The Hoosier Observer

Indiana CoCoRaHS monthly e-newsletter

May 2023

April 2023 Statistics

Total observers reporting	537
Observers with no missing reports	328
Percent of total	61
Average Daily Reports per Day	428
Max # of Daily Reports and Day	250/28
Significant Weather Reports	4
Condition Monitoring Reports	34
E-T Reports	62

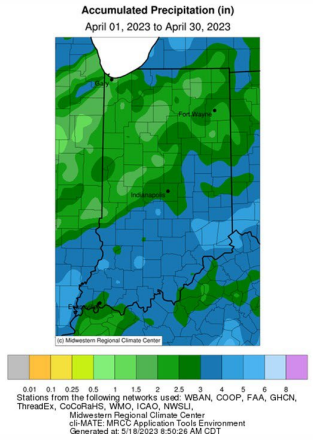
Now that we're moving into the season of spotty convective showers, your daily reports become all the more important. We've had several days in the last week where some stations in a county have had well over an inch while others stayed dry. Without the dense network of reporters, many of these higher precipitation numbers would have been missed.

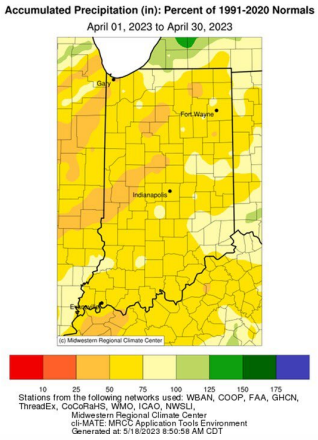
With the spotty precipitation in mind, we also would really like to encourage folks to enter their zeroes on days with no rain. We average over 450 reports on rainy days, but closer to 400 on those dry days. We'd like to get those two numbers as close as possible as a complete dataset is much more valuable to researchers and our partners.

Finally, we'd also like to recognize the 8 new Indiana observers (Allen, Delaware, Hamilton, Jasper, La Porte, Scott, Tippecanoe, White) that joined CoCoRaHS in the last month. Thanks for joining the team!

April 2023 Precipitation in Indiana

Statewide, April 2023 precipitation ran 1.62 inches below normal or 63 percent of normal. Heavier precipitation totals fell south of Indianapolis, ranging from 3 to 5 inches. North of Indianapolis, precipitation values totaled 1 to 3 inches. Most of the state received 50-75 percent of normal precipitation, but locations west and northwest of Indianapolis received less than 50 percent of normal precipitation. Periods of high evaporation demand, red flag warnings were issued by the National Weather Service on a couple of occasions, which contributed to rapid drying in the state. The May 2 US Drought Monitor brought abnormally dry conditions (D0) in western Indiana as a result.





Data from stations that had 100% reporting for April are as follows: The highest precipitation total in Indiana (4.74 inches) was measured at (KC9RPX) ELLETSVILLE 0.5 W, located in Monroe County, and was 0.68 inches below the 1991-2020 climatological normal. This observer measured 1.48 inches on April 6. SHOALS 4.0 E, located in Martin County, measured the second most precipitation at 4.72 inches and the highest single-day maximum total was 2.61 inches on April 6. This was the highest single-day maximum in the state for April 2023.

HOBART 1.6E, located in Lake County, measured 0.81 inches for April, which was the lowest total in the state. This station observed 0.60 inches on April 1. The second lowest total in Indiana was 1.18 inches at ROCHESTER 2.4 NW (Fulton County).

Archived Newsletters

If you are ever interested in viewing past issues of *The Hoosier Observer*, go to the CoCoRaHS.org home page and then find "State Newsletters" among links within the left-side Resources list.

Recent Localized Rainfall

Warm Temperatures and Below-normal Precipitation Forecasted

By Austin Pearson, Climatologist, Indiana State Climate Office

Cool mornings and warm afternoons have made conditions pleasant across the state. Through the first 17 days of May, temperatures ran 1.5F above normal (Figure 1). Indiana Climate Divisions 1 and 7 had the largest departures, which were 2.1F and 2.0F above normal, respectively.

Climate Division Data by State between Two Dates
From Midwestern Regional Climate Center

Indiana
5/ 1/2023 to 5/17/2023

	Temperature			Precipitation			
cd	temp	norm	dev	prcp	norm	dev	percent
1	60.2	58.2	2.1	2.16	1.99	0.16	108
2	59.3	57.6	1.7	2.09	1.90	0.19	110
3	58.3	57.2	1.1	1.92	1.78	0.14	108
4	61.6	59.7	1.9	2.06	2.26	-0.20	91
5	60.2	59.1	1.1	1.78	2.31	-0.53	77
6	58.9	58.2	0.7	1.95	2.19	-0.24	89
7	64.1	62.1	2.0	2.50	2.83	-0.34	88
8	63.1	61.4	1.7	2.32	2.82	-0.50	82
9	61.0	60.6	0.4	2.02	2.68	-0.65	76
State	60.9	59.4	1.5	2.09	2.32	-0.23	90

Midwestern Regional Climate Center
MRCC Applied Climate System
Generated at:
Thu May 18 06:11:13 CDT 2023

Figure 1: Indiana climate division and state temperature, normal temperature, temperature departure from normal, precipitation, normal precipitation, precipitation departure from normal, and percent of mean precipitation for May 1-17, 2023.

Since April 1, growing degree days (GDD) have accumulated between 260 and 600 units statewide (Figure 2, left). Accumulations were above normal through the northern extent of the state and slightly below normal in the southern extent (Figure 2, right). However, since April 15, GDD accumulations have run between 10 and 60 units below normal statewide. This is attributed to the cooler conditions that occurred in the last half of April and beginning of May.

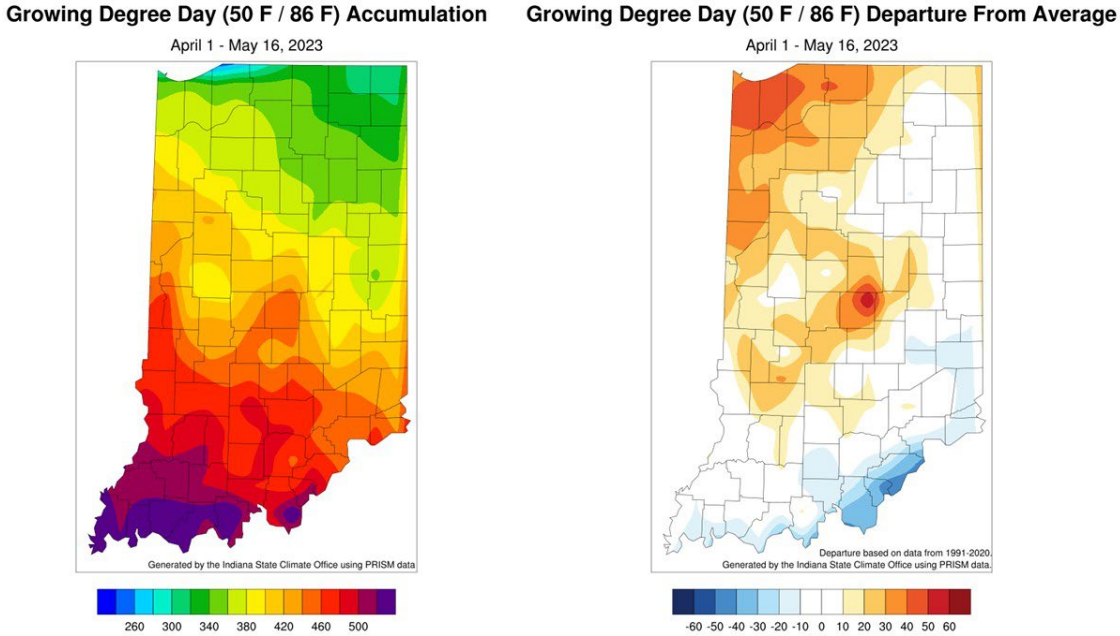


Figure 2: Total Accumulated Indiana Modified Growing Degree Days (MGDDs) April 1-May 16, 2023 (left) and Total Accumulated MGDDs represented as the departure from the 1991-2020 climatological normal (right).

Statewide, precipitation ran 0.23 inches below normal through the first 17 days of May (Figure 1). Climate Divisions 1, 2, and 3, all located in northern Indiana, were the only areas with slightly above-normal precipitation. The rest of the state averaged 76 to 91 percent of normal precipitation. Most of the recent rains were a result of convective storms. Northern Indiana had two locations where rain exceeded four inches since April 18 (Figure 3). The Fort Wayne International Airport measured 5.05 inches and North Judson, located in Starke County, measured 8.05 inches total. On May 12-13, a line of storms developed along a frontal boundary and trained over northern Indiana. As a result, North Judson totaled 4.37 inches, triggering flood concerns in the area.

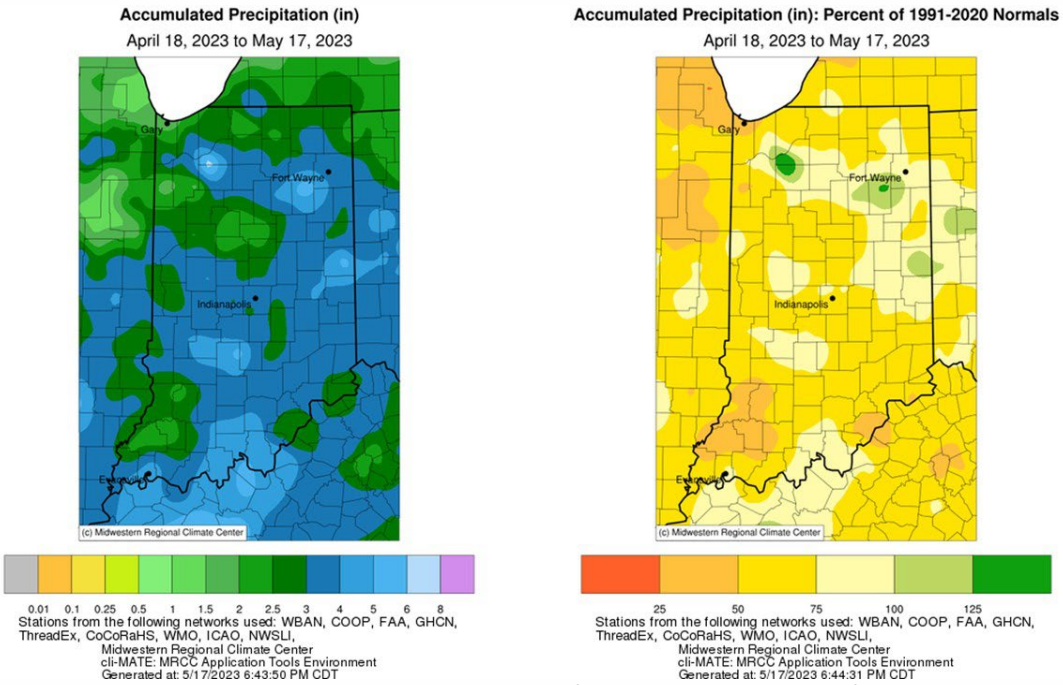
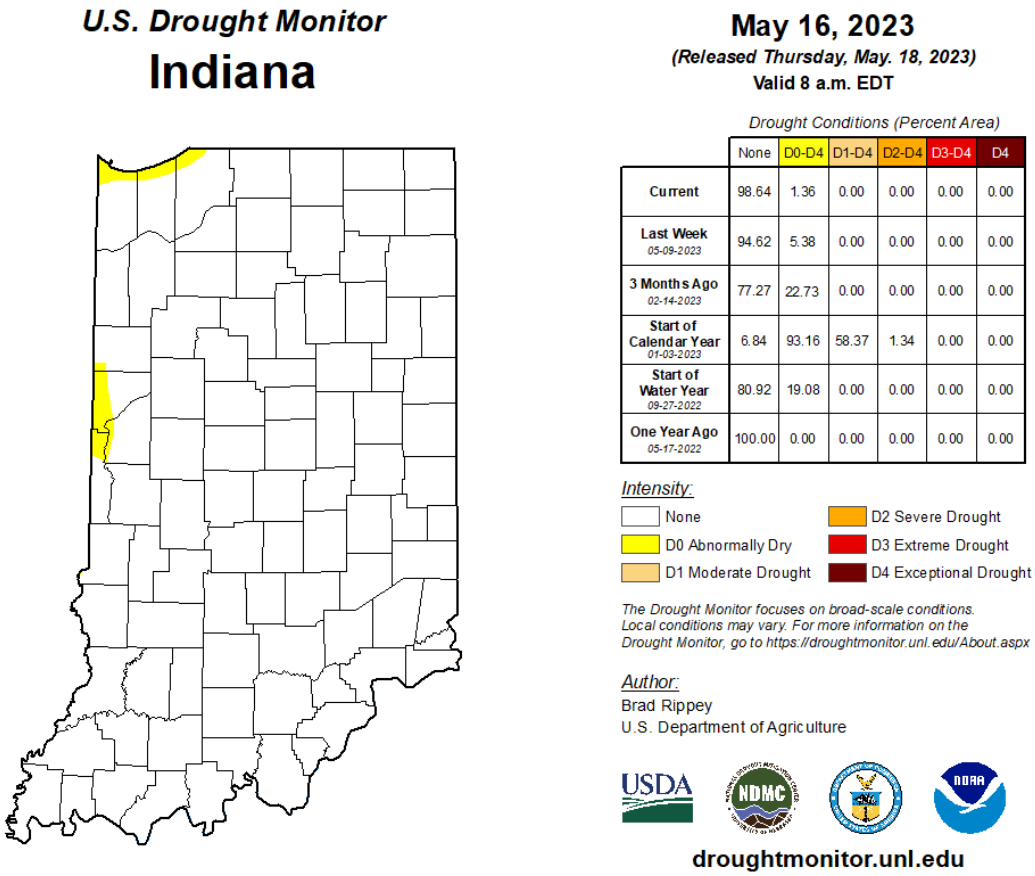


Figure 3: Interpolated map displaying accumulated precipitation for April 18-May 17, 2023 (left). Interpolated map displaying accumulated precipitation as a percent of the 1991-2020 climatological normal (right).

The May 16 US Drought Monitor brought some improvement to the abnormally dry conditions in northwestern Indiana (Figure 4). Lingering drought concerns remained in Vermillion and Warren counties, as those locations continued to miss precipitation. Overall, conditions have favored continued agricultural activity. The May 14 Indiana Crop Weather Report indicated that 56 percent of corn and 52 percent of soybeans have been planted, which both are above the 5-year average. Emergence for both crops is also above the 5-year average as a result of the warmer temperatures.



	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	98.64	1.36	0.00	0.00	0.00	0.00
Last Week 05-09-2023	94.62	5.38	0.00	0.00	0.00	0.00
3 Months Ago 02-14-2023	77.27	22.73	0.00	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 09-27-2022	80.92	19.08	0.00	0.00	0.00	0.00
One Year Ago 05-17-2022	100.00	0.00	0.00	0.00	0.00	0.00

Figure 4: May 16, 2023, US Drought Monitor. The US Drought Monitor is released every Thursday morning by 8:30 AM.

The seven-day forecast precipitation blankets the state with less than 0.5 inches of rain, which should allow time to continue field work (Figure 5). That's the good news. This also means that areas with below-normal precipitation will continue seeing subpar precipitation, which enhances drought concerns.

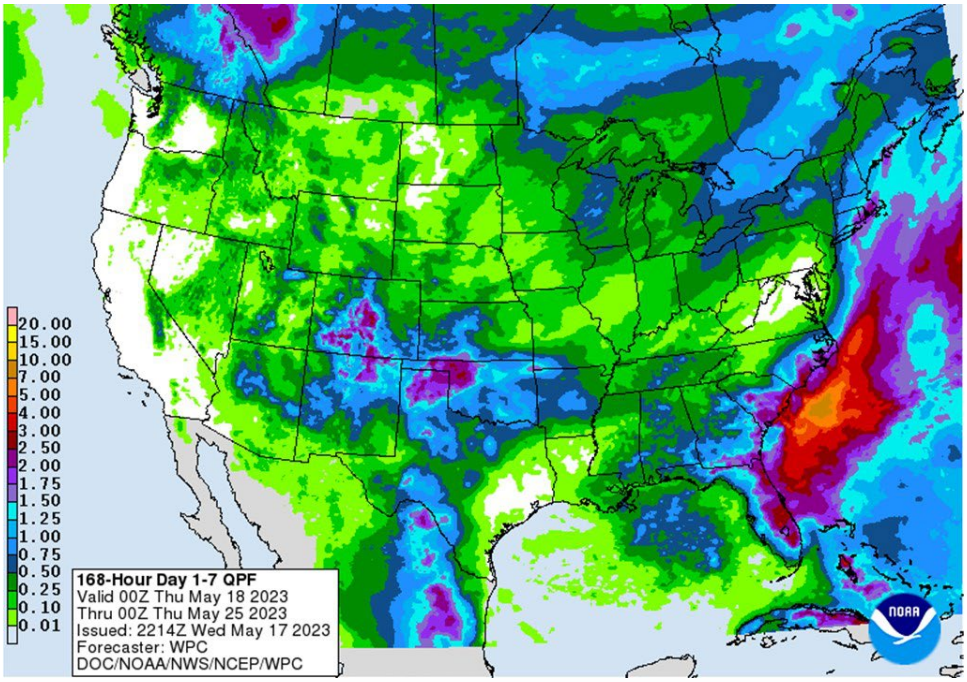


Figure 5: NWS Weather Prediction Center 7-day quantitative precipitation forecast for the continental United States, valid May 18-May 25, 2023.

Both the Climate Prediction Center's 6–10-day (Figure 6) and 8-14-day (Figure 7) outlooks show elevated chances for above-normal temperatures and below-normal precipitation. Temperatures are forecasted to be in the upper 70s and low 80s, which should amplify drying conditions. Stay tuned to the US Drought Monitor over the next month, as conditions may worsen.

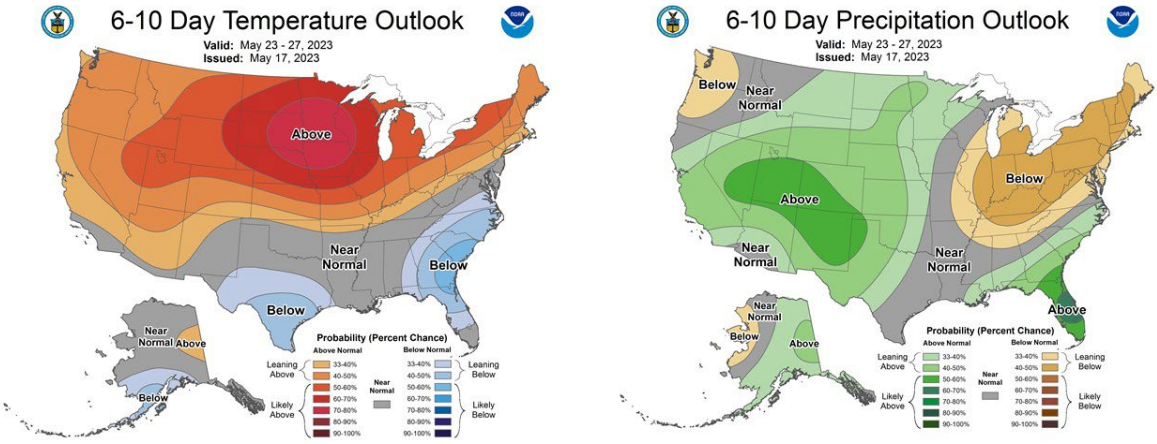


Figure 6: The CPC's 6–10-day temperature and precipitation outlooks, valid for May 23-27, 2023.

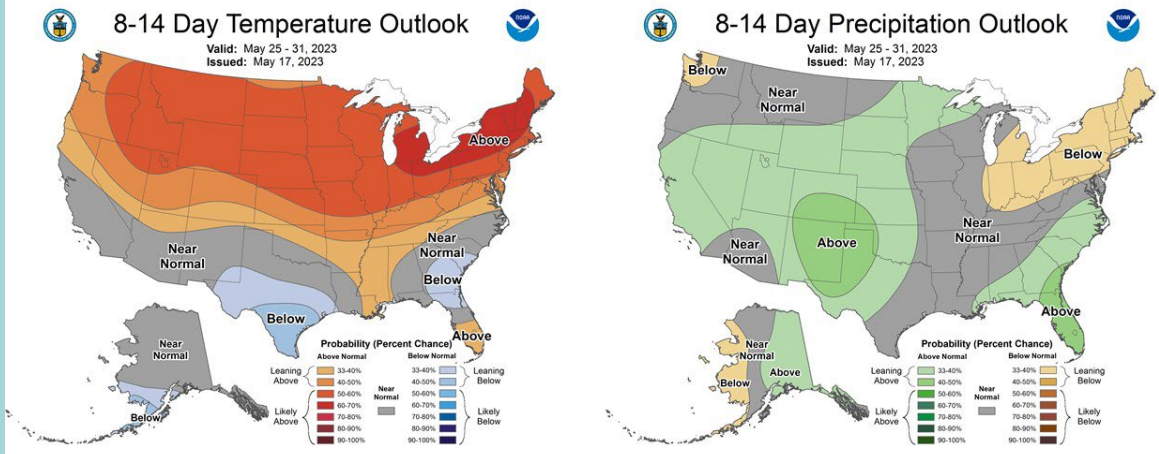
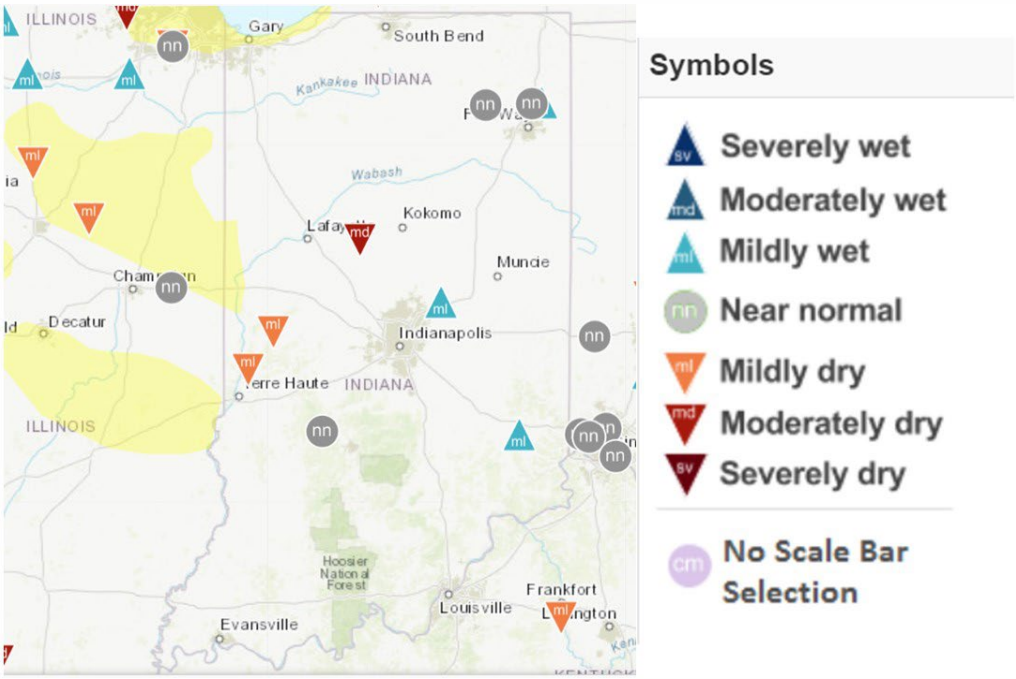


Figure 7: The CPC's 8–14-day temperature and precipitation outlooks, valid for May 25-31, 2023.

We Need Your Condition Monitoring Reports

Adapted from Steve Hillberg by Austin Pearson

April was an odd month in Indiana. The statewide precipitation averaged 1.62 inches below normal or 63 percent of normal and experienced large temperature swings. Moisture from previous months have carried us through so far, but we are showing signs of continued drying in the state. Convective precipitation has alleviated drought concerns in some areas, but there are areas that have missed out on the adequate precipitation. Precipitation amounts hardly ever tell the whole story. Where can you get the anecdotal information that describes what impacts are happening locally from weather that is too wet or too dry? CoCoRaHS Condition Monitoring Reports (CMR) provide that kind of information.



Condition Monitoring Report Map for week of May 12-18, 2023.

We can use more observers submitting regular CMRs from around the state, especially in the southern half. The CMRs are a valuable resource for U.S. Drought Monitor authors, agriculture, natural resource managers, and others. These are pretty easy to do, and once you get into the habit (as with most things) it becomes second nature. The idea behind these is to describe the general moisture conditions at your location and the impacts, whether it be too dry or too wet. They don't (and shouldn't) need to be done every day. They are valuable when you can submit on a regular basis (weekly) so that users can see the changes occurring. We recommend submitting the CMR on Saturday or Sunday so that they are available for input into the Drought Monitor on Monday, but if not the weekend pick a day that works for you and stick with it. These aren't for just when conditions change - it's also useful to know week-to-week if conditions are unchanging in your area.

Condition Monitoring Report can be found on the left menu on CoCoRaHS.org.

If you are a Master Gardener or Master Naturalist you probably already pay close attention to what is going on in the environment around you. If you are not doing so already, why not share that information by submitting a regular Condition Monitoring report? Explore the Condition Monitoring reports at https://www.cocorahs.org/ViewData/ListConditionMonitoringReports.aspx. You can only submit these on the web site - it's not available on the mobile app.

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