Central Indiana
January 2023
Climate Summary

9th Mildest January on record at Indianapolis

32nd Wettest January on record at Indianapolis

57th Least Snowiest January on record at Indianapolis *(Tied)*

Temperatures

January 2023 was very mild, continuing a prolonged "January thaw" that had begun during the final days of December 2022. The new year began as an amplified pattern slowly brought a deepening storm system from the southern Plains to the Great Lakes – placing central Indiana within the system's warm sector as is more common in the late autumn or early spring. Anomalously high temperatures followed, led by very mild morning lows generally in the upper 40s (**2nd**) to mid-50s (**3rd**), with daily minimums as high as 60F at Bloomington on the **3rd**; Indianapolis' minimum of 56F on the **3rd** tied a daily record (only 11 days after the city recorded its lowest maximum temperature in nearly 27 years). The **2nd**-**4th** also brought three consecutive days with highs in the upper 50s to mid-60s; maximums on the **3rd** were as high as **65F** at Bloomington, and COOP stations Shoals 8 S (Martin Co.) and West Lafayette 6 NW (Tippecanoe Co.). January **3rd** was **31 degrees above normal** at Indianapolis, the city's greatest single day deviation above seasonable levels since 2/20/2018, and only the second such anomaly so far above normal since 12/27/2008.

The **5th**-**9th** found cut-off upper troughs traversing the southern Great Lakes while associated areas of weak surface high pressure crossed the central Unites States. This regime dropped temperatures much closer to normal with highs generally in the mid-30s to around 40F. Lows

were mainly in the mid-20s to low 30s, although a colder morning on the **7th** brought a minimum of **19F** to several sites: Lafayette, West Lafayette 6 NW, and the Rockville (Parke Co.) and Farmland 5 NNW (Randolph Co.) COOP stations. Indianapolis' low of 24F would end up being the airport's only daily minimum under 25F during an 18-day period (12/28/22 to 1/14/23).

The **10th**-**12th** brought **a**nother period of unseasonable, yet more reasonably, mild conditions. An upper zonal ridge pattern and a storm system that deepened across the southern Plains boosted readings to ~15 degrees above normal on all three days. Highs were around 50F while morning lows were held in the 30s. Highest maximums were **58F** on the **12th** at Shoals 8 S, **59F** on the **13th** at both Shoals 8 S and Washington 1 W (Daviess Co.), and **58F** on the **13th** at Washington 1 W; while notable 1-day minimums included 47F at both Shakamak State Park (Sullivan Co.) and Shoals 8 S through dawn on the **12th**. The **13th**-**15th** marked another return to only slightly above normal temperatures, with highs in the low to mid-30s on the **14th** and several sites dropping to 21F on the morning of the **15th**. Indianapolis' range on the **14th** (32-24) made a daily average that was at normal – the first non-above normal day since December 27th.

January 2023's third and final 3-4 day period of unseasonably mild conditions occurred on the **16th**-**19th** when deepening storm systems tracked northeastward, yet again to the west of central Indiana, promoting warm-advective southernly winds. Highs were mainly in the 50s while lows were generally held above freezing; highest daily maximums were **59F** on the **16th** at Vincennes 5 NE (Knox Co.), **63F** on both the **17th** and **18th** at Shoals 8 S, and **62F** on the **19th** at Columbus (Bartholomew Co.); notable highest minimums included 45F on the **16th** at Shakamak State Park and 48F on the **17th** at Elnora (Daviess Co.).

The winter storm that strengthened while pushing northeastward through the Great Lakes into the **20th** facilitated the month's main pattern change from persistent early-spring conditions to more mid-winter type chill. Despite daily highs in the seasonable mid-30s, the **20th**-**23rd'**s small diurnal spreads guided slightly above normal temperatures, with morning lows in the upper 20s to near 30F. A much more modest resurgence of above normal temperatures occurred on the **24th**-**25th** with highs closer to 40F and moderating morning lows; no 1st-order site fell below 32F on the **25th** while Shoals 8 S recorded the region's highest minimum for the day at 36F. Cooler conditions on the **26th**-**27th** were near to slightly above normal, despite highs moderating from the 30s to the 40s through the two days.

The final days of January 2023 were marked by stronger transition as moderation continued into one final gasp of unseasonable warmth on the **28th** when low to mid 50s returned to central and southern counties, with **58F** at Shoals 8 S while Indianapolis peaked at 53F; lows only dropped to the low to mid 30s on the **28th**-**29th** at both Bloomington and Shelbyville. Arctic high pressure then advanced southward through the central US through the **30th**-**31st**, holding high temperatures across central Indiana to near freezing on the **30th**, and only in the 20s on the **31st**. Both corresponding daily minimums came from the night of the **30th**, with the region having dropped into mainly the teens by midnight (19F at Indianapolis), before many spots bottomed out in the lower teens by early on the **31st**, while **3F** at Rockville, and 5F at West Lafayette 6 NW were the lowest in the region, while 13F at Indianapolis was the city's lowest reading since Christmas Day.

January 2023's temperatures were anomalous both in overall departure from normal, as well as the persistent above-normal trend which lasted a whopping 33 days (from 12/27/22 to 1/29/23). This was the 9th-mildest January in Indianapolis' record (a 17-year return), and the warmest January since 2006. The last time Indianapolis observed a month with temperatures so far above normal was December 2021 (**+8.8°**). Only 2 days finished with a daily average temperature below normal (the **30th** and **31st**); this tally was the lowest for any month since May 2018's 0 days below normal (which allowed a shattering of the all-time warmest May record); and tied 1923 for the fewest of any January since 0 below normal days were recorded in January 1880 (Indianapolis' warmest January on record). Honorable mentions to other consistently mild Januarys go to 1932, 1933, and 1990, which each tallied only 3 days below normal (January 1990 also followed extreme, record cold in the preceding December). Indianapolis failed to drop to 32F on 12 days, which tied for the 7th most on record of all Januarys, and was only the 3rd such occasion since 1939.

Site	January 2023 Average Temp	January 2023 Dep from Nml	Highest Temperature	Lowest Temperature
Indianapolis Int'l Airport	37.1	+8.6	63 on 3rd	13 on 31st
Lafayette	35.2	**+9.4**	62 on 3rd	**6** on 31st
Muncie	37.1	+8.5	64 on 3rd	13 on 31st
Terre Haute	37.9	+9.2	63 on 3rd	10 on 31st
Bloomington	38.4	+8.1	**65** on 3rd	13 on 31st
Shelbyville	39.0	+9.3	64 on 3rd	17 on 31st
Eagle Creek Airpark	37.0	+8.2	63 on 3rd	12 on 31st

At Indianapolis, January 2023's daily average temperatures were above normal on 28 days, at normal on 1 day and below normal on 2 days. It was the **9th mildest** January for the Indianapolis Area since weather records began in 1872, placing it in the 94th percentile.

Precipitation

January 2023 featured the first month with above normal precipitation for most of central Indiana since August 2022, continuing the increasing trend established in December 2022 when most sites finished the month slightly below normal. Precipitation frequency and intensity included four moderate to locally heavy precipitation events, on the **3rd**, **12th**, **18th**, and **25th**, whose combined sum was generally ~85% of the month's overall total at 1st-order sites.

Otherwise light rainfall was common, occurring on 11 other days at Indianapolis (with 0.01 to 0.14"), while only 10 days were rain-free. The typical north-south precipitation gradient was greater than normal with total precipitation ranging from near normal over several northern and northwestern counties to as much as ~150% of normal in far south-central counties. Anomalously mild temperatures promoted below normal snowfall, with snowfall also having a greater than normal north-south gradient. Weekly U.S. Drought Monitor updates showed continual improvement from early month widespread Moderate Drought (**D1**) to a late month combination of merely "Abnormally Dry" (**D0**) conditions or no drought status whatsoever. No flooding occurred within central Indiana during January 2023.

The January **3rd** Drought Monitor update (released on January 5th) showed modest improvement from late December as a very small area of **Severe Drought** (**D2**) was maintained over portions of both extreme southeastern Henry County and far southern Randolph County, **Moderate Drought** (**D1**) continued to prevail across the vast majority of central Indiana, while improvement to **Abnormally Dry** conditions (**D0**) occurred through the middle Wabash Valley and as far east as central Montgomery County. A soaking rain fell across central Indiana from the evening of the **2nd** through the morning of the **3rd**, with most locations receiving 0.50-**1.00"**, while at least double these amounts fell just to the southeast over portions of the Ohio Valley. Greatest local totals ranged from **1.40"** at Covington (Fountain Co.) to **1.17"** north of Mitchell (Lawrence Co.) and **1.16"** both east of Noblesville (Madison Co.) and at the Lafayette 8 S COOP station (Tippecanoe Co.). Marion County airports led totals at 1st-order sites, with 0.95" collected at Eagle Creek Airpark.

The January **10th** Drought Monitor update's significant improvement found most counties changing from **D1** to **D0**. **D1** held on south and east of Muncie to as far south as northeastern Rush County, while drought intensity was removed entirely from most of Fountain and Warren Counties, as well as northern portions of Montgomery and Vermillion Counties. Another substantive rain fell quickly on the **12th** from pre-dawn to early evening hours, bringing a maximum band of **1.00-1.70"** along the I-70 corridor, and near-zero amounts to the Upper Wabash Valley. The greatest 15-hour rainfall reports were **1.69"** in Bowling Green (Clay Co.) and **1.40"** in Greenfield (Hancock Co.). Isolated rain showers transitioned to scattered snow showers during the night of the **12th**, before numerous snow showers fell during the day on the **13th**; resulting in a thin coating along the lower Wabash Valley and along/west of Interstate 65 from Tippecanoe County to Johnson County, with as much as 0.5" reported at both the Graysville 5 WNW (Sullivan Co.) and Lebanon 6 W (Boone Co.) COOP sites.

The January **17th** Drought Monitor update brought the third week of improving conditions, albeit subtle: **D1** remained unchanged over far east-central zones while **D0** continued across the majority of the region, yet drought conditions were removed in a broad swath along I-70 from far northeastern Vigo County, through most of the Indianapolis Metro to nearly all of Hancock County. Light rain, generally 0.25" or less, graced the region on the **16th**. The **18th** then brought the third plentiful rainfall in just over 2 weeks, and for some southern counties the heaviest storm total since late July. A mainly afternoon and evening event, readings were mostly 0.75-**1.60"** through dawn on the 19th, while lesser amounts were recorded through Boone, Clinton and Tipton Counties; greatest totals included **1.57"** east of Mitchell (Lawrence Co.) and **1.54"** in Bicknell (Knox Co.), while up to **1.34"** was observed in Monroe County and

1.13” was recorded as far north as Brownsburg (Hendricks Co.), and Indianapolis picked up **1.00”**. At least brief snow flurries/showers fell across much of the region between early on the **19th** and the morning of the **20th**, with no accumulation reported.

The late month did turn snowier, if only in frequency, as ground and air temperatures both at/above freezing limited snowfall amounts, despite it being the climatologically coldest period of the year. A light wet snow through the AM hours of the **22nd** brought highly-variable measurements, generally between 0.5” and 2.0”, due to warm ground and varying observation times. Yet as much as **2.5”** was reported in New Palestine (Hancock Co.), and **2.2”** at three COOP stations: Kokomo 3 WSW (Howard Co.), Tipton 5 SW (Tipton Co.), and North Vernon 2 ESE (Jennings Co.), while Indianapolis officially recorded 0.7”. The January **24th** Drought Monitor update saw the fourth consecutive week of improving drought conditions as the east-central **D1** shrunk to only the eastern half of Randolph County, elsewhere being replaced with **D0**. **D0** that had been widespread earlier in month continued its downsize trend, with drought conditions also removed from the Lafayette area and Boone and Clinton Counties, as well as much of Hamilton and Carroll Counties. **D0** continued over southern and northeastern zones.

The month’s greatest snowfall occurred on the **25th** when a deepening, yet underperforming winter storm crossed the region, bringing a period of rain before at least briefly intense snow rates during the morning. The wetter nature of the snowflakes and air temperatures generally just above freezing resulted in significant amounts of the snow melting as it fell; which brought only light to moderate snowfall totals despite it being another episode with ample liquid precipitation. Melted totals ranged from around 0.50” across several northwestern and north-central counties, to at least **~1.00”** around Bloomington and points south and east, with greatest observations including **1.68”** north of Mitchell and 0.91” as far north as Avon (Hendricks Co.). The system’s axis of maximum snowfall developed across the region’s northern tier before curling northeastward toward Fort Wayne, with **6.0”** reported at Young America (on the Howard-Cass County line), and several other **5.2”**-**5.5”** measurements from the northwest side of West Lafayette eastward to Kokomo 3 WSW. **3-6”** was common across most northern counties, with mainly **1-3”** over the south, although isolated greater totals in colder pockets included **5.0”** north of Mitchell and **4.4”** in Ellettsville (Monroe Co.). Snowfall across the Indianapolis Metro varied widely due to local heat island effects, from **1.8”** southwest of Fountain Square to **4.0”** in New Palestine and as much as **4.4”** in Carmel (Hamilton Co.), while the official Indianapolis total at the NWS office was **2.9”**. Snowfall was overall less near the Illinois border where **0.5-2.2”** was common.

The remainder of January featured very cold arctic high pressure trending southward through the central United States, which promoted weak overrunning precipitation scenarios along its southern periphery, which occasionally reached central Indiana. Organized snow showers following the **25th** event lingered into the afternoon of the **26th**, with further, rather brief snow showers falling on the afternoon of the **27th**. Measurable snow was limited to the Indianapolis Metro and points north and east, with **0.6”** at Tipton 5 SW, and 0.5” reports from south of Lafayette, Anderson (Madison Co.), and east of Muncie; Indianapolis officially picked up another 0.2”. Scattered rain showers then crossed the region from late evening on the **28th** through the morning of the **29th**. A period of light wintry precipitation fell on most of central Indiana during the morning of the **30th**, with concurrent sub-freezing air temperatures having

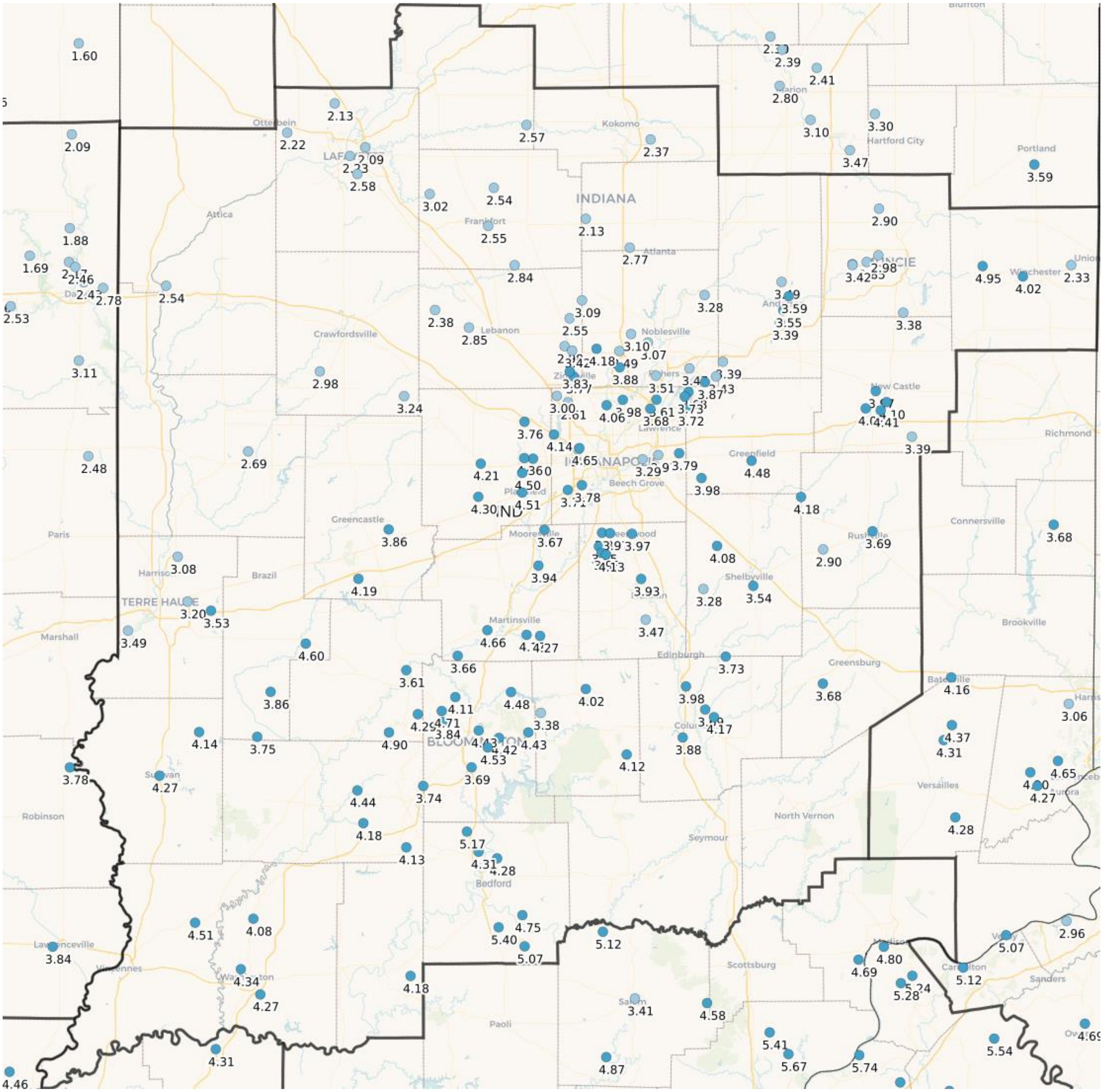
finally reached most counties; snow and snow pellets were the primary precipitation type, with freezing drizzle or mixed precipitation found across southern zones. Snowfall of 0.2-**0.6"** was common across central and northern counties, while 0.5" was measured as far south as the Franklin 1 W (Johnson Co.) COOP site, with 0.3" the official Indianapolis observation. Corresponding liquid precipitation of 0.05-0.25" was the rule across the realm. The January **31st** Drought Monitor update saw very small improvements from the previous week, as **D0** was removed from the rest of Parke County and small portions of Vermillion and Vigo Counties.

Overall, January 2023's precipitation was near to slightly above normal, with monthly totals of 2.50-4.50" common across central Indiana, with slightly less in far northwestern counties in and near Lafayette, and locally over 5.00" in far south-central zones. Extremes ranged from **5.40"** north of Mitchell to **1.81"** at the Pence 1 SW (Warren Co.) COOP site. Across 1st-order airports with complete data, monthly totals (see below) ranged from 103% of normal at Muncie to 146% of normal at Eagle Creek Airpark. At all 1st-order sites, total precipitation was greater than December 2022, and significantly greater than January 2022's precipitation. The rolling 12-month precipitation total (now February 2022-January 2023)'s deficit relative to normal dropped by about 33% at Indianapolis following January 2023's replacement of January 2022. This was the 3rd-wettest January of the last 10 years at Indianapolis, although historically Januarys with 3.97" or greater are a 5-year return. Snowfall across the region was generally 50-70% of normal, although near-normal totals were found along the region's northern and southern limits: **9.0"** at Kokomo 3 WSW, **7.5"** at Young America, and **4.3"** at North Vernon 2 ESE. Lowest sums were around 1.0" in southern Daviess County; while Indianapolis officially recorded 4.1", which boosted the seasonal total (since November) to 8.5". This season-to-date sum is well below the 16.2" normally seen through January 31st, yet still made for the 5th-snowiest October-January of the last ten years (…although 9 of those 10 snow seasons were below normal as of the end of January).

Site	January 2023 Precipitation	January 2023 Dep from Nml	Wettest Day	Longest Dry Stretch
Indianapolis Intl AP	3.97	+0.85	1.00 on 18th	4 days, 7th–10th
Lafayette	1.38INC	M	0.67 on 18th	3 days, 9th–11th
Muncie	2.59	+0.07	0.66 on 3rd	3 days, 7th–9th
Terre Haute	3.06	+0.46	0.73 on 12th	4 days, 4th–7th
Bloomington	3.77	+0.39	**1.07** on 18th	3 days, 9th–11th
Shelbyville	3.34	+0.29	0.87 on 12th	3 days, 9th–11th
Eagle Creek Airpark	3.79	**+1.20**	0.93 on 3rd	4 days, 6th–9th

January 2023 was the **32nd Wettest** January in the Indianapolis Area since weather records began in 1872, placing it in the **79th percentile** for precipitation of all recorded Januarys. This was in contrast to both the continued dry trend that had been observed since September 2022, as well as the dry Januarys of 2021 and 2022.

January 2023 Total Precipitation, Through the Morning of 2/1/2023
As Reported By Central Indiana CoCoRaHS Observers



For the period 700 AM EDT 1/1/2023 -to- 700 AM EST 2/1/2023. Data is unofficial.

Ample precipitation finally returned during January, with totals ranging from near normal across the northern tier and northwestern counties (**2.00-3.00"**) to at least slightly above normal (generally **3.50-4.50"**) for areas near and south of the I-70 corridor.

Miscellaneous – Winds, Thunder, Fog & More

January 2023's strongest observed wind gusts at 1st-order sites occurred on the **19th** when all seven airports gusted to 41 mph or greater, with **51** and **50 mph** recorded at Muncie and Shelbyville, respectively, and a peak gust of 48 mph at Indianapolis. Rather blustery conditions prevailed through the rest of the month, with all sites gusting to at least 25 mph on 10 of the other 30 days: the **3rd**-**5th**, **12th**, **13th**, **17th**, **20th**, and **26th**-**28th**. The windiest of these days were the **12th**, **20th**, **27th** when all sites gusted to at least 31 mph. Most notable were Terre Haute gusting to 40 mph on the **12th**, Shelbyville gusting to 41 mph on the **27th**, and both Shelbyville and Indianapolis gusting to 43 mph on the **28th**. Quiescent conditions also prevailed on the **1st**, **7th**-**11th**, **21st**-**22nd**, **24th**, and **31st** when no 1st-order site gusted to greater than 22 mph.

Fog was prevalent through January, with frequency ranging from 16 days at Bloomington to 21 days at Lafayette and 22 at Muncie, while Indianapolis observed fog on 18 days. All 1st-order airports reported fog on the **1st**, **2nd**, **3rd**, **7th**, **11th**, **12th**, **16th**, **18th**, **19th**, **22nd**, **23rd**, **25th**, **29th**, and **30th**; while fog occurred at most sites on the **5th**, **8th**, **9th**, **13th**, **17th**, **24th**, and **26th**. Muncie reported fog on 10 of the month's first 12 days; while at Eagle Creek Airpark fog was reported on nine consecutive days (**11th**-**19th**) and on 8 of the month's final 10 days. Dense fog frequency ranged from 3 days at Muncie to 6 days at Bloomington, with 4 days at Indianapolis; dense fog occurred at all 1st-order sites on the **2nd** and **25th**, and at most on the **11th** and **12th**.

Scattered thunder accompanied several of the stronger precipitation events, occurring at Indianapolis and Eagle Creek Airpark on the **2nd**, **3rd**, **12th**, and **19th**; Bloomington on the **2nd**, **3rd**, **12th**, and **15th**; Terre Haute on the **2nd** and **12th**; and Muncie on the **3rd** and **19th**.

Relative humidity (RH) across the 1st-order sites was free of extremes throughout the month, as no daily minimum values fell below 40% at any 1st-order site past Bloomington's 33% reading on the **9th**. Unseasonably high dewpoints briefly occurred on the **19th** with all but northern-tier sites reporting 50°F+ levels during pre-dawn hours, and for over 2 hours at Shelbyville, while Bloomington's dewpoint peaked at 54°F.

Severe Weather

January 2023's severe weather was contained to the **19th**'s strong to marginally-severe showers and thunderstorms: this brief mid-afternoon event mainly featured pea-sized hail, yet penny (0.75") and nickel (0.88") sized hail were reported over portions of Delaware, Henry and Randolph Counties. The only severe event was found in Decatur County where thunderstorm wind gusts downed multiple trees and power lines, leaving about 50 without power across the county.

For info on severe weather in other areas during January, visit the Storm Prediction Center "Severe Weather Event Summaries" website at spc.noaa.gov/climo/online

February 2023 Outlook

The official outlook for February 2023 from the Climate Prediction Center indicates slightly greater chances of above normal temperatures across central Indiana, especially south and east of I-69. Slightly greater chances of above normal precipitation exist for the region, with even greater chances of above normal precipitation for far southwestern counties. The normal February temperature at Indianapolis is **32.5** degrees. The normal February precipitation at Indianapolis is **2.43"**, and the normal February snowfall at Indianapolis is **6.0"**.

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