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Indiana State Climate Office

Monthly Weather Report



<http://www.iclimat.org>

May 6, 2010



April 2010 Climate Summary

Summary

Unseasonably warm temperatures the first half of the month narrowly missed placing April 2010 in the climate books as the warmest April on record in Indiana. The state averaged temperature of 57.3° is 5.9° above normal and good for second place behind the record warmest 57.6° set in April 1896. Statewide average temperature records begin in 1895. The next warmest April in the current century was April 2001 with a statewide average of 56.6° (4th place).

For the first 16 days of April 2010, on all but one day daily temperatures were much above normal, including two days with temperatures more than 20° above normal. Weather conditions moderated the second half of the month with alternating short spells of above and below normal temperatures due to cloudier days with more frequent rainfall.

Indiana precipitation averaged 3.12 inches in April 2010, which is about 80 percent of normal or about 0.8 inch below the statewide normal of 3.9 inches for the month. Early on this month was on track to be one of the driest ApriIs on record as well as the warmest, but heavier rainfall later in the month dimmed the chances of a dual record month. Locally the heaviest monthly total was 5.61 inches of precipitation reported by a CoCoRaHS observer in Bloomington.

The dryness early this month prompted a red flag fire watch on April 2nd but no significant fires were reported. High winds in extreme southwest Indiana and heavy rains in northeast Indiana on April 7th each produced storm damage. Heavier rains late in the month yielded minor flooding in northeast Indiana on April 28th. The early warm dry spring permitted Indiana farmers to plant field crops at a record pace. Yet the warmth also prompted large amounts of tree pollen to be released in the air which plagued allergy sufferers to limits rarely experienced before.

April 1st – 10th

The warmth of mid March resurged in a mighty way this first interval of April. Temperatures escalated high above early April normals on all but one day as a dominant upper atmospheric wave pattern tapped into warm air to our southwest. Statewide average temperatures started the month at 15° above normal and peaked at 21° above normal the next day. Then a storm system to our west brought rain showers and a cold front to Indiana. This front cooled temperatures just a bit for a couple days yet it was still 11° above normal. A second weaker front on April 5th moved north but stalled along Indiana's northern border. The gateway to warm southerly winds had been reopened however, and state average temperatures rocketed to 26° above normal the next day, the warmest of

the interval. A big change took place on April 7th as thunderstorms with heavier rain announced the arrival of much colder air into our state. Temperatures tumbled over the next three days, hitting bottom at 1° below normal on April 9th. At this time of year cold spells lose their grip on Indiana and tend to be short lived. This indeed was the case as the interval closed out at 7° above normal on April 10th. Overall for the ten days temperatures averaged 12° above normal. Typically this time of year daily maximum temperatures should range from 55° in far northern Indiana to 59° in central areas and 63° in the extreme southwest. Normal daily minimums should vary between 35° in northern Indiana to 38° in central to 41° in the far south.

The fronts which passed through Indiana on April 4th and 5th did not carry much moisture as each dropped less than a quarter inch. The stronger storm system on April 7th generated around 0.8 inch in northern and central Indiana and about one inch on southern Indiana. Overall for the week about 1.3 inch of total rainfall was measured in northern and central Indiana and 1.4 inch in the south. This is only slightly more than the 1.2 inch total expected across northern and central Indiana and 1.4 inch in southern Indiana this first interval of April. During these 10 days Bloomington received the greatest total at 2.77 inches. Nearly all of this Bloomington rainfall was captured on a single day, 2.57 inches, as noted on the morning of April 8th.

The unseasonable warmth on April 2nd and the dryness on previous days prompted a rare “red flag” fire weather watch for Indiana that day. Relative humidities of less than 30 percent and winds up to 25 mph increased the threat of fires. Open burning was discouraged. Brush, grass and other vegetation remains brown and dry as it is still early spring.

A thunderstorm with high winds on April 7th damaged a Mount Vernon elementary school gymnasium roof and scattered debris near the building. The gym won't be usable the rest of the school year. The school's weather station recorded a wind gust of 71 mph during the storm. The same day at the opposite corner of the state Hollopeter Road in Allen county was closed after heavy rains washed away chunks of the road.

The sudden warm up that began in March and continues in April has caused an explosion in tree pollen this spring in Indiana and much of the country. The near record pollen counts have many residents suffering from allergy symptoms, even those who normally are not affected this time of year. High winds in storms have helped spread the misery, the worst allergy conditions some say in more than 10 years. If over-the-counter drugs are ineffective, people are urged to seek medical help.

April 11th – 17th

A dry stationary front stretching from Maine to Texas the first half of this week brought warm and mostly dry conditions to Indiana. Statewide average temperatures began the week at 7° above normal then slowly increased each day. On April 15th temperatures peaked at 15° above normal as a wedge of warm air broke through the stationary front and lifted north into Michigan. The next day a Canadian low pressure system sped eastward, dragging much colder air behind it into Indiana. Statewide average temperatures fell to 3° below normal at the close of the week. Overall for the week statewide average temperatures were 9° above normal. Usually daily maximum temperatures should run from 59° in far northern Indiana to 63° in central and 68° in the south. Typical daily

minimums should range from 38° in the north to 41° in central to 44° in southern Indiana. So far in April above normal temperatures have dominated the calendar at 15 days above normal with only 2 days below normal.

The sluggish weather pattern kept rain out of the picture until the final two days. Even then an average of just a tenth of an inch fell for the week in northern Indiana and only a few hundredths in the central and southern sections. The heaviest daily rainfall this week was at Lake of the Four Seasons with 1.50 inch on April 16th. This also was the same location and amount for the greatest rainfall total for the week. Normally this week in April about 0.9 inch of rain is expected in northern and central Indiana and right about an inch in the south.

April 18th – 24th

A high pressure system to our north started the week with cool and dry weather. As this system slipped eastward a week long warming trend took hold across Indiana as each day was a little warmer than the one before. Statewide average temperatures which began 7° below normal recovered to normal by April 21st. The warm up continued to 6° above normal by April 24th. Overall for the week statewide average temperatures were just 1° below normal. Usually at this time in April daily maximum temperatures range from 62° to 70° north to south across the state. Typical daily minimums vary from 42° in far northern Indiana to 48° in the extreme southwest.

After the departure of the high pressure system a slowing cold front stalled on its journey south about halfway through Indiana. This front brought the first rain opportunity of the week to Indiana on April 22nd although precipitation amounts were very small, just a few hundredths of an inch. The very light rain continued the next day as the stationary front resumed its travel southward into Kentucky but stalled again there.

A merger of two storm systems over Arkansas on April 24th intensified and moved northward to Illinois. This system enabled the transport of moisture from the Gulf of Mexico into Indiana, allowing moderate rain amounts to fall at the close of the week. For the week rainfall totals averaged about a half inch in northern Indiana, a quarter inch in central, and two thirds inch across southern Indiana. Thunderstorms on April 24th dropped 1.50 inch of rain in Fowler, the heaviest one day amount reported in the state for the week. Normally this week about 0.8 inch is expected in northern Indiana, 0.9 inch in central, and 1.1 inch in southern Indiana.

The mostly dry weather this month has allowed favorable farm planting conditions as top soils have dried nicely. The Indiana office of the USDA Agricultural Statistics Service reports that Indiana farmers have completed planting over half the intended 2010 corn acreage. This progress is at a record pace, breaking the existing record for Indiana corn planting progress by this date set in 2004 and far beyond the late start date of the past few wet springs.

April 25th – 30th

An intense storm system in Illinois pulled generous amounts of moisture northward from the Gulf of Mexico into Indiana. The cloudy skies, moderate to heavy rainfall, and cooler air behind the system dragged air temperatures slowly downward from 3° above normal at the start of the week to

1° below normal the next day. On April 27th a reinforcement of the cool air arrived from Canada as a second cold front pushed through Indiana bringing more rain to southern Indiana. The air behind this front was much cooler and drier as statewide average temperatures fell to 6° below normal through April 28th. Sunny and cool weather evolved into a warm up as the high pressure ridge behind the cold front slipped east of Indiana and the advection of warm air resumed. Now on the backside of this ridge, state averaged temperatures rebounded to end the week at 7° above normal. When all the temperature ups and downs are considered for the week statewide temperatures averaged just 1° below normal. Typically for the end of April daily maximum temperatures should vary from about 64° in far northern Indiana to 71° in the southwest corner of the state. Daily minimums typically range from 42° to 49° north to south across the state.

Moderate to heavy rain was dumped by the intense Illinois storm the first few days of the week. The heaviest one day total rainfall this week was recorded at Hudson in far northeast Steuben county with 1.86 inch reported. Lighter showers continued in southern Indiana on April 27th and 28th as the second front crossed the state with cold air reinforcements. But the remaining few days of April were mostly dry. Overall for the week rainfall averaged about 1.4 inch in northern Indiana, 0.9 inch in central sections, and 1.3 inch in the south. This is up to twice the normal expected amounts of about 0.6 inch in northern sections, 0.7 inch in central, and 0.9 inch at the southern end of the state.

Minor flooding was noted in far northeast Indiana on April 27th and 28th in response to the early week intense storm, especially in Allen and DeKalb counties.

April Summary

Region	Temperature	Temperature	
		Normal	Deviation
Northwest	55.5	49.5	6.0
North Central	54.8	48.9	5.9
Northeast	54.3	48.5	5.8
West Central	57.7	51.5	6.3
Central	57.3	50.9	6.4
East Central	56.5	49.9	6.6
Southwest	60.7	54.9	5.8
South Central	59.3	54.2	5.1
Southeast	58.4	53.1	5.2
State	57.3	51.4	5.9

Region	Precipitation	Precipitation		
		Normal	Deviation	Percent of Normal
Northwest	2.99	3.60	-0.61	83
North Central	3.01	3.59	-0.57	84
Northeast	3.68	3.47	0.21	106
West Central	2.77	3.88	-1.11	71
Central	2.61	3.91	-1.30	67
East Central	2.21	3.78	-1.57	59
Southwest	3.88	4.45	-0.57	87
South Central	3.78	4.42	-0.63	86
Southeast	2.97	4.21	-1.25	70
State	3.12	3.94	-0.81	79

Spring (March - April)

Temperature

Region	Temperature	Normal	Deviation
Northwest	48.7	43.9	4.8
North Central	48.4	43.3	5.1
Northeast	47.8	42.8	5.0
West Central	50.5	46.0	4.6
Central	50.2	45.4	4.8
East Central	49.2	44.4	4.8
Southwest	53.4	49.7	3.7
South Central	52.4	49.1	3.2
Southeast	51.5	48.1	3.5
State	50.3	46.0	4.4

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	5.69	6.52	-0.83	87
North Central	5.57	6.37	-0.80	87
Northeast	6.01	6.18	-0.17	97
West Central	5.98	7.23	-1.25	83
Central	6.32	7.19	-0.87	88
East Central	6.29	6.85	-0.57	92
Southwest	7.29	8.68	-1.38	84
South Central	6.60	8.59	-1.99	77
Southeast	6.21	8.16	-1.95	76
State	6.25	7.34	-1.09	85

2010 Annual to date

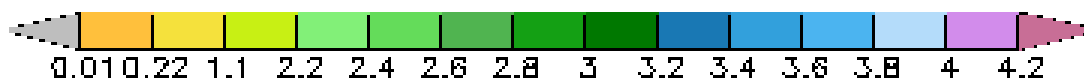
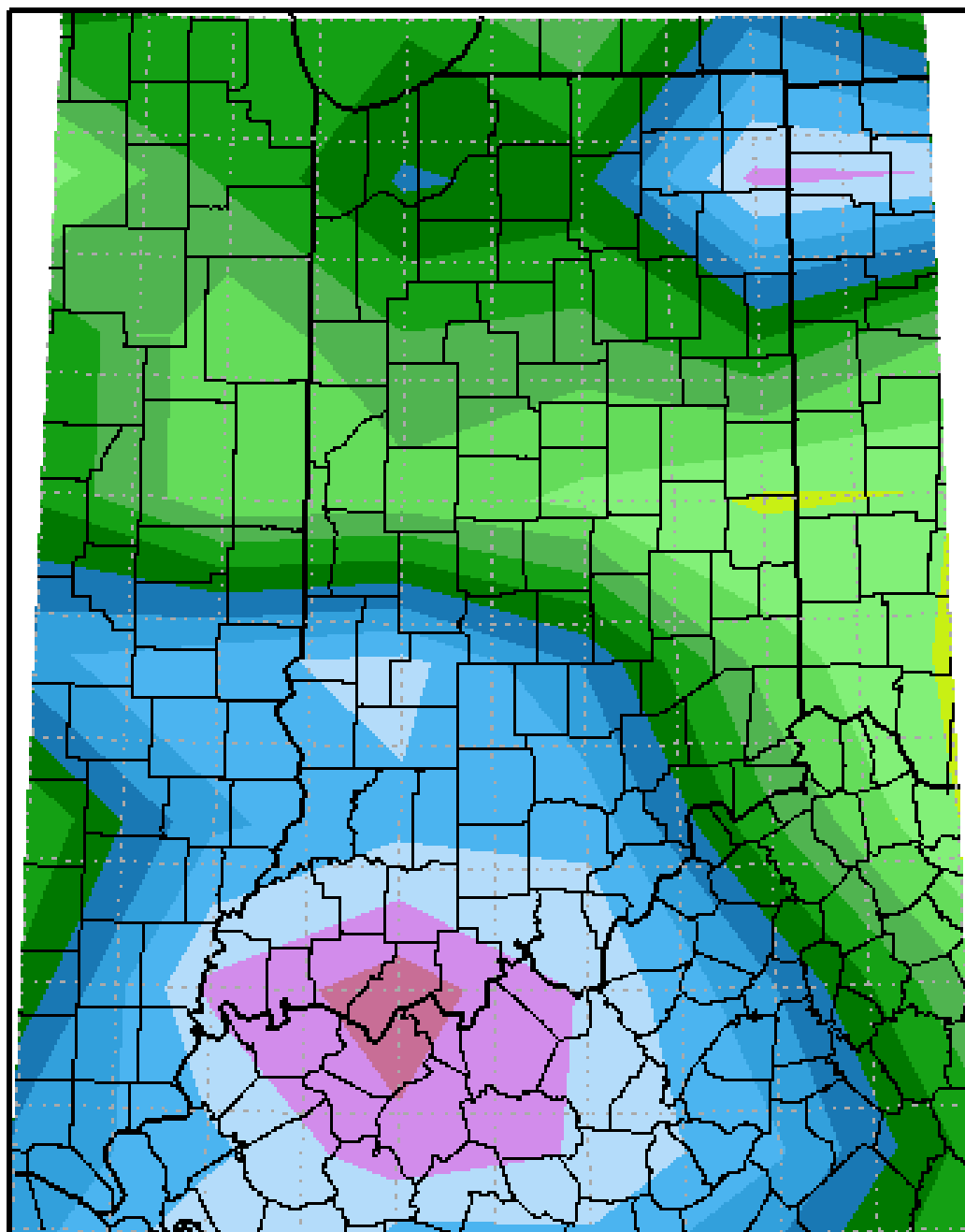
Temperature

Region	Temperature	Normal	Deviation
Northwest	35.9	34.7	1.1
North Central	36.1	34.4	1.7
Northeast	35.9	34.0	1.9
West Central	37.1	36.9	0.2
Central	37.1	36.5	0.6
East Central	36.4	35.7	0.8
Southwest	40.7	41.1	-0.4
South Central	39.8	40.7	-1.0
Southeast	39.2	39.8	-0.6
State	37.6	37.2	0.5

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	8.30	10.08	-1.78	82
North Central	8.20	10.21	-2.02	80
Northeast	8.21	9.95	-1.74	83
West Central	8.60	11.68	-3.07	74
Central	9.30	11.80	-2.51	79
East Central	9.17	11.29	-2.12	81
Southwest	11.03	14.55	-3.52	76
South Central	10.53	14.61	-4.08	72
Southeast	10.21	13.96	-3.75	73
State	9.31	12.05	-2.74	77

Total Precipitation in Inches April 1, 2010 to April 30, 2010

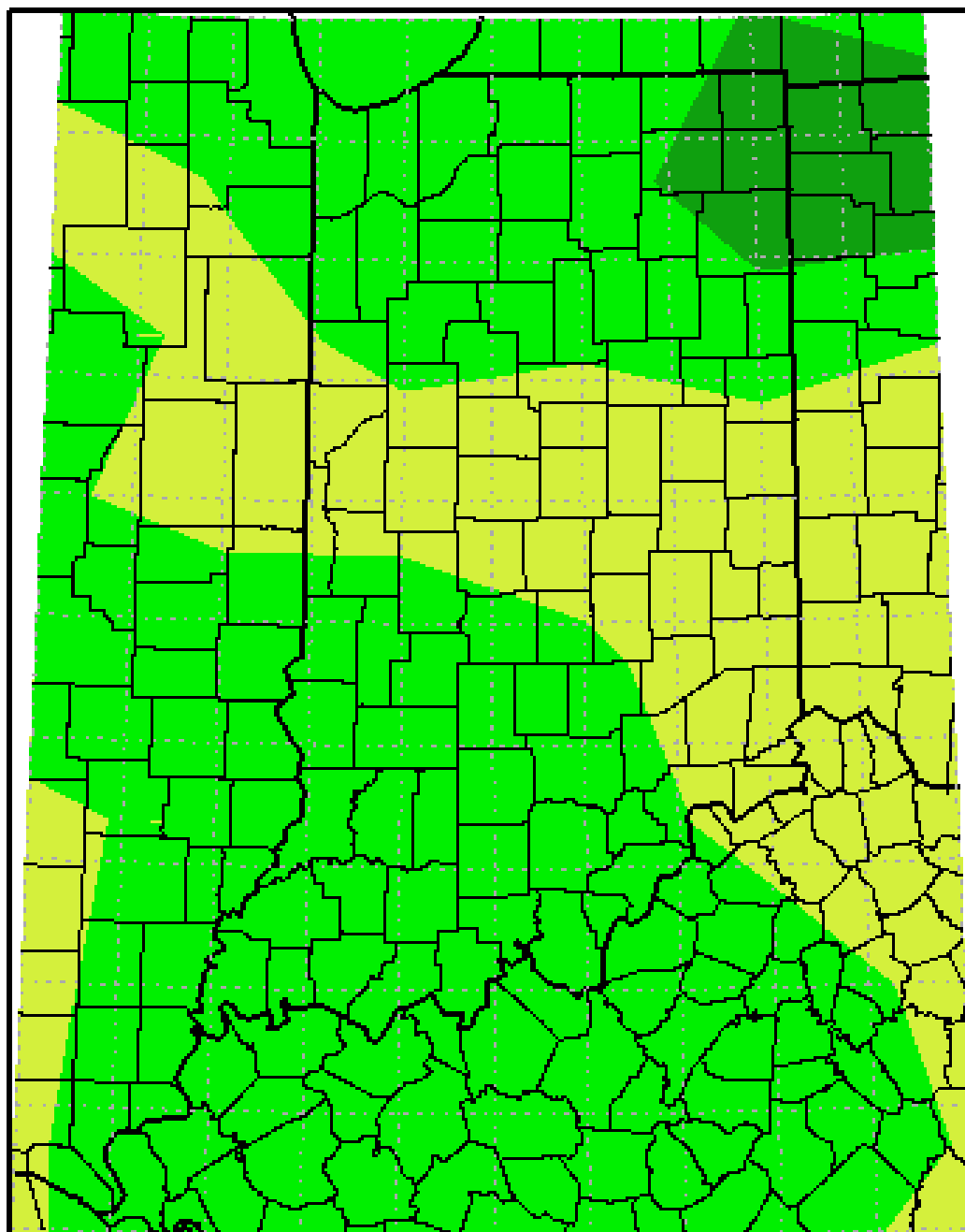


NOAA Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Total Precipitation Percent of Mean April 1, 2010 to April 30, 2010

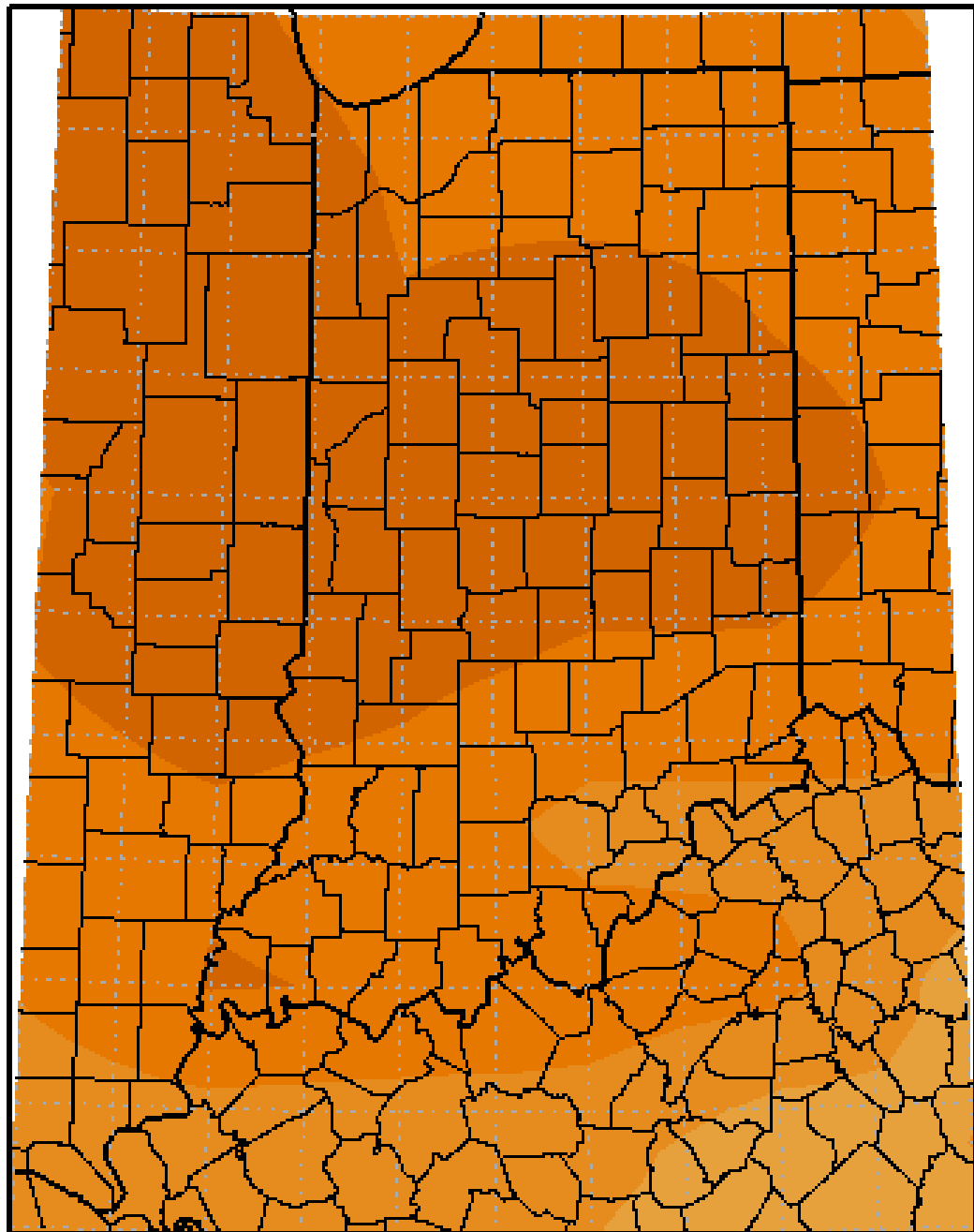


NOAA Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Average Temperature Departure from Mean in Degrees F
April 1, 2010 to April 30, 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, April 6th has 98.05% of Indiana under no drought, and 1.95% of Indiana under at *least* D0 through D4 drought status. This is followed by 0.0% 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 (1.95%) . 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:



Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
05/04/10	100.00	0.00	0.00	0.00	0.00	0.00
04/27/10	99.81	0.19	0.00	0.00	0.00	0.00
04/20/10	99.81	0.19	0.00	0.00	0.00	0.00
04/13/10	99.89	0.11	0.00	0.00	0.00	0.00
04/06/10	98.05	1.95	0.00	0.00	0.00	0.00

April 6th Drought Summary



April 13th Drought Summary



April 20th Drought Summary



April 27th Drought Summary



May 4th Drought Summary

