

Wisconsin Ag Climate Outlook

Week of July 1, 2024

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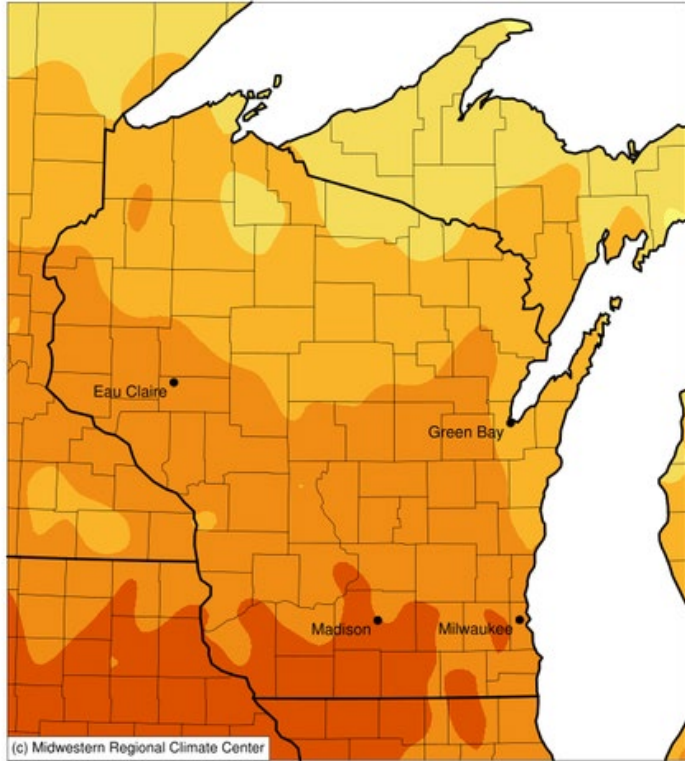
Key Points

Navigate to select slides by clicking on the [links](#) below.

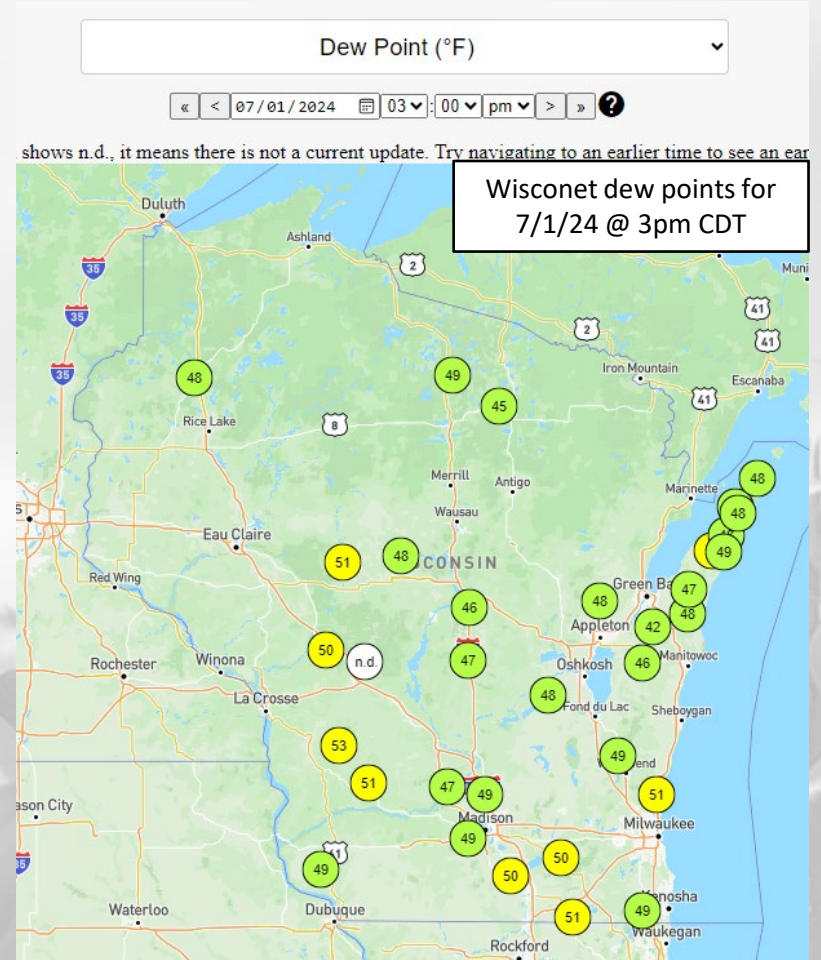
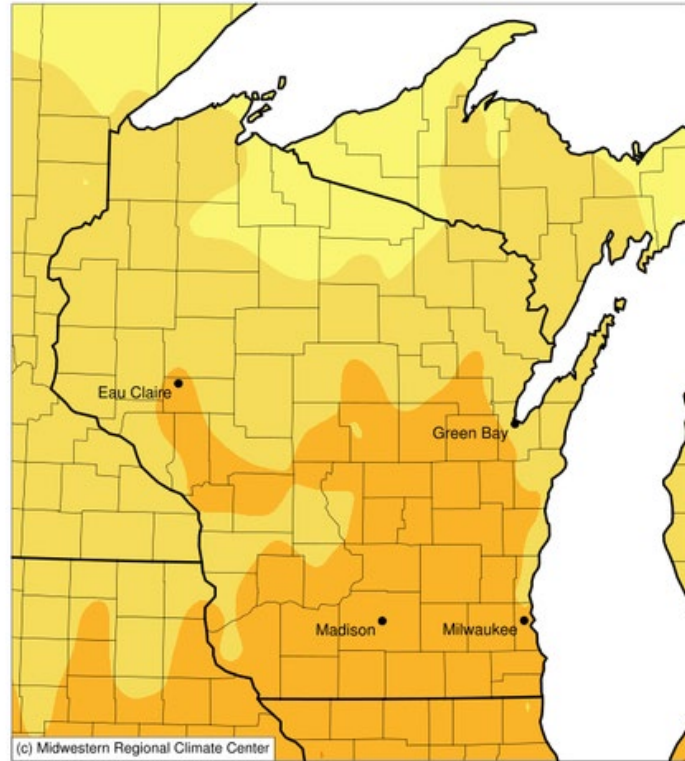
- 1) A [hot & humid](#) start to last week wrapped up [cooler-than-normal](#) with lower dew points.
 - However, mid-July is leaning towards warmer-than-normal temps.
- 2) [GDD's](#) are now >1000 units across the S half of WI, with [soybeans](#) now beginning to bloom.
- 3) [Flood warnings](#) are in place along some rivers in the state, with yet another [wet week](#) on the way.
 - For this week's agronomic recommendations from UW Extension, click [here](#).
 - For NASS crop progress & condition maps, click [here](#).

Relief from the heat/humidity

Average Maximum Temperature (°F)
June 25, 2024 to June 27, 2024

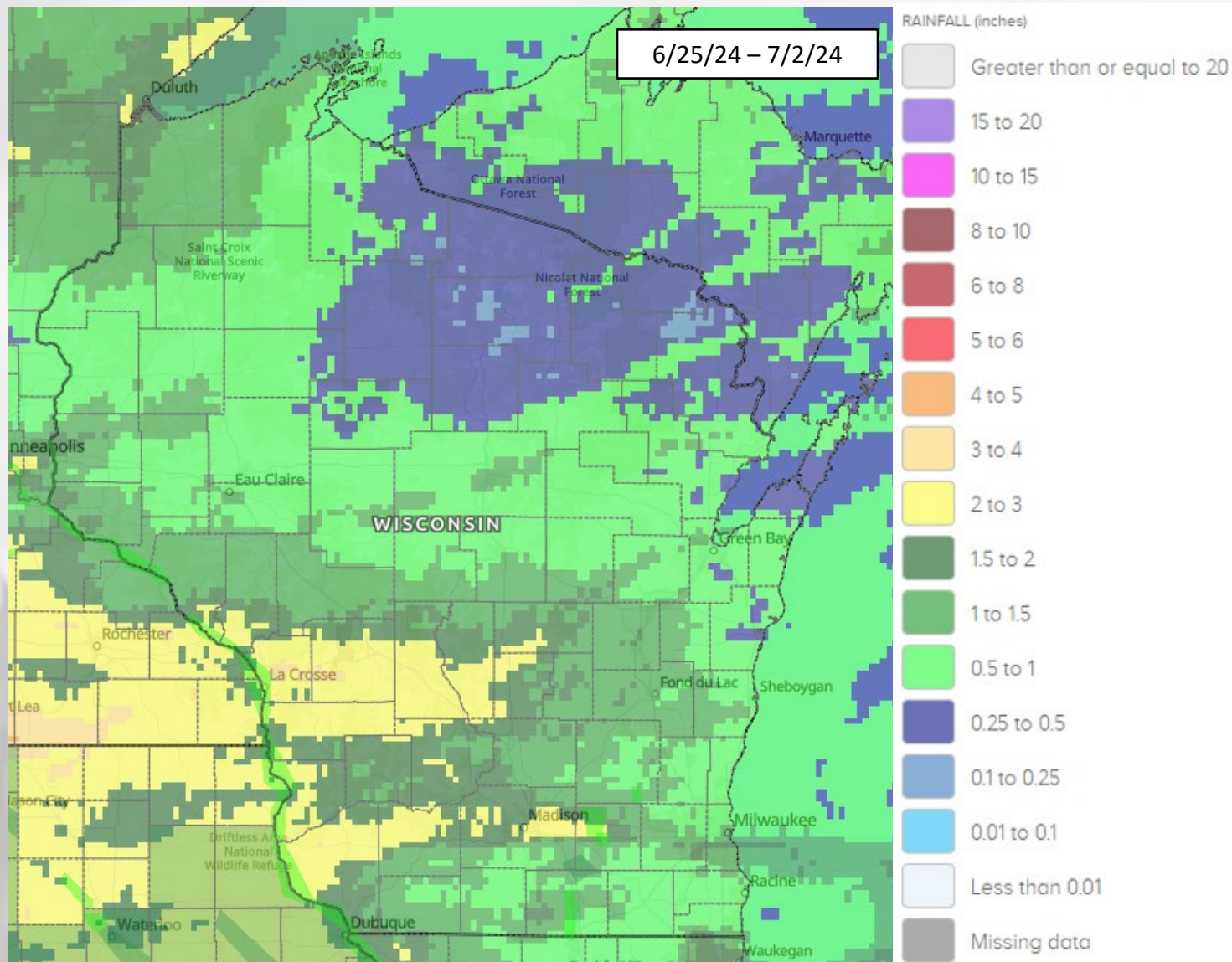


Average Maximum Temperature (°F)
June 29, 2024 to July 01, 2024



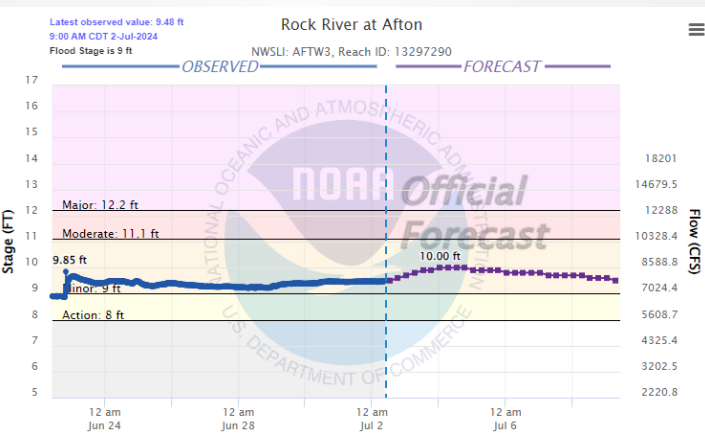
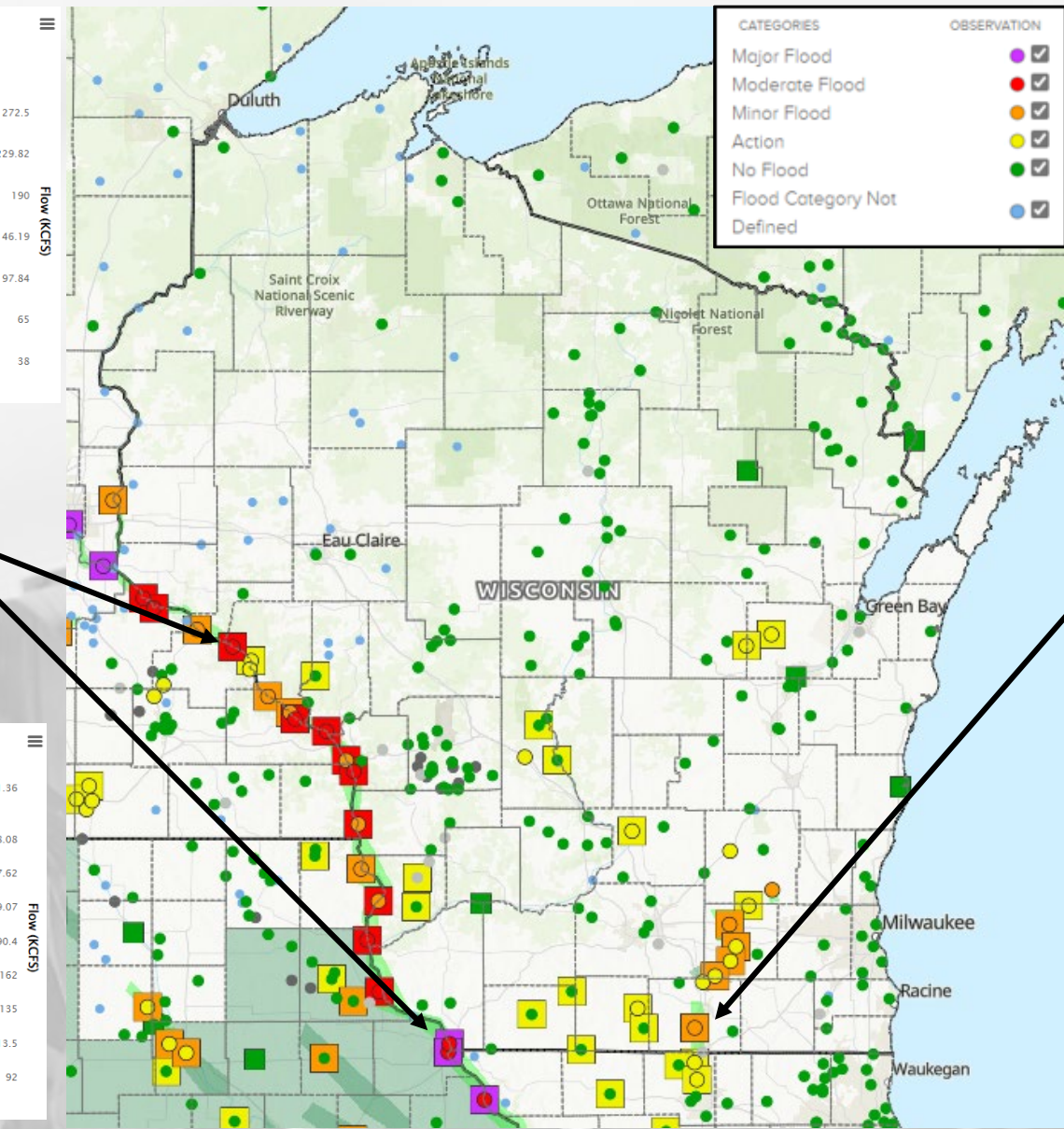
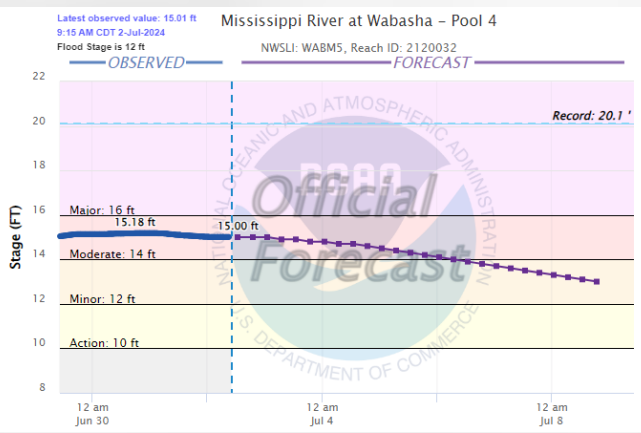
<https://mrcc.purdue.edu>

7 Day Precip



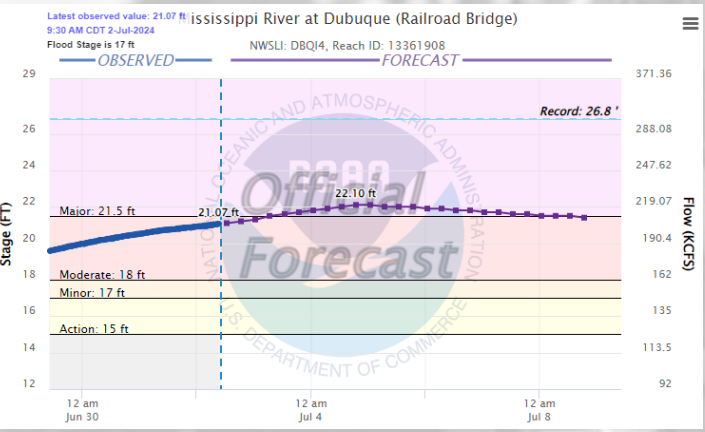
- The previous week was a bit quieter in terms of rainfall events for most across the state.
- **2-3+”** common in SW WI, with widespread **half inch or more**.
- **<0.5”** was common in the NC region.

River Levels



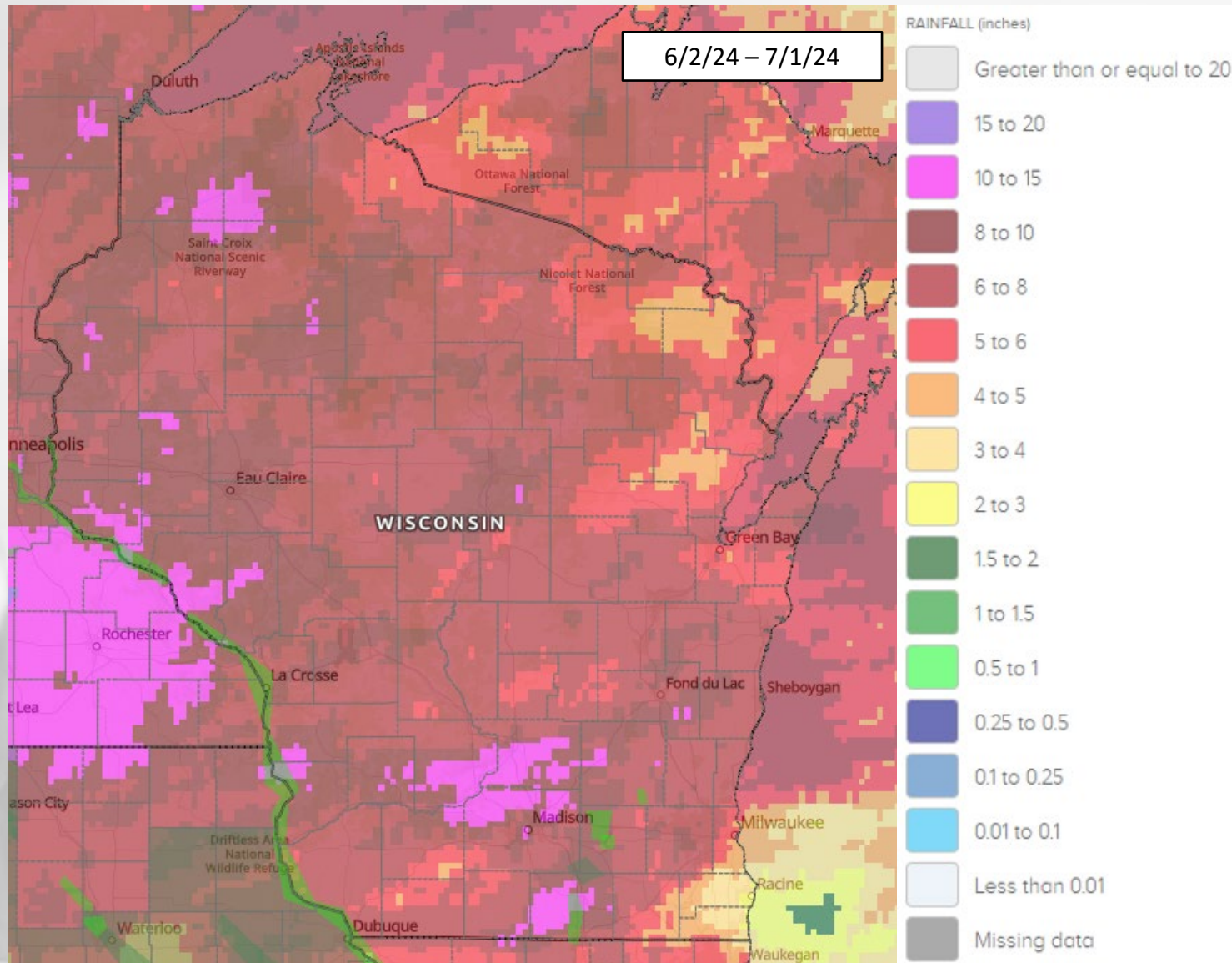
Moderate flooding ongoing (red circles) along the Mississippi River in WC WI. Moderate to major flooding forecasted further south.

Flood Warnings in Rock & Jefferson Counties for ongoing minor flooding.



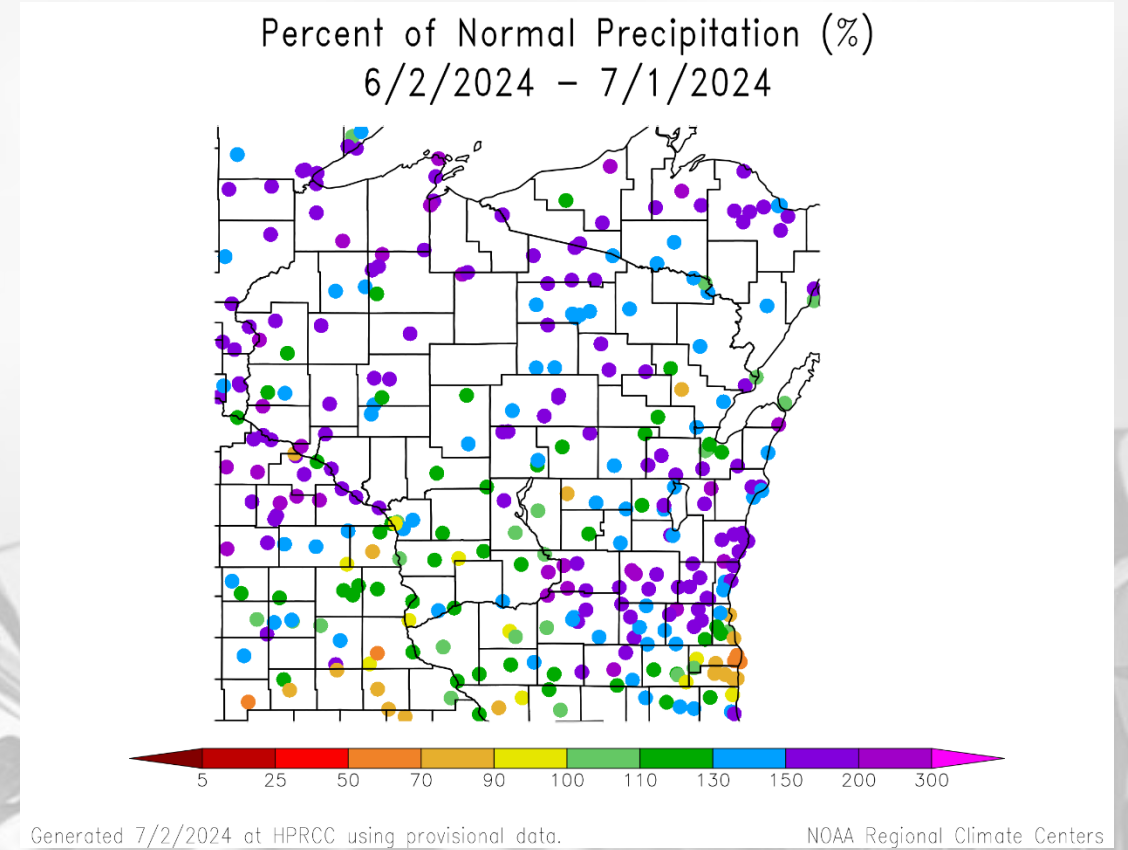
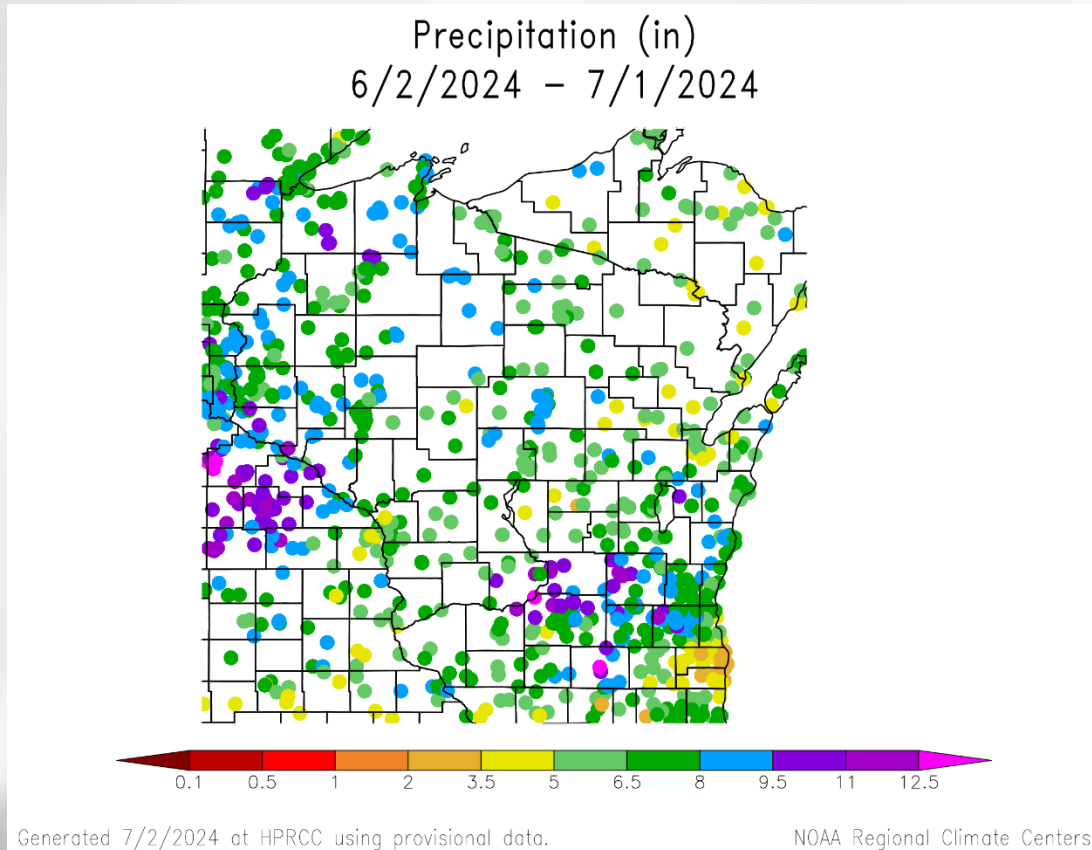
River levels on the morning of July 2, 2024

30 Day Precip



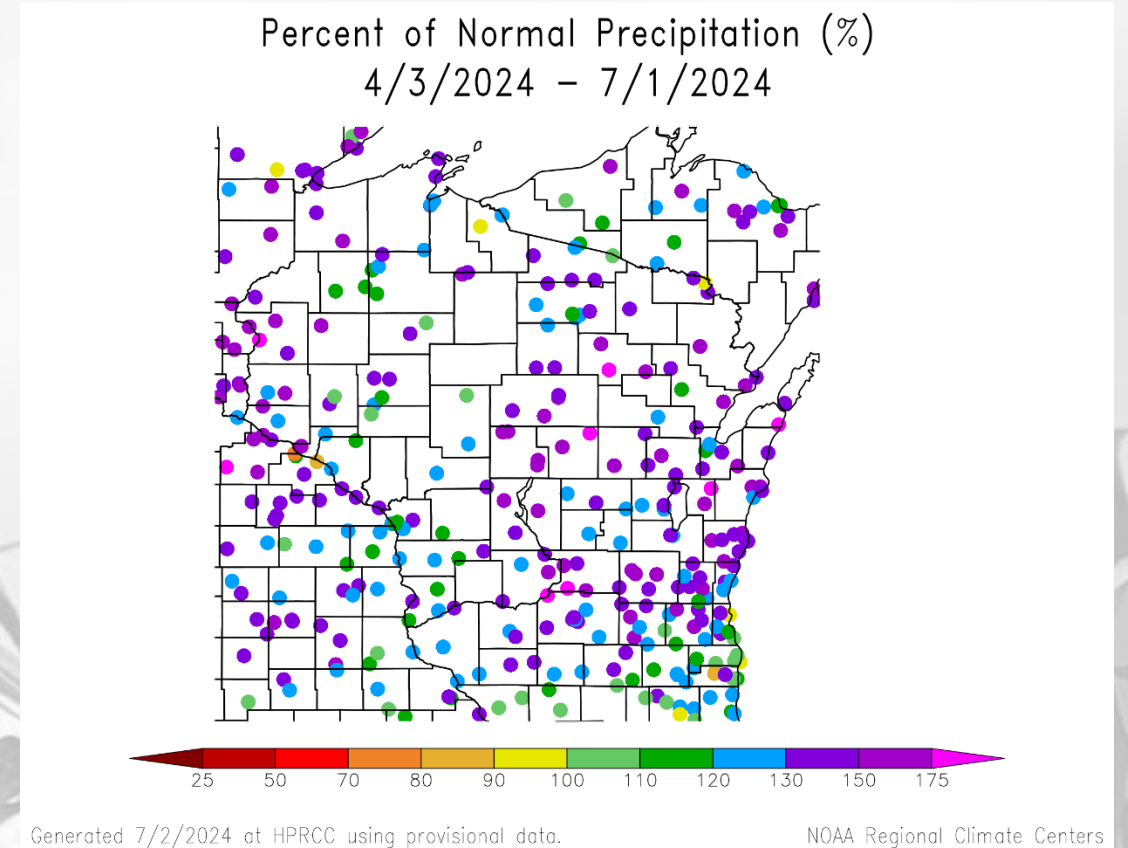
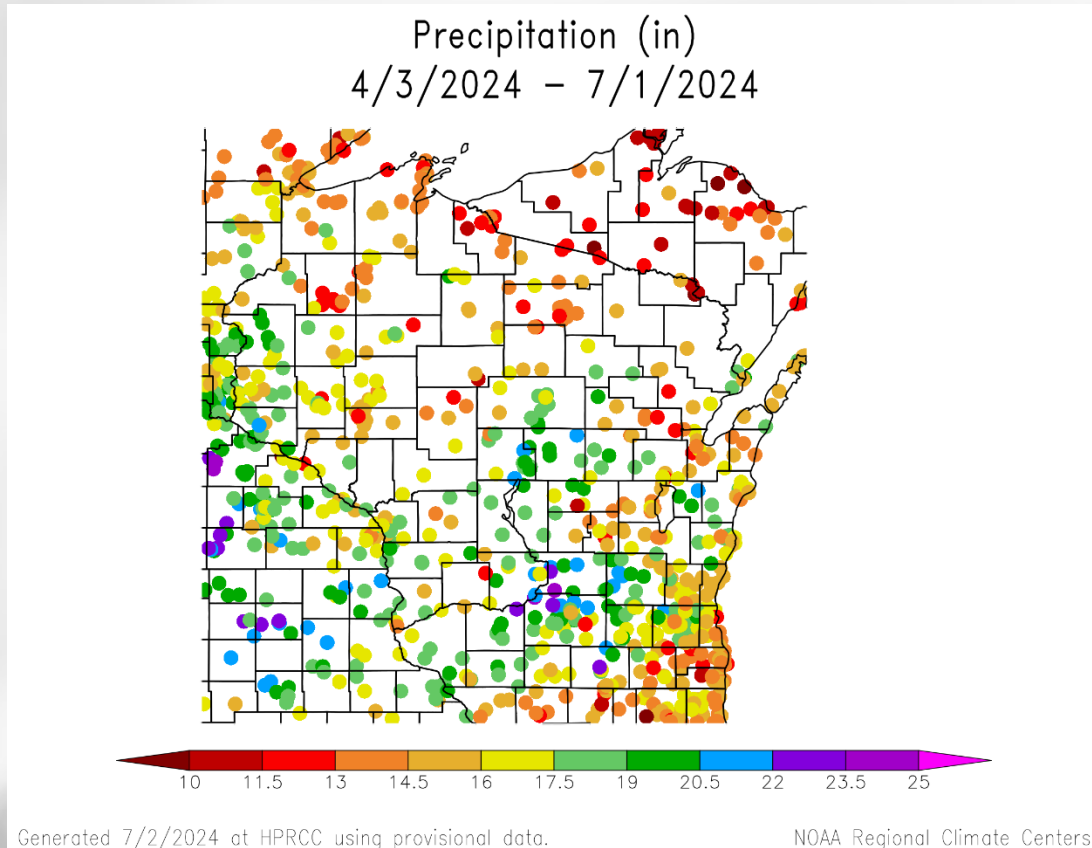
- **>6"** of monthly precip common across nearly all of the state (red/purple shading).
- Driest the far SE counties and Racine/Kenosha → **4" or less**
- **>10"** for some north of Madison, Rock County, & along the Mississippi River.

30 Day Precip Total/% Avg.



- Highest monthly totals around Dane/Columbia/Dodge Counties → **9.5" or more**
- Totals of **8" or more** were common at stations in NW WI and in pockets around the state.
- Stations are running **near or above** the climatological average statewide, except for Racine/Kenoshas Counties.

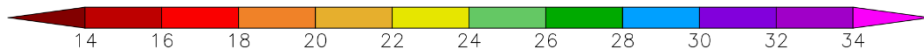
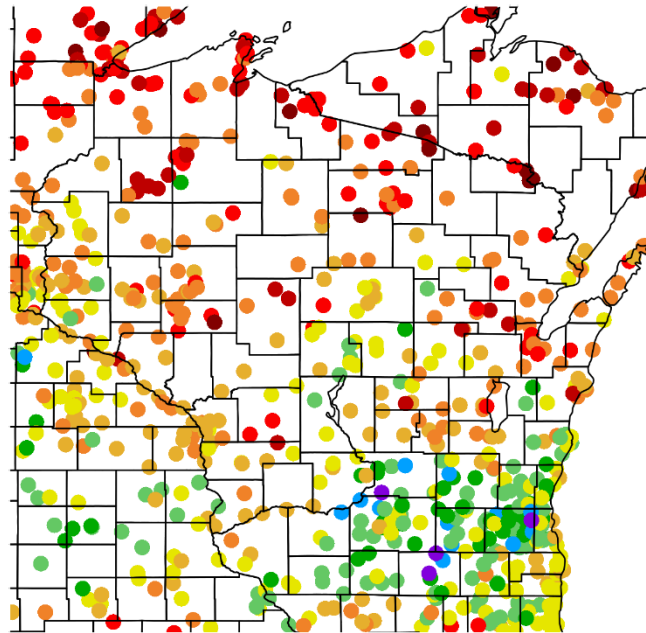
90 Day Precip Total/% Avg.



- **16" or more** for most in the state; **130+%** of average is common across the state.
- Highest totals in Dane/Columbia, Calumet, & Wood/Portage Cos. → stations **>20"**.
- Lowest 90-day totals in the far SE and NC regions → common for station to have received **<13"**.

2024 Precipitation (so far)

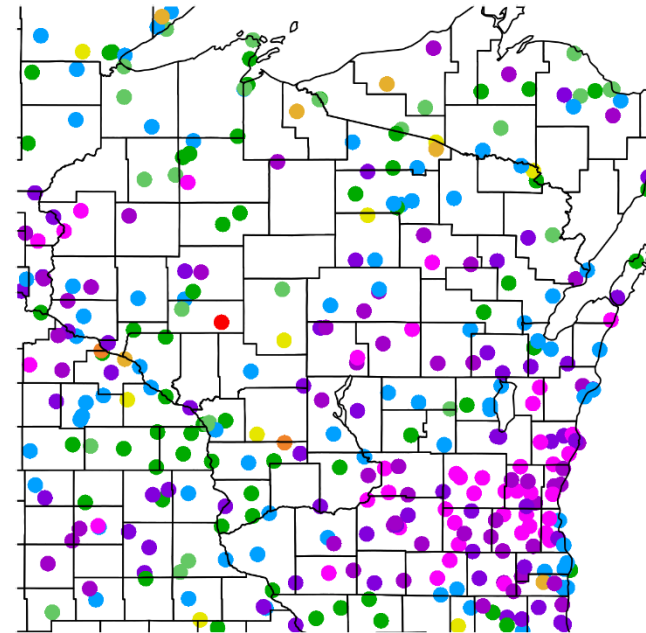
Precipitation (in)
1/1/2024 – 6/29/2024



Generated 6/30/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)
1/1/2024 – 6/27/2024



Generated 6/28/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

<https://hprcc.unl.edu/maps.php?map=ACISClimateMaps>

Soil Moisture Models

- **70th percentile or greater** for soil moisture conditions across the state with most receiving higher-than-normal rainfall since early June.
- Highest soil moisture percentile (areas in blue) around Madison, Fox Cities, west of the Twin Cities.

Model Notes:

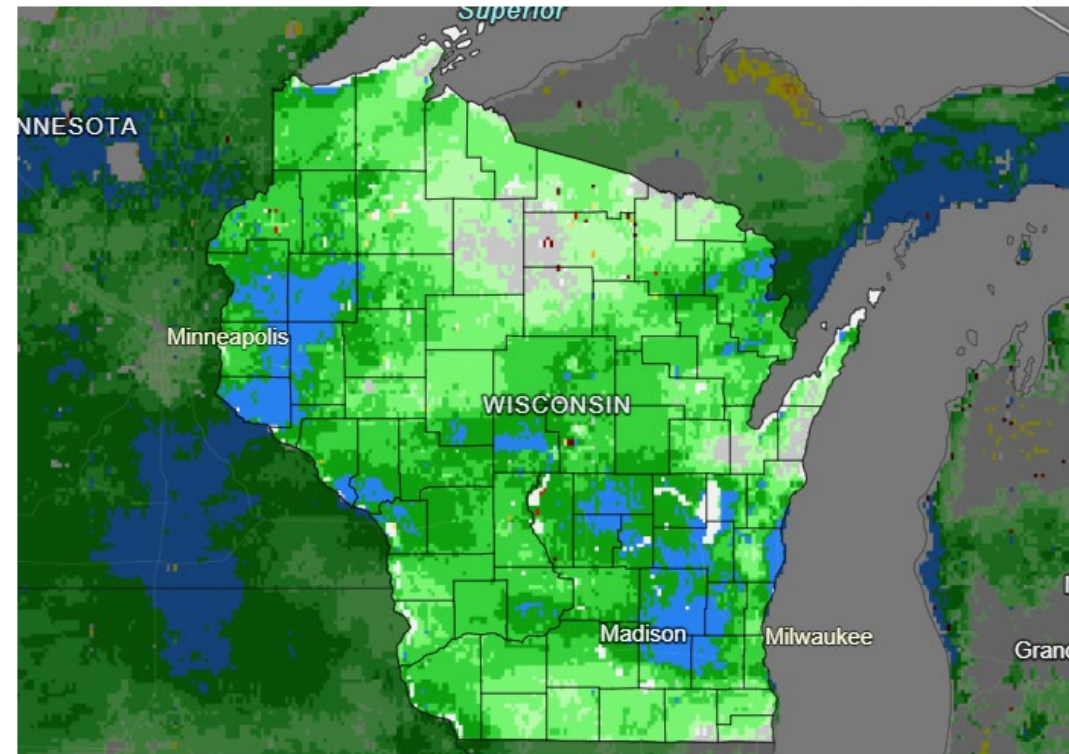
Red areas = top 5 driest in 100 years.

Dark red areas = top 2 driest in 100 years.

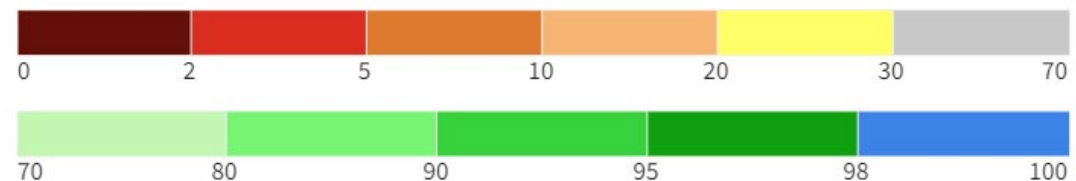
It's worth noting that each soil moisture model has their own characteristics and input variables, so there tends to be variation between models. Thus, it's worthwhile to look at multiple models opposed to just one.

https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html
<https://www.drought.gov/states/wisconsin>

0-100 cm Soil Moisture Percentile



0-100 cm Soil Moisture Percentile

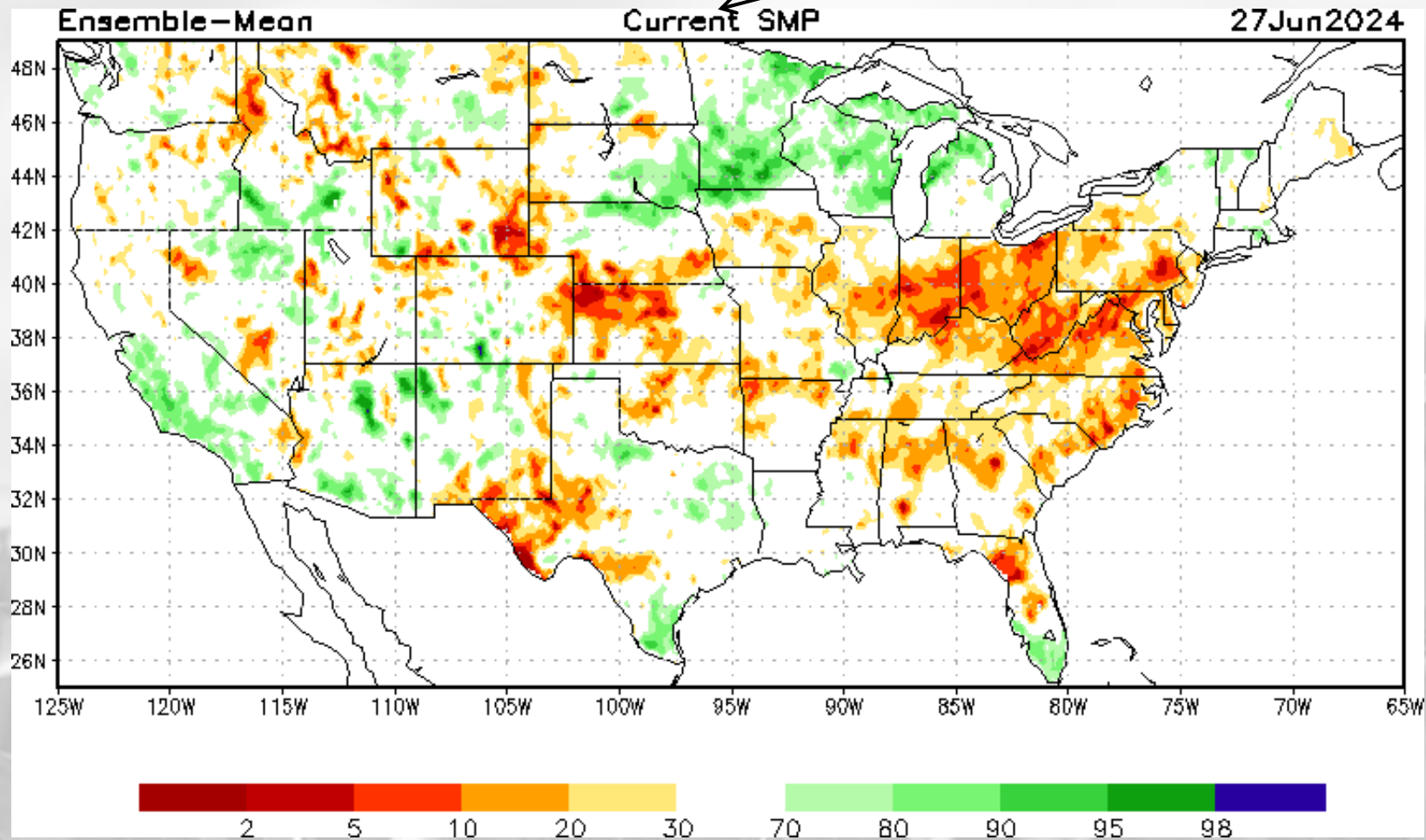


Source(s): NASA
Data Valid: 07/02/24

Drought.gov

Soil Moisture Models

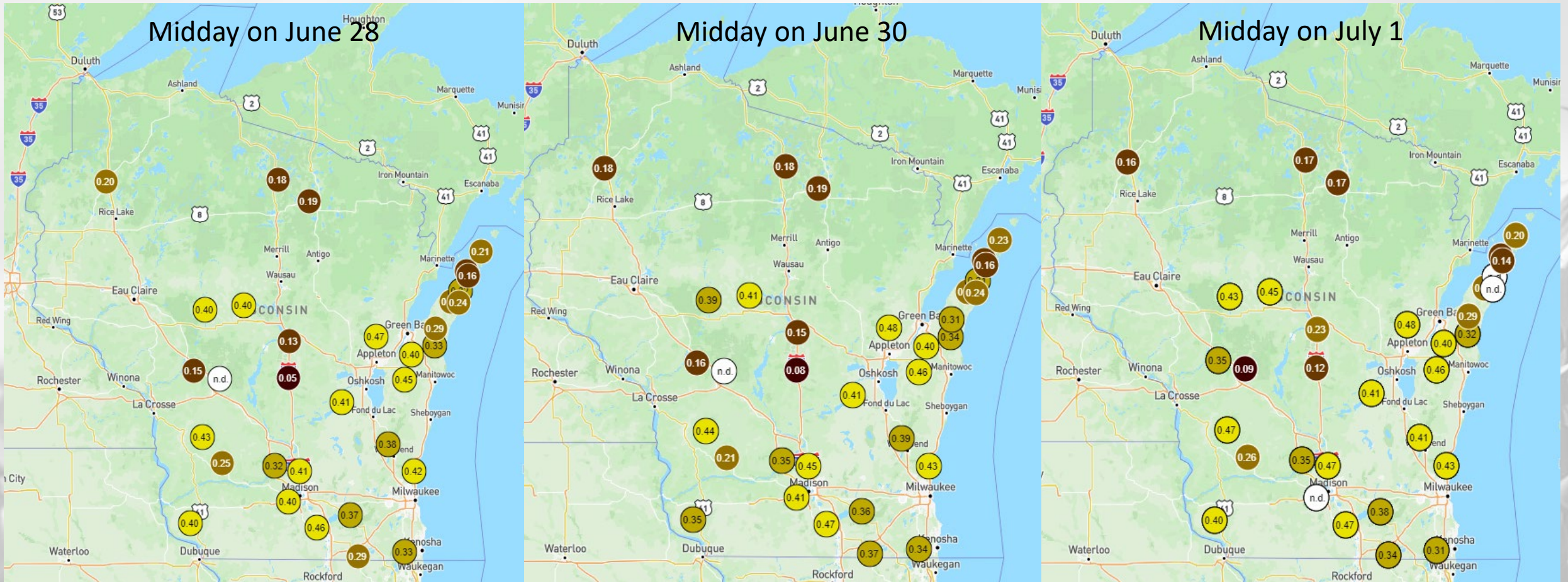
NOTE: this map displays the soil moisture percentile for June 27. It was the most recent update on July 1.



https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml

Wisconet Soil Moisture – 4" Depth

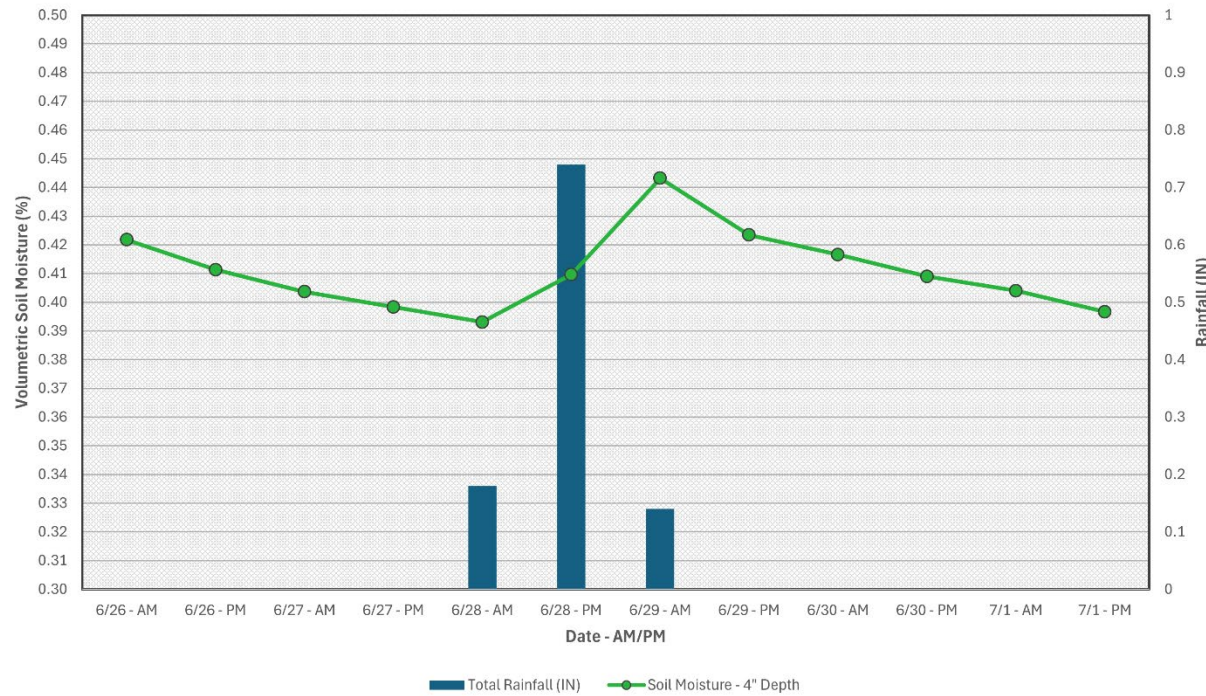
<https://wisconet.wisc.edu/>



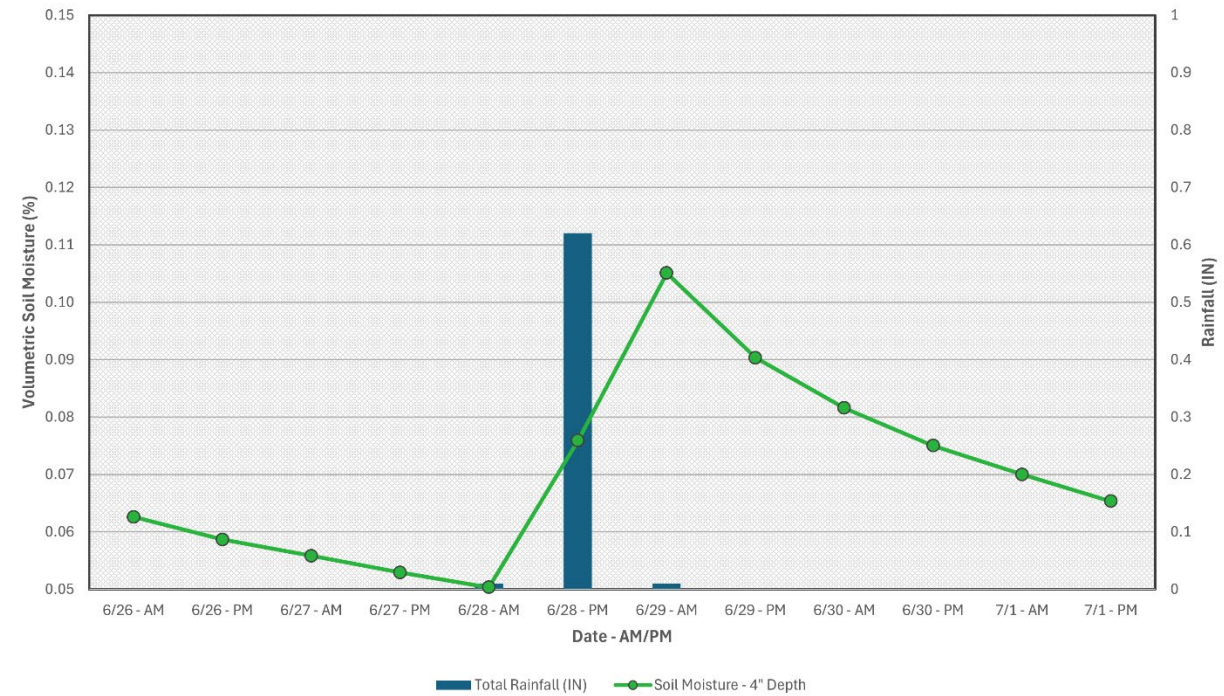
Wisconet Soil Moisture – 4" Depth

Soil moisture time series at select Wisconet stations

Rain & Soil Moisture - Verona, WI (OJNR)

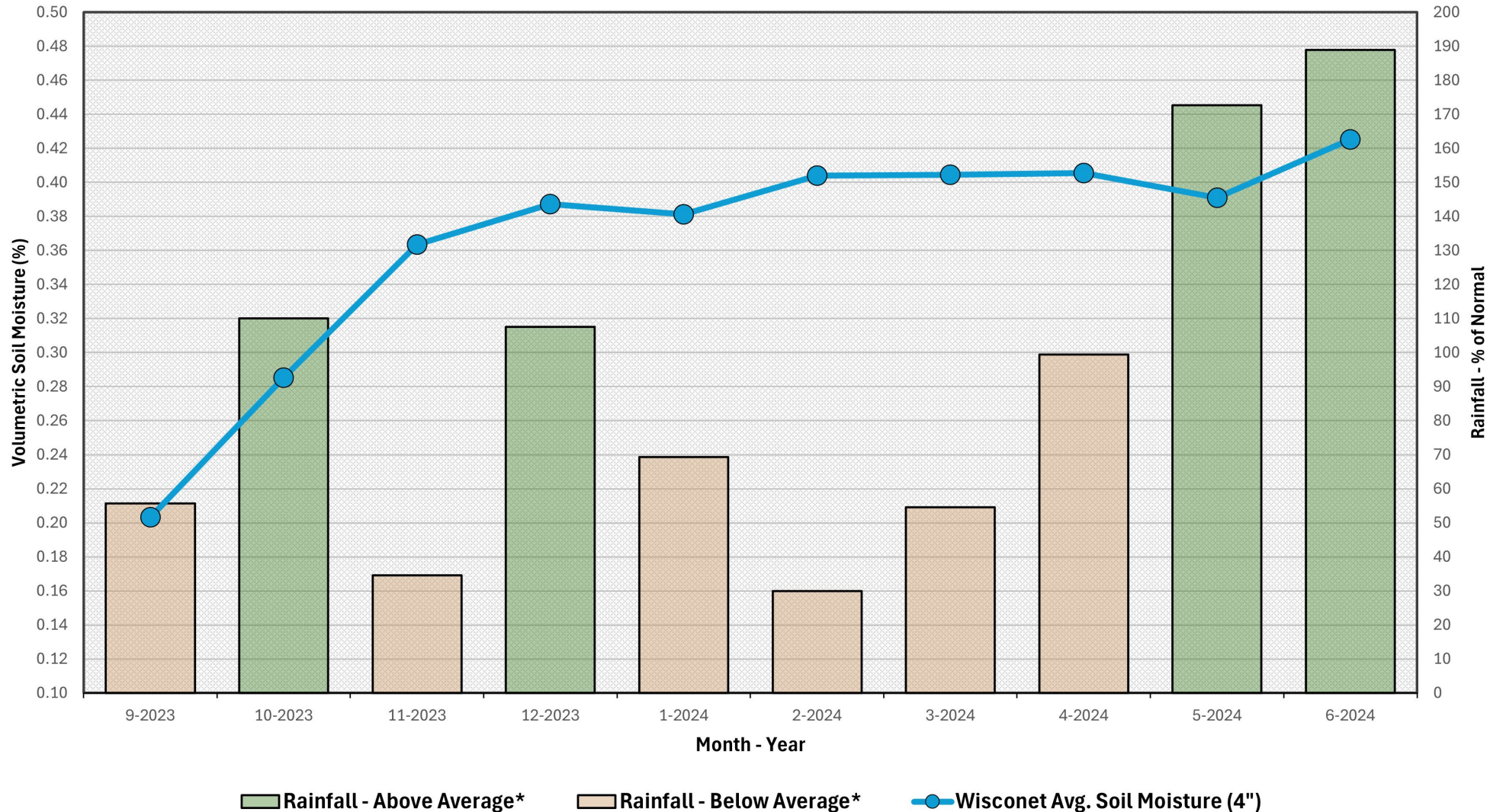


Rain & Soil Moisture - Hancock, WI (HNCK)



Long-Term Rain/Soil Moisture Trend

Rain & Soil Moisture - Arlington Wisconet Site (ALTN)



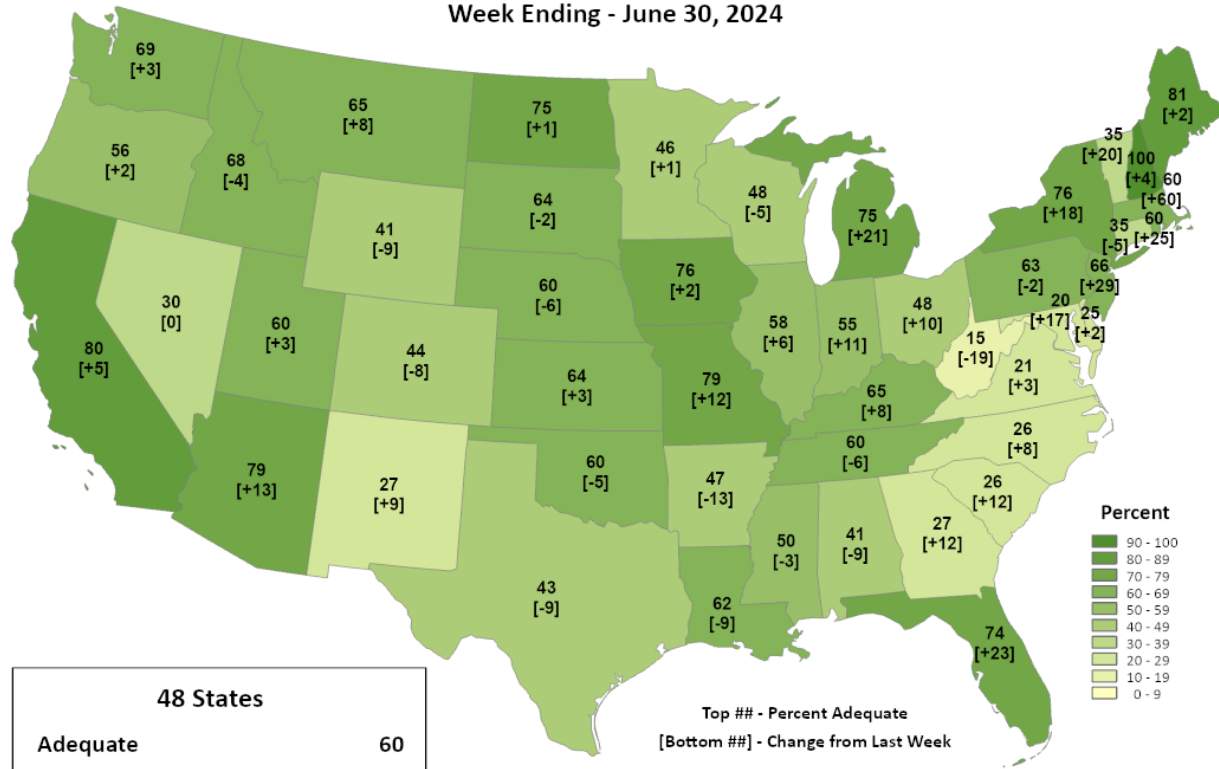
* Due to Wisconet being new (est. 2023), **long-term precipitation records are not yet available**. Thus, we are comparing Wisconet monthly rainfall totals to 30-year (1991-2020) averages from a nearby COOP weather station (ALNW3).

NASS Topsoil & Subsoil Moisture



This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Topsoil Moisture Percent Adequate Week Ending - June 30, 2024



| | |
|------------------------------|-----------|
| 48 States | |
| Adequate | 60 |
| Change from Last Week | +1 |

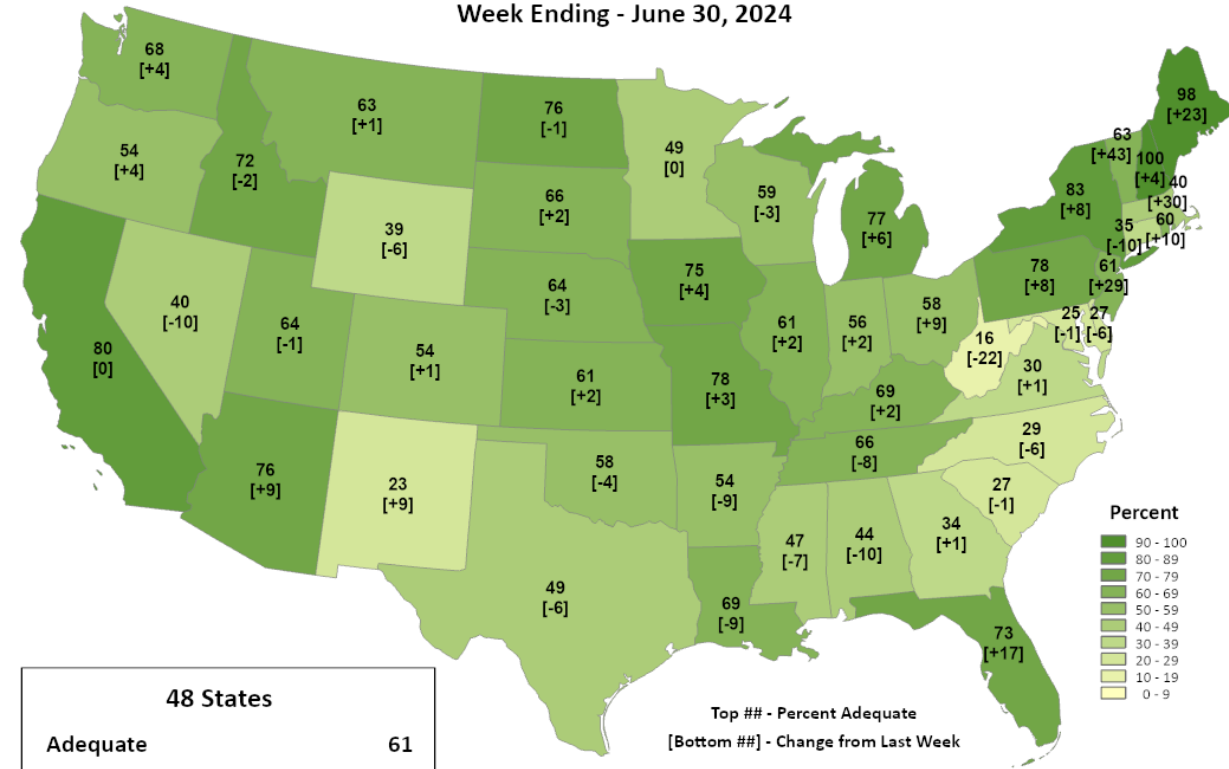
Top ## - Percent Adequate
[Bottom ##] - Change from Last Week

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.



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World Agricultural Outlook Board (WAOB)

Subsoil Moisture Percent Adequate Week Ending - June 30, 2024



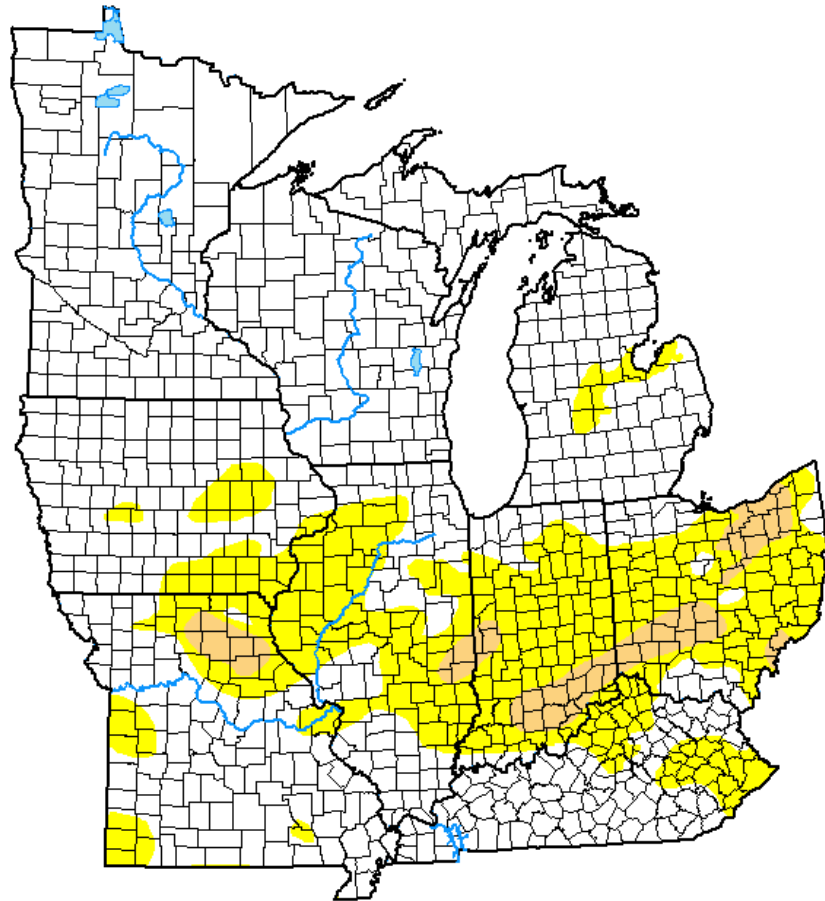
| | |
|------------------------------|-----------|
| 48 States | |
| Adequate | 61 |
| Change from Last Week | -1 |

Top ## - Percent Adequate
[Bottom ##] - Change from Last Week

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

US Drought Monitor

U.S. Drought Monitor Midwest



June 25, 2024

(Released Thursday, Jun. 27, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|--|-------|-------|-------|-------|-------|------|
| Current | 72.88 | 27.12 | 3.86 | 0.00 | 0.00 | 0.00 |
| Last Week <small>06-18-2024</small> | 77.60 | 22.40 | 0.78 | 0.00 | 0.00 | 0.00 |
| 3 Months Ago <small>03-26-2024</small> | 34.90 | 65.10 | 26.56 | 7.29 | 1.36 | 0.00 |
| Start of Calendar Year <small>01-02-2024</small> | 22.92 | 77.08 | 50.25 | 20.76 | 4.20 | 0.00 |
| Start of Water Year <small>09-26-2023</small> | 16.82 | 83.18 | 54.98 | 23.81 | 6.21 | 0.13 |
| One Year Ago <small>06-27-2023</small> | 9.26 | 90.74 | 64.71 | 24.65 | 3.52 | 0.00 |

Intensity:



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:

Adam Hartman
NOAA/NWS/NCEP/CPC



droughtmonitor.unl.edu

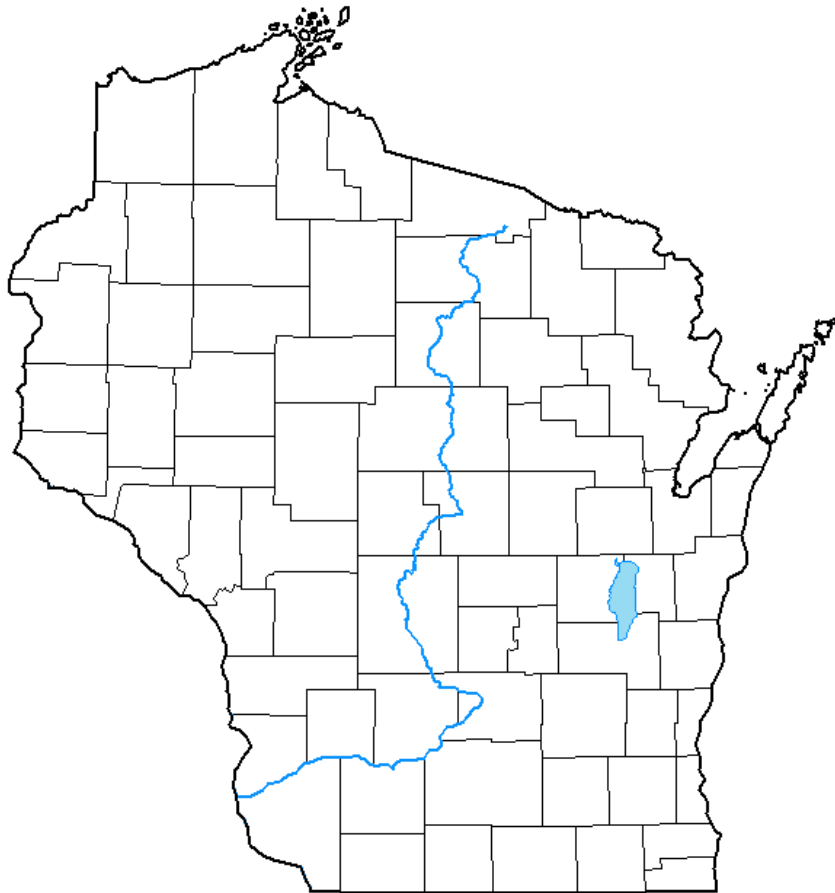
- Compared to last week:
 - Increases in drought severity/coverage along the Ohio Valley, NE Ohio.
- **4%** of the Midwest is categorized in D1 (moderate) drought.
- **27%** of the Midwest is in D0 (abnormally dry) conditions, up from **22%** last week.

Note: D0 is not considered drought.

<http://droughtmonitor.unl.edu/>

US Drought Monitor

U.S. Drought Monitor Wisconsin



June 25, 2024

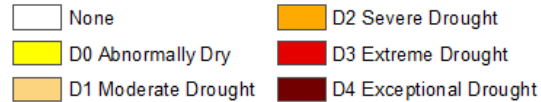
(Released Thursday, Jun. 27, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|--------------------------------------|--------|--------|-------|-------|-------|------|
| Current | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Last Week 06-18-2024 | 96.44 | 3.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 Months Ago 03-26-2024 | 13.96 | 86.04 | 31.55 | 5.99 | 0.00 | 0.00 |
| Start of Calendar Year 01-02-2024 | 33.04 | 66.96 | 37.34 | 16.80 | 0.26 | 0.00 |
| Start of Water Year 09-26-2023 | 2.04 | 97.96 | 80.86 | 37.74 | 6.77 | 0.00 |
| One Year Ago 06-27-2023 | 0.00 | 100.00 | 81.54 | 16.67 | 0.00 | 0.00 |

Intensity:



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:

Adam Hartman
NOAA/NWS/NCEP/CPC



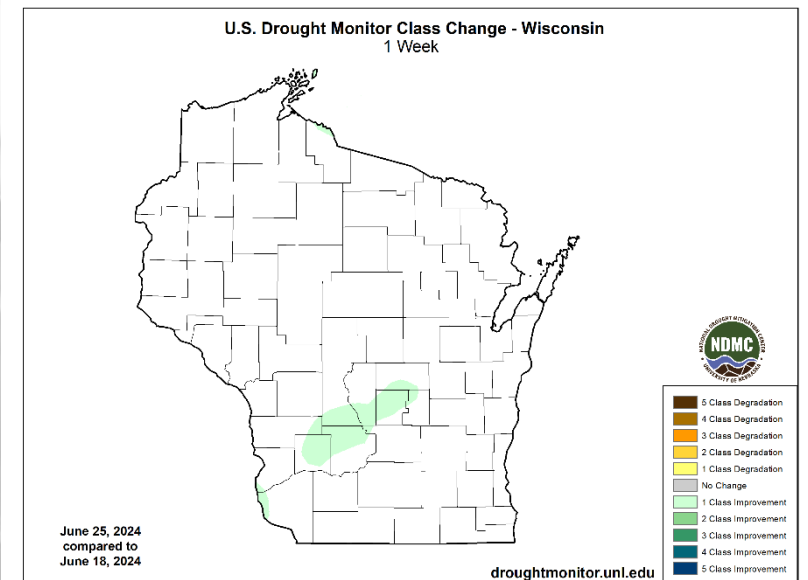
droughtmonitor.unl.edu

<http://droughtmonitor.unl.edu/>

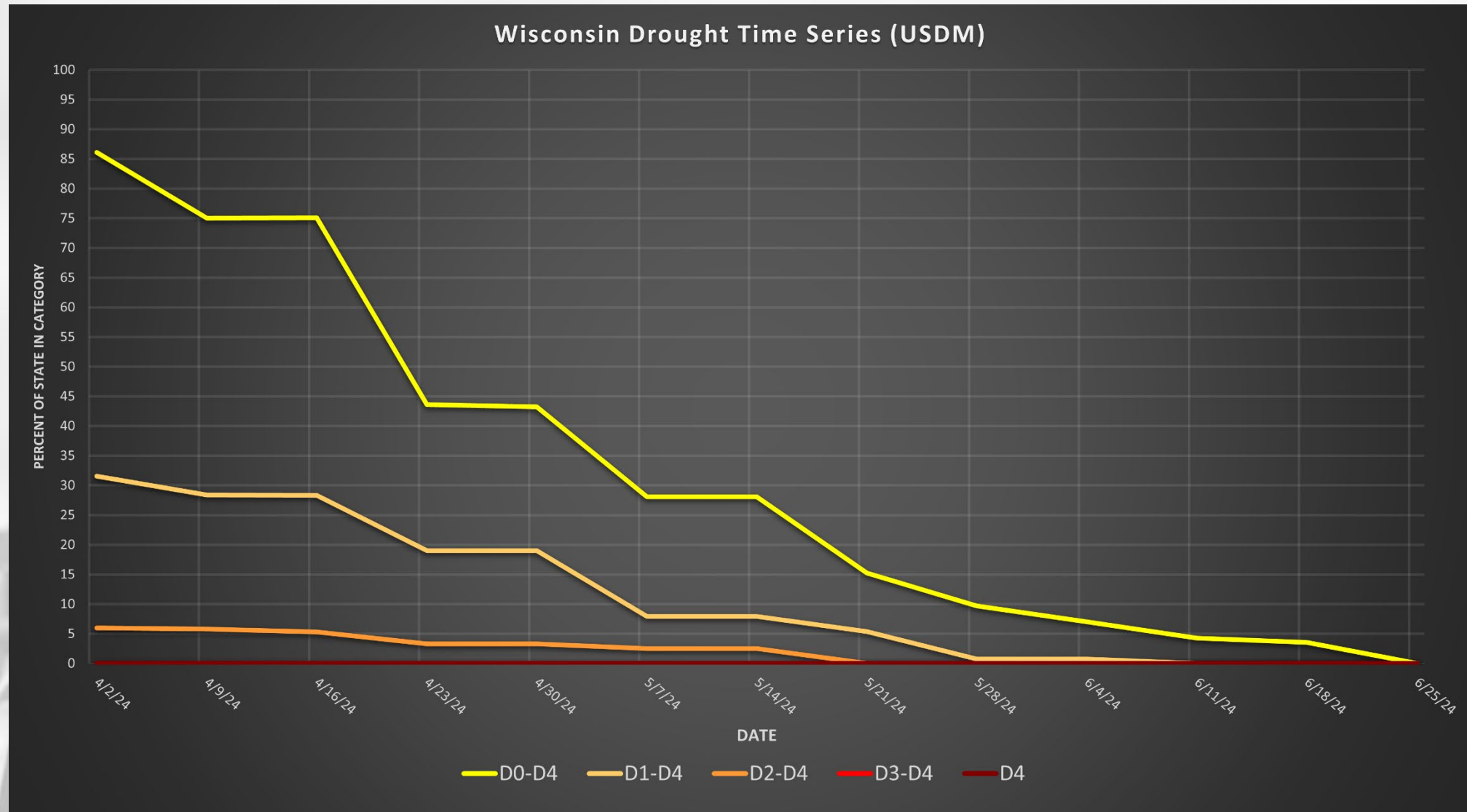
Amount of state in:

- D1-D4 – 0.0% --
- D2-D4 – 0.0% --
- D3-D4 – 0.0% --
- D4 – 0.0% --

Note: ↑↓ indicate change from last week. Red up arrows indicate increase in drought area; vice-versa for green arrows.



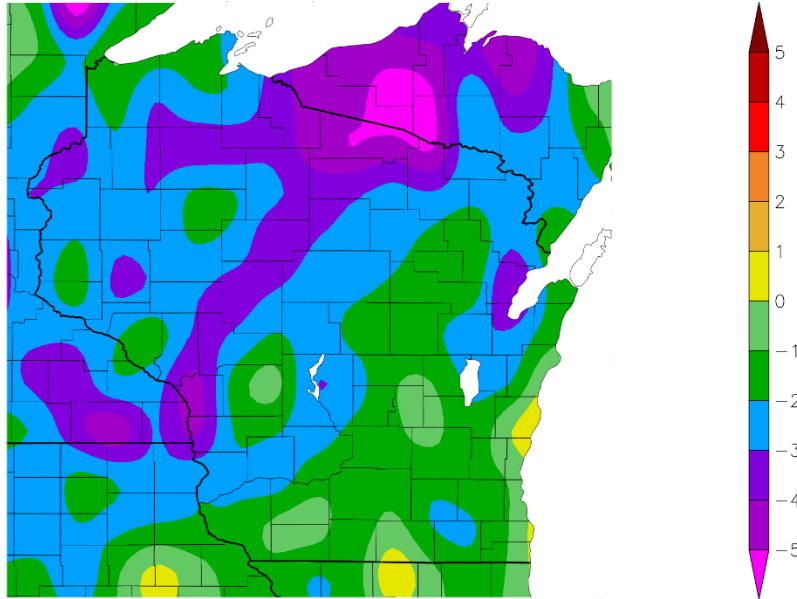
USDM Time Series



<http://droughtmonitor.unl.edu/>

7 Day Temperatures

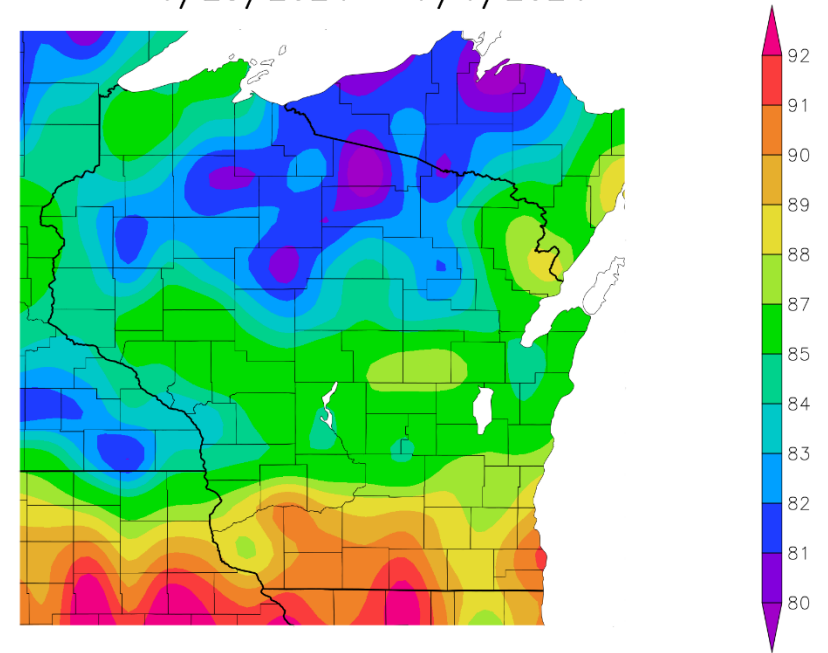
Departure from Normal Temperature (F)
6/25/2024 – 7/1/2024



Generated 7/2/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highest 1-Day Maximum Temperature (F)
6/25/2024 – 7/1/2024



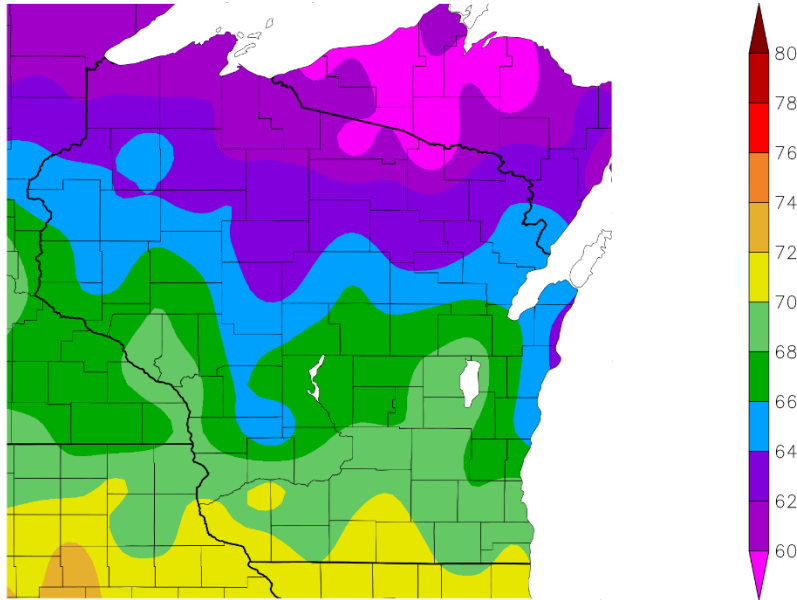
Generated 7/2/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- The week started off very warm, with highs reaching into **upper 80's/low 90's** in the S.
- Things turned cooler later in the week, with many being **1-3°F below normal**.
- Coolest in the far NC region → **4-5°F below normal**.

30 Day Temperatures

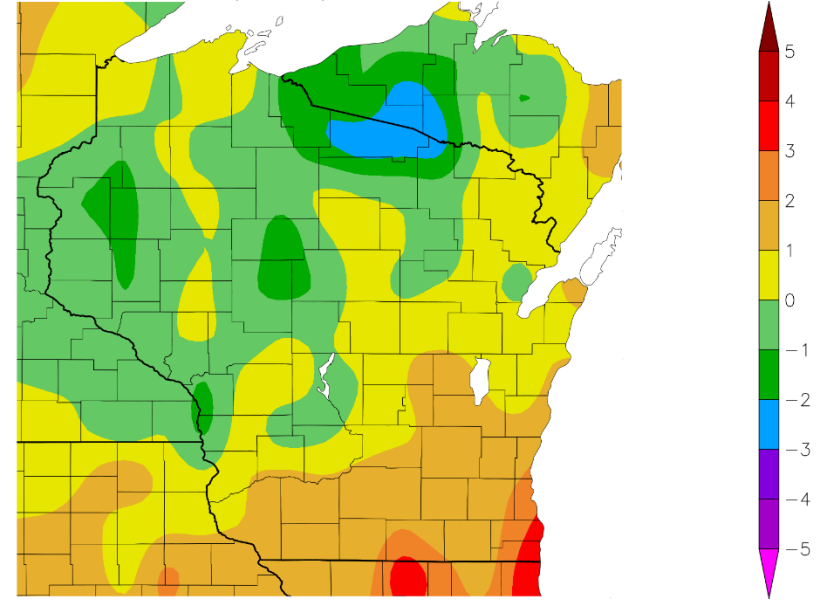
Temperature (F)
6/2/2024 – 7/1/2024



Generated 7/2/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
6/2/2024 – 7/1/2024



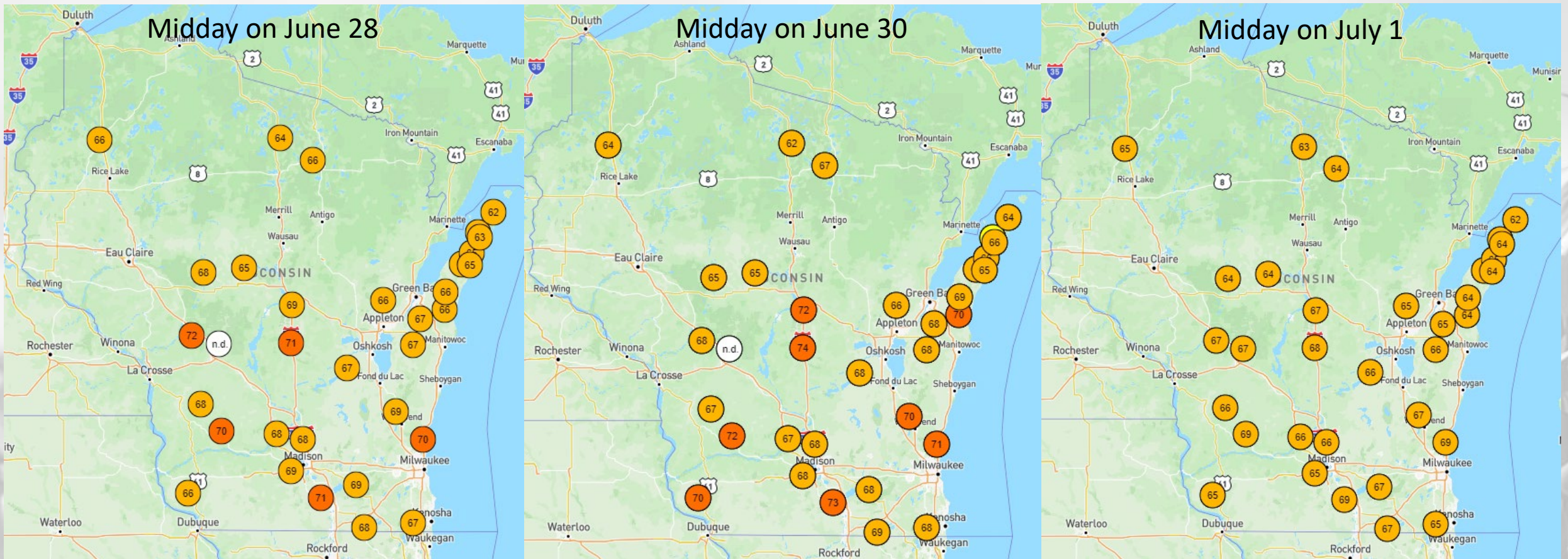
Generated 7/2/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Temperatures for the past month ranged from **68-72°F** in the S & W to **60-64°F** in the far N.
 - **Within $\pm 2^\circ\text{F}$** of climatological average was common across the state.
 - **Above normal** in the S and E; **below normal** to the N & W.

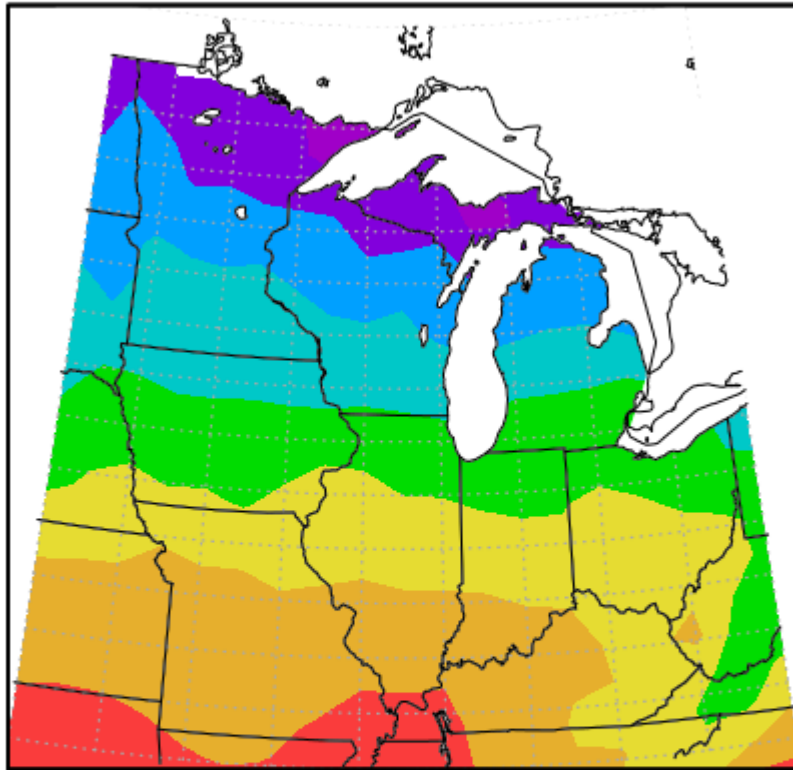
Wisconet Soil Temp – 4" Depth

<https://wisconet.wisc.edu/>



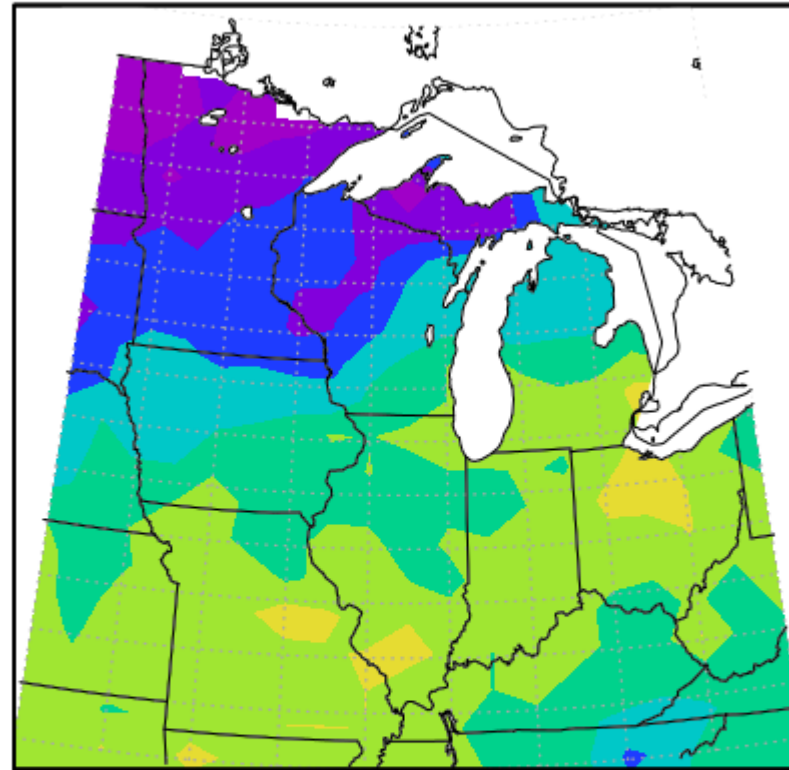
Growing Degree Days (Base = 50°F; Since April 1)

Total MGDD from 4/1/2024 to 7/1/2024



Midwestern Regional Climate Center
Purdue University

MGDD Departure, 4/1/2024 to 7/1/2024



Midwestern Regional Climate Center
Purdue University
Normals Period, 1991–2020

- **1000-1200** GDD in the S to **600-800** GDD in the N.
- SE WI is 100-150 GDD further **ahead of the average**; <50 ahead of average in the W/NW, with some behind average.

To calculate GDD for your corn variety and planting date, use this [tool](#).

To see specific degree models for pests in your location, use the [Vegetable Disease & Insect Forecasting Network](#).

https://mrcc.purdue.edu/climate_watch

NASS Crop Progress – Corn

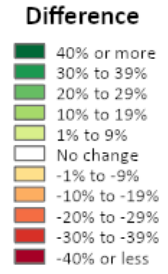
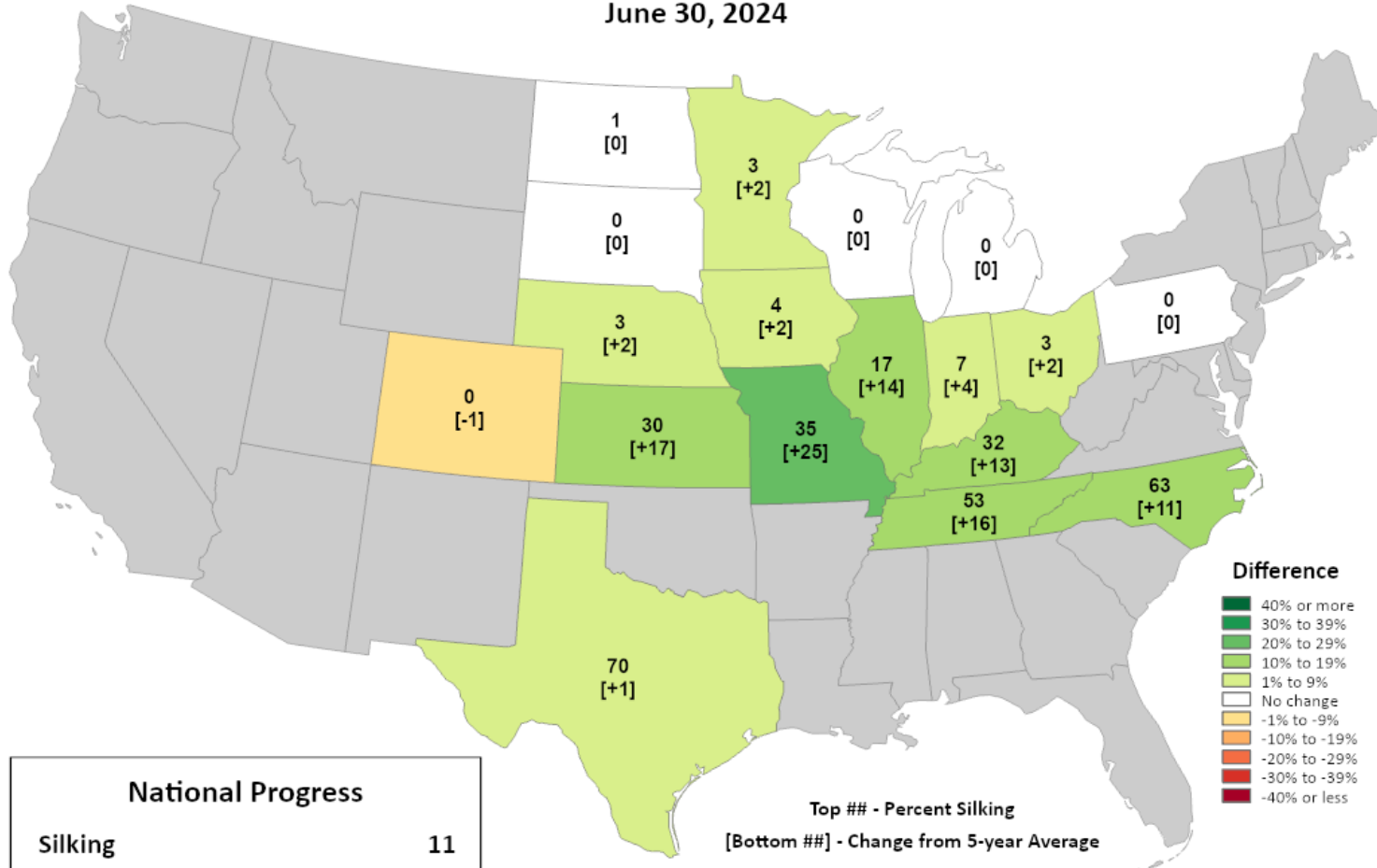


This product was prepared by the
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 World Agricultural Outlook Board (WAOB)

Corn Progress

Percent Silking

June 30, 2024



| National Progress | |
|----------------------------|----|
| Silking | 11 |
| Change from 5-year Average | +5 |

Top ## - Percent Silking
 [Bottom ##] - Change from 5-year Average

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

- Silking has not yet begun in WI but has in neighboring states. Silking is **ahead of normal pace** in those states.
- In WI, emergence is **94% complete**. 2% behind of the 5-year average pace & **5% increase** from last week.

NASS Crop Progress – Soybean

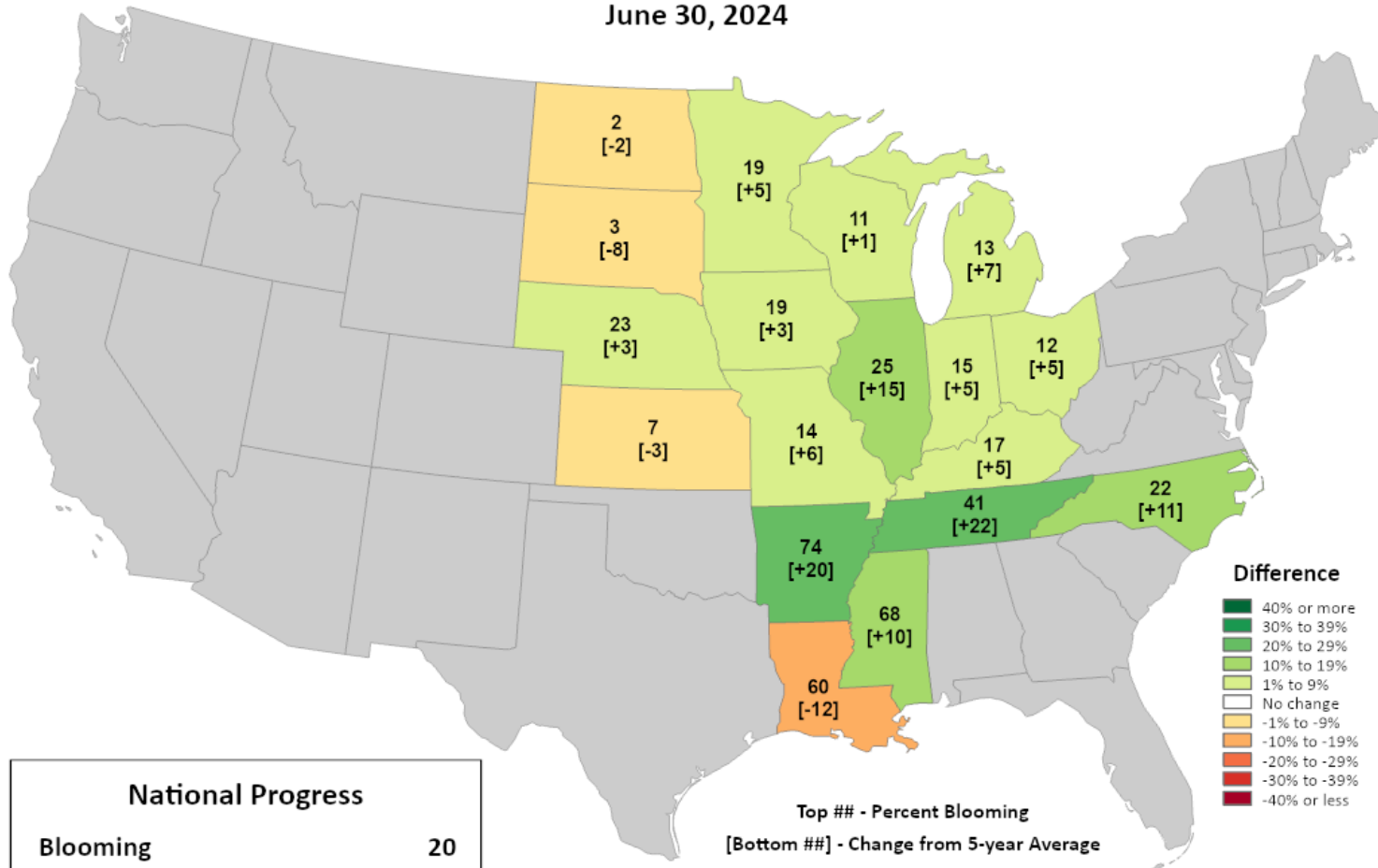


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World Agricultural Outlook Board (WAOB)

Soybeans Progress

Percent Blooming

June 30, 2024



| National Progress | |
|----------------------------|----|
| Blooming | 20 |
| Change from 5-year Average | +5 |

Top ## - Percent Blooming
[Bottom ##] - Change from 5-year Average

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

- Soybeans have begun to bloom across the Midwest. Blooming is running **ahead of normal** region-wide.
- In WI, emergence is **96% complete**. 2% ahead of the 5-year average pace & **6% increase** from last week.

NASS Crop Condition

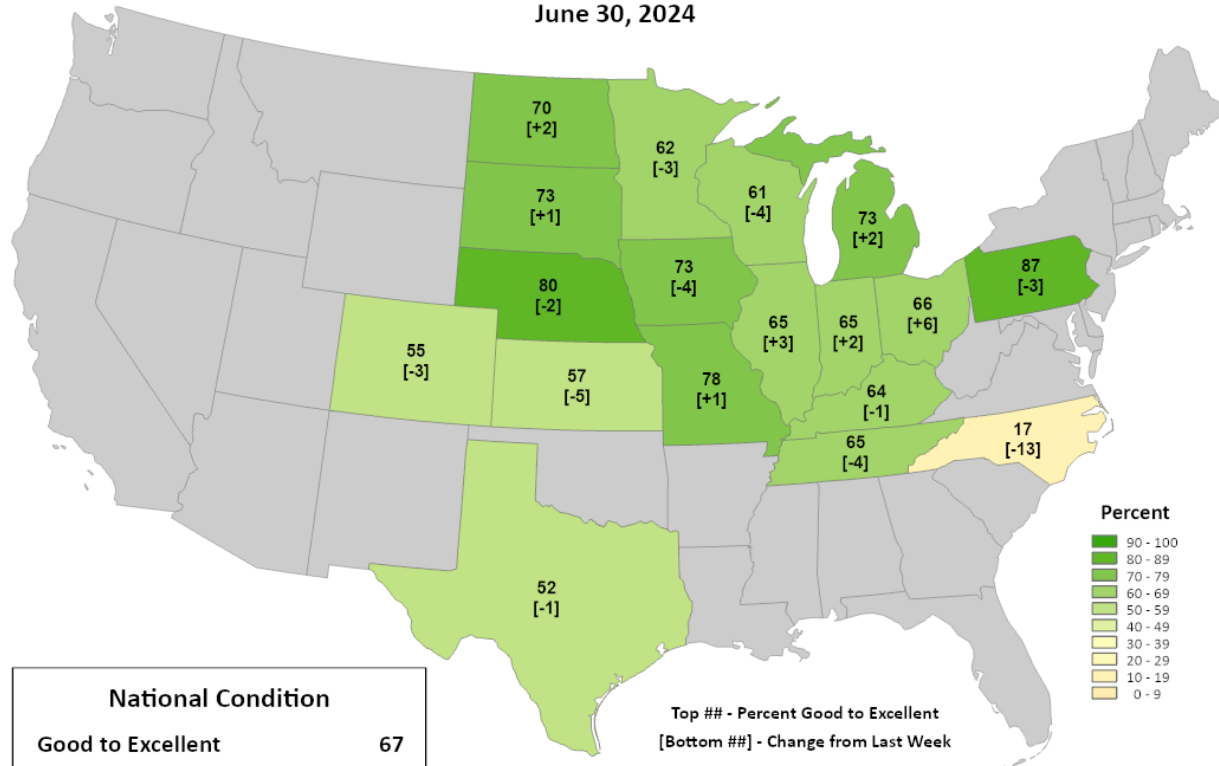


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Corn Conditions

Percent Good to Excellent

June 30, 2024



| National Condition | |
|-----------------------|----|
| Good to Excellent | 67 |
| Change from Last Week | -2 |

Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

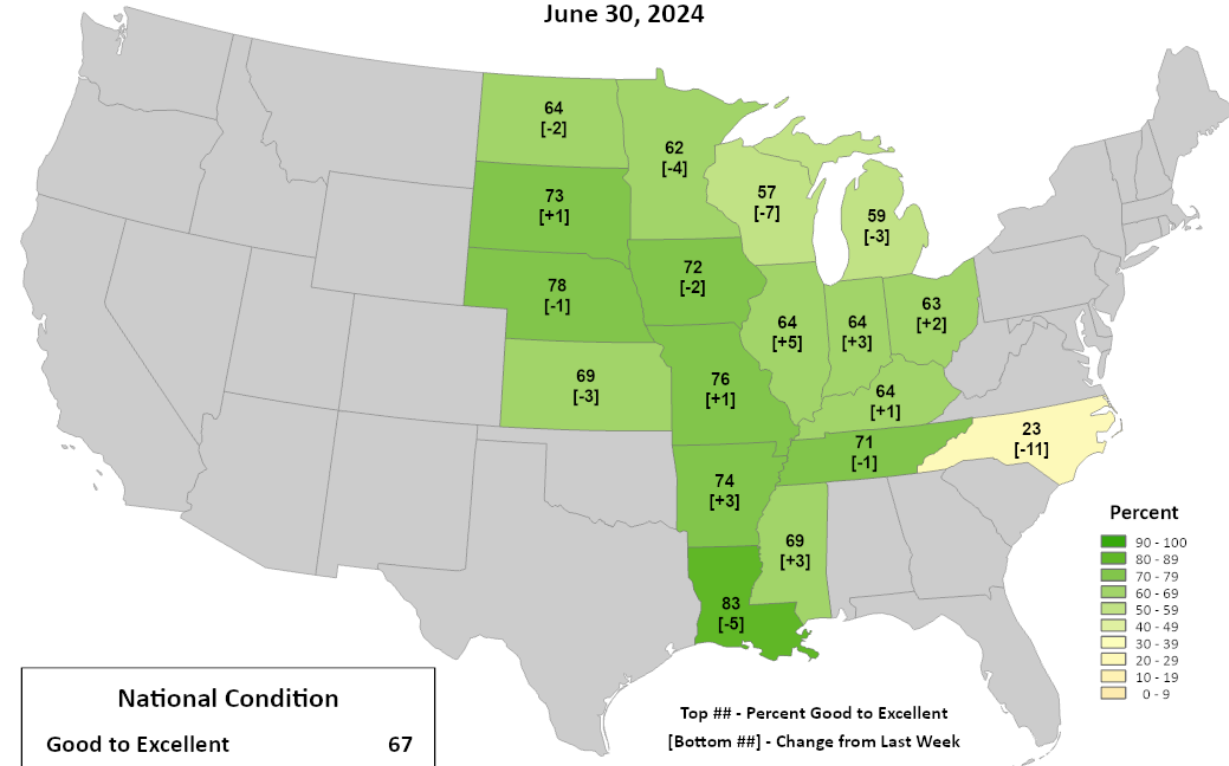


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Soybean Conditions

Percent Good to Excellent

June 30, 2024



| National Condition | |
|-----------------------|----|
| Good to Excellent | 67 |
| Change from Last Week | 0 |

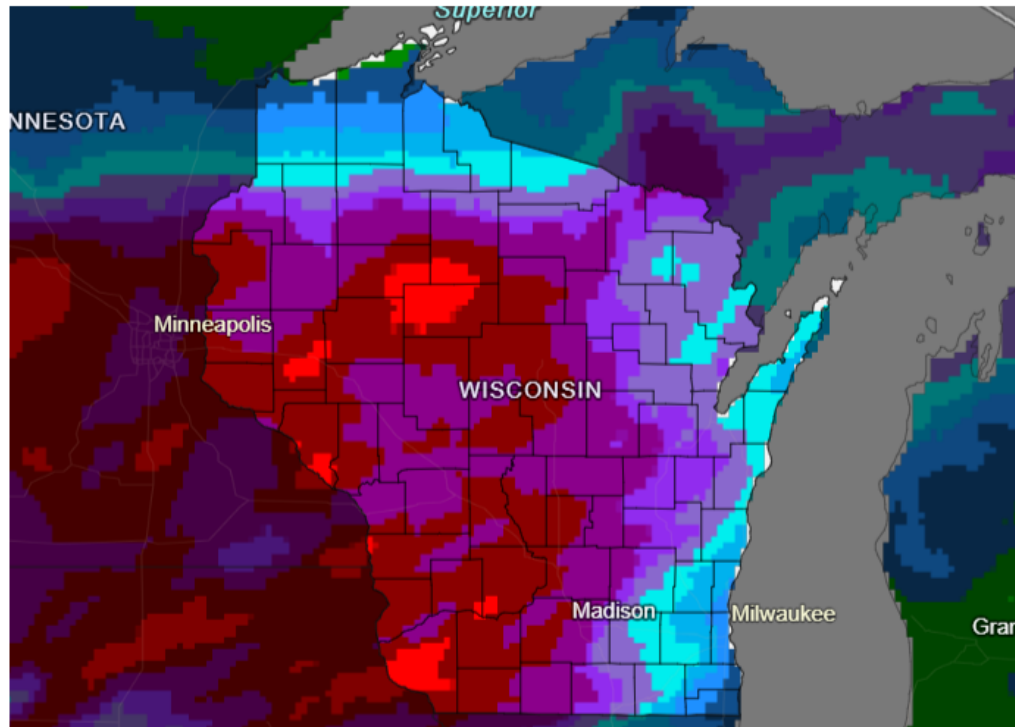
Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

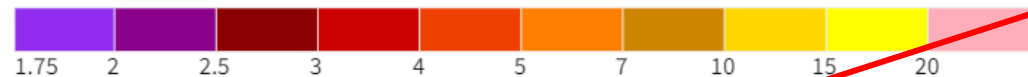
<https://agindrought.unl.edu/Other.aspx>

7 Day Precip Forecast

7-Day Quantitative Precipitation Forecast for July 2-9
2024



Predicted Inches of Precipitation



Source(s): National Weather Service Weather Prediction Center
Last Updated: 07/02/24

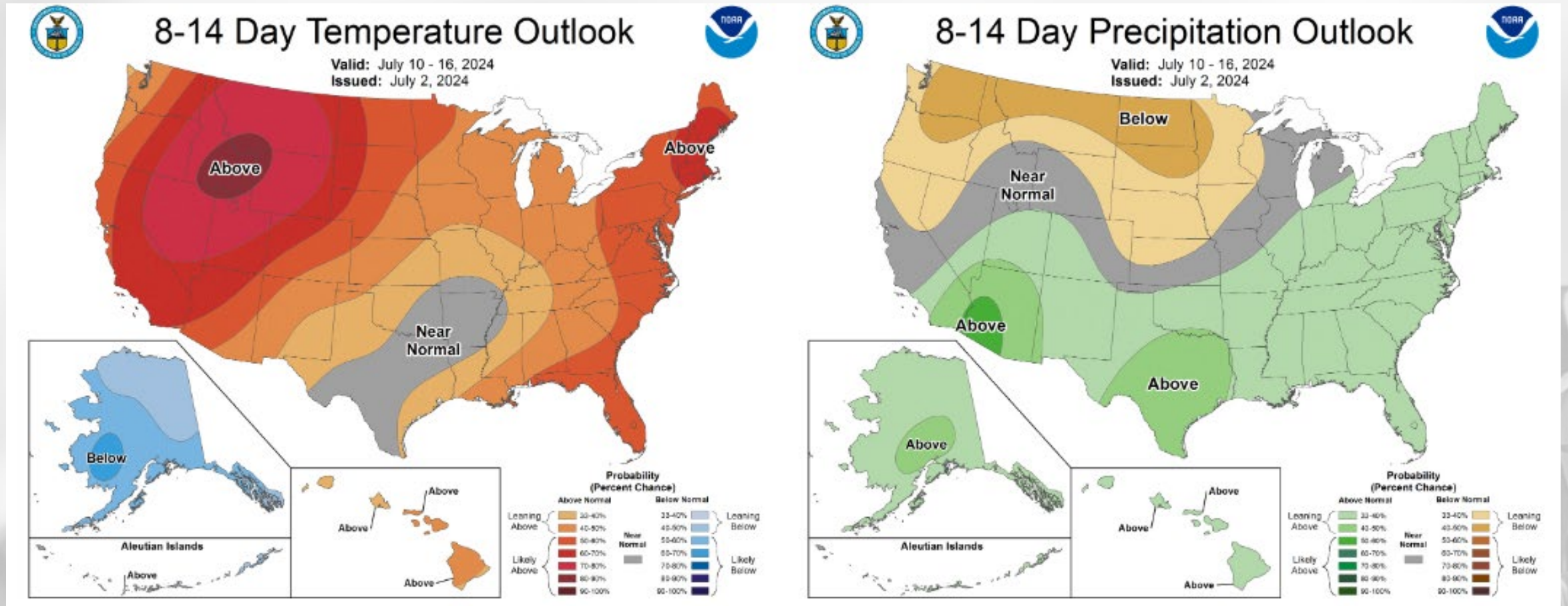
Drought.gov

- **Multiple rain chances** are forecasted over the next week, with chances for multiple inches in the **west**.
- Risk of excessive rainfall for Tuesday & Friday's storms. Be aware of flooding.
- Lesser along the Great Lakes.

Forecast for 7/2/24 thru 7/9/24
(Begins at 7am CDT)

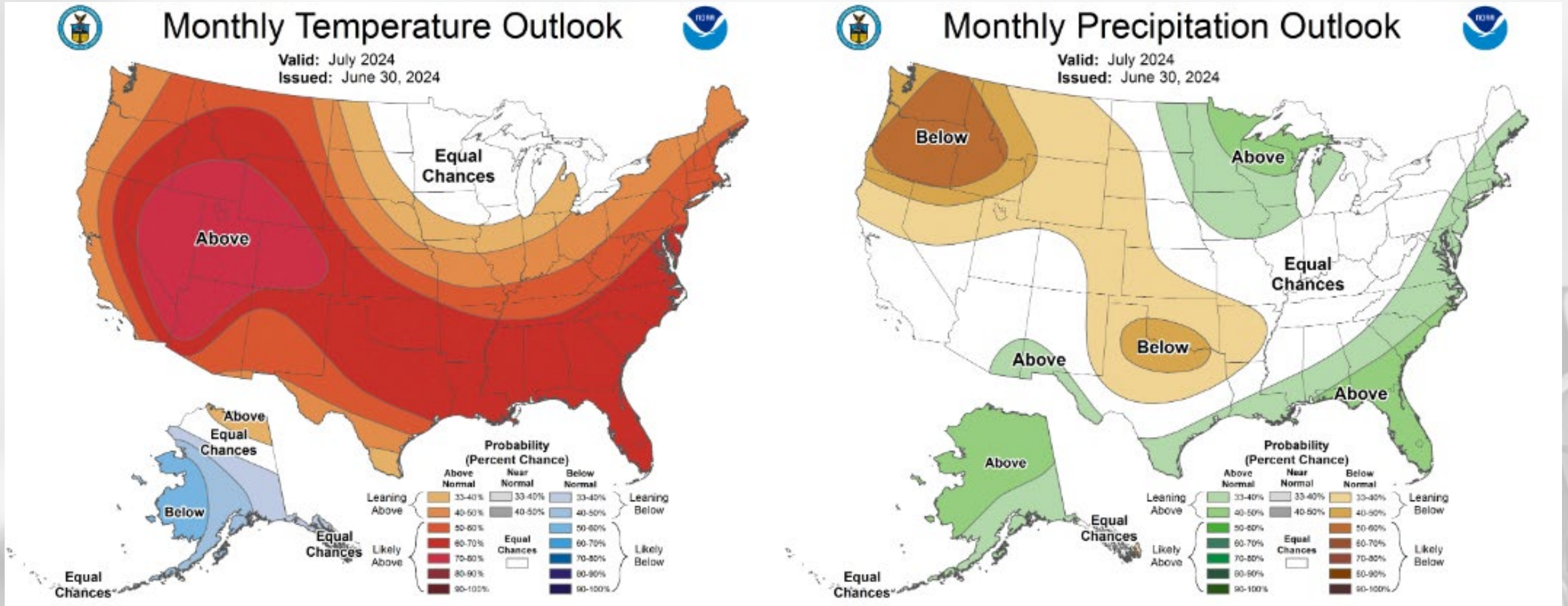
<https://www.wpc.ncep.noaa.gov/qpf/p168i.gif>
<https://www.drought.gov/states/wisconsin>

8-14 Day Temp & Precip Outlook



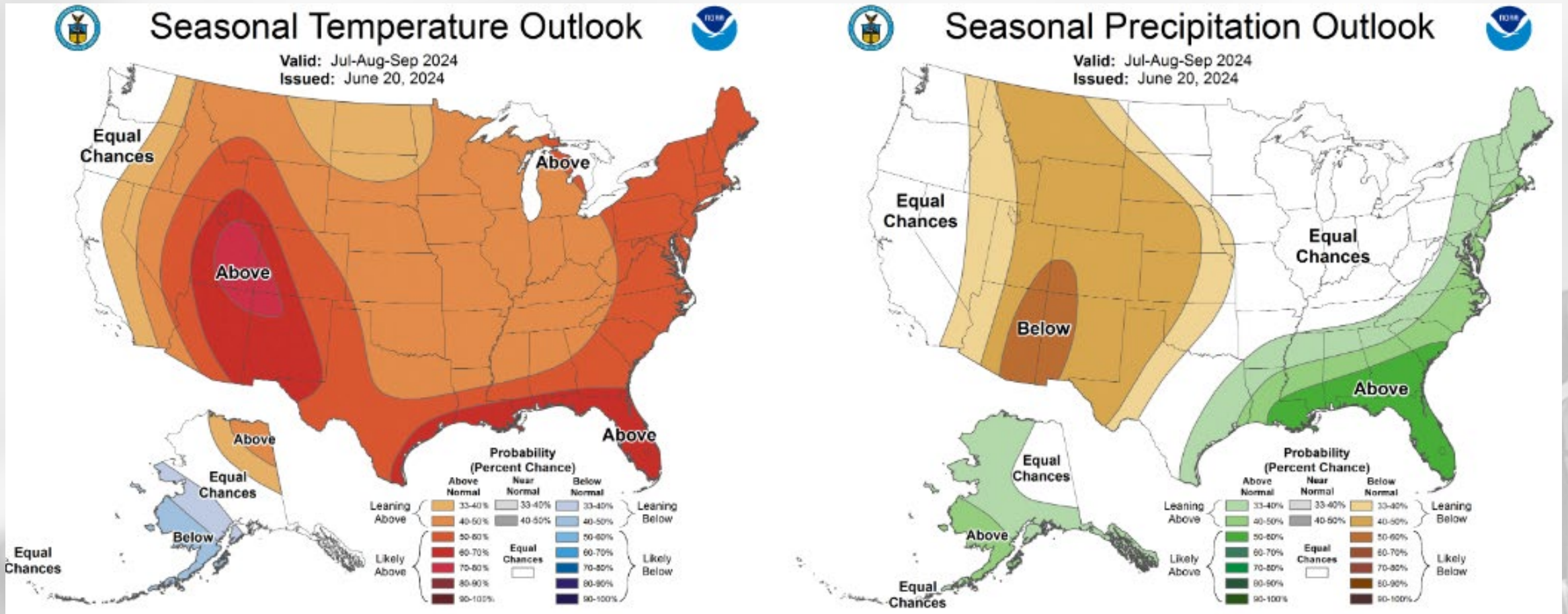
Middle of July: Temperatures leaning above normal. Precipitation leaning near normal for most, with the NW leaning below normal.

30 Day Temp & Precip Outlook



Month of July: Uncertainty for temperature with equal chances. Precipitation is leaning above normal.

90 Day Temp & Precip Outlook



Remainder of summer: Temperatures leaning towards above normal. Precipitation uncertainty with equal chances.

Take-Home Points

Current conditions:

- A hot and humid start to last week wrapped up **cooler-than-normal**, with a **drastic drop in dew points** over the weekend.
- **Flood warnings** are in place along the Mississippi & Rock Rivers. Last week, an additional 0.5+” of rainfall was observed for most in WI, adding to **above-normal totals** for the month of June.

Impact:

- Soil moisture levels remain in higher percentiles for this time of year, with **50-60%** of the state reporting good or adequate conditions.
- **All USDM drought categorizations have been eliminated in the state!**
- Growing degree days are approaching **1200 (800)** units in the southern (northern) counties.
- Corn & soybeans are **≥94%** emerged, with slight declines in the amount rated good to excellent for both crops.

Outlook:

- The forecast is calling for **multiple inches** of rain for many next week. **Excessive rainfall risk** is in place.
- Higher likelihood to stay **warmer-than-normal** heading into mid-July, with near-normal precip.
- The warmer-than-normal conditions have a higher probability to **continue** through the summer into early fall with a La Niña pattern taking shape.

Agronomic Considerations

Crop Development

- Soil moisture is adequate or even high in most places. Be cautious about doing fieldwork in muddy conditions, especially with more rain forecasted.
- As we near the end of planting season, consult your crop insurance agent before making decisions regarding prevent plant or replant
 - Cover crops(non-corn) on prevent plant acres may now be harvested as forage at any time during the season
 - See info on [alternative forages](#) and [cover crops](#)
- Hot days mean accumulations of 20+ GDUs per day. Keep on top of your growth stages to time other applications.

Nutrient & Herbicide Applications

- Consider doing tissue testing and pre-sidedress nitrate testing after crop has emerged to assess fertilizer need.
- Consider splitting nutrient applications if possible.
- Consider using urease and nitrification inhibitors to minimize leaching or denitrification.

Manure Applications

- Runoff risk is severe in parts of the state in the next week. Be mindful of the possibility of runoff and plan manure applications accordingly. Check the DATCP runoff risk advisory forecast [here](#).

Pest Management

- Variegated cutworm is showing up in parts of the state. Sign up to receive text alerts when pests are in your region [here](#).
- Start to monitor for potato leafhopper pressure in alfalfa, additional information on management [here](#).
- Japanese beetle emergence is underway, see [here](#) for management information.
- Take fusarium and DON risk into account when harvesting wheat, more information [here](#).
- As crops near reproductive stages, assess risk of tar spot and white mold, information available [here](#).

Forage Management

- The wet spring has meant mixed results for new alfalfa seedings. Read more [here](#).
- Ensure wide swaths when mowing alfalfa to increase rate of drying and harvest sooner, reducing risk of rain damage.

User Survey

Are you a regular user of the Wisconsin Ag Climate Outlook (WACO)? Or maybe you are viewing these slides for the first time this week? Either way, we want to hear **your** feedback on this new resource! Please take a few minutes and fill out this survey:

[LINK TO SURVEY](#)

Your feedback will help us better serve your ag-climate data needs through WACO.

If you have any trouble accessing or filling out the survey, please email Josh Bendorf at Joshua.Bendorf@usda.gov.

Thank you!!

-The WACO Team

Citizen Science Opportunity

CoCoRaHS – Community Collaborative Rain, Hail, & Snow Network

The Mission

(From cocorahs.org)

- Provide accurate high-quality precipitation data for end-users;
- Increasing the density of precipitation data available throughout the country;
- Encouraging citizens to have fun participating in meteorological science and heightening their awareness about weather;
- Providing weather education opportunities.



Sign Up Here:

<https://cocorahs.org/Content.aspx?page=application>

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Photo Credit: USDA



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