

**Ken Scheeringa**

**(765) 494-8105**



## Indiana State Climate Office

### Monthly Weather Report



<http://www.iclimat.org>

**Jun 4, 2010**



## May 2010 Climate Summary

### Summary

The first days of May were warm but then a two week spell of rain and cold left Hoosiers wondering where the sunny skies and warmth of April had gone. Then suddenly it felt like summer as warm and humid weather arrived on May 22<sup>nd</sup> and continued to the end of the month.

The 19 days of above normal temperatures netted a May with a state averaged temperature of 64.4° which is 2.4° above normal. This places May 2010 as the 23<sup>rd</sup> warmest May on record in Indiana since 1895. The most recent May that was warmer than 2010 occurred three years ago. The May 2007 state average temperature was 66.2°, good for 12<sup>th</sup> place. Go back another three years and May 2004 came in at 13<sup>th</sup> warmest at 65.8°. The warmest May of all in the Indiana record books was 1896 with an average temperature of 68.4°.

The first three weeks of May were wet with rain somewhere in Indiana nearly every day. The rest of the month was mostly dry as an abrupt shift from spring to summer like weather took place about May 22<sup>nd</sup>. A few locations with the heaviest rain totals for the month include CoCoRaHS observers at Fort Wayne with 10.10 inches and at New Salem with 9.51 inches. State averaged precipitation for this month was 5.55 inches which is about 25 percent above normal and ranks May 2010 as the 25<sup>th</sup> wettest May on record. The most recent May with heavier precipitation was last year when 5.61 inches fell, ranking in 24<sup>th</sup> place. Two years ago the state average of 5.68 inches placed 22<sup>nd</sup> on the Indiana list. Still wetter Mays occurred in 2003 (6.64 inches in 13<sup>th</sup> place), 2002 (7.00 inches in 10<sup>th</sup> place), and 2004 (7.27 inches in 8<sup>th</sup> place). The all time wettest May stands at 8.88 inches in 1943.

Nearly 3000 residents were without power near Terre Haute immediately after the May 21<sup>st</sup> storm. The National Weather Service had issued a tornado warning in mid afternoon for northern Vigo county and parts of Parke and Vermillion counties. There were no verified reports of tornados, although two funnel clouds were reported that day, one in Boone county and another in Daviess county.

A line of thunderstorms produced heavy downpours, flooding, hail, and high winds on Memorial Day in extreme northern Indiana. Trees were knocked down and electrical power was lost to homes in St Joseph, La Porte, and Lagrange counties.

## **May 1<sup>st</sup> – 7<sup>th</sup>**

The trend in recent weeks has been away from the unusually warm and dry weather conditions of early April to a wetter pattern with temperatures closer to seasonal averages. The weather was more active this first week of May as four storm systems passed through Indiana. Despite these multiple storms daily temperatures actually remained on the warm side throughout the week. May opened with statewide averaged daily temperatures at 10° above the normal for this time of year. These temperatures dampened only very slightly to 8° above normal the first half of the week despite the clouds and rain. The third cold front of the week was strongest and dragged temperatures down to 1° above normal by May 6<sup>th</sup>. As a fourth storm system approached Indiana at the end of the week, state average temperatures rebounded to 6° above normal. Overall for the week temperatures averaged 8° above normal. Typically this first week of May daily maximum temperatures range from 65° in far northern Indiana to 72° in the extreme southwest. Daily minimums usually vary between 44° in northern Indiana to 50° in the south.

Rain fell on all but one day this week as four intense low pressure systems with lengthy cold fronts marched across the country and Indiana. Rainfall amounts were largest early in the week as these fronts wrung out the atmosphere and less moisture was available for later fronts to work with. The CoCoRaHS observer in Floyds Knobs reported 2.45 inches of rain on the morning of May 2<sup>nd</sup>, the largest one day total for the state this week. New Albany was close behind with 2.40 inches. For the week rainfall totaled 1.25 inch on average across northern and central Indiana and 2.60 inches across the south. The largest weekly total was 5.26 inches reported at Corydon, 5.18 inches at Central, and 4.90 inches at Lanesville, all in Harrison county. Normally for this week about 0.75 inch would be expected across northern Indiana, 0.90 inch in central, and 1.20 inch in the south.

## **May 8<sup>th</sup> – 14<sup>th</sup>**

The warm temperatures of last week flipped into a cool pattern this week. But a second week of rainy weather extended an already wet May to at least mid month. At the start of the week a strong Canadian high pressure center poured cold air into Indiana behind an occluded low pressure system. Statewide temperatures averaged 12° below normal by May 9<sup>th</sup>. Cold surges are frequent but short lived now as spring is well advanced and daylight continues to lengthen. Another storm system moving to Indiana from Colorado tapped into warmer southern air, causing air temperatures to rise to 5° below normal by May 11<sup>th</sup>. The cold front behind this storm stalled on its way south into Texas, then bounced back as a warm front on May 13<sup>th</sup> lifting Indiana temperatures to 8° above normal. As this third storm system raced eastward past Indiana, the final cold front of the week dragged temperatures down to 3° above normal to close out the week. Overall for the week statewide temperatures averaged 4° below normal. Daily maximum temperatures normally range from 69° in far northern Indiana this week to 76° in the southwest. Daily minimums typically vary between 48° and 53° north to south across the state.

The rainy May continued as precipitation was recorded every day this week. Only a few hundredths fell through May 10<sup>th</sup> but then moderate rains fell on most of the remaining days. For the week total rainfall was about 1.90 inch in northern Indiana, 1.50 inch in central, and 1.80 inch in the south.

These totals are well beyond the 0.80 inch expected in the north, 0.90 inch in central, and 1.10 inch typically recorded in southern Indiana this second week in May. The heaviest weekly total from a CoCoRaHS observer was noted at 3.64 inches at Laporte.

Pea sized hail fell in Georgetown on May 12<sup>th</sup> but little other severe weather was reported in the three storm systems of this week.

### **May 15<sup>th</sup> – 21<sup>st</sup>**

The May rainy weather pattern continued into its third week, allowing little sunshine and holding temperatures below normal every day. The cool wet weather of late is a localized effect caused by a small upper atmospheric low pressure trough over our region embedded within a much larger upper ridge pattern which of itself brings warm and dry weather and dominates the national weather scene. The week began with statewide averaged temperatures 3° below normal as a cold front slipped southward across the state. A stronger cold front in mid week reinforced the cool air and dropped temperatures to 8° below normal by May 18<sup>th</sup>. A slow but steady warm up lifted average temperatures to 2° below normal as the week came to an end. Overall for the week Indiana temperatures averaged 5° below normal. Usually we would expect daily maximum temperatures to range from about 73° to 79° north to south across our state. Typical daily minimums should vary between 50° in the far north to 56° in southwest Indiana.

Once again rain fell every day this week. Amounts were very light at the start of the week then ramped up to about 0.60 inch in northern and central Indiana and a quarter inch in the south by mid week. After a two day lull with small amounts, the week closed with another dose of about 0.60 inch in northern and central Indiana and 0.30 inch in the south. For the week totals averaged 1.40 inch in northern Indiana, about 1.60 inch in central, and 0.90 inch in southern Indiana. These amounts are more than one and a half times normal in northern and central Indiana and right about normal in the south.

Though rainfall averaged less than an inch on the final day of the week, local storms dumped heavy amounts in spots. Nearly 3 inches of rain fell on the north side of Fort Wayne on May 21<sup>st</sup> while Auburn recorded 4.40 inches. With all that water local rivers rose quickly. A Maumee River gauge soared 10 feet in 24 hours to the 20 foot mark on May 22<sup>nd</sup>, which is 3 feet above flood stage. The St. Joseph River north of Interstate 469 also rose to 3 feet over flood stage. Fort Wayne city workers set up three pumps to shuttle water past overwhelmed storm sewer intakes in an effort to mitigate flooded streets in some of the hardest-hit areas. Farm fields in this area are now saturated from the heavy rain, and with recent cool temperatures, crop growth has been slowed.

In Vigo county nearly 3,000 residents were without power immediately after the May 21<sup>st</sup> storm. By early evening power had been restored to all but 1,155 of those customers. In mid afternoon the National Weather Service had issued a tornado warning for northern Vigo County and parts of Parke and Vermillion counties which was cancelled within the hour.

Elsewhere around Indiana there were no verified reports of tornados from the May 21<sup>st</sup> storm. Yet at least two funnel clouds were reported, one in Boone county and another in Daviess county. Several trees were downed by the storm.

## May 22<sup>nd</sup> – 31<sup>st</sup>

This week marked a major weather shift away from the rainy and cool pattern thus far in May to an unofficial start to summer. Two weeks of cool temperatures gave way to much warmer and mostly drier conditions the final 10 days of the month. State averaged temperatures began the week 3° above normal, then climbed another 7° two days later before peaking at 13° above normal by May 26<sup>th</sup>. Slightly cooler conditions dropped deviations to 8° above normal by May 28<sup>th</sup> before holding steady to the end of the month. For the interval temperatures averaged 9° above normal. Typically near the end of May daily maximum temperatures should range from 73° in extreme northern Indiana to 79° in the far southwest. Daily minimums are expected to vary from 52° to 58° north to south across the state.

After the May 21<sup>st</sup> storms virtually no rain fell the next four days. A strong high pressure center located off the New England coast retrograded and moved inland towards Pennsylvania during this time, blocking the advance of a storm system parked over the Great Plains.

On May 26<sup>th</sup> another high pressure system from Canada countered the New England high center, forcing the cold front between them to rotate parallel to the Canadian border. This was in response to an upper atmospheric pattern reorientation to a zonal position. This repositioning brought light showers to most of Indiana but produced locally heavy rain in southern Indiana. New Salem reported 4.00 inches on the morning of May 27<sup>th</sup>, the heaviest daily total for the 10 day interval noted in the state.

The Bermuda high pressure system now joined in, as it muscled its way westward from Florida to influence most of the country the next day, reinforcing the warm humid air over Indiana. On Memorial Day the long standing cold front in the Great Plains was on the move towards our state, triggering a final round of May storms. Overall for the 10 days rainfall was only about half the normal 1.6 inch amount, averaging nearly 1.0 inch across northern and southern areas and 0.6 inch in central Indiana.

Memorial Day was washed out in extreme northern Indiana as a line of thunderstorms caused problems across the area, including heavy downpours, minor flooding, hail and high winds. The storms knocked out power to 300 customers in St Joseph county and 2000 homes in Laporte county. In Mishawaka pea-sized hail turned to torrential rain. Hail damage sparked a fire inside a transformer along Indian Ridge Boulevard, knocking out power to several nearby stores and street lights across the city's north side. Trees and power lines were down in Lagrange County earlier in the day.

## May Summary

Region	Temperature		
	Temperature	Normal	Deviation
Northwest	62.9	60.8	2.1
North Central	62.4	60.3	2.1
Northeast	62.3	59.8	2.5
West Central	64.3	62.3	2.0
Central	64.2	61.7	2.5
East Central	63.7	60.8	2.8
Southwest	67.3	64.6	2.7
South Central	66.3	63.9	2.5
Southeast	65.8	63.0	2.8
<b>State</b>	64.4	62.0	2.4

Region	Precipitation			
	Precipitation	Normal	Deviation	Percent of Normal
Northwest	5.25	3.98	1.27	132
North Central	5.39	3.85	1.54	140
Northeast	6.16	3.78	2.38	163
West Central	5.01	4.38	0.63	114
Central	4.74	4.40	0.34	108
East Central	4.96	4.31	0.65	115
Southwest	6.11	4.99	1.12	122
South Central	6.70	5.00	1.70	134
Southeast	5.98	4.85	1.13	123
<b>State</b>	5.55	4.40	1.15	126

## Spring (March - May)

Region	Temperature		
	Temperature	Normal	Deviation
Northwest	53.5	49.6	3.9
North Central	53.1	49.0	4.1
Northeast	52.7	48.5	4.1
West Central	55.2	51.5	3.7
Central	54.9	50.9	4.1
East Central	54.1	49.9	4.1
Southwest	58.1	54.7	3.3
South Central	57.1	54.1	3.0
Southeast	56.3	53.1	3.2
<b>State</b>	55.1	51.4	3.7

### Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	10.95	10.50	0.45	104
North Central	10.97	10.22	0.74	107
Northeast	12.18	9.96	2.23	122
West Central	10.99	11.61	-0.63	95
Central	11.06	11.59	-0.53	95
East Central	11.24	11.16	0.08	101
Southwest	13.40	13.66	-0.26	98
South Central	13.30	13.59	-0.29	98
Southeast	12.19	13.01	-0.82	94
<b>State</b>	11.81	11.74	0.06	101

### 2010 Annual to date

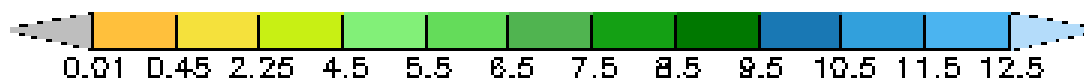
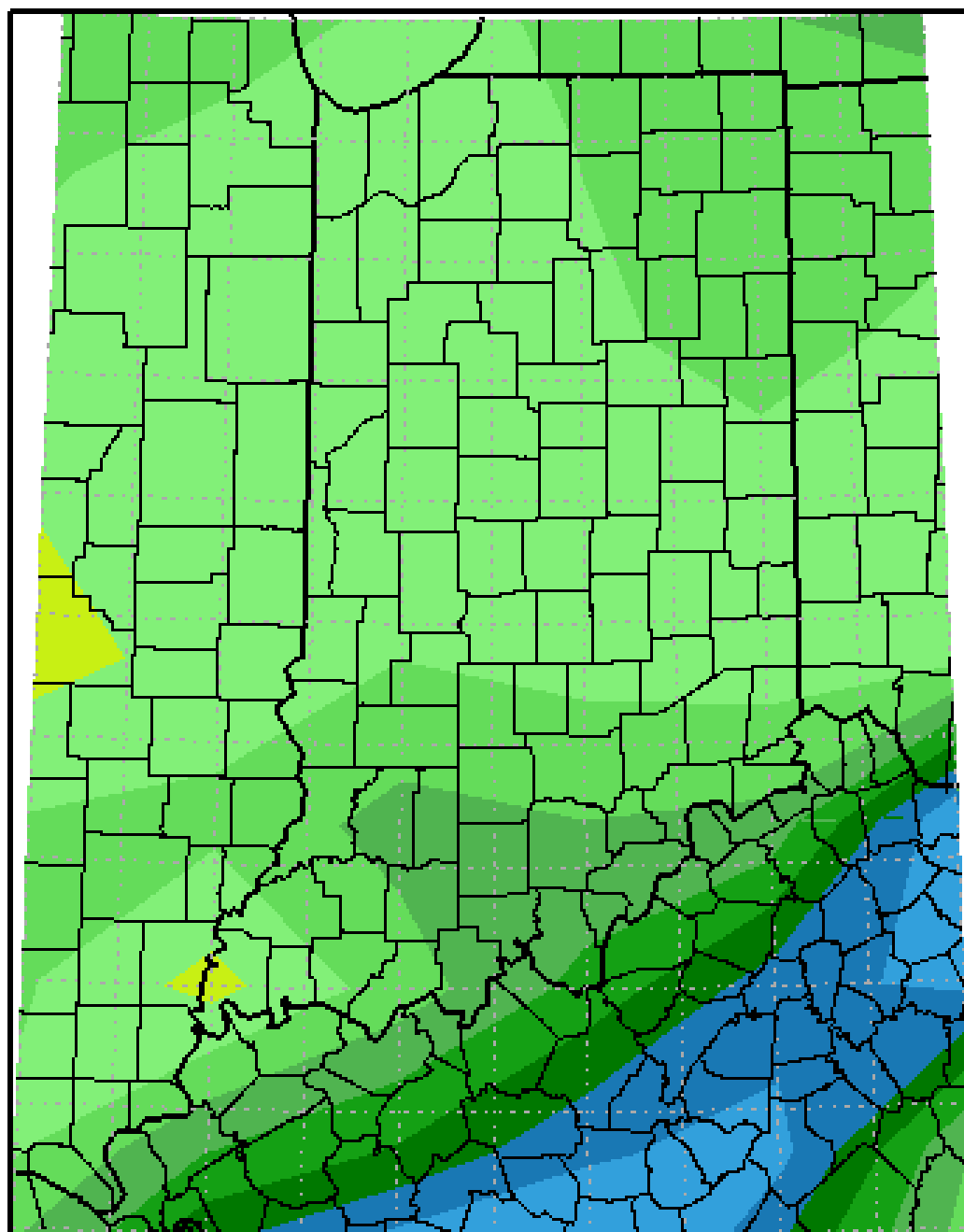
#### Temperature

Region	Temperature	Normal	Deviation
Northwest	41.4	40.1	1.3
North Central	41.5	39.7	1.8
Northeast	41.3	39.3	2.0
West Central	42.7	42.1	0.6
Central	42.7	41.7	1.0
East Central	42.0	40.8	1.2
Southwest	46.1	45.9	0.2
South Central	45.2	45.5	-0.2
Southeast	44.6	44.5	0.1
<b>State</b>	43.1	42.3	0.9

#### Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	13.55	14.05	-0.50	96
North Central	13.59	14.07	-0.47	97
Northeast	14.38	13.72	0.66	105
West Central	13.61	16.06	-2.45	85
Central	14.04	16.20	-2.17	87
East Central	14.13	15.60	-1.47	91
Southwest	17.14	19.54	-2.40	88
South Central	17.23	19.61	-2.38	88
Southeast	16.19	18.82	-2.63	86
<b>State</b>	14.87	16.46	-1.59	90

# Total Precipitation in Inches May 1, 2010 to May 31, 2010

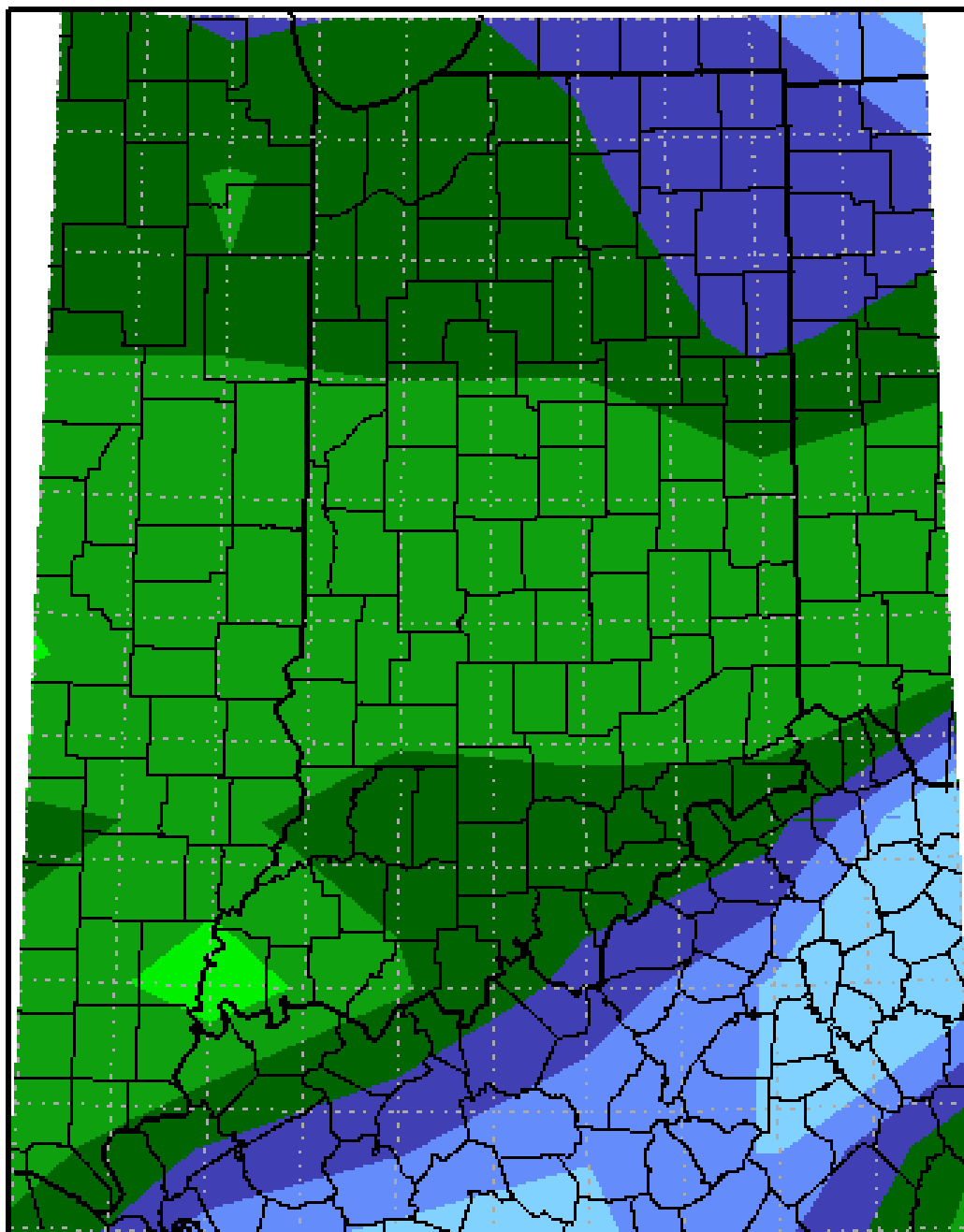


NOAA Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

# Total Precipitation Percent of Mean May 1, 2010 to May 31, 2010



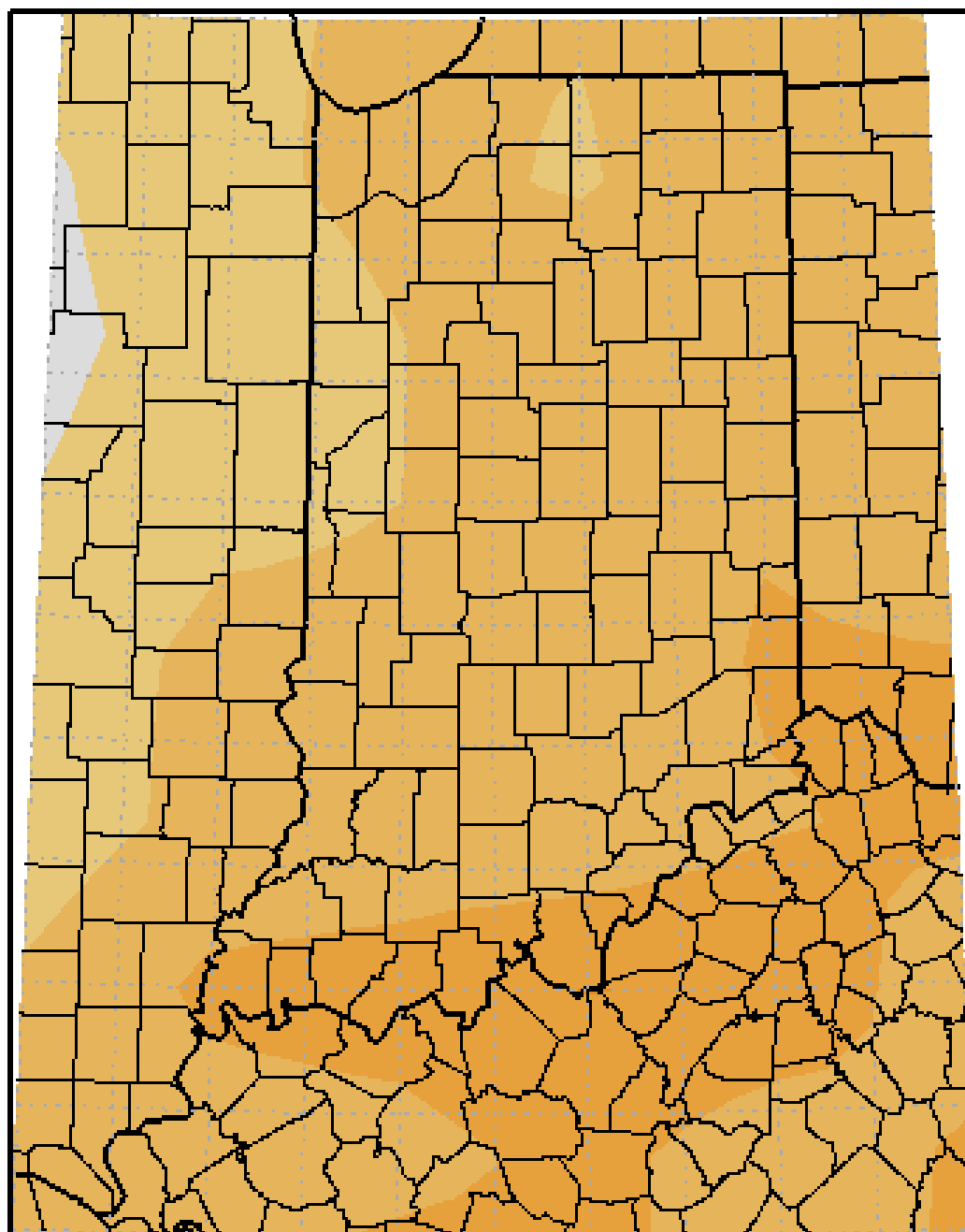
NOAA Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois



**Average Temperature Departure from Mean in Degrees F  
May 1, 2010 to May 31, 2010**



**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, May 4<sup>th</sup> has 100.00% 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 (0.00%) . 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.

Intensity:

- 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
06/01/10	100.00	0.00	0.00	0.00	0.00	0.00
05/25/10	100.00	0.00	0.00	0.00	0.00	0.00
05/18/10	100.00	0.00	0.00	0.00	0.00	0.00
05/11/10	100.00	0.00	0.00	0.00	0.00	0.00
05/04/10	100.00	0.00	0.00	0.00	0.00	0.00

*May 4<sup>th</sup> Drought Summary*



*May 11<sup>th</sup> Drought Summary*



*May 18<sup>th</sup> Drought Summary*



*May 25<sup>th</sup> Drought Summary*



*June 1st Drought Summary*

