

Central Indiana March 2023 Climate Summary

64th Mildest March on record at Indianapolis

21st Wettest March on record at Indianapolis

60th Least Snowiest March on record at Indianapolis (Tied)

Temperatures

March 2023 was near to slightly above normal, ending the persistent anomalously mild trend seen through the first two months of 2023. About 10 days were notably above or below normal, including remnant anomalous warmth on both the 1st and 6th, several unseasonably cold days between the 13th-14th and 18th-19th, and finally two more isolated mild days on the 23rd and 31st. Otherwise near-normal or slightly above/below normal conditions were common amid the rather damp pattern, and also considerable cloudiness which was prevalent through the early and mid-month. Overall milder weather (relative to seasonable normals) lasted through the 9th, while lower temperatures mainly prevailed for the latter two-thirds of the month. At Indianapolis, the 9th ended 32 of 34 consecutive days above normal, as well as 60 such days out of the year's first 68. The only record at Indianapolis was the 1st's high maximum of **76F**, which shattered the old record (71F, 1976).

The 1st's record shattering reading at Indianapolis was also only the third time in the 153-year record the mercury surpassed 75F this early in the year (following 2/20/2018 and 2/25/2000). 70s were the rule across central Indiana on the 1st, with **80F** at the Columbus (Bartholomew Co.), and **82F** at the Shoals 8 S (Martin Co.) COOP stations. The 6th's warmth included mainly

low to mid-70s, with highest readings again at Columbus (76F) and Shoals 8 S (78F), while Indianapolis reached 72F. Coldest locations through the mid-month chill were: 20F on the 14th at both the Rockville (Parke Co.) and Whitestown (Boone Co.) COOP stations; 14F on the 15th at Rockville while the Farmland 5 NNW (Randolph Co.) COOP farm dropped to 15F; 12F on the 18th at West Lafayette 6 NW (Tippecanoe Co.); and 12F on the 19th at Rockville as well as Lafayette 8 S (Tippecanoe Co.) and New Castle 3 SW (Henry Co.). The warmer late month days were led by Shoals 8 S and the Vincennes 5 NE (Knox Co.) COOP station: with their respective reports of 77F and 75F on the 23rd and 72F and 70F on the 31st; Indianapolis correspondingly peaked at 67F and 68F.

The 18th featured the month's lowest maximum, with nearly all of the region held below freezing, and 24-hour highs through dawn on the 19th only reaching the low to mid-20s across many spots north of Interstate 70. Highest minimums mainly occurred on the 31st, with many upper 40s observed, and 51F as far north as the Martinsville 2 SW COOP station (Morgan Co.); other mild overnights included upper 30s to mid-40s on the 6th, and mostly low to mid-40s on the 22nd and 24th, which flanked an even warmer trend on the 23rd when several far southwest sites were held in the low to mid-50s, while Indianapolis only fell to 44F.

Frequency of March days that fall below freezing normally ranges from 15 to 19 across central Indiana's seven 1st-order airports, while frequency of days held to 32F or below are normally 1 (or 2-3 across the region's northern tier). March 2023's tallies confirmed the slightly warmer than normal readings, with days falling below freezing ranging from 12 at Marion County sites to 18 at Lafayette, while days held below freezing was 1 at all seven airports. Extending these statistics to the first three months of the year, reveals the seven airports normally fall below freezing on 63-69 days and are normally held below freezing on 17-25 days; so far in 2023 the respective tallies are only 42-59 and a mere 3-6.

By the numbers Indianapolis' March 2023 temperatures were slightly below normal, yet it being the coolest March in four years was the bigger story. Despite February's anomalously mild readings, March did finish 2.0 degrees warmer; the last time these two months had monthly means this close was 2018 when March finished at a rather low 38.9°F.

Site	March 2023 Average Temp	March 2023 Dep from Nml	Highest Temperature	Lowest Temperature
Indianapolis Int'l Airport	42.2	-0.2	76 on 1 st	17 on 19 th
Lafayette	40.4	+0.4	70 on 6 th	14 on 18 th , 19 th
Muncie	42.0	+0.3	74 on 6 th	16 on 19 th
Terre Haute	43.0	+0.2	72 on 1 st , 6 th	19 on 18 th
Bloomington	43.7	+0.4	78 on 1 st	15 on 19 th
Shelbyville	44.3	+1.0	79 on 1 st	18 on 19 th
Eagle Creek Airpark	42.6	+0.0	75 on 1 st	19 on 18 th , 19 th

At Indianapolis, March 2023's daily average temperatures were above normal on 14 days and below normal on 17 days. Nevertheless it was the 64th mildest March for the Indianapolis Area since weather records began in 1871, placing it in the 58th percentile.

Precipitation

March 2023 continued the recent multi-month cycle that trended from a consistently dry fall 2022, into a near to slightly-above normal winter, to now a very wet start to spring 2023. Precipitation was frequent and at times anomalous, with heavy rainfall events through both the first and last weeks, several days of widespread snow showers through the mid-month, and several other light to moderate rains. Any remnant drought concerns were replaced by two rounds of widespread river flooding, with late month flooding being the region's worst in over 3 years. Despite copious rainfall during the 3rd and 23rd-24th, the combined sum from these heaviest events still only accounted for 60-70% of monthly totals for most locations given the damp pattern through the rest of the month; although the greater rainfall in these two episodes across southern locales yielded ~80% of the month's total at both Bloomington and Shelbyville.

The February 28th U.S. Drought Monitor update (released March 2nd) showed a relatively small patch of "Abnormally Dry" (D0) conditions remaining in southeastern Indiana, including portions of eastern Jackson County and most of Jennings County. Meanwhile, minor river flooding that had begun in late February continued into March on the Wabash River from Lafayette to Riverton.

A very strong late winter storm system on the 3rd deepened while tracking from the mouth of the Ohio River into far southern central Indiana (see Miscellaneous and Severe sections below regarding record low barometric pressure and damaging winds). Moderate to heavy rainfall quickly spread northward pre-dawn on the 3rd, with often heavy precipitation continuing during the day before tapering off from south to northeast in the evening. 27-hour storm totals exhibited the usual north-south gradient with generally 1.40-2.50" across the region's northern half, and 2.15-3.15" over the southern half, with embedded greater amounts in far south-central zones, including 3.47" at Buddha (Lawrence Co.) and 3.45" at Shoals 8 S. The gradient was distinct across the Indianapolis Metro, from as little as 1.56" on the north side of Carmel (Hamilton Co.) to as much as 3.15" in Greenwood (Johnson Co.). It was the month's wettest day at all 1st-order airports (see table below); as well as the wettest single day since 7/11/2017 at Eagle Creek Airpark, and since 7/1/2021 at Indianapolis. Indianapolis recorded its 11th wettest March day (a 14-year return period), while Terre Haute saw its 13th wettest March day (a ~10-year return); both Shelbyville and Eagle Creek Airpark observed their wettest March days within their relatively short records (since 1999). The potent storm brought mixed precipitation by early evening across northern counties, with the West Lafayette 6 NW observer noting "multiple transitions from rain to sleet to snow and back amid very high wind". A complete changeover to wet snow followed along and north of I-70 as precipitation rates tapered off, with a rather narrow band of maximum 1.0" reports from the Pence 1 SW (Warren Co.), Lafayette 8 S and Kokomo 3 WSW (Howard Co.) COOP sites. Several ~0.5" observations were otherwise found near I-65 northwest of Lebanon (Boone Co.), while measurable snow reached as far southeast as the northern Indianapolis Metro, and flakes were observed down to eastern Owen Co., although all snowfall was fast to melt.

Widespread river and smaller basin flooding followed. Four of the smaller basins that started flooding on the 3rd – the Mississinewa River at Ridgeville (Randolph Co.), Beaver Creek at Shoals (Martin Co.), North Fork Salt Creek at Nashville (Brown Co.), and Youngs Creek at Amity (Johnson Co.) all reached **moderate flood** between late day on the 3rd and the evening of the 4th, with moderate flood lasting at Ridgeville for over 26 hours. East Fork White River's flooding ended quickly above Seymour, with all points down to Columbus falling out of flood by pre-dawn on the 6th. Same was the case on upper portions of the White River where the four of the six sites that flooded (for generally less than a day) through Centerton, all receded by the evening of the 5th. With the exception of Wildcat Creek at Lafayette's 2.7 days of flooding ending on the afternoon of the 6th, all main Wabash River points continued in flood through the 7th, following the Wabash at Lafayette reaching **moderate flood** from late evening on the 4th through late morning on the 6th.

Several days of mainly rain-free conditions followed the 3rd's storm in what would be the month's only organized dry period before a more active trend took shape across the region. The March 7th drought update finally removed **D0** from all of, not only Indiana, but essentially all territory between the Mississippi River and Appalachian Mountains, sans southeastern Michigan. This was the first time without any drought intensity anywhere in the state of Indiana since 5/17/2022. Ongoing river flooding on the East Fork White River transitioned from upriver to downriver sites, with flooding slowly starting across Lawrence County portions from the 6th to the 8th, while nearly 4 days of minor flooding ended at Seymour late on the 7th. Next, middle portions of the White River fell out of flood: at Spencer late on the 7th, and at both Elliston and Newberry pre-dawn on the 9th.

The next system on the 9th brought heavy snow to the Upper Midwest and light accumulations just north of central Indiana, yet only a light rain (generally 0.10-0.25") fell across the local region. The 10th was a drizzly day with a mixture of at least brief light snow across several northern zones and the Indianapolis Metro. The overnight spanning the 11th-12th saw a light rain to snow event that dropped **~1-3"** on northeastern counties, while **~0.5-1.5"** or so was common along the Metro's northern and western areas outside of the inner-city's heat island, with **0.6"** Indianapolis' official observation. The 12th's mainly evening flurries and embedded snow showers brought an additional dusting from Frankfort (Clinton Co.) to Clermont (Marion Co.). The 13th's widespread flurries included **~0.5"** from snow showers near and east of Muncie, and a prolonged snow shower/squall that brought **~0.4-0.8"** along an axis from east of Crawfordsville down to North Vernon, with a quick **1.8"** observed at the Danville 3 SW (Hendricks Co.) COOP site, while the band actually caught the southwestern Metro, bringing **0.7"** officially to Indianapolis, as observed at the NWS office, the thick coating covering freshly arrived tufts of green grass that arrived on the heels of the very mild late-winter.

Despite the additional light precipitation, ongoing minor river flooding ended on the East Fork White River at Williams, Bedford and Rivervale throughout the 10th; and along the Wabash River at Lafayette on the 10th and Covington on the 11th (after 15 days in flood), before both Montezuma and Terre Haute followed on the 13th (ending ~17 days of flood at Montezuma); and along the lower White River - at Edwardsport on the 10th, and after 9 days at both Petersburg and Hazleton (on the 13th and 14th, respectively). The Wabash at Mount Carmel

returned to its banks on the **15th**, with Vincennes and Riverton following suit on the **16th** and **17th**, respectively (concluding 18 days in minor flood at Riverton).

The **16th** brought mainly light rain through PM hours and into early on the **17th**, with as much as 0.50-0.65" over west-central counties and eastern Greene County, with most of the Indianapolis Metro picking up ~0.20-0.40". Soon after, snow showers pre-dawn on the **18th** brought a thin coating to most central and northern counties, with greater accumulations north of Lebanon, including **1.0"** reports spanning the Lafayette and Kokomo areas, and as much as **1.5"** observed in Burlington (Carroll Co.). Additional flurries and a few snow showers through dawn on the **19th** brought additional 1-day snowfall as great as **1.0"** in Carmel, with measurable snow as far south as 0.2" east of Mitchell (Lawrence Co.). 2-day snow totals of 0.3-1.1" were common across the region's northern half, with Indianapolis officially observing 0.2".

Heavier rains and associated flooding returned for the late month. Widespread light rain through the **21st**'s PM hours was a prelude to the main barrage. Scattered showers during the **22nd** daytime brought as much as 0.83" in Riley (Vigo Co.), before a heavier band of rain set up along the region's northern tier pre-dawn on the **23rd**, bringing locally as much as **1.36"** in northwestern Tippecanoe County, and **1.10"** as far east as the northern side of Muncie. Scattered showers with embedded downpours continued through the **23rd**, with heavier rains trending from central to southern zones during the day. Organized moderate to heavy rain rates then developed in the evening near and south of the Interstate 70 corridor, with 1-day totals through dawn on the **24th** mainly **1.75-2.75"** over the region's southern half, with **3.16"** in Scipio (Jennings Co.) and **2.70"** on the south side of Shelbyville; farther north found around **1.00"** across much of the Indianapolis Metro, and generally less than 0.50" across the region's northern tier. 2-day totals through dawn on the **24th** ranged from ~0.60" between Lebanon and Crawfordsville, to **~1.50"** in the Lafayette area, to several southern counties approaching **3.00"**. After a respite during the **24th**'s daytime hours when rain was restrained to light to moderate rates across mainly southern zones, a final overnight deluge fell over mainly southern counties, with late night rains also reaching northern zones. Additional 1-day totals through dawn on the **25th** ranged from **1.00-2.00"** across south and east counties while many 0.50-0.90" observations came from northern and western zones, with **2.08"** in Edinburgh (Johnson Co.), **2.05"** in Fairland (Shelby Co.), and **2.03"** at the Vincennes 4 E COOP site (Knox Co.). 3-day totals through dawn on the **25th** showed a very tight north-south gradient that ran from just north of Terre Haute, to southern portions of the Indianapolis Metro, with a broader gradient over eastern counties between Muncie and Rushville: **1.30-2.40"** prevailed to the north and west while **3.20-4.20"** was the rule for central Indiana's southern half; greatest totals of **~4.40"** and greater were found in embedded west-east bands that were captured by three COOP stations: **4.89"** at Franklin WWTP (Johnson Co.), **4.53"** at Washington 1 W (Daviss Co.), and **4.45"** at Vincennes 4 E. The Indianapolis Metro was on the transition between heavy and anomalous rainfall, with as little as **1.33"** in Westfield (Hamilton Co.) to **3.88"** southeast of Greenwood. The most anomalous 2-day rainfall totals through dawn on the **25th** were Martinsville 2 SW's **3.66"** (greatest in the 101-year record), and Shelbyville WWTP's **3.98"** (a 32-year return), while ~25-year returns were recorded by Franklin WWTP's **4.65"**, Spencer's **3.79"**, and Rushville's **3.50"**.

Understandably, widespread river and smaller basin flooding returned to central Indiana. With the exception of the White River from Noblesville to Indianapolis, all main stem river points entered minor flood; generally starting between late day on the **24th** and the morning of the **25th**, later to start were the lower-most portions of the Wabash River and upper parts of the White (late on the **25th**), and then the Lawrence County portions of the East Fork White River (from late on the **26th** to late on the **27th**). **Moderate flooding** also returned to several gages: the Mississinewa River at Ridgeville for over 18 hours on the **25th**, Youngs Creek at Amity for 11 hours late on the **25th**, East Fork White River at Seymour for nearly **2.5 days** from late morning on the **25th** through the **27th** evening, the Driftwood River near Edinburgh for 9 hours on the **26th**, the White River at Newberry (which crested at moderate flood stage pre-dawn on the **28th**), and at Edwardsport for 16 hours through noon on the **29th**.

Very light scattered showers lingered through the morning of the **25th**. A weaker wave crossing the Midwest then brought less intense rains from the evening of the **26th** into the morning of the **27th**, with a general 0.10-0.50" across central Indiana, while most of the Indianapolis Metro saw the greatest amounts around ~0.50". 5-day rainfall totals for the **23rd-27th** at 1st-order airports ranged from **2.16"** at Muncie to **3.46"** at Shelbyville and **3.50"** at Bloomington, while Indianapolis reported a plentiful **2.61"**.

Once-widespread flooding was fairly quick to recede for at least half of the region's river/creek points. Minor flooding first ended on the upper White through Centerton and upper-most portions of the East Fork White by the **26th**. The **29th** found the White at Spencer ending over 4 days of flooding around dawn, and the East Fork White receding to its banks down to Seymour by early evening. Flooding then ended on both the White at Elliston and the Wabash River at both Lafayette and Covington by late on the **30th**. Meanwhile, **moderate flooding** had begun on the White at Petersburg very early on the **30th**; and soon after, the crest of runoff from the entire region, flowing through the Wabash at Mount Carmel, reached **moderate flood** pre-dawn on the **31st**. Minor flooding would continue into April 2023 on the E. Fork White from Rivervale and downriver, on the White from Edwardsport and downriver, and much of the Wabash - from Montezuma on down.

The rainy pattern continued through March's final days with light to moderate rains overnight on the **30th-31st** totaling mainly 0.10-0.45", with greatest amounts in east-central counties. A couple rounds of scattered showers continued during the **31st** daytime with additional, mainly light rainfall amounts, although ~0.50" more fell across much of the region's southern tier. More notable was the next, and month's final, reiteration – strong showers and severe storms during the **31st**'s late evening (see Miscellaneous and Severe sections below), which, despite their fast storm motion, were able to drop locally up to an additional **~1.00"**. 2-day totals to end the month were generally 0.40-**1.40"**, yet with high variability from the downpours that tracked along the southern side of the I-70 corridor, across the upper Wabash Valley and through northwestern portions of the Indianapolis Metro: with **1.39"** in Clay City (Clay Co.), **1.55"** near the junction of Hancock, Rush, and Shelby Counties, **1.40"** in far north-central Tippecanoe Co., and **1.94"** southwest of Westfield (Hamilton Co.).

Overall, March 2023's precipitation was well above normal, with monthly totals around **5.00"** common north of I-70, while most southern locations accumulated around **8.00"**. Isolated

remnant drought conditions over southeastern Indiana ended following the 3rd's soaking rain. It was the wettest March for the Terre Haute area since 1973, the all-time (since 1999) wettest at Eagle Creek Airpark, wettest (since 2007) at Muncie, tied 2008 for the wettest on record (since 1999) at Shelbyville, and was the wettest at Indianapolis since 2008. Bloomington and Shelbyville's 1st-order sites (both with a 25-year period of record) each observed just over 2.00" on the 24th; giving Bloomington's record five 2.00"+ days in March (two of which occurred this year), and Shelbyville's record only three such March days (all occurring in 2023, excepting 3/23/2012). While less extreme, Muncie's 1.09" on the 31st gave the site three 1.00"+ days in March 2023 - the only such March occurrence in the airport's 61-year period; (although March 2006 came close with daily totals of 1.33", 1.50", and 0.86"). Also noteworthy was the frequency of days with light rainfall: 1st-order airports normally record 11-12 March days with measurable (0.01"+) precipitation and 6-7 March days with 0.10"+; Eagle Creek Airpark observed these thresholds on 16 and 12 days, respectively, as did Terre Haute on 15 and 11 days, Indianapolis' respective tallies were 16 and 10 days. For local COOP stations, it was the wettest March in Franklin WWTP's 30-year record (**8.30"**), and the 4th-wettest March at Martinsville 2 SW (**7.54"**, a 25-year return), as well as the site's wettest March since 1963. A 15-year return was recorded at Rushville (**7.28"**) and the Shelbyville WWTP (**7.63"**), with both sites having the wettest March since the 1960s; while Elnora (**7.30"**) and Graysville 5 WNW (**7.17"**) both recorded the wettest March in their 15-year records. Greenfield measured the 9th wettest March in their 119-year record, and also the rainiest since 1964. Indianapolis' precipitation over the last 12 months improved to 37.05" (now only 6.58" below normal, yet still ~15" below the preceding April-March); while Indianapolis' water year to date (October 2022–March 2023) precipitation, 18.02", recovered substantially to 96% of normal. The 2023 year-to-date total at Indianapolis nearly doubled to **12.55"**, a staunch **3.31"** above normal. March 2023 saw the greatest expanse of **moderate flooding** in over three years, since 11 gages reached moderate in January 2020. Frozen precipitation exhibited a strong north-south gradient as is often found in March, with monthly totals of mainly 2-4" across the region's northern half, while a dusting to 0.7" was found south of the Interstate 70 corridor. Indianapolis' **1.5"** was a fair representation of the Metro's range (from 2.1" in Carmel to under 0.5" across Johnson and Hancock Counties), although the 13th's snow squall led the **3.6"** sum at Danville 3 SW. Leading the whole region were **4.3"** at Kokomo 3 WSW and **4.0"** at the Muncie WWTP.

Site	March 2023 Precipitation	March 2023 Dep from Nml	Wettest Day	Longest Dry Stretch
Indianapolis Intl AP	6.03	+2.34	2.24 on 3 rd	5 days, 4 th –8 th
Lafayette	4.24INC	M	1.84 on 3 rd	4 days, 5 th –8 th
Muncie	5.24	+2.16	2.16 on 3 rd	3 days, 2/28-3/2 & 4 th –6 th
Terre Haute	6.95	+4.03	2.10 on 3 rd	5 days, 4 th –8 th
Bloomington	6.70INC	+2.88	2.43 on 3rd	5 days, 4 th –8 th
Shelbyville	6.67	+3.22	2.21 on 3 rd	3 days, 2/28-3/2 & 4 th –6 th
Eagle Creek Airpark	6.35	+3.07	2.42 on 3rd	5 days, 4 th –8 th

Precipitation was incomplete at Lafayette on the 9th and 25th, and at Bloomington on the 31st.

March 2023 was the **21st wettest** March in the Indianapolis Area since weather records began in 1871, placing it in the **86th percentile** for precipitation of all recorded Marchs. This exemplified both the wetter trend observed since January 2023, as well as the now 8 consecutive year streak of wetter than normal Marchs.

Miscellaneous – Winds, Thunder, Fog & More

Yet another blustery month was felt across central Indiana. Windy conditions occurred on the 3rd, 17th, 25th, and 31st. On the 3rd, most 1st-order sites recorded peak gusts around 50 mph, including 52 mph at Muncie and 50 mph at Lafayette, while Indianapolis reported 46 mph. On the 17th, gusts of 40+ mph were common, with Indianapolis' 48 mph the highest mark. The 25th's peak gusts ranged from 44 mph at both Lafayette and Bloomington to 53 mph at Muncie, while Indianapolis reached 52 mph. Severe straight line gusts accompanied the 31st's tornado outbreak (see severe section below) with Indianapolis, Muncie and Shelbyville each recording **67 mph**, while Eagle Creek Airpark hit **59 mph** and Bloomington peaked at **58 mph**, while sub-severe, yet strong gusts occurred at Indianapolis and Terre Haute, 51 and 53 mph, respectively. The remainder of the month was breezy, with most sites gusting to 30+ mph on also the 4th, 6th–7th, 9th–10th, 13th, 16th, 18th, 20th–23rd, and 29th. Muncie and Indianapolis again had the greatest frequency of 30+ mph gusts at 18 days, with Eagle Creek Airpark right behind at 17 days. The only days with all 1st-order sites' peak gusts under 25 mph were the 2nd, 5th, and 15th; while all 1st-order sites gusted to at least 17 mph on all 31 days.

Fog was quite common, with frequency ranging from 15 days at Shelbyville to 19 days at both Lafayette and Eagle Creek Airpark, with Indianapolis, Bloomington and Muncie observing fog on 16 days. All airports reported fog on the 3rd–5th, 10th, 12th, 17th, 22nd–25th, 27th, and 31st; while fog occurred at most sites on the 9th, 13th, 16th, and 18th. Dense fog was uncommon, occurring at Muncie on the 5th, 25th, and 31st; Lafayette on the 5th and 11th; and one day each at Bloomington, Terre Haute and Eagle Creek Airpark.

Thunder was confined to widespread events on both the **23rd** and **31st**, as well as all central/southern sites on both the **3rd** and early on the **24th**. Monthly totals were 2 days at Lafayette and Muncie, and 4 days elsewhere.

Relative humidity (RH) and dewpoint extremes across the 1st-order sites included occasional drier days through the early and especially mid-month, before brief moderately-high humidity occurred on both the **23rd** and **31st**. RH values dropped as low as 24% at Bloomington on both the **1st** and **8th**, with most 1st-order sites' RH also falling below 30% on the **8th**. The **15th** was March's driest day with Marion County sites recording a 20% minimum RH, while Bloomington and Shelbyville followed suit with 22% and 24%, respectively. Two more dry days occurred on the **20th** and **21st**, with the **21st**'s minimum readings leading the way: 21% at Muncie, and 22% at Bloomington, Shelbyville and Eagle Creek Airpark; Indianapolis' daily minimum RH was 23% both days. Moist southerly to south-southwesterly winds boosted dewpoints above 60F during the late morning on the **23rd** at central and southern sites, with 60F+ marks lasting south of the I-70 corridor through late day – Terre Haute and Bloomington recorded the highest values at 65F and 64F, respectively; Indianapolis' recorded a 63F dewpoint. Higher humidity then accompanied the **31st**'s evening severe event with 60F+ dewpoints again reaching all central and southern 1st-order sites briefly in the late evening – with Terre Haute hitting 63F while other locations peaked at 61F.

The **3rd**'s potent low pressure center that deepened while tracking from the mouth of the Ohio River into southern Indiana, brought very low barometric pressure to the region, with lowest values reported around 400 pm EST. At 1st-order airports, Shelbyville had both the greatest 3-hour pressure tendency (-12.7 mb early in the afternoon) and 1-hour pressure tendency (-6.5 mb); while 5-minute pressure tendencies were as great as -4.1 mb at Muncie (235-240 pm), with Indianapolis recording -2.0 (1245-1250 pm). Terre Haute measured a sea level pressure of 979.5 mb, which broke the city's all-time (since 1912) low record of 981.7 from 3/11/1923; meanwhile Indianapolis' minimum reading of 979.0 broke the previous March record low (981.0).

Severe Weather

March 2023's severe weather was infrequent yet deadly between scattered wind damage on the **3rd** and the region's greatest tornado outbreak in nearly a decade on the **31st**. The **3rd**'s intense storm system brought both severe thunderstorms south of Bloomington (with numerous trees downed in Lawrence, Monroe, and Jackson Counties) and gradient winds that downed a combined nine trees and power lines in Knox County throughout the day. These non-thunderstorm winds also uprooted a tree that crashed into a car in Putnam County, killing two people inside and injuring two others.

March then ended like a ferocious lion on the **31st** when a strong and deepening storm system spawned 10 tornadoes across central Indiana in only an hour and twelve minutes. This nocturnal (evening) episode contained two sets of 5 tornadoes each – one set from a rotating supercell that sliced from Sullivan County to areas between Bloomington and Indianapolis – and, simultaneously, the other set from the curving portion of a severe squall line which extended from northeast of Crawfordsville to southern portions of Howard County. The southern set's tornadoes were more intense, with a long-track **EF3** that ended in Sullivan County, another **EF3** that hit Owen and Monroe Counties, an **EF2** in Morgan County, and an **EF0** and yet another **EF3** in Johnson County. The Sullivan County **EF3** tracked a total of 41 miles from its origin in Jasper County, IL; and once in Indiana, debarked trees and destroyed homes, including well-constructed buildings on the south side of the city of Sullivan. The Owen-Monroe County **EF3** touched down in McCormick's Creek State Park snapping trees, then caused major or complete damage of homes near the county line before tracking to northeast of Stinesville. The Morgan County **EF2** tracked nearly 9 miles just to the south and east of Martinsville damaging the roofs of several buildings and snapping trees. The Johnson County **EF0** tracked about 2 miles south of Bargersville, partially removing barn roofs and downing power lines. The Johnson County **EF3** tracked 3.5 miles through Whiteland, inflicting mainly EF1/EF2-intensity damage - causing major damage to residential homes; before intensifying towards the end of its track - completely destroying a long segment of a warehouse just west of I-65. The maximum estimated wind speed in the **three EF3** tornadoes was: Sullivan Co., **155 mph**; Owen-Monroe Co., **150 mph**; and Johnson Co., **140 mph**. The maximum width of these three tornadoes was 660, 400 and 316 yards, respectively.

The northern/squall line set of five tornadoes were less intense, with actually only two longer track non-EF0s: both the first, a 10.6-mile-long **EF2** that impacted mainly rural areas of Montgomery-Boone-Clinton Counties ... and the last, a 6.4-mile long **EF1** that did mainly tree, barn and home damage over southeastern Howard County, which injured one person, including roof and tree damage in a larger neighborhood southeast of Greentown. The three middle northern tornadoes were all shorter-track **EF0s**: a Montgomery-Boone County circulation that damaged a barn and trees, next a Howard County tornado south of Russiaville that did minor home damage and downed pine trees, and then another Howard County twister between Russiaville and Indian Heights which did minor home damage.

The Sullivan Co. **EF3** caused 3 fatalities and at least one injury, the Owen Co. **EF3** caused 2 fatalities and 2 injuries, and the Howard Co. **EF1** injured 1. These were the first tornado fatalities in Indiana since the Henryville and Holton tornadoes on 3/2/2012, and the first tornado fatalities in central Indiana since 6/3/2008. This was also the first time central Indiana saw an **EF3+** since the 8/24/2016 Kokomo EF3, and the first time the region experienced three **EF3s** in one day since five occurred on both 11/22/1992 and 6/2/1990. Looking at March only, this was the first **multi-EF3+** episode since the 3/10/1986 outbreak, and the **only March day** with more than two EF3+ on record (since 1950). Over a dozen more tornadoes across northern Indiana brought the state's total to 23 for this episode, which did also continue into very early on the 1st. Over 100 tornadoes occurred across the Mississippi Valley, Mid-South and Midwest.

Not to be outdone, non-tornadic severe weather also accompanied the 31st's events. Intense straight line winds were found adjacent to and north of the southern-counties' tornadoes, under the parent supercell's main downdraft: observed gusts of **75 mph** and **83 mph** spanned the width of Owen County; southwest of Martinsville in Morgan County, winds downed numerous large trees, snapped power poles, and produced considerable home damage; a **68 mph** gust was then recorded at the Shelbyville Airport; before, in Morristown (Shelby Co.), winds downed a gas station's overhanging roof; before the cell finally collapsed over the region's east-central zones, downing a small tree at the Lewisville COOP site (Henry Co.). Meanwhile the squall line's straight line gusts caused damage across several counties to the north: multiple power lines were downed over southwestern Fountain County; a **59 mph** gust was observed at the Crawfordsville Airport; a barn was blown apart west of Thorntown (Boone Co.); several barns/outbuildings saw major damage along the Clinton-Howard County line; and lastly, in between the two Howard Co. **EF0s**, gusts estimated to near **75 mph** damaged trees and ripped off a large barn's roof. Additional severe reports included measured severe winds along the west side of the Indianapolis Metro (see Miscellaneous section above) and estimated **65 mph** winds downing numerous power poles and lines across Madison County. Hail with these two storms was generally sub-severe, although isolated quarter-sized (1.00") hail was reported in Warren, far-northern Tippecanoe, and Montgomery Counties.

For further data pertaining to March 2023's severe storm systems, check out these links:

<https://www.weather.gov/ind/march32023stronglow>

<https://www.weather.gov/ind/march312023severe>

For info on severe weather in other areas during March, visit the Storm Prediction Center "Severe Weather Event Summaries" website at [spc.noaa.gov/climo/online](https://www.spc.noaa.gov/climo/online)

April 2023 Outlook

The official outlook for April 2023 from the Climate Prediction Center indicates slightly greater chances of above normal temperatures and slightly greater chances of above normal precipitation. The normal April temperature at Indianapolis is **53.6** degrees, while the normal April precipitation is **4.34"**, and the normal April snowfall is **0.2"**.

Data prepared by the Indianapolis Weather Forecast Office's State Climate Team

Questions should be referred to nws.indianapolis@noaa.gov