

The trend section in the graphic above provides a comparison between the current month's data and that of the previous calendar month. A change in the statistic of 5 or more is required for a trend arrow to be displayed as either up or down. If the change is less than 5, a white dash is used to indicate that the data remained relatively similar to the previous month.

Coordinator Update
Andrew White, NWS Indianapolis

September seemed to be a feast or famine month for precipitation. For the majority of the month, up until the 22nd, the average total precipitation among stations remained remarkably low, measuring less than an inch. Between September 23rd-28th, an average of 2 to 2.5 inches of rain fell amongst reporting stations. Thanks to all of you for keeping up on your zeroes through that very dry stretch!

As freezes become more frequent into November, now is the time to be sure to bring inside your funnel and inner tube during periods of sub-freezing temperatures after a rain. If you're unsure as to whether it will freeze, you can always bring in those items for the season and bring them out next spring.

We'd also like to recognize the 19 new Indiana observers (Adams, Bartholomew, Cass, Hamilton [3], Hendricks, Jackson, Jay, Johnson, La Porte, Monroe, Morgan [2], Noble, Randolph, Tippecanoe, Wells, Whitley) that joined CoCoRaHS in the last month. Thanks for joining the team!

Indiana's Precipitation Report
Austin Pearson, Indiana State Climate Office

Despite an exceptionally dry start to September, the remnants of Hurricane Helene brought much-needed relief to portions of Indiana. The heaviest precipitation totals were recorded in southern Indiana, with reports of more than 8 inches in Floyd County (Figure 1). Areas south of Indianapolis observed between 125% and over 200% of normal precipitation. In contrast, northern areas received less than 75% of normal precipitation, with some locations experiencing as little as 25% of the usual amounts. Statewide, Indiana received 3.09 inches of precipitation in September, which was 0.2 inches below normal, or 94% of the the 1991-2020 climatological normal.

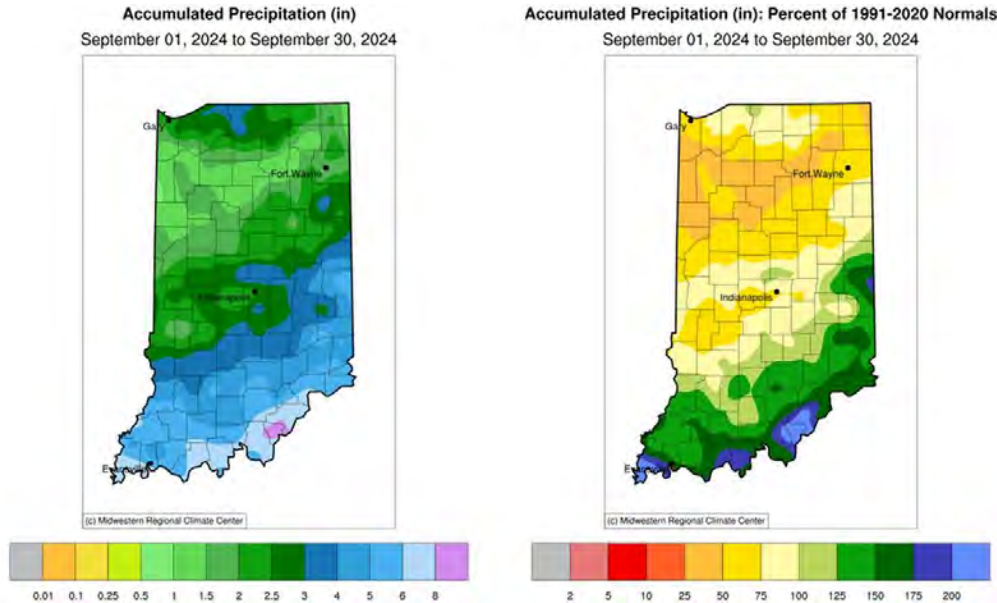


Figure 1: Left - September 2024 accumulated precipitation. Right - September 2024 accumulated precipitation represented as the percent of the 1991-2020 Normals.

It's been dry through the first 27 days of October. The map on the left in Figure 2 shows precipitation totals from National Weather Service (NWS) COOP stations, while the map on the right includes data from both CoCoRaHS and NWS COOP stations. The addition of CoCoRaHS data helps detect variations in precipitation across the state. Precipitation totals range from negligible amounts to over 2 inches. Remarkably, much of the southwestern quarter of Indiana recorded less than 0.05 inches. Central and southeastern parts of the state generally show lower precipitation levels, with less than 1 inch measured.

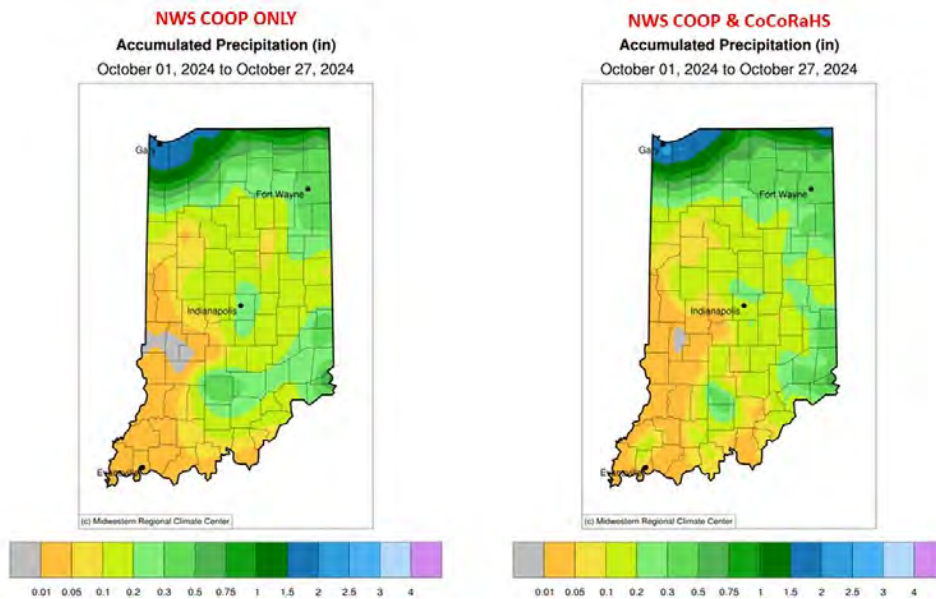


Figure 2: Left - September 2024 accumulated precipitation only including NWS COOP stations. Right - September 2024 accumulated precipitation including NWS COOP and CoCoRaHS stations.

Precipitation departures are significant in October, with deficits ranging from 2 to 3.5 inches below normal, especially in central and southern Indiana (Figure 3). These shortfalls amount to less than 10% of the 1991-2020 climatological normals. Although the deficits are less

pronounced along the northern border of the state, long-term shortages continue to sustain drought conditions.

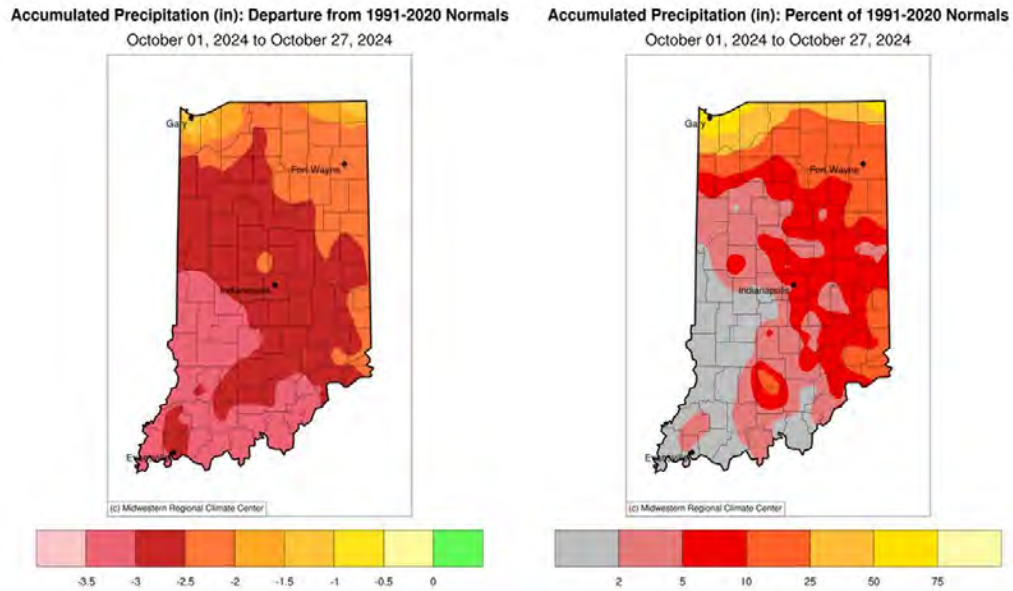
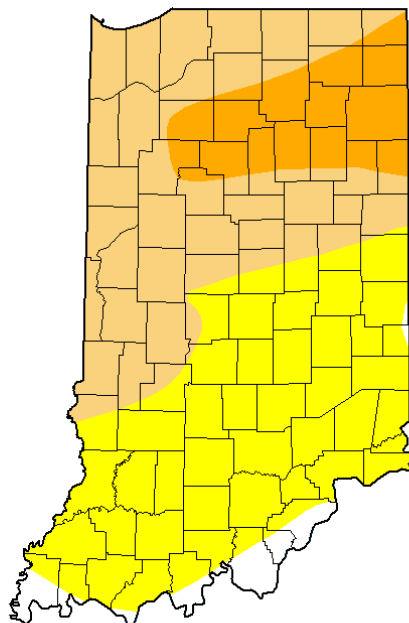


Figure 3: Left - Accumulated precipitation represented as the departure from the 1991-2020 normals. Right - Accumulated precipitation represented as the percent of the 1991-2020 normals.

The effects of late September rainfall are quickly diminishing as drought conditions continue to spread southward across Indiana. As of October 22, the US Drought Monitor classified over 96% of the state as either abnormally dry (D0), experiencing moderate drought (D1), or severe drought (D2), with more than half of the state officially in drought status (Figure 4). Vegetation is increasingly drying out, and there are growing reports of field and ditch fires. Consequently, 43 counties have implemented burn bans, which can be monitored here: <https://www.in.gov/dhs/burnban/>.

We ask that you please continue reporting days with zero precipitation as these are pertinent for assessing stretches of dry weather!

U.S. Drought Monitor Indiana



October 22, 2024
(Released Thursday, Oct. 24, 2024)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	3.69	96.31	51.57	13.76	0.00	0.00
Last Week 10-15-2024	3.78	96.22	43.82	10.52	0.00	0.00
3 Months Ago 07-23-2024	88.81	11.19	0.00	0.00	0.00	0.00
Start of Calendar Year 01-01-2024	10.70	89.30	81.12	12.88	0.00	0.00
Start of Water Year 10-01-2024	6.65	93.35	17.54	0.11	0.00	0.00
One Year Ago 10-24-2023	23.07	76.93	62.53	0.00	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

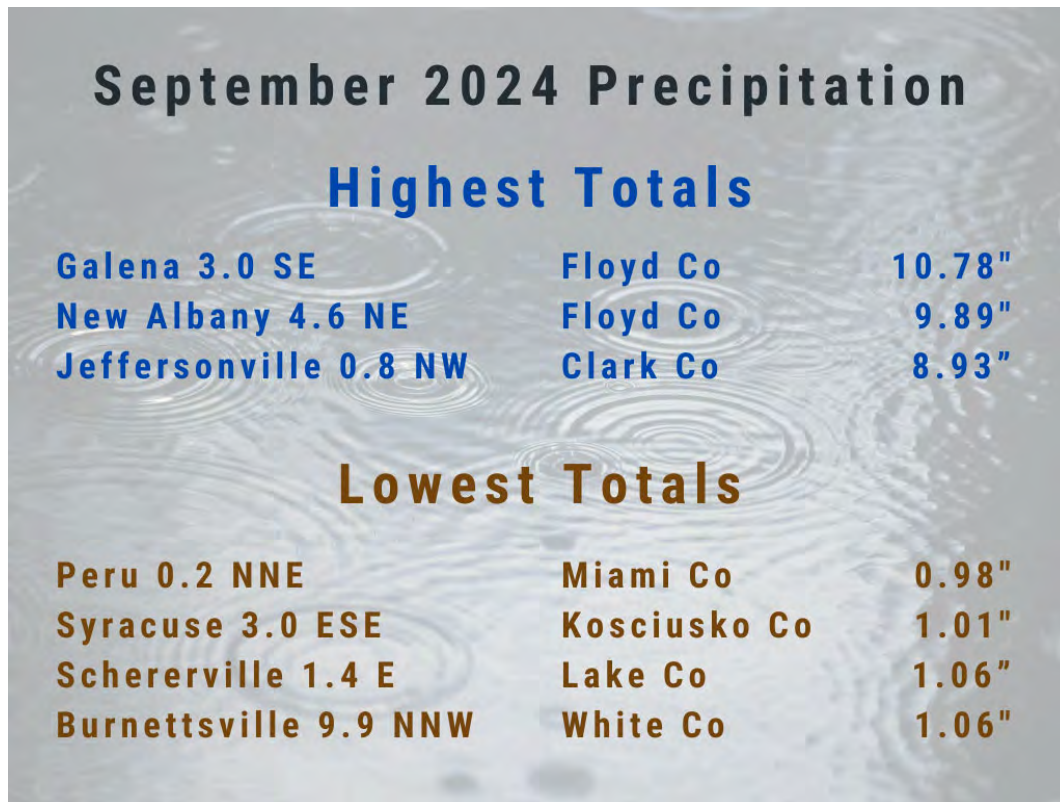
Author:

Rocky Billotta
NCEI/NOAA



droughtmonitor.unl.edu

Figure 4: October 22, 2024 US Drought Monitor Map.



Stations considered had 100% daily precipitation reports.

Keeping Track of Your Observations
Adapted from Steve Hilberg, CoCoRaHS

Maintaining a written record of your observations at your station, in addition to entering them online via computer or phone, is a prudent practice. This can be accomplished through various means, such as using a simple calendar, creating a note file on your smartphone, or utilizing the downloadable [Rain/Snow form available on the CoCoRaHS website](#) under the Resources menu. For those who prefer electronic record-keeping, an Excel spreadsheet is also available for download. The importance of keeping a separate record beyond what is entered on the CoCoRaHS website cannot be overstated. It serves as a valuable backup and provides a reference point should questions arise about your observations. Additionally, you could opt to print out your observations every week or two for verification purposes. This practice of maintaining backup records could potentially benefit the 60 to 70 observers who miss only one or two observations each month, potentially allowing them to achieve complete records if they had a secondary source to consult.

Freezing Weather and Your Rain Gauge
Adapted from Steve Hilberg, CoCoRaHS

Most of Indiana had a freezing event in Mid-October. Regarding rain gauge maintenance during freezing weather, observers should be aware of potential issues, though immediate action isn't necessary. In about a month, precautions will need to be taken. The primary concern is the inner measuring tube, which can crack if a substantial amount of water freezes inside due to its narrow diameter. Generally, amounts up to 0.10 inches won't pose a problem. It's important to remember that if water does freeze in the tube, it must be allowed to thaw before taking measurements. The outer tube is typically less susceptible to freezing-related damage.



As nighttime temperatures consistently drop below freezing, it's recommended that observers remove the inner measuring tube and funnel, leaving only the outer cylinder to collect precipitation. This is especially crucial when precipitation is expected

followed by freezing temperatures. In preparation for snowfall, both the funnel and inner measuring tube should be removed to prevent snow from clogging the funnel. Many observers opt to remove these components for the entire winter season to avoid complications during freezing weather. A helpful tip is to have an extra outer cylinder on hand. This allows for easy swapping on days when snow or ice accumulates in the gauge, ensuring no precipitation is missed during observation times. Additional outer cylinders can be purchased from weatheryourway.com for those interested in this approach.

Here Comes Winter - Online Training in November
By Nolan Doesken, CoCoRaHS

Our friends and CoCoRaHS Coordinators in Minnesota are graciously hosting four webinars for winter observing. Of course, as usual, if you are not up for the challenge (and fun!) of measuring snow, don't feel bad by taking the winter off, or skipping a particular measurement if the conditions are too treacherous. Safety is the number one priority. Please see below for the announcement and links to register:



We are bringing back our seasonal webinar on winter observing, just for our CoCoRaHS observers! This will be a great opportunity for everyone -- from those who have never measured snow to seasoned reporters. Even the meteorologists at the National Weather Service get a training refresher on how to measure snow as the change of seasons rolls around. We will be covering all the different observations you can make in the winter, tips and tricks to smoothly navigate the challenges winter observing throws your way, and take any questions you may have. We will have four virtual classes, and a recording will be available after that. All classes will have the same content, but you're welcome to attend more than one.

Classes below are shown in Eastern Time Zone:

- [Tuesday, November 5th at 2pm](#)
- [Saturday November 9th at 11am](#)
- [Monday November 11th at 7pm](#)
- [Tuesday November 19th at 7pm](#)

To register for a class, click on the link for the date and time you're interested in above and fill out your information. You will receive reminder emails as the webinar date gets closer, which will come from NWS Duluth. These webinars are not required, but we strongly encourage everyone to review best winter observing practices! For some, these may be after the first snow falls, so come with your questions that may generate!

Here are some additional CoCoRaHS resources for measuring and making sure you're entering your data in the correct places on the form:

- [Winter Weather Measurements - Training Slide Show](#)
- [YouTube animations Snow Training playlist](#)
- [Glossary of Terms](#)
- [Cheat-sheet for what to measure and where to report it](#)
- [Hilberg's tips about all the different Winter Precipitation Types](#)

If You Move, or Change Your Email Address

If you're moving to a new home and want to keep participating in CoCoRaHS, please let us know as soon as possible. Your observations are tied to a specific location, so we want to make sure that your new observations are correctly associated with your new address. Observations are most valuable when they are consistent at one location, so you might also suggest to the new owner or tenant of

your current home that they consider joining CoCoRaHS. We have a [brochure](#) available for download, print, and distribution.

Once you have your new address, inform [us](#) so we can close your old station and set up a new one at your new location. Please avoid signing up for CoCoRaHS again yourself. Once we've set up your new station, you can start entering observations from your new location. If you're moving to a different state, we can connect you with the state coordinator there to help you get started.



If you change your email address, please update your record in the CoCoRaHS database by logging in, selecting "My Account" from the top menu, and clicking "Edit" in the "My Information" section. Make your updates and click "Save."

Also, send a quick message to in-sco@purdue.edu with your new email address so we can update our newsletter mailing list, which is maintained separately from the main CoCoRaHS database.

CoCoRaHS Newsletter Archive

If you are interested in viewing past issues of The Hoosier Observer, visit the [Newsletter Archive](#) located on the Indiana State Climate Office Website.



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