

# Central Indiana August 2021 Climate Summary

*Tied 12<sup>th</sup> Hottest on record at Indianapolis*

*39<sup>th</sup> Driest on record at Indianapolis*

## Temperatures

August 2021's anomalously hot temperatures averaged about 3 degrees above normal across all of central Indiana, which included both a mild first week and a consistently very warm to hot pattern for the remainder of the month. Heat waves occurred during **August 10<sup>th</sup>-12<sup>th</sup>** and **August 24<sup>th</sup>-29<sup>th</sup>**, wherein nearly all daily temperatures averaged about 10 degrees above normal for most locations. This was the hottest August for the Indianapolis Area since 2016, as well as the first year with an August hotter than July since 2016.

The monthly maximum was reached on the **24<sup>th</sup>** at all 1<sup>st</sup>-order airports, with most locations reaching the mid 90's. A few sites also tied their highest value on the **12<sup>th</sup>**, **22<sup>nd</sup>** and **27<sup>th</sup>**. 97F was the highest mark reached at any COOP site: Tipton 5 SW (Tipton Co.) on the **24<sup>th</sup>** and the Southwest Purdue Ag Center northeast of Vincennes (Knox Co.) on the **25<sup>th</sup>**. The Columbus COOP site (Bartholomew Co.) Peaked at 95F on four days - the **12<sup>th</sup>**, **26<sup>th</sup>**, **27<sup>th</sup>** and **29<sup>th</sup>**. Daytime highs of 90F+ were common through August, tallying at 1<sup>st</sup>-order airports from 8 days at Lafayette to 12 at Shelbyville. Shoals 8 S (Martin Co.) counted 16 days at 90F or higher. The coolest morning for nearly all sites was observed on **August 2<sup>nd</sup>** as widespread low to mid 50's were found across the region, with 50F reported from Crawfordsville 6 SE (Montgomery Co.), to Tipton 5SW, to Farmland 5 NNW (Randolph Co.).

Indianapolis reached 80F or higher on every day, which made it only the fifth time in the Area's 150-year record, or a 30-year return period. Normally 6 days in August have high temperatures under 80F. August 2021's above normal readings were in contrast to the near-normal readings observed in both July 2021 and August 2020.

Site	August 2021 Average Temp	August 2021 Dep from Nml	Highest Temperature	Lowest Temperature
Indianapolis Int'l Airport	77.5	<b>+2.8</b>	94 on 12 <sup>th</sup> , 24 <sup>th</sup>	57 on 2 <sup>nd</sup>
Lafayette	75.5	<b>+3.3</b>	94 on 24 <sup>th</sup>	52 on 2 <sup>nd</sup>
Muncie	77.1	<b>+3.4</b>	94 on 24 <sup>th</sup>	54 on 3 <sup>rd</sup> , 4 <sup>th</sup>
Terre Haute	76.5	<b>+2.9</b>	94 on 24 <sup>th</sup>	53 on 2 <sup>nd</sup>
Bloomington (*)	76.0	<b>+2.7</b>	93 on 24 <sup>th</sup> , 27 <sup>th</sup>	53 on 2 <sup>nd</sup>
Shelbyville	77.5	<b>+3.7</b>	95 on 22 <sup>th</sup> , 24 <sup>th</sup>	54 on 2 <sup>nd</sup>
Indianapolis Eagle Creek	77.5	<b>+3.1</b>	94 on 24 <sup>th</sup>	57 on 2 <sup>nd</sup>

(\*) – Bloomington's data is missing August 5's max temp.

At Indianapolis, July 2021's daily average temperatures were above normal on 23 days and below normal on 7 days. It tied for the 12<sup>th</sup> hottest August for the Indianapolis Area since weather records began in 1871, placing it in the 92 percentile.

# Precipitation

August is normally central Indiana’s driest summer month, as the 3.00-3.50 inches normally seen by most locations is typically 1.00-1.50” Less than June and Julys totals. This year certainly exemplified this climatological pattern with most of the region totaling 1.50-4.00” including only 1.99” at Indianapolis international Airport, which was only 62% of normal.

The highly variable monthly totals across the region were driven by several days of isolated-scattered heavy rains from thunderstorms, particularly during the last two weeks of the month. Several 4.00-6.00” totals were reported across mainly north to north-central and southwest to south-central counties. The greatest totals were 6.64” west of Graysville (Sullivan Co.), 6.51” east of Shoals (Martin Co.), 6.21” in Avon (Hendricks Co.) And 6.09” in Anderson (Madison Co.). However, most locations saw below normal rainfall for the month, some spots significantly so. Lowest reported totals were 0.67” near paragon (Morgan Co.), and 0.70” southwest of Thorntown (Boone co.).

Heaviest daily rainfall reports included **2.17”** southeast of Noblesville (Hamilton Co.) from the storms of the **19<sup>th</sup>**; **4.38”** in Avon on the **25<sup>th</sup>**; **2.34”** Kokomo (Howard co.) on the **26<sup>th</sup>**; **4.40”** in the southeastern portion of Muncie on the night of the **29<sup>th</sup>-30<sup>th</sup>**; and **3.92”** near Shoals on the **30<sup>th</sup>** when flooded roads were reported across Lawrence County.

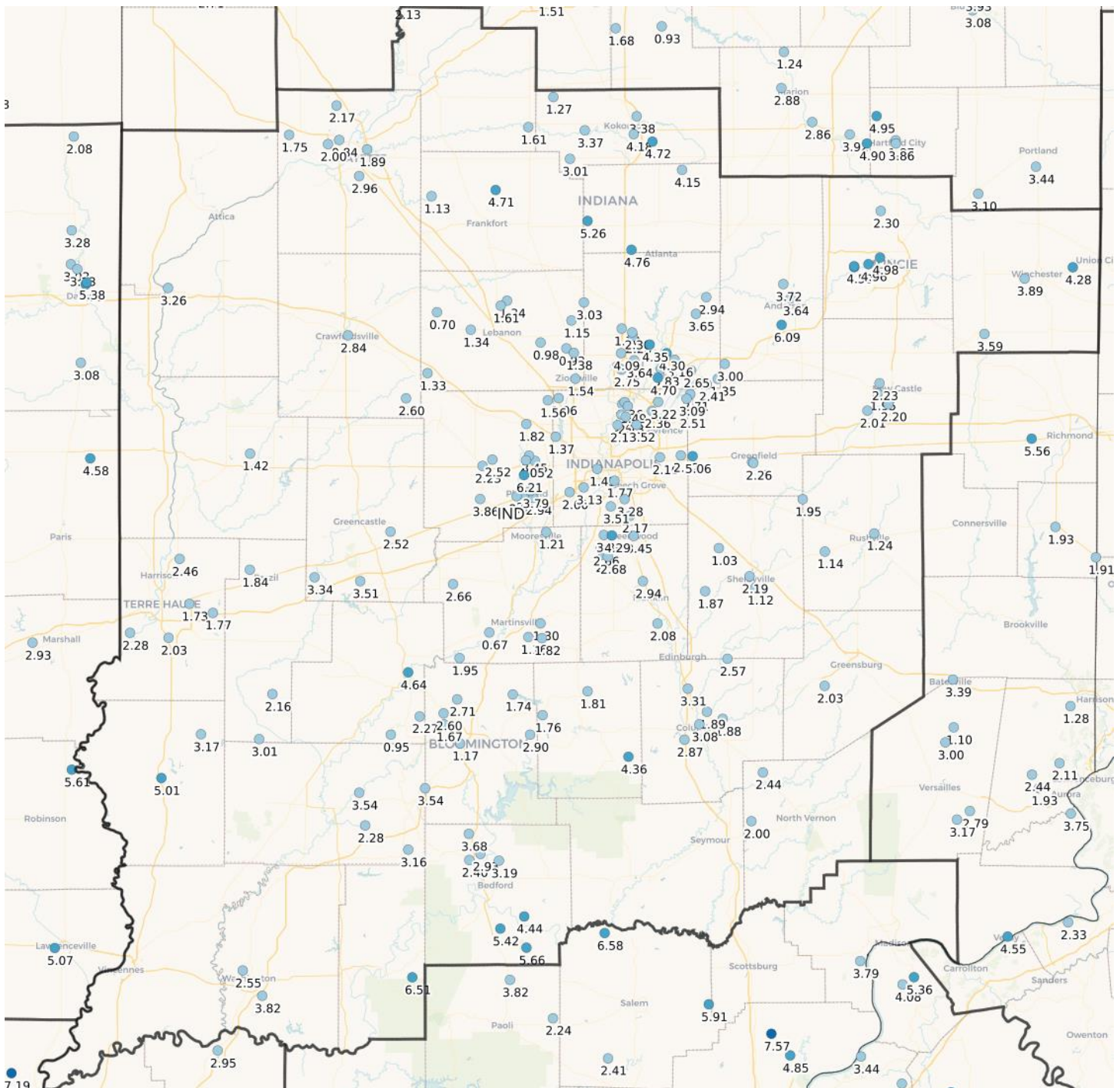
Early August 2021 continued late July’s generally dry trend ... although when focusing on monthly totals, August 2021’s overall dry pattern was in sharp contrast to the anomalously wet June 2021 and July 2021. Despite below normal precipitation in August, Indianapolis’ year-to-date total, **31.31”** through August 31st, is still **0.41”** above normal. August 2021’s dry trend paralleled August 2020, when Indianapolis’ measured only 2.09” for the month.

Site	August 2021 Precipitation	August 2021 Diff. from Normal	Wettest Day	Longest Dry Stretch
Indianapolis Intl AP	6.34	<b>-1.21</b>	1.32 on 25 <sup>th</sup>	6 days, 2-7 <sup>th</sup> & 13-18 <sup>th</sup>
Lafayette	4.40	<b>-0.50</b>	1.00 on 17 <sup>th</sup>	6 days, 1-6 <sup>th</sup>
Muncie (*)	5.25	<b>-0.68</b>	1.30 on 29 <sup>th</sup>	7 days, 2-8 <sup>th</sup>
Terre Haute	6.60	<b>-1.13</b>	0.72 on 30 <sup>th</sup>	9 days, 13-21 <sup>st</sup>
Bloomington (*)	6.68	<b>-1.98</b>	0.53 on 9 <sup>th</sup>	7 days, 2-8 <sup>th</sup>
Shelbyville	7.38	<b>-0.94</b>	1.31 on 26 <sup>th</sup>	12 days, 13-24 <sup>th</sup>
Indy – Eagle Creek (*)	4.10	<b>-2.98</b>	M on 25 <sup>th</sup>	6 days, 2-7 <sup>th</sup>

(\*) – Precipitation data missing on August 30 for both Bloomington and Muncie ... as well as for Indianapolis Eagle Creek on August 25, 26 and 31.

July 2021 was the **39<sup>th</sup> driest** for the Indianapolis Area since weather records began in 1871.

## July 2021 Total Precipitation, Through the Morning of 8/1 As Reported By Central Indiana CoCoRaHS Observers



For the period 700 AM EDT 8/1/2021 -to- 700 AM EDT 9/1/2021. Data is unofficial.

Rainfall totals were greatest over parts of north-central and northeastern counties and isolated parts of southwestern and south-central counties...while most of central Indiana was below normal.

# Severe Weather

August 2021's severe weather was reported across 8 different days. While some afternoons/evenings had widely scattered to widespread thunderstorms, severe winds and hail were generally isolated ... excepting the intense rains and damaging winds of **August 25<sup>th</sup>** that impacted Indianapolis and adjacent counties on. On **August 7<sup>th</sup>** a pulse storm dropped quarter (**1.00"**) to half dollar (**1.25"**) hail across Randolph County, before curling it's motion to the southwest and then downing trees near Glenwood (Rush Co.). The **11<sup>th</sup>** saw afternoon cells combine into a strong squall line across northeastern counties, with a lone report of a metal warehouse partially collapsing on the south side of Muncie. Then on the **12<sup>th</sup>** an upper wave passing above the hot and very humid low levels led to an organized late day squall line, which produced damaging winds across southwestern zones: a large tree blew onto power lines near Farmersburg (Sullivan Co.) and large tree limbs were downed near Vincennes (Knox Co.).

The **25<sup>th</sup>** featured a round of strong to severe thunderstorms north of Indianapolis, that then spread through many central/southern counties. Radar indicated numerous **microbursts/downbursts** at times through late morning and early afternoon with minor tree damage reported in Hendricks and Marion Counties. Across this same area and also through southern Putnam and northeastern Owen Counties, storms remained stationary leading to flooding.

Hot and humid conditions continued to set the stage for thunderstorms over the next two days with severe winds impacting Rush County on both occasions: on the **26<sup>th</sup>** several trees were downed from Carthage to Mays ... and on the **27<sup>th</sup>** several more blew down across the county, especially in Rushville where most of the city was without power. An active night of pulse storms spanned the **29<sup>th</sup> - 30<sup>th</sup>** with several reports of damaging winds across northeastern counties: a tree blew into a house near Noblesville (Hamilton Co.), multiple large trees were downed near Alexandria (Madison Co.), and a tree was downed onto power lines in Farmland (Randolph Co.).

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

## Miscellaneous

The month's maximum wind gust at the Indianapolis International Airport was 41 mph (from the west-northwest) on the **12<sup>th</sup>**. Greater peak wind gusts at other 1<sup>st</sup>-order airports included 48 mph at Muncie (from the west-southwest) on the **29<sup>th</sup>**, and 43 mph at both Lafayette (from the west on the **12<sup>th</sup>**) and Bloomington (from the south on the **27<sup>th</sup>**).

Fog was reported at Indianapolis on 11 days - mainly during the second half of the month, with dense fog (visibility  $\leq$  1/4 mile) on the **17<sup>th</sup>** and **25<sup>th</sup>**. All other 1<sup>st</sup>-order airports saw more days with fog, ranging from 14 days at Muncie and Indy-Eagle Creek to 25 at Bloomington. Most sites saw 4-5 days of dense fog, with greatest prevalence on the **17<sup>th</sup>**, **19<sup>th</sup>**, **20<sup>th</sup>** and **23<sup>rd</sup>**. Bloomington reported dense fog on 7 consecutive days during the **17<sup>th</sup>-23<sup>rd</sup>**.

Thunder was reported on 9 days at Indianapolis, with the frequency at other airports ranging from 6 days at Terre Haute to 10 at Indy-Eagle Creek.

## September 2021 Outlook

The official outlook for September 2021 from the Climate Prediction Center indicates an equal chance of above, below or near normal temperatures for central Indiana. The normal September temperature for Indianapolis is 67.8 degrees.

The outlook also indicates equal chances of above, below or near normal precipitation for the northwestern half of the region ... with a slightly greater chance of above normal precipitation for the southeastern half of the region. The normal September precipitation at Indianapolis is 3.14".

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

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