

PUBLIC HEALTH RESOURCES AND INFORMATION FACT SHEET

PREPARING FOR WINTER WEATHER/EXTREME COLD

The Ohio Department of Health (ODH) is encouraging awareness of winter weather and extreme cold as fall transitions into the winter holiday season.

HEALTH EFFECTS OF WINTER WEATHER/EXTREME COLD

Winter Weather/Extreme Cold increase the risk for a diverse range of health risks:

- The most common cold-related problems are hypothermia and frostbite.
- Cold weather acts as a vasoconstrictor, which means it narrows blood vessels. This raises the risk of heart attack.
- Icy sidewalks can make falling easier, putting you at risk for fractures.
- During winter months, people spend more time inside and in close contact with each other, such as in stores, malls, and restaurants. This means that colds, the flu, COVID-19, and other viruses are more easily spread.
- Dry winter air can suck the moisture from your skin.
- Older adults are at risk for hypothermia, in which the body's internal temperature falls too low.

WHAT IS THE WINTER WEATHER/EXTREME COLD?

The definition of extreme cold can vary. After all, what is cold to one person may not feel that cold to another. People who live in regions with relatively few days of freezing temperatures are not accustomed to them when they go to colder areas.

Whenever temperatures drop below what feels lower than normal to you—and as wind speed increases—heat can leave your body more rapidly and leave you at risk of health problems.

Extremely cold temperatures are often accompanied by winter storms, so in addition to the risks of the cold, you may also have to cope with power failures and icy roads. Staying indoors as much as possible can reduce the risks of car crashes and falls on the ice, but 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 (CO) poisoning.

What is Wind Chill Temperature?

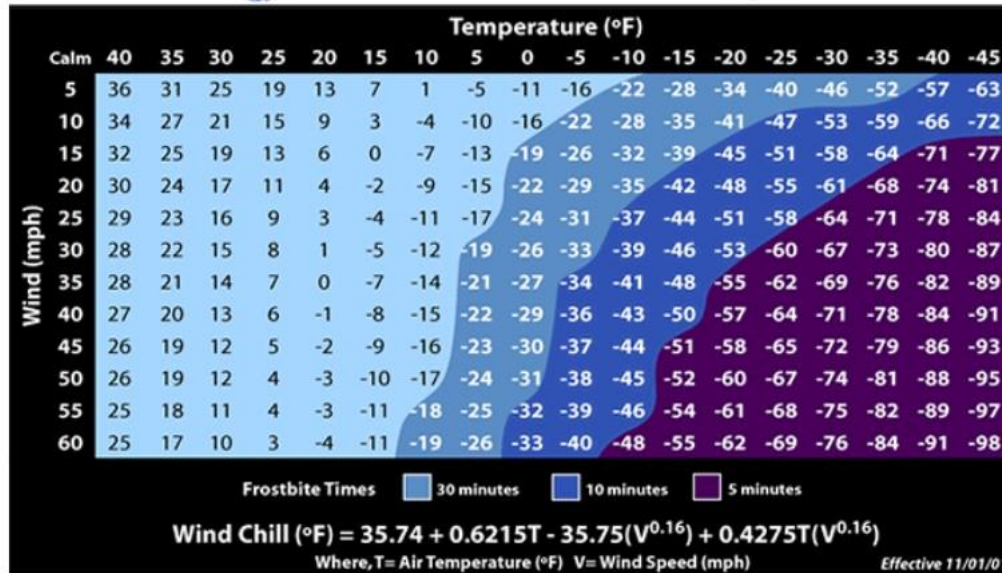
The wind chill temperature is how cold people and animals feel when outside. Wind chill is based on the rate of heat loss from exposed skin caused by wind and cold. As the wind increases, it draws heat from the body, driving down skin temperature and eventually the internal body temperature. Therefore, the wind makes it FEEL much colder. If the temperature is 0° F and the wind is blowing at 15 mph, the wind chill is -19° F. At this wind chill temperature, exposed skin can freeze in 30 minutes.

What is the National Weather Service (NWS) Wind Chill Temperature Index (WCT)?

The NWS WCT Index uses advances in science, technology, and computer modeling to provide an accurate, understandable, and useful formula for calculating the dangers from winter winds and freezing temperatures.



Wind Chill Chart



The wind chill temperature index:

- Calculates wind speed at an average height of 5 feet, the typical height of an adult human face, based on readings from the national standard height of 33 feet, which is the typical height of an anemometer.
- Is based on a human face model.
- Incorporates heat transfer theory based on heat loss from the body to its surroundings, during cold and breezy/windy days.
- Lowers the calm wind threshold to 3 mph.
- Uses a consistent standard for skin tissue resistance.
- Assumes no impact from the sun, i.e., clear night sky.
- WCT is defined only for temperatures at or below 50°F and wind speeds above 3 mph.

FREQUENTLY ASKED QUESTIONS

What is Frostbite?

You have frostbite when your body tissue freezes. The most susceptible parts of the body are fingers, toes, ear lobes, or the tip of the nose. Symptoms include a loss of feeling in the extremity and a white or pale appearance. Get medical attention immediately for frostbite. The area should be slowly rewarmed using warm, not hot water.

What is Hypothermia?

- Hypothermia occurs when body temperature falls below 95° F. Determine your temperature with a thermometer.
- Warning signs include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and exhaustion.
- Get medical attention immediately. If you can't get help quickly, begin warming the body slowly. Warm the body core first, not the extremities. Warming extremities first drives the cold blood to the heart and can cause the body temperature to drop further--which may lead to heart failure.
- If you are helping someone else with hypothermia, get the person into dry clothing and wrap in a warm blanket. Be sure to cover their head and neck.
- Do not give the person alcohol, drugs, coffee, or any hot beverage or food. Warm broth and food are better.
- About 20 percent of cold related deaths occur in the home. Young children under the age of two and the elderly (those more than 65 years old), are most susceptible to hypothermia.
- Hypothermia can set in over a period of time. Keep the thermostat above 69° F, wear warm clothing, eat food

for warmth, and drink plenty of water or fluids other than alcohol and caffeine to keep hydrated.

- Avoid alcohol because it will lower your body temperature.

TIPS TO STAY SAFE

- Weatherproof your home to [protect against the cold](#).
 - Make a household plan and build an emergency kit.
 - Install a smoke detector and carbon monoxide detector in your home. Make sure the batteries are working!
 - Have your furnace system and fireplace inspected by a qualified technician.
 - Insulate walls and attic.
 - Caulk and weather-strip doors and windows.
 - When using alternate heat and power sources (like generators), read the manufacturer's directions first.
 - Sprinkle cat litter or sand on icy patches.
- If power lines are down, call your local utility and emergency services.
 - If power lines fall on your car, warn people not to touch the car or power lines.
- Make sure your car is ready for winter travel.
 - Equip your car with an emergency kit that includes first-aid kit, blankets, flashlight, extra batteries, water, snacks, cell phone charger, and emergency flares.
 - Keep the gas tank full to avoid ice in the tank and fuel lines.
 - Replace worn tires and check tire air pressure.
 - Check the antifreeze level and have the radiator system serviced.
 - Give snowplow crews plenty of room to work. They travel slower than most other vehicles on the roadway as they clear snow and treat roadways.
 - Allow extra travel time to reach your destination. This helps avoid driving too fast for the conditions.
- Prepare yourself for exposure to winter weather.
 - Check the weather forecast before engaging in outdoor activities.
 - Dress in layers of light and warm clothing. Keep your feet, hands, and head well covered.
 - Dress warmly and limit exposure to the cold to prevent [frostbite](#).
 - Avoid overexertion when engaging in outdoor tasks, such as shoveling snow. Take breaks when you feel tired or strained.
 - Know the signs of frostbite and hypothermia.
 - Avoid getting wet to prevent [hypothermia](#).
 - Keep enough medication on hand to last several days.
 - Check on your neighbors that may need assistance.
- Check out more tips on winter weather [indoor safety](#).
 - Never leave lit candles or other flames unattended.
 - If you have pets, bring them indoors. If you cannot bring them inside, provide adequate shelter to keep them warm and make sure they have access to water.
- More information on the safety tips mentioned above can be found on the CDC website.
 - <https://www.cdc.gov/disasters/winter/index.html>

DID YOU KNOW?

Snow Emergency Classifications

Pursuant to Ohio Attorney General Opinion 86-023, the sheriff of a county may declare a snow emergency and temporarily close county and township roads within his jurisdiction for the preservation of the public peace. Attorney General Opinion 97-015 allows the sheriff to close state and municipal roads.

LEVEL 1: Roadways are hazardous with blowing and drifting snow. Roads may also be icy. Motorists are urged to drive very cautiously.

LEVEL 2: Roadways are hazardous with blowing and drifting snow. Roads may also be very icy. Only those who feel it is necessary to drive should be out on the roads. Contact your employer to see if you should report to work. Motorists should use extreme caution.

LEVEL 3: All roadways are closed to non-emergency personnel. No one should be driving during these conditions unless it is absolutely necessary to travel or a personal emergency exists. All employees should contact their employer to see if they should report to work. Those traveling on the roads may subject themselves to arrest.

To view the state's weather-related road closures and restrictions, visit the Ohio Department of Transportation's traffic website at www.ohgo.com.

BELOW ARE A LIST OF ADDITIONAL HELPFUL INFORMATION AND GUIDELINES

- Portable Generator Safety Information at: <https://www.weathersafety.ohio.gov/PortableGeneratorInfo.aspx>
- American Red Cross Generator Safety at: <https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/power-outage/safe-generator-use.html>
- Midwestern Regional Climate Center - Living with Weather (select ice storms or winter storms): https://mrcc.purdue.edu/living_wx/winterstorms
- Ohio Committee for Severe Weather Awareness - Winter Safety Information (and more): <https://www.weathersafety.ohio.gov/WinterSafetyInformation.aspx>
- National Weather Service Cold Weather Safety at: <https://www.weather.gov/safety/cold>
- National Weather Service Winter Safety at: <https://www.weather.gov/safety/winter>
- ODH Carbon Monoxide Poisoning at: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/healthy-homes/carbon-monoxide-poisoning/carbon-monoxide-poisoning>
- ODH Private Water Systems in a Power Outage, information at: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/private-water-systems-program/media/power-outages>
- ODH Food Safety in an Emergency at: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/food-safety-program/food-safety-in-emergency>
- Food Safety & Power Outages: When to Save and When to Throw Out – <https://odh.ohio.gov/know-our-programs/food-safety-program/food-safety-fact-sheets>
- ODH Emergency Flood Cleanup and Mold at: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/healthy-homes/emergency-flood-cleanup-and-mold/emergency-flood-cleanup-and-mold>
- Center for Disease Control and Prevention - Winter Weather at: <https://www.cdc.gov/disasters/winter/index.html>

CONTACT US

Email the ODH Bureau of Environmental Health and Radiation Protection (BEHRP) for environmental issues at: beh@odh.ohio.gov

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