# Winter Weather Preparedness Week

## Indiana Winter Weather Preparedness Week—November 6-12, 2022

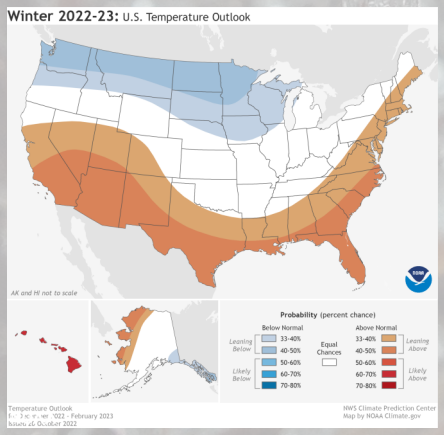
Governor Eric Holcomb has proclaimed November 6-12, 2022 as Winter Weather Preparedness Week in Indiana.

As cold and snow begin in earnest across Indiana, the National Weather Service (NWS), Indiana Department of Homeland Security (IDHS), Indiana Department of Transportation (INDOT), Indiana State Police (ISP), Indiana Broadcast Association (IBA), American Red Cross, and the Indiana Department of Education (IDOE) are encouraging Hoosiers to prepare now for potential winter impacts. Preparedness Week is your reminder that you need to be ready for the hazards winter brings such as ice storms, tornado outbreaks, heavy rain, high winds, and snow squalls. Let's do our part to lead us toward a Weather Ready Nation.

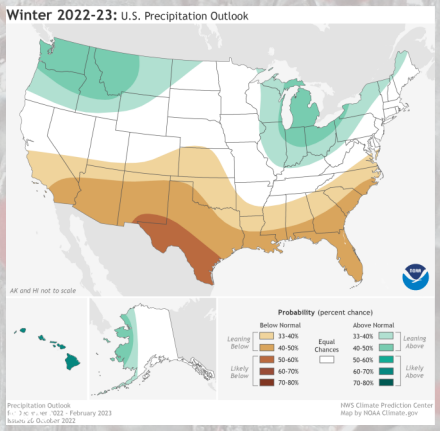
Officials from each organization will be available for interviews to help you better understand the outlook for this winter, what preparation plans are being made, and how citizens can be ready.

## Winter 2022-2023 Outlook

The official outlook from NOAA's Climate Prediction Center (CPC) is calling for odds favoring equal chances for near, above, or below normal temperatures and above normal precipitation. The CPC derives their forecast by looking at current states of the Earth's atmosphere and oceans as well as statistical analysis tools and trends in the historical data. The outlook maps provide a probability forecast based on the analysis.




This year, conditions indicate a signal for La Niña for the third consecutive winter. In addition to La Niña, long-term trends become a key predictor for the outlook, while other climate patterns will likely play a larger role in determining weather at times during the winter. Typically, the Ohio Valley




experiences wetter than normal conditions during the winter when the ENSO climate pattern is in the La Niña phase.

Average winter high temperatures range from the lower 30s in northern Indiana, up to the mid 40s to the south. Lows range from upper teens to the mid to upper 20s from north to south across the state. Annual snowfall averages from 10 to 15 inches over far southwest Indiana to over 70 inches in some areas near Lake Michigan.

Additional factors such as the North Atlantic Oscillation, the Arctic Oscillation, and the East Pacific Oscillation are likely to have an impact on the weather this winter but can only be forecast a few weeks in advance with any reasonable skill. Always check for the latest updates, which are issued near the beginning and middle of each month, CPC outlooks are available at www.cpc.ncep.noaa.gov.

National Weather Service

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Inside this issue:


| | |
|---|---|
| Snow Squall; Safety Graphics | 2 |
| Winter Weather Terms | 3 |
| Cold Related Illnesses | 3 |
| Preparedness at Home | 4-5 |
| Preparedness on the Road | 6-8 |
| Wintertime Flooding | 9 |
| Preparedness at Schools | 10 |
| Tornadoes in Winter | 11 |
| Send Your Weather Reports | 12 |
| Contact Us | 13 |

## Snow Squall Warnings

**What is a Snow Squall?**

An intense burst of snow and winds that can last 1 to 3 hours which can cause whiteout visibility and rapidly deteriorating road conditions.

**When will Snow Squall Warnings be issued?**

They will be issued when a snow squall is occurring or will happen in the near future. These warnings will cover a small targeted area and will typically be in effect for 30-60 minutes. Snow squall warnings will be similar to how tornado and severe thunderstorm warnings are issued.

**How can one stay safe during a snow squall?**

Have a way to get forecasts and warnings. Consider an alternate route or delay travel plans. Watch out for rapidly changing road conditions, reduce driving speed and use low beam headlights if caught in a snow squall.

**Do snow squalls occur in Indiana?**

Yes! On January 31, 2013 in Plainfield, Indiana, a snow squall caused a 35 vehicle pile up that resulted in one death along I-70.

## Library of Weather Safety Graphics

Did you know that there is an expansive online library of weather safety and preparedness graphics that you can download, use in publications and share on social media at no cost? These graphics help educate people on many diverse weather topics, including extreme cold, the difference between a watch and warning, where to take shelter, and how to prepare for hazardous weather, including winter storms. The online repositories contain eye popping informational graphics for all diverse weather types, seasons and hazards. Help us create a weather ready nation by sharing the available graphics within your community when hazardous weather threatens!

www.weather.gov/safety/

www.weather.gov/wrn/infographics_winter

www.ready.gov/toolkits

## Winter Weather Terms… What to listen for

**Winter Storm Watch**—alerts the public to the possibility of a blizzard, heavy snow, an ice storm, 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, 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**— issued when significant and damaging ice accumulations (usually one quarter inch or more) are expected.

**Blizzard Warning**— for winds/ gusts in excess of 35 mph reducing visibility less than 1/4 mile from snow for 3+ hours.

**Snow Squall Warning**— issued for short, intense periods of moderate to heavy snowfall that produces severely restricted visibilities of 1/4 mile or less. Slick roads are also possible, due to sub-freezing road temperatures or quickly falling temperatures that will likely to produce flash freeze conditions.

**Winter Weather Advisory**— issued for weather events that are hazardous, but not severe enough to warrant a warning. An advisory may be issued for snow, blowing snow, freezing rain, freezing drizzle, wind chill or wind, dense fog or freezing fog.

## Cold Related Illnesses

**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.

### Wind Chill Chart

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

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

**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.**

# Winter Preparedness at Home

## A 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
- Extra Cash
- Multi-purpose tool
- Sanitation and personal hygiene items
- Copies of personal documents
- Cell phone with chargers
- Family and emergency contact information
- Emergency blanket
- Baby and Pet supplies

## 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

## 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 notifications of emergencies to the public. Blizzard and most other winter warnings will be distributed through the EAS.

Did you know??
Special needs NOAA Weather Radios designed to meet the needs of the hearing impaired are available. For more information, visit: www.nws.noaa.gov/nwr/info/special_needs.html

For more information, visit: www.nws.noaa.gov/nwr/

## Tips for Safe Alternative Heating

- Keep all flammable materials at least 3 feet away from heating equipment. Never drape clothes over a space heater to dry
- 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 2009 and 2013 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

## Stay Safe and Warm At Home

- 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.
- When buying a new space heater, make sure it carries the mark of an independent testing laboratory and is legal for use in our 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
- Don't overload electrical circuits
- Do not use a stove or oven to heat rooms.
- 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
- 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 www.redcross.org/local/indiana/about-us/home-fire-campaign.html
- Looking to sign up for a free smoke alarm? Sign up here: indianaregionreporting.wufoo.com/forms/r648xke0wst1kx/

## Tips for Reducing Heating Costs

- Make sure your home is properly insulated and 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

**The National Fire Protection Association said heating equipment was the 2nd leading cause of home fire deaths in the US from 2009 to 2013**

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

**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.energy.gov/energysaver**

# Winter Preparedness on the Road

For 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

## Winter-Wise Driving Tips: Safe Spacing for Plow Drivers & Others

- 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 5 to 6 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 of time. This will help prevent fuel line freeze-ups
- Leave ample stopping time between you and the vehicle in front of you. Breaking distance can be up to nine times greater on snowy, icy surfaces than on dry roads
- If your vehicle is equipped with anti-lock breaking system (ABS), be sure to: STOMP firmly—depress the brake pedal, STAY on the breaks—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**
- Tie a bright colored cloth (handkerchief, town, etc.) to the vehicle's antenna, driver door handle or outside mirror
- After snow stops falling, raise the hoot to indicate you need help
- Keep the exhaust pipe clear of snow. Poisonous gases can filter into the vehicle if the pipe is clogged or blocked
- Run the engine and heater no more than 10 minutes every hour, leaving a downwind window slightly open for ventilation and to avoid carbon monoxide poisoning 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 lines of rope or cord to yourself and the vehicle to avoid becoming lost or disoriented
- Keep bottled water in your vehicle's emergency kit. 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
- Exercise from time to time by vigorously moving arms, legs, fingers, and toes to keep blood circulating and to keep warm

## Are You Prepared to be Stranded in Your Vehicle?

Winter weather brings a range of impacts, especially when it comes to commuting or traveling. From longer travel times to stressful driving situations, to dangerous or even impassable roads, if you travel during the winter season you need to be prepared before you set out.

Consider avoiding, postponing, or changing your travel plans when significant winter weather is expected or occurring. Weather forecasts should be monitored on a regular basis for the most recent updates to ensure that you have the latest information to make an informed decision. Changing travel plans is often inconvenient but you should strongly consider what you may encounter if you do travel. Did you know that it may take snow plows two or more hours to complete their route, especially in more rural areas? Backed up traffic only increases this time. In many snow storms across Indiana, snow often accumulates at 1 to 2 inches per hour, and the rate can be even higher in the strongest storms or in lake effect snow bands. This means that there may be 2 to 4 inches of new snow on the road between plow passes. Is this something that you need to drive in? If so, are you prepared to potentially be stranded for an extended period of time should the road become blocked or you end up off the road?

To illustrate what can happen, let's consider the winter storm that moved across northern Indiana February 17 and 18, 2022. Precipitation began as rain, briefly transitioned to freezing rain, and then turned over to intense snowfall. The rain prevented roads from being pre-treated as the treatment would have been washed away. The intense snow came on quickly and accumulated at rates of 1 to 2 inches per hour as temperatures fell and winds increased which led to quickly deteriorating road conditions across the area. At one point during the evening of the 17th, several vehicles spun out in the northbound lanes of I-65 blocking traffic completely. Many elements compounded rapidly, including the intense snowfall and building traffic which resulted in significant challenges in clearing the blockage and opening the road. Ultimately, traffic backed up for over twenty miles and motorists were stranded on the road in the vehicles for upwards of 17 hours. Many ran out of fuel, lost heat, and had little if any food or water. Some needed to be rescued and transported to shelters as they encountered medical emergencies due to these conditions. This is just one example and similar situations occur across the country every winter.

**Try to keep at least a half tank of gas in your car during the winter in case you get stranded in your car**

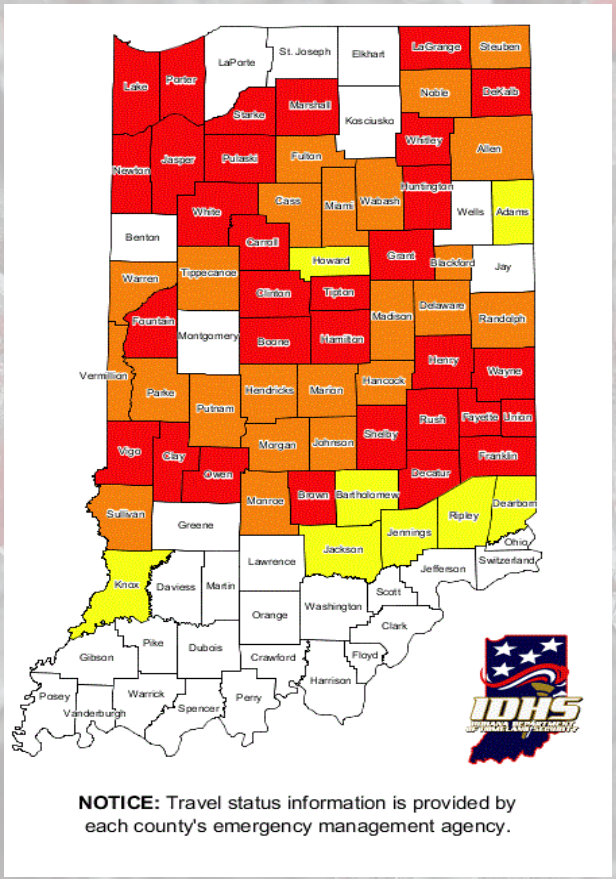
This scenario highlights that it is critical to prepare your vehicle for winter weather now. While travel should be reconsidered, altering plans is not always possible. Impacts can also occur with seemingly small amounts of snow and ice so it is good to be prepared throughout the season. The bottom line is that you should be prepared to be stranded for multiple hours and have anything you might need to stay safe and healthy during that time in your vehicle. The image below shows what you should include in your vehicle preparedness kit for the winter. In addition, avoid letting your fuel/charge level fall below 50% when traveling in winter conditions should you become stranded. Keep cellular devices charged. Carry supplies for pets if traveling with them. Being proactive and building your kit now will keep you prepared should the unexpected occur.

Additional winter vehicle preparedness tips can be found at www.weather.gov/safety/winter-before and www.in.gov/dhs/get-prepared/nature-safety/winter-weather-safety/winter-travel/

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

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. The highest level is a travel warning, which means travel may be forbidden.




**Indiana Department of Homeland Security**
County Travel Status for 11/02/2022 13:50 EDT

**Warning**

The highest level of local travel advisory, means that travel may be restricted to emergency management workers only. During a "warning" local travel advisory, individuals are directed to:

(A) refrain from all travel;

(B) comply with necessary emergency measures;

(C) cooperate with public officials and disaster services forces in executing emergency operations plans; and

(D) obey and comply with the lawful directions of properly identified officers.

**Watch**

Means that conditions are threatening to the safety of the public. During a "watch" local travel advisory, only essential travel, such as to and from work or in emergency situations, is recommended, and emergency action plans should be implemented by businesses, schools, government agencies, and other organizations.

**Advisory**

The lowest level of local travel advisory, means that routine travel or activities may be restricted in areas because of a hazardous situation, and individuals should use caution or avoid those areas.

Example of County Travel Advisories map from February 1-2, 2011 snowstorm.

### County Travel Advisories Map

www.in.gov/dhs/traveladvisory

### INDOT Road Information

511in.org

800-261-ROADS

## 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 square 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% antifreeze, 50% water mixture is at the proper radiator level. If the coolant is two years ole, get it flushed and refilled.
- Change oil every 5,000 miles. Consider using a lighter, "winter weight" oil. Refer to your owner's manual for guidance.
- Check windshield wiper 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 breaks are functioning properly.

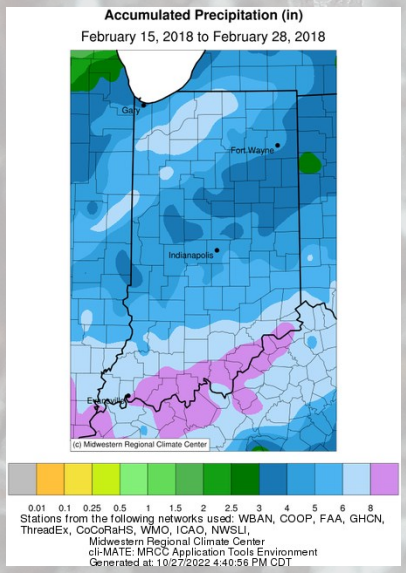
## Wintertime Flooding

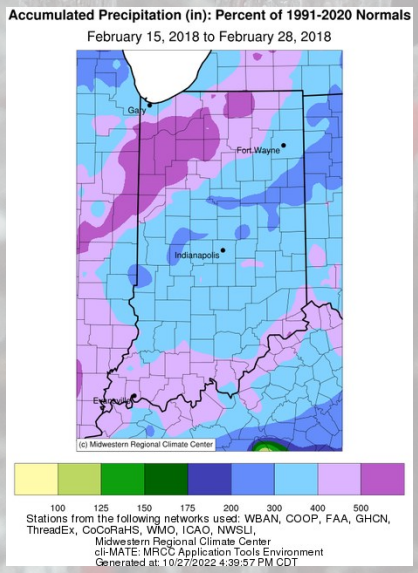
While ice and snow frequently receive all of the attention during the winter months, repeated rounds of heavy precipitation on unsupportive soils often spell trouble during the cold season, yielding widespread and significant overland and river flooding in the Ohio Valley. This was most evident recently during the winter of 2017-2018, in which an anomalously wet pattern from February into March led to some of the most severe river flooding experienced within the past 20 years, including along the main stem of the Ohio River.

Even though March is the most common month for Ohio River flooding, many of the highest river levels have occurred in January and February. In 2018, trouble began toward the middle of February when a series of weather systems produced repeated rounds of rain over large expanses of the Ohio Valley during the latter half of the month. The most significant and widespread heavy rain in Indiana evolved during the final week of February, coinciding with an unusually warm and moist air mass that had settled into the region. The expansive nature and temporal longevity of the heavy rain quickly overwhelmed the ground's ability to properly absorb the water, leading to excessive and rapid runoff into area lakes, streams, and rivers.

The immense amount of rain, with totals topping 8-10" in portions of southern Indiana for the month of February, quickly overwhelmed the streamflow capacities in even some of the bigger waterways. Ultimately, the wet pattern yielded the 8th highest crest, 46.8 feet, of the Ohio River at Evansville on record on March 1. This was the highest such level at the site since 1997. Also reaching its highest level in over 20 years was the Ohio River at McAlpine, topping out at 67.1 feet on February 26th. On the same day at Cincinnati, the Ohio River stage topped 60 feet for the first time since 1997.

The events of February and March of 2018 serve as a great reminder to always be prepared for all types of weather in the winter, even if it presents itself in non-frozen form!




### December 26-28, 2012

An intense snow storm dumped 4 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 1 hours 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.

# Winter Weather Preparedness for Schools

### Gathering Information

- Know where to get weather information: Utilize NOAA Weather Radio, local media sources, and internet.
- Know how and where to get road information: Highway Departments or Law Enforcement are often your best sources for road conditions. City and county transportation or school officials, and drives or security teams are also excellent sources.

### Alerting Staff, Students, and Family

- Take action, spread the word: Mobile communications for bus drivers; email/text/phone messages to families/staff; announcements in school.

### 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.

### 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.
- For extreme cold: Recognize and train for treating 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

## Tornadoes in Winter

Just because the temperatures drop doesn't mean you can let your guard down for severe weather in Indiana. Some of the region's most destructive tornado and severe weather outbreaks have occurred in the winter months.

**Tornadoes in Winter**

A different breed of danger!

**Do not wait to take action if a tornado warning is issued.**

Frequently occur at night.

Move very fast, often 50 to 70 mph!

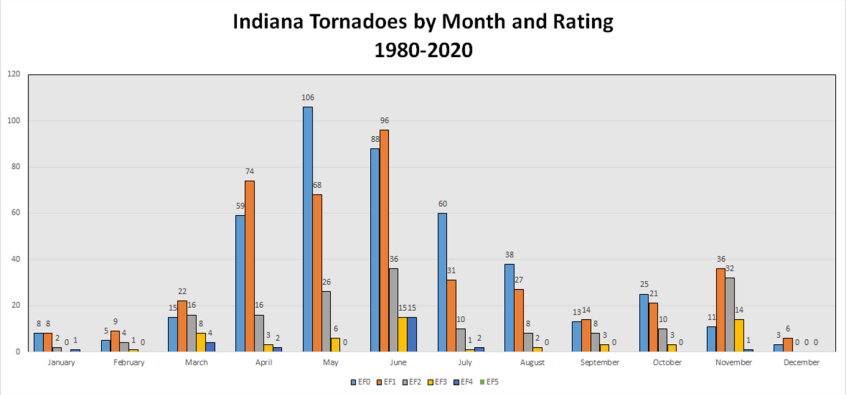
Spin up suddenly, even a good tornado warning will usually have less than 5 minutes of lead time.

Act now and get to your tornado shelter!

February 19, 1888: an F-3 tornado struck in Spencer County
March 18, 1925: the infamous Tri-State Tornado destroyed the cities of Griffin, Owensville, and Princeton, IN
January 7, 1989: An F-4 twister struck Mount Carmel, IL, and moved into Knox County, IN
November 6, 2005: 24 people perished when an F-3 tornado struck Vanderburgh and Spencer counties
November 17, 2013: In Indiana alone there were 30 tornadoes across 24 of the state's 92 counties
February 28, 2017: an EF-3 tornado tracked 44 miles across Posey and Gibson counties

On November 17, 2013, a large outbreak of severe weather took place and in Indiana alone, there were 30 tornadoes across 24 of the state's 92 counties. In central Indiana the strongest tornado was rated an EF-3. There were 8 EF-2 tornadoes, 6 EF-1 tornadoes, and 1 EF-0 tornado in central Indiana. This number of tornadoes for the entire state is the largest outbreak for November in recorded history for the state, and the second largest outbreak in state history for any month (June 2, 1990 is first with 37 tornadoes).

Unlike springtime tornadoes, which rely in part on strong daytime heating, wintertime severe weather events often require heat and moisture to be transported from the Gulf of Mexico region. This requires strong and rapid wind currents through deep layers of the atmosphere. These strong winds often result in very fast forward motion of tornado cells, and the constant transport of heat and moisture enable events to continue well into the overnight hours. This means wintertime tornadoes often come late at night and are moving very quickly. It's important to have a plan to receive warnings during the night that will wake you up while you're sleeping and to act quickly when a tornado warning is issued for your location.



Henreyville Tornado
March 2, 2012

**Some of the region's most destructive tornado and severe weather outbreaks have occurred in the winter months**

# Protecting life & property

## Your Winter Weather Report Could Help Save Lives

Advanced dual polarization Doppler radar (WSR-88D), Geostationary Operational Environmental Satellite (GOES), Automated Surface Observing System (ASOS), and Advanced Weather Interactive Processing System (AWIPS) are just a few of the highly sophisticated tools National Weather Service (NWS) meteorologists use when forecasting and monitoring hazardous weather. However, the most important element these meteorologists rely on during a winter weather event is real-time weather reports from both trained weather spotters and the general public. This information either confirms the data being interpreted from these tools, or the reports let meteorologists know something entirely different is happening and life -saving forecasts/warnings/advisories need to be adjusted and updated. If no warnings or advisories are in place but weather reports indicate widespread dangerous weather conditions with significant impacts are occurring, then meteorologists will update as appropriate to let people know that weather conditions may make travel unsafe.

So how can you make a winter weather report to the NWS? It is quite simple and there are a multitude of methods to easily get your report directly to NWS meteorologists. First, just tag your local NWS office on their Facebook or Twitter social media accounts. Pictures with a brief description of the conditions you are seeing are incredibly helpful. Not on social media? No problem. Just send the same information to your local NWS office using their office email address.

You can also download a free crowdsourcing weather reporting app to your smartphone called mPING (Meteorological Phenomena Identification Near the Ground - https://mping.nssl.noaa.gov/). These reports are immediately archived in a database for future research but are also made accessible to everyone, including NWS Meteorologists. Another more in depth method for reporting is to actually become a trained precipitation observer through another crowdsourcing program called CoCoRaHS (Community Collaborative Rain, Hail and Snow Network - https://www.cocorahs.org/). This is a nationwide network of precipitation observers with rain gauges and snow boards and they report daily measurements to a national network. An option exists to also report significant weather events any time of day or night. These reports are relayed automatically and instantaneously to your local NWS office.

Each Indiana NWS office's email address and social media accounts are listed in this newsletter. Please help save lives this winter and use one of these methods to report road conditions, snowfall, ice accumulation, heavy rainfall, flooding or any other significant weather event, anytime, day or night. Your local NWS office will be very appreciative of your help and reports. Stay warm and safe this winter season!

## What to Report

All weather reports should include the time and location of observation in addition to the type of weather being observed. The types of reports we need include:

- Amount of snow accumulation
- Ice accumulation
- Type of precipitation (snow, ice, sleet, mixed precipitation, etc.) and if the type changes over time
- Blowing and drifting snow, especially if roadways are being blocked
- Impacts such as road conditions, power outages and trees down due to weather
- Any other type of weather you would report other times of the year such as rain amounts, flooding, tornadoes, etc.

## Winter Normals & Extremes for Indianapolis

Normal Highs: Mid 30s to Low 40s

Normal Lows: Low to Mid 20s

Normal Snowfall 6 to 9 inches per month

Normal Winter Snowfall Total: 25.9 inches

Most snowfall: 2013-2014 with 52.2. inches

Least Snowfall: 1931-1932 with 0.2 inches

Coldest temperature: -27°F on January 19, 1994

Coldest Daily Max Temperature: -11°F on January 20, 1985

National Weather Service

# NWS Offices covering Indiana

## NWS Indianapolis

Phone: 317-856-0664
Email: nws.indianapolis@noaa.gov
Website: weather.gov/ind
Social Media:

@NWSIndianapolis

US National Weather Service
Indianapolis Indiana

## NWS Chicago

Phone: 815-834-1435
Email: nws.chicago@noaa.gov
Website: weather.gov/lot
Social Media:

@NWSChicago

US National Weather Service
Chicago Illinois

## NWS Northern Indiana

Phone: 574-834-1104
Email: nws.northernindiana@noaa.gov
Website: weather.gov/iwx
Social Media:

@NWSIWX

US National Weather Service
Northern Indiana

## NWS Wilmington

Phone: 937-383-0031
Email: iln.webmaster@noaa.gov
Website: weather.gov/iln
Social Media:

@NWSILN

US National Weather Service
Wilmington OH

## NWS Louisville

Phone: 502-969-8842
Email: nws.louisville@noaa.gov
Website: weather.gov/lmk
Social Media:

@NWSLouisville

US National Weather Service
Louisville Kentucky

## NWS Paducah

Phone: 270-744-6440
Email: w-pah.webmaster@noaa.gov
Website: weather.gov/pah
Social Media:

@NWSPaducah

US National Weather Service
Paducah Kentucky