



The Hoosier Observer

Indiana CoCoRaHS monthly e-newsletter

November 2023

October 2023 Statistics

Total observers reporting	557
Observers with no missing reports	329
Percent of total	59
Average Daily Reports per Day	464
Max # of Daily Reports and Day	501/6
Significant Weather Reports	8
Condition Monitoring Reports	36
E-T Reports	142

November Coordinator Update

We snuck one last 500 report day into the month of October to finish out the year. We'd like to thank all of our seasonal observers as they begin to wrap up for the year and we look forward to seeing you come back in the spring!

As we move into the colder months where overnight freezes become frequent to near constant, be sure to remove the inner tube of your gauge to avoid any cracking or breaking. Some choose to keep the inner tube out through early March, which is the way to go if you aren't actively checking overnight temperatures.

We'd also like to recognize the 7 new Indiana observers (Allen, Daviess, Gibson,

October 2023 Precipitation

The statewide total precipitation for October 2023 was 3.43 inches, which was a tenth of an inch above normal or 103 percent of normal. Precipitation was variable though, as central and southern Indiana received between 75 and 96 percent of normal precipitation for the month (Figure 1). Northern Indiana observed the most precipitation as locations neared 150 percent of normal precipitation.

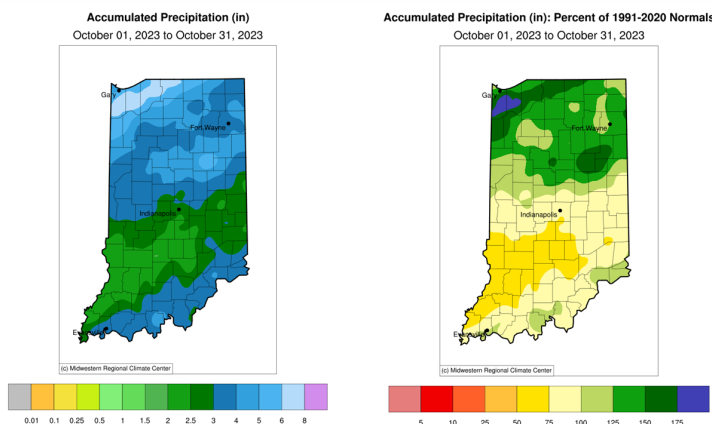
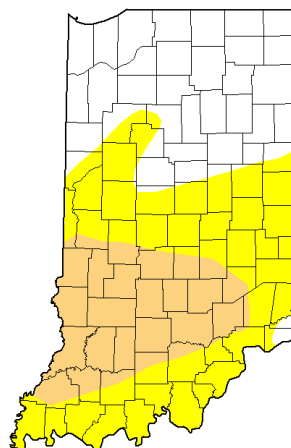


Figure 1: Left - Accumulated precipitation for October 2023. Right - Accumulated precipitation represented as the percent of 1991-2020 climatological average. Click for a larger image.

The month began with over 99 percent of the state in either abnormally dry (D0) or moderate drought (D1) in the US Drought Monitor. By the month's end, just over 63 percent of the state was in either D0 or D1 status (Figure 2).

U.S. Drought Monitor Indiana



October 31, 2023
(Released Thursday, Nov. 2, 2023)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	36.84	63.16	23.94	0.00	0.00	0.00
Last Week 10-24-2023	23.07	76.93	62.53	0.00	0.00	0.00
3 Months Ago 08-01-2023	46.31	53.69	19.37	0.00	0.00	0.00
Start of Calendar Year 01-03-2023	6.84	93.16	58.37	1.34	0.00	0.00
Start of Water Year 09-26-2022	1.38	98.62	85.30	0.00	0.00	0.00
One Year Ago 10-01-2022	1.71	98.29	55.49	0.07	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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:
Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu

Figure 2: October 31, 2023 US Drought Monitor. Click for larger image.

Hamilton, Monroe, Tippecanoe [2]) that joined CoCoRaHS in the last month. Thanks for joining the team!

Archived Newsletters

If you are ever interested in viewing past issues of *The Hoosier Observer*, visit the [State Newsletter Archive](#) on the CoCoRaHS website and scroll down to Indiana. You may also access other state newsletters from this website as well.

Highest and lowest precipitation totals for October 2023:

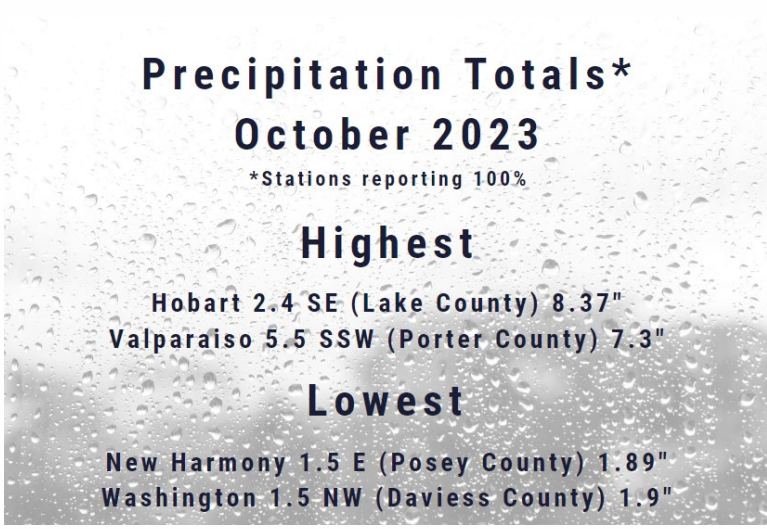


Figure 3: Highest and lowest precipitation totals for CoCoRaHS observers reporting 100% of data for October 2023. Click for larger image.

What is in Store for the Winter?

That's a great question. As a whole, November has been drier and warmer than normal. The entire state has seen less than 50 percent of normal precipitation through the first 27 days of November. Average temperatures ranged 1-3F above normal so far (Figure 4).

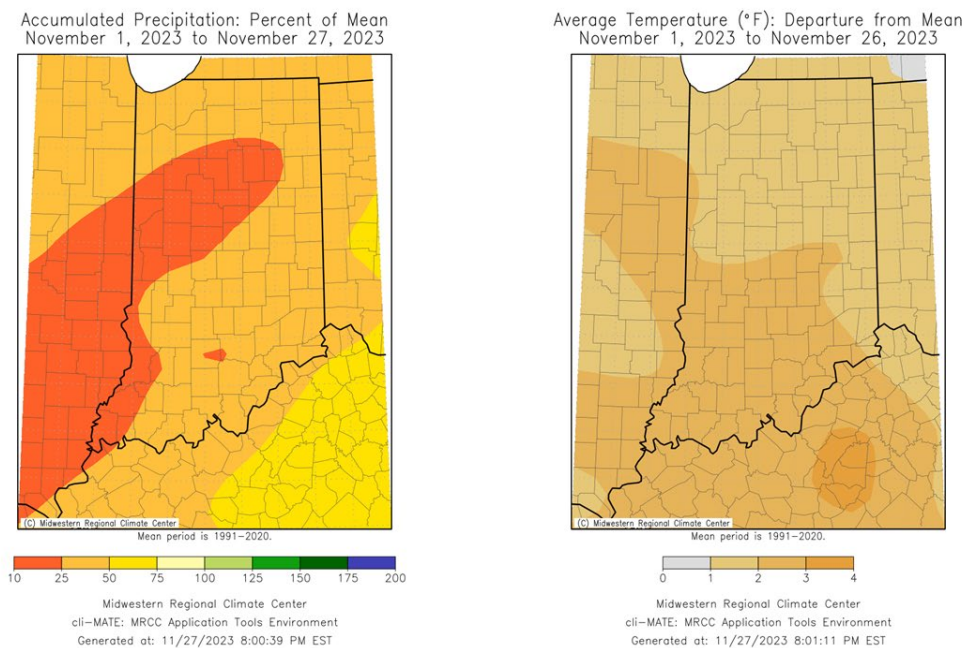


Figure 4: Left-Accumulated precipitation for November 1-27 represented as the percent of the 1991-2020 climatological average. Right-Average temperature represented as the departure from the 1991-2020 normal temperature.

Colder conditions settled in during the last week of November, just in time for Thanksgiving. Northern Indiana also saw accumulating snow November 26-27. A gradual warmup is on the way and the Climate Prediction Center's Outlooks indicate elevated chances for above-normal temperatures into December. The current El Niño does not look to subside anytime soon and the Climate Prediction Center's winter outlook heavily favors typical El Niño patterns - above-normal

temperatures and below-normal precipitation (Figure 5).

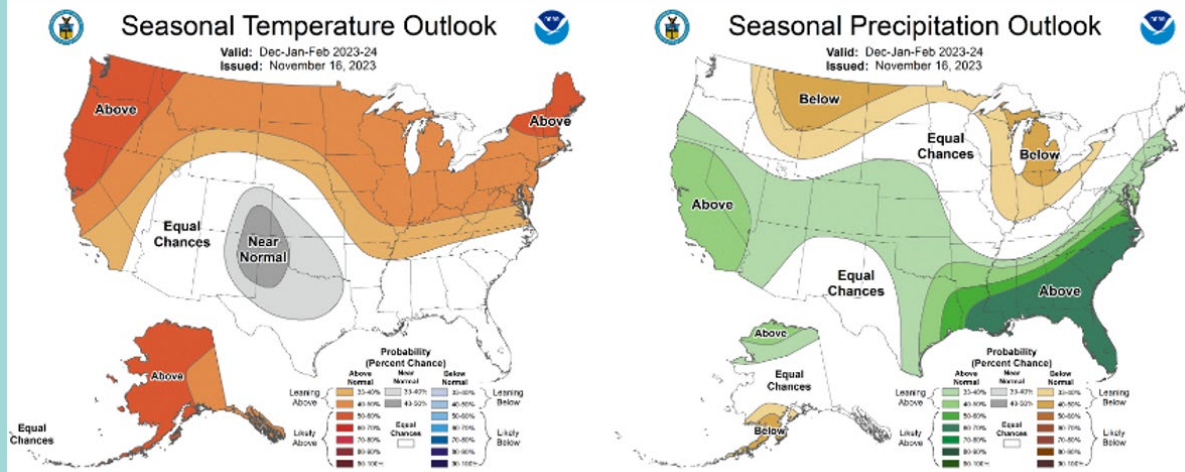


Figure 5: Climate Prediction Center's December, January, February temperature and precipitation outlook.

Be on the lookout for a winter outlook discussion from the Indiana State Climate Office in the coming week. Follow the [Indiana State Climate Office on Facebook](#) for updates.

Preparing for Winter Precipitation Measurements

By Steve Hilberg

Remember to remove your inner measuring tube and funnel from your rain gauge prior to any event that may be followed by freezing weather. This is also a good time to check both the inner tube and outer cylinder for leaks. If rain accumulates in the inner tube and freezes it could cause the tube to crack. Snow and other frozen precipitation do not pass through the funnel. It is usually easier to just leave the funnel and inner tube out the entire winter and not risk getting caught with them out in freezing weather. This does require you to pour any liquid precipitation from the outer tube into the inner tube to measure, similar to when you are measuring amounts more than an inch. Many observers find that having an extra outer cylinder is very handy not only during the winter, but also in the warm season. It's easy to swap out cylinders and bring one in for melting and measuring, even if it is still snowing.

If you will be measuring and reporting the depth of new snow it's a good idea to have a snowboard. You can make your own snowboard by cutting a piece of 1/2" to 3/4" plywood to a 16' X 24" rectangle (you can make it a little larger if you wish) and then painting it white. Place the snowboard by your rain gauge or in an area that is not subject to drifting. Be sure to mark it with a flag or a driveway reflector so you can locate it once snow has fallen.

This is a perfect time to review winter precipitation measurement procedures. One of the easiest and entertaining ways to do this is view the series of short training videos available on the [CoCoRaHS YouTube channel](#).

Training Animations ▶ Play all

CoCoRaHS Training Videos

Getting Started with CoCoRaHS - The Basics of... CoCoRaHS HQ 91K views • 9 years ago	Measuring Hail CoCoRaHS HQ 13K views • 8 years ago	How to Measure Extreme Rainfall CoCoRaHS HQ 36K views • 10 years ago	Setting up for Measuring Snow CoCoRaHS HQ 20K views • 11 years ago	Daily Precipitation When It Snows CoCoRaHS HQ 14K views • 11 years ago

We also wanted to draw your attention to the [CoCoRaHS Guide to Measuring Snow](#). There are

various resources on this page to have you prepared for the 2023-24 winter season.

Measuring Snow

Guide to Measuring Snow

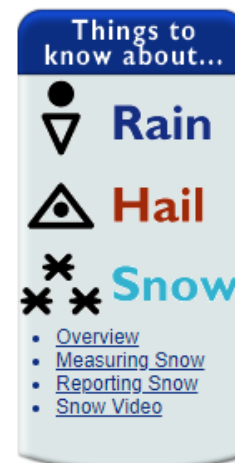
- [Equipment](#)
- [Measuring Precipitation](#)
- [Measuring Snowfall](#)
- [Reporting Snowfall](#)
- [Snow Depth](#)
- [Snow Cores](#)
- [The Snow booklet](#)

[Measuring Snow Video](#)

[NEW! - Animated Snow Training Shorts on YouTube](#)

[Measuring Snow - One Page Tip Sheet](#)

[Measuring SWE - Training Slides \(PDF\)](#)



Equipment

1. The 4" diameter rain gauges that we use for CoCoRaHS can be used for measuring the water content of snow. However, **you must remove the inner measuring cylinder and funnel** for measurements of snow water content and other freezing/frozen precip. The inner tube can easily crack and break if moisture collects and then freezes. But keep the funnel and measurement tube handy indoors —you'll need it.
2. Have a ruler or yardstick ready (ideally one that measures in inches & tenths).
3. You should have a snow board (a flat board, **painted white**, ideally about 16" x 16"). They come in very handy for measuring snowfall. If not, that's OK, but you will need to identify a good representative location that is as flat and level as possible where snow accumulates uniformly and does not melt prematurely. Wooden decks are OK, but they should be at least 20-30 feet away from your house since your house will affect snow accumulation patterns.
4. You may need to have warm water handy.

Holiday Gift Ideas for the CoCoRaHS Observer

By: Steve Hilberg

If you are looking for gift ideas for a friend or family member who is a CoCoRaHS observer, or want some ideas for your wish list, we have a few. All of these can be purchased at www.weatheryourway.com, and there are lots of other weather-related items on their web site.

An extra outer cylinder is a good idea not only for winter measurements but for measurements all year 'round. It's a lot easier to swap out cylinders if it's raining or snowing at observation time, then bring in the cylinder with precipitation inside to measure. Plus, you always have one handy in case one is damaged and can't be used. The new Tropo premium rain gauge is also available through weatheryourway.com

For those who get into measuring snow, a snow measuring ruler, graduated in tenths of an inch is a great idea. It



saves having to convert the eighth-inch measurements on a standard ruler into tenths.

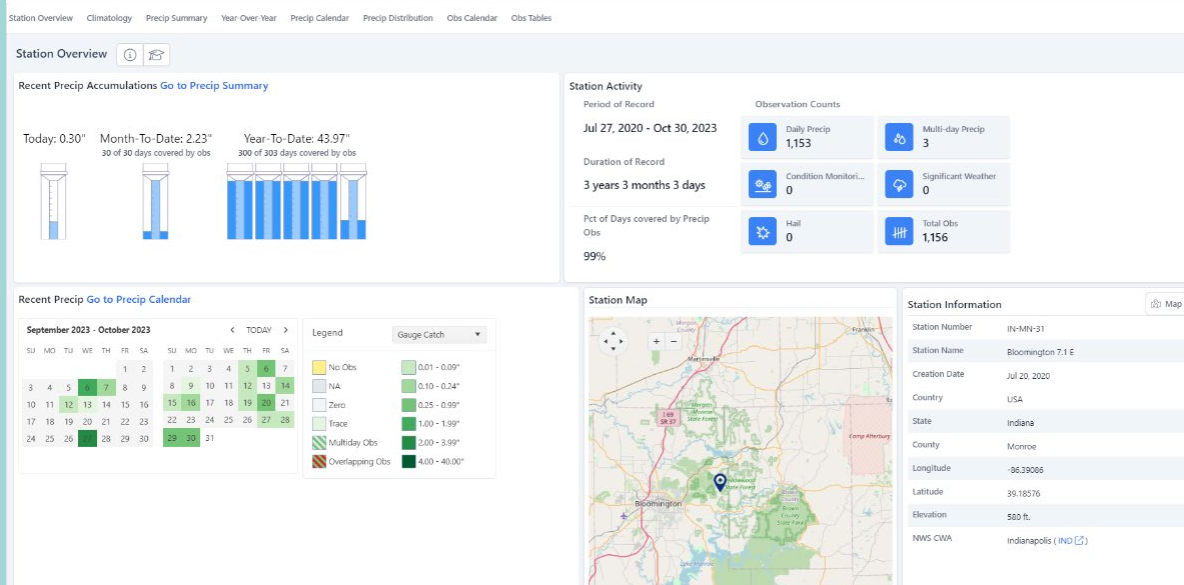
CoCoRaHS apparel is also available - t-shirts, sweat shirts, polo shirts, and caps - all with the CoCoRaHS logo. Decals are also available.

Here is something to proudly identify their participation in CoCoRaHS. These plastic signs, featured above, come in two sizes and have enough room at the bottom to add your station number with vinyl stick on letters and numerals.

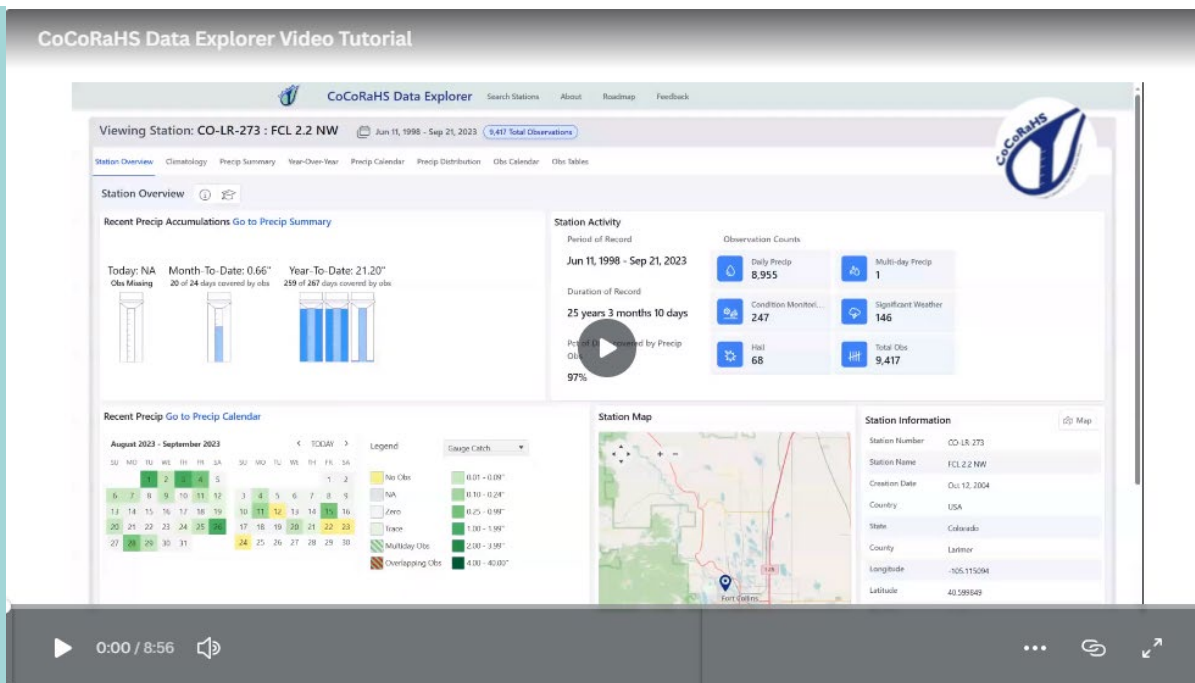
[In Case You Missed it... New CoCoRaHS Data Explorer has Arrived](#)

The [CoCoRaHS Data Explorer](#) was released on September 27th! Development of the CoCoRaHS Data Explorer was made possible by a grant from the NOAA's Office of Education, as well as donations from CoCoRaHS observers and supporters. The goal of the Data Explorer is to provide observers and other users easy access to their data using innovative data visualization products.

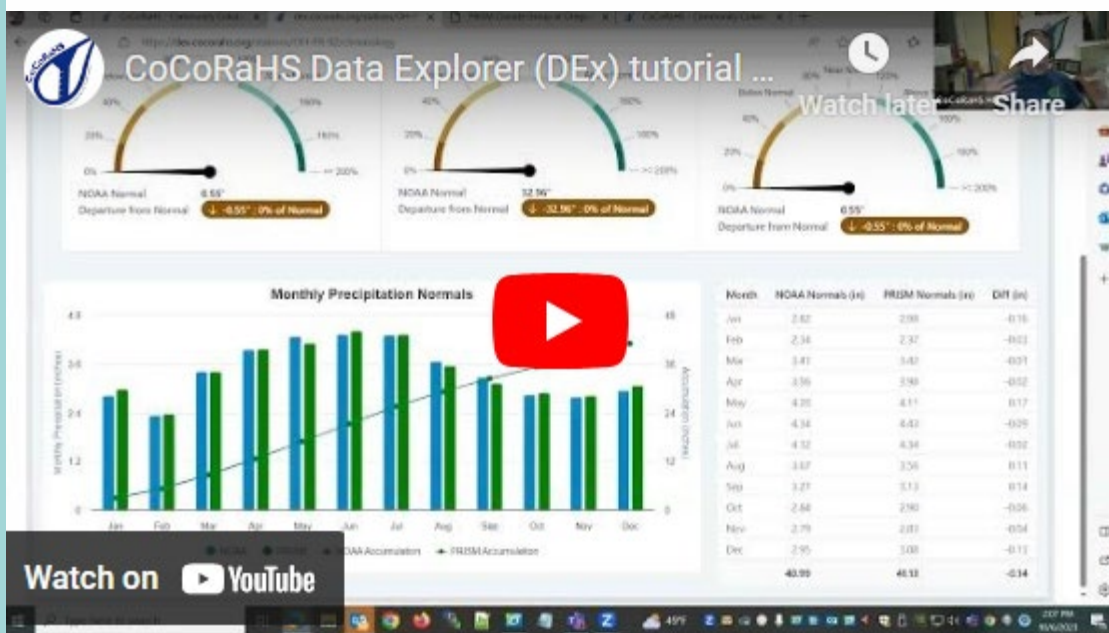
As with all things CoCoRaHS, the Data Explorer is a work in progress. We believe that it provides capabilities not previously available in other CoCoRaHS data tools. The Data Explorer will be improved based on [feedback](#) from observers and data users. Below is an example of the dashboard for Bloomington 7.1 E, located in Monroe County.



There are two tutorial videos - the first is a short version and the second is a deeper dive that covers many more features found in the tool:



In-Depth tutorial - Recorded Webinar on YouTube:



If You Move, or Change Your Email Address

By Steve Hilberg

If you are moving to a new home and want to continue to participate in CoCoRaHS, please let us know as soon as possible. Your observations are tied to a specific location, so we don't want observations from your new location associated with your previous location. The value of the observations are increased by their continuity at a location, so consider suggesting to the buyer or new tenant of your home that they participate in CoCoRaHS! We have a brochure that you can download, print and give to them.

When you know your new address, let us know. When you are ready, we will close your old station and open a new station at your new address (DO NOT sign up for CoCoRaHS again). Once that's done, you can enter observations from your new location. If you are moving to a different state, we can help you get in touch with that state coordinator so you can get started

there.

Let us know if you change your email address so that your record is up to date. You can update your email address in the CoCoRaHS database yourself by logging in and clicking on My Account in the top line menu. Click on Edit in the My Information box. Make any corrections, then click save.

Please also send a message to in-sco@purdue.edu with the email change as well so we can update your address on our newsletter mailing list. This list is maintained separately from the main CoCoRaHS database.



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