

Central Indiana

February 2021

Climate Summary

25th Coldest on record at Indianapolis

Tied for 56th Driest on record at Indianapolis

20th Snowiest on record at Indianapolis

Temperatures

Much of the first three weeks of February would see a steady dose of colder than normal temperatures as the region remained locked into a cold airmass with multiple opportunities for snowfall. The first several days of the month saw near normal highs generally in the 30s with lows in the 20s. Beginning on the 6th though, the first in a series of blasts of arctic air expanded into the Ohio Valley and would ultimately bring the coldest temperatures of the winter and an extended period of subfreezing temperatures. The first blast of colder air would peak across the region on the 7th with highs remaining in the teens and lows near to just below zero. Wind chills of -20° to -10° were common from late on the 6th into the 8th before warming occurred.

Highs would remain in the 20s with lows in the single digits to teens over the next few days before the arrival of yet another potent surge of cold Arctic air arrived on Valentine's Day and would hold through the 16th in tandem with the biggest snow storm of the season. Highs both on the 15th and 16th held in the teens and the coldest night of the winter followed on the 17th as the combination of a fresh, deep snowpack with clearing skies in the wake of the winter storm enabled temperatures to tumble to below zero over much of central Indiana.

From this point, temperatures would rise slowly as the colder air finally retreated north into the latter part of the month. Highs would remain below freezing over the following few days but gradually warm as the snowpack began to melt. For much of the area, temperatures finally rose above 32° on the afternoon of the 20th, two weeks after first slipping below the freezing mark. For the last week of February, much warmer air

spread across the area with highs frequently in the 40s and 50s with the 28th bringing the warmest day of the year so far as several areas crossed the 60° mark for the first time.

The bitterly cold air that frequented the area for most of the first 20 days of the month kept average temperatures 4-7° below normal for the month, marking the coldest February for the region since 2015. The 14 days Indianapolis spent consistently below freezing from the 6th through the 20th was the longest stretch of subfreezing temperatures in 4 years and only the 4th time since 2000 a subfreezing stretch had been at or longer than 14 consecutive days. In addition, the 52° high recorded on the 23rd would mark the end of the longest sub-50° streak at Indianapolis in 20 years, lasting a total of 55 days.

Site	February 2021 Avg Temp	February 2021 Difference from Normal	Highest Temperature	Lowest Temperature
Indianapolis	25.9	-6.2	61 on 28	0 on 7
Lafayette	25.0	-5.5	64 on 28	-4 on 17
Muncie	25.5	-4.2	64 on 28	-5 on 17
Terre Haute	25.7	-6.7	61 on 28	-8 on 17
Bloomington	26.9	-6.2	61 on 24 and 28	-7 on 17
Shelbyville	28.3 (*)	-3.4	64 on 28	-4 on 17
Indy – Eagle Crk.	25.5	-6.5	61 on 28	-4 on 17

(*) – Temperature data missing on 2/6 and 2/7 for Shelbyville.

At Indianapolis, there were 8 days with above normal average temperatures and 20 days with below normal average temperatures

February 2021 was the 25th coldest in the Indianapolis area since weather records began in 1871.

Precipitation and Snowfall

February 2021 was a cold month with frequent precipitation. There were 21 days of the month when at least a trace of precipitation was observed at Indianapolis, and 13 of these days had measurable precipitation. Despite the frequency, the precipitation total for Indianapolis for the month finished at 1.84 inches, which was 0.48 inches below normal. Overall precipitation amounts across the area ranged from 1.5 to 2.5 inches along and north of I-70, to 3.5 to 5 inches across the southern portions of the forecast area (approximately Sullivan to Martinsville to Greensburg and points south).

Indianapolis ended the month with 11.8 inches of snowfall, which was 5.3 inches above normal. This over doubled the snowfall for meteorological winter and brought it to 0.2

inches above normal. As far as temperatures were concerned, Indianapolis ended the month with an average temperature of 25.9 degrees, which was 6.2 degrees below normal. This made it the coldest and snowiest February since 2015. The cold prompted concerns about the development of ice jams on area rivers, and while significant amounts of river ice did develop, the relatively low flow at the time and a more moderate warmup over a few days later in the month helped the ice to melt and break up without impact.

The beginning of the month was relatively benign, with the first 5 days seeing temperatures near normal and a few occasions of light precipitation. On the 6th temperatures dropped well below normal and then stayed there until the 21st.

The first major snowfall of the month occurred across south central Indiana on the evening of February 8th into the morning of the 9th. Some areas received over 6" of snow. This snow came as an upper level wave interacted with a very moist air mass near the surface with brief periods of intense snow banding across Lawrence, Martin, and Daviess counties. With most of the snow falling during the overnight hours, impacts were fairly minimal other than school closures the following day. Further north, little to no snow fell with amounts generally between 1 and 2 inches across the I-70 corridor and points to the north.

The biggest snow to fall for most areas in central Indiana in almost three years came during the middle of the month. From late Valentine's night through the early morning hours of the 16th, much of central Indiana saw snowfall totals from 8 to 12 inches. The event came in two waves, the first being the night/overnight of the 14th. Around half an inch to 2 inches of snow came to the area during that wave. After a brief lull of no snow to light snow during the morning of the 15th, heavy snow moved in across the area during the afternoon and into the night as strong upper forcing interacted with some Gulf moisture aloft and very cold temperatures at the surface (temperatures ranged from the single digits to the mid teens). The widespread and prolonged nature of the event taxed snow removal crews. Many counties across central Indiana issued travel watches and travel warnings on the 15th that ran through the day on the 16th and even longer as blowing and drifting continued to make snow removal difficult, with drifts making numerous roads impassable. As a result, many local school districts across central Indiana either cancelled school or held e-learning days for much of the week. Another quick hitting wave moved through on the 18th, bringing another 1 to 2 inches across parts of the area, in some cases on streets or roads that still hadn't been cleared from the previous event.

Temperatures remained below to well below normal for the first 3 weeks of the month with only 1 above normal day in Indianapolis on February 4th. Towards the end of the month it began to slowly warm for a few days before climbing into the 50s to lower 60s with dew points well above freezing at times starting the 22nd and lasting through the end of the month. The initial slow warmup helped the snow to start to slowly melt at a rate of around an inch a day, but the big climb prompted a more rapid melt, with snow depth dropping from around 3 to 7 inches across the area on the 21st to near 0 in a

matter of 3 days. Frost depth was 11 inches decreasing only a bit to 10 inches with 1 inch of thaw during that same time at Indianapolis (and likely similar in surrounding locations) so most of the water content went into runoff. Fortunately with streams being abnormally low before this, this initial snowmelt did not result in flooding but an increase to near or above normal flow.

February ended on a very wet note, with heavy rain moving in during the night on the 27th and lasting through around midday on the 28th. While the heaviest rain fell south of the Ohio River, southern parts of central Indiana received between 1.5 and over 2 inches of rain with lesser amounts to the north. This fell on already saturated ground, and the runoff went into rivers and streams that had come up from their previously lower levels due to the snowmelt from the big mid-February snow. This brought rapidly rising conditions on many area waterways, bringing some into flood and many headed in that direction, and prompted an areal flood advisory for many of the southern counties on the 28th.

Site	February 2021 Precipitation	February 2021 Difference from Normal	Wettest Day	Longest Dry Stretch
Indianapolis	1.84	-0.48	0.56 on 15 and 28	2 days 2-3
Lafayette	1.10	-0.66	0.51 on 28	3 days 23-25
Muncie	0.80	-1.51	0.41 on 28	2 days 2-3, 12-13 and 24-25
Terre Haute	1.56 (*)	-0.37	1.08 on 28	3 days 23-25
Bloomington	2.85	+0.09	1.59 on 28	3 days 12-14 and 23-25
Shelbyville	1.90 (**)	-0.46	1.32 on 28	3 days 23-25
Indy – Eagle Crk.	1.47	-0.66	0.65 on 28	3 days 23-25

(*) – Precipitation data missing on 2/15 for Terre Haute.

(**) – Precipitation data missing on 2/6 and 2/7 for Shelbyville.

February 2021 was tied for the 56th driest in the Indianapolis area since weather records began in 1871.

Severe Weather

No severe weather occurred across central Indiana in February.

For information on severe weather in other areas during February, visit the Storm Prediction Center “Severe Weather Event Summaries” website at

<http://www.spc.noaa.gov/climo/online/>.

Miscellaneous

The maximum wind gust at the Indianapolis International Airport was 51 mph from the west-northwest on the 4th. Fog or haze was reported at Indianapolis on 17 days during the month. Dense fog occurred during the snowstorm on the 15th with blowing snow on both the 15th and 16th. Ice pellets were reported on the 4th.

March 2021 Outlook

The official outlook for March 2021 from the Climate Prediction Center indicates a much greater chance for above normal temperatures and greater chance of above normal precipitation across central Indiana. At Indianapolis, the average temperature for the month is 42.2 degrees. The average precipitation for March at Indianapolis is 3.56", with 2.6" of snowfall.

Spring 2021 Outlook

The official outlook for meteorological spring (March-May 2021) from the Climate Prediction Center indicates greater chances for above normal temperatures and precipitation. At Indianapolis, the average temperature for the spring season is 52.6 degrees. The average spring season precipitation is 12.42 inches along with 2.8 inches of snowfall, most of which typically falls during the month of March.

Data prepared by the Indianapolis Forecast Office.