

# Central Indiana

## July 2022

### Climate Summary

*32<sup>nd</sup> Warmest July on record at Indianapolis*  
*67<sup>th</sup> Driest July on record at Indianapolis (Tied)*

## Temperatures

July 2022 was very warm across central Indiana, with most of the region averaging 2.0 to 3.0 degrees above normal. While no records were tied nor set at Indianapolis, the month's first week brought the highest temperatures in a decade to most locations, with four 1<sup>st</sup>-order airports and three COOP stations reaching **100-102F**. The remainder of the month was non-anomalous, with 20 of the remaining 24 days within 5 degrees of normal at Indianapolis, as an often humid pattern kept diurnal ranges well regulated. High temperatures from the **8<sup>th</sup>** onward were mainly in the mid-80s to low 90s while low temperatures were generally in the mid-60s to around 70F. A better mark of comfort were dewpoints (see details in miscellaneous section below), as several of the more pleasant days often climbed to above normal afternoon maximums under ample sun. Synoptically, the north-south gradient along the northern expanse of the summer's upper-level, subtropical ridge was more prevalent than normal over northern portions of the region: the greatest deviations from normal were across southern counties (Bloomington and Shelbyville's departures were both +3.0 degrees), and were much greater than far northern zones (Muncie's departure was only +0.4 degrees).

July started on a hot note when moderate humidity promoted widespread low to mid-90s on the **1<sup>st</sup>**, with Muncie, Shelbyville and Terre Haute all hitting **96F**, while 95F was reached at both Indianapolis and the Southwest Purdue AG Center at Vincennes 5 NE (Knox Co.); this was the first time Indianapolis recorded two 95F+ days in a single year since 2013. The **4<sup>th</sup>** brought an afternoon high of 92F at all 1<sup>st</sup>-order airports, except for Terre Haute which peaked at **93F**; this was the year's tenth 90F+ day at Indianapolis; meanwhile Vincennes 5 NE reached **95F** again. The hottest day in nearly a decade then followed on the **5<sup>th</sup>** when generally west-southwesterly, and at times robust winds allowed drier air aloft to reach the surface, enhancing heating across central Indiana. Highs common in the upper 90s brought the hottest day since 7/25/2012 to most places, with **100F** observations at Lafayette, Shelbyville, Eagle Creek Airpark, and the

Columbus (Bartholomew Co.) and Shoals 8 S (Martin Co.) COOP stations, and the highest readings of **101F** at Terre Haute and **102F** at the Farmersburg TV-2 COOP station (Sullivan Co.). Officially, Indianapolis hit 99F, which was the year's third 95F+ day – the most since 2013; meanwhile typically cooler locations also had hot days, with 92F recorded at both the New Castle 3 SW (Henry Co.) and Whitestown (Boone Co.) COOP stations. After most 1<sup>st</sup>-order airports finished the 5<sup>th</sup> 12 to 14 degrees above normal, the 6<sup>th</sup> had the highest minimum temperatures for many sites, including **80F** at Farmersburg TV-2, 79F at Eagle Creek Airpark, and 78F at Indianapolis, Bloomington and Terre Haute. Highs in the low to mid 90s continued for many sites on the 6<sup>th</sup>, as both Indianapolis 1<sup>st</sup>-order airports hit 94F, and several of the typically warmer COOP sites climbed into the mid-90s, including **96F** at the Franklin WWTP (Johnson Co.); most 1<sup>st</sup>-order airports finished 9 to 11 degrees above normal for their overall 2<sup>nd</sup>-hottest day of the month.

The 8<sup>th</sup>-14<sup>th</sup> was generally near normal, including a mixture of lower-humidity days with a greater diurnal temperature range and cloudier or more-humid days with smaller daily spreads. A much-needed Canadian blast flowed into the Midwest late on the 9<sup>th</sup>, bringing morning lows on the 10<sup>th</sup> in the mid-50s to around 60F, with **52F** at the Young America (Howard Co.) COOP site and 53F at Crawfordsville 6 SE (Montgomery Co.); meanwhile Muncie dropped to 55F, with 61F at Indianapolis. The 11<sup>th</sup> saw a very warm afternoon with Indianapolis and most other 1<sup>st</sup>-order sites peaking at 89F, while the Tipton 5 SW (Tipton Co.) COOP station hit **92F**, while the Davis Purdue AG Center at Farmland 5 NNW (Randolph Co.) only reached 82F. The 12<sup>th</sup> had a warm morning in some locations, with Indianapolis and most 1<sup>st</sup>-order airports only falling to the low 70s. Another very warm PM occurred on the 13<sup>th</sup> with 89F again the maximum at Indianapolis and most 1<sup>st</sup>-order sites.

The third and fourth weeks of July were often near normal mid-summer warmth and humidity, with several noticeably warmer/hotter days on the 19<sup>th</sup>-24<sup>th</sup>. Temperatures on the 19<sup>th</sup> reached **91F** at Eagle Creek Airpark, Shoals 8 S and Tipton 5 SW. The 20<sup>th</sup> then brought widespread low to mid-90s, led by **96F** at Shoals 8S, and 95F at Lafayette and Vincennes 5 NE. More moderated heat was on tap for the 21<sup>st</sup>, although increasing dry conditions across northern counties promoted **92F** at both Lafayette and Tipton 5 SW. Heat surged again on the 22<sup>nd</sup>, with **95F** observed at both Shoals 8 S and Vincennes 5 NE, while Marion County airports led 1<sup>st</sup>-order sites' readings with highs of 93F. The weekend of the 23<sup>rd</sup> and 24<sup>th</sup> found heat focused across southern counties as various daytime clouds/showers prevailed for points north. Southwesterly flow boosted Vincennes 5 NE to **95F** and **94F**, respectively, while maximums at Shoals 8 S were 1 degree lower on both days; meanwhile Washington 1 W (Daviness Co.) hit **95F** and 93F, and Bloomington (which had actually only risen above 93F once in July) was the hottest of all 1<sup>st</sup>-order airports across both days, peaking at 91F and 93F. Not to be outdone, on the 20<sup>th</sup>-22<sup>nd</sup> Indianapolis peaked at 94F, 90F, and 93F, respectively, while topping out in the upper 80s on the other three days within this warmer 6-day period.

As July's end approached, Canadian air plunged into the central Plains before sliding over the Midwest, bringing a pleasant cool blast that moderated readings on the 29<sup>th</sup>-30<sup>th</sup>. Most 1<sup>st</sup>-order airports recorded the lowest temperatures of the month, from **55F** at Muncie to 60F at Indianapolis. Most other locations saw a comparable cool down to that of the 10<sup>th</sup>, with many COOP stations actually reporting the same, lowest reading that they had on the 10<sup>th</sup>. On the 30<sup>th</sup>, Crawfordsville 6 SE led the colder sites with **54F**, while 55F was observed at New Castle 3 SW and

West Lafayette 6 NW. The 29<sup>th</sup> had also had a chillier morning for northern sites as the air mass arrived, as Farmland 5 NNW dropped to 55F.

July 2022 was certainly a very warm summer month across central Indiana, and the hottest month for the Indianapolis Area since July 2020 (78.4°F), as well as the third hottest month since the anomalous August 2016 (78.2°F). Indianapolis hit 90F or above on 9 days, while morning lows were held to 70F or higher on 14 days – both values were above normal. As for year-to-date tallies, Indianapolis now has 16 90F+ maximums (the most through July since 2018) and 21 70F+ minimums (the third-most through July since 2012). July at Indianapolis normally has 3 mornings drop into the 50s, although July 2022 did not fall below 60F which only occurs in 13% of Julys. July 2022's above normal temperatures continued June 2022's trend, while in contrast to the near to slightly below normal readings in July 2021.

Site	July 2022 Average Temp	July 2022 Dep from Nml	Highest Temperature	Lowest Temperature
Indianapolis Int'l Airport	78.0	+2.2	99 on 5 <sup>th</sup>	60 on 30 <sup>th</sup>
Lafayette	75.3	+2.0	100 on 5 <sup>th</sup>	57 on 3 <sup>rd</sup> , 29 <sup>th</sup> , 30 <sup>th</sup>
Muncie	76.4	+0.4	97 on 5 <sup>th</sup>	55 on 10 <sup>th</sup>
Terre Haute	77.6	+2.3	101 on 5 <sup>th</sup>	58 on 30 <sup>th</sup>
Bloomington	77.7	+3.0	97 on 5 <sup>th</sup>	58 on 30 <sup>th</sup>
Shelbyville	78.5	+3.0	100 on 5 <sup>th</sup>	59 on 30 <sup>th</sup>
Eagle Creek Airpark	78.7	+2.8	100 on 5 <sup>th</sup>	61 on 10 <sup>th</sup>

At Indianapolis, July 2022's daily average temperatures were above normal on 20 days and below normal on 9 days. It was the 32<sup>nd</sup> warmest July for the Indianapolis Area since weather records began in 1871, placing it in the 83<sup>rd</sup> percentile of all recorded Julys.

# Precipitation

Following the release of the new 30-year climatological normals (1991-2020), July is now the third-wettest month (behind May and June) for four of central Indiana's seven 1<sup>st</sup>-order airports - those along the Interstate 69 corridor. At Shelbyville and Terre Haute, July fell from the year's 2<sup>nd</sup> wettest month to the 4<sup>th</sup>; while at Lafayette it rose from 3<sup>rd</sup> to 2<sup>nd</sup> wettest. June is now normally wetter than July at all 7 sites, with April and/or June being the months that trended from drier than to wetter than July from the previous (1981-2010) to new normals at four of the seven sites. Normal July precipitation values, from the old to new normals, had either a slight downward or essentially no trend at most sites, while greater downward trends occurred at Muncie (-0.30"), Terre Haute (-0.45"), and Shelbyville (-0.84"). Spatial distribution of July's new normal precipitation totals lacks the typical north-south gradient, with the contrast between Bloomington (4.89") and Shelbyville (3.87") being the most distinctive feature; elsewhere normal totals range from Lafayette (4.08") to Indianapolis (4.42").

On the 1<sup>st</sup>, isolated afternoon thunderstorms across northern and far southern counties preceded evening storms along and just south of I-70, before further late evening-overnight rain fell on central and southern counties; 1-day precipitation grand totals were locally 0.50"+ south of I-70, including **1.18"** northwest of Franklin (Johnson Co.) and **1.84"** in Rushville (Rush Co.) where a downburst occurred. On the 4<sup>th</sup>, generally very light rainfall fell across northern counties, although collapsing, southerly-moving, evening storms over the region's far northwestern zones dropped as much as **1.33"** at the Pence 1 SW (Warren Co.) COOP site and **1.53"** at the Perrysville 4 WNW COOP station (Vermillion Co.).

The July 5<sup>th</sup> drought monitor update indicated a staunch expansion of "Abnormally Dry" (D0) or drier conditions across all of the region's counties; Moderate Drought (D1) encompassed nearly half of the region following an expansion from only the Upper Wabash Valley in late June, to all points north/west of a line from southern Vigo County, across Indianapolis, to western Delaware County; D1 also crept into far southern Daviess and Martin Counties.

Four consecutive days (6<sup>th</sup>-9<sup>th</sup>) of showers and thunderstorms over at least some parts of the region helped to mitigate or even improve drought conditions. The 6<sup>th</sup>'s several rounds of showers and thunderstorms were led by more intense early afternoon rainfall across the southeastern half of the region; greatest observations were from locations that were so-far least impacted by drought - **1.59"** in Harrisville (Randolph Co.) and **1.31"** in Millhousen (Decatur Co.). The 7<sup>th</sup>'s slow-moving afternoon rain and storms brought a much needed widespread soaking to the region's southwestern quadrant where 0.50-**1.50"** was common, with **3.71"** at the Graysville 5 WNW (Sullivan Co.) COOP site, **2.87"** at Howesville (Clay Co.), and **2.63"** west of New Goshen (Vigo Co.). The 8<sup>th</sup> saw a third day of appreciable precipitation again trying to alleviate the summer's rainfall deficits, with widespread rains, locally heavy over southwestern counties, lasted through midday before isolated to scattered showers continued through PM hours. The **2.25"** measured near Oolitic (Lawrence Co.) led several ~**2.00"** observations found across Martin County, Lawrence County, and eastern portions of Greene County; less-intense local maxima were found in isolated patches near I-70 - **1.04"** west of New Goshen, **1.65"** in Greenwood (Johnson Co.), **1.10"** in McCordsville (Marion Co.), while most other northern counties picked up

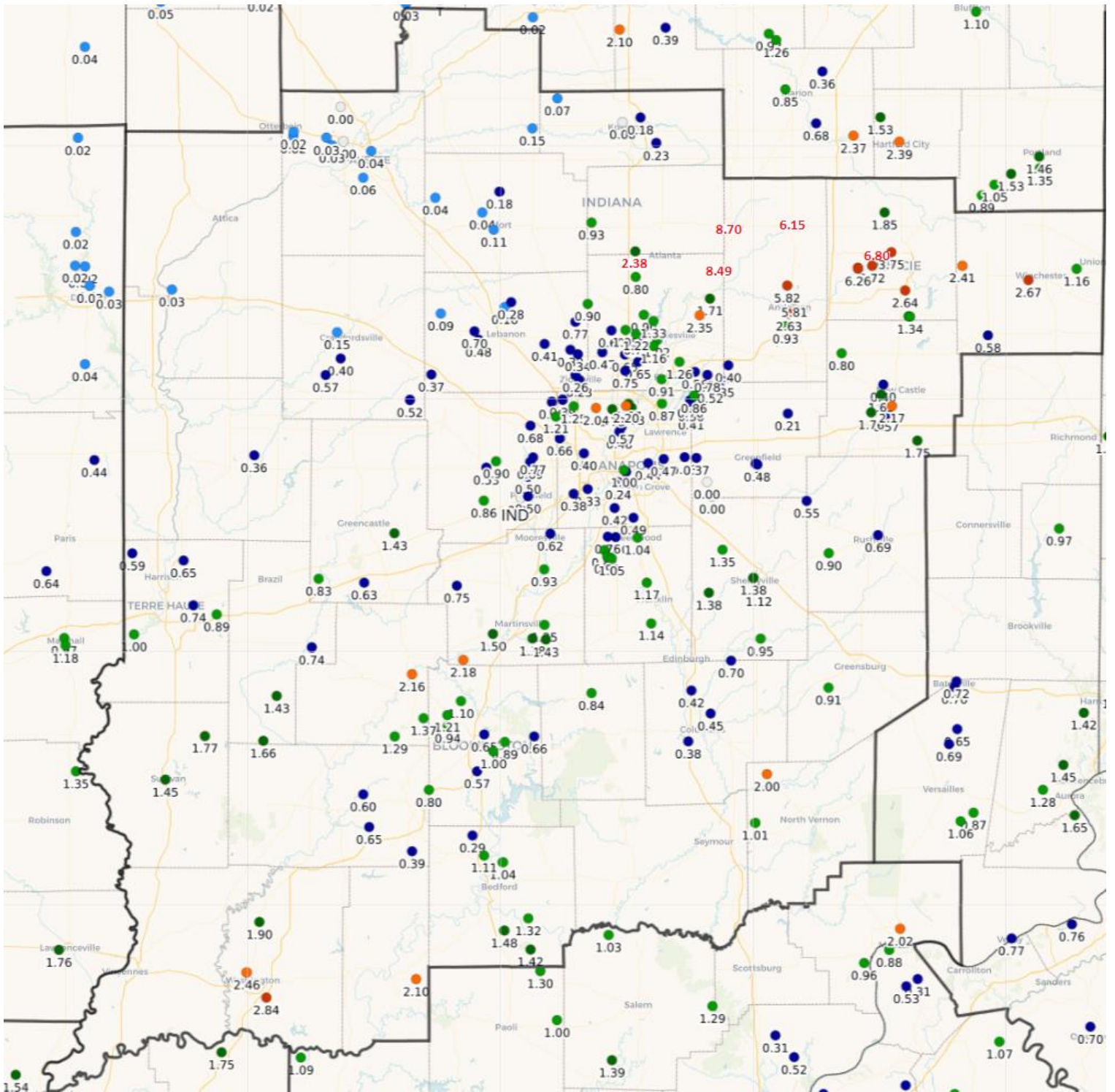
at least 0.25". Over **4.00"** fell in under 30 hours across portions of Sullivan County, leading to numerous flooded roads for 1-2 hours during the morning of the **8<sup>th</sup>**. The final organized showers of the week fell during midday hours on the **9<sup>th</sup>** – leading to 6-day accumulated totals ranging from generally 0.40-**1.20"** near and north of the I-74 corridor, to mainly **1.50-4.00"** over points southward; extremes ranged from only 0.15" in parts of Anderson (Madison Co.) to **4.33"** in Sullivan (Sullivan Co.) and **4.73"** at the Williams 3 SW (Martin Co.) COOP site; Indianapolis managed 0.89" for the week. The overly-absorbent ground prevented organized river and stream flooding, with only Beaver Creek at Shoals (Martin Co.) flooding for 8 hours during PM hours on the **9<sup>th</sup>**.

The July **12<sup>th</sup>** drought monitor update reflected the recent rainfall, as driest conditions (D1) continued to be mainly north and west of Indianapolis, while expanding to include most of Delaware and Hancock Counties, as well as southward to include most of the I-70 corridor. D1 also expanded northward into southern Knox County; however, drought conditions were removed along a ~20-mile wide swath from the Sullivan-Knox County line and eastward, to include most of Daviess, Martin, and Lawrence Counties. Elsewhere D0 prevailed: primarily from Monroe County into much of southeastern central Indiana. Meanwhile, July's middle week (**10<sup>th</sup>** -**16<sup>th</sup>**) was mainly dry, with scattered light rainfall on both the **13<sup>th</sup>** and **15<sup>th</sup>**, which included isolated reports of moderate totals - on the **13<sup>th</sup>** a rogue thunderstorm brought 0.50-0.65" from Mars Hill to Southport and Greenwood (Marion and Johnson Counties), and on the **15<sup>th</sup>** 0.73" was observed at both Burlington (Carroll Co.) and in Southport. Rainy conditions then returned for the month's third weekend. The **16<sup>th</sup>**'s evening showers and scattered, at times strong, overnight thunderstorms brought a total 0.50-**1.25"** to mainly northern Marion County and points north and east, with greatest observations of **1.69"** in Kokomo, **1.39"** west of Morse Reservoir (Hamilton Co.), and **1.42"** at New Castle 3 SW.

On the **17<sup>th</sup>**, widespread late morning to late day showers and thunderstorms brought 0.50-**1.50"** to most locations, excepting counties to the northwest of the Indianapolis Metro, which again only saw very light rainfall; however, embedded within the various rains were hours of torrential, tropical downpours in afternoon showers over portions of Tipton, Hamilton, Madison and Delaware Counties; after a late-evening lull, further heavy rains fell along southern counties through the late night hours. Greatest totals ranged from **8.70"** in Elwood (Madison Co.), to **8.49"** near Aroma (Hamilton Co.) and **6.26"** in Yorktown (Delaware Co.), while **2.84"** was reported southeast of Washington; other impressive reports across the region included **2.67"** near Winchester (Randolph Co.), **2.20"** in Williams Creek (Marion Co.), and **2.18"** south of Paragon (Morgan Co.). Most impressive were the intense rainfall rates across eastern Hamilton, Madison, and Delaware Counties: **4.70"** fell in under 4 hours in Linwood (Madison Co.), the **8.70"** Elwood total fell in about 12 hours, while the **8.49"** Aroma observation was a 20-hour total. Flash flooding lead to areal flooding across these 3 counties: vehicles were stranded shortly after 400pm on the north side of Muncie, multiple roads were closed across Madison and Delaware Counties by 600pm, with several reports in Delaware County of cars stalled with a few needing assistance or **water rescues**.

The White River subsequently flooded on the **18<sup>th</sup>** at Anderson down to Noblesville, with minor flooding lasting as long as 23 hours near Strawtown before ending by dawn on the **19<sup>th</sup>**. More impressive flooding was found in northern Madison County: Big Duck Creek at Elwood flooded

## 1-Day Total Precipitation, Through the Morning of 7/18/2022 As Reported By Central Indiana CoCoRaHS and **Public** Observers



For the period 700 AM EDT 7/17/2022 -to- 700 AM EDT 7/18/2022. Data is unofficial.

for almost 1.5 days over the 17<sup>th</sup>-18<sup>th</sup>, with over 12 hours of **moderate flooding** from the 17<sup>th</sup> evening through early on the 18<sup>th</sup>, and a 11.84' record (since 2016) crest surpassing the old 11.31' record; Pipe Creek at Frankton also flooded through nearly all of the 18<sup>th</sup>, cresting close to moderate flood. Not to be outdone, the Mississinewa River at Ridgeville flooded for just over a day during the 17<sup>th</sup>-18<sup>th</sup>, including over 19 hours of **moderate flooding** from late evening of the 17<sup>th</sup> through late day on the 18<sup>th</sup>.

The July 19<sup>th</sup> drought monitor showed improvement in drought conditions as the previous week's broad area of D1 retreated to roughly only the region's northwestern quadrant, while also still including nearly all of Marion County and immediately along the I-70 corridor from southern Putnam County to far northern Johnson County. Far eastern counties that had been in D0 the week before had improved to no drought intensity, while D0 was also removed from most areas south and west of Bloomington.

The 23<sup>rd</sup>'s locally potent morning thunderstorms dragged across the region's northern-most counties, with scattered rain lingering here into the afternoon; several locations reported totals near **1.00"** across Carroll and Howard counties, including **1.30"** in Burlington. On the 24<sup>th</sup>, several lines of showers and strong to severe thunderstorms crossed the region from north to south as a cold front slowly approached; afternoon rains across the north trended to evening torrential downpours over central and southern zones, with local maximum reports increasing from north to south. Greatest observations ranged from: several **1.00"+** from central Boone to southern Hamilton counties, including **1.84"** southwest of Westfield (Hamilton Co.); **~2.00"** readings from southeastern Putnam to northern Morgan counties, including **2.21"** in Brooklyn (Morgan Co.); and several **4.00"+** observations prevailing across Knox and Daviess counties, with **6.54"** at Vincennes 5 NE, **5.27"** just northwest of Washington, **5.10"** just south of Plainville, and **4.77"** at the Vincennes 4 E COOP site. Almost as noteworthy was the overly erratic nature of the rainfall's distribution (supporting the month's general trend), with reports of 0.10" just ~10 miles from **2.00"+** readings. A road was washed out by heavy rains along Pine Bluff Road with numerous other roads with high water across the county. Several vehicles were stranded on State Road 67 near Church Road with **water rescues** conducted. Despite these locally very heavy rains, no rivers or creeks flooded, although Smothers Creek near Plainville did crest near bankfull, pre-dawn on the 25<sup>th</sup>.

A nearly stationary front near the Ohio Valley, combined with an intermittent low-level jet stream to continue locally appreciable rains through the month's last week. The 25<sup>th</sup>'s overnight rains on the 25<sup>th</sup>, included moderate to heavy pre-dawn rainfall south and west of Bloomington, with **1.22"** southeast of Washington being the greatest report. The July 26<sup>th</sup> drought monitor indicated small improvements across central Indiana, as D1 continued for most of Marion County and points north and west, while D0 remained for most other areas north of Bloomington. D1, however, was downgraded to D0 over small portions of Morgan, Parke, and Putnam Counties; and D0 was removed from most of Jackson County, as well as smaller portions of Knox, Lawrence, and Vigo Counties. Locally heavy rains continued through the morning of the 26<sup>th</sup>, especially south of Interstate 70, before late night isolated downpours spread northward through the region; 1-day totals through dawn included **2.81"** at Owensburg (Greene Co.), **2.17"** west of Amity (Johnson Co.), and despite mainly light rains across northwestern counties, 0.94" was managed south of Crawfordsville.

A similar pattern of diurnal-nocturnally timed rains continued on the 27<sup>th</sup>, although rainfall was mainly light, despite **2.65"** east of Flat Rock (Shelby Co.) and **2.00"** north of Scipio (Jennings Co.), while much of the northern Indianapolis Metro neared 1.00". Amid 3+ days in action stage, the White River at Hazleton crept into minor flood for 8 hours during the day on the 27<sup>th</sup>. The 28<sup>th</sup>'s mainly evening rains over central and southern zones led to an additional **1.02"** north of Scipio, with light totals elsewhere south of Interstate 70. 6-day totals for the 23<sup>rd</sup>-28<sup>th</sup> were 2.50" or greater across 15 of the region's, mainly southern counties, including several reports of **7.50-9.05"** in and around Washington, **8.30"** at Vincennes 4 E, and **4.64"** in Owensburg; while farther north **2.63"** was recorded in Carmel, and **2.51"** was reported east of Greencastle (Putnam Co.).

In summary, precipitation frequency was overall near normal, although days with moderate (0.50"+) and/or heavy (**1.00"+**) rainfall were sub-normal at all 1<sup>st</sup>-order airports, excepting Shelbyville. However, several of these sites did finish well below other observations in their respective counties, namely Bloomington, Terre Haute, and even Muncie's 5.64" monthly total which paled in comparison to several 8.00"+ amounts a few miles farther south and west in Delaware County. Four of central Indiana's COOP stations totaled over 10.00" – **15.01"** at Vincennes 5 NE (the wettest month ever in the site's 40-year record, shattering the old record of 11.61" from March 2011, and the previous July record of 10.67" from 2010); **14.86"** at Washington 1 W (for the 2<sup>nd</sup>-wettest month in 125 years, behind January 1937, while shattering the previous July record of 13.20" from 1958); **12.98"** at Vincennes 4 E (the 7<sup>th</sup>-wettest month in 127 years, 2<sup>nd</sup>-wettest July behind 1958, and wettest overall month since May 1998); and **11.42"** at Elnora (making it the wettest July in the station's fairly short 14-year record). A perhaps more accurate description of July 2022's rainfall distribution would be: mainly near to well above normal across southern counties; and highly variable over northern zones, with particularly dry conditions from the northwestern quadrant into much of Marion County, and above to well above normal rains northeast of Noblesville. July 2022's below normal precipitation at Indianapolis continued the pattern from June 2022's very dry conditions, yet contrasted July 2020 and July 2021's ample totals. The year-to-date total at Indianapolis rose to **22.85"**, while the deficit expanded to **4.85"** below normal.

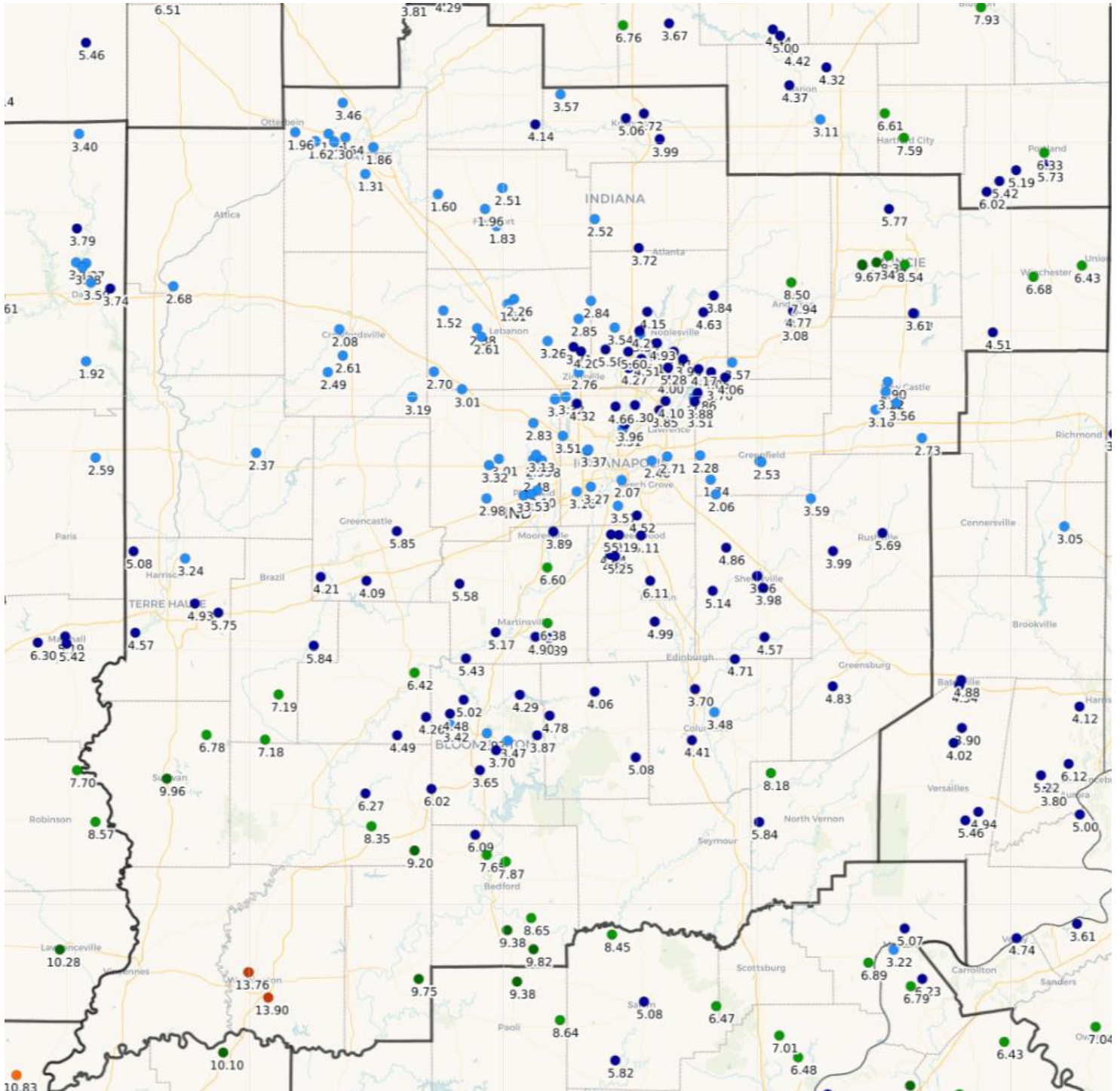
Site	July 2022 Precipitation	July 2022 Dep from Nml	Wettest Day	Longest Dry Stretch
Indianapolis Intl AP	3.10	-1.32	0.91 on 27 <sup>th</sup>	5 days, 19 <sup>th</sup> -23 <sup>rd</sup>
Lafayette (*)	0.68INC (*)	-3.40	0.25 on 8 <sup>th</sup>	5 days, 18 <sup>th</sup> -22 <sup>nd</sup>
Muncie	<b>5.64</b>	+1.54	<b>3.38</b> on 17 <sup>th</sup>	6 days, 9 <sup>th</sup> -14 <sup>th</sup>
Terre Haute	4.01	+0.33	0.85 on 17 <sup>th</sup>	6 days, 18 <sup>th</sup> -23 <sup>rd</sup>
Bloomington	2.64	-2.25	0.62 on 8 <sup>th</sup>	5 days, 19 <sup>th</sup> -23 <sup>rd</sup>
Shelbyville	<b>5.62</b>	+1.75	<b>2.65</b> on 17 <sup>th</sup>	5 days, 19 <sup>th</sup> -23 <sup>rd</sup>
Eagle Creek Airpark	2.68	-1.61	0.70 on 17 <sup>th</sup>	6 days, 18 <sup>th</sup> -23 <sup>rd</sup>

(\*) Lafayette's observed precipitation was incomplete

July 2022 was the (tied) **67<sup>th</sup> driest** in the Indianapolis Area since weather records began in 1871, placing it in the 44<sup>th</sup> percentile of all recorded Julys.



## July 2022 Total Precipitation, Through the Morning of 8/1/2022 As Reported By Central Indiana CoCoRaHS Observers



For the period 700 AM EDT 7/1/2022 -to- 700 AM EDT 8/1/2022. Data is unofficial.

Thunderstorms and torrential showers made for extremely-variable precipitation totals, from 1.00-4.00" in most of the Indianapolis Metro and points north and west, to 8.00-14.00" across several counties both northeast of Indianapolis and south and west of Bloomington.

# Severe Weather

July 2022 found eight days of severe weather across central Indiana, including both isolated wind damage through the first week, scattered damaging winds during the third weekend, and three days with localized flash flooding. The 1<sup>st</sup> saw a **downburst** produce damaging winds in Rushville (Rush Co.); the 5<sup>th</sup> brought minor tree damage to mainly Muncie, including a large tree uprooted into a house; and the 6<sup>th</sup>'s pulse storms downed a few trees over both northwestern Rush and western Decatur Counties.

The middle half of July was devoid of severe thunderstorms per se, although heavy to extreme rains caused flash flooding on the 8<sup>th</sup>, 17<sup>th</sup>, and 24<sup>th</sup>. (note details in Precipitation section above). Thunderstorms then brought damaging winds through the month's 4<sup>th</sup> weekend: mid-morning thunderstorms on the 23<sup>rd</sup> caused scattered tree damage across northeastern counties, including downed power lines across Hamilton, northern Madison, and Delaware counties. Widespread thunderstorms late on the 24<sup>th</sup> spawned funnel clouds that were reported over Boone, Hamilton, Putnam and Monroe counties, with multiple reports of winds downing trees and power lines in Greencastle (Putnam Co.); in the early evening, a **69 mph** gust was recorded at the Daviess County Airport northeast of Washington, and multiple trees were downed in Knox County, including one onto a small vehicle in Edwardsport. Significant flash flooding also occurred across Knox County (see details above).

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

## Miscellaneous – Winds, Thunder, Fog & More

July 2022's greatest wind gust at any of the 1<sup>st</sup>-order airports was **63 mph** at Muncie on the 23<sup>rd</sup>, which ended a 3+ month period with no 50+ mph gusts at any of these sites. Strong gusts were common on the 23<sup>rd</sup> with Lafayette recording 45 mph, and Indianapolis reaching their top gust for the month at 41 mph. Also noteworthy were 44 mph readings at Eagle Creek on the 16<sup>th</sup>, and Shelbyville on the 17<sup>th</sup>. In contrast, scattered throughout the month were 5 days when with no 1<sup>st</sup>-order site gusted higher than 19 mph – the 10<sup>th</sup>, 15<sup>th</sup>, 18<sup>th</sup>, 26<sup>th</sup>, and 30<sup>th</sup>.

Fog was frequent for most 1<sup>st</sup>-order sites, occurring 6 days at Eagle Creek Airpark, and elsewhere from 11 days at Indianapolis to 20 days at Lafayette and Terre Haute. All seven airports observed fog on the 8<sup>th</sup>, 17<sup>th</sup>-19<sup>th</sup>, and 27<sup>th</sup>, with fog also common on the 2<sup>nd</sup>, 7<sup>th</sup>, 14<sup>th</sup>, 16<sup>th</sup>, 24<sup>th</sup>-26<sup>th</sup>, and 28<sup>th</sup>. Lafayette observed fog on every day through the 22<sup>nd</sup>-30<sup>th</sup>, while shorter consecutive day streaks occurred at Bloomington on the 24<sup>th</sup>-29<sup>th</sup>, Muncie on the 14<sup>th</sup>-19<sup>th</sup>, and Shelbyville during the 23<sup>rd</sup>-28<sup>th</sup>. Dense fog was somewhat frequent, but not overwhelming given the prevalence of

non-dense fog; with frequency outside of Marion County ranging from 1 day at Bloomington (8<sup>th</sup>) to 5 days at Lafayette (18<sup>th</sup>, 19<sup>th</sup>, 22<sup>nd</sup>, 25<sup>th</sup>, 28<sup>th</sup>) and 6 days at Terre Haute (14<sup>th</sup>, 17<sup>th</sup>-19<sup>th</sup>, 25<sup>th</sup>, 28<sup>th</sup>), while Muncie and Shelbyville also reported dense fog on the 17<sup>th</sup> and 19<sup>th</sup>.

Thunder frequency ranged from 5 days at Lafayette to 9 days at Indianapolis, with 8 days at Bloomington. Thunder was reported at all 1<sup>st</sup>-order sites on both the 17<sup>th</sup> and 24<sup>th</sup>, and most of these 7 locations on the 1<sup>st</sup>, 8<sup>th</sup>, 16<sup>th</sup>, and 27<sup>th</sup>. Indianapolis observed thunder on three consecutive days, the 16<sup>th</sup>-18<sup>th</sup>.

A few, rather brief, periods of unseasonably low humidity occurred on very warm days (2<sup>nd</sup>, 3<sup>rd</sup>, 10<sup>th</sup>), at 1<sup>st</sup>-order airports along the region's northern tier and/or within Marion County;. Dewpoints dropped into the upper 40s, with longest durations found at Muncie for 6 hours during the 2<sup>nd</sup> PM and 9 hours on the 3<sup>rd</sup>, before Indianapolis recorded sub-50F dewpoints, as low as 43F, during the afternoon and evening on the 10<sup>th</sup>. Relative humidity values also dropped below 30% at Muncie on the 1<sup>st</sup>-3<sup>rd</sup>, as well as 26% or lower at both Marion County airports on the 3<sup>rd</sup> and 10<sup>th</sup>, including 22% at Indianapolis on the 10<sup>th</sup>. Oppressively high humidity was more common, with dewpoints reaching 75F+ at all seven 1<sup>st</sup>-order sites on the 6<sup>th</sup> and 20<sup>th</sup>, and at all sites excepting Indianapolis on the 24<sup>th</sup>. The 5<sup>th</sup> saw dewpoints 75+ at all but Marion County airports, as Shelbyville's dewpoint stayed at 75-78F for 12 hours that morning; Terre Haute upped the ante on the 6<sup>th</sup>, ending 21 hours as humid. The 20<sup>th</sup>'s tropical blast saw a 79F dewpoint recorded at both Terre Haute and Shelbyville, before Terre Haute observed an 80F dewpoint on the afternoon of the 24<sup>th</sup>. Frequency of oppressive humidity ranged from 2 days at Indianapolis to 7 days at Terre Haute.

## August 2022 Outlook

The official outlook for August 2022 from the Climate Prediction Center indicates above normal temperatures are likely across all of Indiana. The normal August temperature at Indianapolis **74.7** degrees.

The outlook also indicates below normal precipitation is slightly more likely for central Indiana, except for far southeastern counties where equal chances exist for above, below, or near normal rains. The normal August precipitation at Indianapolis is **3.20"**.

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

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