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and
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Indiana State Climate Office

Monthly Weather Report

Feb 6, 2012



<http://www.iclimat.e.org>

January 2012 Climate Summary

Month Summary

Where is winter? This question found its way into many conversations throughout December and early January, although few folks were complaining. Then about the middle of January winter finally caught up with the calendar. Indiana weather that had more resembled spring the previous six weeks began to mix in more of the cold and snow typical of our winter days. Surges of winter weather brought with it vehicle accidents caused by blowing snow and black ice on Indiana highways the second half of the month. Travel was treacherous on January 12th, 13th, 19th, 20th, and 25th. But spring like weather still reappeared from time to time. An outbreak of 5 confirmed tornadoes struck a few counties near the Ohio River on January 17th. There were no deaths or injuries reported. Nearly a week later a core of high winds blasted southwest Indiana on January 23rd causing widespread structure and tree damage.

For the third consecutive month Indiana temperatures averaged well above normal. The day split for January 2012 shows 8 days with below normal temperatures, 1 day at normal, and 22 days with above normal temperature, nearly identical numbers to a month ago. On 15 of these days, that is for half the month, temperatures were at least 10° above normal! The state average temperature of 32.3° was 6.3° above the month normal and ranks as the 24th warmest January since 1895. January 2007 was just a tad warmer at 32.4°, ranking in 23rd place. Ten years ago in 2002 another recent warm January averaged 34.4°, good for 8th place. The warmest January on record in Indiana was in 2006 which came in at 39.2°. The highest recorded daily temperature of January 2012 was 66° on January 17th in Tipton. The coldest reading was -10° at Young America three days later.

A five month wet trend continued through January as well. The state average precipitation of 3.37 inches marks January 2012 as the 30th wettest January on record in Indiana. A recent wetter January occurred 5 years ago with 4.88 inches recorded in 2007, placing at 14th wettest. January 2005 was extremely wet with 7.06 inches, good for 6th place since 1895. We have to go back to January 1950 to find the wettest January in the record books, with a state average 10.17 inches! Like the month prior, the January 2012 state average precipitation is almost one and a half times the normal January amount. The heaviest single day precipitation was 3.00 inches measured by the cooperative observer in Salem on January 17th. Precipitation fell on about 17 days across the state this month.

Widespread snow fell on about 13 days this month, far more than the 3 days noted last month. The highest snowfall total for January was 28.8 inches measured by the CoCoRaHS observer in Granger. Snowfall totals in far northern counties were highly variable, ranging from 9 to 20 inches away from Lake Michigan, and 20 to 28 inches close to the lake. Such extremes are common in

winter in the northern third of Indiana. Totals in central Indiana were in the 3 to 9 inch range while up to 3 inches was measured in southern counties. A January snowfall distribution map is shown later in this report.

On January 17th an EF-0 and EF-1 tornado were confirmed in Dubois county. In Floyd county an EF-1 tornado touched down while an EF-0 tornado was confirmed in Clark county. An EF-0 tornado in Jefferson county seems to have caused the most financial losses. No injuries or deaths were caused by any of these tornadoes. High winds and hail north of these counties caused additional but minor damage. Specific details on these storms are found in the weekly narratives which follow below.

Difficult winter travel is more expected of the January weather hazards in Indiana. Details on each of the days that impacted travel is also found in the narratives below.

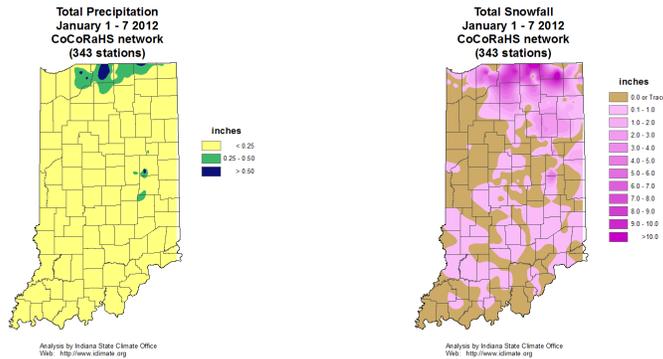
January 1st – 7th

As we rung in the New Year a strong but mostly dry cold front was making its way across Indiana. Temperatures that had been 12° above normal crashed over the next two days, down to 8° below normal by January 3rd. This would be the coldest day of the week. Pressure waves in the upper atmosphere would now gradually flatten into zonal mode which offers less support to cold outbreaks at ground level. A cold air reinforcement on January 3rd washed out before arriving in Indiana. Two weak cold fronts did pass through our state on January 5th and 7th but had little impact on temperature. Instead state average temperatures were on the rise from near normal readings on January 4th to 13° above normal the next day. The warmth peaked on January 6th with state temperatures near 17° above normal. The week closed at near 15° above normal. Overall for the week temperatures averaged nearly 7° above normal, hardly the cold January is known for! Usually we expect daily maximum temperatures to range from about 35° in far northern Indiana to 43° in the extreme southwest. Daily minimums should vary between 22° to 28° north to south across Indiana this week.

The storm systems this week mostly came from the land areas of central Canada and did not tap into the Gulf of Mexico moisture supply. This kept Indiana mostly dry this week. Total precipitation averaged near 0.1 inch in northern and central Indiana and just hundredths of an inch across the south. These amounts are barely a quarter of the normal in northern Indiana, about 10% of normal in central counties, and a mere 3% of normal in southern Indiana. The heaviest single day precipitation amount this week was 0.64 inch as reported by the CoCoRaHS volunteer at Lagrange on the morning of January 2nd with the first cold front. The highest weekly totals were also small, including 0.67 inch in South Bend and 0.57 inch at Granger.

Light snow was scattered across Indiana but as expected the heavier amounts were in the northern lake effect regions. A CoCoRaHS observer in South Bend measured 10.0 inches of new snow on the morning of January 2nd. As the snow continued to fall more high single day reports came in the next morning. The volunteer in Mishawaka recorded 4.8 inches while Plymouth noted 5.8 inches and another South Bend observer had 5.3 inches. Over the extent of the full week some of the higher snowfall totals included 10.3 inches in Lagrange, 9.8 inches in Mishawaka, and 8.5 inches at Middlebury and Walkerton. A snowfall map showing the week's pattern across Indiana follows below.

The lake effect snows did cause some travel problems on January 2nd. High winds with the cold front caused snow to drift across highways and caused treacherous driving conditions. In far northeast Indiana a few accidents and slide offs kept police busy on I-69. The central problem area seemed to be DeKalb county where police were at the scenes of property damage accidents and vehicle slide offs.



January 8th – 14th

Pleasant weather with sunny skies and warm temperatures the first half of this week almost let us forget it is winter. A ridge of high pressure settled over Indiana through mid-week transporting mild Pacific air into the state. State average temperatures 12° above normal at the start of the week peaked at 16° above normal by January 10th. Temperatures dropped a bit to 10° above normal the next day as cloud cover moved in.

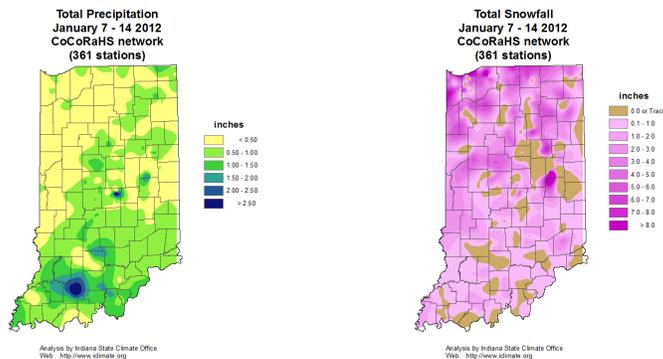
Then suddenly it was winter again. An Alberta clipper system from western Canada joined forces over Indiana with another storm system out of Louisiana on January 12th. The spring-like weather ended abruptly as cold, snow, and windy conditions made travel difficult in the state into the next day. Temperatures fell to about 7° below normal to the end of the week. Given the early warmth the overall weekly state temperature averaged to 7° above normal. Usually in this second week of January daily maximum temperatures should range from 33° to 42° from north to south across Indiana. Typical daily minimums would vary between 19° in far northern counties to 25° in southwestern Indiana.

Just one cold front passed through the state this week. Yet this was a major weather change and this front brought with it all the precipitation for the week. Regionally about 0.4 inch of precipitation fell across northern Indiana, 0.5 inch in central counties, and 0.9 inch across the south. This amount is typical of northern Indiana this second week, but is about 120% of normal in central Indiana and 170% of normal in southern areas. The heaviest single day amounts fell as rain in southern Indiana. On the morning of January 12th the CoCoRaHS reporter at Celestine measured 1.60 inch for the date. Nearby the Jasper volunteer had 1.50 inch, Shoals noted 1.29 inch, and two Bedford volunteers recorded 1.09 inch and 0.98 inch. Southern Indiana observers also collected the most

precipitation for the week, including 2.94 inches at Jasper, 1.63 inch in Petersburg, 1.61 inch at New Salisbury, and 1.51 inch in Huntingburg.

Most of this moisture fell as snow in northern Indiana. Generally 4 to 8 inches of snow fell in northern Indiana this week. About 1 to 4 inches accumulated in the central third of the state and up to an inch across southern Indiana. The total snowfall map below provides a picture of this pattern. Some of the higher point totals for the week are 8.3 inches in Chesterton, 8.0 inches at Granger, and 7.8 and 7.3 inches at two locations in Laporte. The highest single day amounts were all recorded on the morning of January 13th, and include 7.6 inches in Chesterton, 7.3 and 6.1 inches at two locations in Laporte, 7.0 inches in Crown Point, and 6.5 inches in Mishawaka.

This was the first significant snowfall of the season in some parts of Indiana and challenged the forgotten winter driving skills of some folks. State police were very busy with vehicle slide offs and jackknifed semi-trailers on interstate highways. Strong winds drifted snow across roadways which produced miles of black ice as lines of cars traveled rural areas. Travel in Clinton, Tippecanoe, and White counties were mentioned as particular trouble spots. In a 2 hour interval state police counted 15 slide offs, 3 jackknifed semi-trailers, and 5 crashes on a section of I-65 in these counties. Elsewhere gusty winds piled snow drifts up to 2 feet high in Elkhart county.



January 15th – 21st

Winter weather seems to have finally caught up with the calendar. The mild and quiet start to winter last month morphed into the more typical Indiana winter we know with colder temperatures and more intense storms starting around January 12th. This week featured two cold fronts, the first on January 17th accompanied by 5 confirmed tornadoes in southern Indiana. The second cold front on January 19th was followed by a trough the next day.

Temperatures started at 2° below normal this week but then warm air surged into Indiana. In a short two days the thermometer jumped 20° to a state average 18° above normal. On January 17th this warm air mass was displaced by a strong cold front, triggering tornadoes along the Ohio River as temperatures tumbled, returning to normal the next day. The second cold front of the week passed through the state on January 19th. Temperatures skidded again, this time to a state average 8° below normal by January 20th. A slight warm up ended the week at about 6° below normal. Overall for the week temperatures averaged to just 2° above normal. Typically this third week of the year daily maximum temperatures should range between 31° in far northern Indiana to 40° in the south. Daily minimums normally vary from 16° to 24° north to south across the state.

With the more extreme weather changes this week came heavier precipitation. The first storm system yielded about 0.9 inch of precipitation on average while the second system produced about 0.4 inch. Regional weekly totals averaged close to 1.2 inches statewide. These totals far exceed what is normally expected this time of year, so amounts this week were about 250% of normal in northern and central Indiana and 180% of normal across the south. In advance of the severe storms rain was heavy in some spots. On the morning of January 17th some of the higher single day CoCoRaHS rainfall reports included 2.38 inches in Lawrenceburg, 2.10 inches and 1.94 inches at two locations in Marion, 2.00 inches at West Lafayette, and 1.85 inches in Bluffton. This precipitation combined with that from the second storm a few days later generated some impressive totals for the week. The CoCoRaHS observer in Gas City summed 4.08 inches, while the Fortville gauge collected 2.90 inches. In Lawrenceburg 2.73 inches was noted and 2.56 inches was recorded at Osgood.

In the first storm of the week snowfall of 1 to 4 inches was confined to far northern Indiana counties. No snow fell in central and southern areas as cold air filtered into Indiana late in the storm after most of the moisture had already moved east. Temperatures were already colder when the second storm arrived. Snowfall of 3 to 6 inches was common over the northern half of the state with up to 8 inches near South Bend and in Lake county. A map showing snowfall totals for the full week follows below. Generally up to an inch fell across the southern half of Indiana while as much as 11 inches was noted in the north. Some of the heaviest local weekly totals included 10.8 and 10.0 inches measured by two Granger observers and 10.4 inches at North Judson.

The first severe weather events of the year appeared this week. High winds on January 16th caused damage in Hendricks, Marion, Morgan, Johnson, and Monroe counties. Tree branches fell in all these areas while minor home damage was noted in Johnson county. Power lines were torn down in Hendricks county.

The most extensive damage would come the next day. Two tornadoes were confirmed in Dubois county, and one each in Floyd, Clark, and Jefferson counties.

In Dubois county an EF-0 tornado briefly touched down for 0.1 mile near Huntingburg, destroying an outbuilding and scattering other debris. About 10 minutes later an EF-1 tornado also touched down near Huntingburg and continued for 1.9 miles. Farm buildings were damaged, a grain hopper was overturned, and many trees were uprooted. A semi-truck was flipped but no injuries were reported.

In Floyd county an EF-1 tornado with a path length of 1.2 miles destroyed a garage in Floyds Knobs. Later this tornado tore down many trees and damaged a roof.

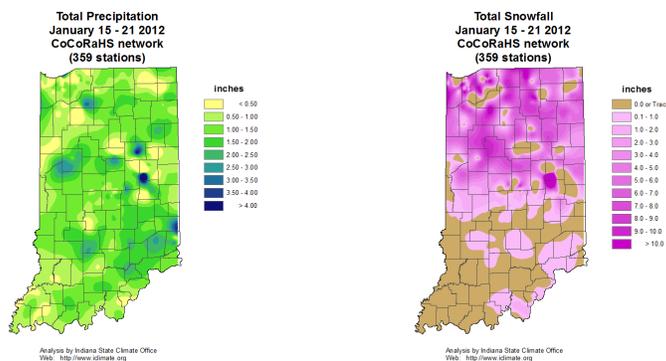
An EF-0 tornado in Clark county was on the ground for 1.9 miles. It flipped over a vehicle on I-65, took down several fences and trees, and ripped off a barn roof. Several buildings and homes were also damaged.

In Jefferson county an EF-0 tornado touched down for 0.3 mile at the Madison airport, moved a heavy trash bin, tore down fences, and broke the nose gear on an airplane while rotating it. An airport operations building, storage buildings, and a hanger suffered damage to their sides and roofs. Nearby trees fell on power lines in this same area. A tool business suffered about \$1 million in damages to their office and storage buildings. A ruptured gas line in the area pelted Clifty Falls State Park with its debris. No injuries were reported.

To the north of these tornadoes high winds brought down trees in Bartholomew, Monroe, Jackson, Jefferson, Dubois, and Knox counties and utility poles in Daviess county. Large hail was reported in Daviess and Bartholomew counties.

Two days later the problem was not severe storms but winter travel. On January 19th in southern Tippecanoe county 10 accidents were reported in less than an hour on I-65 due to very slick conditions. About 25 miles to the north 5 semi-trucks crashed closing a travel lane. One person was injured in Carroll county when a vehicle slid off Indiana highway 25 due to icy conditions.

A trough followed the cold front just 24 hours later on January 20th, delivering a one-two punch to Indiana travelers. A mix of freezing rain, sleet, and snow iced up central Indiana highways again, especially along a line from Lafayette to Liberty. Vehicle slide offs were a frequent occurrence. Meanwhile freezing rain iced up roadways in southeast Indiana, creating problems in Decatur, Jackson, Bartholomew, Lawrence, and Monroe counties. Police in Monroe county noted roads there were “solid ice” and that travel was treacherous. More reports of numerous slide offs came out of southwest Indiana. In summary roads throughout central and southern Indiana were hazardous to travel due to the ice and the cause of dozens of accidents.



January 22nd – 31st

Recent weather it seems has featured a little bit of spring mixed in with our winter. State average temperatures bounced high and low once again but did remain above normal throughout this 10 day interval.

A warm up started things off, lifting temperatures to 10° above normal by January 23rd. A core of high winds across southwestern Indiana caused widespread damage in the area that day. Then a strong occluded front passed through the state, ushering in colder air and dropping temperatures to just 1° above normal within the next 2 days. Warmer air began overrunning a front to our south, inviting in a mix of freezing rain, sleet, and snow on January 25th. Indiana travel became challenging.

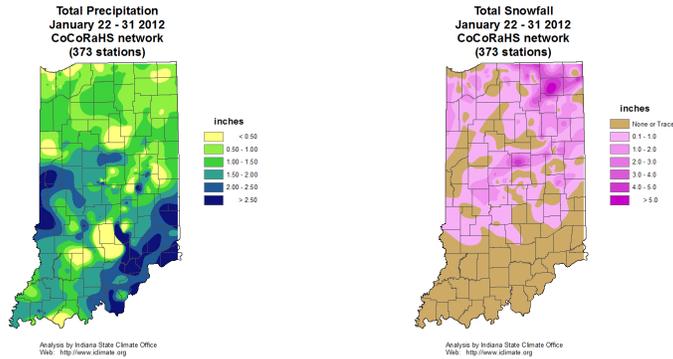
The temperature roller coaster the rest of the month would now be mostly upward. Temperatures rebounded to 11° above normal by January 27th. Two weak cold fronts on January 27th and 28th would cool temperatures just a few degrees with heavy rain changing to snow. Temperatures would soar again behind another warm front, closing out the month at 18° above normal. Usually in these last days of January daily maximum temperatures should range between 35° and 43° north to south across the state. Daily minimums typically vary between 22° in the far north to 25° in extreme southwest Indiana.

With several fronts moving through over the 10 days, precipitation fell nearly every day in some part of Indiana. The first of two widespread events arrived with the occluded front on January 23rd when amounts averaged 0.4 inch to 0.6 inch across the state. The second event was the storm system on January 27th which produced about 0.5 inch to 1.1 inch totals. Overall for the 10 days precipitation averaged about 1.0 inch in northern Indiana, 1.6 inch in central sections, and 2.0 inches across the south. These amounts are about double the normal precipitation expected during this time of year. The highest single day amounts were measured on the morning of January 27th as several CoCoRaHS observers in southeast Indiana reported right about 1.25 inch. This region also noted the largest 10 day totals. The Elizabeth gauge had accumulated 2.88 inches, while two Jeffersonville reporters had 2.85 inches and 2.83 inches. The Connersville rain gauge had collected 2.76 inches while 2.60 inches fell at New Salisbury.

Most of the snow fell during the two weak but rapid moving cold fronts on January 27th and 28th. Some of the heavier amounts measured the morning of January 28th included 6.5 inches at Larwill, 5.5 inches in Albion, and 3.7 inches at Columbia City. The CoCoRaHS observer in Atlanta had 3.5 inches while 2.7 inches fell in Hamilton. Overall for the 10 days 5.8 inches was recorded in Albion, 4.3 inches in Atlanta, and 3.7 inches in Columbia City. Goshen noted 3.4 inches and Middlebury received 3.2 inches. A map showing the distribution of total snowfall around the state over the 10 days is shown below.

There were two severe weather events of note. On January 23rd high winds across southwest Indiana caused widespread light to moderate damage there and in adjoining areas. In Daviess county a house and turkey barn were destroyed while roof shingles were torn off nearby. More roofs were stripped in Perry and Brown counties. Falling trees brought down utility poles and power lines in Knox county and in Owen county a garage door was blown in. Trees came down in Vanderburgh and Putnam counties while power was lost in Crawford county. Wind speeds in all these affected areas were clocked at near 60 mph.

A mix of freezing rain, sleet, and snow caused many accidents on January 25th, especially north of Indianapolis. Several crashes were reported in this area. Drivers of large vehicles called for help when they got stuck trying to climb hills and steep inclines that had been iced over by the nasty mix of precipitation.



January 2012

Region	Temperature	Temperature	
		Normal	Deviation
Northwest	29.3	23.0	6.3
North Central	29.5	23.2	6.3
Northeast	29.5	23.1	6.4
West Central	31.7	25.1	6.6
Central	31.8	25.3	6.4
East Central	31.2	24.7	6.4
Southwest	36.2	29.9	6.3
South Central	35.6	29.9	5.7
Southeast	34.9	29.1	5.8
State	32.3	26.0	6.3

Region	Precipitation	Precipitation		
		Normal	Deviation	Percent of Normal
Northwest	2.66	1.88	0.78	142
North Central	2.95	2.05	0.89	144
Northeast	2.71	1.98	0.73	137
West Central	3.28	2.28	1.00	144
Central	3.51	2.34	1.17	150
East Central	3.50	2.29	1.21	153
Southwest	3.63	3.00	0.64	121
South Central	4.02	3.10	0.92	130
Southeast	4.49	3.00	1.49	150
State	3.39	2.44	0.96	139

Winter so far (Dec 2011 - Jan 2012)

Region	Temperature	Temperature	
		Normal	Deviation
Northwest	31.8	25.8	6.0
North Central	32.0	25.9	6.0
Northeast	31.9	25.9	6.1
West Central	33.9	27.8	6.1
Central	34.0	28.0	6.0
East Central	33.7	27.4	6.2
Southwest	38.1	32.2	5.8
South Central	37.6	32.2	5.4
Southeast	37.0	31.6	5.4
State	34.5	28.6	5.9

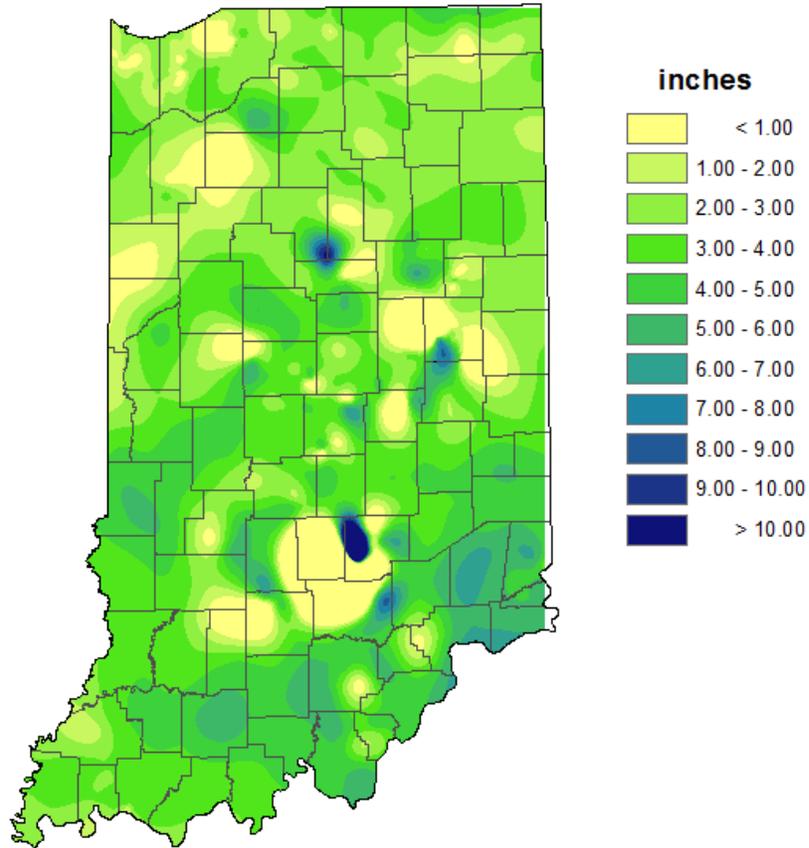
Region	Precipitation	Precipitation		
		Normal	Deviation	Percent of Normal
Northwest	6.01	4.53	1.48	133
North Central	6.36	4.84	1.52	131
Northeast	5.97	4.67	1.31	128
West Central	7.38	5.25	2.14	141
Central	8.50	5.33	3.18	160
East Central	8.36	5.16	3.20	162
Southwest	8.90	6.53	2.37	136
South Central	9.57	6.66	2.91	144
Southeast	10.44	6.41	4.03	163
State	7.92	5.49	2.43	144

2012 Annual (same as January)

Region	Temperature	Temperature	
		Normal	Deviation
Northwest	29.3	23.0	6.3
North Central	29.5	23.2	6.3
Northeast	29.5	23.1	6.4
West Central	31.7	25.1	6.6
Central	31.8	25.3	6.4
East Central	31.2	24.7	6.4
Southwest	36.2	29.9	6.3
South Central	35.6	29.9	5.7
Southeast	34.9	29.1	5.8
State	32.3	26.0	6.3

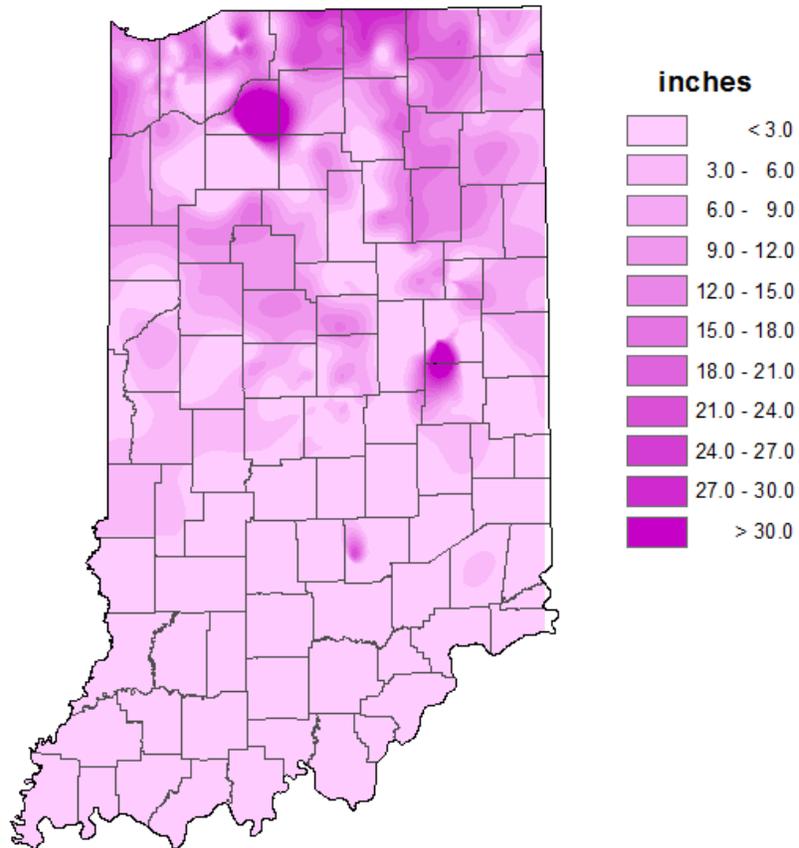
Region	Precipitation	Precipitation		Percent of Normal
		Normal	Deviation	
Northwest	2.66	1.88	0.78	142
North Central	2.95	2.05	0.89	144
Northeast	2.71	1.98	0.73	137
West Central	3.28	2.28	1.00	144
Central	3.51	2.34	1.17	150
East Central	3.50	2.29	1.21	153
Southwest	3.63	3.00	0.64	121
South Central	4.02	3.10	0.92	130
Southeast	4.49	3.00	1.49	150
State	3.39	2.44	0.96	139

**Total Precipitation
January 2012
CoCoRaHS network
(375 stations)**



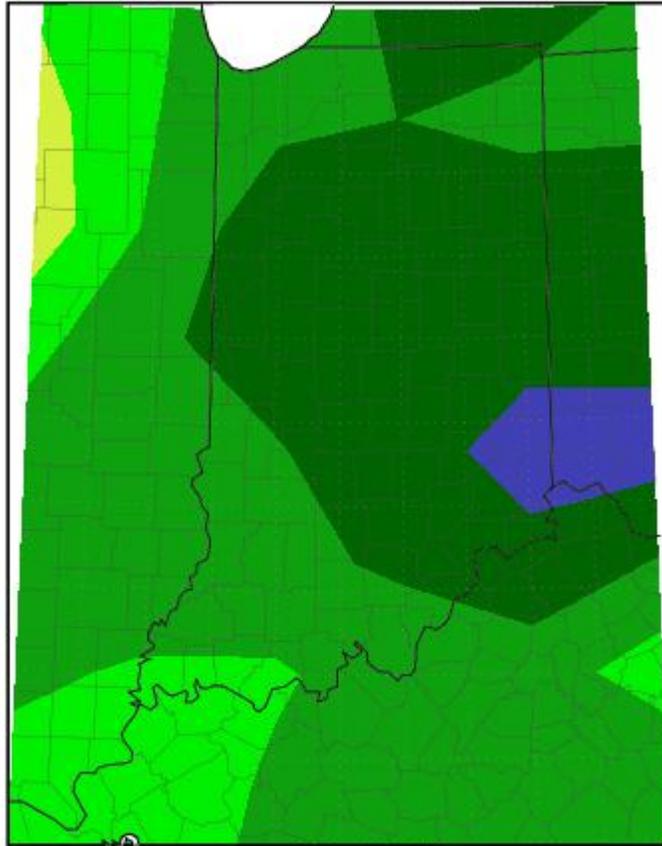
Analysis by Indiana State Climate Office
Web: <http://www.iclimat.org>

**Total Snowfall
January 2012
CoCoRaHS network
(375 stations)**

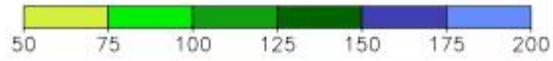


Analysis by Indiana State Climate Office
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Total Precipitation: Percent of Mean
January 1, 2012 to January 31, 2012

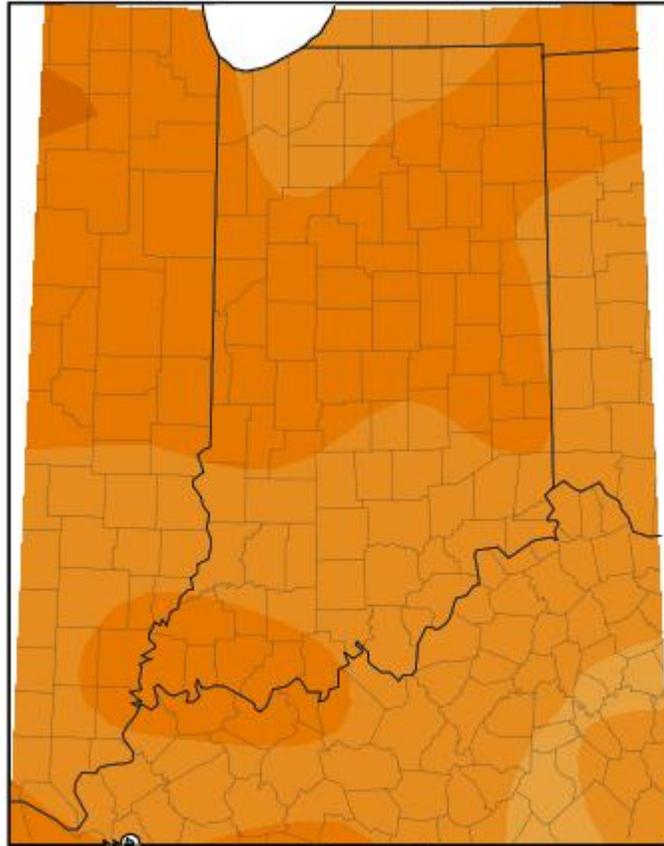


Mean period is 1981-2010.



Midwestern Regional Climate Center
Illinois State Water Survey
University of Illinois at Urbana-Champaign

Average Temperature (°F): Departure from Mean
January 1, 2012 to January 31, 2012



Mean period is 1981-2010.

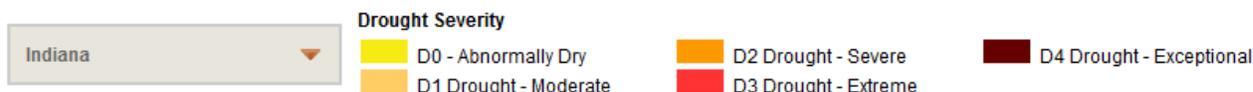


Midwestern Regional Climate Center
Illinois State Water Survey
University of Illinois at Urbana-Champaign

Drought Summary from the U.S. Drought Monitor

Below is a drought summary for the state of Indiana from the U.S. drought monitor. Areas in white are not experiencing any drought. Yellow areas are abnormally dry, but not entirely considered a drought. Drought begins when the moisture levels become more severe, with beige, orange, red, and brown indicating increasing levels of drought (moderate, severe, extreme, and exceptional, respectively). The table below indicates how much of the state is not under drought conditions, and also how much of the state is under drought conditions from its respective column upwards.

For example, January 3rd has 0.0% of Indiana under at *least* D1-D4 drought status, 0.0% under at *least* D0 through D4 drought status, and 100.0% drought free. Subtracting the D1-D4 category (0.0%) from the D0-D4 category (0.0%), tells us that 0.0% of Indiana is in D0 category alone (abnormally dry). Please note, however, that these areas are not exact, and much of this drought map has been created from reports throughout the state and in estimation, so use this information as a general view rather than for specifics.



Week	Nothing	D0-D4	D1-D4	D2-D4	D3-D4	D4
January 31, 2012	100.00	0.00	0.00	0.00	0.00	0.00
January 24, 2012	100.00	0.00	0.00	0.00	0.00	0.00
January 17, 2012	100.00	0.00	0.00	0.00	0.00	0.00
January 10, 2012	100.00	0.00	0.00	0.00	0.00	0.00
January 3, 2012	100.00	0.00	0.00	0.00	0.00	0.00

January 3rd Drought Summary



January 10th Drought Summary



January 17th Drought Summary



January 24th Drought Summary



January 31st Drought Summary

