# 2023: A Year in Review

A very comprehensive look back on the weather of 2023 across central Indiana. The information is arranged in this order:

> Annual and Seasonal Conditions Miscellaneous Weather Stats Records Tied or Broken Links to Top Weather Stories of 2023 Central Indiana 2023 Climate Summary

Data prepared by the Indianapolis Weather Forecast Office's State Climate Team Questions should be referred to nws.indianapolis@noaa.gov

# **Annual Climate Statistics for Indianapolis**

|                                   | Average<br>Temperature    | Total<br>Precipitation     | Total<br>Snowfall                   | Highs of<br>80/90 or<br>higher | Lows of<br>32/0 or<br>lower |
|-----------------------------------|---------------------------|----------------------------|-------------------------------------|--------------------------------|-----------------------------|
| 2023                              | 56.1                      | 34.38"                     | 5.7"                                | 109/17                         | 78/0                        |
| <b>NORMAL</b> (1991-2020)         | 53.7                      | 43.63                      | 25.5                                | 101/20                         | 106/3                       |
| 2023<br>Difference<br>from Normal | +2.4                      | -9.25                      | -19.9"                              | +8/-3                          | -28/-3                      |
| All-Time Rank<br>(1872-2023)      | *4 <sup>th</sup> Highest* | 32 <sup>nd</sup><br>Driest | *3 <sup>rd</sup> Least<br>Snowiest* |                                |                             |

JANUARY – DECEMBER 2023

\*Above snowfall data is also for the calendar year period, January – December 2023

# **Seasonal Climate Stats for Indianapolis**

**Observed Values and Their Difference from Normal** 

| DEC – JAN – FEB                    | Average<br>Temperature | Total<br>Precipitation | Total<br>Snowfall | Highs of 32F<br>or Below | Lows of 0F<br>or Below |
|------------------------------------|------------------------|------------------------|-------------------|--------------------------|------------------------|
| Winter 2022-2023                   | 36.9                   | 9.15                   | 5.7               | 11                       | 3                      |
| Normal Winter                      | 31.4                   | 8.47                   | 21.2              | 27                       | 3                      |
| Winter 2021-22<br>Diff From Normal | +5.5                   | +0.68                  | -15.5             | -16                      | 0                      |

#### **2022-23 WINTER SEASON SUMMARY**

Winter 22-23 Ranks: 7<sup>th</sup> Mildest (Tied) 55<sup>th</sup> Wettest 9<sup>th</sup> Least Snowiest (Tied)

#### 2023 SPRING SEASON SUMMARY

| MAR – APR – MAY                 | Average<br>Temperature | Total<br>Precipitation | Total<br>Snowfall | Highs of 80F<br>or Higher | Lows of 32F<br>or Below |
|---------------------------------|------------------------|------------------------|-------------------|---------------------------|-------------------------|
| Spring 2023                     | 53.6                   | 11.16                  | 1.5               | 15                        | 14                      |
| Normal Spring                   | 53.2                   | 12.78                  | 3.4               | 12                        | 20                      |
| Spring 2023<br>Diff From Normal | +0.4                   | -1.16                  | -1.9              | +3                        | -6                      |

Spring 2023 Ranks: 37<sup>th</sup> Warmest (Tied) 75<sup>th</sup> Driest (Tied) 50<sup>th</sup> Least Snowiest (Tied)

#### **2023 SUMMER SEASON SUMMARY**

| JUN – JUL – AUG                 | Average<br>Temperature | Total<br>Precipitation | Highs of 90F<br>or Higher | Lows of 70F<br>or Higher |
|---------------------------------|------------------------|------------------------|---------------------------|--------------------------|
| Summer 2023                     | 74.0                   | 10.44                  | 13                        | 16                       |
| Normal Summer                   | 74.3                   | 12.57                  | 17                        | 22                       |
| Summer 2023<br>Diff From Normal | -0.3                   | -2.13                  | -4                        | -6                       |

Summer '23 Ranks: 74<sup>th</sup> Coolest (Tied) 64<sup>th</sup> Driest

#### 2023 FALL SEASON SUMMARY

| SEP – OCT – NOV               | Average<br>Temperature | Total<br>Precipitation | Total<br>Snowfall | Highs of 80F<br>or Higher | Lows of 32F<br>or Below |
|-------------------------------|------------------------|------------------------|-------------------|---------------------------|-------------------------|
| Fall 2023                     | 57.5                   | 5.00                   | Т                 | 19                        | 14                      |
| Normal Fall                   | 55.6                   | 9.81                   | 0.9               | 17                        | 15                      |
| Fall 2023<br>Diff From Normal | +1.9                   | -4.81                  | -0.9              | +2                        | -1                      |

Fall 2023 Ranks:17th Warmest (Tied)7th Driest (Tied)6th Least Snowiest (Tied)

#### WINTER 2023-23 SUMMARY SO FAR

| DEC 2023                      | Average<br>Temperature | Total<br>Precipitation | Total<br>Snowfall | Highs of 32F<br>or Below | Lows of 32F<br>or Below |
|-------------------------------|------------------------|------------------------|-------------------|--------------------------|-------------------------|
| December 2023                 | 40.8                   | 1.26                   | 0.1               | 0                        | 15                      |
| Normal December               | 33.3                   | 2.92                   | 6.4               | 7                        | 23                      |
| December Diff.<br>From Normal | +7.5                   | -1.66                  | -6.3              | -7                       | -8                      |

December 2023 Ranks: 7<sup>th</sup> Mildest 20<sup>th</sup> Driest Tied for 6<sup>th</sup> Least Snowiest

# **Miscellaneous 2023 Climate Data for Indianapolis**

| Date of Final Spring Frost:  | April 24   |
|--|--|
| Date of Final Measurable Spring Snow:  | March 18 (0.2")  |
| Date of First Fall Frost:  | October 30   |
| Date of First Measurable Fall Snow:  | [None]   |
| Highest Max Temperature:<br>Lowest Min Temperature:                                  | <ul><li>94 (August 24)</li><li>10 (February 1)</li></ul> |
| Lowest Max Temperature:  | 24 (January 31)  |
| Highest Min Temperature:   | 78 (August 24)   |
| Greatest Daily Rainfall:   | <b>2.24"</b> (March 3)                                   |
| Greatest Daily Snowfall:   | <b>2.8"</b> (January 25)                                 |
| Wettest 7-day period:  | 2.80" (March 21-27)                                      |
| Longest period held below freezing:  | 3 days (January 30–February 2)                           |
| Longest period with highs of 90F or highe  | r: 3 days (August 23-25)                                 |
| Longest period w/measurable precipitation<br>Longest period w/no measurable precipit |  |

## **Records Tied/Broken at Indianapolis in 2023**

| DATE             | RECORD TYPE            | NEW    | OLD            | YEAR      |
|------------------|------------------------|--------|----------------|-----------|
| January 3        | High Minimum Temp      | 56     | [Tied] 1       | 884, 1997 |
| February 22      | Maximum Temp           | 71     | 70             | 1922      |
| March 1          | Maximum Temp           | 76     | 71             | 1976      |
| (435P 3/3) March | Monthly Surface Press  | 28.91" | 28.97"         | 1952      |
| March 3          | Daily Precipitation    | 2.24"  | 2.01"          | 1953      |
| April 4          | Maximum Temp           | 80     | [Tied] 1       | 882, 1929 |
| April 24         | Minimum Temp           | 28     | [Tied]         | 1910      |
| August 24        | High Minimum Temp      | 78     | 77             | 1936      |
| October 27       | High Minimum Temp      | 64     | 62             | 1991      |
| December 9       | Maximum Temp           | 65     | [Tied]         | 1952      |
| YEAR             | Fewest Days Max ≤ 32F  | 7      | 10             | 1990      |
| 2020-2023        | Lowest 4-Year Snowfall | 51.1"  | <b>51.3"</b> 1 | 930-1933  |

### **Top 2023 Weather Events**

January 25: Snowfall of 2 to 5 Inches

February 27: Two Hancock County Tornadoes Along with Severe Storms

March 3: Record Low Pressure Brings Strong Winds and Heavy Rain

March 31: Outbreak of Ten Tornadoes in One Hour with Severe Storms

April 5: Montgomery County Tornado and other Severe Storms

May 6 and 7: Severe Storms with Large Hail

May 8: Carroll County Landspout Tornado

June 25: Multiple Tornadoes, Very Large Hail and Damaging Winds

June 29: Derecho with Widespread Wind Damage

# **Central Indiana Year 2023 Climate Summary**

2023 was a "year" of extremes between Indianapolis' having both the 4<sup>th</sup>-highest average temperature and 3<sup>rd</sup>-least snowfall, and Indiana recording the state's 2<sup>nd</sup>-most tornadoes; although conditions were often temperate between mild winter months, lack of summer heat...and despite being active and deadly, a severe season that was sporadic through the spring and confined to a 7-week period during the midsummer. Prolonged dry periods also led to intensifying drought through both June and most of the fall.

January and February were anomalously mild with a combined average temp of 38.7F at Indianapolis (which tied for the 4<sup>th</sup>-highest in the Area's 153-year record). The early year cold season finished with only 6 days held below freezing at Indianapolis (well below the normal 28). Snowfall was infrequent and light, with only a trace during February at Indianapolis (the lowest for the month since 1949), with an otherwise paltry 5.6". The winter's greatest snowfall was a wet snow event on January 25-26<sup>th</sup> that brought 4-6" to north-central counties and just 3.1" at Indianapolis.

The transition into spring included an active six weeks starting with February 27<sup>th</sup>'s thunderstorms that included two EF1 tornadoes in Hancock County. Warmth on March 1<sup>st</sup> reached 76F at Indianapolis, shattering the old record high of 71F. A powerful late winter storm followed on March 3<sup>rd</sup>, making barometers crash before Terre Haute recorded its all-time lowest sea level pressure (28.92") while the record lowest March pressure was observed at Indianapolis (28.91"); tornadoes touched down in the Ohio Valley, but heavy rain and strong to damaging winds were the rule across central Indiana, with a changeover to snow across the northern tier bringing up to 1.0" along the upper Wabash Valley. Additional heavy rains on March 23-24<sup>th</sup> preceded the region's greatest tornado outbreak in nearly a decade on March 31<sup>st</sup>.

Ten tornadoes were spawned on central Indiana in 72 minutes during the evening of March 31<sup>st</sup> - five from a rotating supercell thunderstorm that tracked from southern Illinois, and five more from a severe squall line crossing the region's northern counties. Three EF3s did damage to Sullivan, Owen-Monroe, and Johnson Counties, while long-track EF2s crossed Montgomery-Boone-Clinton Counties and Morgan County, and three EF0/EF1s impacted Howard County. All told five people perished amid nearly \$40 million in damage. These were the first tornado fatalities in Indiana in 11 years and the first EF3 in central Indiana since 2016. Additional tornadoes across northern Indiana brought the state's count to 23 for the night.

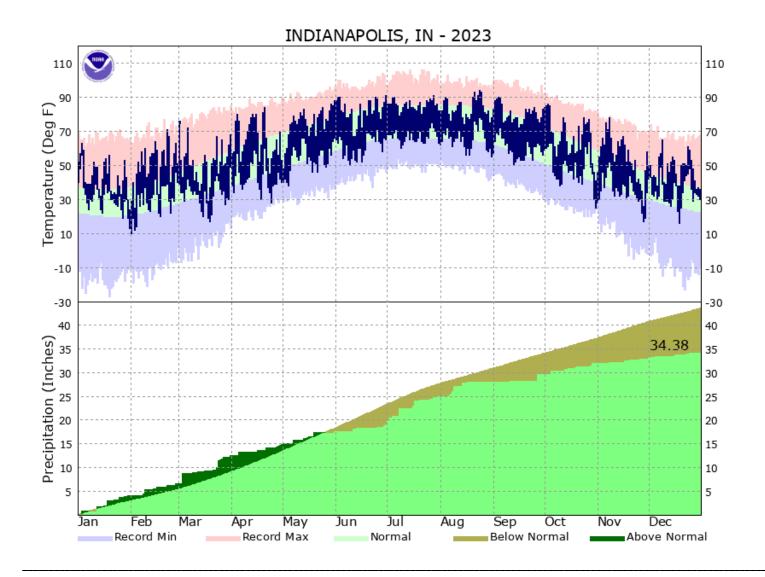
April 5<sup>th</sup> saw both thunderstorm and gradient winds produce scattered damage over western and central zones with a brief EFO tornado spawned in Montgomery County. At times widespread minor river flooding throughout March and early April included isolated crests into moderate flood stages following the several heavy rain events. An overall quieter late-spring pattern included storms on May 6<sup>th</sup> with very large hail in Fountain County, and a weak landspout tornado in Carroll County on May 8<sup>th</sup>. April through June was very dry, with Indianapolis' 2023 precipitation departure from normal trending downward from +3.31" to -4.19", meanwhile overall near-normal temperatures were led by a cooler than normal June when most locations fell into the 40s on multiple mornings.

Severe weather returned for seven midsummer weeks, starting with a line of afternoon supercells on June 25<sup>th</sup> that produced hail as large as 4" in both Clinton and Owen Counties before spawning four EF1/EF2 tornadoes in Johnson, Monroe, Daviess and Martin Counties. The Martin County EF2 destroyed a home, injuring one while another perished. A decaying derecho on June 29<sup>th</sup> downed hundreds of trees from west-central Indiana into the Indianapolis Metro, with observed wind gusts as high as 74 mph in Crawfordsville and more than 250,000 power outages across the state. Over a dozen other rounds of severe storms occurred through July and early August including widespread storms on both July 2<sup>nd</sup> and 17<sup>th</sup>. Late June's moderate to severe drought was ended by the associated rains, with downpours on the night of August 6<sup>th</sup> bringing up to 4.34" in Plainville and flash flooding in central Knox County. Midsummer also brought 10 more tornadoes to other parts of the state: 4 on July 29<sup>th</sup> to the north, and 6 on August 7<sup>th</sup> along the Ohio Valley.

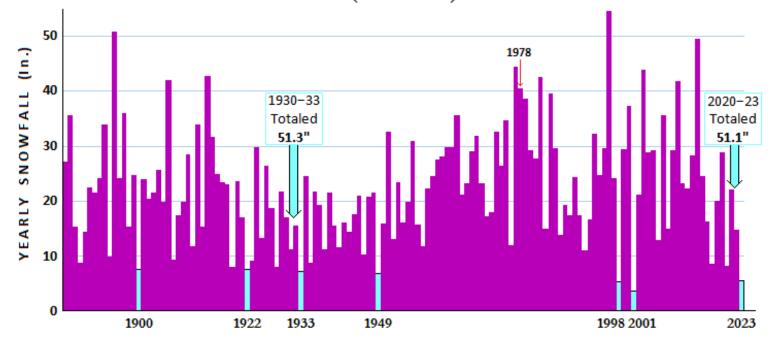
Summer temperatures were overall slightly below normal, with a distinctive lack of hot days through mid-August. Oolitic did not reach 90F until July 28<sup>th</sup>, the station's latest since 2004. A very humid heat wave encapsulated essentially all of the region during August 21-25<sup>th</sup>: Indianapolis set a new record high minimum of 78F on the 24<sup>th</sup>, while the 25<sup>th</sup> brought 100F+ to both Farmersburg and south of Shoals. A slightly above normal trend continued through the fall, yet Indianapolis' yearly total of 90F+ days was only 15 (5 below normal).

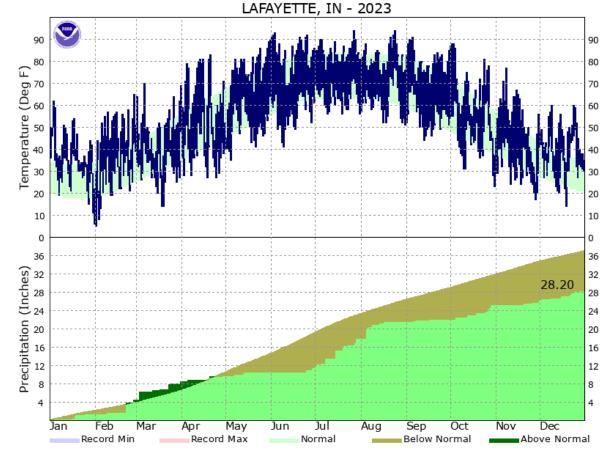
Prolonged dry conditions returned through the fall, and while October did provide occasional adequate rainfall, Indianapolis recorded its 7<sup>th</sup> driest November and tied for its 7<sup>th</sup>-driest autumn, while expanding the city's yearly precipitation deficit by almost another 5 inches; moderate drought meanwhile became widespread by early December. Despite near-record cold on Halloween, the new winter season displayed the same mild and nearly-snowless conditions, excepting a few snow showers on December 27-29<sup>th</sup> that dropped a coating of wet snow on several far western and far southern counties, with as much as 4.7" in Elnora. Indianapolis recorded it's 7<sup>th</sup> mildest December with only 0.1" of snowfall.

Indianapolis' mild late-year saw only 28 days fall below freezing, with the year's total of 77 such days the city's least since 1931. More noteworthy was a new all-time record-fewest days held below freezing, 7, shattering the old record of 10 (1990). 2023 finished as the city's 4<sup>th</sup>-warmest on record, only behind the anomalous 1921, 1931 and 2012. Indianapolis measured over 6.00" of precipitation in both March and July, yet otherwise collected only 63% of normal, with a mere 9.23" measured in the five months after July; 2023 was the city's 32<sup>nd</sup>-driest year, yet when coupled with 2022, it was only the 7<sup>th</sup> tandem of years with under 35" of precipitation. 2023 also finished with anomalously low snowfall of ~2-10" across reporting sites; Indianapolis' 5.7" was the historical record's 3<sup>rd</sup>-lowest (behind 1998 and 2001). December's 0.1" came late on the 31st: Indianapolis was within hours of only observing measurable snow in 2 months (January, March), which would have tied 1918 for the fewest on record. Indiana finished the year with 54 tornadoes, the state's 2<sup>nd</sup>-most on record behind 2011's 72.



Years With Anomalously Low Snowfall at Indianapolis (1885-2023)





\*\*LAF precipitation data was incomplete in 2023 during January–June

