

Wisconsin Ag Climate Outlook

Week of July 22, 2024

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A note from the authors

Due to the WACO authors having a full week of meetings, travel, and/or personal leave, this week's WACO is being compiled on **Monday, July 22, one day earlier than normal**. Please note that the observations and projections will be affected by this shift. Events that occur on late Monday and Tuesday, July 23, will be covered in next week's WACO.

Have a great week!!

-Team WACO

Key Points

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

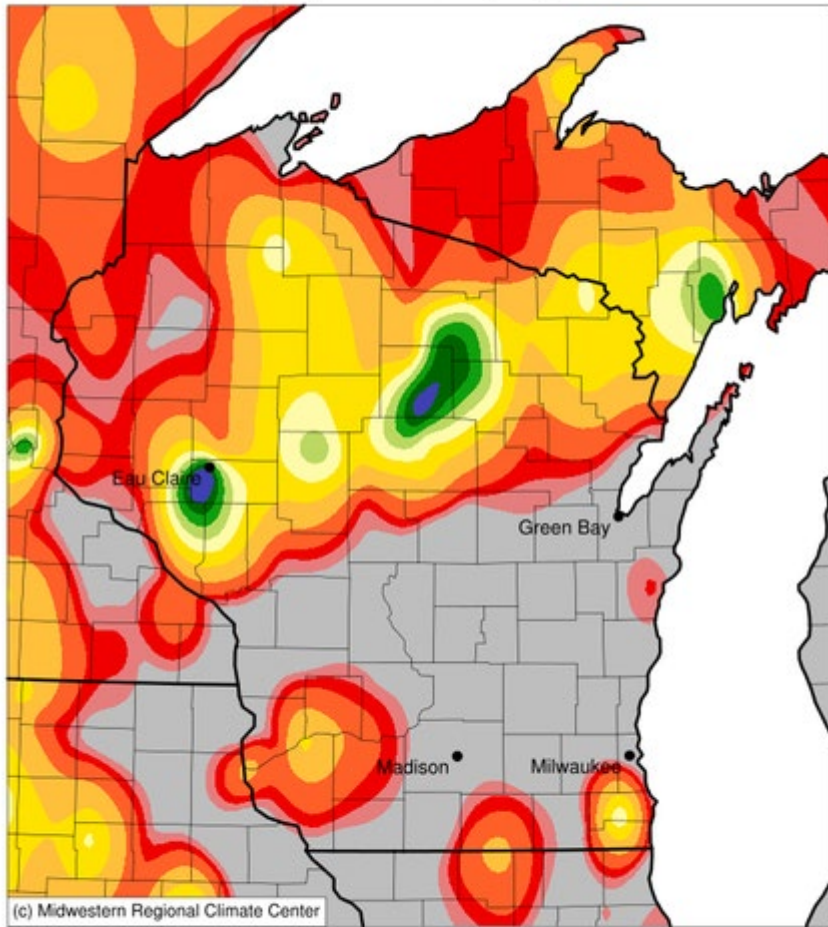
- 1) A relatively [dry week](#) for many in the state helped reduce soil moisture [percentiles](#), with levels at [70-80% adequate](#).
- 2) Cooler than normal [temps](#) for most last week, but this looks to shift to being [warmer than normal](#) by month's end.
- 3) Corn and soybeans made jumps in the percent good to excellent [condition](#) as both crops enter their [reproductive phases](#).

- For this week's agronomic recommendations from UW Extension, click [here](#).
- For the latest GDD accumulation maps, click [here](#).
- For NASS crop progress & condition maps, click [here](#).

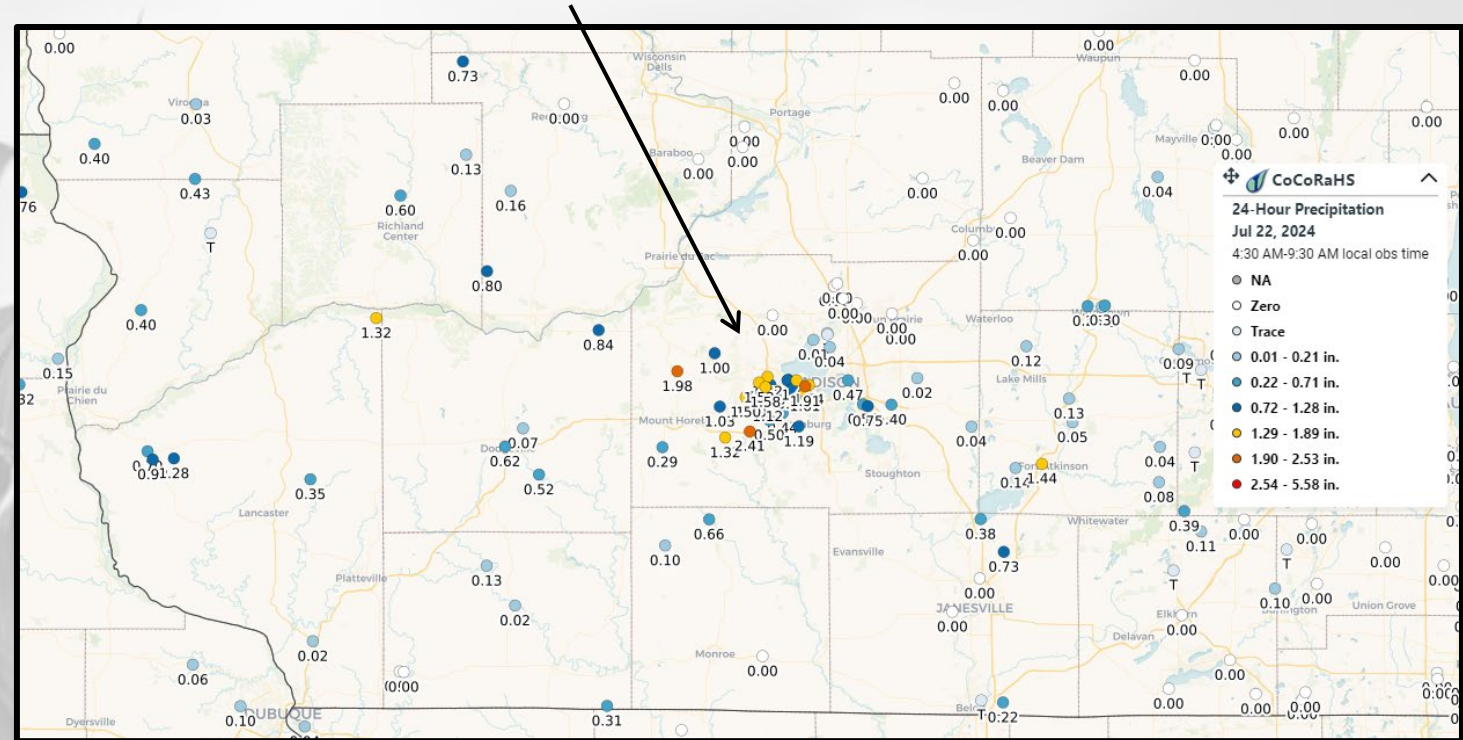
Hit or Miss Precip Last Week

Accumulated Precipitation (in): Percent of 1991-2020 Normals

July 17, 2024 to July 21, 2024



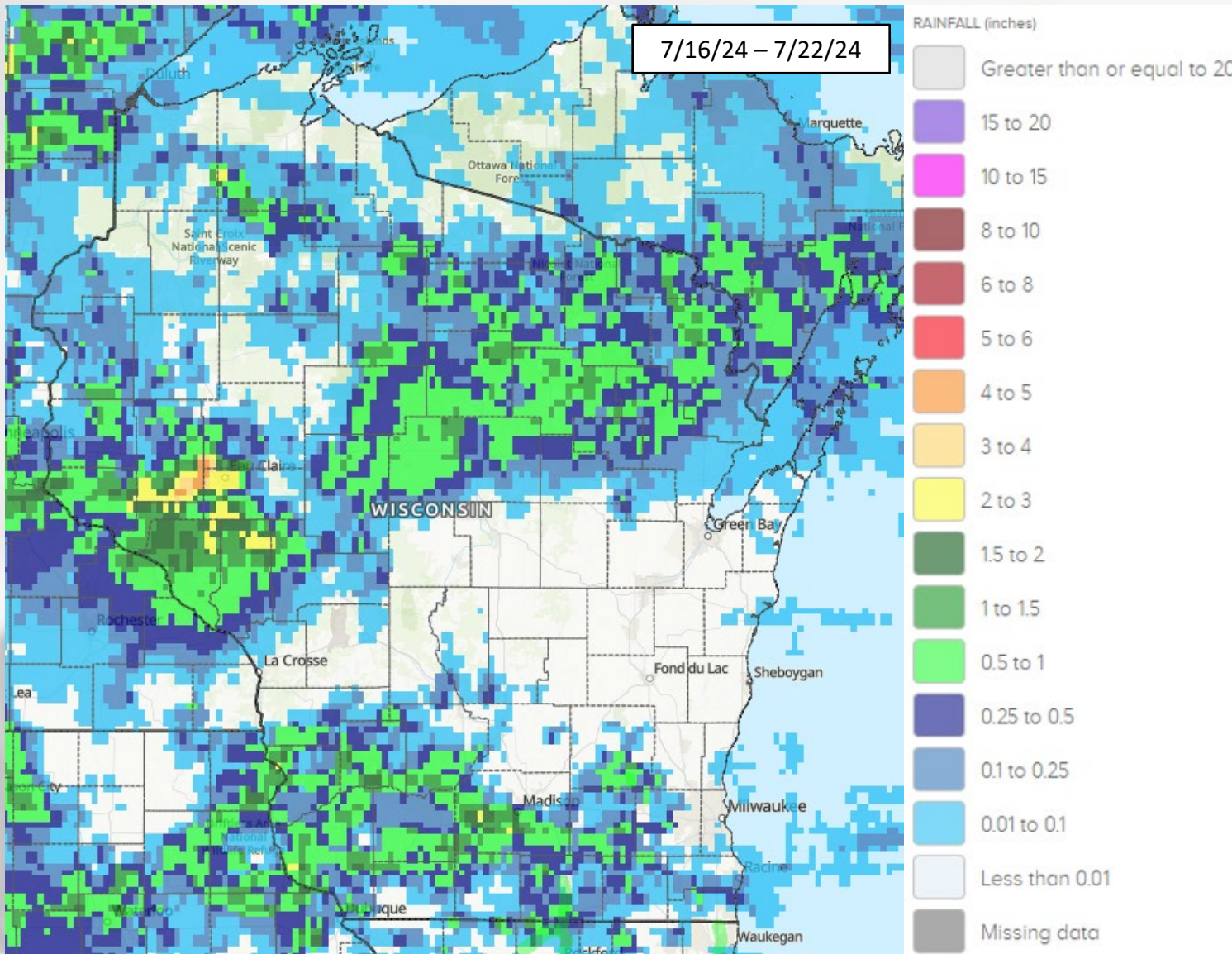
- Relatively dry period from the middle of last week through Saturday.
- Pockets of heavier precip near Eau Claire and in/near Lincoln County on Saturday.
- Scattered strong thunderstorms brought locally heavy rainfall totals on Sunday afternoon, especially in the Madison area.



<https://mrcc.purdue.edu/CLIMATE>

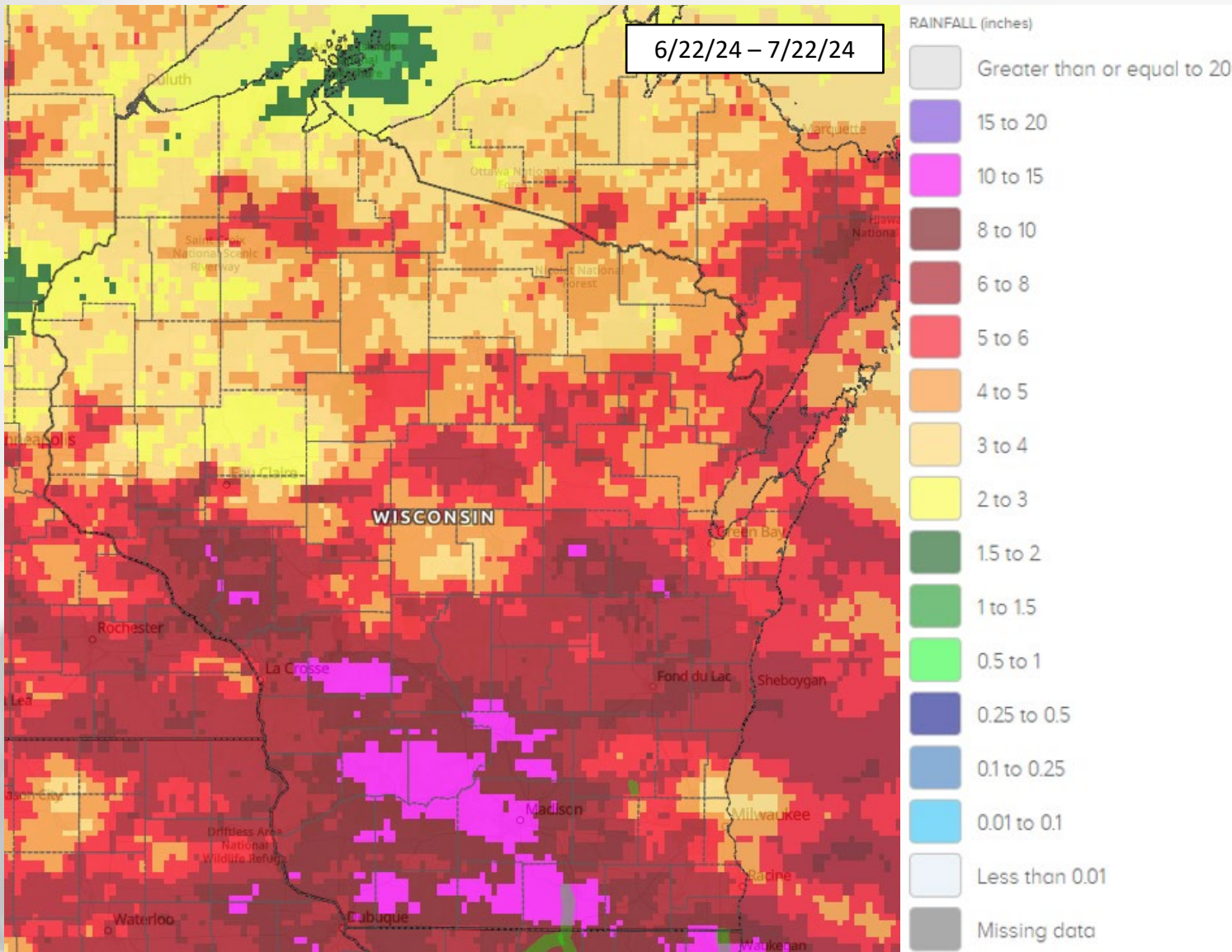
<https://maps.cocorahs.org/>

6 Day Precip



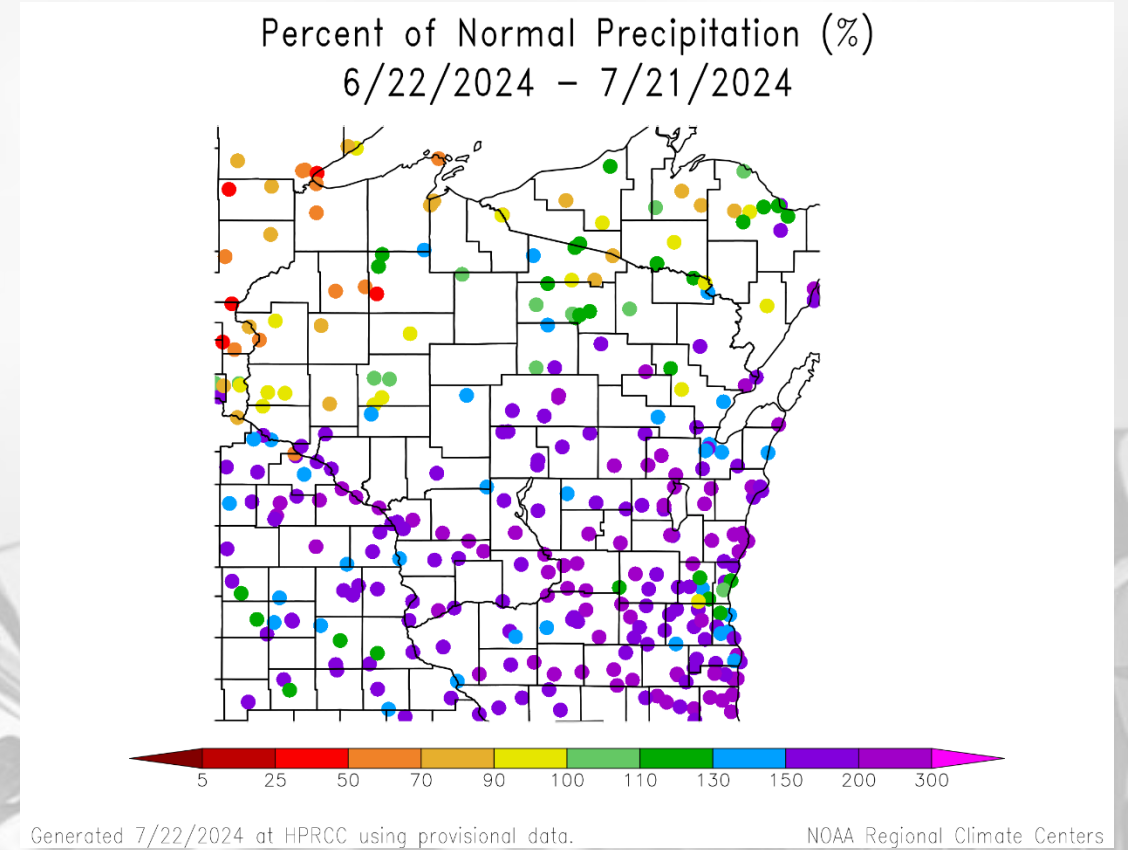
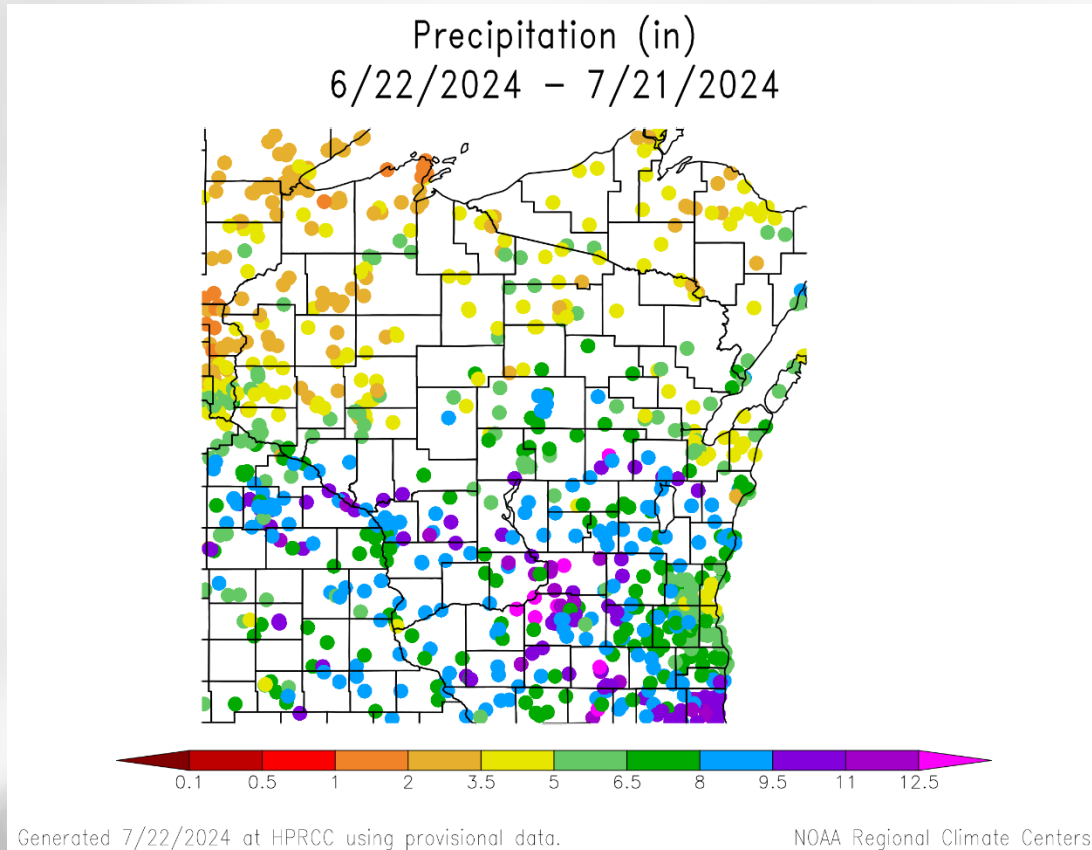
- Most of the state received a **half inch or less** of precip last week.
- Highest totals in the Eau Claire/Menomonie area → **2-4"**
- **1" or more** scatted in the SW/SC, WC, and northern counties.

30 Day Precip



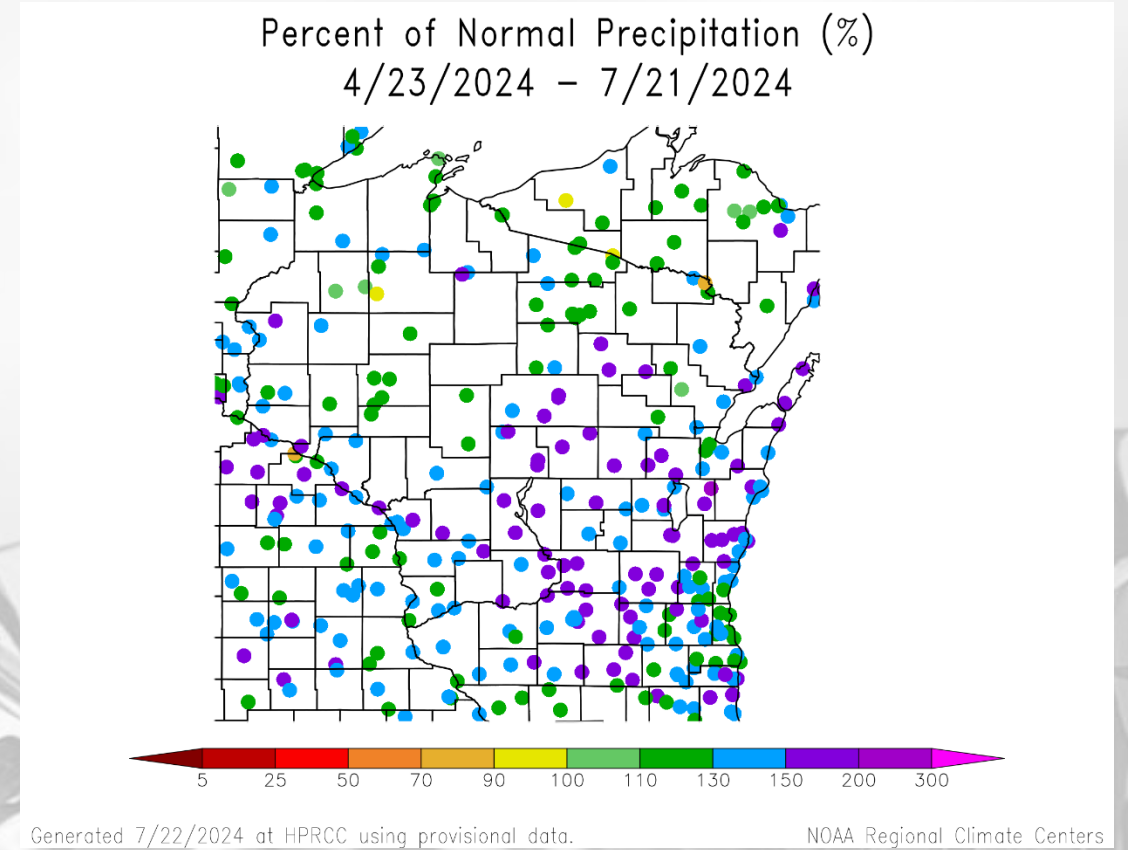
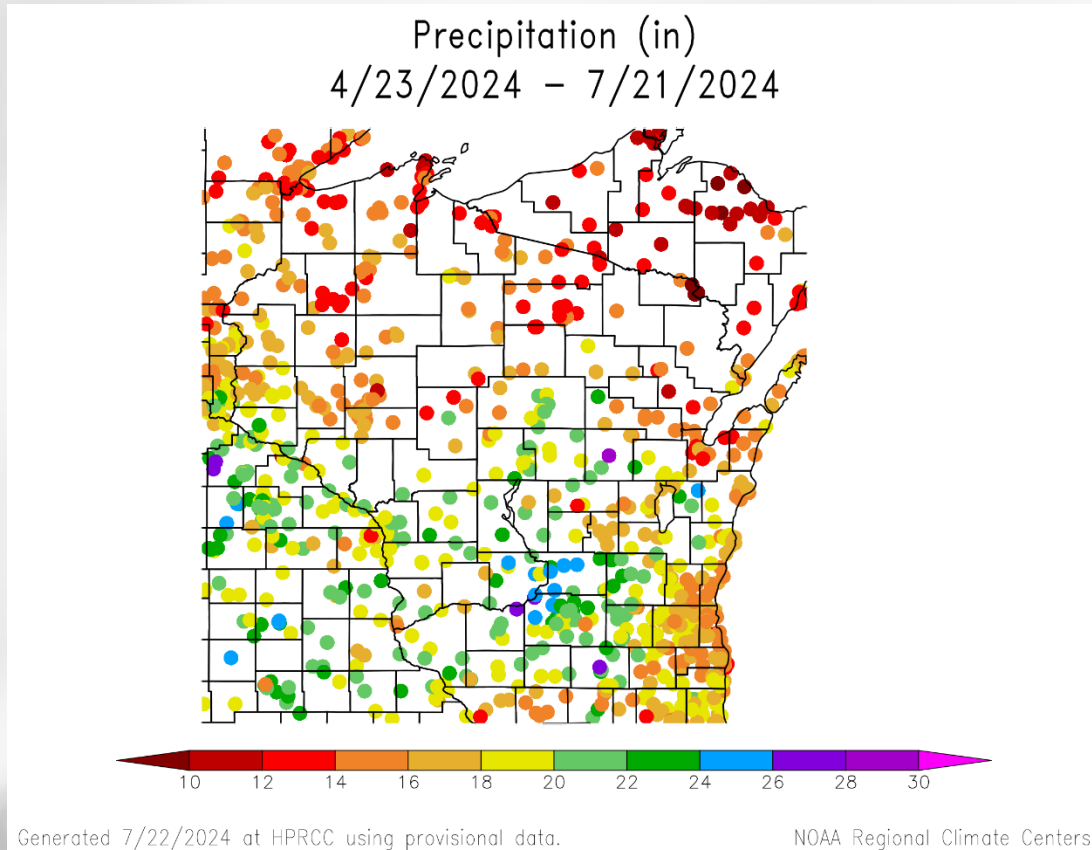
- **6-10"** of monthly precip common across the southern 2/3rd of the state.
- **10" or more** was common in the SW and SC counties.
- **4" or less** is estimated in large portions of the NW counties.

30 Day Precip Total/% Avg.



- Monthly totals of **over 1 foot** north of Madison as well as in Rock & Waupaca Counties.
- In general, **higher totals in the south** compared to the north.
- **150-300%** of average common in the south; **<100%** in the northwest counties.

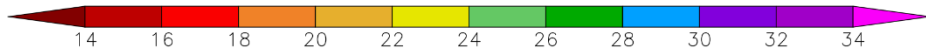
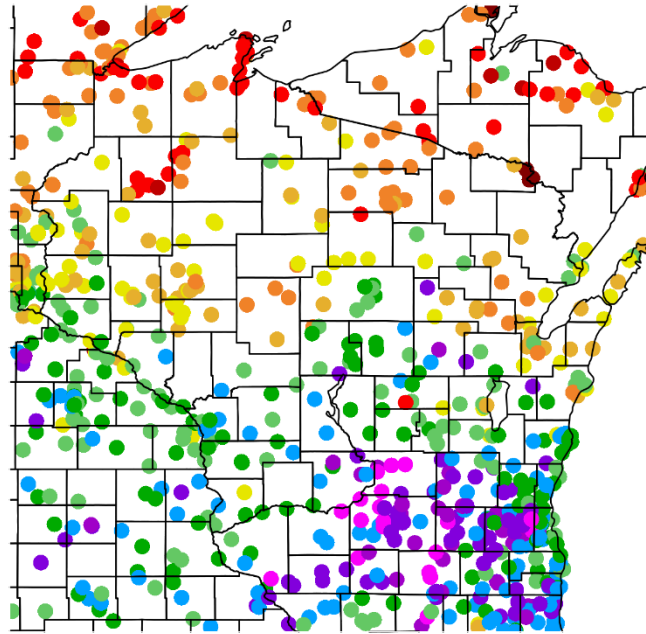
90 Day Precip Total/% Avg.



- **Over 2 feet** of precip accumulated just north of Madison, with **20+”** common in the W, C, and SW/SC counties.
- Lowest totals in the far northern counties → **<14”** (red dots) common.
- Majority of stations are at **130% or more** of normal; **100-130%** near Milwaukee and the NW/NC.

2024 Precipitation (so far)

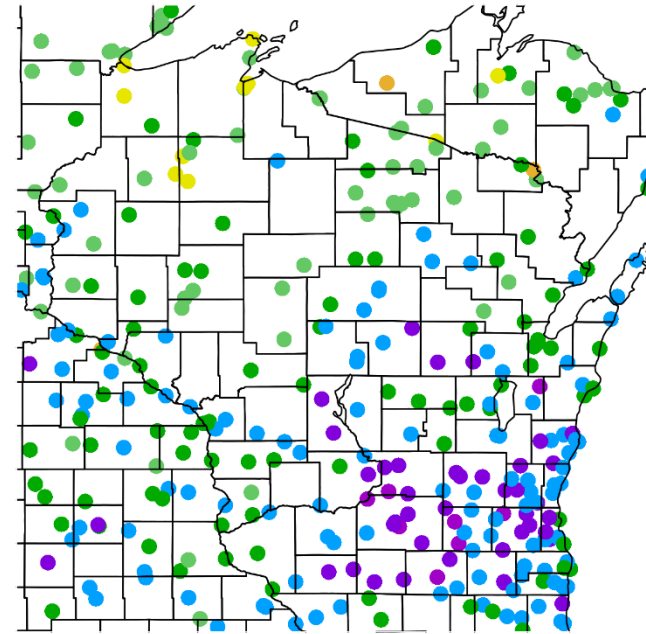
Precipitation (in)
1/1/2024 – 7/20/2024



Generated 7/21/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)
1/1/2024 – 7/20/2024



Generated 7/21/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Soil Moisture Models

- A **notable drop** in soil moisture percentiles after a relatively dry week last week for most in WI.
- **90th percentile** or higher in the southern and western counties, with **70th percentile** or lower to the north/northeast.

Model Notes:

Red areas = top 5 driest in 100 years.

Dark red areas = top 2 driest in 100 years.

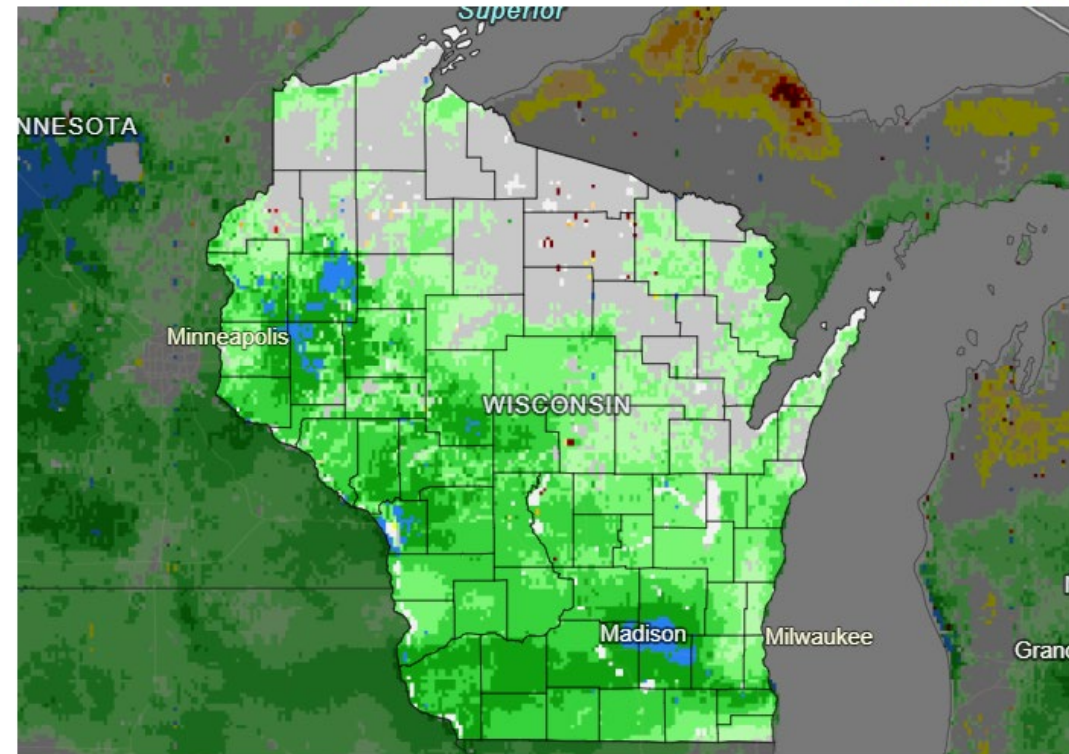
Blue areas = top 2 wettest in 100 years.

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.

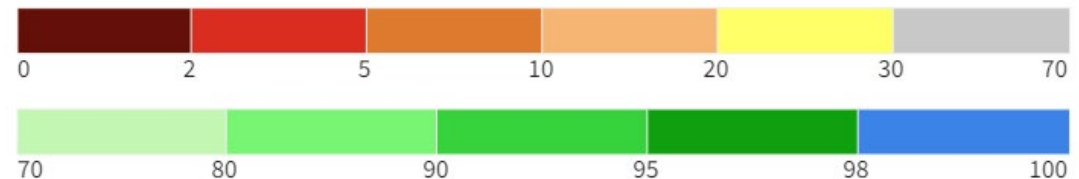
https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html

<https://www.drought.gov/states/wisconsin>

0-100 cm Soil Moisture Percentile



0-100 cm Soil Moisture Percentile

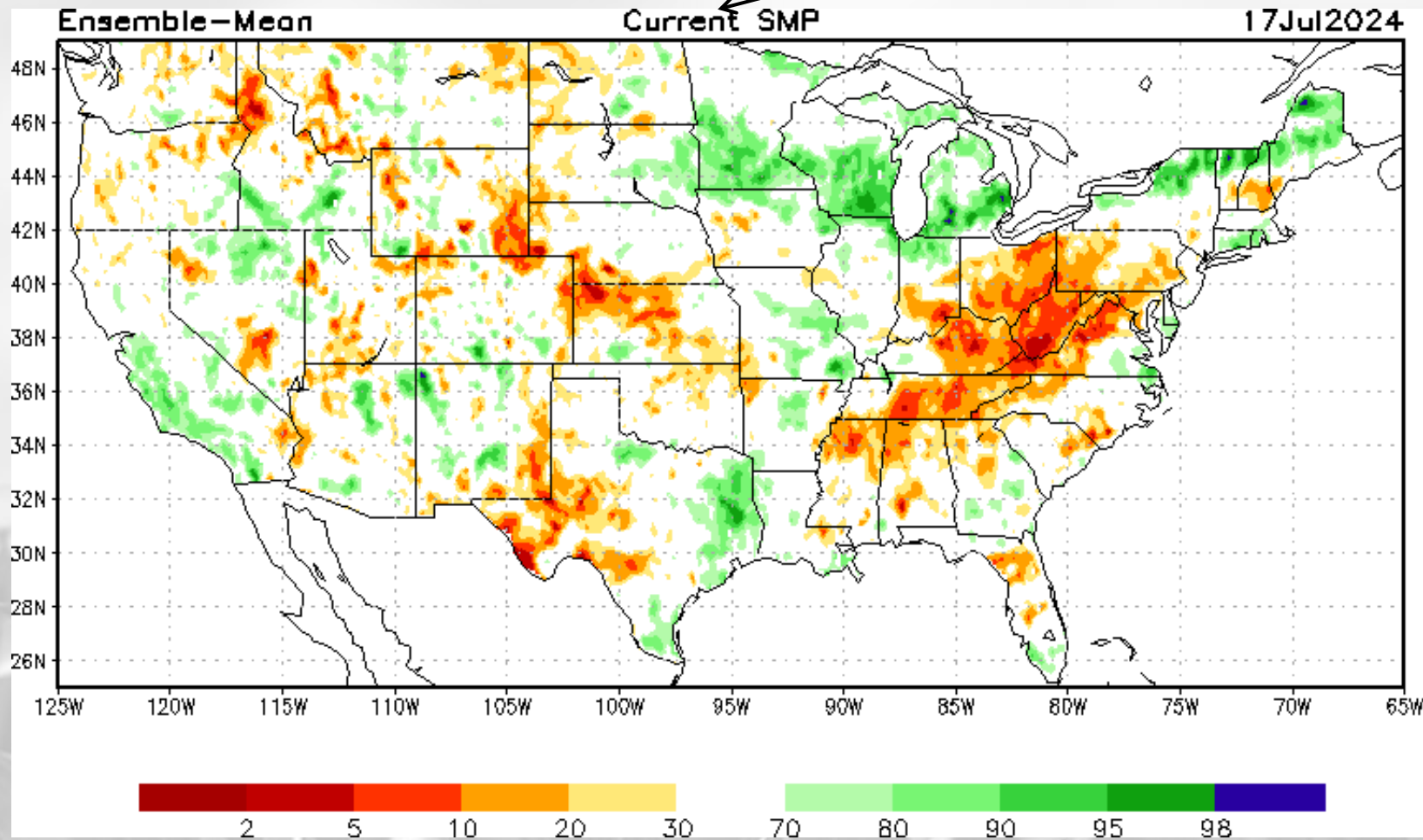


Source(s): NASA
Data Valid: 07/22/24

Drought.gov

Soil Moisture Models

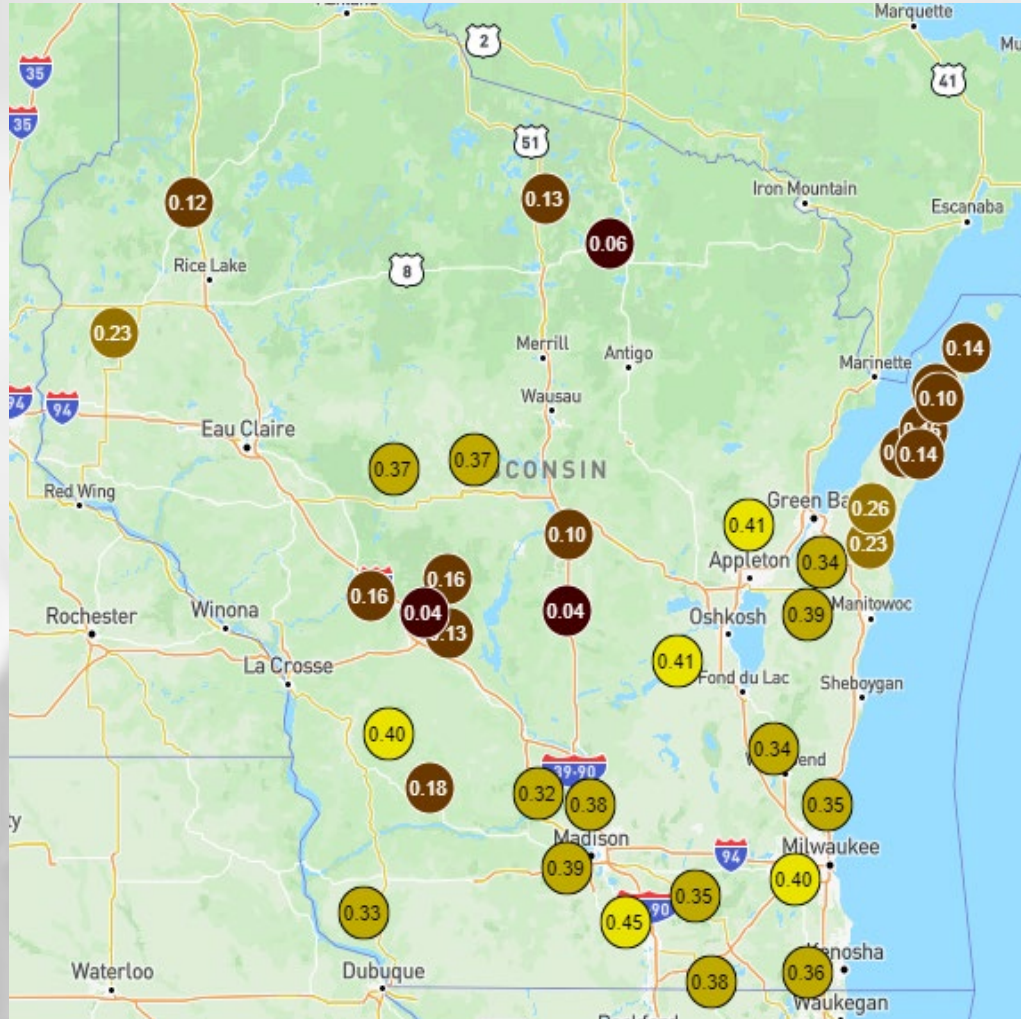
NOTE: this map displays the soil moisture percentile for July 17. It was the most recent update on July 22.



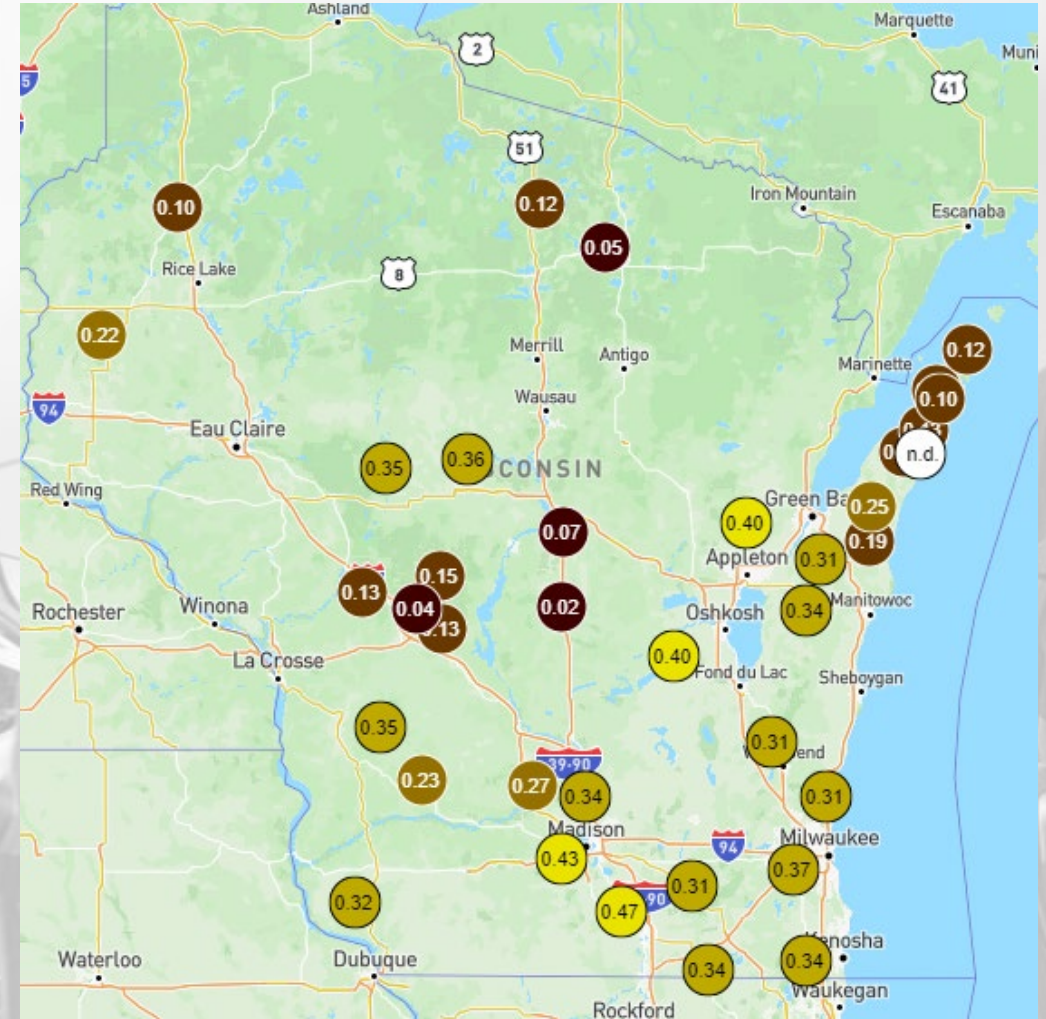
https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml

Wisconet Soil Moisture (4" Depth)

Friday, July 19th @ Midday



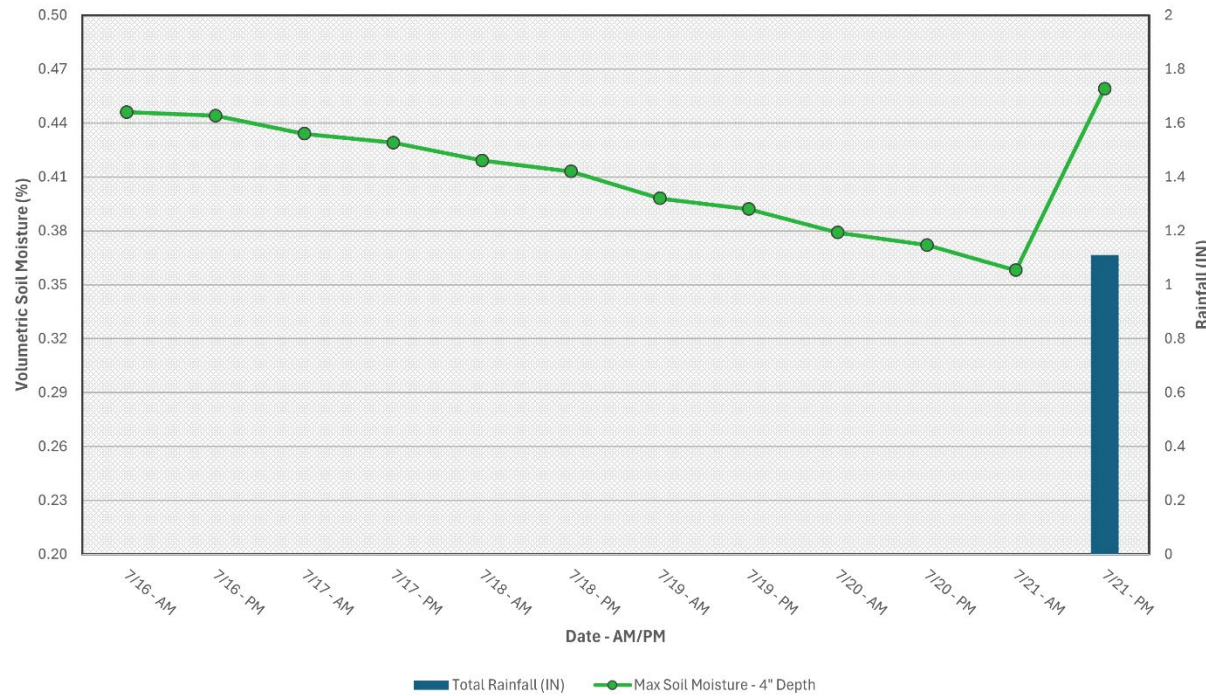
Monday, July 22nd @ Midday



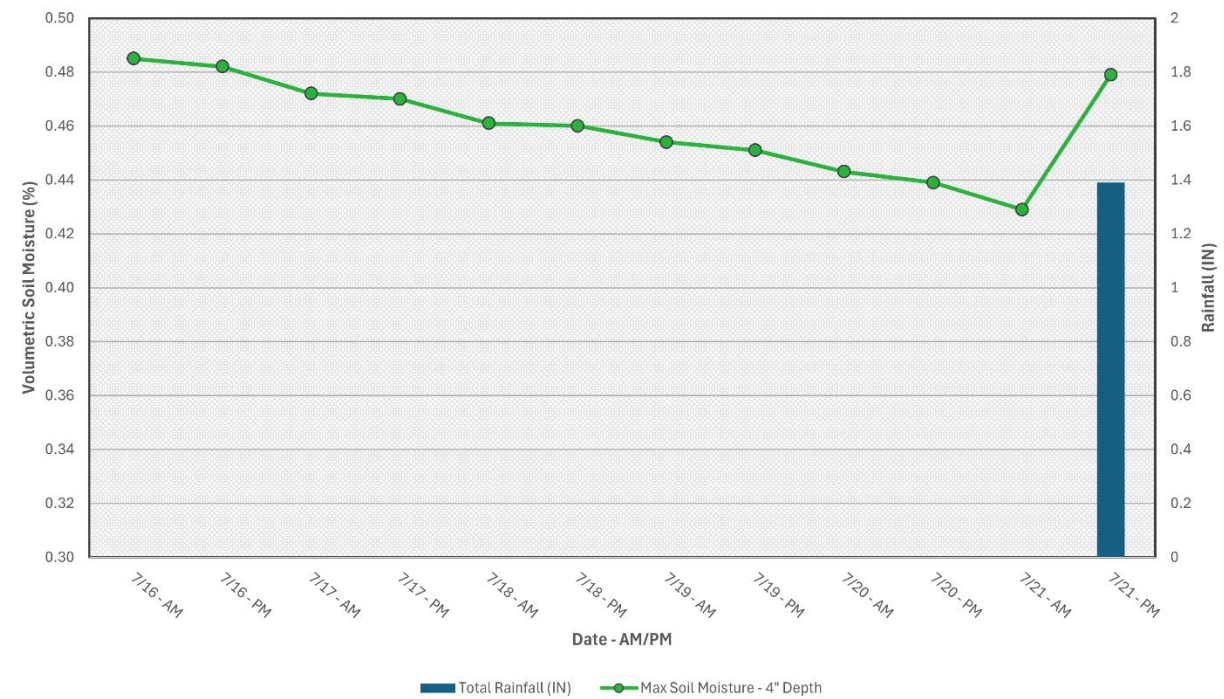
Wisconet Soil Moisture – 4" Depth

Soil moisture time series at select Wisconet stations

Rain & Soil Moisture - Verona (Dane Co.), WI (OJNR)



Rain & Soil Moisture - Porter (Rock Co.), WI (GLCP)



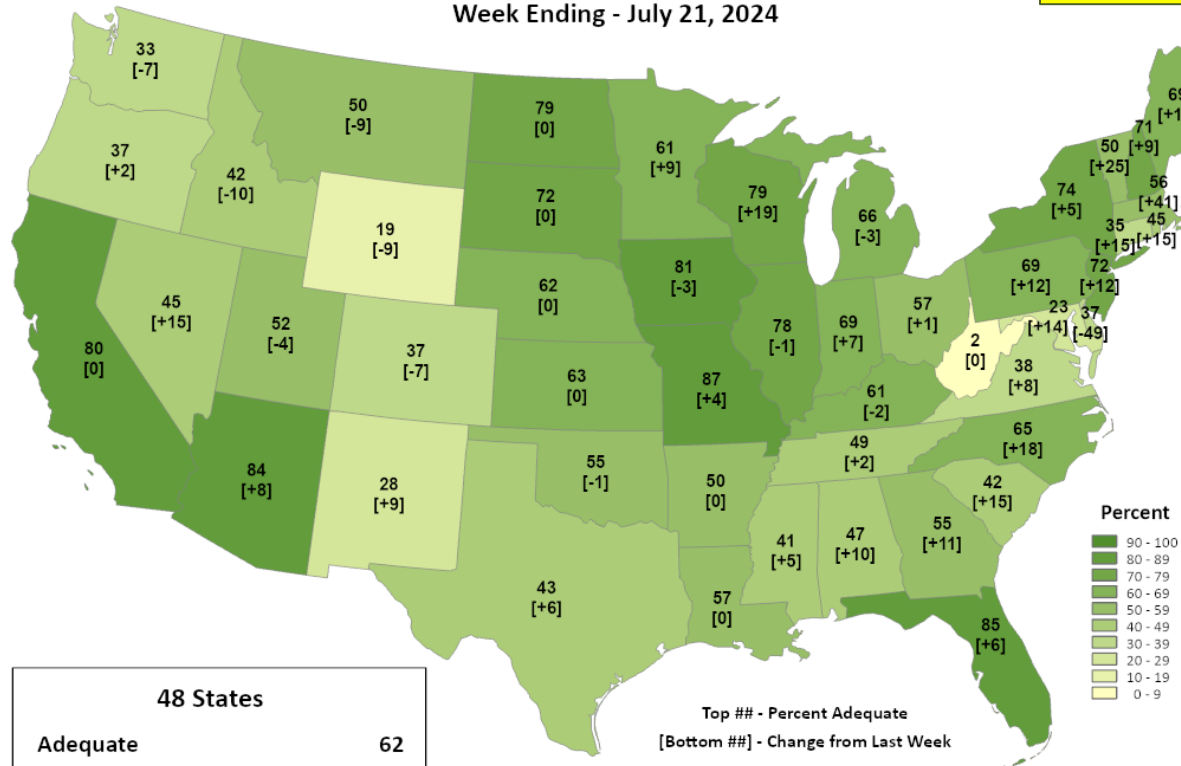
NASS Topsoil & Subsoil Moisture



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

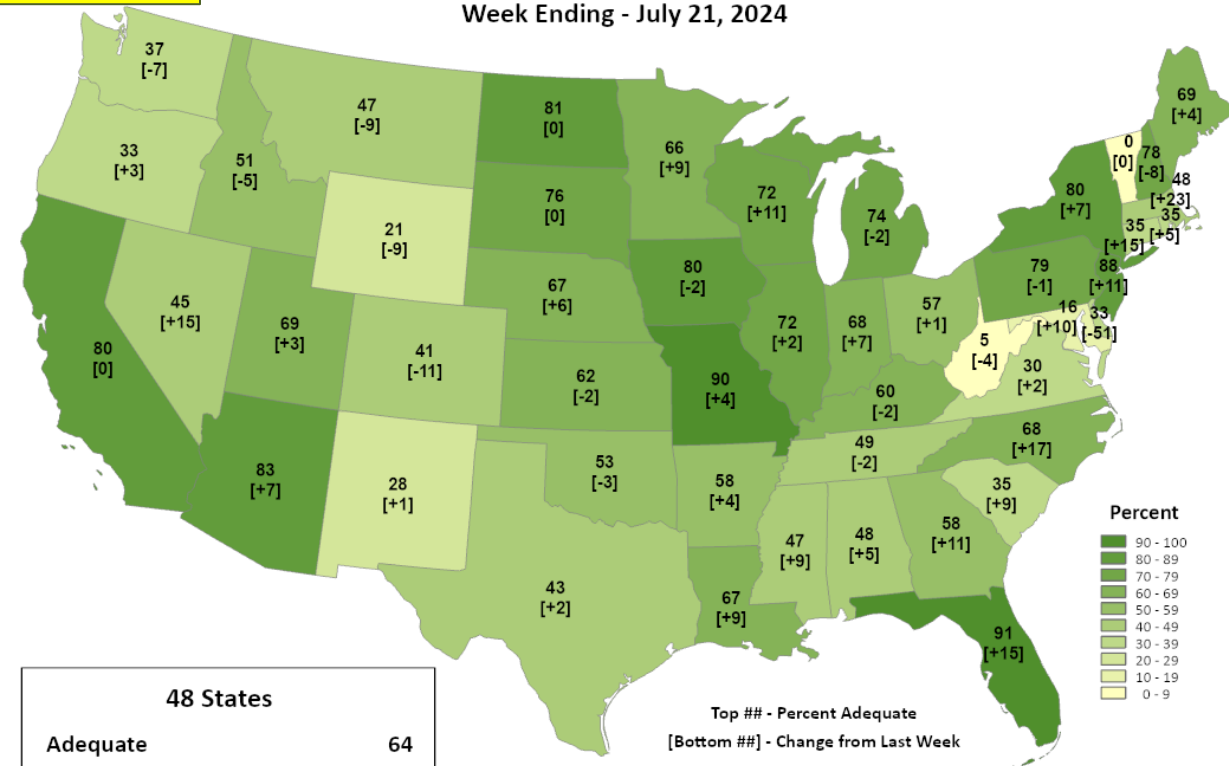
10-20% drop from last week in the percent of soil with surplus moisture.

Topsoil Moisture
Percent Adequate
Week Ending - July 21, 2024



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

Subsoil Moisture
Percent Adequate
Week Ending - July 21, 2024

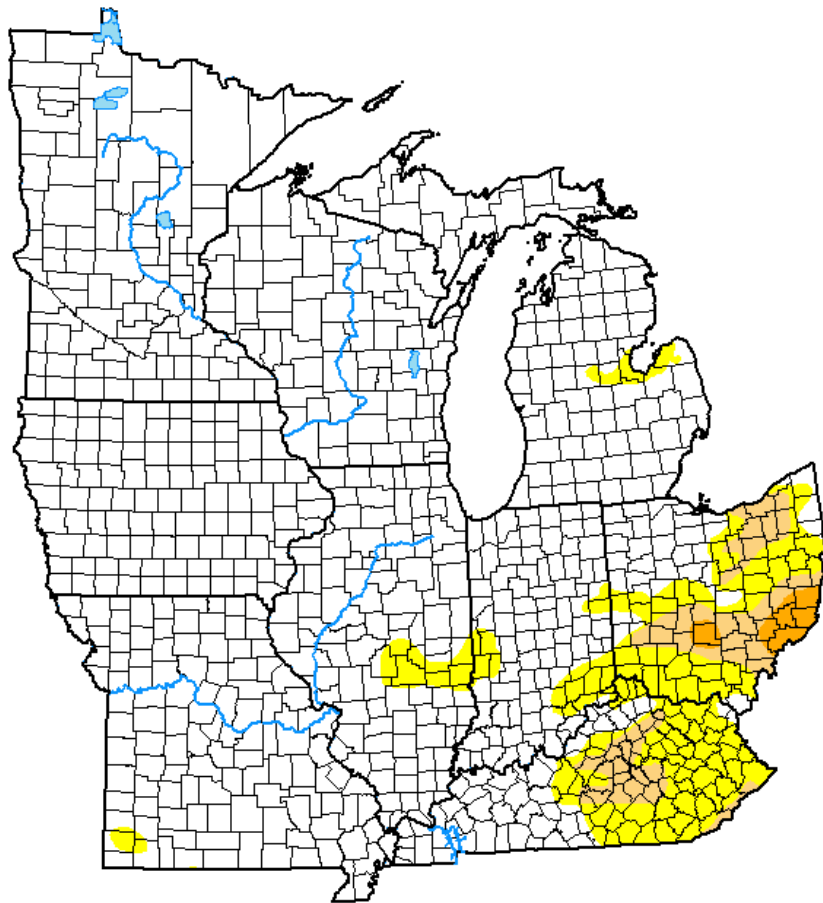


Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

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

US Drought Monitor

U.S. Drought Monitor Midwest



July 16, 2024

(Released Thursday, Jul. 18, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	87.34	12.66	3.73	0.67	0.00	0.00
Last Week <i>07-09-2024</i>	80.70	19.30	4.50	0.00	0.00	0.00
3 Months Ago <i>04-16-2024</i>	48.71	51.29	25.60	6.57	0.84	0.00
Start of Calendar Year <i>01-02-2024</i>	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year <i>09-26-2023</i>	16.82	83.18	54.98	23.81	6.21	0.13
One Year Ago <i>07-18-2023</i>	15.08	84.92	54.35	18.88	4.92	0.30

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:

Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu

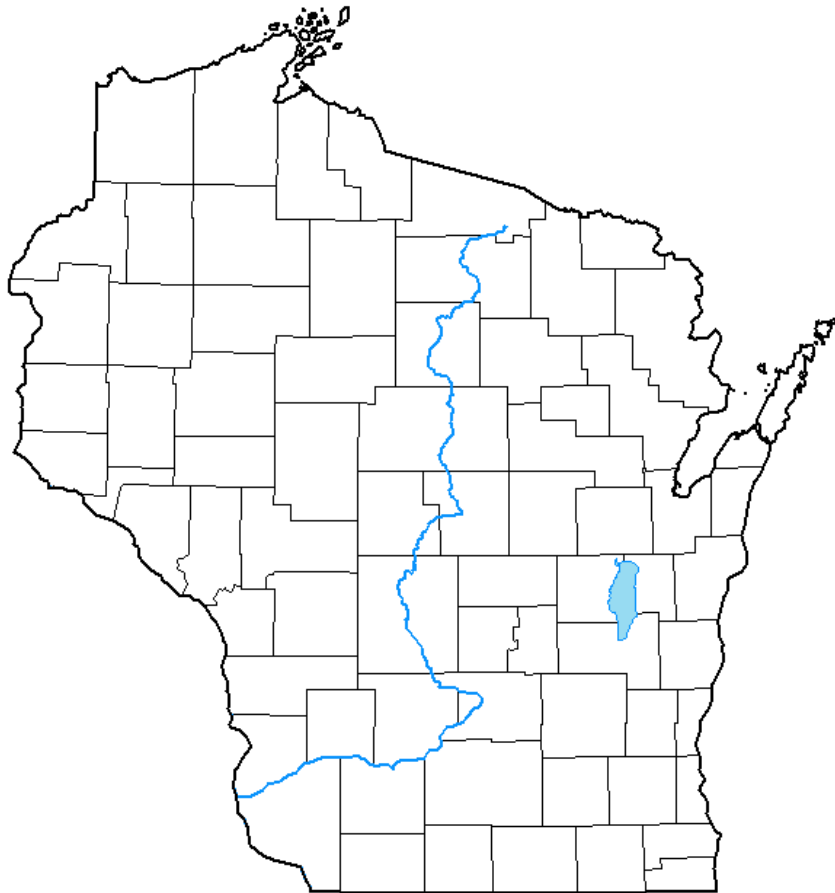
- Compared to last week:
 - Reductions in drought coverage/severity in IL and IN, with **worsening** conditions in southern OH.
- **3.7%** of the Midwest is categorized in D1 (moderate) drought.
- **0.7%** in D2 drought, all in OH.
- **13%** of the Midwest is in D0 (abnormally dry) conditions, down from **19%** last week.

Note: D0 is not considered drought.

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

US Drought Monitor

U.S. Drought Monitor Wisconsin



July 16, 2024
(Released Thursday, Jul. 18, 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 <small>07-09-2024</small>	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago <small>04-16-2024</small>	24.94	75.06	28.34	5.30	0.00	0.00
Start of Calendar Year <small>01-02-2024</small>	33.04	66.96	37.34	16.80	0.26	0.00
Start of Water Year <small>09-26-2023</small>	2.04	97.96	80.86	37.74	6.77	0.00
One Year Ago <small>07-18-2023</small>	0.00	100.00	82.02	42.05	8.68	0.00

Intensity:

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

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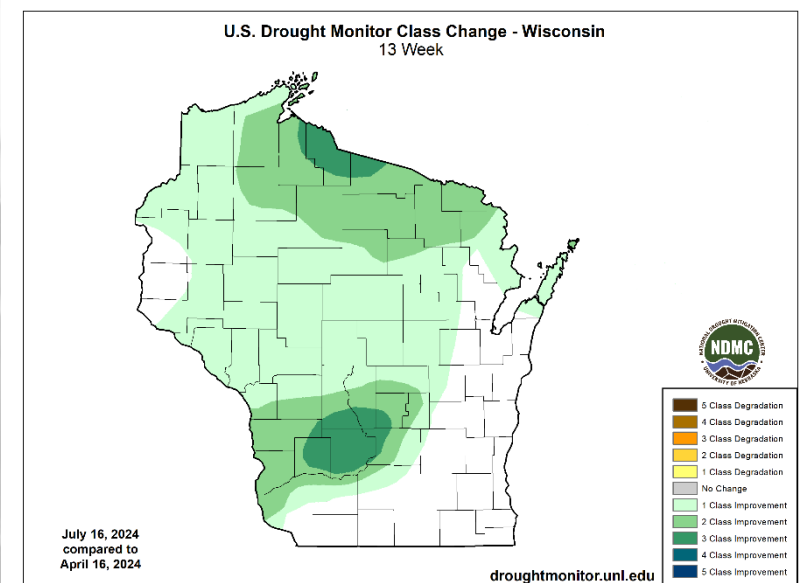
droughtmonitor.unl.edu

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

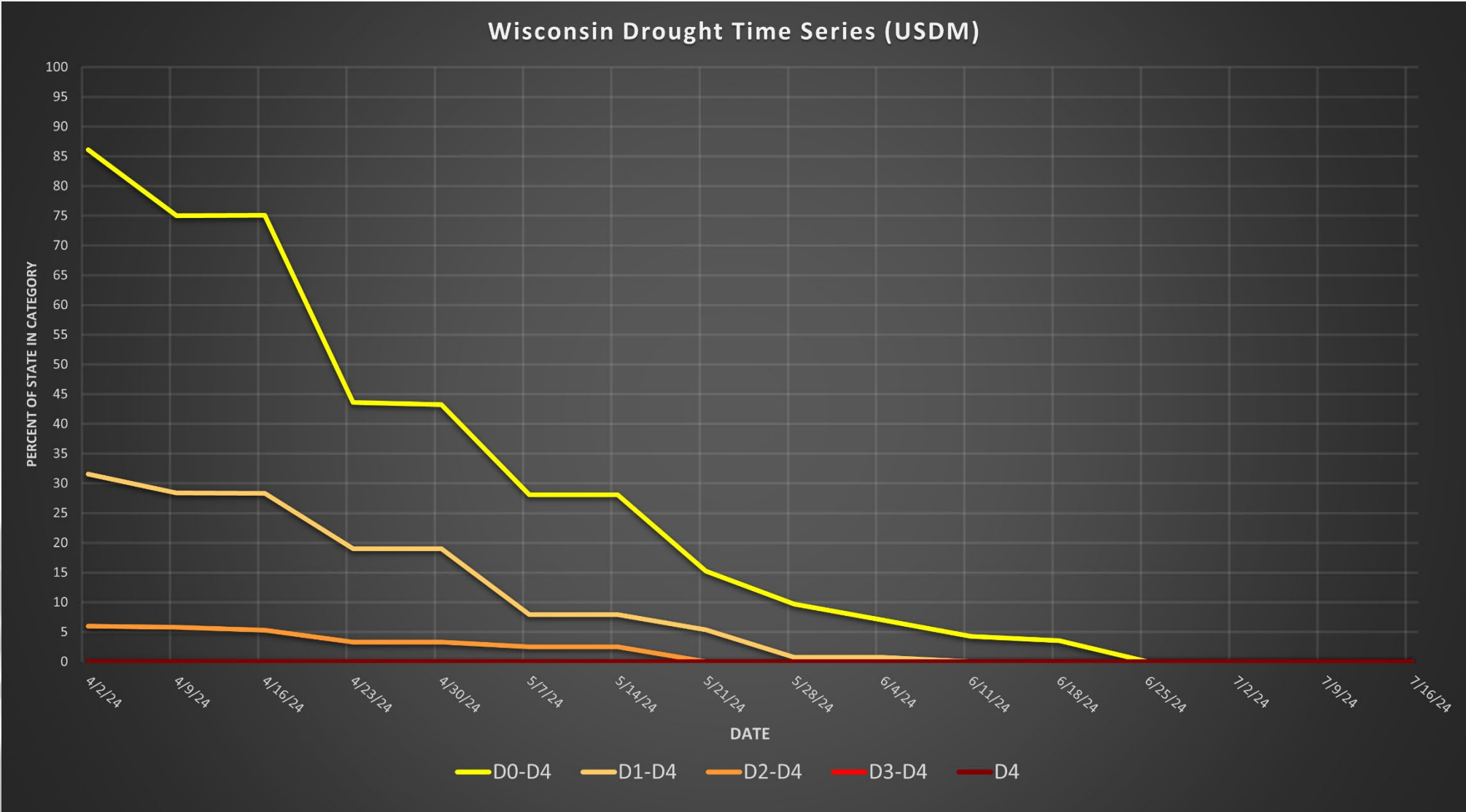
Amount of state in:

- 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.



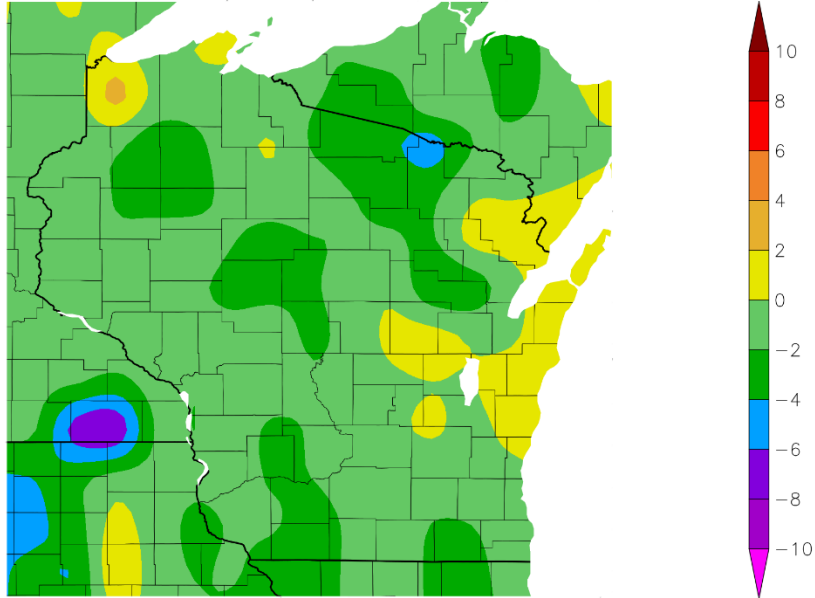
USDM Time Series



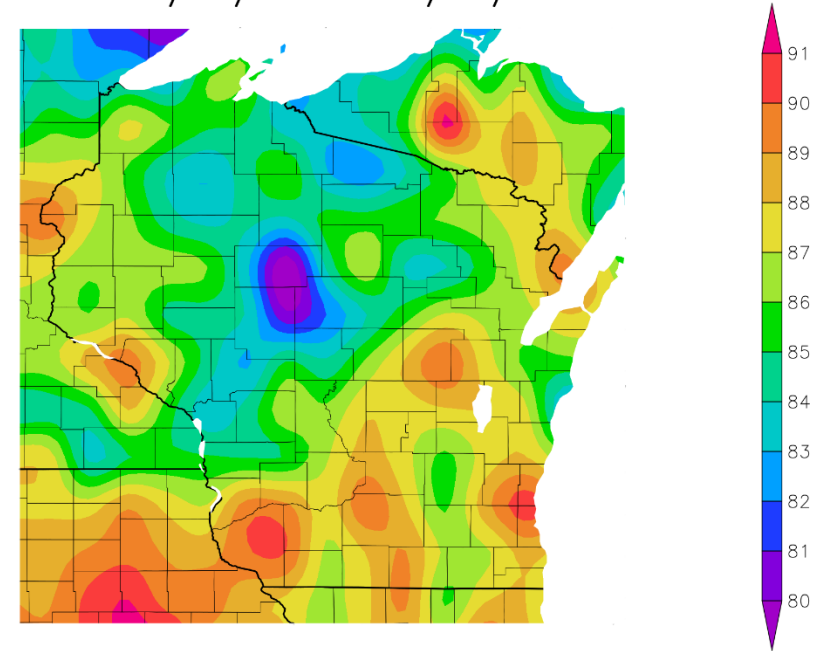
<http://droughtmonitor.unl.edu/>

7 Day Temperatures

Departure from Normal Temperature (F)
7/15/2024 – 7/21/2024



Highest 1-Day Maximum Temperature (F)
7/15/2024 – 7/21/2024

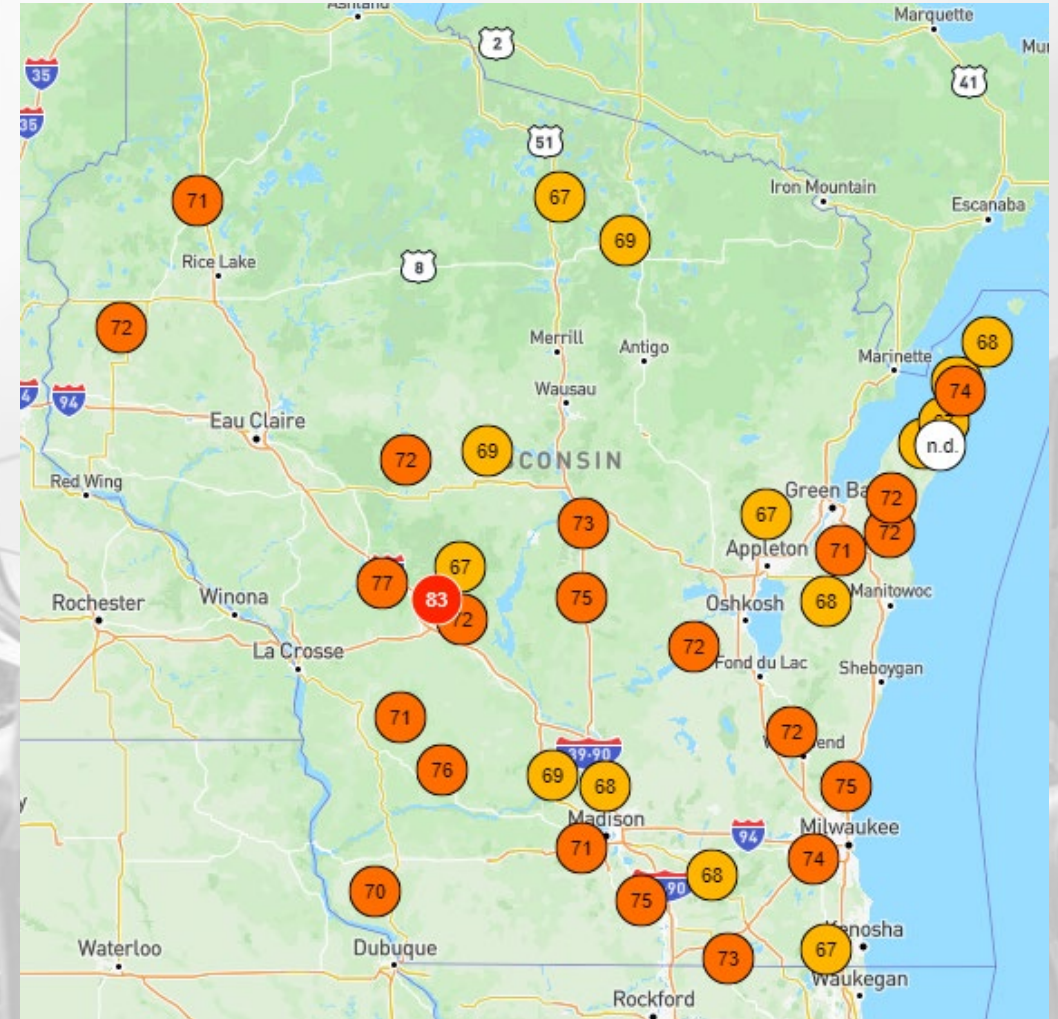
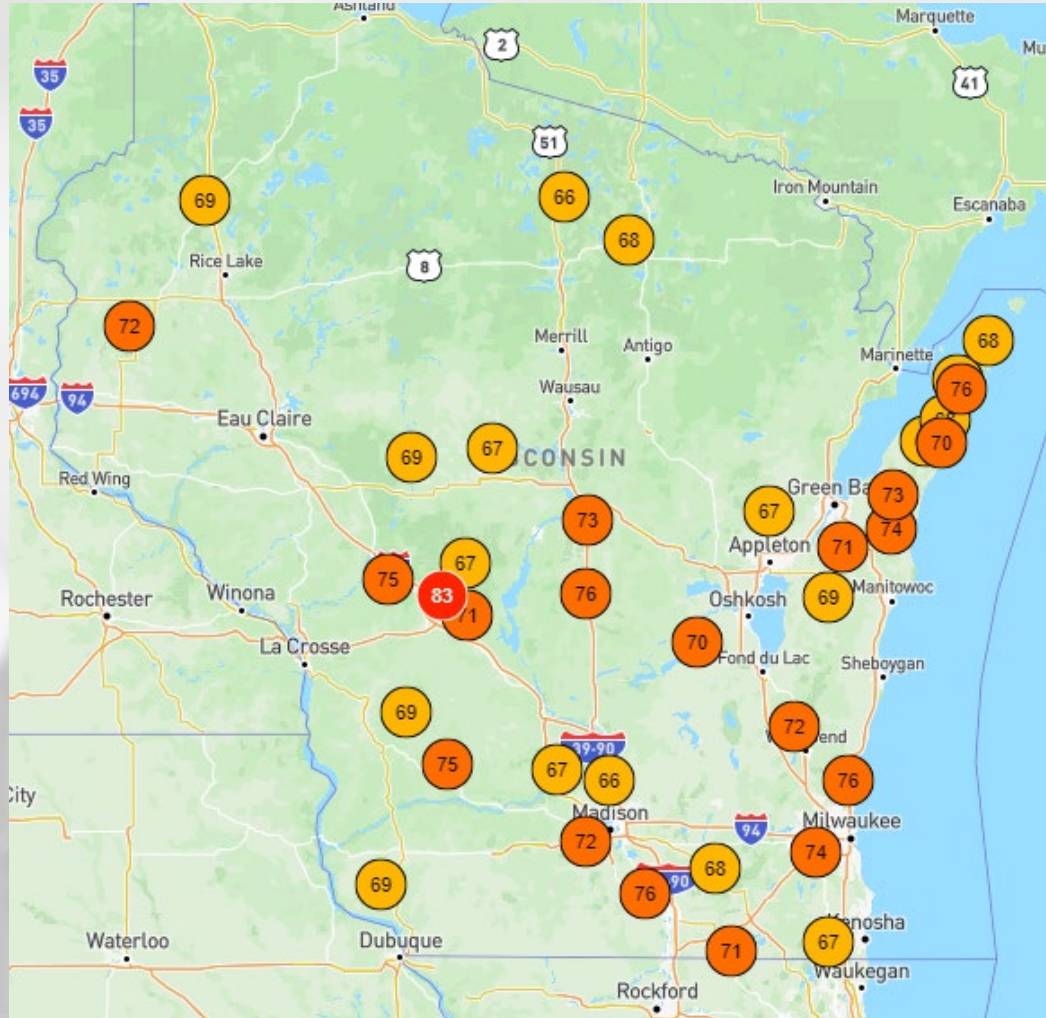


- Last week was cooler than average across the state, with many being **$\leq 4^{\circ}\text{F}$ below normal**.
- **Slightly above average** along eastern shores and along Green Bay; also, in the Superior area.
- Average highs for the week in the **mid 80's** for most, with some days reaching the **upper 80's to low 90's**.

Wisconet Soil Temp (4" Depth)

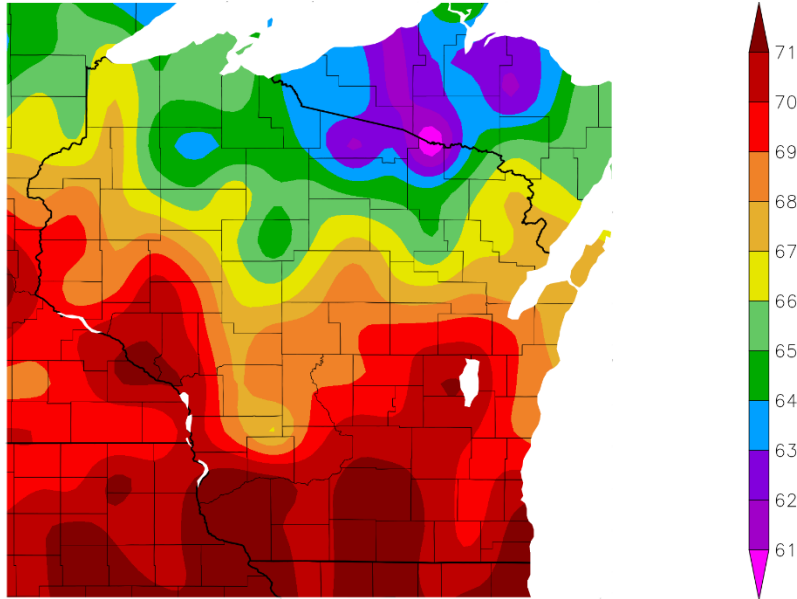
Friday, July 19th @ MIDDAY

Monday, July 22nd @ MIDDAY



30 Day Temperatures

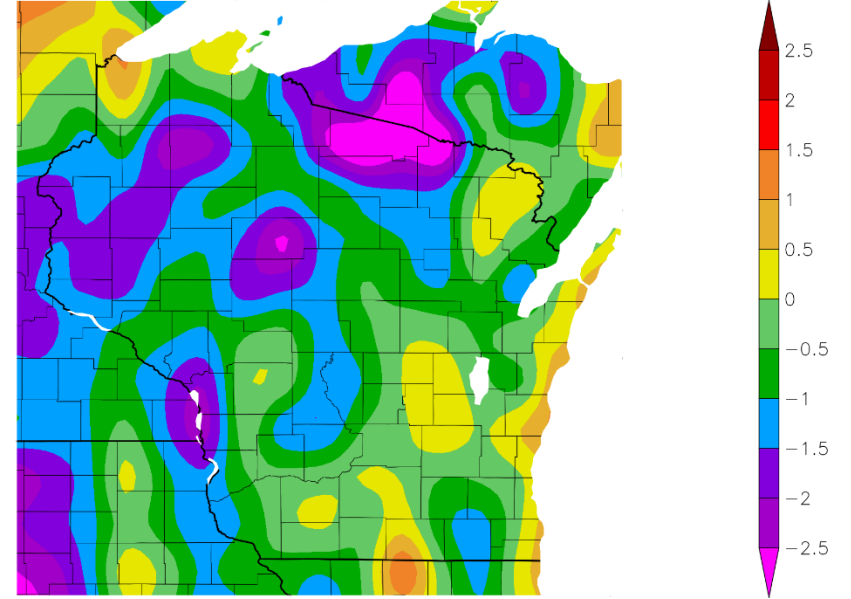
Temperature (F)
6/22/2024 – 7/21/2024



Generated 7/22/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
6/22/2024 – 7/21/2024



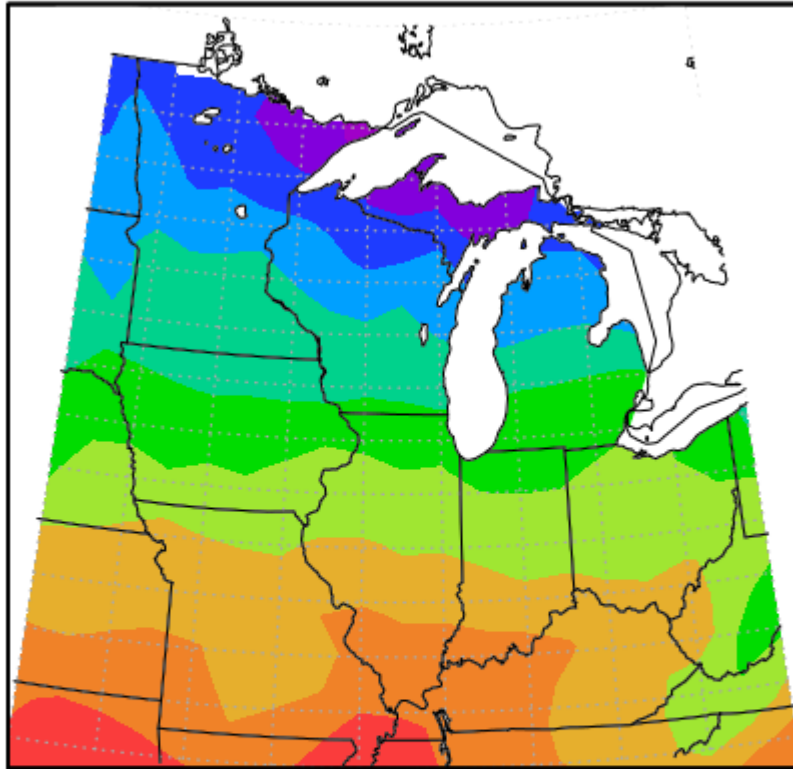
Generated 7/22/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Temperatures for the past month ranged from **69-71+°F** in the S & W to **62-65°F** in the far N.
 - **A mixed bag** of how temperatures compared to climatological (1991-2020) average.
 - **Below average** was common in the NC/NW, with more **above average** conditions along the eastern shores.

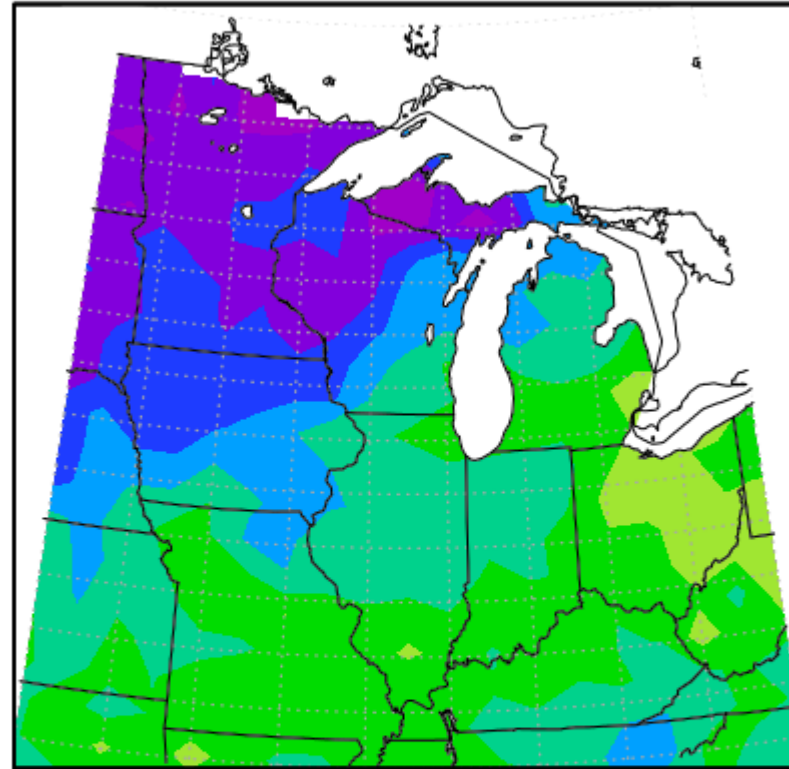
Growing Degree Days (Base = 50°F; Since April 1)

Total MGDD from 4/1/2024 to 7/21/2024



Midwestern Regional Climate Center
Purdue University

MGDD Departure, 4/1/2024 to 7/21/2024



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

- **1600-1800** GDD in the S to **1000-1200** GDD in the N.
- SC/SE WI is **100-200** GDD further ahead of the average; **within -/+50** of average in the W/NW and far north.

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

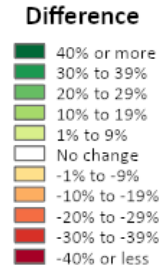
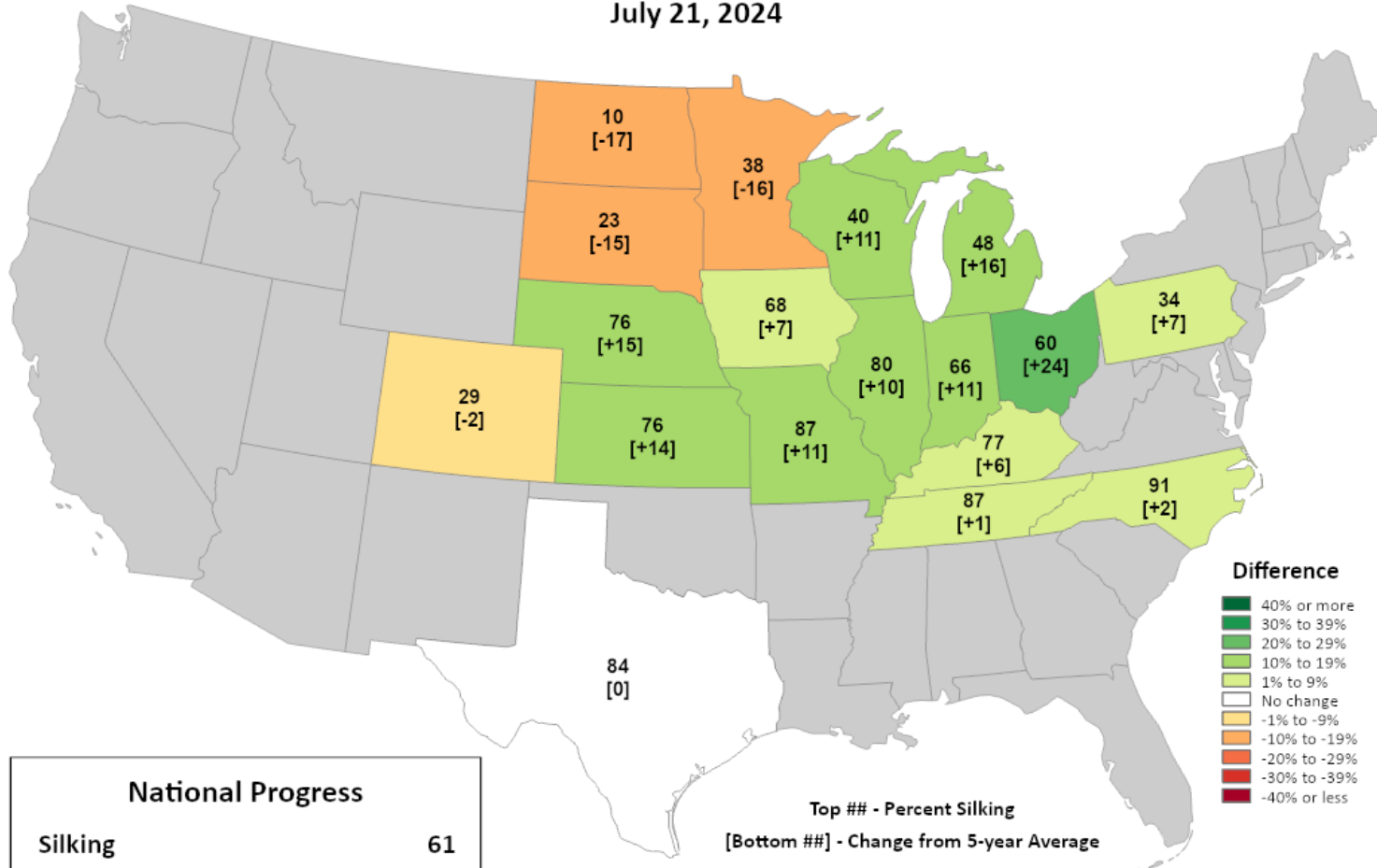


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 USDA Office of the Chief Economist (OCE)
 World Agricultural Outlook Board (WAOB)

Corn Progress

Percent Silking

July 21, 2024



National Progress	
Silking	61
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 is nearing 50% completion in WI corn fields. Silking is **ahead of normal pace** in WI and points to the S & E.
 - In WI, silking is **40% complete**. 11% ahead of the 5-year average pace & up **23%** from last week.

NASS Crop Progress – Soybean

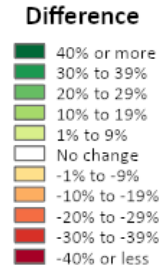
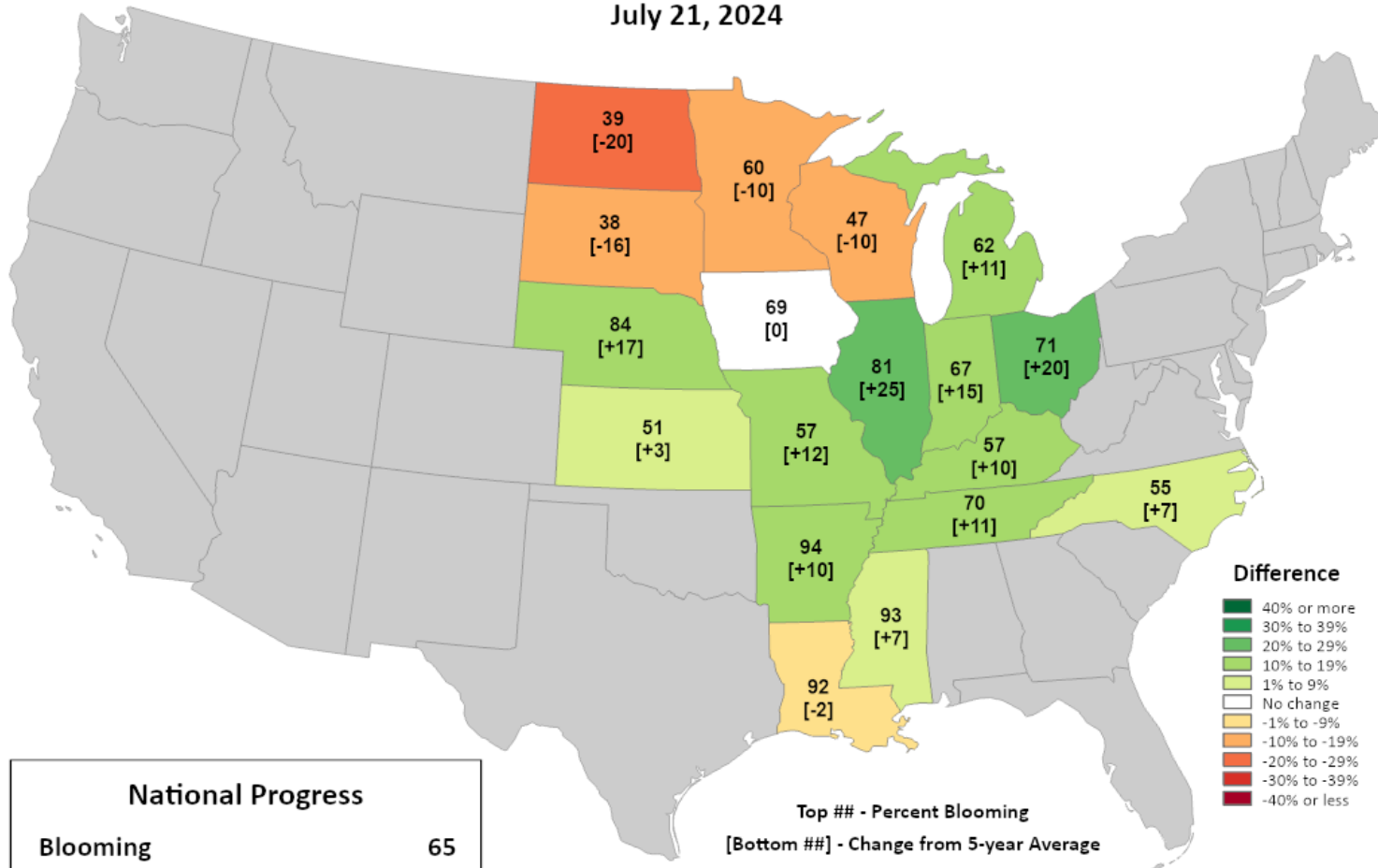


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Soybeans Progress

Percent Blooming

July 21, 2024



National Progress	
Blooming	65
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.

- Soybean bloom is running 10% or more **behind normal pace** in WI and points to the W/NW.
- In WI, blooming is **47% complete**. 10% behind of the 5-year average pace & up **13%** from last week.

NASS Crop Condition

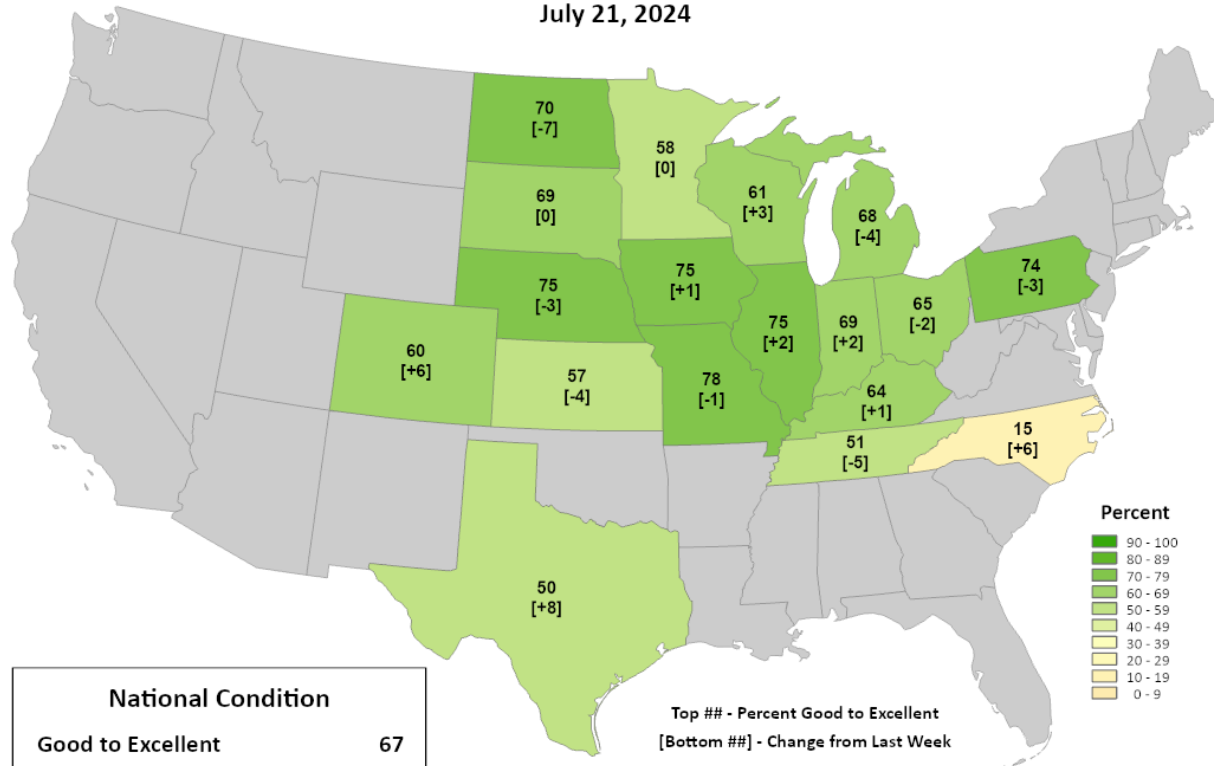


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World Agricultural Outlook Board (WAOB)

Corn Conditions

Percent Good to Excellent

July 21, 2024

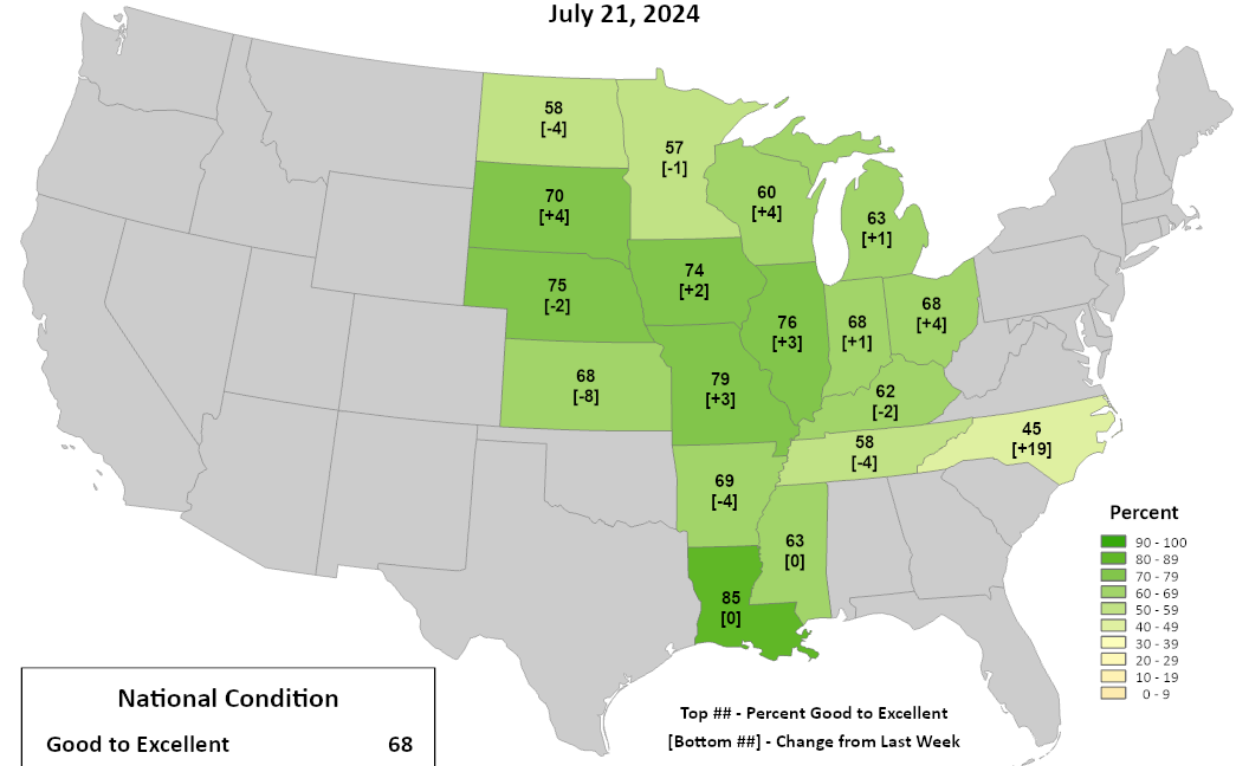


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Soybean Conditions

Percent Good to Excellent

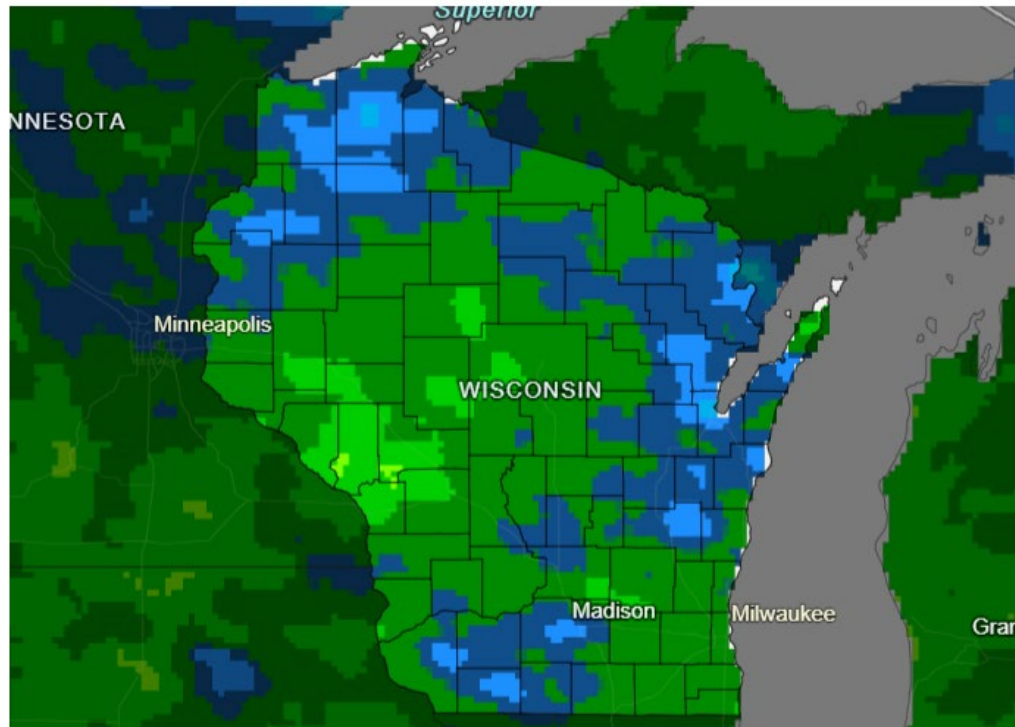
July 21, 2024



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

7 Day Precip Forecast

7-Day Quantitative Precipitation Forecast for July 22–2024



Predicted Inches of Precipitation



Source(s): National Weather Service Weather Prediction Center
Last Updated: 07/22/24

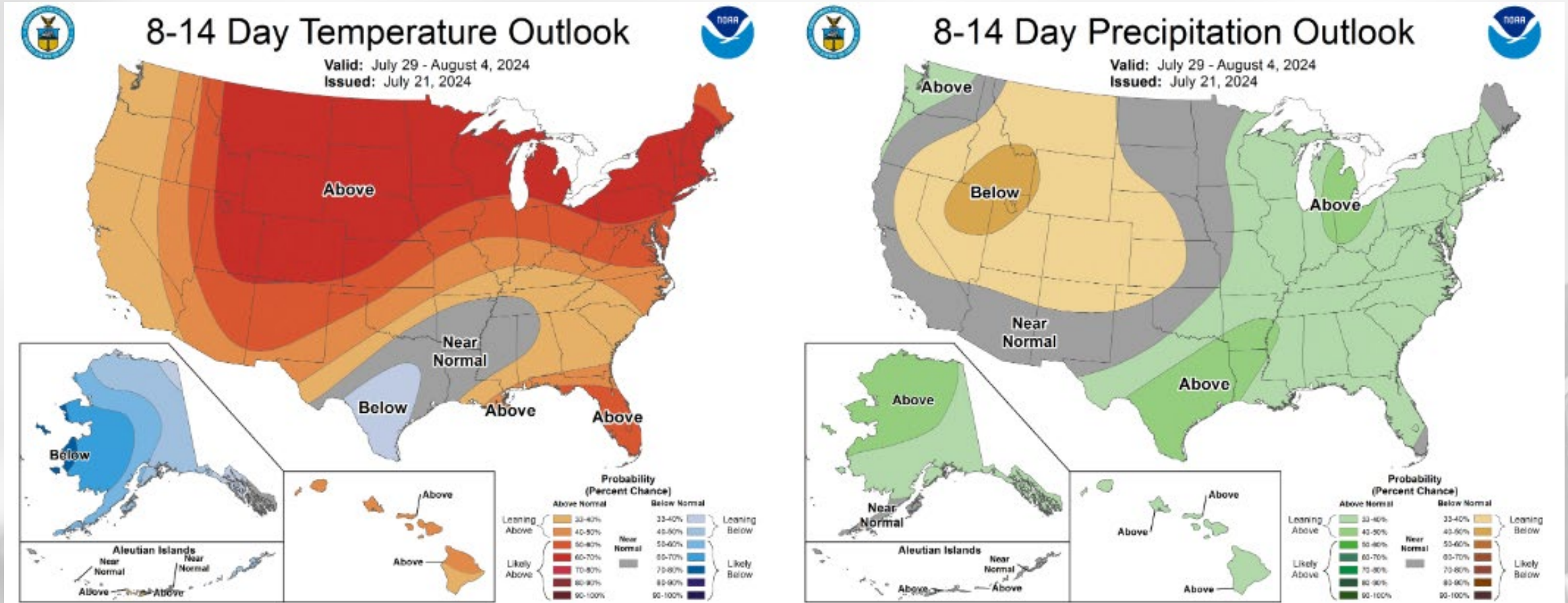
Drought.gov

- **Statewide chances** for precip this next week.
 - Rain chances on **Monday afternoon through late Tuesday**.
 - Precip most likely in the **NE, far NW, and far SW/SC**.

Forecast for 7/22/24 thru 7/29/24
(Begins at 7am CDT)

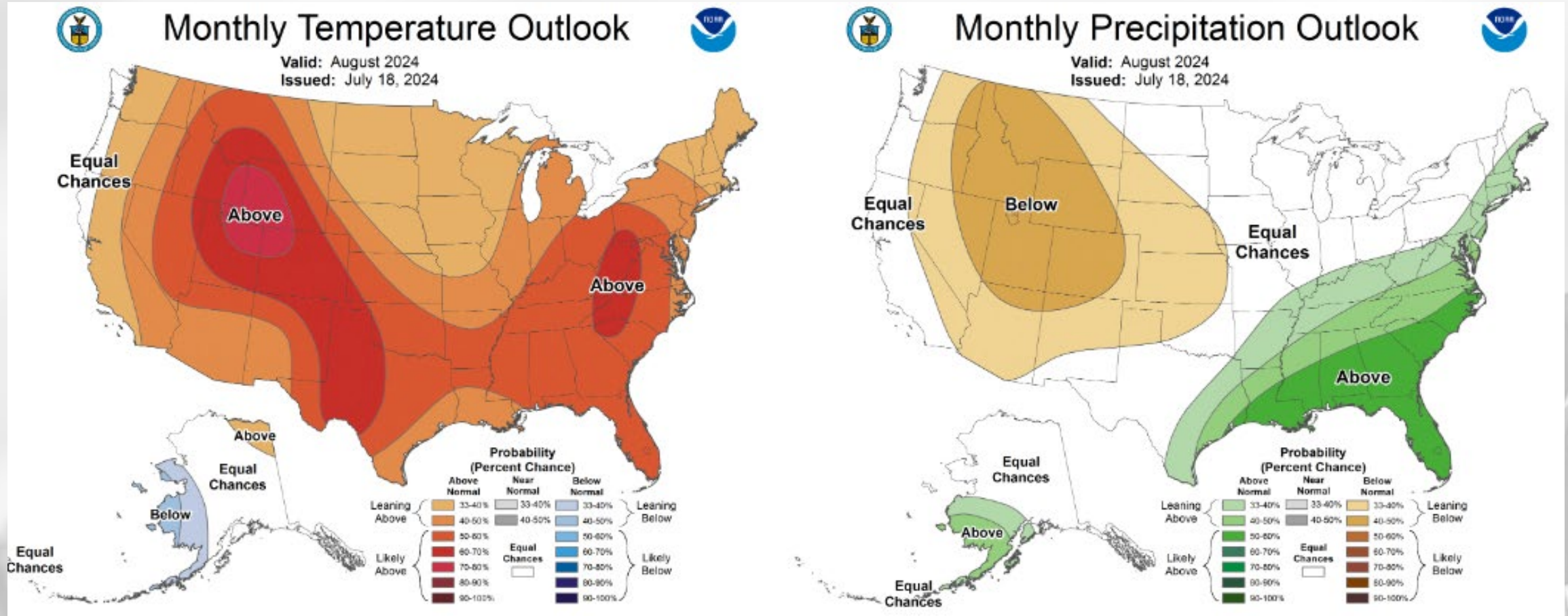
<https://www.wpc.ncep.noaa.gov/qpf/p168i.gif>
<https://www.drought.gov/states/wisconsin>

8-14 Day Temp & Precip Outlook



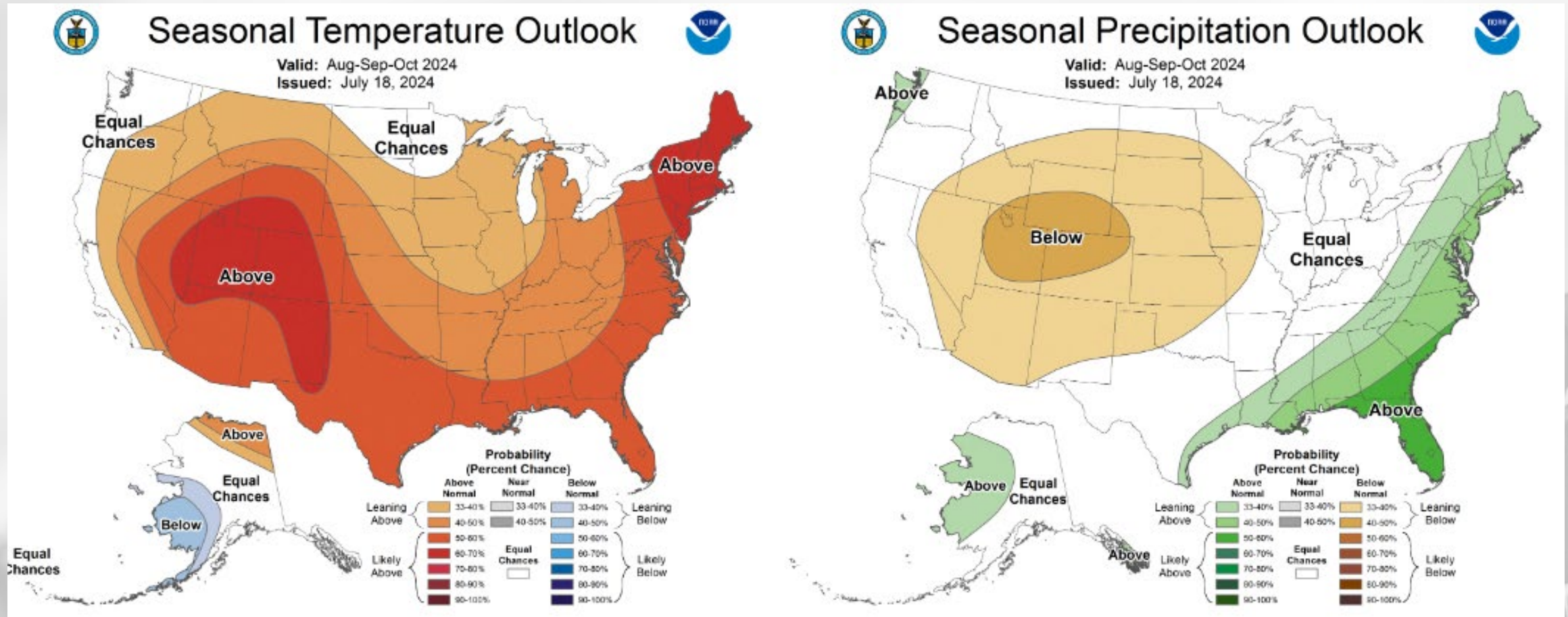
End of July into early August: Temperatures likely to be above normal. Precipitation leaning above normal.

30 Day Temp & Precip Outlook



Month of August: Temperatures leaning above normal. Precipitation uncertainty with equal chances.

90 Day Temp & Precip Outlook



Late summer into fall: Temperatures leaning towards above normal. Precipitation uncertainty with equal chances.

Take-Home Points

Current Conditions:

- Most of the state experienced **minimal precip** last week, but some localized areas received **>1" from thunderstorms**.
- Temps were **cooler than normal** for most, but this didn't come without some daily highs reaching **well into the 80's or even low 90's**.

Impact:

- Soil moisture levels are in **lower percentiles compared to last week**, with **increases** in the percent that is adequate.
- WI remains **free from all USDM drought categorizations** as corn and soybeans enter their reproductive phases.
 - **Corn** → *silking @ **40% complete**; big strides in silking progress from last week, running ahead of normal pace.*
 - **Soybeans** → *blooming @ **47% complete**; lagging 10% behind in the state and states to the W/NW.*
 - **Wheat harvest** → ***31% complete** in the state, above the 5-year average of 19% for this week.*
- GDD's since April 1 are now approaching **1800 (1200) units** in the far southern (northern) counties.

Outlook:

- Precip chances are forecasted **across WI** over the next 7 days, with higher likelihood in the **early week**.
- Higher likelihood to stay **warmer-than-normal** to wrap up July & into the first days of August, with probabilities leaning towards **higher-than-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 trafficking fields during muddy conditions to avoid rutting. Remember, compaction occurs when soil water content is at, or slightly above, field capacity!
- Hot days mean accumulations of 20+ GDUs per day. Keep on top of your growth stages to time other applications.
- Scouting for crop stage and development of issues is very important this year as the wet spring means that there is a lot of variability in fields and across farms.

Nutrient & Herbicide Applications

- Consider splitting nutrient applications if possible.
- Consider using urease and nitrification inhibitors to minimize leaching or denitrification.

Manure Applications

- Runoff risk is present 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](#).
- After wheat harvest there is an opportunity for manure and cover crops, see info [here](#).

Pest Management

- Western bean cutworm is in peak egg-laying season. Sign up to receive text alerts when pests are in your region [here](#).
- Japanese beetle emergence is underway, see [here](#) for management information.
- Take fusarium and DON risk into account when harvesting wheat, more information [here](#).
- Tar spot and white mold have now been seen in multiple locations in the state, management information available [here](#).

Forage Management

- Ensure wide swaths when mowing alfalfa to increase rate of drying and harvest sooner, reducing risk of rain damage.
- Avoid hay fire risks. Be aware of hay moisture and monitor stack temperature when putting up dry hay, consider wrapped bales.

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:

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Photo Credit: USDA



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