

Central Indiana Fall 2018 Summary

As we begin the month of December, we mark the conclusion of meteorological fall and welcome meteorological winter. Temperatures remained above average throughout much of the first half of the fall, before cooling to below normal levels by mid-October before a much colder November. Overall, the fall of 2018 saw average temperatures within a degree either side of normal. A very wet September was aided by the remnants of Tropical Storm Gordon early in the month. Drier conditions settled in from late September through October before turning wetter again in November. Most of central Indiana saw the first snowflakes of the season in October, followed by one of the more wintry Novembers in recent memory. A rare early season ice storm impacted the region on November 15th, followed by additional snow threats through the second half of the month.

The following is a summary of weather conditions experienced in Central Indiana during the months of September, October, and November 2018.

Temperatures

The fall of 2018 was tied for the **75th coolest fall ever at Indianapolis** with an average temperature of **55.0°**. This is 0.2° below the normal fall average temperature of 55.2°.

September

September started out hot across central Indiana, with much of the area getting to 90° or warmer five out of the first six days of the month. The average temperature of 80.8° in Indianapolis through the first six days was the second warmest start to a September on record, behind only September 1-6, 1922. The heat wave came to an abrupt end beginning on the 7th as the remnants of Tropical Storm Gordon brought clouds and heavy rain to the Ohio Valley. After the hot start to the month the first six days, the next six days saw highs generally no warmer than 75° with temperatures remaining in the lower and mid 60s on the 8th and 9th.

Once the remnants of Gordon departed the region, temperatures quickly reverted back to a more summer-like pattern through the middle of the month. With an extended period of dry weather and mainly clear skies, high temperatures from the 13th through the 21st ranged from the mid-80s to the lower 90s. Cooler temperatures would arrive for the last week of the month, with highs generally in the 60s and 70s. The coolest nights

of September would come during the last few days of the month as lows fell into the 40s in much of the area for the first time since early May.

At Indianapolis, there were 8 days at or above 90°, the most in September since 1999. There were also 8 nights where lows remained above 70°, the most in the city in September since 1936.

October

October was truly a tale of two seasons as unseasonably hot and humid conditions to start for the first ten days transitioned into a much cooler pattern that would largely extend through the remainder of the month. The beginning of the month was one of the warmest starts to an October on record as highs consistently warmed into the mid and upper 80s with a few locations making it to 90° on a day or two. The Columbus Day weekend was exceptionally warm and humid with average temperatures running up to 20° above normal. The first ten days of October were the second warmest on record at Indianapolis, bested only by October 1-10, 1879. Lows through the first ten days ran largely in the mid and upper 60s.

The passage of a cold front on the 10th effectively flipped the script as high temperatures in the days to follow were 30 to 35° below the high temperatures experienced just a few days prior. This pattern would linger for the rest of the month with highs predominantly in the 50s and lows in the 30s. At Indianapolis, only 5 days would even rise above 60° from the 11th through the end of October, and four of those days came at the end of the month. With temperatures consistently running below normal for the last 2/3 of the month, averages tumbled with most locations running only about 1-3° above normal by the end of the month. This was even more remarkable considering average temperatures through the first 10 days were 12-14° above normal.

Many locations experienced their first of several frosty mornings on the 12th and 13th with a hard freeze impacting the northern half of central Indiana on the morning of the 18th and effectively ending the growing season. The southern portions of central Indiana would not have to wait much longer, as lows in the upper 20s ended their growing season on the morning of the 21st.

November

The cool weather experienced throughout the second half of October continued right on into November, producing one of the colder Novembers on record in recent memory and highlighting that there would not really be a true Fall across the area this year. In fact, other than November 2014, this was the coldest November on record in Indianapolis over the last two decades.

A raw and wet start to the month gave way to a brief milder period with highs in the 50s to around 60 from the 3rd through the 6th. As the second week of November began

however, temperatures tumbled, with daily highs in the 30s and 40s common over the following two weeks lasting through Thanksgiving Day. Low temperatures were frequently in the 20s with even a few nights in the teens throughout this period. Temperatures turned mild once again right after Thanksgiving, albeit briefly, with highs warming into the 50s. The passage of a strong cold front early on the morning of the 26th however, sent temperatures falling for the last few days of the month with the peak of the cold coming on the 27th as highs remained in the 20s all day with scattered snow showers. The coldest morning of the month came on the 28th for most as lows were in the lower to middle teens.

Indianapolis only made it to 60° on one day during the month, the first time there had been so few 60°+ days in November since 1976. 10 days during the month had highs at or below 40°, the 2nd most in November since 1997, behind just November 2014. Maybe even more remarkable, there have only been seven days in November since 1970 with highs at or below 25°. One of those days came on the 27th when the high reached just 25° in Indianapolis.

Temperature Data for Other Sites in Central Indiana

Site	Fall 2018 Temperature	Normal Temperature	Diff. From Normal
Indianapolis Int'l Arpt	55.0°	55.2°	-0.2°
Lafayette	52.8°	54.4°	-1.6°
Muncie	55.3°	54.4°	+0.9°
Terre Haute	55.1°	53.9°	+1.2°
Bloomington	55.1°	54.7°	+0.4°
Shelbyville	55.7°	54.5°	+1.2°
Indianapolis – Eagle Creek	55.2°	55.3°	-0.1°

Fall Extremes Across Central Indiana

Site	Warmest Temperature	Coldest Temperature
Indianapolis Int'l Airport	93° on 9/5	15° on 11/28
Lafayette	93° on 9/3 and 9/5	13° on 11/14
Muncie	94° on 9/18 and 9/20	18° on 11/14
Terre Haute	93° on 9/19 and 9/20	17° on 11/14 and

		11/28
Bloomington	92° on 9/19 and 9/20	17° on 11/28
Shelbyville	93° on 9/20	18° on 11/28
Indianapolis-Eagle Creek	93° on 9/4 and 9/5	17° on 11/28

Precipitation

Overall this was the **33rd wettest fall on record at Indianapolis**. The total rainfall for Indianapolis this fall was **11.45 inches**. This was 1.51 inches above the normal fall rainfall total of 9.94 inches.

September

Record monthly rainfall fell in portions of south central Indiana during September with totals in central Indiana above normal. Monthly amounts ranged from less than 1.50 inches in portions of northeast Indiana to near 14 inches in south central Indiana. Much of central and southern Indiana received between 4 and 8 inches of rainfall in September, while northern Indiana received only 2 to 4 inches in most areas. Rainfall was above normal in central Indiana to much above normal in southern Indiana. Near normal to below normal rainfall occurred in northern Indiana.

There were two significant rain events during September. The first occurred in central and southern Indiana from the 7th through the 9th as the remnants of Tropical Storm Gordon tracked through the Ohio Valley. Rainfall during this period totaled from around 3 inches in west central Indiana to nearly a foot in previously dry areas of southwest Indiana. Widespread minor flooding followed this event in the White and the portions of the East Fork White River watersheds. A few areas in the East Fork White River watershed in central Indiana experienced significant flooding.

After nearly 2 weeks of little or no rainfall in much of the state, significant rains returned again to central and southern Indiana. Rainfall of 1 to more than 5 inches fell from the 24th through early on the 26th. Once again the heaviest rain was in southern Indiana. Flooding from this event was confined to a few small streams in west central and central Indiana. The Wabash River from Montezuma to near Vincennes approached flood stage as a result of the heavy local rains immediately north of US Highway 36 in east central Illinois and west central Indiana.

As September ended, streamflow remained above normal in most of central and southern Indiana. Abnormally dry conditions ended quickly in all of the state following the rains during the first third of the month. Much of central and southern Indiana remained on the wet side. A few areas in northeast Indiana were somewhat dry.

October

Monthly rainfall ranged from less than 2 inches in small areas of southwest, southeast and east central Indiana to over 6 inches in portions of west central and northern Indiana. Monthly totals were near normal to above normal for much of Indiana. Most areas of the state received between 2 and 5 inches of rain during the month.

A trace of wintry precipitation fell in portions of central Indiana on the 12th. The Indianapolis airport received ice pellets during the evening of the 12th. This was the earliest the Indianapolis area had seen wintry precipitation since October 9, 1925. Northern Indiana received a trace of wintry precipitation on the 20th.

Much of the precipitation for the first 10 days of October fell in western central and northern Indiana. Rainfall totaled from 2 to over 5 inches for the six day period from the 5th through the 10th. A cool and dry spell began in the state on the 11th and continued through much of the 25th. Less than an inch of rain fell in the state during this period. This dry spell allowed the wet areas of northern Indiana to recover. Rain returned to the state on the 26th. Rainfall received on the 26th and 28th totaled a quarter to three quarters of an inch in many areas.

The largest rain event of the month began on the 31st and continued into early November. Rainfall totals from October 31st through early November 1st ranged from a quarter of an inch in central and northern Indiana to over 4 inches along the Ohio River in south central Indiana. Several areas in southern Indiana received more rainfall at this time than during the entire previous 30 days of October.

November

Monthly melted precipitation ranged from just over 2 inches in portions of west central Indiana to over 8 inches near the Ohio River in south central Indiana. Monthly totals were below normal to near normal west of the I-69 corridor in central and southern Indiana to above normal in northern Indiana and along and east of the I-69 corridor in central and southern Indiana. Most areas of the state received between 3 and 6 inches of melted precipitation during the month.

Widespread minor flooding occurred in central and southern Indiana following 2 to 4 inches of rainfall at the beginning of the month. A relatively dry period after the 6th allowed streams to return to more normal levels by the 22nd. Rains of 1 to over 2 inches fell in most of northern Indiana from late on the 23rd through the 26th. This caused minor flooding to return to portions of the Wabash River in western Indiana near the end of the month.

As November ended, rain began to return to central and southern Indiana. Rises on streams and rivers began during the very last hours of November. Snow cover of a trace to 4 inches remained in northern Indiana.

Monthly snow and ice accumulation ranged from around an inch in portions of southern and central Indiana to over 13 inches in the lake affect areas of northern Indiana. Monthly frozen precipitation totals were normal to above below normal. Ice accumulations of 2 to 3 tenths of an inch from the evening of the 14th through the morning of the 15th were highly unusual for November in central and southern Indiana and necessitated the issuance of a rare Ice Storm Warning.

In the wake of a storm system passing through the area on the 25th and 26th, scattered snow showers produced minor accumulations across much of the state on the 26th and 27th. A mixture of light freezing rain, freezing drizzle and sleet impacted the morning commute on the 29th before precipitation changed over to light rain later that morning as temperatures warmed above freezing.

Rainfall Data for Other Sites in Central Indiana

Site	Fall 2018 Rainfall	Normal Rainfall	Diff. From Normal
Indianapolis Int'l Arpt.	11.45"	9.94"	+1.51"
Lafayette	7.94"	8.52"	-0.58"
Muncie	12.59"	10.83"	+1.76"
Terre Haute	10.08"	9.33"	+0.75"
Bloomington (*)	14.23"	10.82"	+3.41"
Shelbyville	9.42"	10.01"	-0.59"
Indianapolis – Eagle Creek	11.48"	9.06"	+2.42"

(*) – Bloomington precipitation data missing on November 5.

Major Weather Events

The fall was very quiet across central Indiana with respect to severe weather.

Strong thunderstorms with gusty winds occurred on a few days during the month, otherwise no severe weather occurred in central Indiana in September. Flash flooding occurred on September 7th and 8th across southern portions of central Indiana as the remnants of Tropical Storm Gordon tracked through the region. October was a quiet month for severe weather. Isolated storms produced locally gusty winds through the first few days of the month as the unseasonably late warmth continued. Scattered severe thunderstorms impacted northern portions of central Indiana during the afternoon of October 6th, with a few trees and limbs knocked down across Howard and Tippecanoe Counties. There was no severe weather across central Indiana in November.

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

Winter 2018-2019 Outlook for Central Indiana

The official outlook for the 2018-19 winter season (December-February) from the Climate Prediction Center, indicates slightly better chances for near to below normal temperatures across central Indiana. At Indianapolis, the average temperature for the winter season is 30.5°. The outlook also calls for a greater chance of below normal precipitation. The average precipitation is 8.15" with 22.0" of snowfall.

Data prepared by the NWS Indianapolis Climate Team
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