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## Indiana State Climate Office

### Monthly Weather Report

Jul 18, 2007



<http://www.iclimat.org>

## June 2007 Climate Summary

### Summary

June was yet another dry month in Indiana, as June ranked in as the 41<sup>st</sup> driest June since recordings began in the late 1800's. Temperatures also remained exceedingly warm, as Indiana experienced its (tied for the) 28<sup>th</sup> warmest June overall. Some climate divisions during the separate weeks of June received almost no rainfall at all (approx. 3% of regular values), whereas at the end of the month, some locations received as much as 247% of their normal values. On average, however, it remained below normal. Temperatures began increasing as the dry spell continued over Indiana, easily reaching strings of 90 degree weather in most portions of Indiana. By the end of the month, a much-needed cold front from the west moved through and provided Indiana with rainfall that helped to lessen the persistent drought and bring the temperatures to a more bearable level.

### June 1<sup>st</sup> – 7<sup>th</sup>

With most recording stations receiving small amounts of rainfall throughout most of the first full week of June, it did very little to curb the drought and heat that had plagued Indiana since May. Temperatures remained on average 2.6 degrees above normal throughout the week with only 71 percent of the normal precipitation that would normally be seen. On June 3<sup>rd</sup>, Bloomington received almost two inches of rainfall, which was by far the most in the state for this first week period, as most stations received only a few hundredths of an inch total. Most of the rainfall experienced in the state was seen during the middle of the week, with temperatures mostly in the 80's with a few 70's. Surface maps of the beginning of the week showed a large low pressure trough out to the west, making its way towards Indiana.

Another smaller trough out in front rocketed through on the 2<sup>nd</sup>, producing a few instances of wind and hail damage (.88 inches max) in the center of the state. By the 3<sup>rd</sup>, storms ahead of the big low pressure trough moved through Indiana, dropping temperatures on the fourth by as much as 10 or more degrees across the state as a large cold front extending from Canada to Texas moved through, producing two tornado reports in Clay County.

Two more cold fronts from Canada would hastily progress through Indiana from the north by the end of this week, with many instances of wind and hail damage reports

mainly in southwestern Indiana, with hail exceeding 1.25 inches in Martin County. Streams and rivers ran exceptionally low for this time period. Winds ranged from southwest/southeast until the 4<sup>th</sup>, where the winds shifted west. By the fifth, winds shifted northwest, finally ending south-southeast and calm by the end of the week.

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

The second full week of June was inactive except for the beginning of the week. On the 8<sup>th</sup>, a hail report in Adams County and wind damage reports surfaced mainly in northeastern Indiana, with a couple in extreme southwestern and southeastern Indiana as well, uprooting a few trees and large limbs. After the rain passed, it was essentially dry for the remainder of the week. Temperatures climbed higher and higher until they reached the high 80's to mid 90's in almost every location, scorching the already drought-ridden state as a high pressure ridge lingered over the state during this entire period, producing plentiful sunshine.

Temperatures were on average 1.6 degrees higher than normal. Precipitation was on average only 10% of the normal values seen for this time period. Northwestern Indiana suffered the most with only 3% of this region's normal rainfall total. It is no surprise then that streams and rivers continued to slow throughout the state, and by the middle of the month, many cities such as Noblesville began enforcing water restrictions as water supplies became strained. Winds were from the southwest at the beginning of the week, shifting briefly to northwesterly after a day or so. Winds then varied between locations for a few days until the end of the week where they ended southwesterly. Wind speeds were generally pretty mild across the state.

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

On Jun 17<sup>th</sup> 12Z, a cold front began moving towards Indiana from the north, barely influencing temperatures at all and producing little, if any, rainfall throughout Indiana as it became stationary and moved off to the east. At 12Z on the 19<sup>th</sup>, however, a very large trough from the west moved through, producing rainfall that was recorded on the 20<sup>th</sup> for most locations throughout Indiana. This cold front extended between Canada, down through Alabama at its lowest point, and back up into Colorado. Rainfall amounts were anywhere between zero recorded (in few stations) to 1.39 inches in Rensselaer. Wind and hail reports were filed to the Storm Prediction Center for the 17<sup>th</sup>, 18<sup>th</sup>, and 21<sup>st</sup>, but they were very locally confined (Logansport region for the 17<sup>th</sup>, Gary region for Indiana for the 18<sup>th</sup>, and the Terre Haute region for the 21<sup>st</sup>).

Calm and variable winds prevailed early in the week, coming from the southwest on the 17<sup>th</sup> through the 19<sup>th</sup>. The week finished out with winds from the north shifting west up to the 21<sup>st</sup>. Smaller stream flows reached record low levels in some instances for the season as the drought intensified, also leading to near record usage of water. Rainfall values were only on average 49% of normal, while temperatures were still 2.4 degrees above normal on average. Rainfall amounts were good compared to the previous week, but still noticeably lacking compared to the average.

## June 22<sup>nd</sup> – 30<sup>th</sup>

The final stretch of June brought much-needed relief to parts of Indiana as heavy rains rolled in to the region. Northeastern Indiana was the only division of Indiana that ended with below-average rainfall for the end of the month, measuring on average only 55% of normal rainfall amounts. In contrast, southwestern Indiana received 247% of its normal rainfall amounts, or an average of 2.99 inches of rainfall. The heavy rainfall practically put an end to drought conditions within the western part of the state. Temperatures ended up 0.4 degrees below normal as well. This brought much needed relief from the scorching temperatures encompassing Indiana for the past several weeks. That said, temperatures were generally in the comfortable 70's up to the mid 80's in most cases, breaking the 90 degrees-plus heat wave that blanketed most of the state for several days of the previous weeks.

Winds seemed to generally move in a clockwise pattern from the northeast, to the east, to the southeast, and so on throughout the end of June, finally ending as northeast, shifting as cold air from Canada rolled through in the earlier part of the week (22<sup>nd</sup> & 23<sup>rd</sup>) and stalled just as it passed out of Indiana producing more rainfall. A low pressure trough from the west pushed in during the middle to end of the week (28<sup>th</sup> & 29<sup>th</sup>), continuing the wind shifts. This final trough provided even more needed rainfall that helped most locations in the west and parts of the south etch away at their rainfall deficits.

On the 23<sup>rd</sup>, 0.75 inch hail fell in Pike County as good amounts of rain began to fall. On the 26<sup>th</sup>, reports of wind damage were filed in Wadesville and Fort Wayne with a wind speed of 71 mph recorded in Fort Wayne. On the 27<sup>th</sup>, several reports of wind damage were recorded in the northern two thirds of the state, with the max recorded wind speed of 65mph in Headlee in White County. Hail of 0.75 inches was reported in Chesterton in Porter County. Streams and rivers remained lower than usual.

## June Summary

### Temperature

Region	Temperature	Normal	Deviation
Northwest	71.1	70	1.1
North Central	70.8	69.4	1.4
Northeast	71	69.1	1.9
West Central	72.6	71.3	1.2
Central	72.2	70.7	1.5
East Central	71.6	69.8	1.8
Southwest	74.6	73.3	1.3
South Central	73.7	72.4	1.3
Southeast	73.1	71.5	1.6
<b>State</b>	<b>72.4</b>	<b>70.9</b>	<b>1.4</b>

### Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	3.47	4.34	-0.87	80
North Central	2.87	4.31	-1.44	67
Northeast	2.23	4.08	-1.85	55
West Central	4	4.33	-0.33	92
Central	3.44	4.1	-0.66	84
East Central	3.02	4.23	-1.21	71
Southwest	4.13	4.1	0.02	101
South Central	3.76	4.09	-0.32	92
Southeast	3.3	4.22	-0.92	78
<b>State</b>	<b>3.42</b>	<b>4.19</b>	<b>-0.78</b>	<b>82</b>

### Summer-To-Date (Same as month-to-date)

### Temperature

Region	Temperature	Normal	Deviation
Northwest	71.1	70	1.1
North Central	70.8	69.4	1.4
Northeast	71	69.1	1.9
West Central	72.6	71.3	1.2
Central	72.2	70.7	1.5
East Central	71.6	69.8	1.8
Southwest	74.6	73.3	1.3
South Central	73.7	72.4	1.3
Southeast	73.1	71.5	1.6
<b>State</b>	<b>72.4</b>	<b>70.9</b>	<b>1.4</b>

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Southwest	4.13	4.1	0.02	101
South Central	3.76	4.09	-0.32	92
Southeast	3.3	4.22	-0.92	78
<b>State</b>	<b>3.42</b>	<b>4.19</b>	<b>-0.78</b>	<b>82</b>

### Annual-to-Date

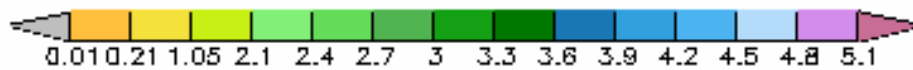
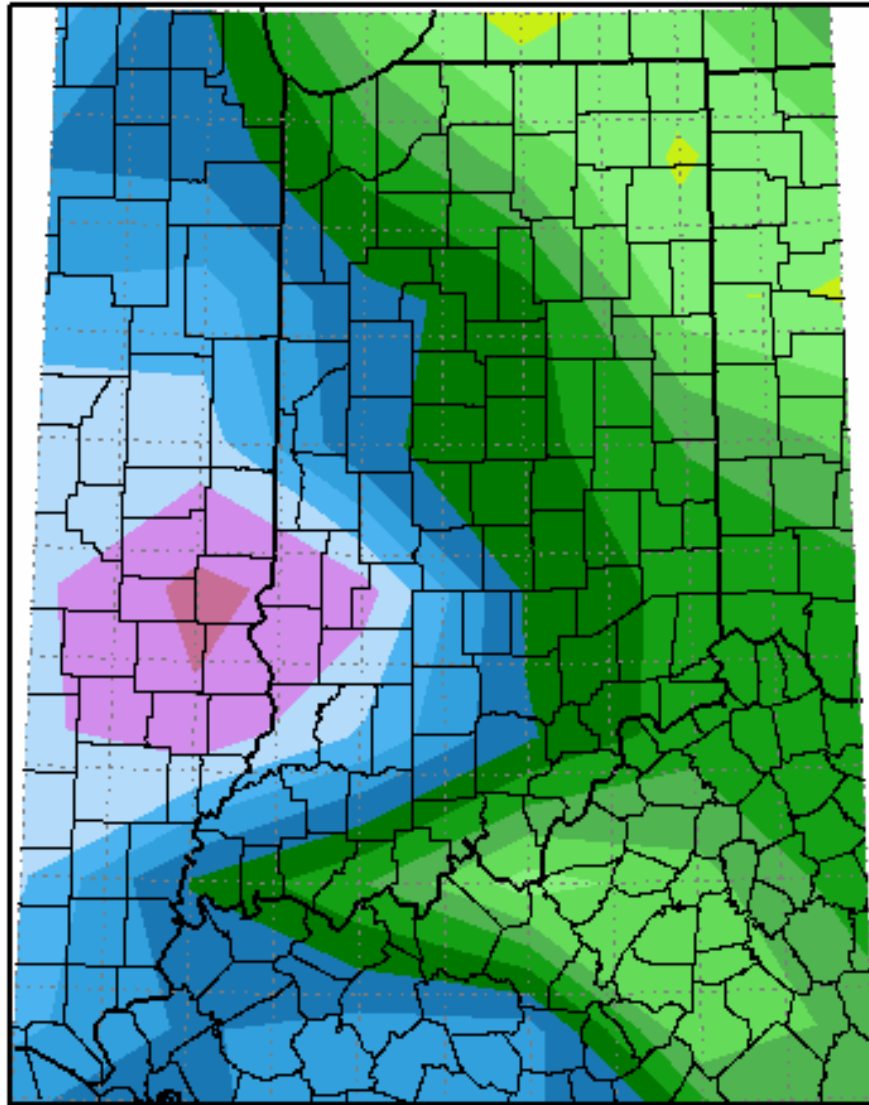
#### Temperature

Region	Temperature	Normal	Deviation
Northwest	45.8	45	0.7
North Central	45.4	44.6	0.8
Northeast	45.1	44.2	0.9
West Central	47.9	46.9	1
Central	47.7	46.5	1.2
East Central	46.8	45.6	1.2
Southwest	52.1	50.5	1.6
South Central	51.2	50	1.2
Southeast	50	49	0.9
<b>State</b>	<b>48.1</b>	<b>47</b>	<b>1.1</b>

### Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	18.9	18.39	0.51	103
North Central	17.49	18.37	-0.88	95
Northeast	16.03	17.8	-1.77	90
West Central	20.24	20.39	-0.15	99
Central	22.46	20.3	2.16	111
East Central	22	19.83	2.17	111
Southwest	21.46	23.64	-2.18	91
South Central	21.14	23.7	-2.56	89
Southeast	20.3	23.03	-2.73	88
<b>State</b>	<b>20.15</b>	<b>20.65</b>	<b>-0.5</b>	<b>98</b>

**Total Precipitation in Inches  
June 1, 2007 to June 30, 2007**

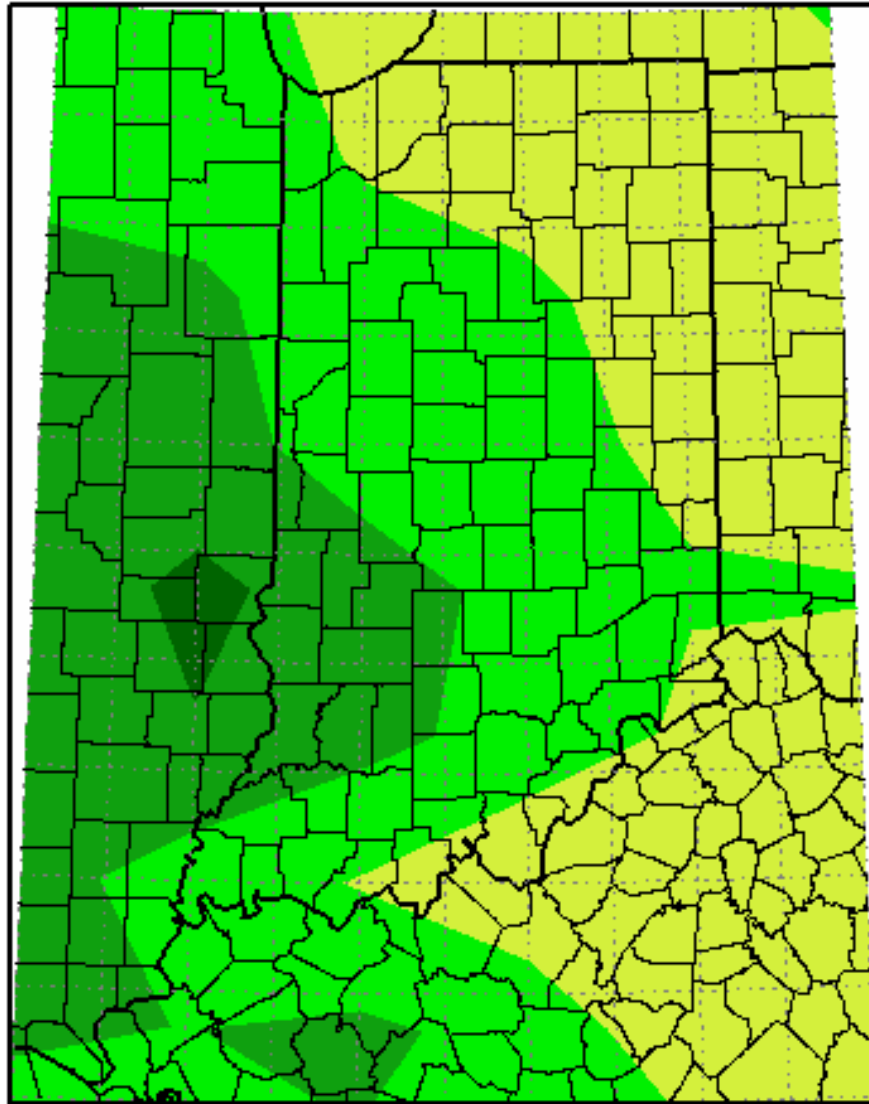


Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

**Total Precipitation Percent of Mean  
June 1, 2007 to June 30, 2007**

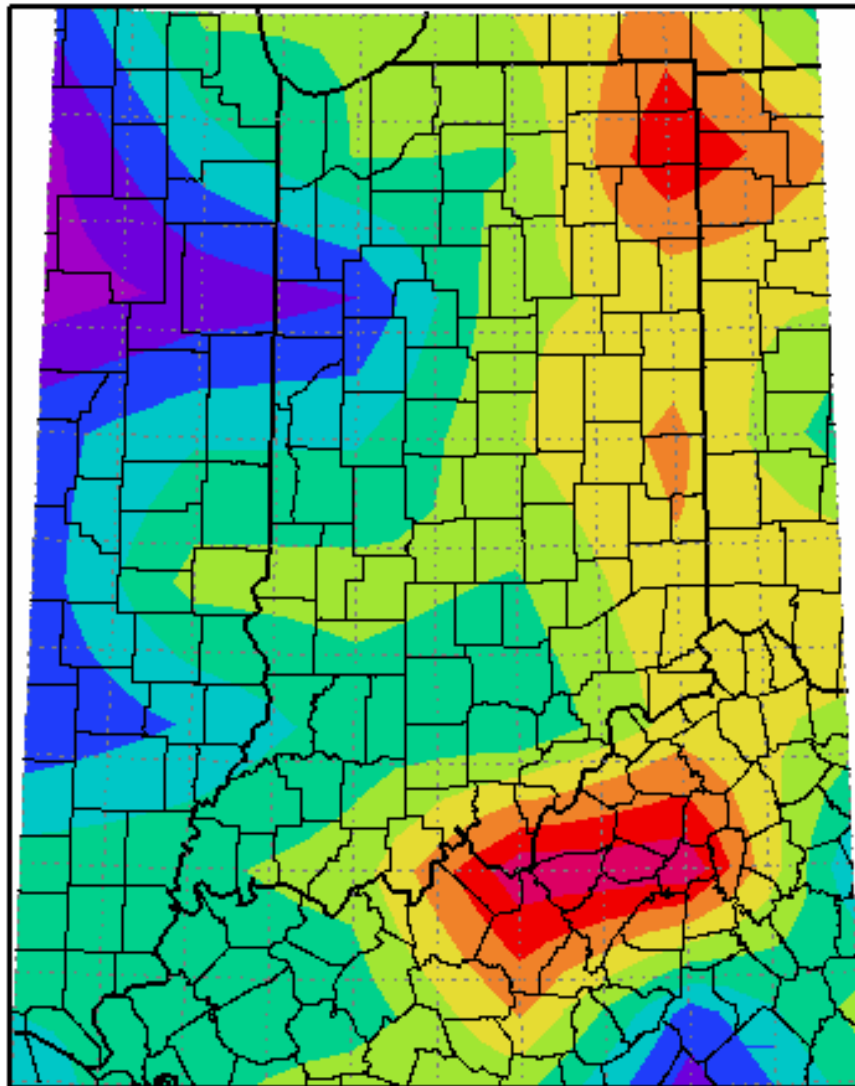


Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Average Temperature Departure from Mean in Degrees F  
June 1, 2007 to June 30, 2007



Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois



## *Drought Summary from the U.S. Drought Monitor*

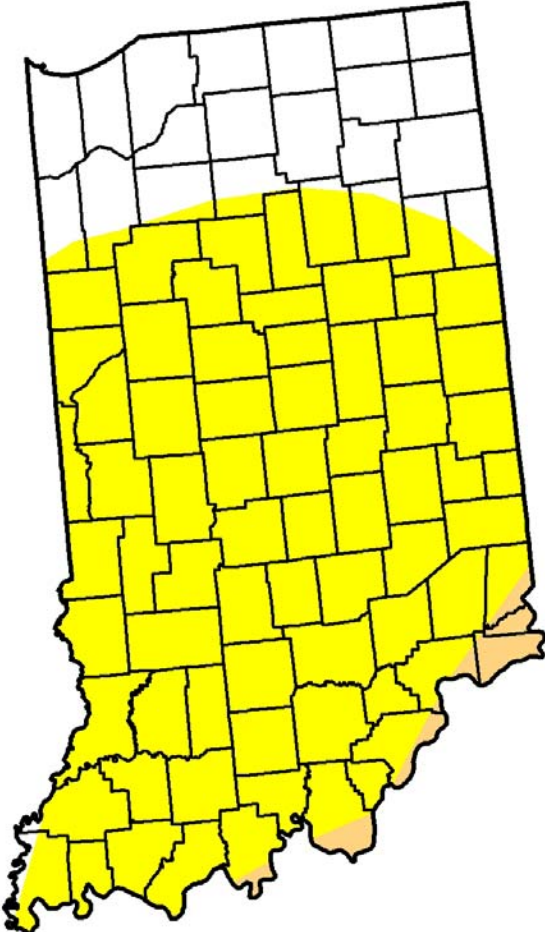
Below is a drought summary for the state of Indiana from the U.S. drought monitor. Areas in white are not experiencing any drought. Yellow areas are abnormally dry, but not entirely considered a drought. Drought begins when the moisture levels become more severe, with beige, orange, red, and brown indicating 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, June 19<sup>th</sup> has 6.26% of Indiana under no drought, and 93.74% of Indiana under at *least* D0 through D4 drought status. This is followed by 65.53% 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.

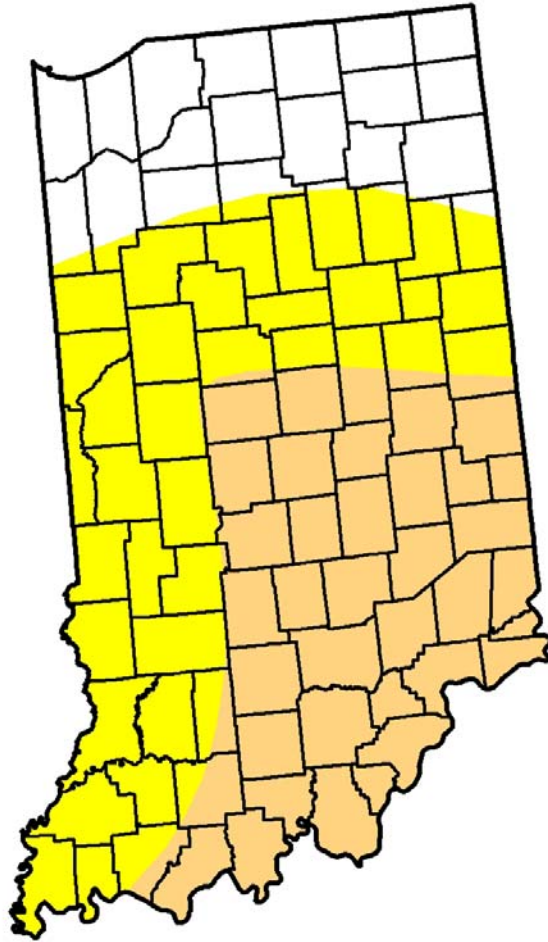
D0 Abnormally Dry
  D1 Drought - Moderate
  D2 Drought - Severe
  D3 Drought - Extreme
  D4 Drought - Exceptional

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
06/26/07	14.35	85.66	21.38	2.04	0.00	0.00
06/19/07	6.26	93.74	65.53	0.00	0.00	0.00
06/12/07	21.59	78.41	38.08	0.00	0.00	0.00
06/05/07	22.57	77.43	2.20	0.00	0.00	0.00

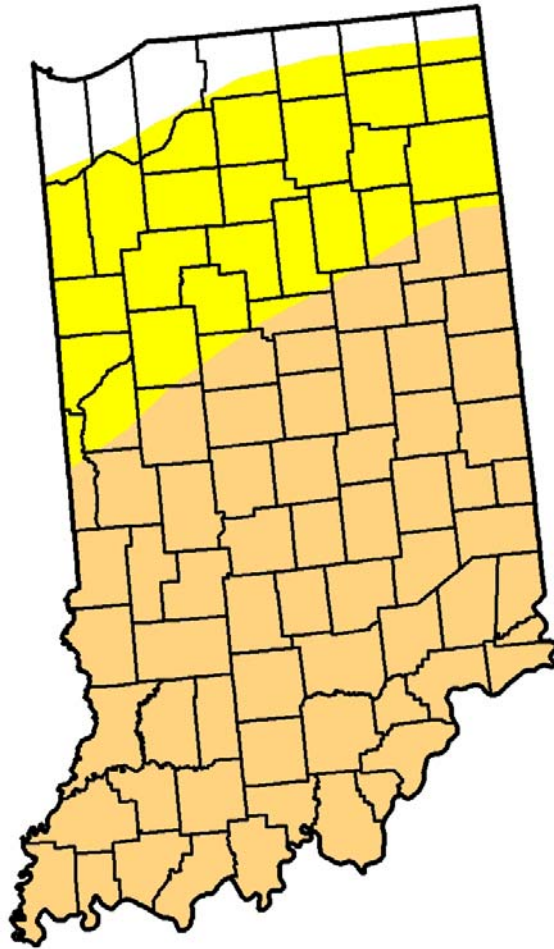
*June 5<sup>th</sup> Drought Summary*



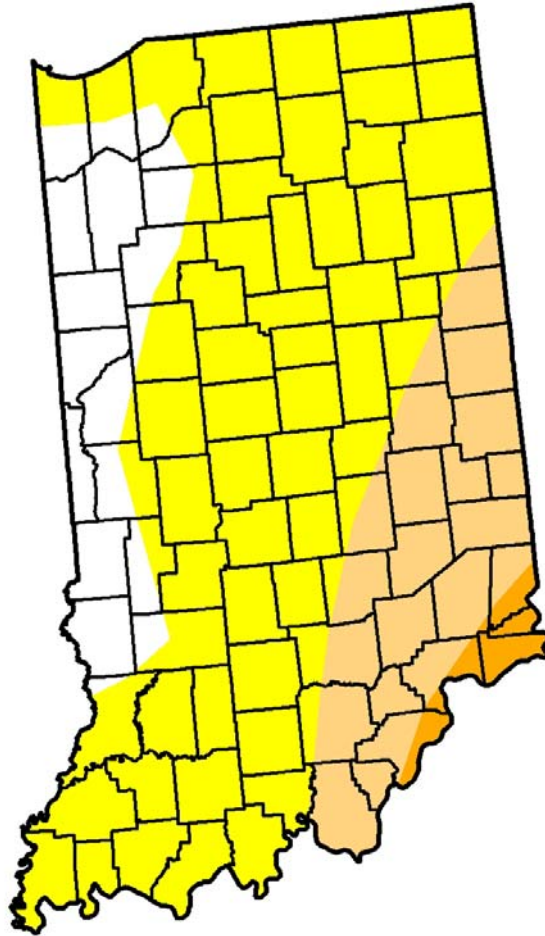
*June 12<sup>th</sup> Drought Summary*



*June 19<sup>th</sup> Drought Summary*



*June 26<sup>th</sup> Drought Summary*



*Contributions Provided by Al Shipe of the Indianapolis NWS Office*