

Joseph Mays
(765) 494-6574

Indiana State Climate Office

Monthly Weather Report

Oct 2, 2007



<http://www.iclimete.org>

September 2007 Climate Summary

Summary

The warm trend experienced in August continued for most of September. The state average temperature for the month was 69.5°F almost 4° above normal. There were numerous days when sections of the state were at least 10°F above normal and there were a few instances when temperatures stayed in the 90's for a period of time. September 2007 was the 15th warmest for Indiana. The warmest occurred in 1925 with a sweltering mean average temperature of 72.7°F! During the final week of September, a few cities set or tied temperature records.

If you remember back to August, the northern portion of the state was hammered with an abundance of rainfall while the southern half was very dry, increasing drought conditions. While the state average precipitation total was only 2.52 inches (normal is 3.18 inches) where the majority of it fell flip-flopped from August to September. In September the southern half received more rainfall than the north did. This may be misleading though because 7 of the 9 climate divisions were below normal. While more rain did fall in the south, it still wasn't enough to reach normal. It was more of a deficit in the north than it was a surplus in the south. All northern counties were more than 1 inch below normal and none received more than 62% of the normal. Northwestern counties only received approximately 1.58 inches, or 49% of the normal. East central and south central counties were the only regions to receive more than normal, but only slightly. East central experienced 2.87 inches of rain, which is 0.08 inches above the normal. South central was 0.01 inches above the normal at 3.12 inches. September 2007 was the 12th driest on record.

Overall September 2007 continued what August started: hot and dry.

Looking at year-to-date data, the first 9 months of 2007 have been warmer than normal. The statewide mean average temperature deviation is 1.4°F. While the entire state has been abnormally warm, the same cannot be said for precipitation. Through 9 months, northern and east central Indiana has received a little more than 100% of their normal precipitation. In contrast, west central, central, and southern Indiana has been well below normal. All three southern sections (southwest, west central, and southeast) are more than 5.94 inches below normal. As demonstrated by the Drought Summary maps at the end of this document, the south is experiencing an extreme drought.

September 1st – 6th

Indiana began the month of September under the influence of high pressure just north of the Great Lakes. The area of high pressure progressed south into Mississippi and eventually reversed course and hovered off the coast of Maine. During the period of high pressure dominance, temperatures across the state were above normal, a reoccurring theme during September. Throughout the first six days the average high temperature across the state was at least 5°F above normal in every county, topping out at 9°F above normal in Dearborn and eastern Ohio and Switzerland counties. Precipitation was sparse through the 6th. West central and southwestern counties received a few scattered showers on the 3rd, resulting in rain accumulations around 0.25 inches.

September 7th – 13th

The month's first disturbance entered the state on the 7th, as a cold front associated with a synoptic low pressure system located north of the Great Lakes brought cooler temperatures and light rainfall. Two more cold fronts would traverse the state on the 9th and 12th, keeping conditions cool and moist. The fronts would impact sections in the north more so than the south. Temperatures from the 7th through 13th were below normal across the northern half of Indiana while the south remained warmer than normal, though cooler than the first week. With the passing of three separate cold fronts came more rainfall. During this period all sections of the state saw more than 1 inch of rain, with east central Indiana receiving 2.05 inches.

September 14th – 24th

A 4th cold front passed through the state on the 14th but brought little – if any – measurable precipitation. High pressure built in behind the system bringing persistent sunny conditions for the state. The high pressure kept the cool air, introduced by the passing cold front, through the 20th. Average high temperatures in the north were as much as 12°F below normal on the 14th. This trend continued to the southeast as the front progressed. On the 15th, the entire state was at least 9°F below normal high temperatures. Temperatures began to climb on the 16th and finally were back above normal on the 17th. Temperatures continued to rise as the warm sector of an approaching front entered the state. In fact, northeastern counties such as Lake and Porter that were more than 12°F below normal high temperatures on the 14th were now more than 13°F above normal on the 18th, a 25°F swing in less than 5 days. High temperatures were more than 7°F above normal throughout the state on the 18th. Temperatures receded only slightly with the passing of a cold front on the 19th and 20th, with sections of the state still more than 10°F above normal highs. The introduction of high pressure behind the front sent temperatures even higher on the 21st. Northern sections of Lake, Porter, LaPorte, St. Joseph, Elkhart, and LaGrange counties were more than 20°F above normal high temperatures. This temperature gradient pushed to the south on the 22nd, bringing high temperatures more than 16°F above normal in southern counties. Temperatures remained well above normal throughout the entire state and increased even more on the 23rd. West central counties were more than 21°F above normal highs. Indianapolis tied its record of

high of 90°F, first set in 1961. Evansville set a new record high temperature of 94°F, besting the old record of 93°F set in 1961. The conditions persisted on the 24th with a few cities setting temperature records. Fort Wayne set a new record high temperature of 92°F (old record was 88°F in 1941), South Bend did the same with a high of 91°F (old record was 87°F in 1941), as did Indianapolis with a new high of 92°F (old record was 91°F in 1891). Evansville tied its previous record of 94°F first set in 1961.

Precipitation was minimal during the 11 day period of September 14th through 24th despite the passing of three fronts (on the 14th, 20th, and 22nd). The highest rainfall totals occurred on the 16th with scattered showers leaving trace amounts in central and southern Indiana. No areas received more than 0.05 inches of rain during the period.

September 25th – 28th

The 7th disturbance of the month entered on the 25th and fully passed by the end of the 27th. While rain fell in every county during the passing of the system, the heaviest rainfall occurred in the southeast, specifically Jefferson, Scott, Jackson, and Washington counties which received over 2 inches. Strong winds were associated with some storms in the system. Jackson, Henry, Madison, Delaware, and Randolph counties all reported downed trees and power lines during the 25th. The cold front did manage to cool the state but since temperatures had been drastically higher than normal, temperatures remained warmer than usual. Highs ranged from 80-90°F on the 25th but dropped to 70-80°F by the 28th.

September 29th – 30th

After the 7th and last disturbance of the month passed during the previous period, high pressure moved into the Mid-West and dominated the last few days of the month. The high pressure raised the temperature once again, mostly in the northern and western counties. There average high temperatures were more than 6°F above normal. The eastern and southern counties were around 4°F above normal. High temperature over the final two days ranged from the high 70's to low 80's. No precipitation was recorded on the 29th or 30th as a mostly sunny sky prevailed.

September Summary

Temperature

Region	Temperature	Normal	Deviation
Northwest	68.0	64.6	3.4
North Central	67.1	63.9	3.2
Northeast	66.3	63.5	2.8
West Central	69.7	65.9	3.8
Central	69.3	65.3	4.1
East Central	68.6	64.5	4.1
Southwest	72.5	68.2	4.3
South Central	72.0	67.5	4.5
Southeast	71.5	66.9	4.6
State	69.5	65.7	3.9

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	1.58	3.21	-1.63	49
North Central	2.05	3.30	-1.25	62
Northeast	1.99	3.19	-1.20	62
West Central	2.38	3.03	-0.65	79
Central	2.71	2.99	-0.28	91
East Central	2.87	2.79	0.08	103
Southwest	2.79	3.13	-0.34	89
South Central	3.12	3.11	0.01	100
Southeast	2.89	2.97	-0.08	97
State	2.48	3.09	-0.61	80

Autumn-To-Date

(same as current month)

Temperature

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Northwest	68.0	64.6	3.4
North Central	67.1	63.9	3.2
Northeast	66.3	63.5	2.8
West Central	69.7	65.9	3.8
Central	69.3	65.3	4.1
East Central	68.6	64.5	4.1
Southwest	72.5	68.2	4.3
South Central	72.0	67.5	4.5
Southeast	71.5	66.9	4.6
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Precipitation

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Central	2.71	2.99	-0.28	91
East Central	2.87	2.79	0.08	103
Southwest	2.79	3.13	-0.34	89
South Central	3.12	3.11	0.01	100
Southeast	2.89	2.97	-0.08	97
State	2.48	3.09	-0.61	80

Annual-to-Date

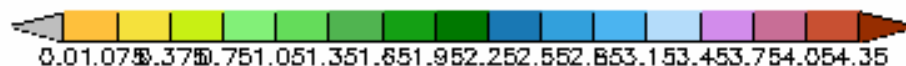
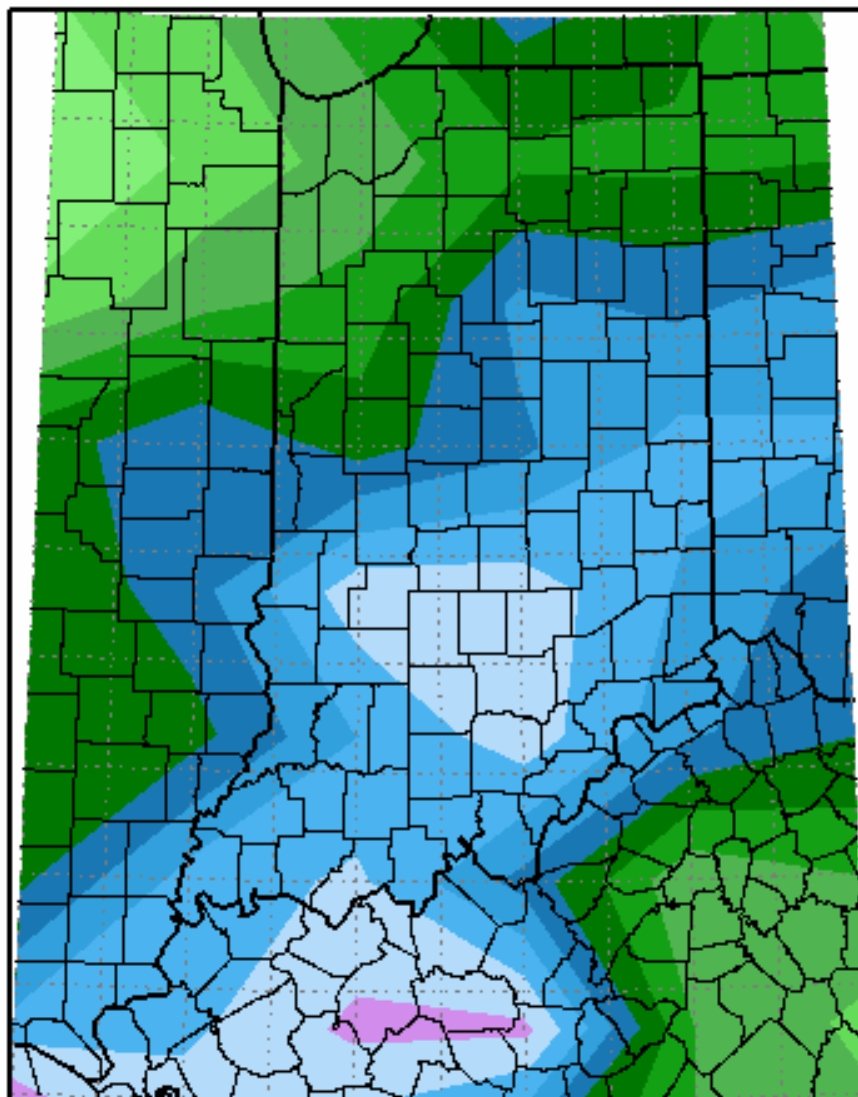
Temperature

Region	Temperature	Normal	Deviation
Northwest	54.3	53.5	0.83
North Central	53.8	53.0	0.83
Northeast	53.6	52.6	1.03
West Central	56.3	55.1	1.22
Central	56.1	54.6	1.53
East Central	55.3	53.8	1.53
Southwest	60.1	58.3	1.92
West Central	59.2	57.7	1.62
Southeast	58.2	56.8	1.42
State	56.4	55.1	1.32

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	1.83	29.28	2.55	109
North Central	1.63	29.30	2.33	108
Northeast	0.74	28.34	2.40	108
West Central	8.73	31.77	-3.04	90
Central	0.63	31.30	-0.67	98
East Central	1.53	30.27	1.26	104
Southwest	8.40	34.71	-6.31	82
West Central	8.34	35.04	-6.70	81
Southeast	8.09	34.02	-5.94	83
State	9.98	31.63	-1.65	95

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

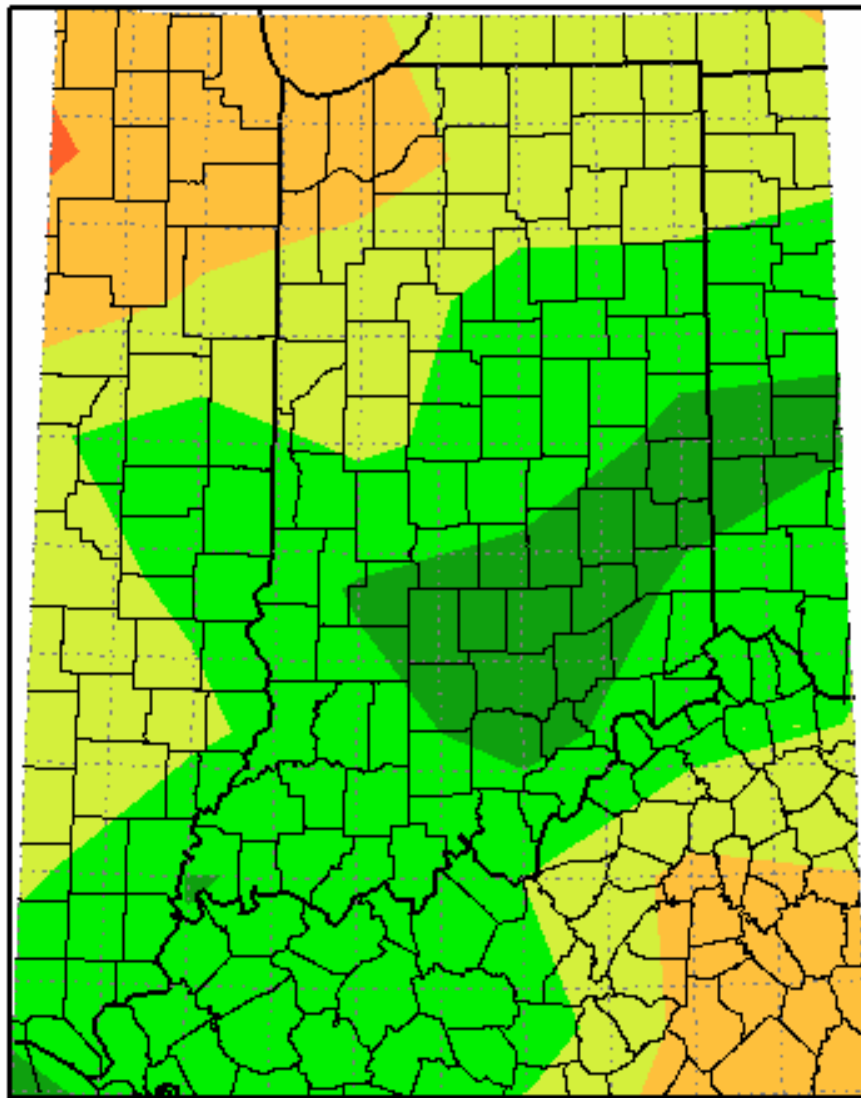


Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

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

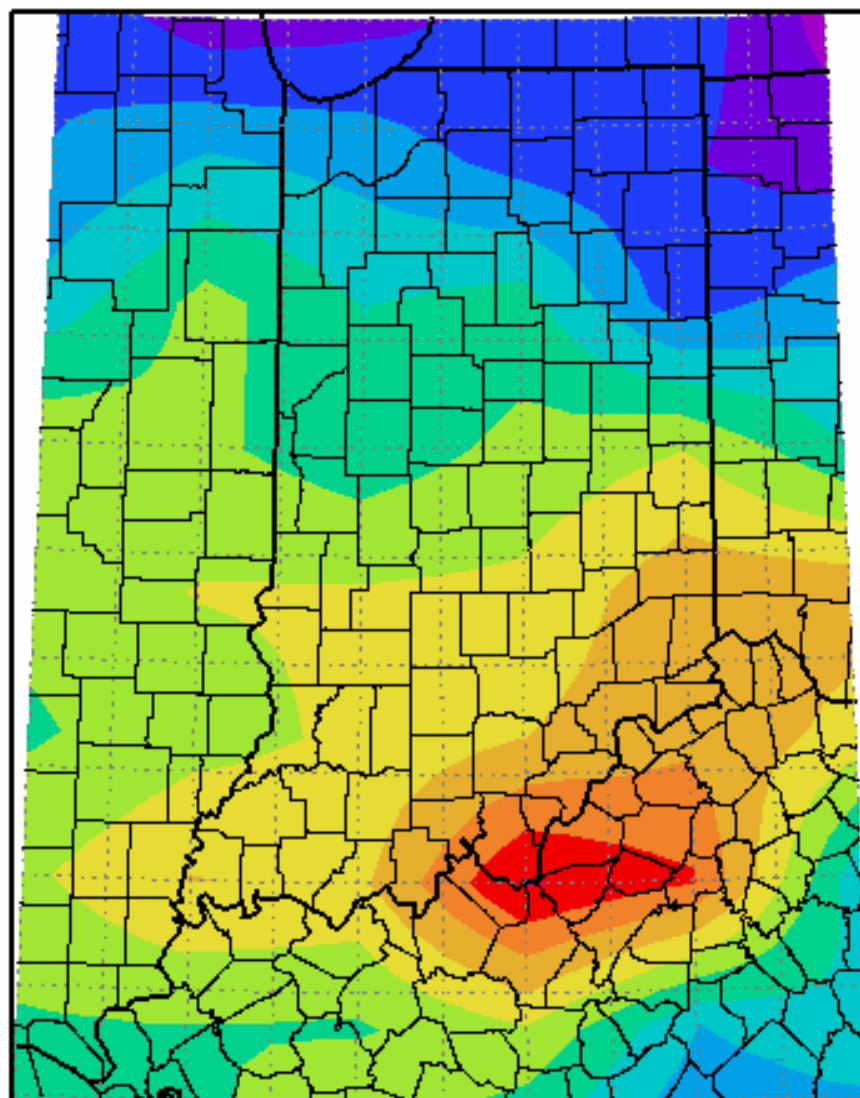


Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Average Temperature Departure from Mean in Degrees F
September 1, 2007 to September 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, September 25th has 44.89% of Indiana under no drought, and 55.11% of Indiana under at *least* D0 through D4 drought status. This is followed by 44.73% 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
09/25/07	44.89	55.11	44.73	38.09	20.27	0.00
09/18/07	57.52	42.48	38.34	34.47	12.02	0.00
09/11/07	38.65	61.35	43.84	34.47	12.21	0.00
09/04/07	26.48	73.52	53.53	43.50	13.75	0.00

September 25th Drought Summary

