

Ken Scheeringa

(765) 494-8105



Indiana State Climate Office

Monthly Weather Report



<http://www.iclimat.org>

Apr 2, 2010



March 2010 Climate Summary

Summary

The frequent snowy days of February behind us, Indiana weather turned much quieter and milder in March. This is the month when winter turns into spring, but the usual storminess of this transition was simply absent this month. A week of below normal temperatures the first and last weeks of this month sandwiched a more dominant 18 day warm spell in the middle. Overall the state average temperature for March was 40.7°, which is 2.9° warmer than normal. This ranks March 2010 as the 24th warmest March on record in Indiana since 1895. This ranking is very similar to a year ago when March 2009 averaged 44.0°, the 22nd warmest March on record. Other recent warm months of March include 2004 at 44.6° (18th warmest), 2000 at 45.3° (15th warmest), and 2007 at 47.0° (7th warmest).

Fair weather was common this month with few storms. Yet the storms which did pass through Indiana managed to produce nearly the normal amount of precipitation for the month. Total March precipitation averaged 3.16 inches across the state, only a quarter inch shy of the normal 3.40 inches expected. By region about 2.7 inches of precipitation was recorded in northern Indiana, about 3.65 inches in central, and 3.15 inches across the south. These amounts rank March 2010 precipitation near the middle of the pack when all 115 years of state precipitation records are considered. This compares to some very wet months of March in the recent decade, such as 2006 with 5.14 inches (15th wettest) and 2008 with 6.88 inches (7th wettest). Some quite dry March months include 2000 with 2.06 inches (20th driest) and 2005 at 2.21 inches (24th driest).

The rains came but less often in March and this gradually led to abnormally dry soil conditions in about one fourth of Indiana counties, mostly in the southern parts of the state. However rainfall near the end of the month has relieved these areas of D0 drought category and very small areas of dryness remain in Indiana at this time.

March 1st – 7th

Spring officially begins this month but subnormal cold persisted yet another full week. State averaged temperatures have now remained below normal on 14 consecutive days. The week began slightly on the cool side at 2° below normal, sliding a few more degrees to 5° below normal by March 4th. A minor warm up returned the temperature deviation to 2° below normal by week's end. The temperature roller coaster of winter seems to have quieted down, despite the continued cooler than normal trend. Overall for the week state averaged temperatures settled at 4° below normal. Typically at the start of March daily maximum temperatures would range from 43° in far northern

Indiana to 48° in central and 53° in the far south. Daily minimums should range from about 26° in northern, to 29° in central, to 33° in southern Indiana.

The stormy and snowy days of February also took a break. Cloudy skies early in the week gradually gave way to sunshine. Except for a few trace amounts of precipitation in the northwest lake effect region, rain gauges remained nearly dry all week throughout the state. The northwest precipitation fell as light snow, totaling less than an inch. The greatest snow total this week was 0.7 inch at Valparaiso, much less than residents have experienced recently. Normally during the first week of March one would expect about 0.60 inch of melted precipitation to accumulate in northern Indiana, about 0.70 inch in central, and 0.90 inch in the southern third of the state.

March 8th – 14th

This week's weather was dominated by a single storm system that crawled eastward from Kansas before stalling over Iowa. For four days this system parked there, cutoff from a jet stream that had split far to its north over Canada from a very fast southern branch in the deep south over the Gulf states. This timeout allowed ample time for warm southerly winds on the front side of this low pressure system to find Indiana and provide relief from the cold and snow. Air temperatures this week were up to 20° warmer than just one week ago and above normal on all seven days. Starting at 5° above normal on March 8th, statewide average temperatures ramped up to 18° above normal just three days later. The stalled storm system was then picked up by the southern jet stream during the last half of the week and on the move again east of our state. Cold air could now filter into Indiana on the back side of this low pressure system. Temperatures crashed to end the week at just 1° above normal. Overall statewide average temperatures were about 9° above normal for this second week of March. Normal daily maximum temperatures should range from 45° in extreme northern Indiana to 49° in central and 54° in the south. Daily minimums should vary between 27° in northern Indiana to 30° in central up to 34° in the far southwest.

Not only did it feel like spring but the lack of new snowfall this week made it look more like spring as well. Only a few hundredths inch of rain fell each of the first four days. Most of the week's rain fell after March 11th as the colder air arrived. For the week total rainfall averaged about 1.40 inch in northern Indiana, 1.60 inch in central, and around 0.9 inch across the south. This is more than double the normal 0.60 inch in the north and 0.75 inch in central Indiana. Southern Indiana received slightly more than the normal 0.80 inch this second week of the month. New Castle reported both the highest one day rainfall at 1.65 inch the morning of March 13th and the most for the week at 2.90 inches. The greatest rain amounts this week were in east central Indiana with some heavy amounts also spreading towards Logansport.

March 15th – 21st

A high pressure ridge moved eastward to the Midwest early this week, providing Indiana a second week of warm weather with very light rainfall. Temperatures perched above normal all 7 days this week, extending the warm spell to 14 straight days. State average temperatures rose from 2° above normal on March 15th to 9° above normal by March 18th at midweek. A cold front then swept southward from Canada and stretched cross country from Maine to Texas. Indiana average temperatures cooled a bit to 4° above normal behind this front by the end of the week. State

average temperatures overall were about 7° above normal for this third week of March. Typically daily maximum temperatures should range from 47° in far northern Indiana to 52° in central and 57° in the extreme south. Daily minimums normally vary between 29° in northern Indiana and 33° in central to 37° in southern Indiana.

Precipitation fell at the very start and end of the week. A mix of rain, snow, and sleet fell in extreme northwest Indiana on March 20th but with almost no accumulation. Generally a few hundredths of an inch of precipitation fell on two days, giving week totals of about 0.02 inch in northern and central Indiana and around 0.15 inch in the south. These amounts are far below the weekly normals of about 0.65 inch in northern Indiana to 0.75 inch in central and 1.05 inch in southern Indiana. The heaviest one day rainfall this week was 0.80 inch in Bluffton reported on the morning of March 15th.

Winter snow cover is gone from Indiana but snowmelt from the blizzards in Pennsylvania and West Virginia is now working its way down the Ohio river. Fortunately the heaviest snows fell east of the Appalachians so that runoff heads toward the Atlantic Ocean rather than west down the Ohio River. Moderate flooding has occurred in extreme southwest Indiana but it was manageable according to local residents.

The lack of local heavy rain in recent weeks has also eased flood concerns triggered by upriver snowmelt. In fact precipitation has totaled only about two thirds the normal amount in Indiana so far in 2010. This moisture shortage is reflected in the current National Drought Monitor map. About one fourth of Indiana counties, primarily in the southern section of the state, has entered the D0 drought category (abnormally dry). Dry conditions at this time of year may initially benefit farmers who will soon be planting their spring crops. Weekly Indiana drought monitor maps may be viewed in the last pages of this monthly weather summary.

March 22nd – 31st

After a warm first half of this final ten day stretch of March temperatures cooled and stayed below normal the last six days of the month. State averaged temperatures peaked at 5° above normal on March 23rd as moderate rain fell behind a storm system shuffling to the east of Indiana. A second stronger frontal system passed through the state on March 25th, ending an 18 day warm spell. Daily temperatures fell sharply on March 26th to 6° below normal, then recovered slowly back to normal by the end of the month. A third storm of the ten day interval passed over Indiana on March 28th and 29th. The warm and cool days balanced equally to right at normal over the ten days. Long term averages mark a range on daily maximum temperatures between 52° in far northern Indiana to 56° in central and 61° in the far southwest. Daily minimum temperatures normally vary between 33° in northern Indiana to 36° in central and 40° in the extreme south.

The pace of storms crossing our state has increased this period after a rather quiet March weather pattern overall. About a half inch of rain was reported over two days on March 23rd in central Indiana while an inch was measured in the south. The second storm yielded a rain pattern very similar to this based on reports from March 25th and 26th. The heaviest rain during the third storm fell in central Indiana with about 0.75 inch received. A half inch was measured in northern Indiana with lesser amounts across the southern part of the state. Overall for the ten days rainfall averaged

around 1.1 inch in northern Indiana, 2.0 inches in central, and 2.1 inches in the south. This compares to normal totals of 0.9 inch in the north, an inch in central, and 1.4 inches in southern Indiana during this time period. Poseyville in extreme southwest Indiana noted 4.31 inches over the ten days, the highest total reported in the state. Of this amount 2.3 inches was reported on the morning of March 26th, the highest one day total throughout the state.

March Summary

Temperature

Region	Temperature	Normal	Deviation
Northwest	42.0	38.6	3.5
North Central	42.1	37.9	4.2
Northeast	41.4	37.3	4.1
West Central	43.5	40.6	2.9
Central	43.4	40.1	3.3
East Central	42.2	39.1	3.1
Southwest	46.4	44.8	1.7
South Central	45.7	44.2	1.5
Southeast	44.9	43.1	1.8
State	43.6	40.7	2.9

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	2.76	2.92	-0.16	94
North Central	2.67	2.78	-0.11	96
Northeast	2.59	2.71	-0.12	96
West Central	3.22	3.36	-0.13	96
Central	3.66	3.28	0.38	112
East Central	4.01	3.08	0.94	130
Southwest	3.47	4.23	-0.76	82
South Central	2.81	4.17	-1.36	67
Southeast	3.16	3.95	-0.79	80
State	3.16	3.40	-0.24	93

Spring (same as March)

Temperature

Region	Temperature	Normal	Deviation
Northwest	42.0	38.6	3.5
North Central	42.1	37.9	4.2
Northeast	41.4	37.3	4.1
West Central	43.5	40.6	2.9
Central	43.4	40.1	3.3
East Central	42.2	39.1	3.1
Southwest	46.4	44.8	1.7
South Central	45.7	44.2	1.5
Southeast	44.9	43.1	1.8
State	43.6	40.7	2.9

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	2.76	2.92	-0.16	94
North Central	2.67	2.78	-0.11	96
Northeast	2.59	2.71	-0.12	96
West Central	3.22	3.36	-0.13	96
Central	3.66	3.28	0.38	112
East Central	4.01	3.08	0.94	130
Southwest	3.47	4.23	-0.76	82
South Central	2.81	4.17	-1.36	67
Southeast	3.16	3.95	-0.79	80
State	3.16	3.40	-0.24	93

2010 Annual to date

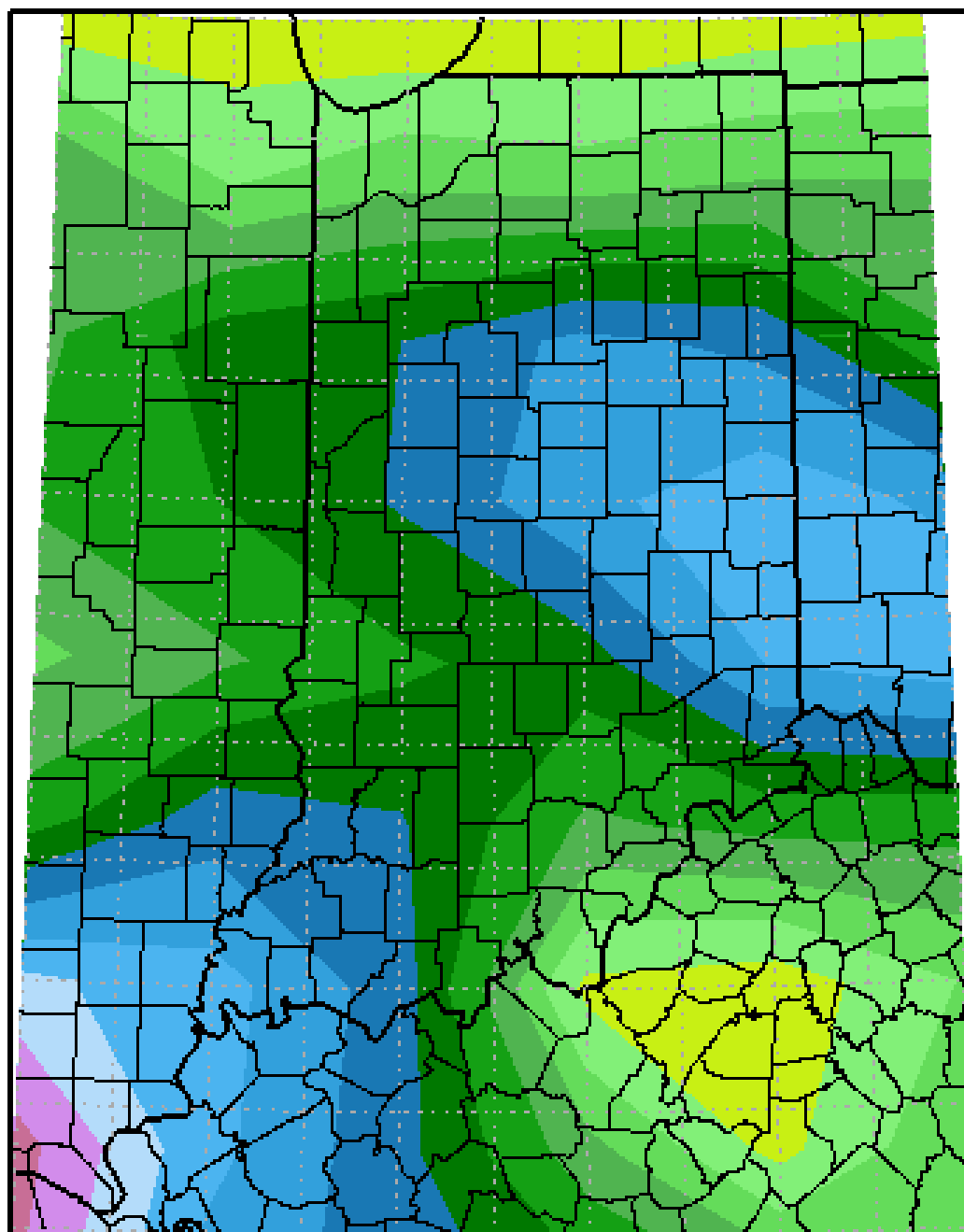
Temperature

Region	Temperature	Normal	Deviation
Northwest	29.3	29.8	-0.5
North Central	29.8	29.5	0.3
Northeast	29.8	29.2	0.6
West Central	30.2	32.0	-1.8
Central	30.4	31.8	-1.4
East Central	29.8	30.9	-1.1
Southwest	34.0	36.5	-2.5
South Central	33.3	36.3	-3.0
Southeast	32.8	35.3	-2.6
State	31.1	32.4	-1.4

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	5.37	6.47	-1.11	83
North Central	5.29	6.63	-1.34	80
Northeast	4.77	6.47	-1.70	74
West Central	5.84	7.80	-1.95	75
Central	6.64	7.89	-1.25	84
East Central	6.91	7.52	-0.60	92
Southwest	7.21	10.10	-2.90	71
South Central	6.74	10.19	-3.45	66
Southeast	7.17	9.75	-2.58	73
State	6.22	8.12	-1.89	77

Total Precipitation in Inches March 1, 2010 to March 31, 2010

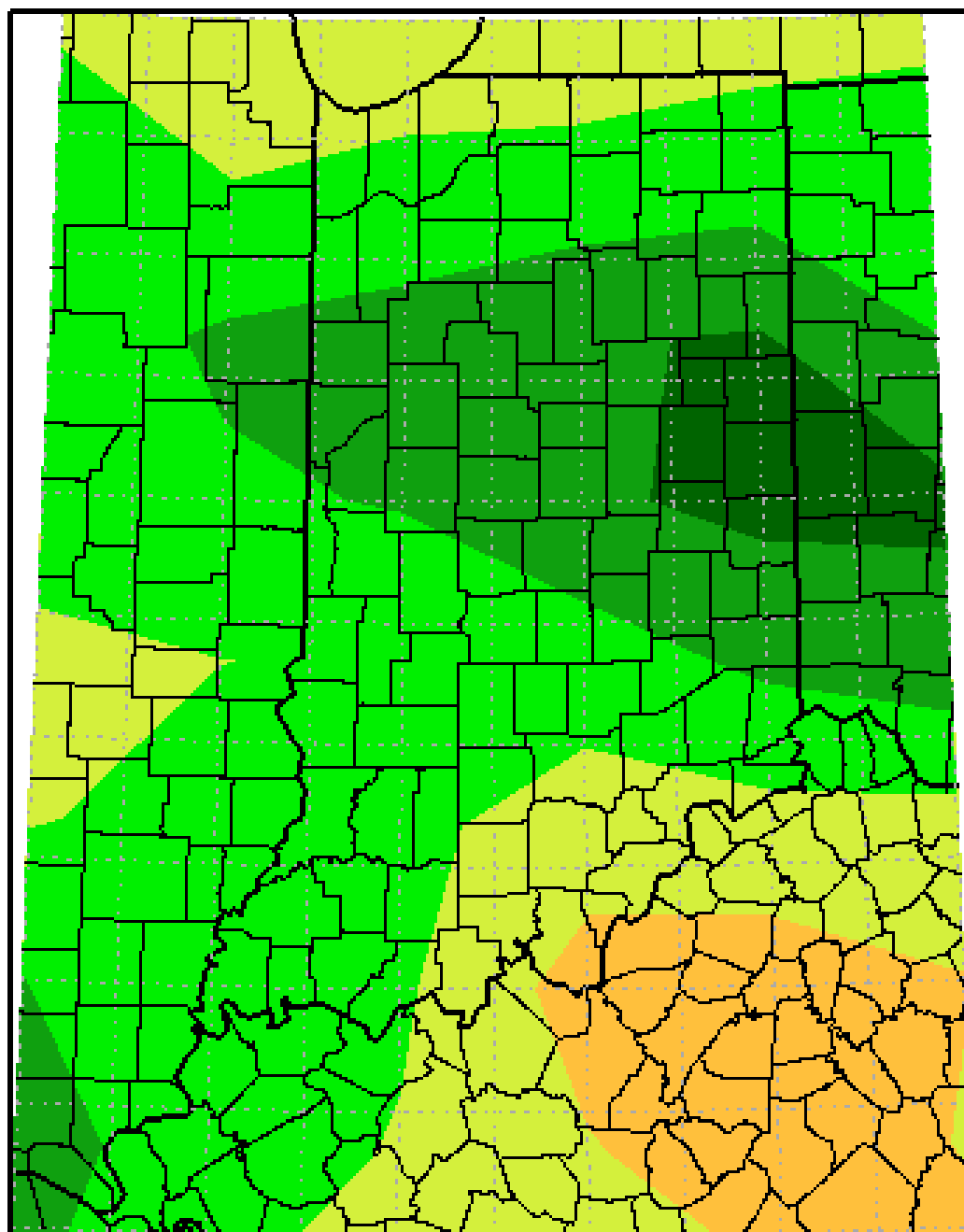


NOAA Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Total Precipitation Percent of Mean March 1, 2010 to March 31, 2010

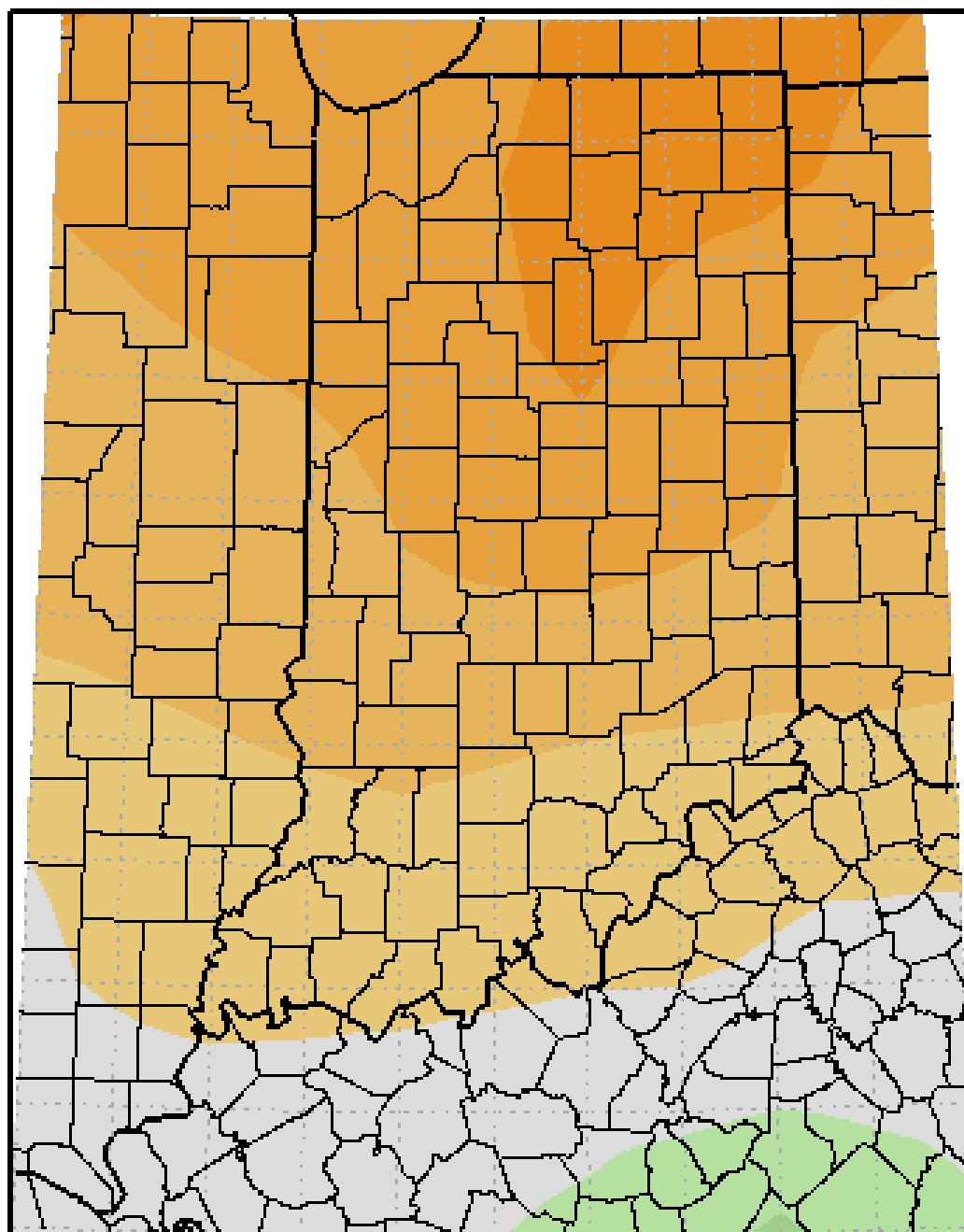


NOAA Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Average Temperature Departure from Mean in Degrees F March 1, 2010 to March 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, March 30th has 98.27% of Indiana under no drought, and 1.73% 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 (1.73%) . 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
03/30/10	98.27	1.73	0.00	0.00	0.00	0.00
03/23/10	81.86	18.14	0.00	0.00	0.00	0.00
03/16/10	74.41	25.59	0.00	0.00	0.00	0.00
03/09/10	99.87	0.13	0.00	0.00	0.00	0.00
03/02/10	100.00	0.00	0.00	0.00	0.00	0.00

March 2nd Drought Summary



March 9th Drought Summary



March 16th Drought Summary



March 23rd Drought Summary



March 30th Drought Summary

