the rate of heat loss from exposed skin caused by the effects of wind and cold. As the wind increases, the body is cooled at a faster rate causing the skin temperature to drop. Wind Chill does not impact inanimate objects like car radiators and exposed water pipes, because these objects cannot cool below the actual air temperature.



Wind Chill Advisory

A wind chill advisory is issued when wind chill temperatures are potentially hazardous. Wind chill index lower than -10°F or -15°F for at least three hours, depending upon where you live.



Wind Chill Warning

A wind chill warning is issued when wind chill temperatures are life threatening. Wind chill index below -25°F for at least three hours.

The National Weather Service’s Windchill Chart is an easy reference to calculate the “feels like” temperature.



NWS Windchill Chart



		Temperature (°F)																	
		40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98	

Frostbite Times 30 minutes 10 minutes 5 minutes

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

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

Effective 11/01/01

Fun Facts About Cold Weather

The Absolute Cold

It may sound like science fiction but there is a scientific measurement for the coldest it can ever be. 0 degrees on the kelvin scale (-459.67 F) is the coldest matter can ever get. At that point it's so cold even your atoms fall apart.

The Coldest On Earth

Last year, on December 10th the coldest temperature ever recorded on Earth took place. On a high ridge in Antarctica the temperature reached -133.6 F.

Warming Up the Car

It's a common practice to let your car run for several minutes before actually driving it. While this might help you feel warmer when you get inside, it doesn't benefit your car. Almost all engines are just fine being driven right from ignition, no matter what the temperature.

Getting Sick

Another common misconception is that being out in the cold will make you sick. This is a popular wives tale but is untrue. Getting a "cold" is a virus or bacteria that makes you sick, not the weather.

Big Snowflakes

The biggest snowflakes ever found fell in 1887 in Montana. The snowflakes measured 14.9606 inches across and 7.87402 inches thick! Watch out for these falling crystals.

Use Your Refrigerator

This one may just be a tall tale but supposedly the Inuits still use refrigerators so they can keep their food from freezing.

Pennsylvania Fun Facts About Cold Weather

The coldest recorded air temperature in Pennsylvania was in Smethport, McKean County. It was - 42° on January 5, 1904.

The coldest temperatures in select Pennsylvania cities are as follows:

- Scranton/Wilkes-Barre - 21
- Philadelphia - 11
- Williamsport - 20
- Harrisburg - 22
- Pittsburgh - 22
- Erie - 18



"What good is the warmth of summer, without the cold of winter to give it sweetness."

- John Steinbeck

Additional Resources

Pennsylvania Emergency Management Agency: www.pema.pa.gov

ReadyPA: www.readypa.org

Federal Emergency Management Agency: www.ready.gov

National Weather Service: www.weather.gov

The Humane Society of the United States: www.humanesociety.org

Center for Disease Control and Prevention: www.cdc.gov

PA State Animal Response Team: www.pasart.us



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