

# Spring 2019 in Review

The following is a review of weather conditions experienced in central Indiana during the 2019 spring season.

## *Temperatures*

### **MARCH**

March started off cold and as a large area of Arctic air overspread the region on the 3<sup>rd</sup>, got even colder with highs remaining only in the teens on the 4<sup>th</sup> and 5<sup>th</sup>, a solid 30° below normal. In Indianapolis, it was the first time with a sub-20° high temperature in March since 2014 and the two days tied for the most sub-20° days in March since 1980. Lows fell into the single digits for most on the 4<sup>th</sup> through the 6<sup>th</sup> and at Indianapolis, the three days with lows below 10° were the most in the month of March since 1996. Indianapolis fell to 2° on the morning of the 4<sup>th</sup>, tying the record low from 1873 and marking the coldest March morning since March 6, 2015.

Temperatures slowly recovered over the following few days, eventually rising back to above normal levels by the 9<sup>th</sup> and 10<sup>th</sup> as highs warmed into the 50s. The warmest weather of the month for most came on the 13<sup>th</sup> and 14<sup>th</sup> as much warmer air spread across the Ohio Valley ahead of a strong storm system. Highs rose into the lower 70s both days across central Indiana. Behind the storm system, temperatures settled into a generally cooler than normal regime over the next 10-12 days with highs primarily in the 40s and lower 50s through the 26<sup>th</sup>. Temperatures again rose over the last few days of the month, highlighted by many locations nearing or reaching 70° on the 28<sup>th</sup>. As a cold front slowly sagged south through the area on the 29<sup>th</sup> and especially the 30<sup>th</sup>, much colder air returned for the end of the month. Highs remained in the 30s across much of central Indiana on the 31<sup>st</sup> with scattered clouds and a thin snow cover for some. The month ended with much of the area experiencing average temperatures 3 to 5° below normal.

### **APRIL**

Unlike April 2018, this April was much more typical for central Indiana, as the month experienced wide swings from cool and wet to warm and dry. Overall though, April ended up near to about 2° above normal across the region with many locations registering their first 80° of 2019.

Temperatures began the month near normal with highs ranging from the middle 50s to middle 60s. Temperatures rose into the 70s on the 7<sup>th</sup> and 8<sup>th</sup> and in some locations the 9<sup>th</sup> as well before rising to the warmest readings of the month and year to date in the 11<sup>th</sup> as many locations enjoyed the lower 80s. Temperatures would remain warm for one more day before slipping back to below normal levels for a few days as the region experience cool and wet weather.

Temperatures once again returned to the 70s for a couple days before cooler air was drawn back into the area as a slow moving storm system tracked to the southeast of central Indiana. Raw, windy and wet weather plagued much of the area on the 19<sup>th</sup> and 20<sup>th</sup>, with some locations unable to warm much higher than the middle 40s during the day. Once the system departed however, daytime highs in the 60s and 70s returned for much of the rest of the month with the exception of a couple cooler days in the 50s over northern portions of the area on the 27<sup>th</sup> and 28<sup>th</sup> as a nearly stationary frontal boundary provided cloudy skies and showers for the region.

The first night of the month was the coldest night with the region falling into the lower and middle 20s. For much of the region, this would be the only night that would fall into the 20s all month and for some, the only night that would even drop below freezing throughout April. While there were a few nights were lows fell into the 30s, 40s and 50s were much more common throughout the month. There were only a few instances of patchy frost overall in April, with no widespread frost or freezing temperatures once the growing season had commenced by the middle of April.

## **MAY**

Much of the first half of May saw temperatures fluctuate up and down as the region struggled to maintain an extended period of warmth. Highs in the low to mid 70s the first couple of days quickly dropped back into the 50s and low 60s for the 3<sup>rd</sup> and 4<sup>th</sup> as cool, damp conditions impacted the Ohio Valley. Temperatures would surge into the 70s for much of the area from the 5<sup>th</sup> through the 9<sup>th</sup>, with some locations warming into the lower 80s on the 8<sup>th</sup>. This stretch of warmer weather happened to coincide with the driest period of the month for much of central Indiana.

The passage of a cold front ushered in much cooler and unsettled conditions once again beginning on the 10<sup>th</sup> and lasting for several days. High temperatures struggled to climb out of the 50s on a few of the days and on the coolest day, a damp and raw Mother's Day on the 12<sup>th</sup>, some portions of central Indiana could not even rise out of the 40s. Indianapolis could only reach 49° officially on the 12<sup>th</sup>, only the third May day where the high failed to make it to 50° since 2006. May 12, 2006 and May 4, 2017 were the other dates. The chilliest mornings took place during this stretch of unusually cool weather, with both the morning of the 11<sup>th</sup> and 14<sup>th</sup> seeing temperatures bottom out in the mid and upper 30s in some locations.

Beginning on the 15<sup>th</sup>, daytime temperatures would fail to reach 70° on just two days, the 20<sup>th</sup> and 21<sup>st</sup>, as a frontal boundary shifted briefly south of the region. This front would be a focus for multiple rounds of showers and thunderstorms through much of the rest of the month and central Indiana would often be found to the south of the front in a warmer and much more humid airmass. Low and mid 80s were common across much of the region every day from the 23<sup>rd</sup> through the end of the month with lows in the 60s and even a few overnights remaining in the 70s for the first time in 2019.

## ***Temperature Data for Sites in Central Indiana***

<b>Site</b>	<b>Spring 2019 Temperature</b>	<b>Normal Temperature</b>	<b>Diff. From Normal</b>
Indianapolis Int'l Airport	52.2	52.6	-0.4
Lafayette	49.7	51.5	-1.8
Muncie	52.5	50.9	+1.6
Terre Haute	52.7	53.0	-0.3
Bloomington	53.1	53.0	+0.1
Shelbyville	53.2	52.5	+0.7
Indianapolis – Eagle Creek	51.9	52.8	-0.9

## ***Spring Extremes Across Central Indiana***

<b>Site</b>	<b>Warmest Temperature</b>	<b>Coldest Temperature</b>
Indianapolis Int'l Airport	87 on 5/24	2 on 3/4
Lafayette	86 on 5/18	-2 on 3/4
Muncie	89 on 5/18 and 5/25	5 on 3/4
Terre Haute	88 on 5/24	3 on 3/4
Bloomington	88 on 5/24 and 5/28	3 on 3/4
Shelbyville	89 on 5/24 and 5/28	5 on 3/4
Indianapolis-Eagle Creek	87 on 5/24	2 on 3/4

## ***Precipitation***

## **MARCH**

Overall, Indiana ended the month with near normal to above normal rainfall across the entire state. Central portions of the state received around 1 to 2 inches above normal, with northern and southeastern portions of the state mainly around half an inch to 2 inches above normal. Southwestern portions of the state saw the most rain with 2 to over 3 inches above normal rainfall.

Snowfall amounts across Indiana varied between 2 and 5 inches across central Indiana with the heaviest amounts along a corridor between northern Hendricks county and Delaware County. The official snowfall total was 2.3 inches for Indianapolis which was around .3 inches below normal. One interesting note is the difference between the north and south parts of Marion County with reports as high as 4.6 inches in the northern portions of the county and around 2 in the southern portions. The majority of the snow fell over the course of three events: March 3rd, 17th, and the 30th.

## **APRIL**

Overall, April was a wet month with most of central Indiana reporting 4 to 7 inches of rain which is 125-150% of the normal precipitation for April. Much of the precipitation fell during the last half of the month after a dry start to April. Most of the rain fell over the course of three events. The first event occurred across central Indiana on the 12th and again on the 14th bringing a combined rainfall total of 1.5 to 3 inches across the state. Another period of rain lasted from the 18th to the 20th bringing an additional 1 to 2 inches of rain to central Indiana. The third period of heavy rain fell from the 25th to the 27th with two to four inches of rain reported, mostly across east central Indiana. For the month, the heaviest rain fell across the east central and southwestern portions of the state with 6 to 7 inches of rainfall reported.

Snowfall amounts across Indiana were minimal with snow only a trace of snow reported across portions central Indiana on April 14th.

## **MAY**

May was an active month, with Indiana staying in the storm track for much of the month. Frequent rounds of rain kept the ground saturated through the month, and crop reports for the state shows that just 22 percent of Indiana's corn acreage was planted by May 26. That's far behind the five-year average of 85 percent of Indiana's corn crop planted by that date. Only 11 percent of Indiana's soybeans are in the ground, putting that crop well behind the five-year average of 63 percent.

More days had rain than not across much of the state with the average of central Indiana ASOS sites having rain reported on around 19 days. Precipitation amounts were generally low with each rain event with all but a few events being less than an inch. The northern and southern portions of the state ended the month with above average precipitation. Despite the number of days with rainfall, the central portions of

the state ended near to slightly below normal. Rainfall amounts varied between 3 to 5 inches in much of central Indiana to between 5 to as high as 8 inches across the southern and northwestern portions of the state. Another bullseye of higher precipitation values was seen in east central Indiana with 6 to 8 inches of rain.

## ***Spring Precipitation Data for Sites in Central Indiana***

<b>Site</b>	<b>Spring 2019 Precipitation</b>	<b>Normal Precipitation</b>	<b>Diff. From Normal</b>
Indianapolis Int'l Airport	14.14	12.42	<b>+1.72</b>
Lafayette	15.34	10.40	<b>+4.94</b>
Muncie	14.84	11.03	<b>+3.81</b>
Terre Haute	14.53	14.15	<b>+0.38</b>
Bloomington	15.02	13.82	<b>+1.20</b>
Shelbyville	12.51	13.03	<b>-0.52</b>
Indianapolis – Eagle Creek	13.65	12.47	<b>+1.18</b>

### ***Severe Weather***

A line of storms tracking across the state during the evening of March 9<sup>th</sup> produced gusty winds in spots. A small microburst with straight line winds caused damage to three homes in Eaton in northeast Delaware County as the line passed. Peak winds were estimated at 90 mph, causing roof and structural damage to the homes. The main severe weather event during March occurred in the late morning and afternoon of the 14<sup>th</sup> as a potent low pressure system tracked across the area. Lines of thunderstorms broke out during the late morning over the lower Wabash Valley and lifted northeast through the afternoon. Storms produced wind damage and large hail in a few locations across south central Indiana with an EF1 tornado tracking just over a mile in Jackson County north of Brownstown. Following the storms, a period of intense wind gusts impacted much of the northern half of central Indiana through the evening with gusts up to 60 mph in spots.

Scattered strong to severe thunderstorms impacted northern portions of central Indiana on April 7<sup>th</sup> and again across east central Indiana on the afternoon of April 14<sup>th</sup>. A microburst caused damage to a few structures in Decatur County near Letts, with power lines blown down near Greensburg. A small but potent mini-supercell thunderstorm tracked N/NE from Jennings County to Randolph County on the evening of April 25<sup>th</sup>, producing two EF1 tornadoes in Jennings County. The most extensive damage occurred to a home and a garage south of North Vernon, where peak winds were estimated at 100 mph. Extensive tree damage highlighted the second tornado in the

northeast part of the county with peak winds at 95 mph. Additional pockets of wind damage with trees and limbs down occurred throughout parts of Decatur, Jennings and Rush Counties.

After a quiet start to May, the second half of the month became much more active with severe weather and flooding as a frontal boundary meandered across central Indiana. An intense line of thunderstorms surged south across central Indiana during the afternoon and evening of May 16<sup>th</sup>, producing wind damage and gusts to 70 mph across the northern Indianapolis metro area. A separate intense supercell tracked southeast out of central Illinois and into the Wabash Valley, producing up to baseball size hail and multiple funnel clouds and wall clouds over Vermillion County. After a few days of quiet weather, the nearly stationary boundary set up across the region with periods of storms and bouts with severe weather every couple of days from May 19<sup>th</sup> through the end of the month. Severe thunderstorm clusters on May 23<sup>rd</sup> and 26<sup>th</sup> both produced wind damage across parts of the area in the early morning hours prior to daybreak. The afternoon and evening of May 27<sup>th</sup> saw thunderstorms erupt along a warm front draped across northern portions of central Indiana. Storms produced wind damage and in Tippecanoe County, large hail up to 4 inches in diameter! The most extensive damage occurred from a cluster of storms that would produce three tornadoes over Madison and Henry Counties during the evening. Damage was rated up to EF2 with peak winds at 130 mph in Pendleton and Huntsville where numerous large trees were uprooted and multiple structures were severely damaged. Both tornadoes in Henry County were rated at EF1.

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

## **Indianapolis Data**

### **INDIANAPOLIS MARCH 2019 SUMMARY**

	<b>Average Temperature</b>	<b>Total Precipitation</b>	<b>Total Snowfall</b>	<b>Highs at or above 70°/80°</b>
<b>March 2019</b>	<b>38.2</b>	<b>5.02</b>	<b>2.3</b>	<b>3/0</b>
<b>Normal March</b>	<b>42.2</b>	<b>3.56</b>	<b>2.6</b>	<b>3/0</b>
<b>Difference from Normal</b>	<b>-4.0</b>	<b>+1.46</b>	<b>-0.3</b>	<b>0/0</b>

**March 2019 All-Time Ranks:**  
**Temperature: Tied for 49<sup>th</sup> Coolest**  
**Precipitation: 33<sup>rd</sup> Wettest**

**Snowfall: Tied for 67<sup>th</sup> Least Snowiest**

### **INDIANAPOLIS APRIL 2019 SUMMARY**

	<b>Average Temperature</b>	<b>Total Precipitation</b>	<b>Total Snowfall</b>	<b>Highs at or above 70°/80°</b>
<b>April 2019</b>	<b>54.1</b>	<b>4.96</b>	<b>T</b>	<b>10/1</b>
<b>Normal April</b>	<b>53.0</b>	<b>3.81</b>	<b>0.2</b>	<b>10/5</b>
<b>Difference from Normal</b>	<b>+1.1</b>	<b>+1.15</b>	<b>-0.2</b>	<b>0/-4</b>

**April 2019 All-Time Ranks:**

**Temperature: Tied for 42<sup>nd</sup> Warmest**

**Precipitation: 34<sup>th</sup> Wettest**

### **INDIANAPOLIS MAY 2019 SUMMARY**

	<b>Average Temperature</b>	<b>Total Precipitation</b>	<b>Total Snowfall</b>	<b>Highs at or above 70°/80°</b>
<b>May 2019</b>	<b>64.2</b>	<b>4.16</b>	<b>0.0</b>	<b>22/10</b>
<b>Normal May</b>	<b>62.7</b>	<b>5.05</b>	<b>Trace</b>	<b>20/8</b>
<b>Difference from Normal</b>	<b>+1.5</b>	<b>-0.89</b>	<b>0.0</b>	<b>+2/+2</b>

**May 2019 All-Time Ranks:**

**Temperature: Warmest**

**Precipitation: 10<sup>th</sup> Driest**

### **INDIANAPOLIS SPRING 2019 SUMMARY**

	<b>Average Temperature</b>	<b>Total Precipitation</b>	<b>Total Snowfall</b>	<b>Highs at or above 70°/80°</b>
<b>Spring 2019</b>	<b>52.2</b>	<b>14.14</b>	<b>2.3</b>	<b>35/11</b>
<b>Normal Spring</b>	<b>52.6</b>	<b>12.42</b>	<b>2.8</b>	<b>33/13</b>
<b>Difference from Normal</b>	<b>-0.4</b>	<b>+1.72</b>	<b>-0.5</b>	<b>+2/-2</b>

**Spring 2019 All-Time Ranks**

**Temperature: Tied for 81<sup>st</sup> Coolest**

**Precipitation: 37<sup>th</sup> Wettest**

**Snowfall: Tied for 69<sup>th</sup> Least Snowiest**

## ***Summer 2019 Outlook for Central Indiana***

The official outlook for the 2019 summer season (June-August) from the Climate Prediction Center, indicates equal chances of near, above or below normal temperatures across central Indiana. At Indianapolis, the average temperature for the summer season is 73.9 degrees. The outlook also calls for a greater chance of above normal precipitation. The average precipitation at Indianapolis is 11.93”.

***Data prepared by the NWS Indianapolis Climate Team***

***Questions should be referred to [w-ind.webmaster@noaa.gov](mailto:w-ind.webmaster@noaa.gov)***