



The Hoosier Observer

Indiana CoCoRaHS monthly e-newsletter

July 2024

June 2024 Statistics

Total observers reporting	612
Observers with no missing reports	337
Percent of total	55
Average Daily Reports per Day	489
Max # of Daily Reports and Day	532 /14
# Days with 400 Reports	30
# Days with 500 reports	8
Significant Weather Reports	10
Condition Monitoring Reports	56
E-T Reports	206

Coordinator Update

We had another remarkable month, tying our all-time record with an average of 489 daily reports, just like last month. With several days exceeding 500 reports and over 600 active observers, a concerted effort might help us average 500 reports in August.

Recently, there has been a slight increase in observation errors, with the most common being date errors where two reports are entered, but the dates are swapped. If you are not reporting on the day of the event, please double-check that you entered the precipitation on the correct day.

June 2024 Precipitation

Austin Pearson, Indiana State Climate Office

In June 2024, Indiana experienced a statewide total precipitation of 2.79 inches, which was 2.01 inches below the average, or 58 percent of the normal precipitation levels. Almost the entire state saw below-normal precipitation, except for portions of northern Indiana. Precipitation departures ranged from nearly 4 inches below normal in southern Indiana to almost an inch above normal in northern Indiana (Figure 1), which translates to less than 25 percent of normal to 125 percent of normal.

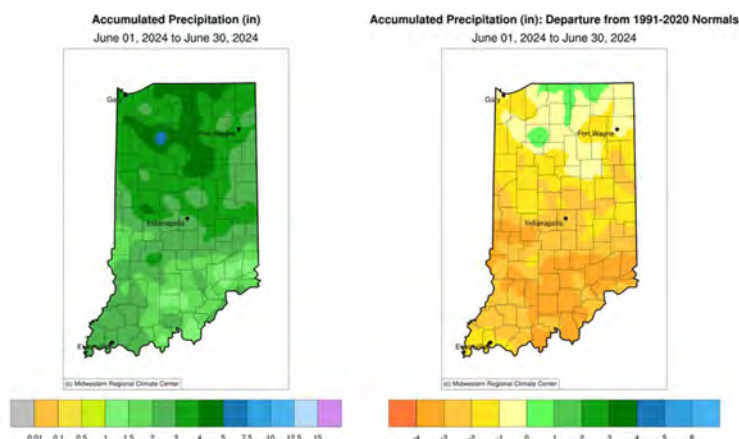


Figure 1: Left - Accumulated precipitation for June 2024. Right - Accumulated precipitation for June 2024 represented as the departure from the 1991-2020 climatological normal. Click for a larger image.

CoCoRaHS station totals, reporting 100 percent of data, ranged from 1.07 inches to 5.92 inches in June. The highest and lowest precipitation totals for stations reporting 100 percent are detailed below (Figure 2).

We'd also like to welcome and recognize the 11 new Indiana observers from Allen, Fayette, Hamilton (2), Kosciusko (3), Lake, Porter, Tippecanoe, and Wabash counties who 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.

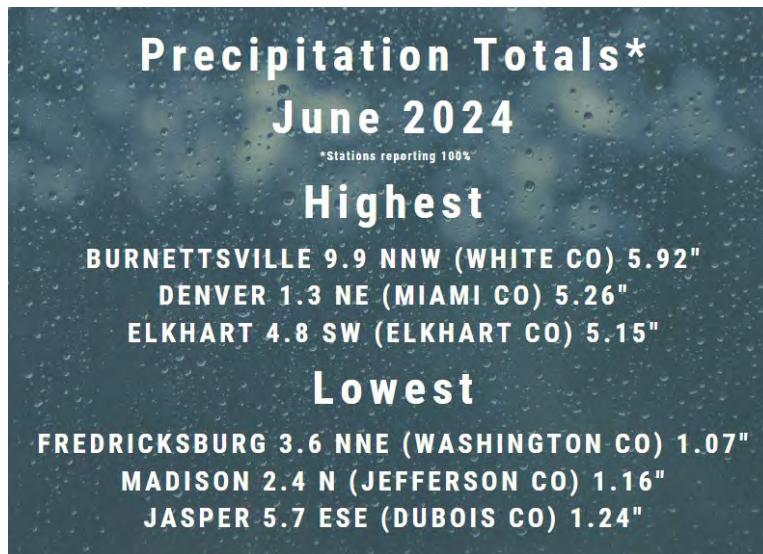


Figure 2: High and low precipitation totals for June 2024 in Indiana. CoCoRaHS stations considered were those that reported 100% of data for June 2024.

As a result of the dry conditions in June, the US Drought Monitor reported that nearly 81 percent of Indiana was experiencing abnormally dry (D0) or moderate drought (D1) conditions by the end of the month (Figure 3). Dormant lawns, reduced streamflows, and increased crop stress were common throughout the state during this period.

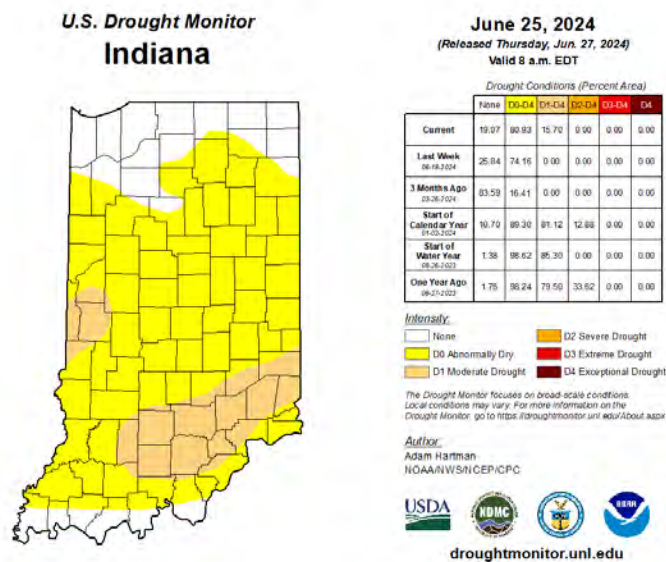



Figure 3: June 25, 2024 United States Drought Monitor Map.

CoCoRaHS Observations and Hurricane Beryl Remnants
 Austin Pearson, Indiana State Climate Office

This month, we tried something new. You likely noticed that we sent out an event-specific observation reminder to boost precipitation observations and capture the impact of the remnants

of Hurricane Beryl (image below). Your response was tremendous, as we had 554 total reports on July 9th.

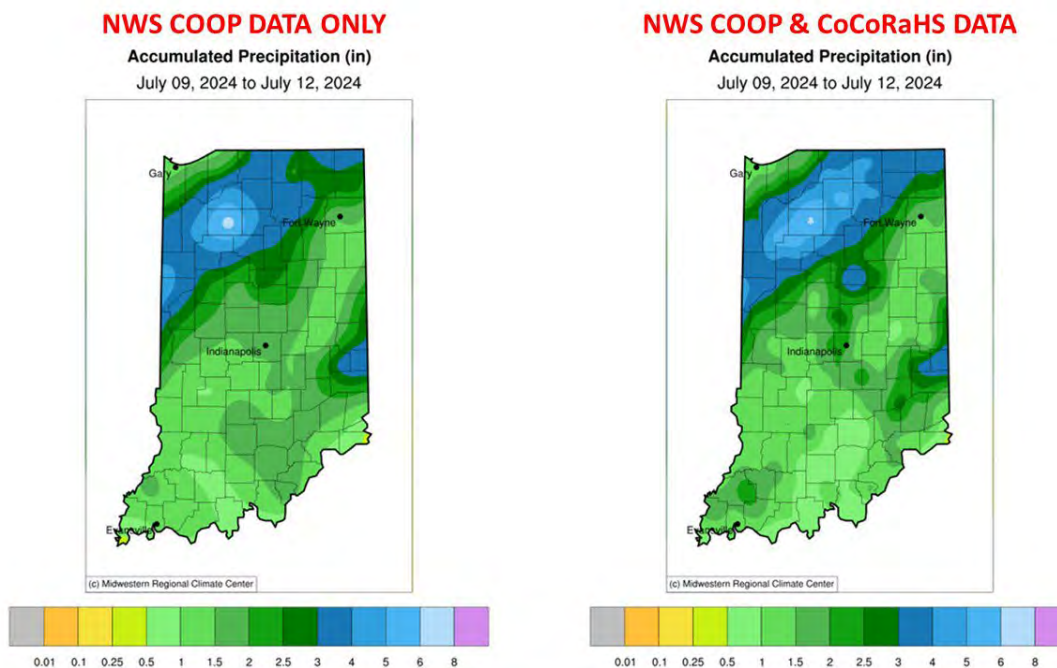


IMPORTANT ANNOUNCEMENT

Indiana CoCoRaHS Observations Needed for Incoming Weather Event

July 9-11, 2024

Below is a comparison between total precipitation observations from NWS COOP data only (left) and combined NWS COOP & CoCoRaHS data (right). The spatial density provided by CoCoRaHS filled in the gaps significantly. This is especially evident in northwestern Indiana, where the area of higher rainfall totals was largely underestimated in the NWS COOP DATA ONLY map. Instead of appearing as a single bullseye over Pulaski County, the area of higher rainfall totals (excess of 5 inches) was more spread out in the NWS COOP & CoCoRaHS DATA map. This isn't the only instance where your data made a difference; many other examples can be seen in central and southern Indiana. Howard County CoCoRaHS observers measured more than three inches of precipitation, whereas the sole NWS COOP station measured less than 3 inches for this period. The same can be seen near Indianapolis.



Thank you for answering the call! Your contributions are invaluable.

Zeros and Drought
Adapted from Steve Hilberg, CoCoRaHS

Drought looked like it was going to be a problem as we moved through June in Indiana, but rain

in the first half of July has alleviated that concern for now.

Knowing where it has *not* rained is just as important as knowing where it did rain when it comes to monitoring the development and decay of drought. The users of the observations you take and enter into the CoCoRaHS database greatly appreciate your efforts. Every report is important, even on the days it does not rain or only rains in a few spots. This is especially true this time of year, when showers and thunderstorms can drop vastly different amounts of rain across short distances.

Below is an example of a month's worth of observations that leaves questions unanswered. The total for the month is in the ballpark with nearby amounts, but is it accurate? The missing observations raise more questions than answers, especially when there are stations nearby that are reporting rain.

Date	Precip in.
06/01/2024	0.08
06/02/2024	0.06
06/03/2024	--
06/04/2024	--
06/05/2024	0.03
06/06/2024	0.12
06/07/2024	--
06/08/2024	0.26
06/09/2024	0.08
06/10/2024	0.01
06/11/2024	--
06/12/2024	--
06/13/2024	--
06/14/2024	0.06
06/15/2024	--
06/16/2024	--
06/17/2024	--
06/18/2024	--
06/19/2024	--
06/20/2024	--
06/21/2024	--
06/22/2024	--
06/23/2024	0.02
06/24/2024	--
06/25/2024	--
06/26/2024	0.44
06/27/2024	0.33
06/28/2024	--
06/29/2024	--
06/30/2024	0.03

"No report" from an observer (--) could mean anything from "I didn't have any rain" to "I am on vacation and there is no one to observe" to "My dog ate the gauge." If we were doing a study involving monthly precipitation totals, this station would not be used because there are 20 missing observations in the month. Typically, the cutoff is 90 percent (3 missing days).

The reports of zero rain are just as important as the reports of two inches of rain. Zeros are a measurement - it means "I observed that I had no precipitation." If you do not report on a day, we cannot assume zero. It takes only seconds to enter that zero report. If you haven't been on the computer for a few days and need to enter zero reports, an easy way to do this is with the Monthly Zeros report. Select this report, check the box on the days on which you had zero, hit Submit, and you're done! The Monthly Zeros report is not yet available on the mobile app.

Please Respond to Questions about Your Observations

Adapted from Steve Hilberg, CoCoRaHS

CoCoRaHS has an active quality control process to ensure the accuracy of the data. Observations are checked daily, and we regularly review later-entered observations as well. When a potential error is found, a "Quality Control (QC) ticket" is submitted, detailing the observation and the reason it may be in error. Almost all suspect values are set to "NA". When we set an observation to "NA", the original value and the reason for the change are always included in the comment field.

If you notice "NA" in place of a number in your list of observations, check the comments for more information. When a QC ticket is submitted, an email notification is sent to your local CoCoRaHS coordinator. They are responsible for contacting you about the observation to either get it corrected or verify an unusually high amount to ensure it isn't flagged as an error.

Please do not ignore emails from your coordinator regarding your observations. If you are unsure of the correct amount or need assistance, please let us know. If you correct the observation, inform us so the QC ticket can be closed. The CoCoRaHS mission is to provide the highest quality data for all users, and your cooperation is vital in achieving this goal.

If you have any questions, feel free to email Andrew White (andrew.j.white@noaa.gov). Thank you for your dedication and support to provide quality data!



Birds on Your Rain Gauge?

Adapted from Steve Hilberg, CoCoRaHS

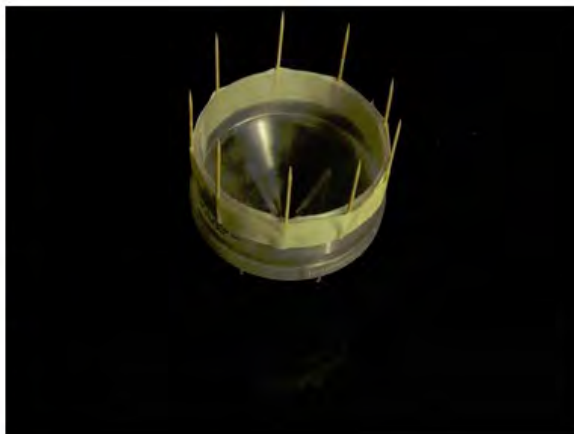
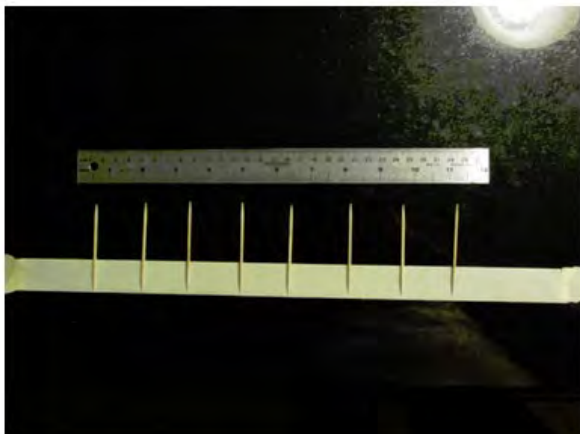
If you haven't discovered this already, birds sometimes decide to use your rain gauge as a perch or a porta-potty. While a perched bird can make for a great photo, more often than not, they leave a mess. Here are a couple effective methods to deter birds from using your rain gauge:

Toothpick Deterrent Method

- Gather Materials:
 - Approximately 14 inches of ¾-inch wide duct tape (you may need to tear a strip from a wider roll).
 - Toothpicks (round ones are preferred for their sturdiness).
- Prepare the Tape:
 - Lay the duct tape adhesive side up on a flat surface.
 - Secure each end of the tape to the surface with a small piece of tape.
- Arrange Toothpicks:
 - Place the toothpicks on the tape about 1 to 1 ½ inches apart.
 - Press them down to ensure they stick well to the adhesive.
- Attach to Rain Gauge:

Once all the toothpicks are in place, cut the tape free at both ends, inside of where you taped it down.

- Wrap the tape with the toothpicks around the edge of the rain gauge funnel, keeping the top edge of the tape at or just below the edge of the funnel.
- Overlap the ends of the tape and press firmly all around the funnel to secure the toothpicks in place.



Alternative Perch Method

Another effective way to keep birds off your rain gauge is to provide them with a more attractive perch nearby. Place a shepherd's hook or similar structure near your rain gauge, ensuring it is higher than the top of the gauge. This will give birds a place to perch and survey their surroundings without using your rain gauge. You can also rig up other structures that offer birds a comfortable and higher perch than your rain gauge.

If You Move, or Change Your Email Address

If you are moving to a new home and want to continue participating 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 increases with 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.

If you change your email address, please update your record to keep it current. 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 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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