Joseph Mays
(765) 494-6574

Indiana State Climate Office
Monthly Weather Report
http://www.iclimate.org

Mar 4, 2009

February 2009 Climate Summary

Summary

The second month of 2009 is in the books and it will go down as one that was warm and wet, the exact opposite of January. The oscillation of weather was in full effect throughout February as the state was thawed and chilled on occasion, with high temperatures fluctuating 20F above or below the normal. The periods of warm and cool weather did not last long. The intermittent changes in temperature were derived from the endless stream of weather systems parading through the Mid-West.

In the winter people tend to focus on the extreme cold during the month rather than the unseasonable warmth. Despite the roller coaster ride of temperatures, in the end February was actually *warmer* than normal. Temperatures which dropped into the low-20s were offset a few days later with highs breaching 60F. Some northern cities set daily high temperature records in mid-February. South Bend recorded a high temperature of 62F on February 10th, eclipsing the old record of 61F set in 1932. The statewide average temperature for February 2009 was 31.2F, which is 0.8F above normal, good for a tie with 1898 as the 47th warmest February in the last 115 years.

The precipitation pattern was similar to that of January but it was a bit more intense this past month. On at least four days the entire state received at least 0.5 inches of snow. Not a week passed without every county experiencing some form of precipitation. The perpetual presence of snow, ice, and rain caused many traffic accidents, power failures, and, unfortunately, a few deaths. Indiana received approximately 2.80 inches of precipitation for February, 0.52 inches above normal. February 2009 was tied for the 37th wettest February since 1895. February 1944 also received a statewide average of 2.80 inches of precipitation.

February 1st – 7th

Low lows and high highs. The first week of February 2009 was a mixed bag of temperatures; quite the roller coaster ride. The week began on a high note, with average highs more than 8F above normal. These warmer temperatures were short lived since they were as a result of a warm front connected to a cold front that was about to barrel through the state late on the 1st. Temperatures quickly receded and would remain well below normal for the next four days. Highs fell below 20F across most of the state on the 3rd and 4th as cold Canadian air rushed into the state behind successive cold fronts. Temperatures did a 180 on the 6th. High pressure in the Tennessee Valley brought much warmer temperatures for the last two days of the week. Highs

rose more than 20F from the 5th to the 6th and continued rising on the 7th. Just three days earlier highs failed to breach 20F but now they were 55F. The statewide average high for the first week of February 2009 was approximately 37F, right about normal for this time of year. However looking closer you can see we experienced both sets of extremes this week.

If it weren't for a 40 hour period in the middle of the week, February 1st through 7th would have been especially boring. The week began and ended dry, with little or no precipitation on the 1st, 2nd, 6th, and 7th. However portions of the 3rd, 4th, and 5th were a wild ride. Heavy snow engulfed the state in the afternoon on the 3rd and it continued through the morning on the 4th. All of Indiana received at least 0.5 inches of new snow on the 3rd. The snow really picked up intensity late on the 3rd and into the 4th. In addition to the system passing through the Mid-West, northwestern counties were being pounded with strong lake effect snow. More than two feet of snow fell in Porter County as a result of the bands. Much of the north and central counties received at least another inch of snow on the 4th, with some heavier concentrations reaching three or more inches around Indianapolis. The lake effect bands and cold front passed by the 5th, though some lingering snow showers brought another 0.5 inch around the lake and a dusting to the Indiana-Ohio border. As previously stated, precipitation was nonexistent for most of the 5th, 6th, and 7th, allowing residents to shovel their way out of yet another winter storm.

The heavy snow on the 3rd caused problems in many areas around the state. In the northwest, lake effect slammed counties with over two feet of snow falling in Porter County, which was in a Level 2 State of Emergency. County schools and many businesses were forced to close for a few days while crews attempted to make roads safe and passable once more. Valparaiso reported 26 inches, Westville 24 inches, and Kouts 23 inches from this storm alone, according to the National Weather Service in Romeoville, Ill. The heavy snow caused problems along the Indiana Toll Road in Porter and LaPorte counties, with many crashes and slide-offs reported during the evening of the 3rd and the morning of the 4th. Luckily, none of the incidents in the northwest were serious. Unfortunately the same can not be said for events elsewhere. Heavy snow in central Indiana caused a 20-car pileup 25 miles northeast of Indianapolis in Noblesville. Three people died and many more were injured in the accident that occurred on interstate 69 on the 3rd. Heavy snow dramatically cut visibility and snow was falling at over an inch accumulation per hour.

February 8th – 14th

Spring came early this year – at least it felt that way during the second week of February 2009. After a bitterly cold middle of the first week, the warming trend that started at then end of week one continued all the way to Valentine's Day. Though no records were set, temperatures across Indiana swelled thanks to high pressure in the Central Plains and the passing of a significant warm front during the week. Highs on the 8th through the 12th were at least 10F above normal. Temperatures in the 60s were widespread in the south, with mid- and upper-50s across the north. The snow from the previous week melted quickly with these temperatures sticking around for almost a week. The temperatures began to drop on the 12th and 13th, though they were still above normal for this time of year. Slightly below normal temperature appeared for the first time this week on Valentine's Day thanks to the movement of cold and stationary fronts from the south.

The cooler air dropped temperatures back to normal (upper-30s). The average high temperature for week two was approximately 52F, almost 15F above normal.

If you like warm weather and sunshine then the 8th and 9th were quite pleasant for you! There was not a rain cloud in sight to start the week for most of the state, though some lake effect precipitation fell in the northwest on the 9th. Once again the middle of the week turned moist, as has been the case during the first few weeks of 2009. The 10th, 11th, and 12th all proved to be quite moist. Rain started in the west late on the 10th as the cold front portion of a synoptic low pressure system pushed into the state. The rain was initially light but the system strengthened throughout the morning on the 11th and unleashed heavier rains that afternoon and evening. All of Indiana received over 0.5 inches of rain on the 11th, with isolated areas in Vermillion, Fountain, Parke, and Vigo counties registering close to 1.5 inches. South Bend (1.01 inches; old record – 0.65 in 1998), Fort Wayne (2.83 inches; old record – 0.91 in 1985), and Indianapolis (1.87 inches; old record – 1.01 in 1985) all set new records for daily rainfall for February 11. The heavy rains fell through the night and into the morning on the 12th. All counties reported at least 0.3 inches of new rain. Daily totals of 1.1 inches were recorded in De Kalb and Allen counties. Storm totals from the 10th through 12th were close to 3 inches in the west central counties. The entire state received at least 0.7 inches. After a slight reprieve on Friday the 13th, precipitation fell again in the early morning hours on Valentine's Day in central and northern Indiana. Thanks to a drop in temperatures, a dusting of snow fell as far south as Indianapolis. Over an inch fell in the counties bordering Michigan, with even higher totals in the extreme northeast section of the state.

The strong storms that rolled through the state early on the 11th through the afternoon on the 12th produced problems across the state. Wind gusts of at least 60 mph were reported across central Indiana and caused numerous power outages. Around Indianapolis more than 6,000 people were without electricity for much of the day on the 11th. More than 21,000 were in the same situation in Muncie, South Bend, and Fort Wayne. Winds were so strong that mobile homes were being pushed from their lots, including one incident in Lafayette resulting in a home blocking a road. A 72 mph gust was reported in Hamilton County on the 11th. Falling trees were a problem as well. In Brownsburg, emergency crews responded to a 911 call from a person stuck in a car after a large branch fell onto it. Severe storms hammered Terre Haute and the surrounding area on the 11th with ¾ inch hail and 50 to 60 mph winds. A small tornado was reported in Delaware County on the 11th and subsequently confirmed by the National Weather Service. The weak EF1 tornado touched down and moved south along County Road 550, blowing roofs off of at least one barn and house. Not only were wind and hail a problem but excessive rain was too. The heavy rain, combined with melting snow from the previous week's storms, caused some minor flooding with the potential for major problems into next week. Flood warnings were instituted throughout the day on the 11th, 12th, and 13th in northern counties. The warnings percolated south with the surging water throughout the weekend.

February 15th – 21st

Conditions were rather innocuous for much of the third week of February. Temperatures did their normal swaying back and forth, inundating us with temperatures cooler and warmer than normal. The week began on the cool side as the cold front from the end of week two completely

passed through the state. High temperatures were slightly below normal on the 15th and 16th before warming on the 17th and 18th. High pressure progressing eastward from the Mid-West to the Carolinas combined with the leading warm edge of a synoptic system contributed to these slightly warmer than usual temperatures. Highs in the upper-40s wouldn't last long. Late on the 18th the synoptic systems cold front passed, rapidly dropping temperatures well below normal, where they would stay for the remainder of week three. Conditions were coolest on the 19th, with highs more than 16F below normal in some areas. Highs struggled to reach the mid-20s. As the cold front passed on through the evening of the 19th and the morning of the 20th temperatures rebounded but rather slowly. Highs managed to reach about 30F on the 20th, still more than 10F below normal, and 34F on the 21st. For the third week of February 2009 the average high temperature was approximately 38F, which is about 5F below normal. The cool conditions continue!

Relatively calm conditions too precedent to start the week with only lake effect weather altering the calm sky. Snowfall continued in the northwest thanks to lake effect bands dropping light snow continuously on the 15th and 16th. Accumulations were minimal. Things did an about-face late on the 18th. Two separate synoptic systems had a hand in the weather for the night of the 18th and throughout the day on the 19th. The two stacked systems produced light rain in the south, a wintry mix in central Indiana, and snow in the north overnight. As temperatures cooled snow raced south and extreme southern counties changed over to a wintry mix. Sleet was felt in central counties as temperatures cooled. Up to 5 inches of snow fell in counties along the Indiana-Michigan border, with accumulations dropping as you moved south. A light dusting covered the land in the central counties and was laced with sleet. Snow showers continued in the early morning hours on the 20th, adding up to another inch of snow in extreme parts of northern Indiana counties. The main system departed on the 20th but that didn't stop precipitation entirely. The lake produced more snow on the 21st and was heavy at times. Another 2-3 inches fell, adding to the half foot they had received earlier in the week. Weekly snowfall totals topped 8 inches around the lake with the entire state receiving at least 0.5 inches.

The widespread snow and sleet on the 19th didn't cause major damage but, as usual, there were some vehicle slide offs and minor traffic accidents. About a dozen of these occurred in and around the Muncie area, specifically Interstate 69, and near Richmond along Interstate 70. There were no injuries reported. A second does of winter weather at the conclusion of week two added more travel headaches. With snow falling and blustery winds, with gusts of over 30 mph, more slide offs and minor accidents were reported in many northern Indiana counties. St. Joseph County officials reported no major accidents, numerous slide offs, and a road closure (Mayflower Road) due to blowing snow. Minor traffic mishaps happened along the Toll Road as blowing snow caused temporary whiteout conditions. Unfortunately not all incidents were minor. Along Interstate 65 on the morning of the 21st a 4-vehicle crash took the lives of two women. Officials believe slick conditions from snow, ice, and wind may have had a hand in causing the fatal crash.

February 22nd – 28th

Arctic air filled in behind the synoptic system that passed at the end of week three, dropping temperatures well below normal once again. This cold snap – which began on February 19th –

would not end until the 25th. The 22nd was the most frigid of the cold spell with high temperatures as much as 20F below normal. Mid-20s are certainly not the norm for this time of year. Conditions did not improve much on the 23rd, with highs barely breaching 30F and staying more than 15F below normal. The transition to warmer weather began on the 24th as the high pressure area move further to the east allowing warmer air to rush north from the Gulf. That, combined with an approaching occlusion, raised temperatures considerably. Highs climbed into the mid-50s, now more than 10F above normal. The early spring-like conditions lasted a mere two days (the 25th and 26th) before the synoptic systems cold front entered the state late on the 26th. Temperatures fell back to normal on the 27th, hovering gingerly around 40F. As the cold front passed through Indiana temperatures fell steadily and the week ended like it began: cold. Highs again were right below 30F, more than 12F below normal. The average daily high temperature for the final week of February was 42F, about 3F below normal.

Remnants of last week's system lingered in the early days of week four. Light snow fell across the state on the 22nd and 23rd leaving up to three inches in northwestern counties. Most of the state saw a dusting and totals below an inch. Conditions calmed on the 24th through the day on the 26th with no precipitation, resulting in three and beautiful days. Late on the 26th the next system reared its head and things changed. Light rain began falling statewide through the evening and night, only to intensify throughout the day on the 27th. The 36-hour rain event was not heavy, with accumulations at about 0.5 inches. Some counties around the lake and along the Kentucky border received just over an inch. The system was rather short-lived and the week ended on a calm (but cool) note. Extreme northern and southern counties saw the brunt of the two systems that brought precipitation at the beginning and end of week two. Those regions saw about 1.2 inches of precipitation, while the vast majority of the state received approximately 0.6 inches. Weekly snowfall totals were less than an inch for everywhere save for counties at the mercy of lake-effect systems. Parts of La Porte, St. Joseph, and Elkhart counties received as much as 3.5 inches of snow this week.

After a rough few weeks of multiple accidents and even a few deaths, this past week was relatively quiet. There were no reports of current weather-related accidents, tragedies, disasters or impacts for the last week in February 2009.

February Summary

Temperature

Region	Temperature	Normal	Deviation
Northwest	28.7	27.7	1.0
North Central	28.5	27.3	1.2
Northeast	28.5	26.8	1.7
West Central	31.0	30.0	1.0
Central	30.5	29.7	0.8
East Central	29.8	28.7	1.1
Southwest	35.4	34.7	0.7
South Central	34.2	34.5	-0.3
Southeast	33.5	33.4	0.1
State	31.2	30.4	0.8

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	3.26	1.68	1.58	194
North Central	3.22	1.79	1.43	180
Northeast	3.09	1.78	1.31	174
West Central	3.22	2.16	1.06	149
Central	2.60	2.27	0.33	115
East Central	2.02	2.15	-0.13	94
Southwest	2.74	2.88	-0.14	95
South Central	2.47	2.92	-0.45	85
Southeast	2.31	2.80	-0.49	82
State	2.80	2.28	0.52	123

Winter-to-Date

(December 2008, January & February 2009)

Temperature

Region	Temperature	Normal	Deviation
Northwest	23.3	26.4	-3.1
North Central	23.4	26.4	-3.0
Northeast	23.6	26.2	-2.6
West Central	26.4	28.5	-2.1
Central	26.4	28.5	-2.1
East Central	26.0	27.8	-1.8
Southwest	31.5	33.0	-1.5
South Central	30.5	32.9	-2.4
Southeast	29.8	32.1	-2.3
State	26.8	29.1	-2.3

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	8.71	6.21	2.50	140
North Central	8.89	6.63	2.26	134
Northeast	8.75	6.45	2.30	136
West Central	9.73	7.41	2.32	131
Central	9.51	7.60	1.91	125
East Central	8.33	7.31	1.02	114
Southwest	10.43	9.41	1.02	111
South Central	10.75	9.58	1.17	112
Southeast	10.20	9.22	0.98	111
State	9.53	7.77	1.76	123

Annual-to-Date

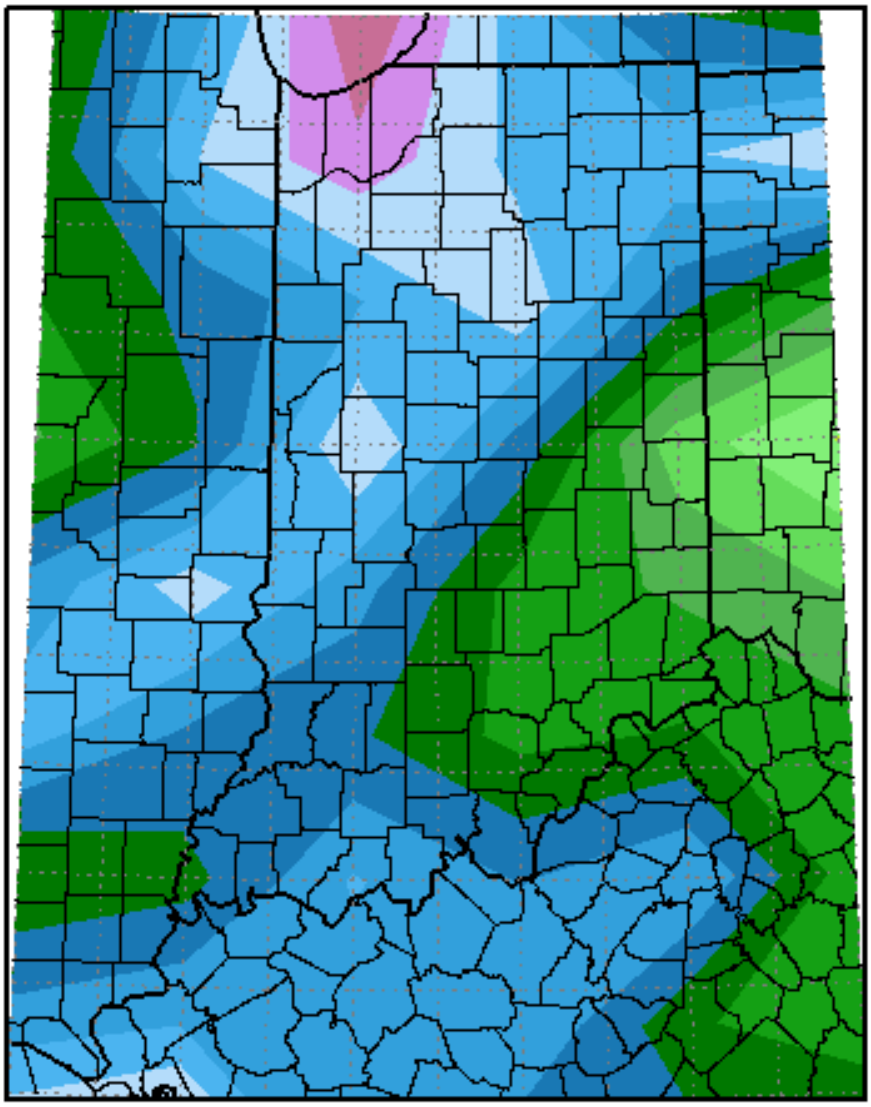
Temperature

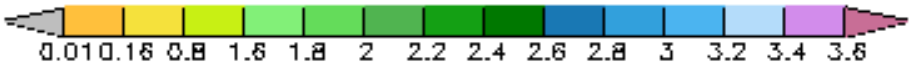
Region	Temperature	Normal	Deviation
Northwest	22.6	25.3	-2.7
North Central	22.5	25.1	-2.6
Northeast	22.5	24.9	-2.4
West Central	25.6	27.4	-1.8
Central	25.6	27.4	-1.8
East Central	24.8	26.6	-1.8
Southwest	30.7	32.2	-1.5
South Central	29.6	32.1	-2.5
Southeast	29.0	31.2	-2.2
State	26.0	28.1	-2.1

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	4.15	3.56	0.59	117
North Central	4.38	3.84	0.54	114
Northeast	4.35	3.77	0.58	116
West Central	4.41	4.44	-0.03	99
Central	4.11	4.61	-0.50	89
East Central	3.46	4.44	-0.98	78
Southwest	5.28	5.88	-0.60	90
South Central	5.10	6.02	-0.92	85
Southeast	4.95	5.81	-0.86	85
State	4.49	4.71	-0.22	95

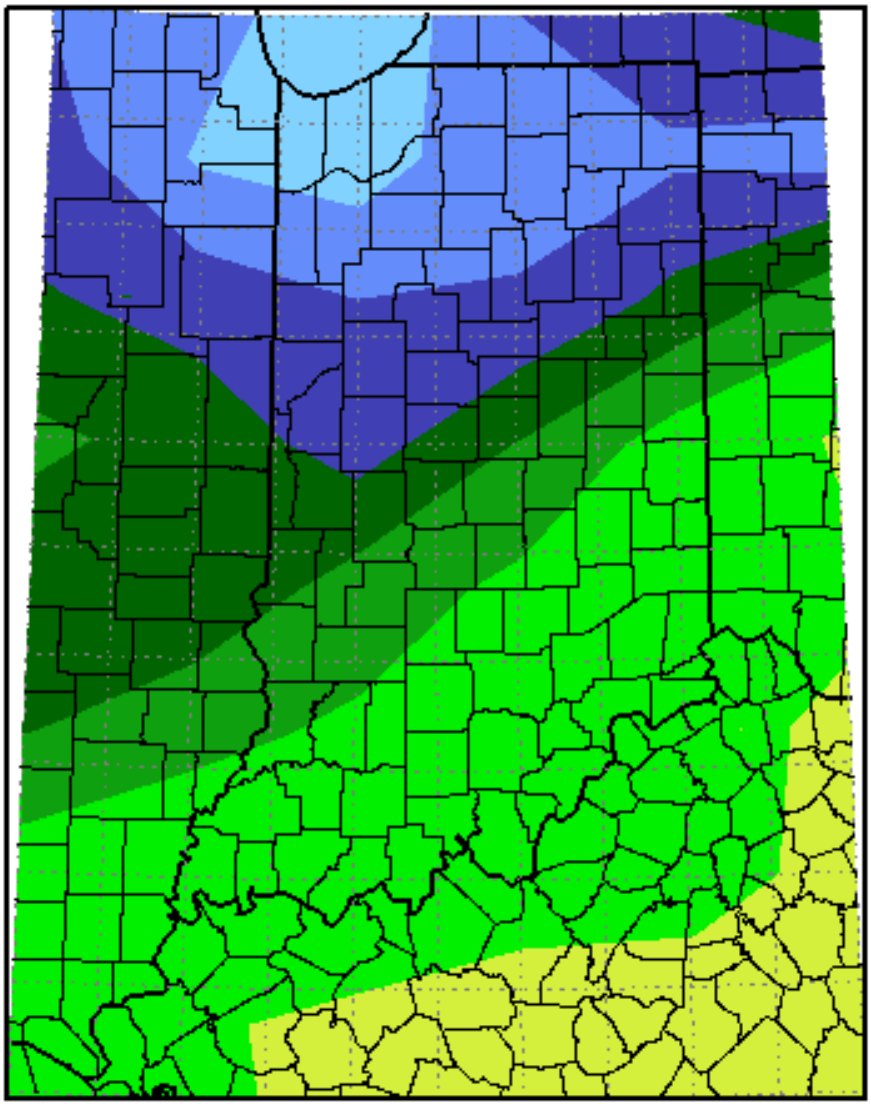
Total Precipitation in Inches
February 1, 2009 to February 28, 2009

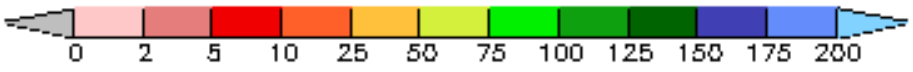




NOAA Midwestern Regional Climate Center
Illinois State Water Survey
Champaign, Illinois

Total Precipitation Percent of Mean
February 1, 2009 to February 28, 2009



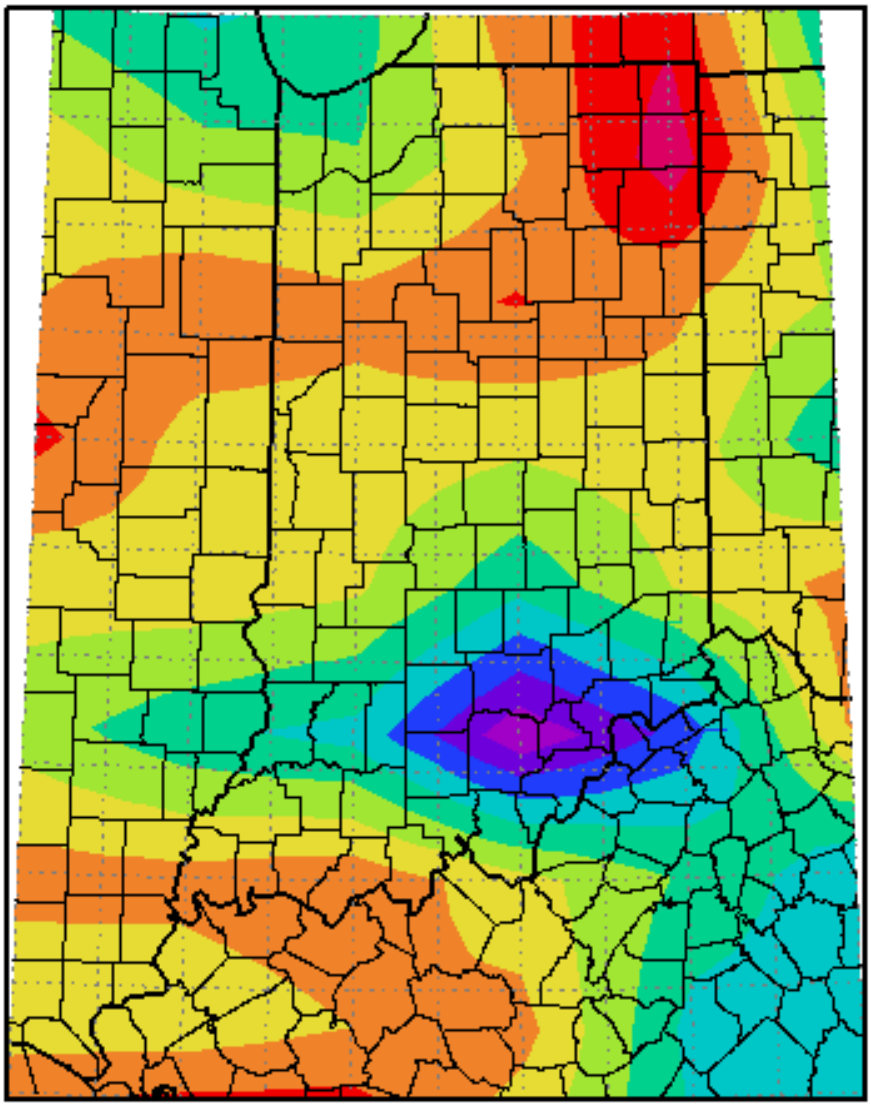


NOAA Midwestern Regional Climate Center

Illinois State Water Survey

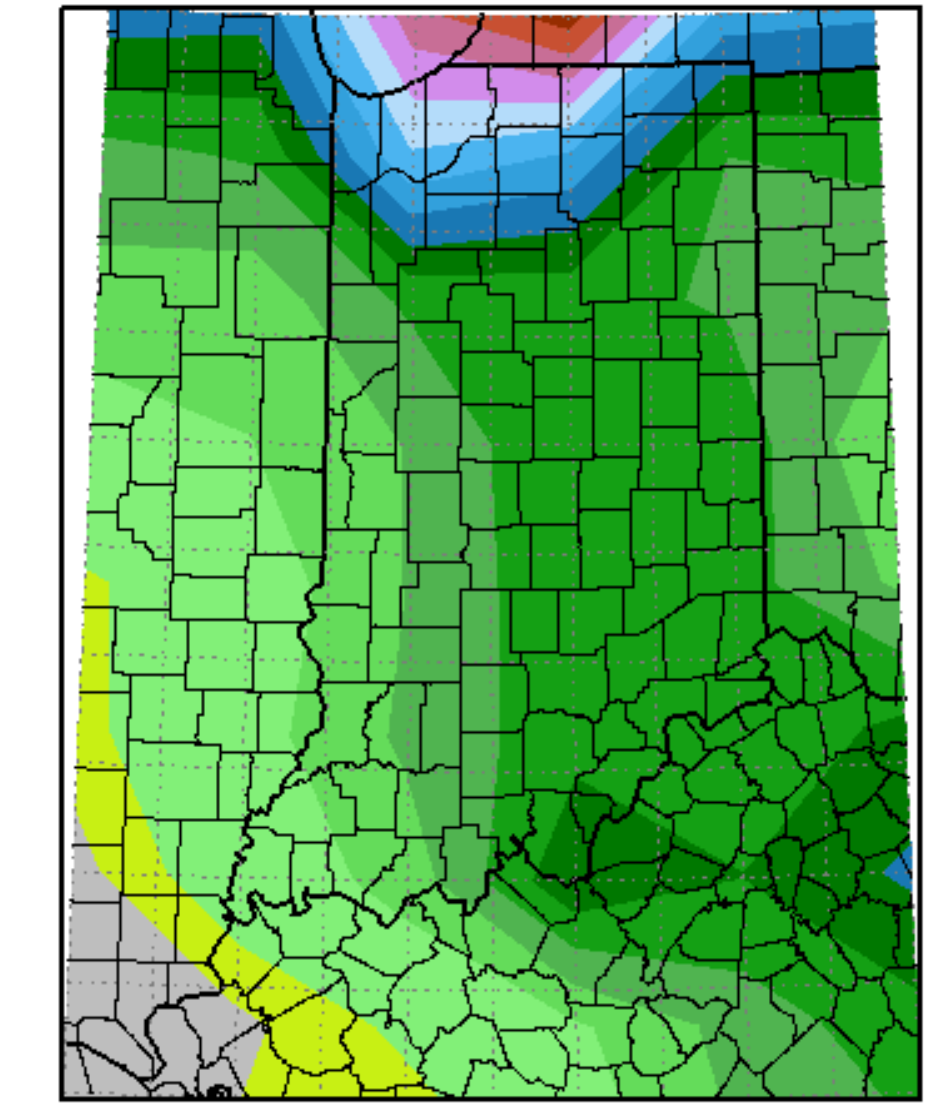
Champaign, Illinois

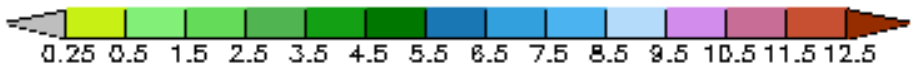
Average Temperature Departure from Mean in Degrees F
February 1, 2009 to February 28, 2009



NOAA Midwestern Regional Climate Center
Illinois State Water Survey
Champaign, Illinois

Total Snowfall in Inches
February 1, 2009 to February 28, 2009





NOAA Midwestern Regional Climate Center
Illinois State Water Survey
Champaign, Illinois

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, February 6th has 100% of Indiana under no drought, and 0.00% of Indiana under at *least* D0 through D4 drought status. This is followed by 0.00% as D1 through D4 status. To obtain the amount that is D0 status, simply subtract the D1-D4 column from the D0-D4 column, thus giving you the percentage of area with abnormally dry conditions. Please note, however, that these areas are not exact, and much of this drought map has been created from reports throughout the state and estimation, so use this information as a general view rather than for specifics.

D0 Abnormally Dry D1 Drought - Moderate D2 Drought - Severe D3 Drought - Extreme D4 Drought - Exceptional

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
02/03/09	100.00	0.00	0.00	0.00	0.00	0.00
02/10/09	100.00	0.00	0.00	0.00	0.00	0.00
02/17/09	100.00	0.00	0.00	0.00	0.00	0.00
02/24/09	100.00	0.00	0.00	0.00	0.00	0.00

February 7th Drought Summary

February 10th Drought Summary

February 17th Drought Summary

February 24th Drought Summary