

July Climate Summary

July 1-3

The cold front that brought severe weather to Indiana on June 30th continued its push through Indiana on the first of the month. The front ushered in a batch of rain showers before dry conditions showed up again on the second. Rainfall amounts varied from 0.05 inches in the northwest corner of the state to 0.72 inches in the southeastern corner. Temperatures dropped from the 90s to the mid 80s and upper 70s to the west of the front.

July 4-6

Temperatures were again on the rise by the 4th of July to the east of the next cold frontal system that washed out some firework displays. Rain and storms returned on the sixth with a tornado forming in Kosciusko County. The tornado had a brief touchdown in a field one mile west of Clunette. Several trees were reported down at Hoffman Lake, also in Kosciusko County, due to high winds. A little further to the west at Roselawn in Newton County 1.75 inch hail fell. These reports are the result of an area of rising motion due to an upper level feature and also an axis of instability that spread across the area. The atmosphere is always trying to balance itself, therefore the instability in this case resulted in the severe convective activity.

July 7-10

Drought conditions that have been plaguing the state continued despite some rain during the first of the month. Most of the state saw temperatures in the mid to upper 80s during this period with the Mount Vernon region in southwest Indiana reaching the low 90s. Lows during the overnight hours ranged from the upper 50s to the upper 60s.

July 11-15

Clouds started to move into the region from the remnants of what was Hurricane Dennis on the 11th, however the bulk of the precipitation did not start moving into Indiana until the morning of the 12th. By the time the system had reached the Hoosier state precipitation was sparse compared to what was earlier forecasted by the computer models. The computer models overdid the rainfall with Dennis and how much moisture would be available with the system. The same thing that kept Dennis in the area also contributed to its downfall. There was no upper-level feature to really move the system and little upper-level support to keep the system in tact. The rainfall that did fall across the state was due to little areas or bands of instability and spin in the atmosphere. However with little moisture advecting this far north into the state and a limited amount of upper level support, it was difficult for the system to maintain itself. High pressure over the southwest kept Dennis almost stationary and Dennis kept dissipating over this period. The afternoon and early evening hours received the most precipitation as the atmosphere warmed and became more unstable. Much of the state saw cloudy and cooler conditions as the system continued to spin out its final days over the state. Some areas

over the southwest portion of the state received just over an inch and a half of rainfall whereas the northern parts of the state, where more rainfall was needed, received 0.45-0.86 inches of rain. The state saw the upper 80s to low 90s on the 11th, however on the 12th-15th temperatures dropped off to the mid to upper 70s across the southern portions of the state and upper 80s across the northern half where less cloud cover could be found.

July 16-17

The remnants of hurricane Dennis have dissipated, and in its wake enough moisture finally was brought up into the state with dew points into the 70s. Temperatures remained in the mid 80s throughout the weekend. A low pressure center over the area, in addition to the moisture, brought more much needed rainfall across the state. Parts of central and southern Indiana received upwards of 2 to 5 inches of rain from the tropical moisture. Flooding was reported in portions of Marion County.

July 18-19

The Storm Prediction Center in Norman, Oklahoma issued a slight risk of severe weather over much of the state on the 18th in response to a cold front that was going to be moving through the state. A line of storms moved through the state between the early afternoon and later in the evening. With these storms, Kosciusko, Noble, LaGrange, and Shelby Counties all received high winds. A nice break from the juicy air occurred on the 19th. This was due in part to the passage of the cold front the day before. Temperatures ranging from the mid 80s to around 90 for highs and in the 70s for lows could be found across the state.

July 20-21

More humidity and heat started moving in on the 20th, as a warm front began a northward march. With this combination, more storms were fueled across the state, and both the 20th and 21st received severe reports. Most of the wind reports consisted of downed trees and/or power lines. During the overnight hours, most areas saw lows in the 70s with a few locations in the central and northern parts of the state dropping into the 60s. Sticky highs up into the upper 80s on the 20th paved the way for 90 degree temperatures on the 21st. A derecho moved through later in the day on the 21st, and in addition to a few hail reports, wind reports beset Indiana. The only tornado report in the U.S. on this day was reported in Hendricks County, Indiana at 1 W North Salem. Central and northern Indiana received the most rainfall, 0.3-0.66 inches with locally heavier amounts. This rain helped to end any borderline drought that had developed in central and southern Indiana. Also on the 21st, three inches of rainfall in eastern Marion County caused a flash flood to occur.

July 22-24

The state received a reprieve in storm reports for this period however temperatures soared in its place. Most of the rainfall ended by the 23rd and the weekend started off with sultry reports of temperatures in the low to mid 90s across the state.

July 25-26

The heat and humidity continued with severe weather returning to the picture as a cold front swept through the state. Excessive heat up into the mid 90s and dewpoints in the 70s to around 80 created for a dangerous situation with a heat index over 100 in a large part of the state. Only the extreme northern part of the state received wind damage on the 25th as cold front was situated across the northern counties. A mid-level trough and associated strong surface cold front brought a large swath of severe weather across the central and northern parts of the state on the 26th in the form of a macroburst. A macroburst is a large downdraft, 2.5 miles or greater, of air that has the potential to bring winds to the ground that are stronger than some weak tornadoes. Any tornadoes that usually do occur with this situation are weak and short-lived as was the case on the 26th. Six tornado reports were confirmed on this day in Indiana. Two reports came from Cass County, two from Clinton, one from Tippecanoe County, and another from Miami County. The most damage was reported in Cass County where a barn was knocked down, trees were down, crops were damaged, and a house was also heavily damaged. The tornado was registered as an F2 on the Fujita scale with a track length of 1 mile and a maximum width of 100 yards. The other tornadoes were weaker in nature. In addition to the tornado reports, a few hail reports were filed and numerous wind damage reports were also in place. Valparaiso, in Porter County, received 1.75 inch hail as a storm formed overhead. The fastest measured wind speeds were reported in Lafayette, Tippecanoe County, with a 75mph wind report and at 7 S Logansport in Cass County with a wind speed of 70mph. Several areas in the northern and central part of the state saw rainfall values well over an inch in just a short period of time. After the rainfall of the past few days there has been a dent in the drought that has been plaguing Indiana, however some areas were still experiencing a drought. Fort Wayne for example, was up to 5.19 inches of rain, above the normal July value, however they were still below normal for the year. Just a few days before on the 21st Fort Wayne was below average with their rainfall amounts for the month.

July 27-31

A much cooler and stable atmosphere set up after the severe thunderstorms from the night before. Temperatures were a few degrees below normal on the 27th in addition to the lower humidity that was in place. A few leftover scattered showers in the morning of the 27th gave way to sunnier skies for the rest of July. The low humidity stayed in place for the duration as Indiana was set between two high pressure systems and winds were generally weak from the north to northeast.

Temperature

Region	Average	Normal	Deviation
Northwest	74.5	73.6	0.9
North central	74.3	73.1	1.2
Northeast	74.5	72.8	1.7
West central	75.1	74.8	0.3
Central	74.8	74.3	0.6
East central	74.7	73.5	1.2
Southwest	77.3	77.1	0.2
South central	76.7	76.3	0.4
Southeast	76.2	75.5	0.8
State	75.4	74.6	0.7

Precipitation

Region	Total	Normal	Deviation	Percent of Normal
Northwest	4.89	3.86	1.03	127
North central	5.06	3.80	1.26	133
Northeast	5.59	3.66	1.93	153
West central	5.42	4.39	1.03	124
Central	5.38	4.26	1.12	126
East central	4.60	4.10	0.49	112
Southwest	4.14	4.26	-0.12	97
South central	4.02	4.32	-0.30	93
Southeast	3.95	4.12	-0.17	96
State	4.83	4.10	0.72	118

Local extremes with over 50% of the data available

	Site	Ob	Dev	% Available Data
Low Precipitation	Merom 2 ESE	1.33	-3.28	87
High Precipitation	Angola	7.89	4.28	100

Summer Season-to-date June - July 2005

Temperature

Region	Average	Normal	Deviation
Northwest	74.1	71.9	2.3

North central	73.8	71.3	2.5
Northeast	74.0	71.0	3.0
West central	74.6	73.1	1.4
Central	74.2	72.5	1.7
East central	73.9	71.7	2.2
Southwest	76.3	75.2	1.1
South central	75.5	74.4	1.1
Southeast	74.9	73.5	1.3
State	74.6	72.8	1.8

Precipitation

Region	Total	Normal	Deviation	Percent of Normal
Northwest	7.81	8.20	-0.39	95
North central	7.99	8.10	-0.11	99
Northeast	7.82	7.74	0.08	101
West central	8.69	8.72	-0.03	100
Central	8.96	8.36	0.60	107
East central	7.90	8.33	-0.43	95
Southwest	7.83	8.37	-0.54	94
South central	7.84	8.41	-0.57	93
Southeast	6.93	8.34	-1.41	83
State	8.07	8.30	-0.23	97

Annual-to-date January-July 2005

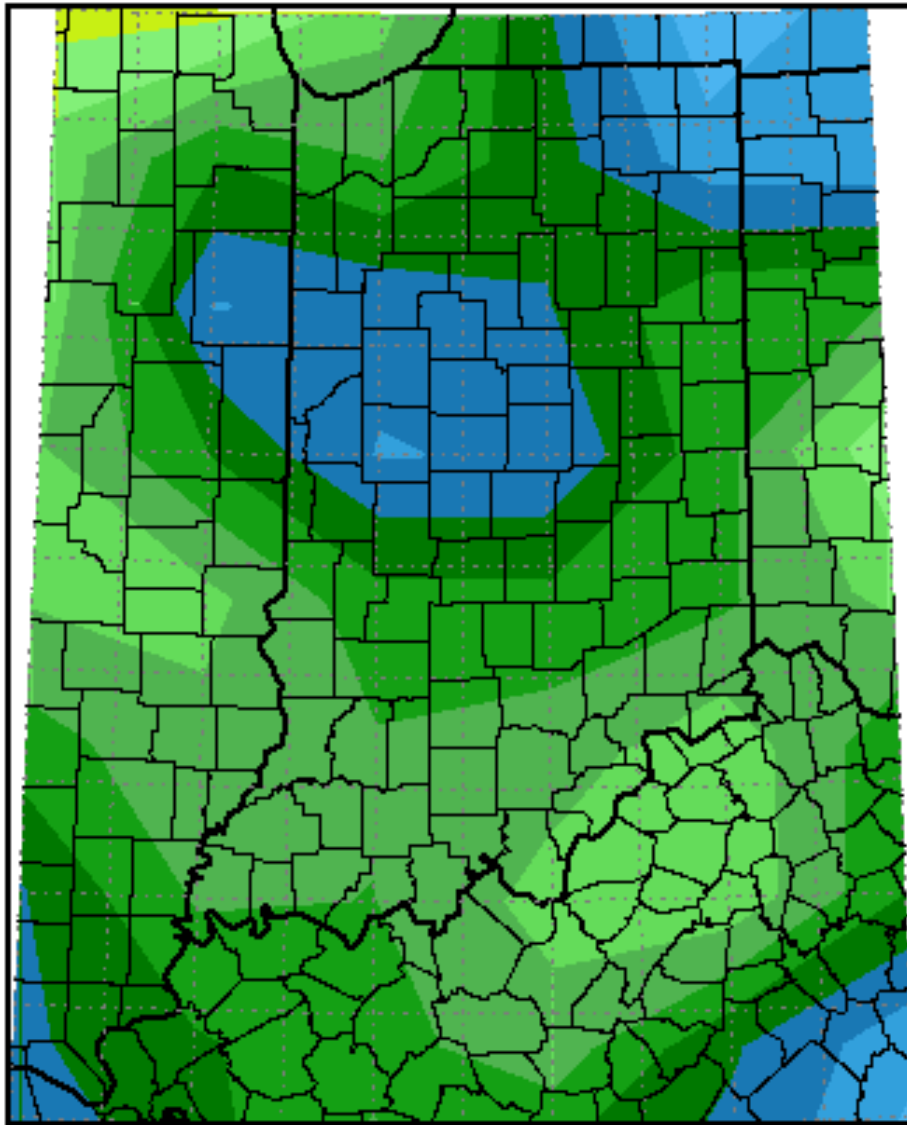
Temperature

Region	Average	Normal	Deviation
Northwest	50.5	49.2	1.2
North central	49.8	48.8	1.0
Northeast	49.3	48.4	0.9
West central	52.2	51.0	1.2
Central	51.8	50.6	1.2
East central	50.8	49.7	1.1
Southwest	55.9	54.4	1.5
South central	54.9	53.8	1.1
Southeast	53.7	52.9	0.8
State	52.2	51.1	1.2

Precipitation

Region	Total	Normal	Deviation	Percent of Normal
Northwest	20.73	22.25	-1.52	93
North central	22.01	22.17	-0.16	99
Northeast	21.76	21.46	0.29	101
West central	26.73	24.78	1.95	108
Central	29.44	24.56	4.88	120
East central	26.99	23.93	3.05	113
Southwest	26.42	27.91	-1.49	95
South central	27.73	28.02	-0.29	99
Southeast	26.34	27.15	-0.81	97
State	25.55	24.75	0.80	103

**Total Precipitation in Inches
July 1, 2005 to July 31, 2005**



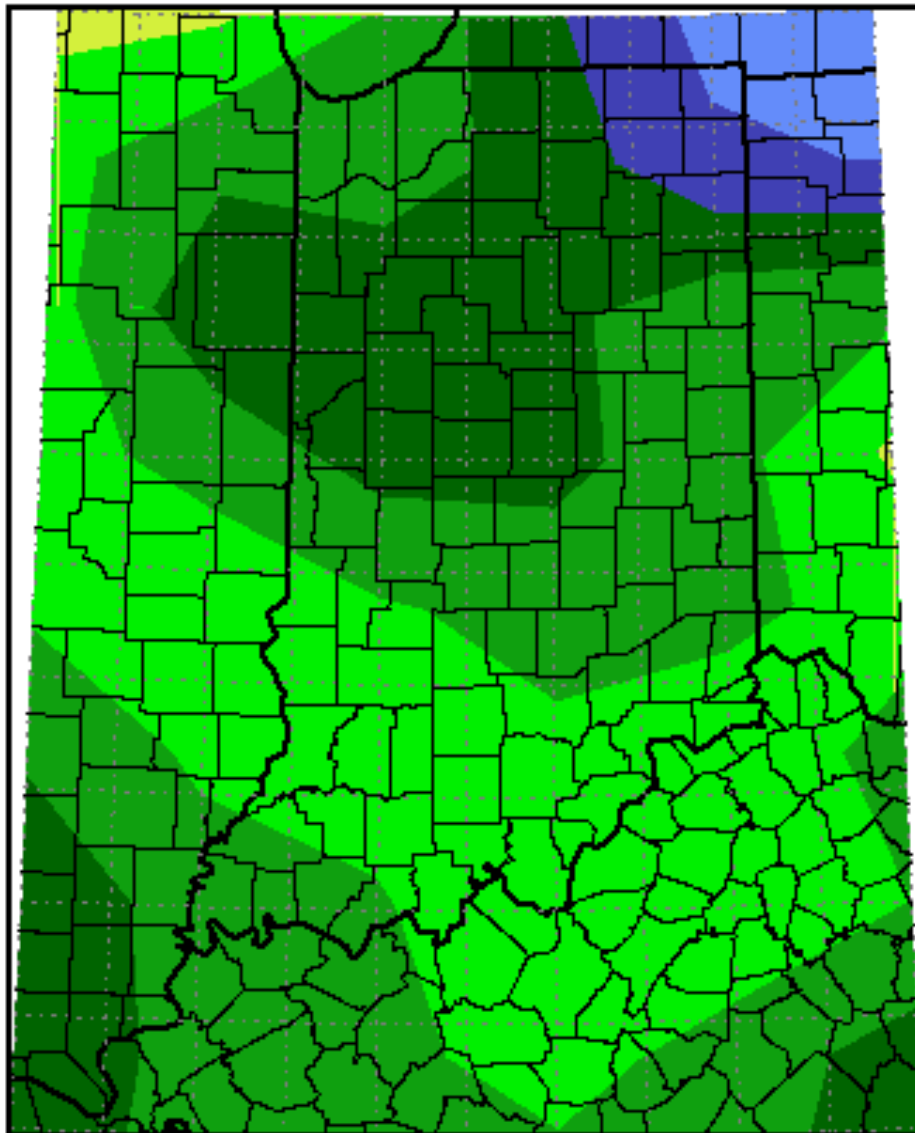
0.01 0.275 1.375 2.75 3.25 3.75 4.25 4.75 5.25 5.75 6.25 6.75

Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

**Total Precipitation Percent of Mean
July 1, 2005 to July 31, 2005**

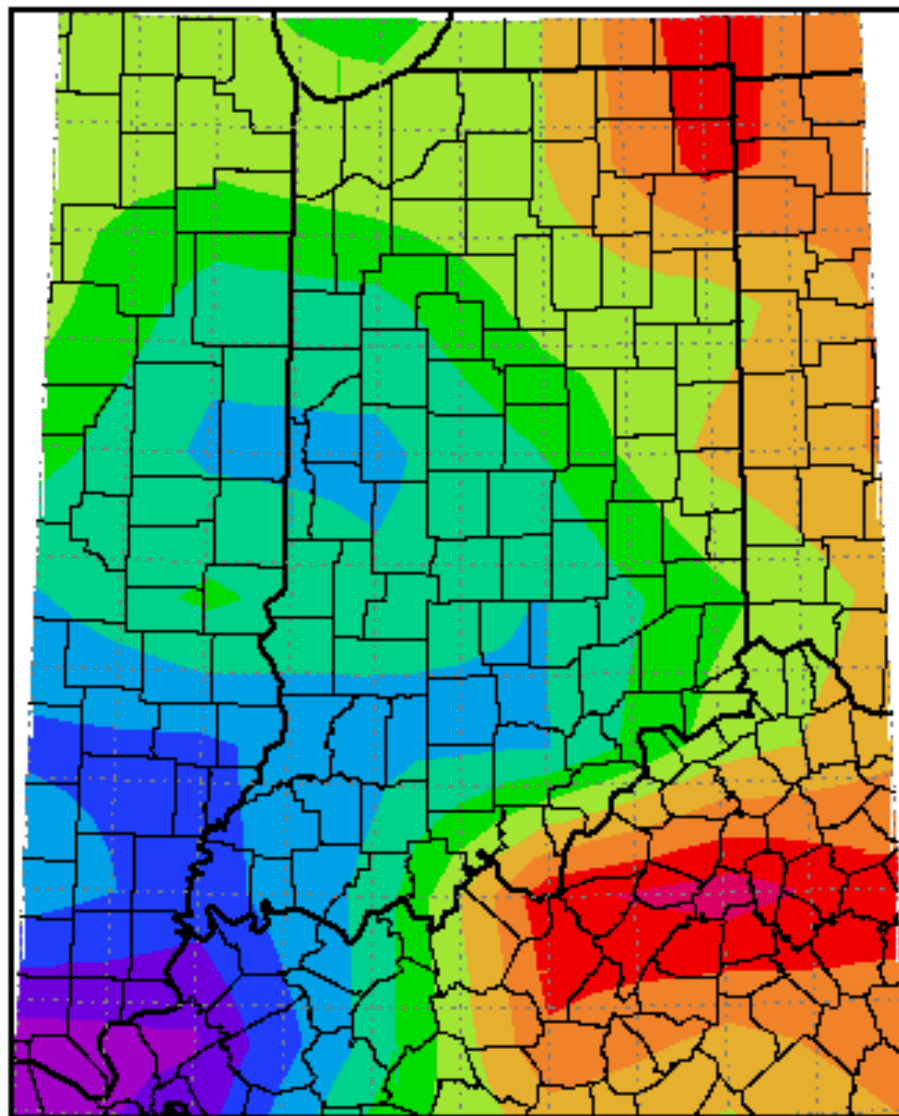


Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

**Average Temperature Departure from Mean in Degrees F
July 1, 2005 to July 31, 2005**



-0.6 -0.3 0 0.3 0.6 0.9 1.2 1.5 1.8 2.1

Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois