

WINTER WEATHER

Winter 2007-2008

PREPAREDNESS WEEK

Indiana Winter Weather Preparedness Week is

November 11-17, 2007

Governor Mitch Daniels has proclaimed November 11-17, 2007 as Winter Weather Preparedness Week in Indiana.

The National Weather Service (NWS) will conduct a winter weather preparedness campaign during the month of November. The purpose of the preparedness campaign is to remind the citizens of Indiana about winter's hazards, how to stay safe, and to educate everyone about National Weather Service forecast terms and products.

The Warning Coordination Meteorologist (WCM) serving your area will be available for interviews and questions.

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A full color version of this publication is available on-line at :

<http://www.weather.gov/ind>

<http://www.weather.gov/iwx>

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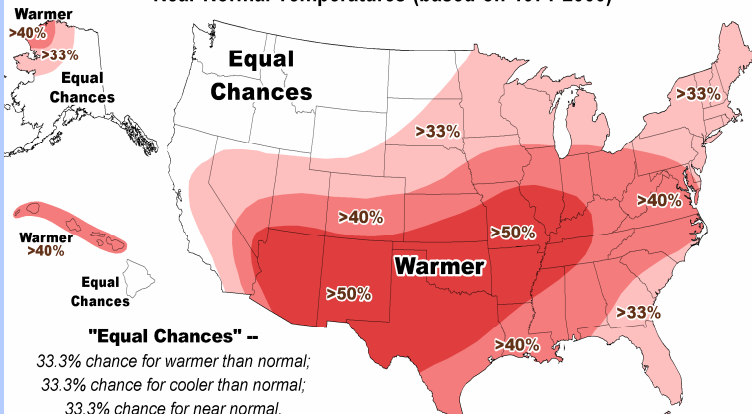
2007-08 Winter Outlook



Temperature Outlook

December 2007 - February 2008

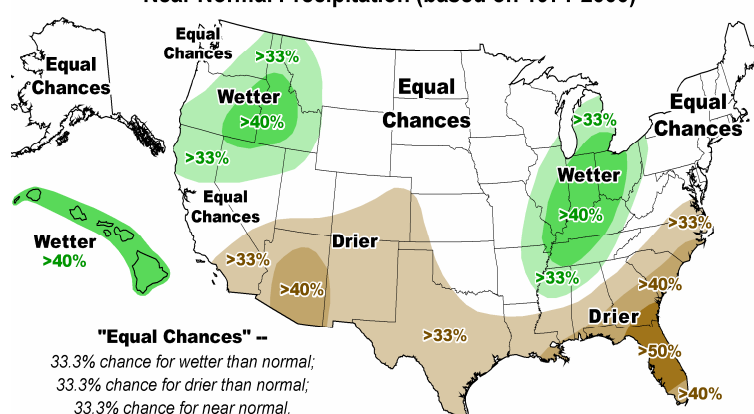
Chances for **Cooler Than Normal**, **Warmer Than Normal**, or Near Normal Temperatures (based on 1971-2000)



Precipitation Outlook

December 2007 - February 2008

Chances for **Wetter Than Normal**, **Drier Than Normal**, or Near Normal Precipitation (based on 1971-2000)



NOAA forecasters are calling for above-average temperatures over most of the country and a continuation of drier-than-average conditions across already drought-stricken parts of the Southwest and Southeast in its winter outlook for the United States.

“La Niña is here, with a weak-to-moderate event likely to persist through the winter,” said Michael Halpert, head of forecast operations and acting deputy director of NOAA’s Climate Prediction Center. “The big concern this winter may be the persistence of drought across large parts of the already parched South. And while December through February is likely to be another milder-than-average winter for much of the country, people should still expect some bouts of winter weather.”

Be Prepared...Before the Storm Strikes

At home and at work...

Have available:

- Flashlight and extra batteries.
- Battery-powered NOAA All-Hazards Weather Radio and portable radio.
- Extra food and water.
- Extra medicine and baby items.
- First-aid supplies.
- Heating fuel.
- Emergency heating source.
- Fire extinguisher and smoke detector.

In vehicles...

- ◆ Fully check and winterize your vehicle.
- ◆ Keep your gas tank near full.
- ◆ Try not to travel alone.
- ◆ Let someone know your itinerary.
- ◆ Carry a *WINTER STORM SURVIVAL KIT*

WINTER STORM SURVIVAL KIT

- ◇ blankets/sleeping bags
- ◇ flashlight
- ◇ first-aid kit
- ◇ Knife, tool kit, tow rope
- ◇ non-perishable food
- ◇ extra clothing
- ◇ a large empty can and plastic cover with tissues and paper towels for sanitary purposes
- ◇ a smaller can and water-proof matches to melt snow for drinking water
- ◇ sand
- ◇ shovel
- ◇ windshield scraper, booster cables, road maps
- ◇ water container



Winter Weather Terms...What To Listen For

Hazardous Weather Outlook - A Hazardous Weather Outlook will be issued to alert the public of the potential for hazardous winter weather. This outlook is issued daily and will provide weather information through the next 7 days. This is a good “planning” or “heads up” product.

Watches are issued when there is at least a 50 percent chance of an event occurring

Winter Storm Watch - A Winter Storm Watch is issued when there is at least a 50 percent chance that one or more of the following events may occur: blizzard conditions, heavy snow, significant and damaging accumulations of freezing rain, or heavy sleet. A **High Wind Watch** is issued to inform the public of the possibility of sustained winds (one hour or longer) of 40 mph or higher and/or wind gusts (any duration) of 58 mph or higher. Watches are usually issued 12 to 36 hours in advance of when the conditions are expected to develop.

Warnings are issued when an event is imminent or there is greater than 80 percent confidence

Blizzard Warning - A Blizzard Warning is issued when heavy snow and/or blowing snow (visibility less than 1/4 of a mile) and sustained winds or frequent wind gusts of 35 mph or more are expected for a period of three hours or more.

Lake Effect Snow Warning - A Lake Effect Snow Warning is issued when 6 inches or more of lake effect snow in 12 hours and/or 8 inches or more of snow in 24 hours is expected.

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

Winter Storm Warning - A Winter Storm Warning is issued when heavy snow and blowing snow, or a mixture of heavy snow, freezing rain, and/or sleet is expected. Heavy Snow is defined as 6 inches or more of snow in 12 hours and/or 8 inches or more of snow in 24 hours in northern and central Indiana and 4 inches or more of snow in 12 hours and/or 6 inches or more of snow in 24 hours in southern Indiana.

Wind Chill Warning - A Wind Chill Warning is issued when wind chill values are expected to be –30°F or colder in northern Indiana, –25°F or colder in central Indiana, and –20°F or colder in southern Indiana, with a wind speed of 10 mph or greater.

High Wind Warning - A High Wind Warning is issued when sustained winds (one hour or longer) of 40 mph or higher and/or wind gusts (any duration) of 58 mph or higher are expected.

Advisories are issued for winter weather events that are hazardous, but not severe enough to warrant a warning. Advisories may be issued for the following: snow and/or blowing snow, lake effect snow, freezing rain, freezing drizzle, wind chill, wind, and dense fog. Advisory conditions may impact travel by causing delays or inconveniences.



Winter Storms—Deceptive Killers



Winter storms are considered deceptive killers because most deaths are *indirectly* related to the storm. Fatalities occur:

- In traffic accidents on icy roads.
- From heart attacks while shoveling snow.
- From hypothermia due to prolonged exposure to cold.

Winter weather claims nearly 100 lives annually.

Frostbite

Frostbite is damage to body tissue caused by that tissue being frozen. 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 - Take the person's temperature. If below 95°F (35°C), seek medical care immediately!

If medical care is not available, begin warming the person slowly. Do not warm extremities (arms and legs) first! This drives the cold blood toward the heart and can lead to heart failure. Instead, warm the body core first. 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.

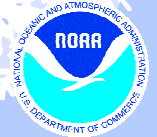
At a Wind Chill Temperature of minus 50°F, frostbite will occur within 10 minutes. At minus 30°F, frostbite will occur within 30 minutes.

		Temperature (°F)																	
		40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	Cal	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 Times: 30 minutes (light blue), 10 minutes (medium blue), 5 minutes (dark purple)

Wind Chill (°F) = 35.74 + .06215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})
 Where, T= Air Temperature (°F) V= Wind Speed (mph) Effective 11/01/01

Wind
Chill
Chart



Winter Weather Preparedness 101 For Schools

Gathering information

- Know where to get weather information: Utilize NOAA All-Hazards Weather Radio, local Media sources, Internet, and paging services.
- Know how and where to get road information: Indiana State Police road conditions (visit <http://www.state.in.us/ai/travel> for additional information), city and county transportation officials, and drivers or security teams are excellent sources.

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 if possible.
- 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 Deaths

Related to exposure to cold:

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

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.

Dreaming of a White Christmas?

What are the odds of a white Christmas around Indiana? That depends on where you are!

Fort Wayne, IN—Chance of snow on the ground, greater than a Trace: 35%

South Bend, IN—Chance of snow on the ground, greater than a Trace: 62%

Indianapolis, IN—Chance of snow on the ground, greater than a Trace: 34%





The Indiana Department of Transportation and the Indiana State Police would like to remind you of the hazards associated with winter time driving.



Drive for the conditions:

- Slow down!
- Allow extra braking distance.
- Do not tailgate.
- If low on fuel and gas stations are closed, try using a credit card at pumps. Many remain on.

Allow snowplow operators to do their job:

- Maintain a safe distance...if salt is hitting your vehicle when you follow a snowplow, you are too close.
- Avoid passing snowplows on a roadway that is only one lane in each direction.

Remain alert for sudden road condition changes:

- Bridges and overpasses often become icy first.
- Snow and blowing snow can produce sudden restrictions in visibility.

When Caught in a Winter Storm

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.
- Quickly make sure the exhaust pipe is not blocked.

Make yourself 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.
- Raise the hood to indicate trouble after the snow stops falling.

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, wind-break, 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.



Indiana's Winter Climate

By Logan Johnson, Climate Services Focal Point—National Weather Service Indianapolis

Among all the seasons in Indiana, winter is perhaps the one that requires the most preparation, planning, and awareness. Bitterly cold wind chills, deep and drifting snow, and slick and dangerous ice are all part of winter's dangerous arsenal. One of the first steps in preparedness is to know what types of weather the winter may use in its annual assault on Indiana. A good way to know this is to know what typically occurs in a winter season, known as the climate of the winter.

Temperatures

Temperatures across the state are at their coldest point of the year during the winter season. During the primary months of winter, December, January, and February, the statewide average high temperature is 38 degrees, and the statewide average low temperature during the winter is a frosty 21 degrees. Our coldest weather typically comes in the northern parts of the state, with warmer conditions hanging on near the Ohio River in far southern Indiana. However these averages are usually the exception rather than the rule on any given day. Winter temperatures can vary significantly depending on the tracks of individual weather systems. The warmest winter time temperature ever recorded in Indiana was 83 degrees on February 13, 1938 in Shoals. The coldest winter time temperature ever in Indiana was -36 degrees in January 19, 1994 in New Whiteland.

An average winter in Indiana brings a few days with lows below zero, ranging from an average of 2 in the far south to around 9 in the far northern parts of the state. Many years may bring no low temperatures this cold, and some years may bring them in bunches. It's all just part of the highly changeable weather patterns that impact the Midwest during the winter time.

Precipitation and Snowfall

Many times the interaction of moisture arriving from the south and cold air barreling southwards out of the frozen plains of Canada allows precipitation to fall as snow, ice, sleet, and everything in between. The first snows of the season will typically come in late October or early November in the northern parts of the state, with snow not falling in the far south sometimes until well into December. Indiana sees a fair share of lake effect snowfall in northern portions of the state, with heavy bands of localized snowfall sometimes setting up in areas downwind of Lake Michigan.

Winter time snowfall amounts average around 70 inches or more in far northern parts of the state in favored lake effect snows, but drop off quickly as you head south. Averages of 30-40 inches are common in the central regions, to a low of only 15-20 inches in the extreme southern parts of the state.

The heaviest one day snowfall total in Indiana came on December 23, 2004 with 22 inches falling at Cannelton, in extreme southern Indiana in Perry County, right along the Ohio River. While this may seem to be an unlikely part of the state to see the daily snowfall record set, the storm of December 2004 was a truly epic one for southern Indiana. The highest monthly snowfall total ever came from the lake effect country farther north, with La Porte receiving 59.5 inches in February 1958. La Porte also holds the state record for most snow during a season, with a remarkable 125.6 inches of snow in the fabled season of 1977-1978. That's over 10 feet of snow!

Whether this upcoming winter season is like the winters of the late 1970s that saw excessive snowfalls in Indiana, or like the winters of the late 1930s that brought winter temperatures that felt more like spring time, preparedness is key.



National Weather Service
6900 West Hanna Avenue
Indianapolis, IN 46241

Winter Weather Preparedness Week Material

OPEN IMMEDIATELY!



Internet Sites



National Oceanic and Atmospheric Administration (NOAA)

<http://www.noaa.gov>



National Weather Service

<http://www.weather.gov>

National Weather Service Indianapolis

<http://www.weather.gov/ind>

National Weather Service Northern Indiana

<http://www.weather.gov/iwx>

NWS Office of Meteorology Winter Weather Page

<http://www.weather.gov/om/winter>

Winter Outlooks from Climate Prediction Center

<http://www.cpc.noaa.gov>



Federal Emergency Management Agency

<http://www.fema.gov/fema>



American Red Cross

<http://www.redcross.org/services/disaster/keepsafe>

Indiana Department of Homeland Security

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

Indiana State Police

<http://www.in.gov/isp>

Indiana Department of Education

<http://ideanet.doe.state.in.us/>

Indiana Department of Transportation

<http://www.ai.org/dot/>

