# 2024: A Year in Review

A very comprehensive look back on the weather of 2024 across central Indiana. The information is arranged in this order:

> Annual and Seasonal Conditions Miscellaneous Weather Stats Records Tied or Broken in 2024 Links to Top Weather Stories of 2024 Central Indiana 2024 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**

**Observed Values and Their Difference from Normal** 

	Average Temperature	Total Precipitation	Total Snowfall	Highs of 80/90 or higher	Lows of 32/0 or lower
2024	56.9	43.53"	12.3"	116/22	79/4
<b>NORMAL</b> (1991-2020)	53.7	43.63"	25.5″	101/20	106/3
2024 Difference from Normal	+3.2	-0.10"	-13.2"	<b>+15/</b> +2	<b>-27</b> /+1
All-Time Rank (1872-2024)	HIGHEST EVER	46 <sup>th</sup> Wettest	25 <sup>th</sup> Least Snowiest		

#### JANUARY – DECEMBER 2024

\*Snowfall data above is also for the calendar year period, January – December 2024

# **Seasonal Climate Stats for Indianapolis**

**Observed Values and Their Difference from Normal** 

DEC – JAN – FEB	Average Temperature	Total Precipitation	Total Snowfall	Highs of 32F or Below	Lows of OF or Below
Winter 2023-2024	37.0	7.80	8.2	10	4
Normal Winter	31.4	8.47	21.2	27	3
Winter 2023-24 Diff From Normal	+5.6	-0.67	-13.0	-17	+1
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#### **2023-24 WINTER SEASON SUMMARY**

Winter 23-24 Ranks: 7<sup>th</sup> Mildest 72<sup>nd</sup> Driest 23<sup>rd</sup> Least Snowiest (Tied)

#### 2024 SPRING SEASON SUMMARY

MAR – APR – MAY	Average Temperature	Total Precipitation	Total Snowfall	Highs of 80F or Higher	Lows of 32F or Below
Spring 2024	57.5	15.50	Т	15	12
Normal Spring	53.2	12.78	3.4	12	20
Spring 2024 Diff From Normal	+4.3	+2.72	-3.4	+3	-8
Spring 2024 Ranks:	3 <sup>rd</sup> Warmest	24 <sup>th</sup> V	Vettest 2 <sup>nd</sup> Least Snowiest (		nowiest (Tied)

#### **2024 SUMMER SEASON SUMMARY**

JUN – JUL – AUG	Average Temperature	Total Precipitation	Highs of 90F or Higher	Lows of 70F or Higher
Summer 2024	75.0	10.72	18	22
Normal Summer	74.3	12.57	17	22
Summer 2024 Diff From Normal	+0.7	-1.85	+1	0

Summer '24 Ranks: 49<sup>th</sup> Warmest (Tied) 68<sup>th</sup> Driest

#### **2024 FALL SEASON SUMMARY**

SEP – OCT – NOV	Average Temperature	Total Precipitation	Total Snowfall	Highs of 80F or Higher	Lows of 32F or Below
Fall 2024	59.6	6.04	3.3	23	6
Normal Fall	55.6	9.81	0.9	17	15
Fall 2024 Diff From Normal	+4.0	-3.77	+2.4	+6	-9

Fall 2024 Ranks:3<sup>rd</sup> Warmest31<sup>st</sup> Driest23<sup>rd</sup> Snowiest (Tied)

#### WINTER 2024-25 SUMMARY SO FAR

DEC 2024	Average Temperature	Total Precipitation	Total Snowfall	Highs of 32F or Below	Lows of 32F or Below
December 2024	36.1	4.73	0.9	6	18
Normal December	33.3	2.92	6.4	7	23
December Diff From Normal	+2.8	+1.81	-5.5	-1	-5

December 2024 Ranks: 31<sup>st</sup> Mildest (Tied) 23<sup>rd</sup> Wettest 26<sup>th</sup> Least Snowiest (Tied)

# Miscellaneous 2024 Climate Data for Indianapolis

Date of Final Spring Frost:	April 22
Date of Final Measurable Spring Snow:	February 24 (0.1")
Date of First Fall Frost:	October 17
Date of First Measurable Fall Snow:	November 21 (3.2")
Highest Max Temperature:	<mark>96</mark> (August 30)
Lowest Min Temperature:	- <mark>6</mark> (January 15)
Lowest Max Temperature:	<mark>6</mark> (January 15)
Highest Min Temperature:	75 (June 17 & June 19)
Greatest Daily Rainfall:	<b>2.55"</b> (July 28)
Greatest Daily Snowfall:	<b>3.9"</b> (February 16)
Wettest 7-day period:	3.43" (April 7–13)
Longest period held below freezing:	9 days (January 13–21)
Longest period with highs of 90F or highe	er: 7 days (August 24–30)
Longest period w/measurable precipitati	on: 7 days (January 22–28, March 30–April 5)
Longest period w/no measurable precipit	tation: 12 days (October 2–13)

# **Records Tied/Broken at Indianapolis in 2024**

DATE	RECORD TYPE	NEW	OLD	YEAR
January 9	Daily Precipitation	1.22"	1.15"	1930
February 9	Maximum Temp	66	[Tied]	1894, 1943
February 9	High Minimum Temp	52	48	1876
February 26	Maximum Temp	73	68	1998
February 27	High Minimum Temp	<b>58</b>	51	1876
February 28	Maximum Temp	<b>68</b>	[Tied]	1895
April 28	High Minimum Temp	67	[Tied]	1899
August 30	Maximum Temp	96	95	1881, 1953, 1964
October 29	High Minimum Temp	<b>63</b>	[Tied]	1875, 2004
November 4	High Minimum Temp	<b>63</b>	60	1977
November 5	High Minimum Temp	<b>63</b>	61	2015
(11/4, 11/5) November	Monthly High Minimum	<b>63</b>	[Tied]	11/6/1924
November 21	Daily Snowfall	3.2"	1.3"	2015
YEAR	Record Days Max ≥ 70F	195	186	2010
YEAR	Record Days Min ≥ 40F	242	235	1878, 1998

## **Top 2024 Weather Events**

January 12: Near Record Low Pressure Brings Damaging Winds

January 19: Light Snowfall

February 16: Quick-Hitting Moderate Snowfall

March 14: Outbreak of Ten Tornadoes in One Hour with Severe Storms

April: Heavy Rain and Flooding

May 7: Multiple Tornadoes, Large Hail, Damaging Winds

May 26: Knox County EF2 Tornado

June 25: Severe Storms with 70 mph Damaging Winds

June 29: Severe Storms with Damaging Winds and a Landspout Tornado

July 9-10: Beryl Remnants Bring Heavy Rain, Gusty Winds, One Tornado

July 15-16: Nocturnal Derecho with 75 mph Damaging Winds

July 29: Hamilton-Madison County EF2 Tornado and Severe Storms

September 22: Delaware County EFO Landspout Tornado

September 27: Damaging Winds From Post Tropical Storm Helene

November 21: Record Early Snowfall Focused North of Indianapolis

# **Central Indiana Year 2024 Climate Summary**

2024 was another year of extremes for the state (ending a record two-year total of 111 tornadoes), and the local region as Indianapolis observed its **warmest year on record** (since 1872), with the second consecutive fall of anomalously low rain, while some locations saw record early frost in early September.

The year actually started with Severe Drought (D2) lingering across most of southern central Indiana, before being downgraded to Moderate Drought (D1) on January 16<sup>th</sup>, ending about a month of D2 for most southern counties. A strong storm system on January 13<sup>th</sup> brought isolated severe winds at Shelbyville and ushered in over a week of extreme cold; Indianapolis was held below freezing for 9 consecutive days for only the third time since 2015, reports included high temperatures as low as -4°F at Linnsburg (Montgomery Co.) on the 14<sup>th</sup> and minimums as low as -14°F at Rockville on the 15<sup>th</sup>; with wind chills meanwhile as low as -35°F to -25°F. Late January turned damp with rain/drizzle occurring at Indianapolis on 9 of the month's final 10 days.

Numerous snow shower/light snow events through January's first three weeks totaled 5-9" across northcentral and northeastern zones. **February 16<sup>th</sup>'s snowfall** was the winter's greatest, from an overperforming system that brought a widespread 3-6", leading to scores of late-day traffic accidents, injuries, and 1 fatality; 3.9" measured at Indianapolis was actually the city's greatest daily snowfall in over 2 years...and the 4<sup>th</sup>-greatest in 4 years. February saw five daily record high temperatures tied or set at Indianapolis between the month's second week and final three days; three of which were shattered by a margin of 4 to 7 degrees (see above).

A rather dry February-March led to a very wet April and at times rainy May. During April 7-13<sup>th</sup>, Indianapolis totaled 3.43" of precipitation, with several isolated 4.00-5.00" reports along I-69 to the northeast of downtown. A correspondingly seasonably active spring and summer severe weather first included 12, mainly small to moderate episodes, from the last day of February through early May. Most notable during this period was March 14<sup>th</sup>'s several rotating supercell thunderstorms that crossed northern Indiana, which produced 2.00-2.85"-diameter hail from Clinton County to Delaware County, an EF2 tornado through Selma (Delaware Co.) and a long-track **EF3 tornado** that started near Farmland (Randolph Co.) before tracking into two Ohio counties. This, second, "Winchester" tornado produced approximately \$25 million in damage in Randolph County alone, where 37 were injured with 1 fatality.

Also noteworthy were April 2<sup>nd</sup>'s three rounds of mainly strong t-storms in central Indiana, with isolated severe wind and hail reports focused in Monroe County; meanwhile 13 tornadoes (including four EF2s) were spawned across far southern Indiana from daybreak to early evening. Amid the middle of April's wettest period, on April 10-11<sup>th</sup>, heavy rains totaled 2.00-3.00", bringing several reports of localized flooding to Hamilton and Marion Counties. A decaying squall line on April 18<sup>th</sup> produced damaging wind gusts in Knox County, with more isolated damage as far east as the Columbus area. An outbreak of "weak" tornadoes on May 7<sup>th</sup> was led by 7 twisters within east-central Indiana, including 5 over the local region across Shelby, Rush and Decatur Counties; the episode also brought large hail to 10 counties, with hail as large as 1.75" in both Morgan and Monroe Counties. More active weather returned in late May, led by several reports on the 24<sup>th</sup> of marginally severe winds and hail across southern counties and into the Indianapolis Metro; and the 26<sup>th</sup>'s long-track EF2 tornado across southern Knox County, before 80 mph straight line winds produced widespread tree damage in Martin and Lawrence Counties.

Overall, below normal summer precipitation was propped up by occasional heavy rains in July. The midsummer brought 12 more severe episodes to central Indiana, spanning a 7-week period from mid-

June to early August. While half of these were isolated events, several days brought scattered to widespread severe thunderstorms. Second only to the region's March 14<sup>th</sup> Winchester EF3, was June 25<sup>th</sup>'s intense squall line that sliced a wide path of wind damage from a Terre Haute-Sullivan line eastsoutheastward as far as Brown County. Worst hit was the Bloomington area where winds gusted to 78 mph and an estimated \$5 million in damage occurred; winds around 70 mph also impacted Vigo, Clay, and Owen Counties. June 29<sup>th</sup>'s afternoon storm cluster downed trees and power lines in seven counties along the I-74 corridor. On July 9<sup>th</sup> Post-Tropical Cyclone **Beryl** brought several fast-tracking rotating cells across southwestern Indiana, which dropped 6 tornadoes in total, but only a brief EFO to the local region in Martin County. Hot and very humid conditions on July 15<sup>th</sup> promoted a collapsing derecho that night, which produced a 75 mph gust at Lafayette, blew over a semi truck in Tipton County, and brought isolated severe gusts to the perimeter of the Indianapolis Metro. July 29<sup>th</sup>'s local tornadic activity included funnel clouds over a couple northeastern counties, one of which touched down in Hamilton County and crossed into Madison County where it briefly reached EF2 intensity; further evening storms downed trees over several southern counties. August 1<sup>st</sup> brought torrential, training downpours of up to 3.00" an hour and rainfall totals up to 4.50" from the Indianapolis Metro to points northeast; resulting in significant flooding on I-465 during the late day rush hour.

What had been a reasonably warm to occasionally hot summer, ended with a **late-August heat wave** as in 2023. Widespread 90s were reported on the 24-30<sup>th</sup>, giving Indianapolis its first 7-day heat wave since 2020: such a feat this late in the summer is seen only once every ~20 years at Indianapolis; even more rare this late in the year were the 3 out of 4 days at Indianapolis that reached 93°F+ (on average once every ~25 years). Yenne (Martin Co.) hit 100°F on the 29<sup>th</sup> and New Castle reached 98°F on the 30<sup>th</sup>: both reports were only the third occurrence so late in the year since 1955; Indianapolis ended the heat wave with the year's hottest day, a daily record high of 96°F on the 30<sup>th</sup>. Barely a week later, a **record earliest frost** was reported at several of the region's typically colder reporting stations, including a morning low of 33°F near Farmland (Randolph Co.).

Late August began a pronounced dry period that led to Moderate Drought (D1) expanding across the region through September. Late September saw a brief return to more active weather including seven more weak, and generally isolated tornadoes across Indiana, including a very brief EFO in Delaware County. Post-Tropical Storm Helene's severe winds on the 27<sup>th</sup> inflicted damage to over two-thirds of the region's counties, including two homes destroyed in Mooresville (Morgan Co.), a destroyed trailer in Putnam County where one person was injured, gusts as high as 68 mph at Indianapolis, while power outages across the region peaked at over 130,000; a band of heavier rain from the northern Indy Metro to points east dropped up to 2.70" with brief localized flooding. Following late-September's partial respite of moisture, D1 again enveloped most of the region through mid- and late October, with also areas of Severe Drought (D2) across central Indiana's northern tier. Most of the region reported only 2.50-5.00" of rainfall through the nearly 2.5-month period ending Halloween morning, with several locations in Clay, Putnam and Lawrence Counties not even observing a drop of rain through all of October. Drought conditions promoted large daily temperature ranges: Indianapolis had 22 warm days (70°F+) in October, double the normal frequency. Three more daily record high temperatures from October 29<sup>th</sup> to November 5<sup>th</sup>, included the 4<sup>th</sup>'s high minimum of 63°F that tied November's all-time highest minimum, which was tied again on the 5<sup>th</sup>.

As September ended so did <u>Indiana's anomalous 2024 tornado season</u>, which included 57 separate twisters that impacted 37 of the state's 92 counties. This was the second-greatest yearly state total on record (since 1950) and when coupled with 2023's 54, made for a 2-year record of 111 (surpassing 2010-2011's 99 events). During 2024, central Indiana recorded 12 tornadoes, with essentially all being isolated outside of the May 7<sup>th</sup> mini-outbreak (see above). In contrast, far-southwestern Indiana saw a

local outbreak of 9 tornadoes on April 2<sup>nd</sup>, with 5 more spawned on July 9<sup>th</sup> (from Post-Tropical Cyclone Beryl) across its 5 counties. While the state had 16 tornado days, the greatest outbreaks were on April 2<sup>nd</sup> (13, tied the 9<sup>th</sup>-greatest on record), May 7<sup>th</sup> (10, tied the 15<sup>th</sup>-greatest on record), and both July 9<sup>th</sup> and July 15<sup>th</sup> with 6 tornadoes each. Far southwestern Indiana observed the greatest concentration of activity with 8 tornadoes in total impacting Warrick County and 7 in Posey County. Casualties were thankfully limited to only three events, the March 14<sup>th</sup> "Winchester" EF3 (see above), the April 2<sup>nd</sup> Clark County EF1 (10 injured in Jeffersonville), and the September 24<sup>th</sup> Lagrange County EF1 (2 injured near Valentine). Ten of the year's 57 tornadoes were EF2+; the only EF3s occurring in Randolph County on March 14<sup>th</sup> and Posey County on July 9<sup>th</sup>, the former "Winchester tornado" recording both the strongest winds (165 mph) and greatest width (700 yards) of all 57 Indiana tornadoes.

A soaking rain finally fell on November 4-5<sup>th</sup>, with several further moderate precipitation events through the late month producing overall near to slightly above normal precipitation, and actually Indianapolis' wettest November since 2017. However, the unseasonably mild to at times anomalously warm conditions persisted through the mid-month. The region then finally began to steer away from Indianapolis' all-time 4-year snow minimum (51.3", 2020-2023), with the 21<sup>str</sup>s daily record **3.2**" **snowfall**, which was Indianapolis' greatest autumn snow since 1997; and also began a transition to below normal cold by month's end. Light, yet at times impactful winter events were the rule through early December: the 2<sup>nd</sup>'s very thin snow coating delaying travel before two rounds of snow showers on both the 4<sup>th</sup> (when a passing evening cold front brought isolated marginally severe wind gusts as high as 64 mph at Eagle Creek Airpark) and the 11<sup>th</sup> where numerous PM snow showers brought a coating to portions of most counties. While December snowfall was well below normal at Indianapolis (0.9"), the overall late-year total (4.2") was the 3<sup>rd</sup>-greatest since 2016; from measureable snow on 6 days which was actually the greatest late-year frequency at Indianapolis since 2017.

2024 edged past 2012's average temperature (56.8°F) to set a new all-time record high average yearly temperature at Indianapolis (56.9°F). What may have come as a surprise following over a week of extreme cold in January, and only slightly-above normal temperatures through the summer; was in fact led by persistent unseasonable to anomalous warmth through both the spring and fall seasons (both finishing with once-in-50-year warmth). The transitional-season warmth was reflected in a new all-time record of days reaching 70°F+ at 195 (shattering the old record of 186, 2010). 2024's maximum temperatures averaged 66.2°F, the 2<sup>nd</sup>-highest on record (above 2023's 65.7°F, below 2012's 66.6°F), at +3.4°F from normal; daily minimums at Indianapolis averaged 47.6°F, the 4<sup>th</sup>-highest on record (yet still 1.0° shy of 1874's record) and +3.1°F from normal. February observed Indianapolis' 4<sup>th</sup>-highest average, 41.2°F, led by the month's 2<sup>nd</sup>-highest average minimum on record, 52.2°F. March was also overall well above normal, finishing as the 10<sup>th</sup>-mildest on record at 48.2°F; May's anomalously mild overnights averaged 59.2°F (6<sup>th</sup>-highest), guiding the month's overall average to 68.3°F (also 10<sup>th</sup>-highest). The spring's overall average was 57.6°F (which was still well behind 2012's record 60.0°F), while the spring's average maximum and minimum readings, 67.1°F and 48.0°F, were 4<sup>th</sup>- and 2<sup>nd</sup>-highest on record, respectively. What ended as Indianapolis' 3rd-warmest fall (59.6°F) was led by the 7th-highest October maximums (72.4°F) and 6<sup>th</sup>-highest November minimums (40.4°F), even though no monthly overall average temperature reached top-10 status; the average fall temperature was still well below 1931's record (61.3°F), while fall maximums (69.8°F) were 3<sup>rd</sup>-highest, and fall minimums (49.5°F) were tied for 7<sup>th</sup>-highest on record. Also noteworthy in 2024 at Indianapolis was the city's tally of days with highs 75°F+, 164 (2<sup>nd</sup>-most); highs 60°F+, 239 (2<sup>nd</sup>-most); highs 50°F+, 285 (3<sup>rd</sup>-most); as well as lows 55°F+, 155 (tied 2007 and 2018 for all-time most); lows 40°F+, 242 (shattering the old all-time record of 235 in 1998); and days with lows 30°F+, 310 (3<sup>rd</sup>-most)

Daily Temperature Data – Indianapolis Area, IN Period of Record – 1871-02-10 to 2024-12-31; Normals period: 1991-2020



Accumulated Precipitation - Indianapolis Area, IN









