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Indiana State Climate Office
Monthly Weather Report

http://www.iclimate.org

Jan 10, 2008

December 2007 Climate Summary

Summary

December 2007 was quite moist and warm. A vast majority of the state was at least 1 inch above normal precipitation. The extreme southern tips of Posey, Vanderburgh, Warrick, Spencer, Perry, and Harrison counties were as much as 4 inches above normal, receiving at least 7 inches of precipitation. All regions received at least 154% of the normal. The statewide deviation was 2.01 inches above normal. Temperatures were more widespread. Northern counties were about ½°F above normal, central counties were about 1°F above normal, and southern counties were approximately 2°F above normal. The statewide average was 32.3°F, which is 1.2°F above normal. The wet month eliminated what remained of the drought during the first week of December.

December 1st – 7th

Conditions on the first day of the final month of 2007 were dry for the entire state. However, the same can not be said for temperatures. There was an approximate 25°F rift in temperatures from the northeast, around 35°F, to the southwest, around 60°F. The statewide normal is close to 45°F. Hopefully you enjoyed the dry conditions on the 1st. It was a rare occurrence the rest of the month. The first December weather system entered Indiana early on the 2nd, which leveled the temperature field and brought statewide temperatures more than 10°F above normal. It also produced some rain. Heaviest rains fell in the extreme north and south, where totals were around 0.4 inches. The bulk of the system would pass on the 3rd. Daily precipitation totals rose to almost an inch in Washington County, and a majority of southern and eastern counties received more than 0.6 inches. Some northern and northeastern counties experienced a wintry mix and up to 0.2 inches of snow fell. As the cold front passed temperatures plummeted to more than 10°F below normal for most of the state, with the coldest region being the east central. The system left the state late on the 3rd. Temperatures remained below normal on the 4th. Lake effect snow impacted much of the northern half of the state. While most areas saw only a light dusting, totals of over ½ inch were reported in north central counties. Temperatures dropped even more on the 5th with the emergence of system two. This second system brought the first moderate snowstorm of December. Almost the entire state received at least ¼ inch of snow, excluding parts of the extreme southwestern counties which saw more rain. Totals increased to the north. The largest snow totals

were reported in Lake, Porter, and La Porte counties. They experienced more than 4 inches of snow. As the system exited on the 6th, lingering snow showers left behind another 0.2 inches along the Indiana-Ohio border. Warmer temperatures filled in behind the front and the tail end of the system brought light rain to most of the state. Temperatures dropped slightly on the 7th as the result of the bottom arch of a Canadian synoptic low crossed the Great Lakes. Snow fell once again throughout the state. A heavy swath of snow crossed central Indiana, resulting in more than 1.2 inches from Vermillion and Warren counties through Jay, Randolph, and Wayne counties. The largest totals were reported in Randolph, Wayne, and Henry counties (2.2 inches). Over ½ the state experienced more than 3 inches of snow during the first week of December 2007.

December 8th – 14th

The Canadian cold front continued through the state at the beginning Week Two, resulting in more precipitation. However, temperatures rose above freezing and, to the dismay of children everywhere, rain returned. Rainfall totals increased to the south. Northern counties were relatively dry on the 8th. The 9th saw more rain for all of Indiana but it was caused by a different disturbance; one that had been hiding below the Canadian front. This system produced more than ½ inch of rain in many southern counties and brought light showers to the central and north. High temperatures remained below normal, although still higher than 32°F. Temperatures rose slightly on the 10th directly behind 4th system, which continued to bring light rain across the state. Unfortunately this 4th system stalled and broke into pieces, resulting in more rain on the 11th. The new stationary front produced rainfall totals close to ½ inch in northwestern and southwestern counties. Temperatures skyrocketed, specifically in the southeast where highs approached 70°F or more than 23°F above normal! There was quite a deviation of temperatures along a southeast to northwest diagonal. Temperatures in Lake and Porter counties hovered around the normal of 35°F. The stationary front regrouped and merged back into a cold front on the 12th bringing more rain to Indiana. The heaviest rain occurred across the northern counties, which received more than 0.7 inches. Noble, De Kalb, Whitley, and Allen counties were hit with over 1.1 inches. The rain continued into the 13th as the front very slowly progressed to the Northeast. Rain was light in the northwest but increased steadily towards the southeast, where totals reached 0.7 inches. Temperatures began to drop and hovered around the normal on the 13th. This trend became more pronounced on the 14th as yet another cold front made its approach. This system brought high temperatures below freezing and the subsequent precipitation was in the form of snow.

December 15th – 21st

Heavy snow fell on the 15th and 16th and light snow showers followed on the 17th in northern and eastern counties. The entire state received at least 2 inches of snow during this time period. Larger amounts were reported further north, with a maximum in the counties southeast of Lake Michigan. Porter, Jasper, La Porte, Starke, Pulaski, St. Joseph, Marshall, Fulton, Elkhart, and Kosciusko counties received more than 7 inches

during this snowstorm. Marshall County reported more than 9 inches. Temperatures rebounded on the 19th as the state sat in the warm sector of a small synoptic low. The disturbance brought light rain to southern Indiana on the 20th. Temperatures continued their steady climb on the 21st. More showers were seen in the south.

December 22nd – 31st

Temperatures peaked on the 22nd, in front of yet another system. All of Indiana was more than 15°F above normal high temperatures. Some central counties rose as much as 21°F above normal! A few scattered showers spread across the state, serving as a preview of larger things to come. These things came on the 23rd. The heaviest rain was delivered along a diagonal from the northeast to the southwest. This southeastern half of the state received more than ½ inch of rain, with a spike of ¾ inch in Greene, Daviess, and Martin counties. As this cold front passed, high temperatures plunged back below normal. With the new cold conditions, the tail end of the front brought light snow showers to most of the state (excluding the west central counties) on December 24th. While just a light dusting to ½ inch, it produced a white Christmas for many and was a welcome addition to Christmas Eve. The snow didn't last long. High temperatures jumped above normal – and above freezing – on Christmas day. The 25th was also one of only a handful of dry days for all of Indiana. This would hold true for most of the state on the 26th, although some southern counties witnessed a few rain drops. A cold front approaching from the west and moving to the north entered northern Indiana on the 27th. A slight drop in temperatures caused by the front resulted in snow in northern and east central counties. However, the rest of the state received rain. These conditions lingered into the 28th and 29th. What remained of the last system was finally gone on the 30th. Conditions were quite nice for the last two days of December 2007. Very little precipitation and rising temperatures produced a nice New Year's Eve. ***The December 2007 statistics and maps are below.***

December Summary

Temperature

Region	Temperature	Normal	Deviation
Northwest	28.7	28.5	0.2
North Central	29.0	28.7	0.3
Northeast	29.0	28.6	0.4
West Central	31.6	30.4	1.2
Central	32.2	30.7	1.5
East Central	31.7	30.2	1.5
Southwest	36.6	34.5	2.1
South Central	36.1	34.5	1.6
Southeast	35.4	34.0	1.4
State	32.3	31.1	1.2

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	4.09	2.66	1.44	154
North Central	4.35	2.79	1.55	156
Northeast	4.33	2.68	1.65	162
West Central	4.50	2.96	1.54	152
Central	5.19	2.99	2.21	174
East Central	4.79	2.87	1.92	167
Southwest	6.17	3.53	2.64	175
South Central	6.17	3.56	2.61	173
Southeast	5.75	3.41	2.34	169
State	5.07	3.06	2.01	166

Winter-To-Date

(same as December)

Temperature

Region	Temperature	Normal	Deviation
Northwest	28.7	28.5	0.2
North Central	29.0	28.7	0.4
Northeast	29.0	28.6	0.4
West Central	31.6	30.4	1.1
Central	32.2	30.7	1.5
East Central	31.7	30.2	1.6
Southwest	36.6	34.5	2.0
South Central	36.1	34.5	1.5
Southeast	35.4	34.0	1.5
State	32.3	31.1	1.1

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	4.09	2.66	1.44	154
North Central	4.35	2.79	1.55	156
Northeast	4.33	2.68	1.65	162
West Central	4.50	2.96	1.54	152
Central	5.19	2.99	2.21	174
East Central	4.79	2.87	1.92	167
Southwest	6.17	3.53	2.64	175
South Central	6.17	3.56	2.61	173
Southeast	5.75	3.41	2.34	169
State	5.07	3.06	2.01	166

Annual-to-Date

(January through December; all of 2007)

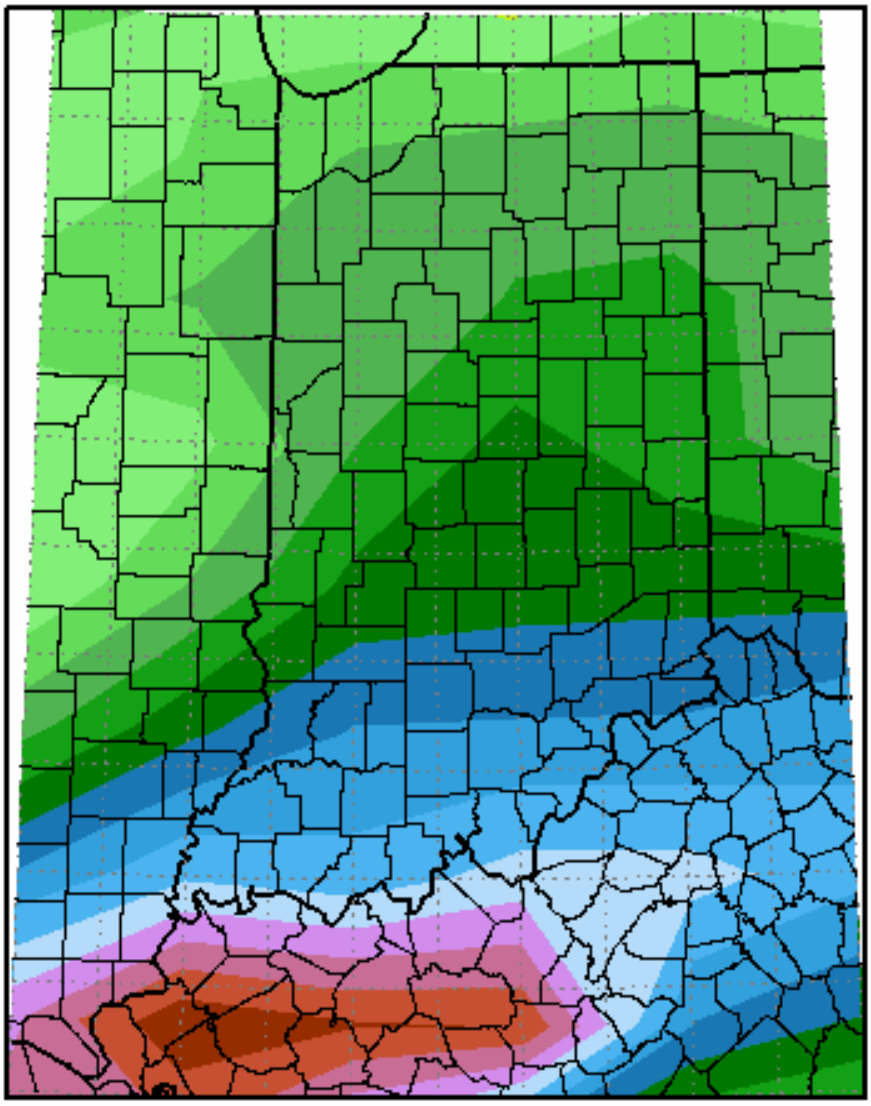
Temperature

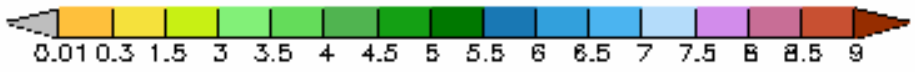
Region	Temperature	Normal	Deviation
Northwest	51.3	50.2	1.1
North Central	51.0	49.8	1.1
Northeast	50.8	49.5	1.4
West Central	53.3	51.9	1.4
Central	53.2	51.5	1.7
East Central	52.5	50.7	1.8
Southwest	57.1	55.1	2.0
South Central	56.2	54.5	1.7
Southeast	55.3	53.7	1.6
State	53.5	51.9	1.6

Precipitation

Region	Precipitation	Normal	Deviation	Percent of Normal
Northwest	43.14	38.01	5.13	113
North Central	42.88	38.19	4.69	112
Northeast	41.48	36.75	4.73	113
West Central	40.65	41.23	-0.59	99
Central	41.49	40.74	0.75	102
East Central	42.21	39.23	2.98	108
Southwest	41.47	45.56	-4.09	91
South Central	40.85	45.7	-4.86	89
Southeast	40.88	44.12	-3.23	93
State	41.66	41.18	0.49	101

Total Precipitation in Inches
December 1, 2007 to December 31, 2007



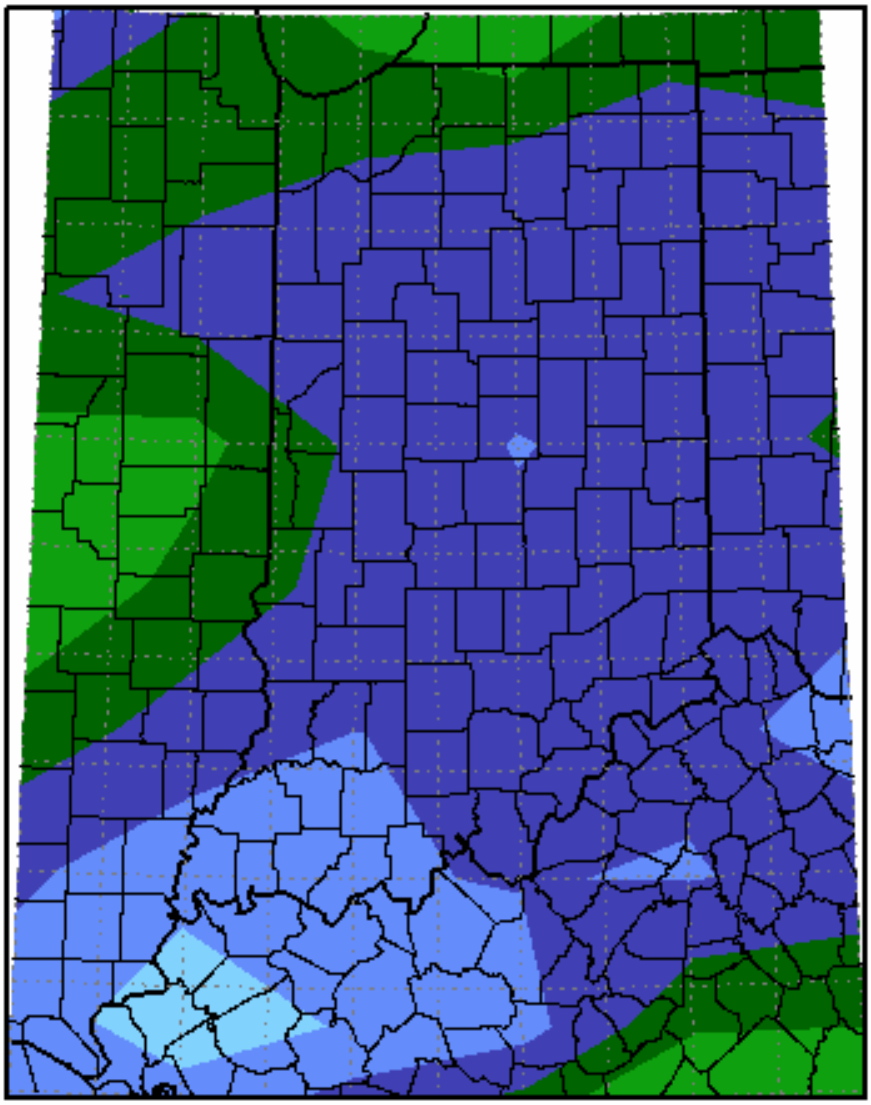


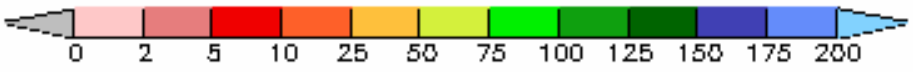
Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Total Precipitation Percent of Mean
December 1, 2007 to December 31, 2007



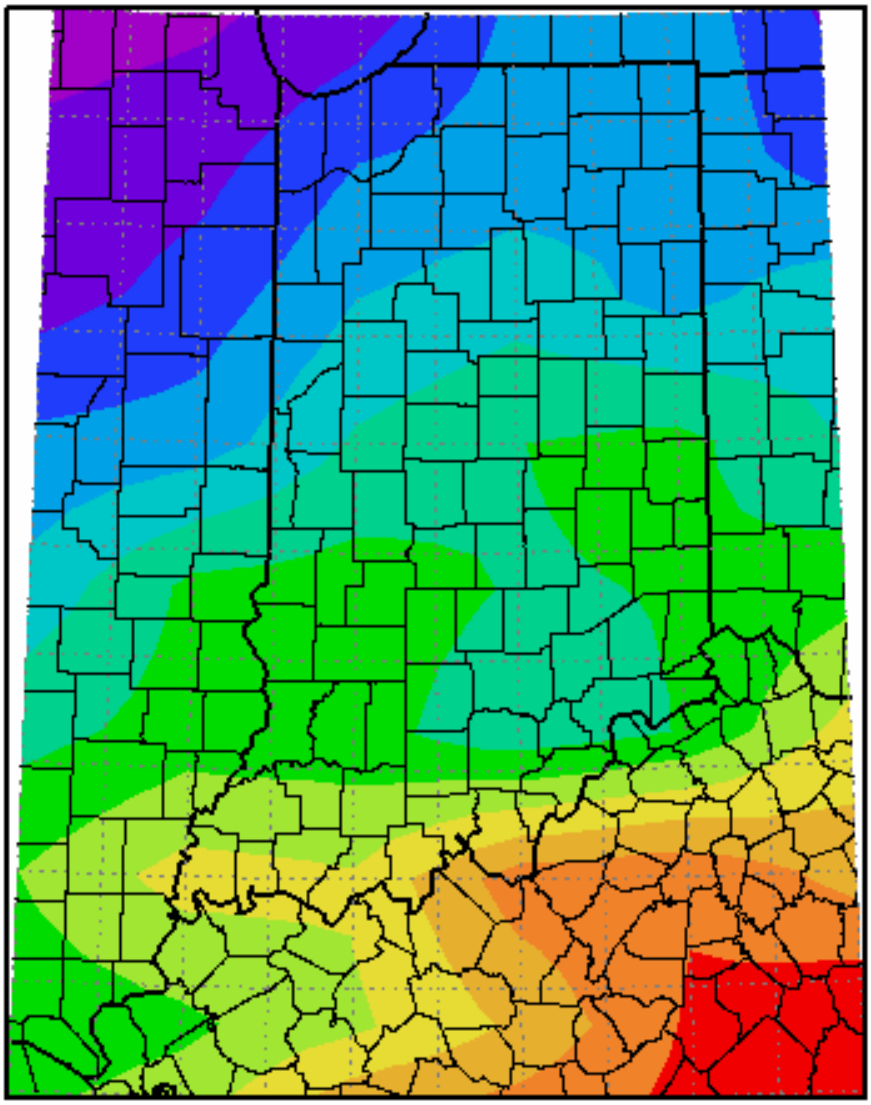


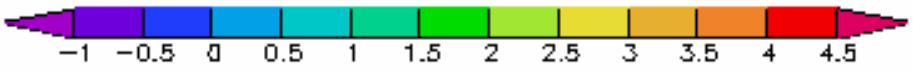
Midwestern Regional Climate Center

Illinois State Water Survey

Champaign, Illinois

Average Temperature Departure from Mean in Degrees F
December 1, 2007 to December 31, 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, December 4th has 81.37% of Indiana under no drought, and 18.63% 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. 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
12/04/07	81.37	18.63	0.00	0.00	0.00	0.00
12/11/07	100.00	0.00	0.00	0.00	0.00	0.00
12/18/07	100.00	0.00	0.00	0.00	0.00	0.00
12/25/07	100.00	0.00	0.00	0.00	0.00	0.00

December 4th Drought Summary

December 11th Drought Summary

December 18th Drought Summary

December 25th Drought Summary