

Winter Weather

Winter 2016/2017

WINTER WEATHER WORDS...WHAT TO LISTEN FOR

Hazardous Weather Outlook – will be issued to alert the public of the potential for hazardous winter weather. This outlook will be issued daily and will provide weather information through the next 7 days.

Winter Storm Watch – alerts the public to the possibility of a blizzard, heavy snow, heavy freezing rain, or heavy sleet. Winter Storm Watches are usually issued 12 to 48 hours before the beginning of a winter storm.

Winter Storm Warning – issued when hazardous winter weather in the form of heavy snow, heavy freezing rain, or heavy sleet is imminent or occurring. Winter Storm Warnings are usually issued 12 to 24 hours before the event is expected to begin.

Ice Storm Warning – An Ice Storm Warning is issued when significant and damaging ice accumulations (usually one quarter inch or more) are expected.

Advisories – issued for winter weather events that are hazardous, but not severe enough to warrant a warning. Advisories may be issued for: snow and/or blowing snow, lake effect snow, freezing rain, freezing drizzle, wind chill, wind, and dense fog.

WIND CHILL CHART

Temperature (°F)

	Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
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 OCCURS IN:										30	10	5 minutes							
										minutes	minutes								

Frostbite

Frostbite is damage to body tissue caused by extreme cold. Frostbite causes a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes, or the tip of the nose. If symptoms are detected, get medical help immediately! If you must wait for help, slowly re-warm the affected areas. However, if the person is also showing signs of hypothermia, warm the body core before the extremities.

Hypothermia: Low Body Temperature

Warning Signs - Uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion.

Detection - Hypothermia occurs when the body temperature drops below 95°F. If a person's temperature is below 95°F, seek medical care immediately! If medical care is not available, begin warming the person slowly. Warm the body core before the extremities (arms and legs)! Warming the arms and legs first drives cold blood toward the heart and can lead to heart failure. If needed, use your own body heat to help. Get the person into dry clothing and wrap them in a warm blanket, covering the head and neck. **Do not give the person alcohol, drugs, coffee, or any hot beverage or food; warm broth is better.**

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WINTER BRINGS MORE THAN JUST SNOW...



Snowstorm brought over a foot of snow to central and northern IN with wind chills to 40 below zero, making travel dangerous on Jan. 5-6, 2014

Photo courtesy of NWS Indianapolis



Winds gusting up to 66 mph created estimated 25 foot waves along southern Lake Michigan Dec. 20-21, 2012

Photo courtesy of NWS N. Indiana



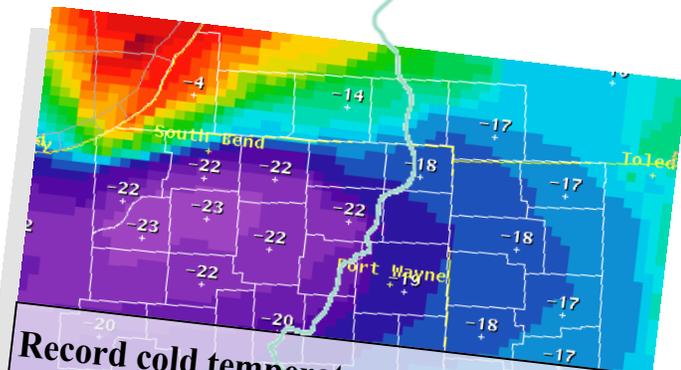
EF-1 tornado radar circulation near Rushville, Dec. 23, 2015.

Photo courtesy of NWS Indianapolis



Ice and snow storm causes widespread power outages in central Indiana on Feb. 1-2, 2011.

Photo courtesy Mike Curran



Record cold temperatures blast Northern Indiana on Jan. 16, 2009.

Photo courtesy NWS N. Indiana



“Chicago Blizzard” drops as much as 2 feet of snow in the southern Great Lakes and brings several inches of sleet to most of Indiana Feb. 1-2, 2011

Photo courtesy NWS N. Indiana

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Be Red Cross Ready

Get A Kit. Make A Plan. Be Informed.

Emergency Preparedness Kit for Your Home

- ✓ Food and water for 3 days (1 gallon of water per person per day)
- ✓ Flashlights and extra batteries
- ✓ Battery-powered or hand-crank radio (NOAA Weather Radio, if possible)
- ✓ First aid kit
- ✓ Medications (7-day supply) and medical items
- ✓ Multi-purpose tool
- ✓ Sanitation and personal hygiene items
- ✓ Copies of personal documents
- ✓ Cell phone with chargers
- ✓ Family and emergency contact information
- ✓ Extra cash
- ✓ Emergency blanket
- ✓ Baby and Pet supplies

Stay Safe and Warm at Home

- * Have extra blankets on hand.
- * Use only portable heating equipment approved for indoor use and monitor it closely, especially around children. Turn it off and unplug if you leave or go to bed.
- * Keep combustible materials (clothing, furniture, drapes, etc.) at least three feet from the heat source. Never drape clothes over a space heater to dry.
- * Do not use a stove or oven to heat rooms.
- * Don't overload electrical circuits
- * The American Red Cross offers free home smoke alarm installations
- * The Home Fire Campaign aims to reduce home fire deaths and injuries by 25%. For more information, visit <http://www.redcross.org/get-help/prepare-for-emergencies/types-of-emergencies/winter-storm#Respond-During>

NOAA All Hazards Radio

Keep ahead of the storm by listening to NOAA Weather Radio for the latest winter storm watches, warnings, and advisories. In addition to routine broadcasts, the Specific Area Message Encoding (SAME) feature of NOAA Weather Radio activates the Emergency Alert System (EAS). EAS is used to provide notification of emergencies to the public. Blizzard and most other winter warnings will be distributed through the



Did You Know?

Special needs NOAA Weather Radios designed to meet the needs of the hearing impaired are available.

For more information, visit the NOAA Weather Radio Web Site at:

<http://www.nws.noaa.gov/nwr>

For Special Needs NOAA Weather Radio information, visit:

http://www.nws.noaa.gov/nwr/info/special_needs.html



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Winter Weather Preparedness For Schools

Gathering Information

- *Know where to get weather information:* Utilize NOAA Weather Radio, local Media sources, Internet, and paging services.
- *Know how and where to get road information:* State Highway Departments or Law Enforcement are often your best sources for road conditions. City and county transportation or school officials, and drivers or security teams are also excellent sources.

Alerting Students and Staff

- *Alert students and staff to take action:* Use mobile communications for bus drivers, and a PA system for school staff and students.

Activating a Plan

- *Determine when to activate a plan:* Gather information about the type of winter storm, expected impact, and time of impact on the school district. The primary decision will be whether to cancel, delay, or hold classes as usual. In Watch situations, immediate action will usually not be required. When a Warning or Advisory is issued, assess the weather situation by monitoring NWS forecasts, current weather conditions, and road conditions.

Canceling or Delaying Classes

- *Determine when to cancel or delay classes:* How much time do you have before the storm impacts the area? Not only must students be transported to school safely, but also back home via bus, car, or on foot. What kind of an impact will the storm make? Will roads be impassable, or will road conditions just have a minimal effect on transportation of students, causing only small delays?



School Bus Driver Actions

- *For heavy snow or blowing and drifting snow:* Be familiar with alternate routes, stay up to date on the latest forecast, and maintain communication with school officials.
- *For ice storms:* Remain alert for downed trees, utility lines, and other road hazards. Be familiar with alternate routes. Stay up to date on the forecast and maintain communication with school officials.
- *Extreme cold:* Learn to recognize and treat symptoms of hypothermia and frostbite.

Safety Instruction

- *Educate school staff and students:* Conduct drills and hold safety programs annually.
 - * Participate in Winter Weather Preparedness Week campaigns.
 - * Contact your local Emergency Manager or National Weather Service Office for a speaker to discuss winter weather safety.



WINTER INJURIES

RELATED TO ICE AND SNOW:

- * About 70% occur in automobiles
- * About 25% are people caught out in the storm
- * Majority are males over 40 years old

RELATED TO EXPOSURE TO COLD:

- * 50% are people over 60 years old
- * Over 75% are males
- * About 20% occur inside the home



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Tips for the Road

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Winter-Wise Driving Tips

- Pay attention to weather reports on the radio. Allow time in your schedule for bad weather and/or traffic delays.
- Become familiar with your vehicle's winter weather operating characteristics. Front-wheel drive vehicles generally handle better than rear-wheel vehicles on slippery roads because the weight of the engine is on the drive wheels, improving traction.
- Keep your windows clear of snow and ice. Remember to clean head, tail and brake lights.
- If you need to turn on your wipers, you need to turn on your headlights.
- Bridges become slick and icy before roads. Bridge temperatures can be five to six degrees colder than roadways, so drive with extreme caution during freezing temperatures.
- Keep your gas tank at least half full. Fill the tank before you park for lengthy periods. This will help prevent fuel line freeze-up.
- Leave ample stopping time between you and the vehicle in front of you. Braking distance can be up to nine times greater on snowy, icy surfaces than on dry roads.
- If your vehicle is equipped with an Anti-lock Braking System (ABS), be sure to: STOMP firmly – depress the brake pedal. STAY on the brakes – do not pump the brakes. STEER where you want the vehicle to go.
- Gently pump non-ABS brakes to stop the vehicle. Take any corrective action gradually. You need to maintain full control of the vehicle. Refer to the vehicle operations manual for proper methods to correct skids.



- During winter travel, it is best to supply those at your destination with the following information: your cell phone number, departure time, travel route and anticipated arrival time.
- Lock your vehicle, even in bad weather. If locks freeze, heat the key. Do not pour hot water on the locks – they will refreeze.
- Stay with your vehicle while warming it up. An unattended, running car invites theft.

Survival Tips if Stranded

*** The best advice is to remain with the vehicle. If nothing else, you are guaranteed shelter ***

Other helpful tips include:

- Tie a bright colored cloth (handkerchief, towel, etc.) to the vehicle's antenna, driver door handle or outside mirror.
- Keep the exhaust pipe clear of snow. Poisonous gases can filter into the vehicle if the pipe is clogged.
- Run the engine and heater no more than 10 minutes every hour, leaving a downwind window slightly open for ventilation while the engine is running.
- Light a flare or turn on a flashlight to let others know you're stranded in the vehicle.
- Use floor mats, seat covers and blankets for added warmth. If you must leave your vehicle during a severe snow storm or blizzard, secure a line of rope or cord to yourself and the vehicle to avoid becoming lost or disoriented.
- Keep bottled water in your emergency kit of vehicle. Never eat snow. It will chill you and lower your body temperature.
- Remain calm. Chances for rescue are better if you remain calm and in your vehicle.

For more information on winter safety tips for the vehicle, visit the INDOT website at www.in.gov/indot/2439.htm, or the IDHS website at: www.getprepared.in.gov

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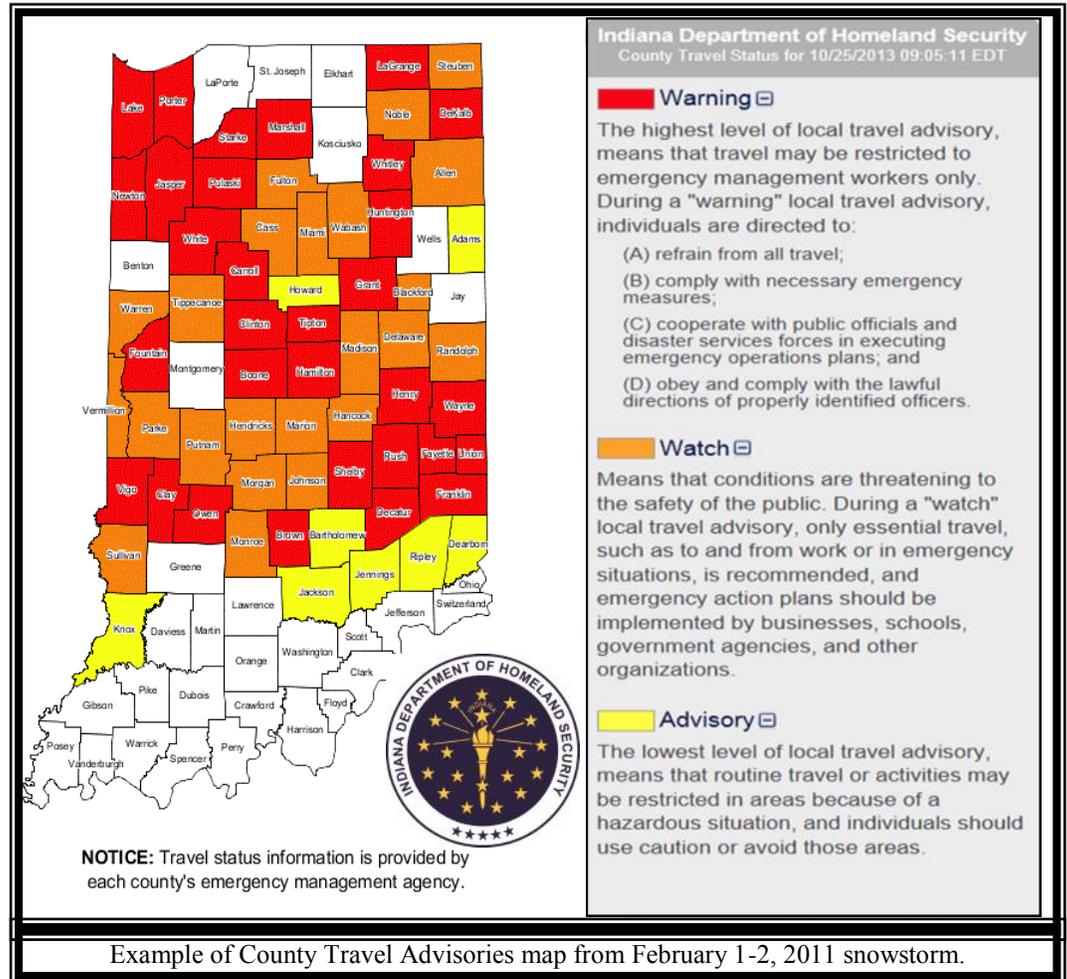
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Indiana County Travel Advisories Map

Indiana's travel advisory statutes use a three tiered system statewide. All counties in Indiana will be following the same guidelines for travel advisories, under state law.

The first level is a **travel advisory**, which tells drivers whether conditions may make travel difficult. The second level will be a **travel watch**, which recommends only essential travel on the roadways. And the highest level is a **travel warning**, which means travel may be forbidden.

This law removed language for warning levels which varied in meaning from county to county and thus makes for more unified terminology.



County Travel Advisories Map website

<http://www.in.gov/dhs/traveladvisory/>

INDOT TrafficWise:

<http://indot.carsprogram.org/> <http://pws.trafficwise.org/> 800-261-ROADS

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How to Winterize Your Vehicle

- * Check tire pressure and tread depth. Consult your owner's manual for advice. Look for uneven wearing which can also be dangerous. Be sure to check the spare tire and make sure the jack is operating properly.
- * Check battery, exhaust system, heater and defroster. Make sure the battery is not past its lifespan, and that the terminals are tight and free of corrosion. Hoses and belts should be inspected for cracks. Now is the time to discover if your heater is broken - not when the temperature drops.
- * Check antifreeze. Make sure that a 50 percent antifreeze, 50 percent water mixture is at the proper radiator level. If the coolant is two years old, get it flushed and refilled.
- * Change oil every 3,000-5,000 miles. Consider using a lighter, "winter weight" oil. Refer to your owner's manual for guidance.
- * Check windshield wipers and blades: Replace the blades twice a year and make sure extra WINTER wiper fluid is on hand.
- * Ensure the four-wheel drive system and brakes are functioning properly.



Try to keep at least a half tank of gas in your car at all times during the winter months. Even with the best maintenance & cautious driving, snow, ice & freezing temperatures can sometimes still get the best of your vehicle. Hazardous winter driving conditions induce crashes, which are the leading cause of death during winter storms. Being prepared to handle potential slide-offs, crashes, & car trouble in winter is a simple but crucial step to take in preparing for the next few months.

Prepare an Emergency Kit for Your Vehicle

- ❑ At least two blankets or a sleeping bag
- ❑ Flashlight or battery-powered lantern and extra batteries
- ❑ Booster (jumper) cables
- ❑ Emergency flares
- ❑ Extra clothing, particularly boots, hats and mittens
- ❑ A steel shovel and rope to use as a lifeline
- ❑ Bottled water or juice and nonperishable high-energy foods (granola bars, raisins, nuts, peanut butter or cheese crackers)
- ❑ Thermos or container that won't allow liquids to freeze
- ❑ First-aid kit and necessary medications
- ❑ Sand or non-clumping cat litter for tire traction if your vehicle gets stuck in snow or ice
- ❑ A cell phone charger which can be adapted to vehicle use
- ❑ Ice scraper and snow brush
- ❑ Tire repair kit and pump
- ❑ Candle, matches, heat sticks/packs, lighters, hand-warmers, etc. (Be sure to crack the window if you using a heat source inside the vehicle)



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The National Fire Protection Association said heating equipment was the 2nd leading cause of home fire deaths in the US in 2010.

Among fatal home heating fires, the leading factor contributing to the ignition of the fires was heating equipment stationed too close to flammable materials.

Tips for Safe Alternative Heating

- Keep all flammable materials at least three feet away from heating equipment.
- Regular cleaning and annual inspections by a professional chimney sweep will help keep a fireplace free from obstructions and creosote which was the leading factor contributing to home heating fires between 2006 and 2010 according to the National Fire Protection Association (NFPA).
- Use only paper or kindling wood, not a flammable liquid, to start a fire.
- Use only dry, seasoned wood in a fireplace or wood stove to avoid the buildup of creosote. Do not use artificial logs in wood stoves.
- If using a gas fireplace, ensure the fireplace vents properly and that there is a functioning carbon monoxide detector in the room.
- Keep fire extinguishers on hand and know how to use them.

Space Heater Safety

- When buying a new space heater, make sure it carries the mark of an independent testing laboratory and is legal for use in your community.
- Use the proper grade of fuel for your liquid-fueled space heater and never use gasoline in any heater not approved for gasoline use.
- Refuel space heaters only in a well ventilated area and when the equipment is cool.
- Plug power cords only into outlets with sufficient capacity and never into an extension cord.
- Turn off space heaters whenever the room they are in is unoccupied.
- Turn off space heaters when you go to bed each night to avoid knocking them over in the dark or kicking covers onto them.

Tips for Reducing Heating Costs

- Make sure your home is properly insulated.
- Caulk and weather strip doors and windows to keep out cold air.
- Install a programmable thermostat and set it to lower the temperature at night and whenever the house is unoccupied.
- Keep doors and windows closed as much as possible, including overhead doors on attached garages.
- Insulate the pipes around the water heater with inexpensive, easy-to-install pipe insulation.
- Always unplug holiday lights before going to bed or leaving the house.

For more information about winter heating safety, visit www.getprepared.in.gov. For additional emergency efficiency and money saving tips contact your local utility company or visit: www.energysavers.gov.

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What to Do if You're Caught in a Winter Storm

At Home or in a Building

Stay inside. When using alternative heat from a fireplace, wood stove, space heater, etc., use fire safeguards and ventilate properly.

If you have no heat:

- * Close off unneeded rooms.
- * Stuff towels or rags in cracks under doors.
- * Cover windows at night.

Eat and drink. Food provides the body with energy for producing its own heat. Keep the body replenished with fluids to prevent dehydration.

Wear layers of loose-fitting, light-weight, warm clothing. Remove layers to avoid overheating, perspiration, and subsequent chill.

In a Car or Truck

Stay in your vehicle. Disorientation occurs quickly in wind-driven snow and cold.

Run the motor about ten minutes each hour for heat:

- * To avoid carbon monoxide poisoning, open the window a little for fresh air.
- * Make sure the exhaust pipe is not blocked.

Be visible to rescuers:

- * Turn on your dome light at night when running the engine.
- * Tie a colored cloth (preferably red) to your antenna or door.
- * After snow stops falling, raise the hood to indicate you need help.

Exercise from time to time by vigorously moving arms, legs, fingers, and toes to keep blood circulating and to keep warm.

Outside

Find shelter:

- * Try to stay dry.
- * Cover all exposed parts of the body.

If no shelter:

- * Prepare a lean-to, windbreak, or snow cave for protection from the wind.
- * Build a fire for heat and to attract attention.
- * Place rocks around the fire to absorb and reflect heat.

December 26-28, 2012

An intense snow storm dumped four inches to over a foot of snow in central and southern Indiana on Dec. 26th. Powerful winds gusted to greater than 40 mph as the snowfall peaked. Two days later another system dropped an additional 3 to 8 inches over the same region.

January 7-8, 2011

A record breaking lake effect snow event dropped 3 feet of snow on South Bend, IN with 8 inches in one hour and 19 inches in 4 hours. A widespread area of 1-2 feet of snow occurred in the surrounding counties.

February 1-2, 2011

The "Chicago Blizzard" brought over a foot of snow to many locations in Northern Indiana, 1.5 inches of freezing rain and sleet to central Indiana, and winds greater than 50 mph across the entire state. Drivers were stranded on Lakeshore Dr. in Chicago where over 20 inches of snow fell.

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Find Us on Social Media

That's right! Your local National Weather Service office can be found on some of your favorite social media sites! Follow us on Twitter and Like us on Facebook! Our pages are full of fun weather facts, daily weather story forecasts, occasional trivia and games, even behind the scenes looks at our daily operations! You can also join us on YouTube, for awesome and informative educational videos, as well as view enlightening multi-media weather briefings on approaching winter storms!



SEND US YOUR REPORTS!

We'd love to hear what's really going on where you are! Send us a tweet @NWSIndianapolis or comment on our Facebook page to let us know what type of precipitation is falling, how much snow you've measured, if there's any ice accumulation, or if you measure any strong wind gusts. Better yet, you can send us pictures or video to really show us what you're seeing! But, don't forget to include your location, and the time during which the report took place.



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