

Central Indiana Summer 2015 Summary

The summer of 2015 ended up slightly cooler than normal for many locations, but in general was warmer than the previous two summers in 2013 and 2014. The Indianapolis International Airport made it to 90 degrees on only six days throughout the summer, including none in August for the first time since 2004.

The summer will go down as one of the wettest on record for many areas, due to exceptionally wet, stormy weather experienced throughout June and July. Over 23 inches of rain fell at Indianapolis International Airport during the summer, making 2015 the second wettest summer on record. Over 21 inches of that rain fell in June and July, highlighted by over 13 inches in July alone, making July 2015 not only the wettest July on record, but the wettest month in recorded history.

The following is a summary of weather conditions experienced in Central Indiana during the months of June, July, and August 2015.

Temperatures

The summer of 2015 was tied for the **58th coolest summer ever at Indianapolis**, with an average temperature of 73.4 degrees. The normal summer average temperature is 73.9 degrees, making this summer below normal by 0.5 degrees. Average temperatures across central Indiana for the summer generally ranged from 2 degrees below normal to around a degree above normal.

June

After a cool first few days to the month, temperatures warmed quickly into the 80s as high pressure expanded across the region. Highs rose into the middle and upper 80s by the 7th. After a brief cool down on the 8th as a front passed through with rain and thunderstorms, highs returned into the 80s, then surged into the lower 90s for many locations from the 10th through the 12th. Highs would persist in the middle and upper 80s through the middle of the month.

The weather pattern became increasingly more unsettled for the second half of the month as a frontal boundary remained in the vicinity of the Ohio Valley and lower Great Lakes with multiple waves of low pressure riding along it. In addition, the remnants of Tropical Storm Bill tracked through the Ohio Valley on the 19th and 20th. These features resulted in more cloudy and stormy periods impacting various parts of central Indiana.

Highs generally ranged anywhere from the upper 70s to middle 80s with lows predominantly in the 60s.

The arrival of an upper level trough for the last few days of the month ushered in cooler weather for the region. Highs on the 27th only rose into the lower and middle 70s, with lows falling into the 50s for the first time in three weeks in many locations. Highs returned to around 80 by the last day of June.

July

Most locations across central Indiana experienced a below average month in regards to temperatures. The first third of the month had the most days with below average temperatures. During this period temperatures remained below 80 across much of the area, with highs only in the 60s on the 8th across northern sections of the area. The cooler temperatures were due in part to plenty of cloud cover during this time.

Readings trended warmer for the remainder of the month, with some cool days still interspersed. Temperatures topped the 90 degree mark on multiple days. Terre Haute recorded 5 days of 90 degrees or higher temperatures, while Indianapolis and Bloomington had 4 each. Northern areas saw fewer, as Lafayette had 2 and Muncie only 1 90 degree day.

The warmest high temperatures generally occurred on the 18th and 28th.

August

August was a largely typical month for mid to late summer temperatures with one notable exception. Highs were primarily in the 80s for most of the month across central Indiana with lows ranging from the upper 50s to upper 60s. Central Indiana largely escaped the typical hot weather that often comes throughout August, with much of the area being spared of 90 degree temperatures. Indianapolis did not make it to 90 at all in August, the first such occurrence since August 2004, which incidentally was also the only year that saw no 90 degree temperatures in Indianapolis.

A cooler airmass overspread the Ohio Valley in the wake of a frontal passage for several days from the 24th through the 28th. Highs through the period fell into the lower and middle 70s across much of the region, with some areas of north central Indiana even remaining in the upper 60s on the 25th and 26th. Low temperatures fell into the upper 40s and lower 50s during the period as well. Warmer temperatures returned for the last few days of the month, acting as a prelude to the hot weather set to open up September.

10 mornings saw lows at or below 60 degrees, the most since August 2004. Additionally, the 72.9 degree monthly average temperature at Indianapolis made for the coolest August since 2004 and the second coolest August on record since 2000.

Temperature Data for Other Sites in Central Indiana

| Site | Summer 2015 Temperature | Normal Temperature | Diff. From Normal |
|---------------------------------|--------------------------------|---------------------------|--------------------------|
| Indianapolis Int'l Arpt | 73.4 | 73.9 | -0.5 |
| Lafayette (*) | 70.7 | 73.1 | -2.4 |
| Muncie | 71.0 | 72.8 | -1.8 |
| Terre Haute | 73.1 | 73.4 | -0.3 |
| Bloomington | 72.7 | 72.8 | -0.1 |
| Shelbyville | 73.6 | 72.7 | +0.9 |
| Indianapolis – Eagle Creek (**) | 72.6 | 73.9 | -1.3 |

(*) – Lafayette temperature data missing on 8/26.
 (**) – Indy-Eagle Creek temperature data missing on 7/15.

Summer Extremes Across Central Indiana

| Site | Warmest Temperature | Coldest Temperature |
|----------------------------|----------------------------|----------------------------|
| Indianapolis Int'l Airport | 92 on 7/28 | 49 on 6/2 |
| Lafayette | 90 on 7/18 and 7/28 | 46 on 6/2 and 6/3 |
| Muncie | 91 on 7/18 | 46 on 6/2 |
| Terre Haute | 93 on 7/28 | 47 on 8/25 |
| Bloomington | 92 on 7/28 | 49 on 6/2 and 6/3 |
| Shelbyville | 93 on 6/11 | 48 on 6/3 |
| Indianapolis-Eagle Creek | 91 on 7/18 and 7/28 | 48 on 6/2 |

Rainfall

Overall this was the **2nd wettest summer on record at Indianapolis**. The total rainfall for Indianapolis this summer was 23.05 inches. Only the summer of 1875 experienced more rainfall, when 28.99 inches fell. The normal rainfall total for summer is 11.93 inches, which made this summer in Indianapolis above normal by a whopping 11.12 inches. Most of the rain came in June and July, with much drier conditions settling in for most of the region in August. Some of the heaviest rainfall through central Indiana fell along the Interstate 65 corridor, from Lafayette through the Indianapolis metro area to Columbus and Seymour.

June

Rainfall totals in June reached historic levels in portions of northern Indiana. Monthly totals ranged from slightly over 4 inches in extreme north central Indiana to over 18 inches in portions of Jasper County in northwest Indiana. Totals in central and southern Indiana ranged from 5 inches in Marion County to over 13 inches in Greene County in southwest Indiana. About half of the state received more than twice the average rainfall for June. Precipitation during the month was normal to above normal for every location in the state.

For the Indianapolis area the monthly total of 8.36 inches was the 7th wettest June of record and the wettest June since 2010. For Fort Wayne, the monthly total of nearly 12 inches in June surpassed the previous monthly record set in July 1986 by almost an inch.

After beneficial rains at the end of May, much of Indiana was dry for the first 6 days of June. Beginning on the afternoon of the 7th and continuing the remainder of the month, various storm systems brought at times torrential rains to parts of the state. On the 7th rains of 2 to more than 6 inches fell in portions of east central Illinois and west central and northwest Indiana.

A series of storms from the 12th through the 18th dropped 4 to more than 8 inches of rainfall in northern Indiana. Quickly following, the remnants of tropical storm Bill brought 3 to nearly 8 inches of rain on the 19th and early on the 20th to previously dry southern Indiana. The last widespread rains of the month were the result of a developing low pressure area that moved through the state on the 26th and early on the 27th. Much of the state along and north of I-70 received 2 to 5 inches of rain.

Rainfall of this magnitude brought major river flooding to portions of northern Indiana and significant river flooding to the Tippecanoe, Mississinewa and the Wabash Rivers. River flooding began in western Indiana on the 8th and continued into July. This was the worst river flooding for late June and early July in 12 to 17 years or longer for many areas.

July

For the second consecutive month, monthly rainfall totals reached historic levels in portions of Indiana. Monthly totals ranged from around an inch in parts of Vermillion County in west central Indiana to almost 18 inches in portions of Hendricks County in central Indiana. Monthly totals ranged from 10 to more than 15 inches in a 20 to 40 mile wide band that extended from Lebanon in Boone County of central Indiana to Charlestown in Clark County of southern Indiana. Rainfall during July varied widely over relatively short distances in several areas of the state.

For Indianapolis, the monthly total of 13.14 inches set a new all-time monthly rainfall record besting the previous July 1875 record of 13.12 inches. During a particularly stormy period from the 7th through the 17th, the 11.54 inches of rainfall dumped on Indianapolis was the most ever for any eleven day period. The climatological summer of 2015 was already the second wettest of record by July 27th.

July began on a dry note for much of Indiana north of the Indianapolis area while locally heavy rains of 1 to more than 4 inches fell in southern Indiana from late on June 30th through July 3rd. A dry spell began for the entire state on the 4th and lasted only through the 6th. The seemingly never ending rains of the summer of 2015 returned on the 7th and continued through the 20th. A dry spell for almost the entire state began on the 21st, lasting 5 days through the 25th. Once again storms returned during the evening of the 26th and continued sporadically through the 29th. The last two days of July were dry and pleasant.

Heavy rains of 3 to 5 inches fell mostly during the evenings of the 7th, 8th, 12th, 13th, 17th, 21st and 26th, generally in central and southern Indiana. Severe local flooding affected homes, businesses and traffic. At times, water rescues were necessary.

Some areas were flooded more than once during the month. July rainfall pushed flood levels on the White River southwest of Indianapolis to levels not seen for the middle of summer since the July and early August floods of 1979. Flood levels on the East Fork White were similar to that of early August 2009 in the Columbus, Seymour and Sparksville areas and the highest in Lawrence and Martin counties since late June 1960. Flooding on the White River in southwest Indiana and the lower portion of the Wabash River lasted more than five weeks while the Wabash River from Lafayette to Hutsonville in western Indiana remained above flood stage for eight weeks.

August

The wet summer of 2015 turned dry in many areas during August. Only portions of northwest, southwest and eastern Indiana received above normal rainfall. Monthly totals ranged from less than an inch in west central and central Indiana to almost 9

inches in portions of Porter County in northwest Indiana. Much of the state received between 1.5 and 4 inches during the month.

The drier weather pattern that began on July 27th continued through August 13th in much of the state. During this time sporadic daily rainfall of one-half to over an inch fell from the 2nd through the 6th and the 9th through the 10th. Rainfall during the first 2 weeks of August varied from near 0.10 inches in west central and central Indiana to over 3.5 inches in east central Indiana.

The most significant rainfall of the month occurred from late on the 14th through the 19th. Rains reminiscent of June and July returned to northwest Indiana early on the 18th when portions of Porter County measured in excess of 6 inches. Several areas in the state received rainfall greater than 2 inches on the 16th, 17th and 19th. For this 6-day rainy period, amounts ranged from slightly over 0.10 inches in central Indiana to nearly 7 inches in northwest Indiana.

The driest portion of August was the last 12 days. Rain fell only in portions of northern and east central Indiana on the 23rd and in scattered locations state-wide from the 29th through the 31st. Rainfall for this period ranged from little to none in numerous areas of central and southern Indiana to nearly 3 inches in isolated areas.

Rainfall Data for Other Sites in Central Indiana

| Site | Summer 2015 Rainfall | Normal Rainfall | Diff. From Normal |
|----------------------------------|-----------------------------|------------------------|--------------------------|
| Indianapolis Int'l Arpt. | 23.05 | 11.93 | +11.12 |
| Lafayette | 15.07 | 11.53 | +3.54 |
| Muncie (*) | 16.68 | 12.34 | +4.34 |
| Terre Haute (**) | 10.75 | 12.84 | -2.09 |
| Bloomington | 20.89 | 13.30 | +7.59 |
| Shelbyville | 16.93 | 12.50 | +4.43 |
| Indianapolis – Eagle Creek (***) | 13.65 | 11.84 | +1.81 |

- (*) – Muncie missing precipitation data for 6/26 and 6/27.
- (**) – Terre Haute missing precipitation data for 6/26 and 6/27.
- (***) – Indy-Eagle Creek missing precipitation data for 7/15.

Major Weather Events

June

After a dry first week to the month, strong to severe thunderstorms impacted central Indiana periodically throughout the remainder of June as the Ohio Valley remained in a generally unsettled weather pattern. The remnants of Tropical Storm Bill moved across the southern half of Indiana on the 19th into the early part of the 20th. A few funnel clouds were observed on the afternoon of the 19th across far southern portions of central Indiana.

Some of the most significant wind damage from storms during the month occurred during the early morning of the 21st as intense storms moved into central Indiana from the west. Widespread tree and structure damage occurred in Tipton where maximum wind gusts were estimated at around 80 mph. Additional significant tree damage occurred over Attica, Lafayette, and across portions of Hamilton, Madison and Delaware Counties. A 70 mph wind gust was measured in Zionsville.

Strong thunderstorms producing torrential rainfall on the 26th into the morning of the 27th produced severe flash flooding in Muncie with multiple water rescues. Two individuals perished near Noblesville when their automobile hit high water on a road and crashed. Several kayakers needed to be rescued from swift moving waters on area streams on the 28th. In addition, an individual was swept away on a rain-swollen Coal Creek in Fountain County on the 13th.

July

The frequent weather systems that brought the heavy rains to central Indiana also brought severe weather at times. Five tornadoes touched down in the area in July, during the period from the 12th to the 17th. In addition, severe storms brought down trees and power lines.

Details on these events can be found in the 2015 section of the severe weather archive page at <http://www.weather.gov/ind/archive>

August

Very little severe weather occurred across central Indiana in August. Scattered severe storms on the afternoon of the 3rd produced large hail across portions of Delaware and Randolph Counties. Golf ball size hail occurred southeast of Muncie.

For information on severe weather in other areas from June through August, visit the Storm Prediction Center "Severe Weather Event Summaries" website at <http://www.spc.noaa.gov/climo/online/>.

Fall 2015 Outlook for Central Indiana

The official outlook for the 2015 fall season (September-November) from the Climate Prediction Center indicates a greater chance of near to slightly below normal temperatures and precipitation across central Indiana. At Indianapolis, the average temperature for the fall season is 55.2 degrees. At Indianapolis, the average precipitation for the fall season is 9.94" and 1.1" of snowfall.

Data prepared by the NWS Indianapolis Climate Team
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