

Wisconsin Ag Climate Outlook

Week of June 24, 2024

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Key Points

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

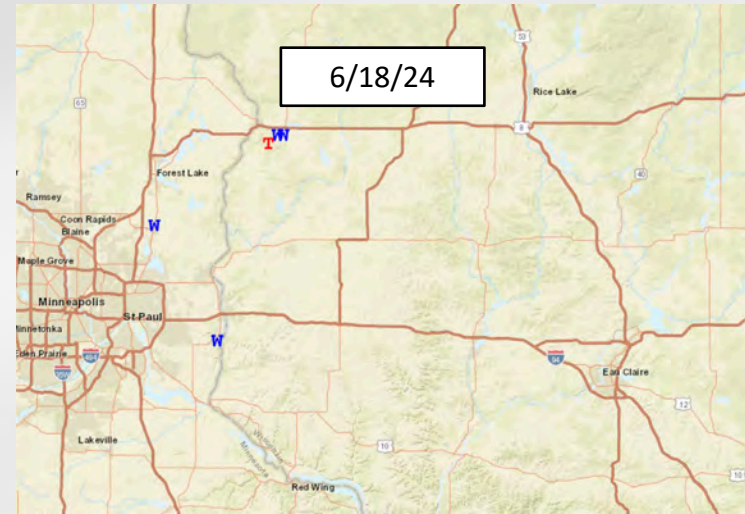
- 1) Several rounds of storms produced damaging [tornadoes, wind, and hail](#) and [loads of rainfall](#).
 - 2) [Heat and humidity](#) persisted, keeping [temps mostly above normal](#).
 - 3) Forecast calling for more rain over the [next week](#), and warmer-than-normal conditions possible throughout the [next few months](#).
- *For this week's agronomic recommendations from UW Extension, click [here](#).*
 - *For NASS crop progress & condition maps, click [here](#).*
 - *For current GDD maps (since April 1st), click [here](#).*

Tornadoes, Strong Winds, & Hail

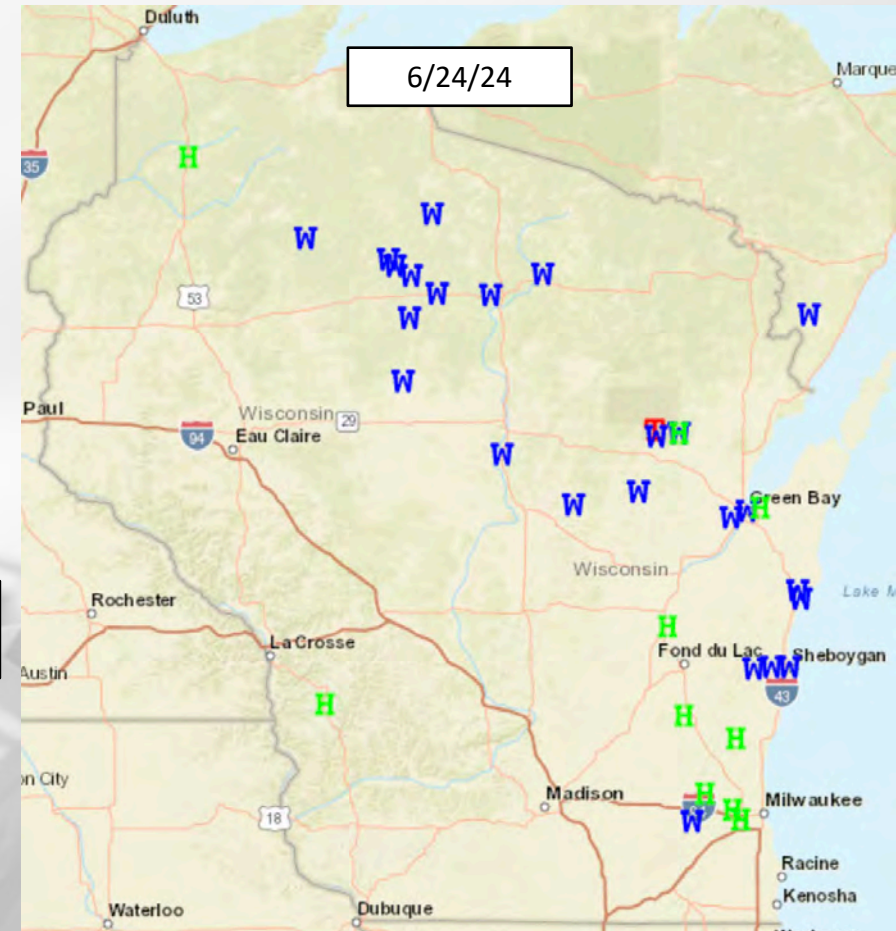
Storm Reports

T = Tornado, W = Wind, H = Hail

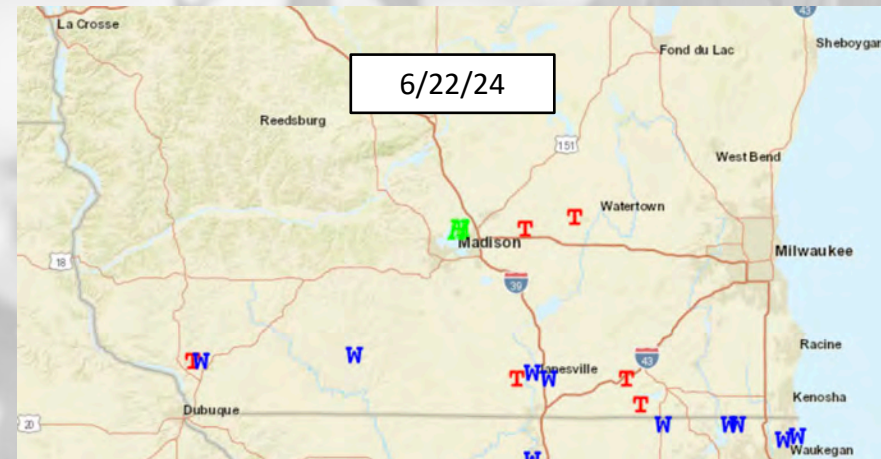
6/18/24



6/24/24

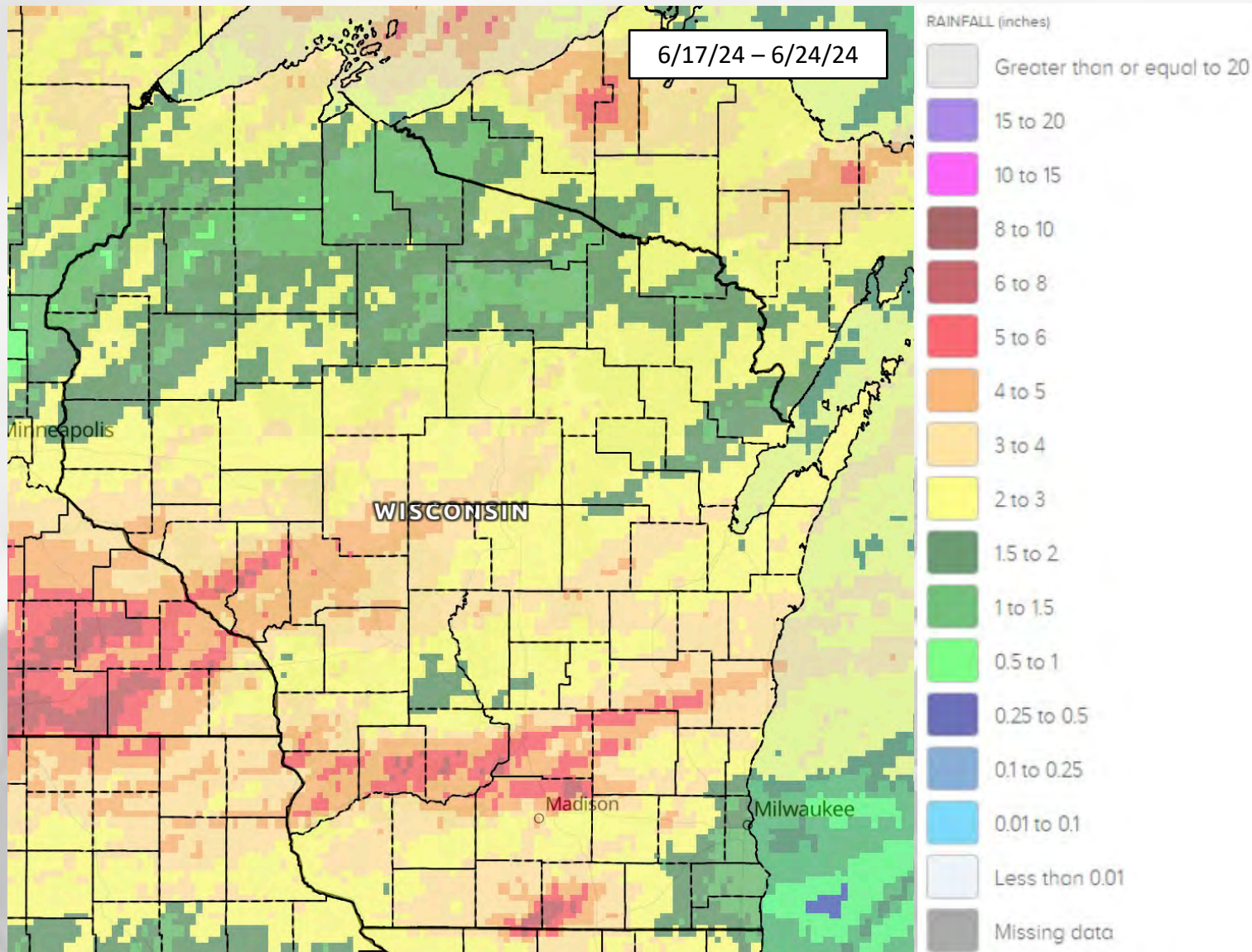


6/22/24



Klecker Farms in Marshall, WI was destroyed in one of Saturday (6/22) night's EF-1 tornadoes ([WMTV](#)).

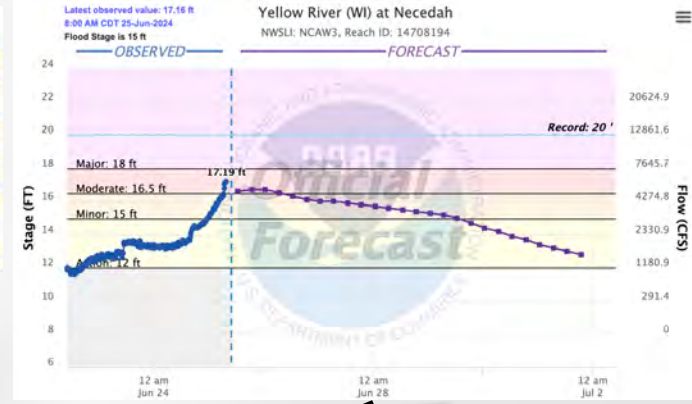
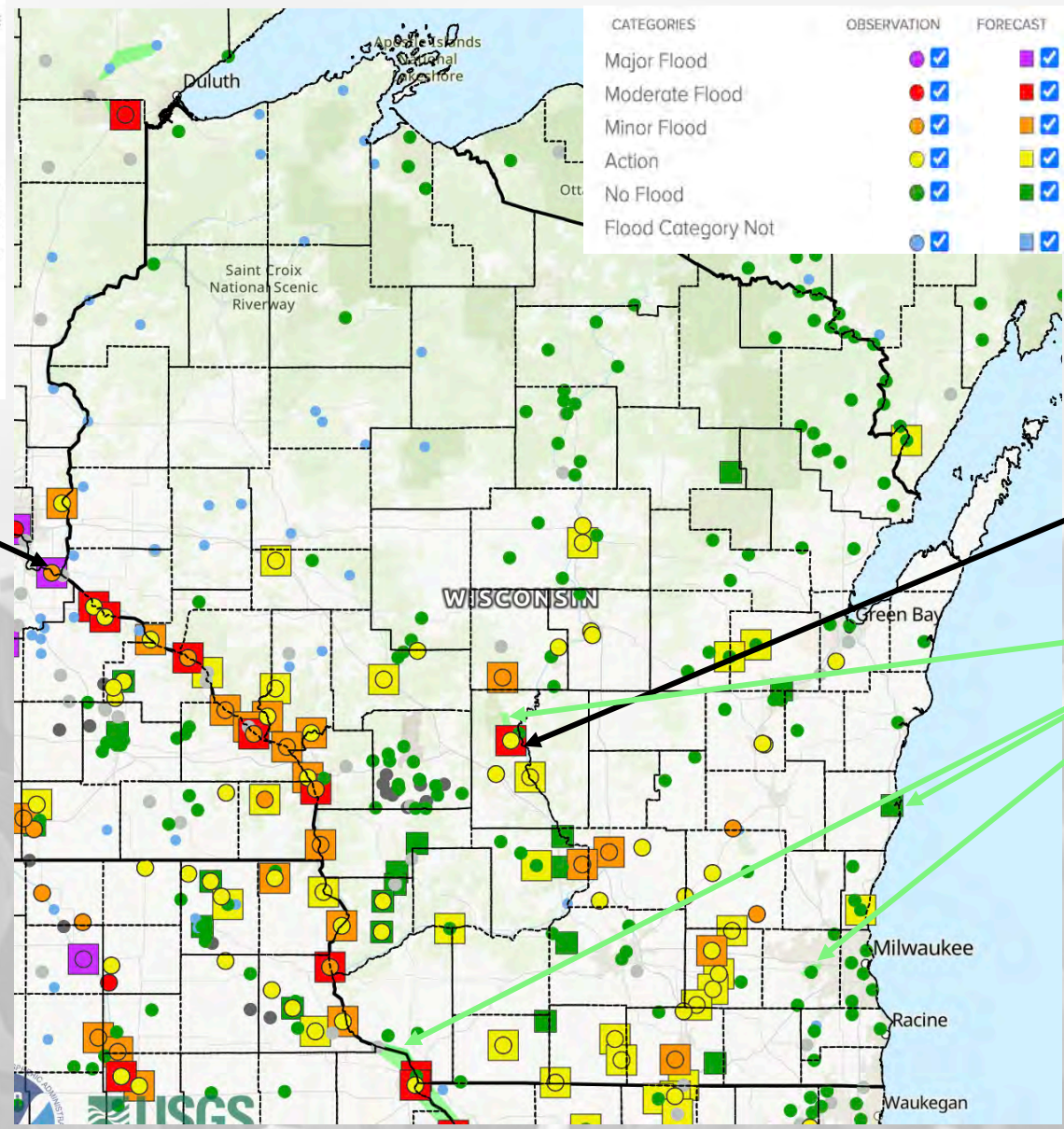
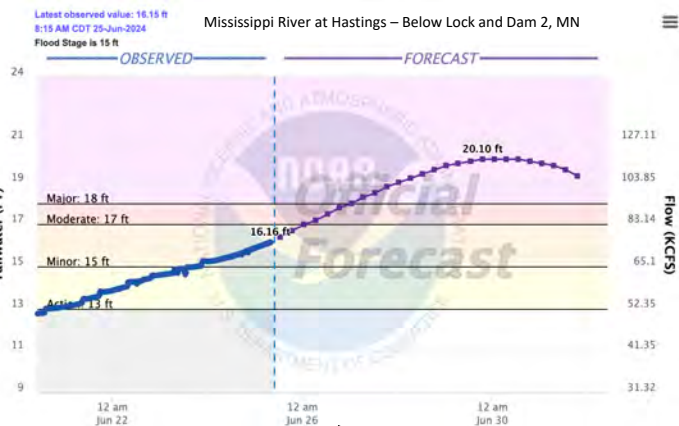
7 Day Precip



- **1-2+”** for northern WI.
- **2-3+”** widespread for the southern two-thirds of the state.
- Bands of **4-6”** across west-central and south-central WI and stretched from Crawford to Sheboygan Counties.
- The intense amounts of rain led to flash flooding, mud and rock slides, and water level rise, creating serious impacts for many.

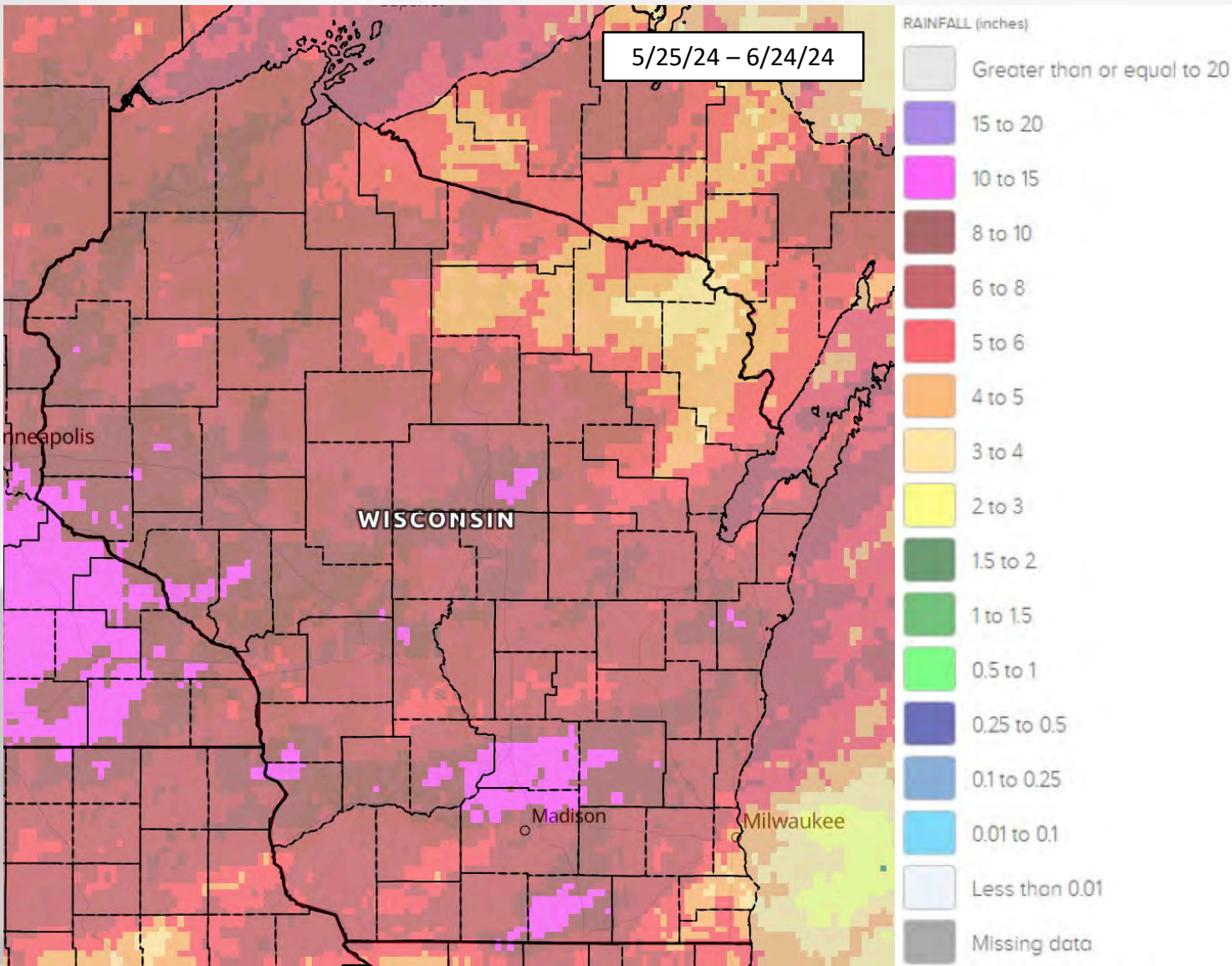
<https://water.noaa.gov/>

River Levels as of June 25



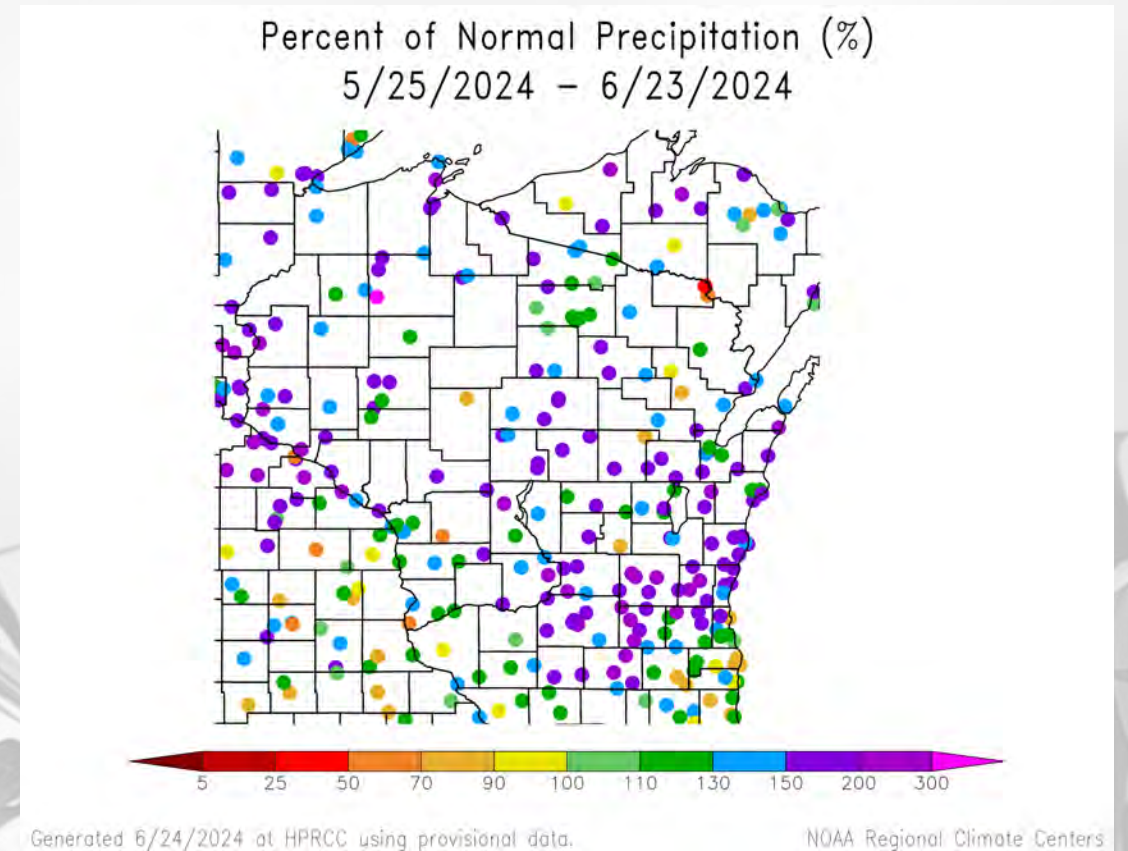
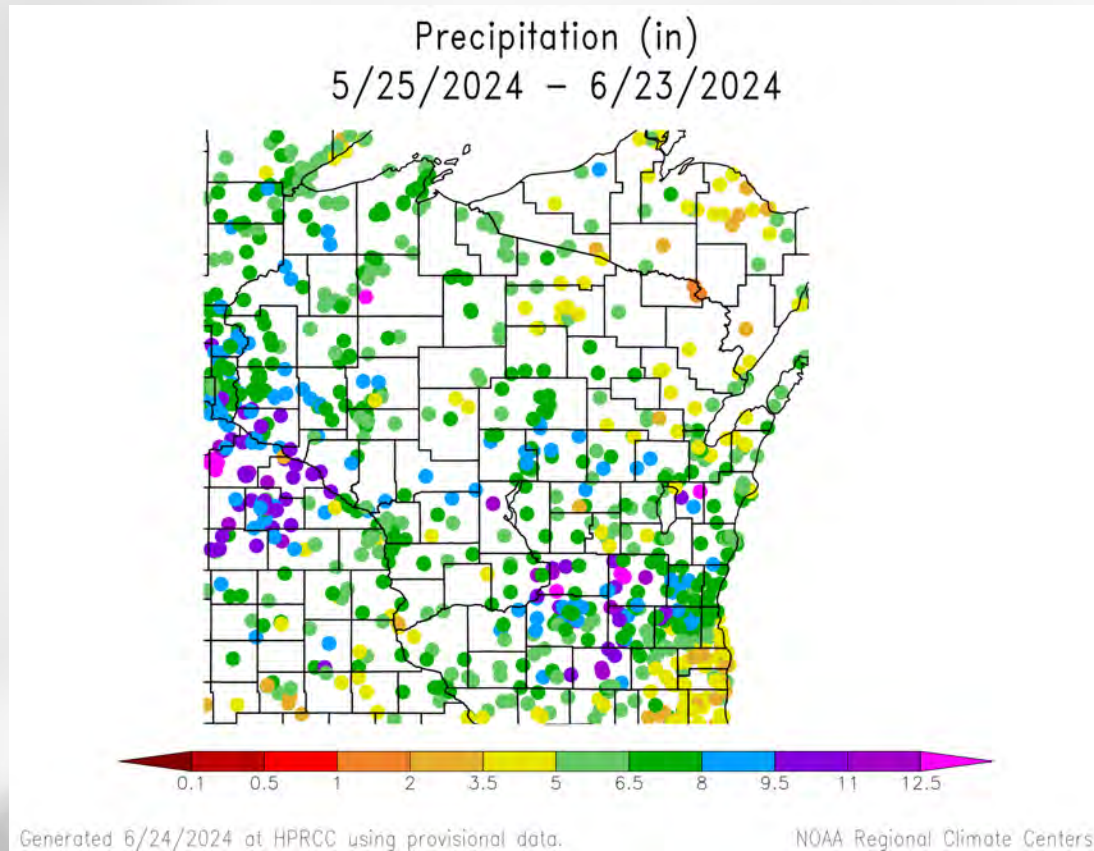
Flood Warnings

30 Day Precip



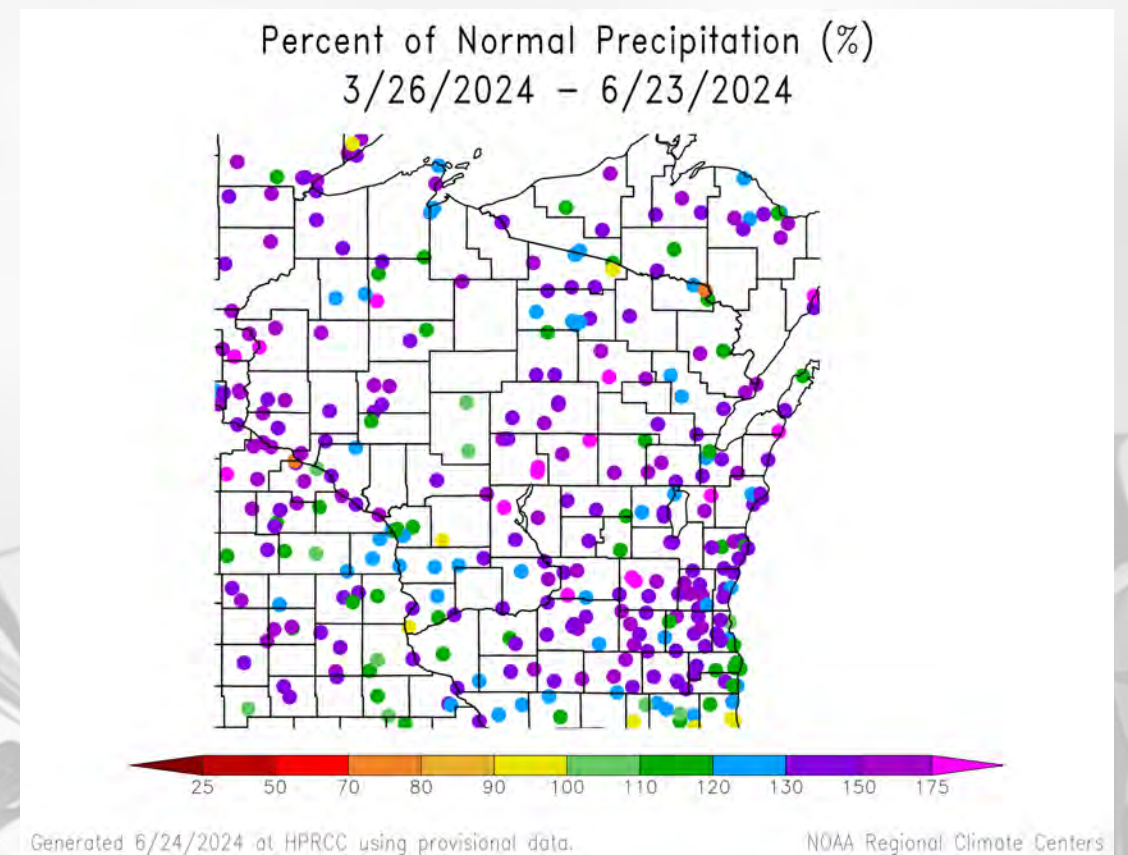
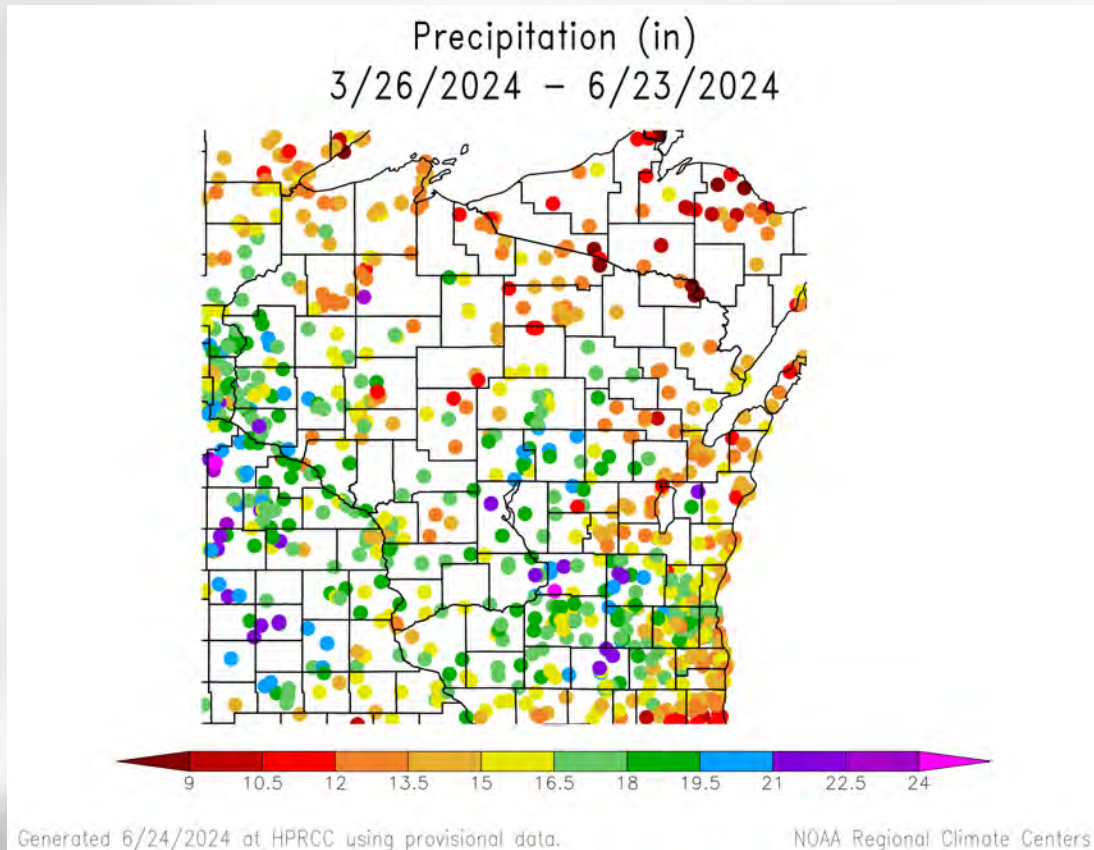
- **>6"** of monthly precip common across most of the state.
- Driest the far NE counties and Racine/Kenosha → **≤5"**
- **>10"** for some north of Madison, Rock County, and near the Twin Cities.

30 Day Precip Total/% Avg.



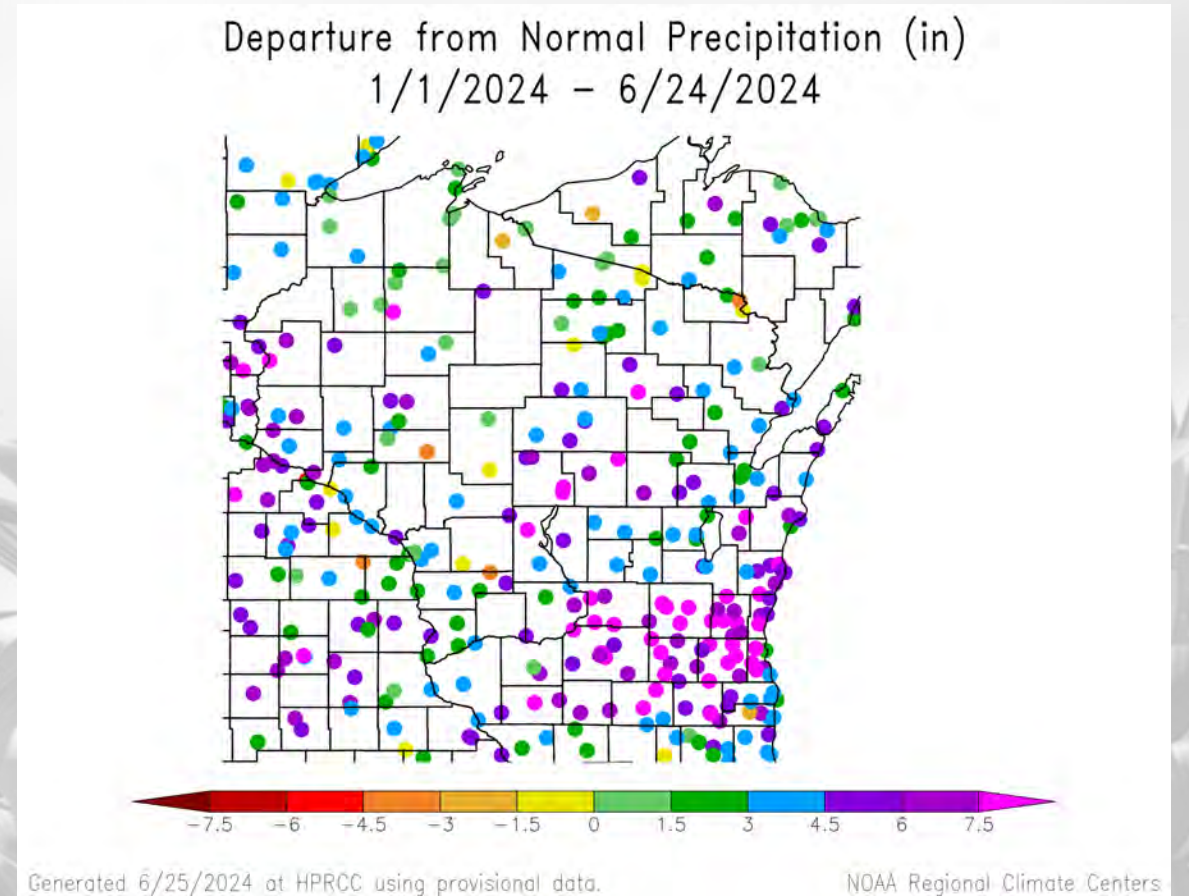
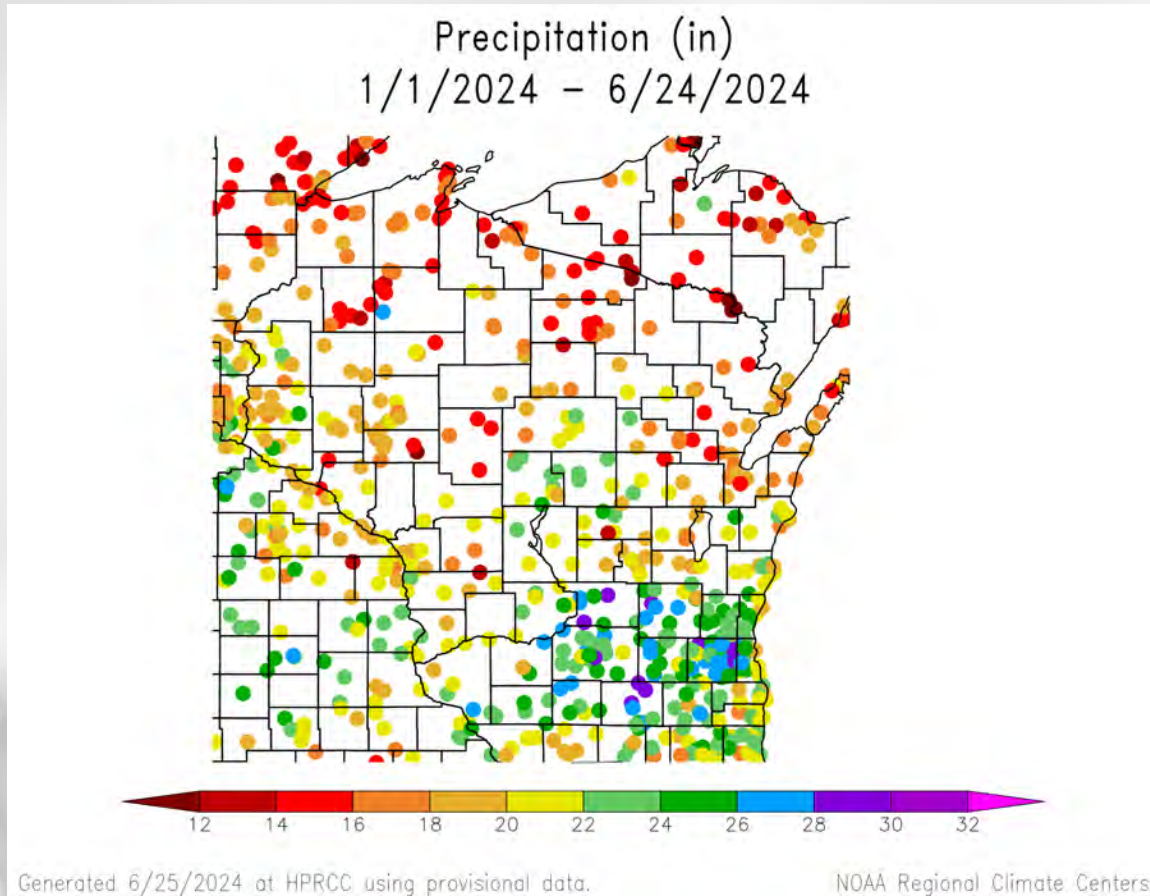
- 30-day totals of **8+”** are common in central and NW WI.
- Only a few isolated stations are **below** the climatological average, namely those locations with 30-day totals **<5”**.
- Monthly totals of **150% or more** of climatological average have been very common in the state.

90 Day Precip Total/% Avg.



- **16.5+”** 90-day totals for many in the south, central, and NW.
- 90-day totals of **<16.5”** common in the north and east.
- Virtually all locations are **above** 30-year average.

2024 Precipitation (so far)



Soil Moisture Models

- **Large gains** in soil moisture conditions across central and southern WI over the last week, correlated with the areas with the highest rainfall.
- Most of the state is in the 70th percentile or higher (areas in green).
 - Exception is far N and SE counties in grey.

Model Notes:

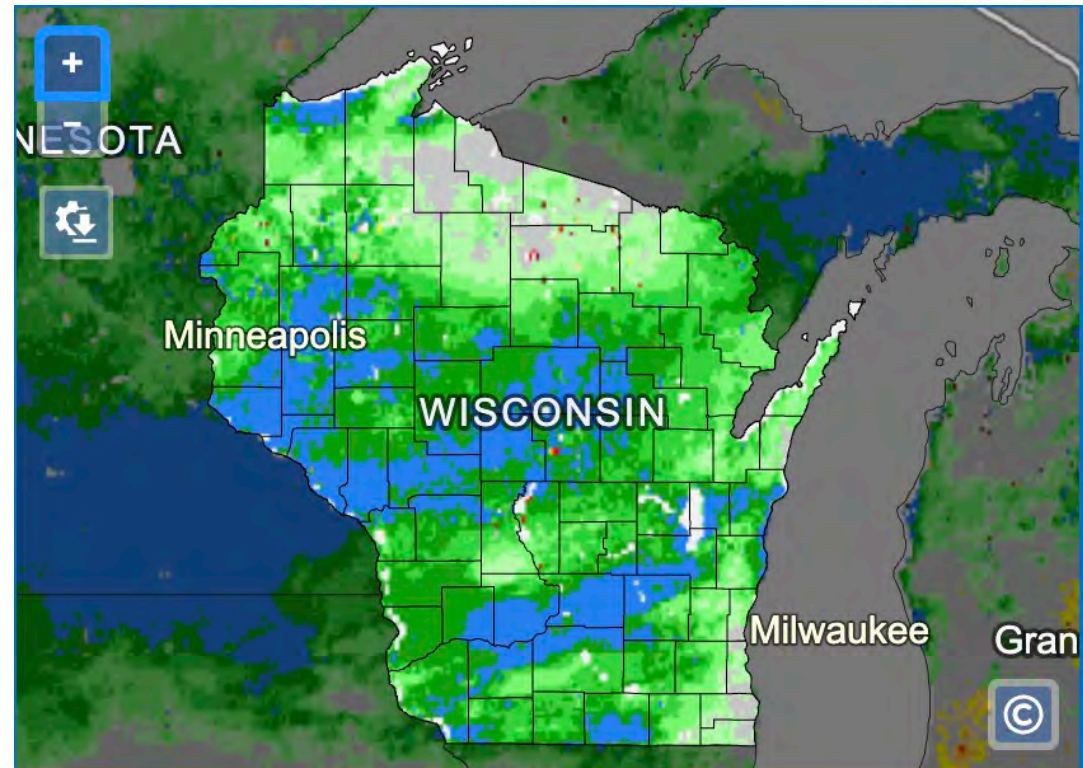
Blue areas = top 2 wettest in 100 years.

Dark green areas = top 5 wettest in 100 years.

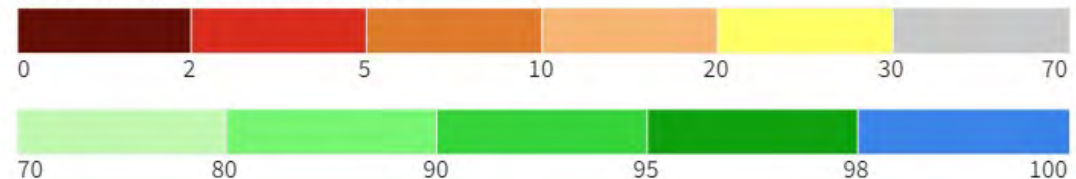
It's worth noting that each soil moisture model has their own characteristics and input variables, so there tends to be variation between models. Thus, it's worthwhile to look at multiple models opposed to just one.

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

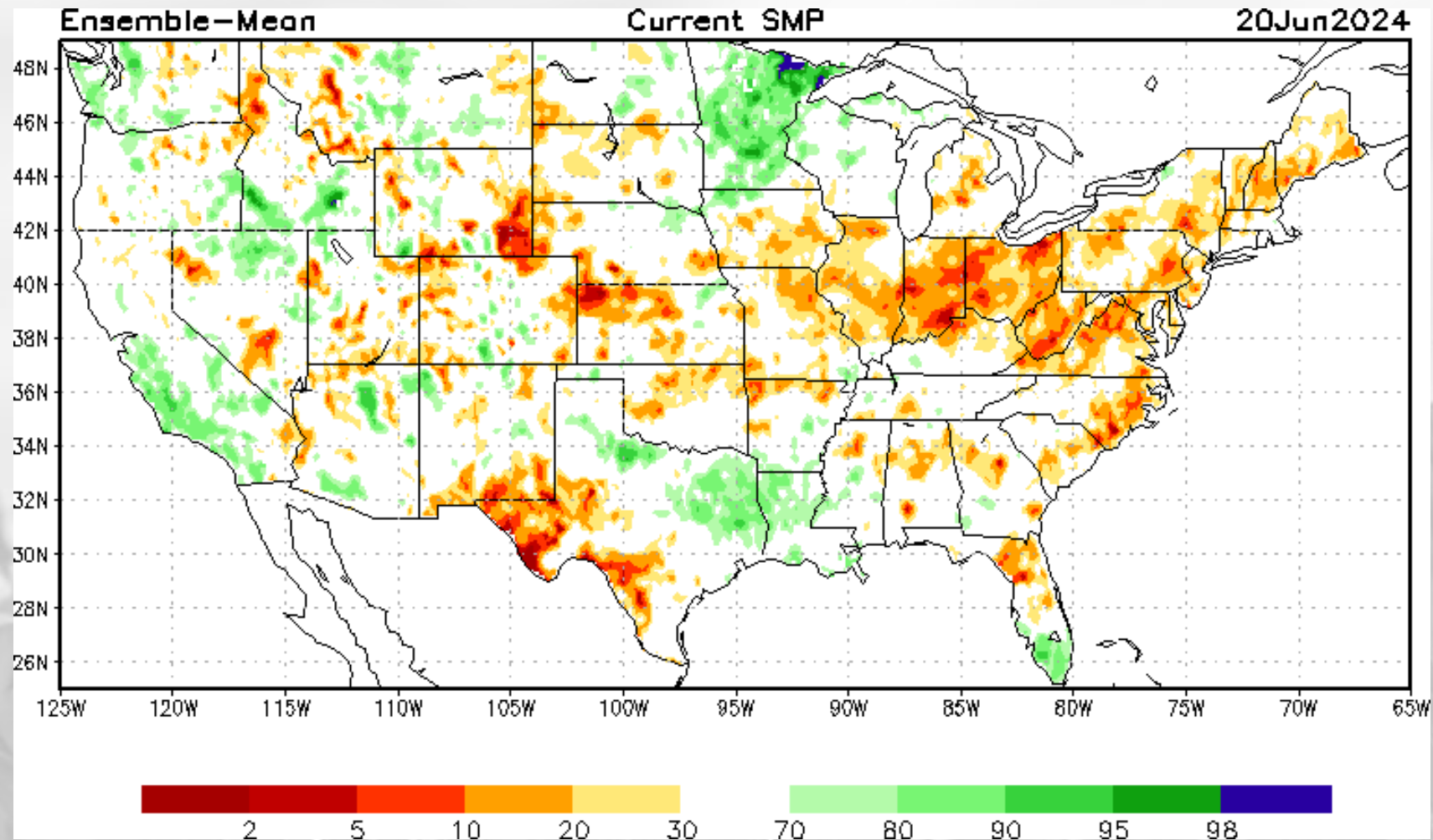


Source(s): NASA
Data Valid: 06/23/24

Drought.gov

Soil Moisture Models

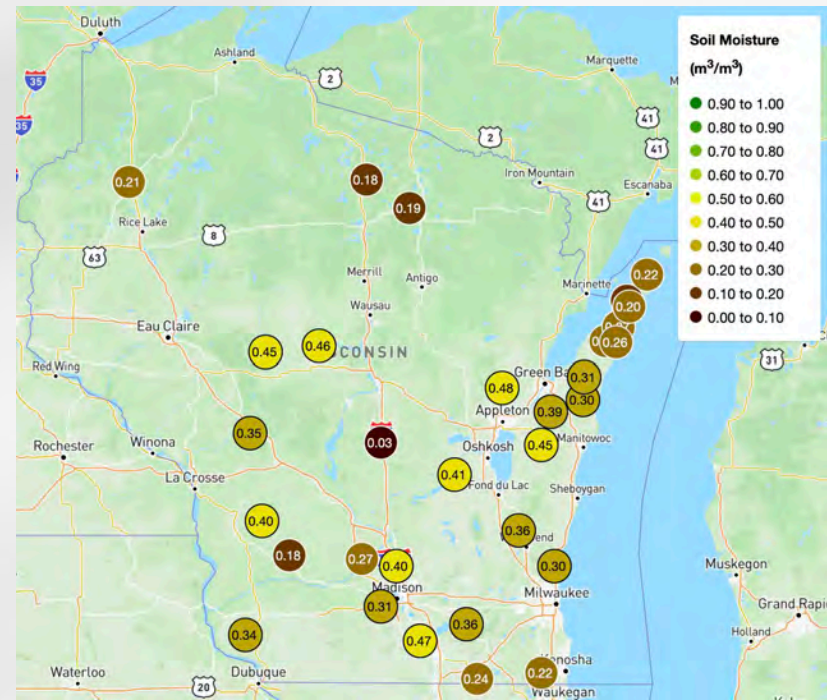
NOTE: This map displays the soil moisture percentile for June 20. It was the most recent update as of June 25.



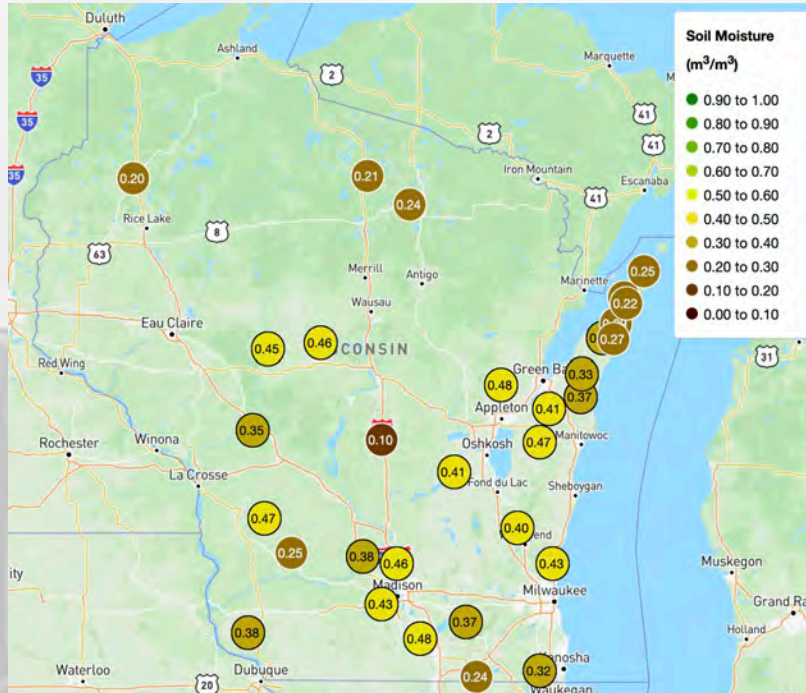
https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml

Wisconet Soil Moisture – 4" Depth

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

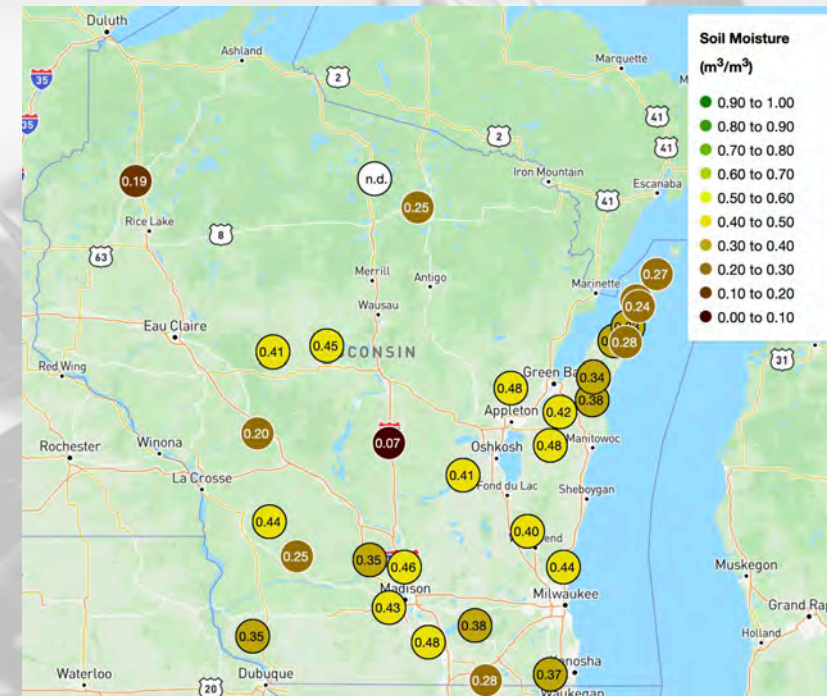


Late morning on June 21



Late morning on June 23

Late morning on June 25

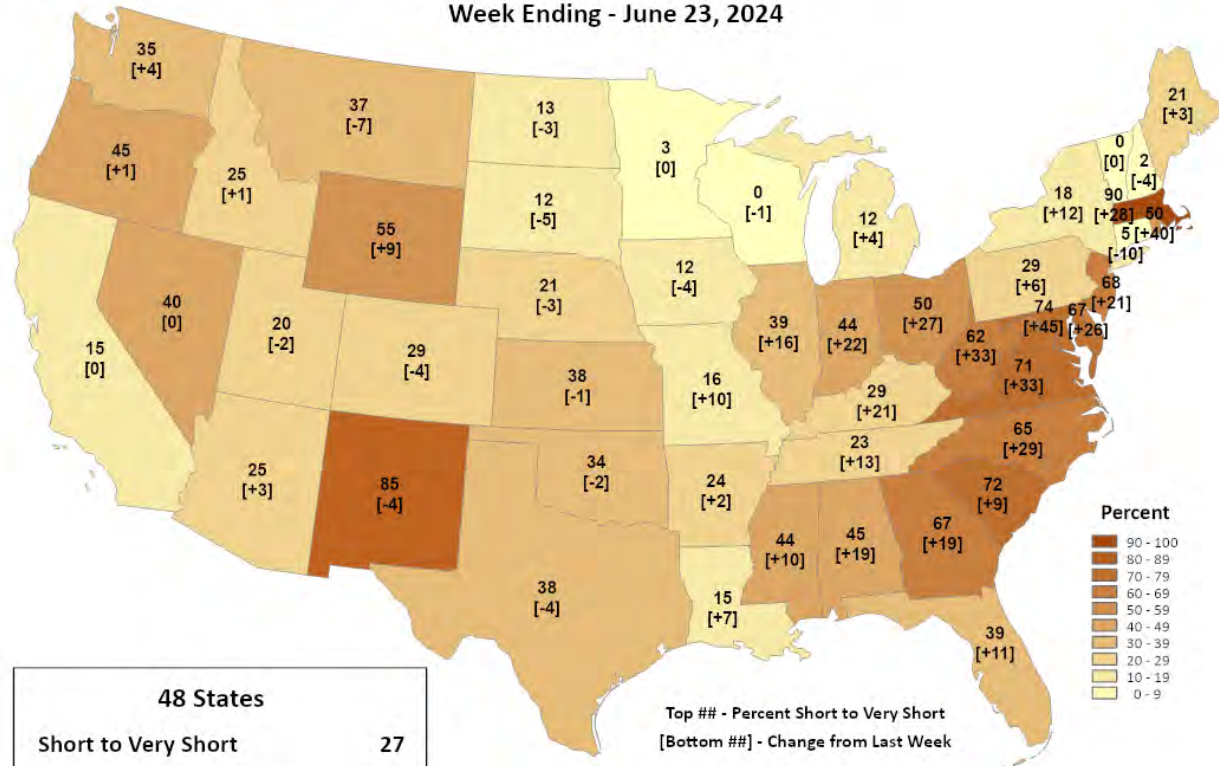


NASS Subsoil Moisture



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

Subsoil Moisture Percent Short to Very Short Week Ending - June 23, 2024

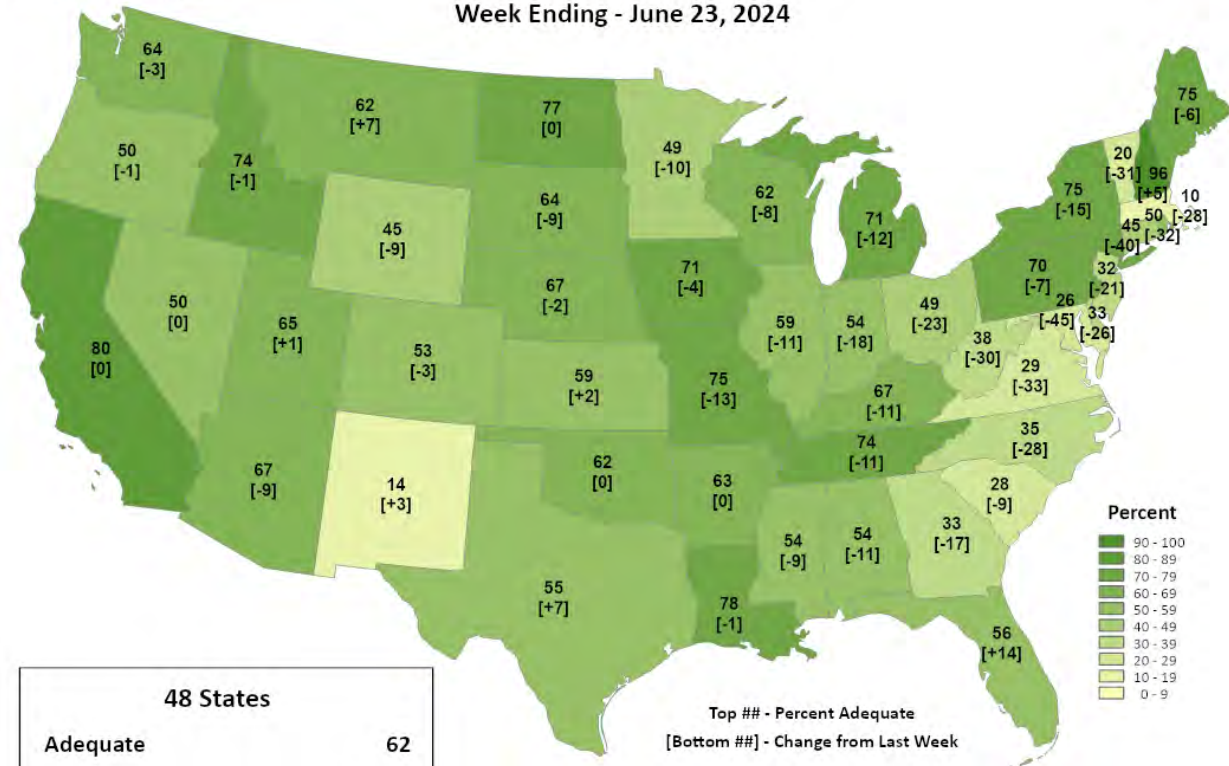


Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.



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

Subsoil Moisture Percent Adequate Week Ending - June 23, 2024



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

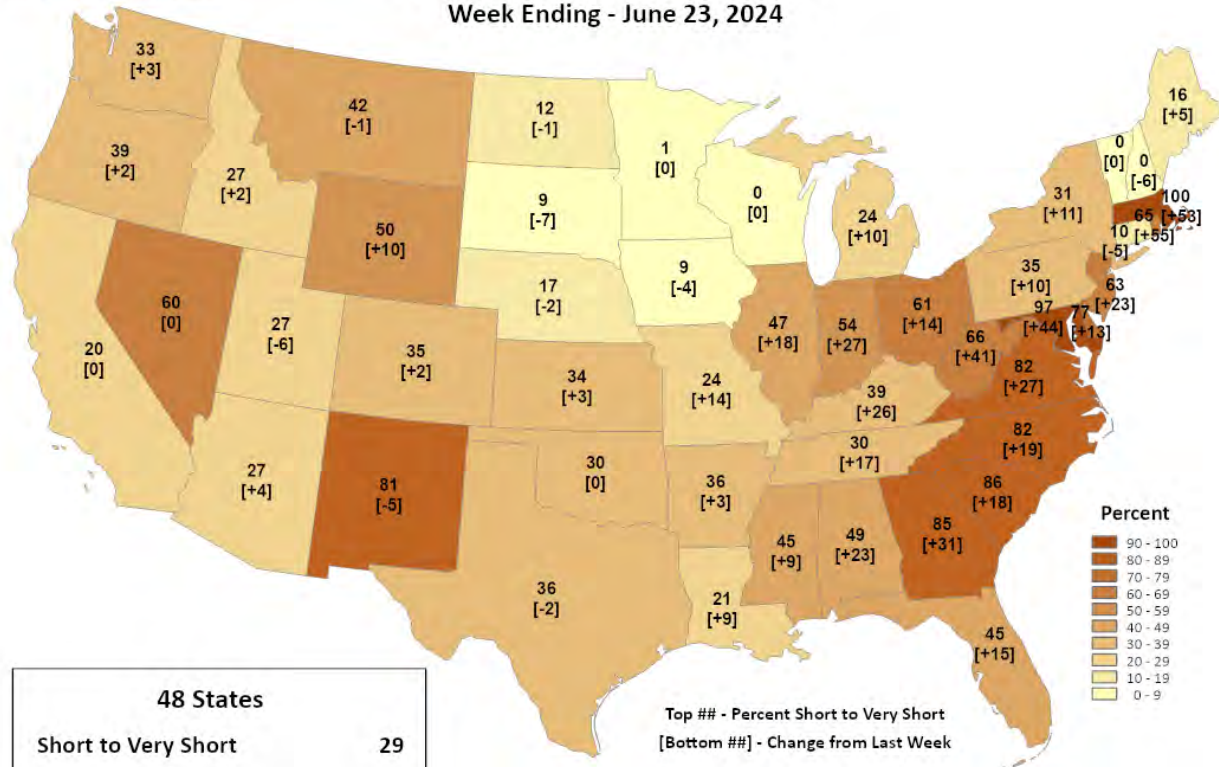
<https://agindrought.unl.edu/Other.aspx>

NASS Topsoil Moisture



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

Topsoil Moisture Percent Short to Very Short Week Ending - June 23, 2024

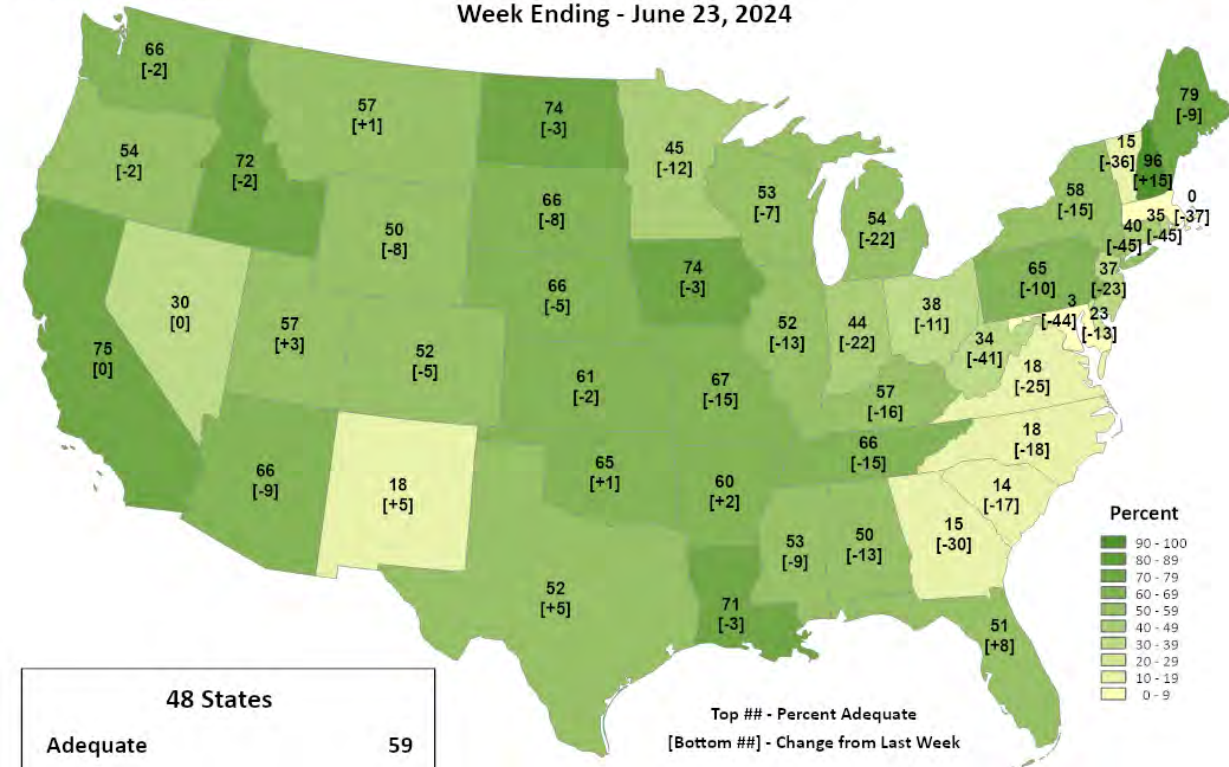


Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.



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World Agricultural Outlook Board (WAOB)

Topsoil Moisture Percent Adequate Week Ending - June 23, 2024

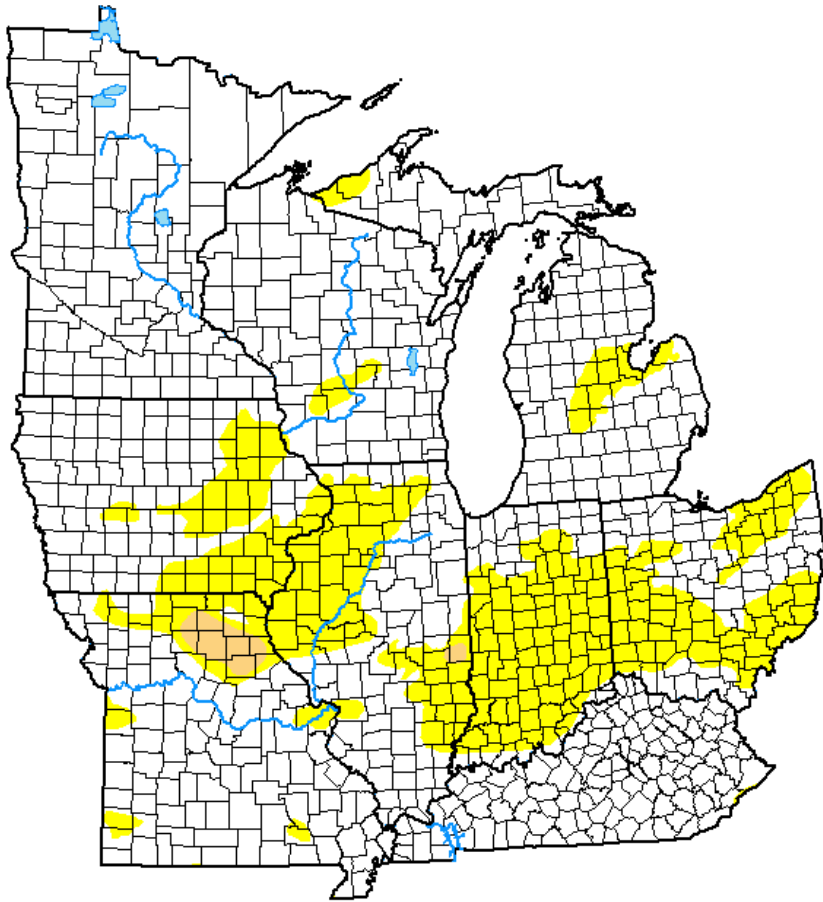


Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

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

US Drought Monitor

U.S. Drought Monitor Midwest



June 18, 2024

(Released Thursday, Jun. 20, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	77.60	22.40	0.78	0.00	0.00	0.00
Last Week 06-11-2024	94.18	5.82	0.00	0.00	0.00	0.00
3 Months Ago 03-19-2024	33.06	66.94	39.97	11.45	2.28	0.00
Start of Calendar Year 01-02-2024	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year 09-26-2023	16.82	83.18	54.98	23.81	6.21	0.13
One Year Ago 06-20-2023	7.29	92.71	58.49	15.91	2.59	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:

Richard Tinker
CPC/NOAA/NWS/NCEP



droughtmonitor.unl.edu

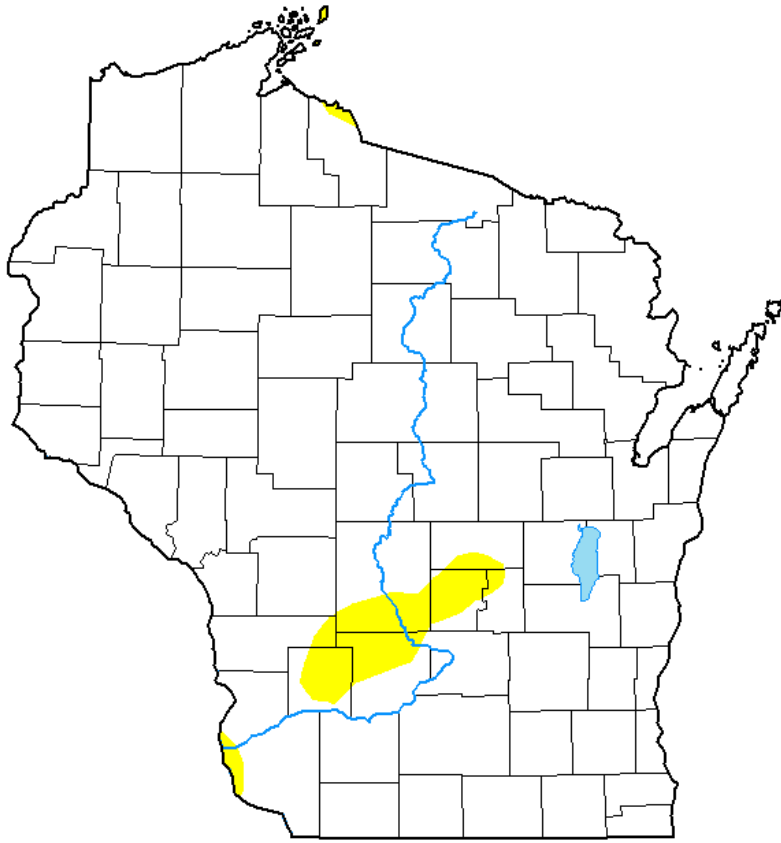
- Compared to last week:
 - Dryness has increased across much of the lower Midwest.
- **16.58%** increase of D0 (abnormally dry) conditions across the Midwest.
- Small patches of Moderate Drought (D1) in Missouri and Illinois

Note: D0 is not considered drought.

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

US Drought Monitor

U.S. Drought Monitor Wisconsin



June 18, 2024

(Released Thursday, Jun. 20, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	96.44	3.56	0.00	0.00	0.00	0.00
Last Week 06-11-2024	95.75	4.25	0.00	0.00	0.00	0.00
3 Months Ago 03-19-2024	11.83	88.17	72.32	19.02	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 06-20-2023	0.00	100.00	78.16	7.94	0.00	0.00

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>

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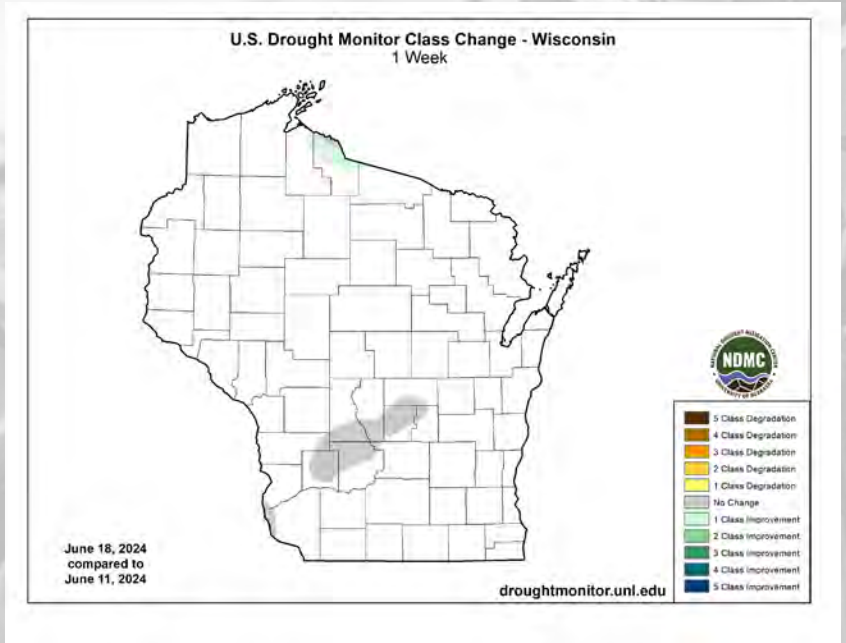


droughtmonitor.unl.edu

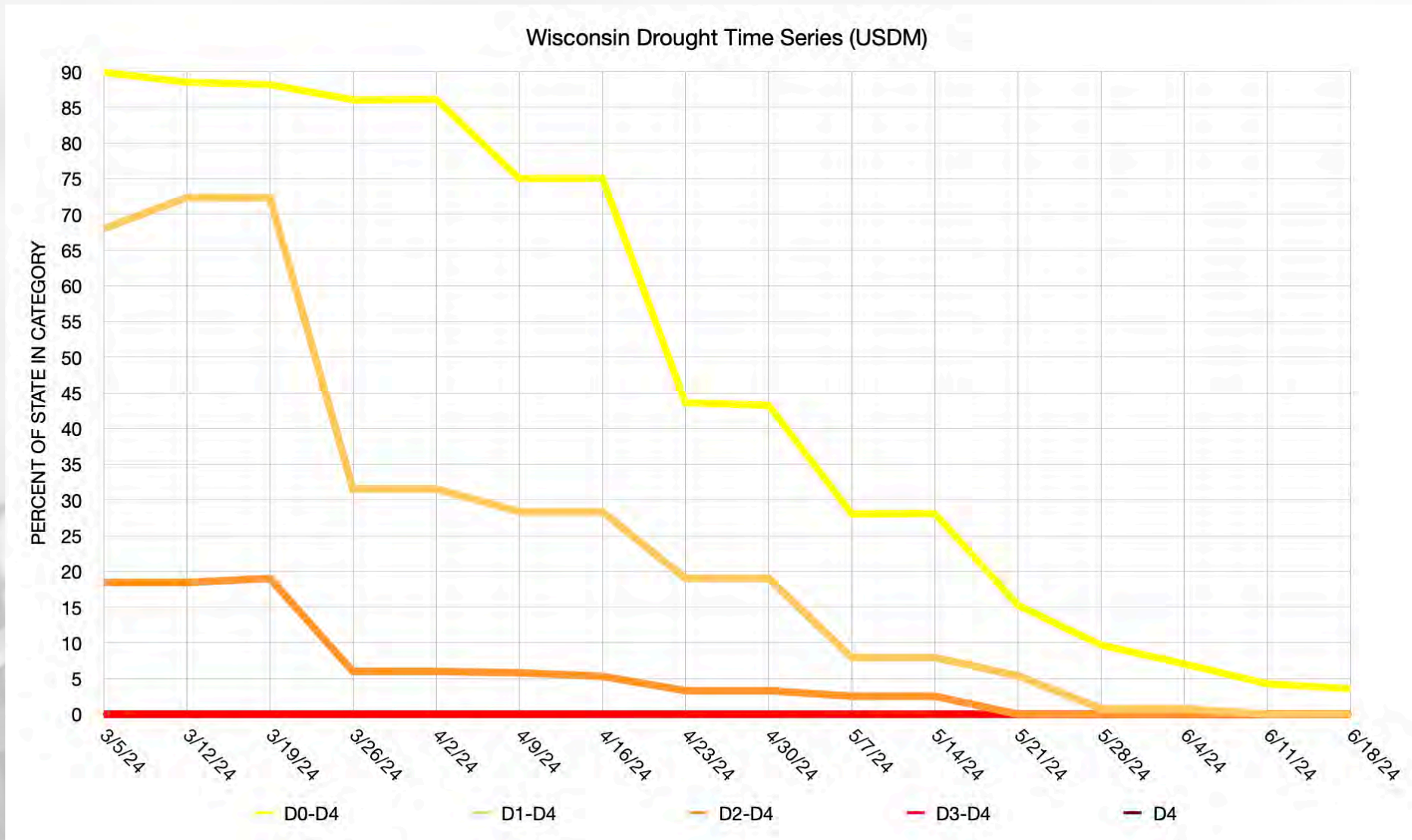
Amount of state in:

- 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. -- indicates no change.



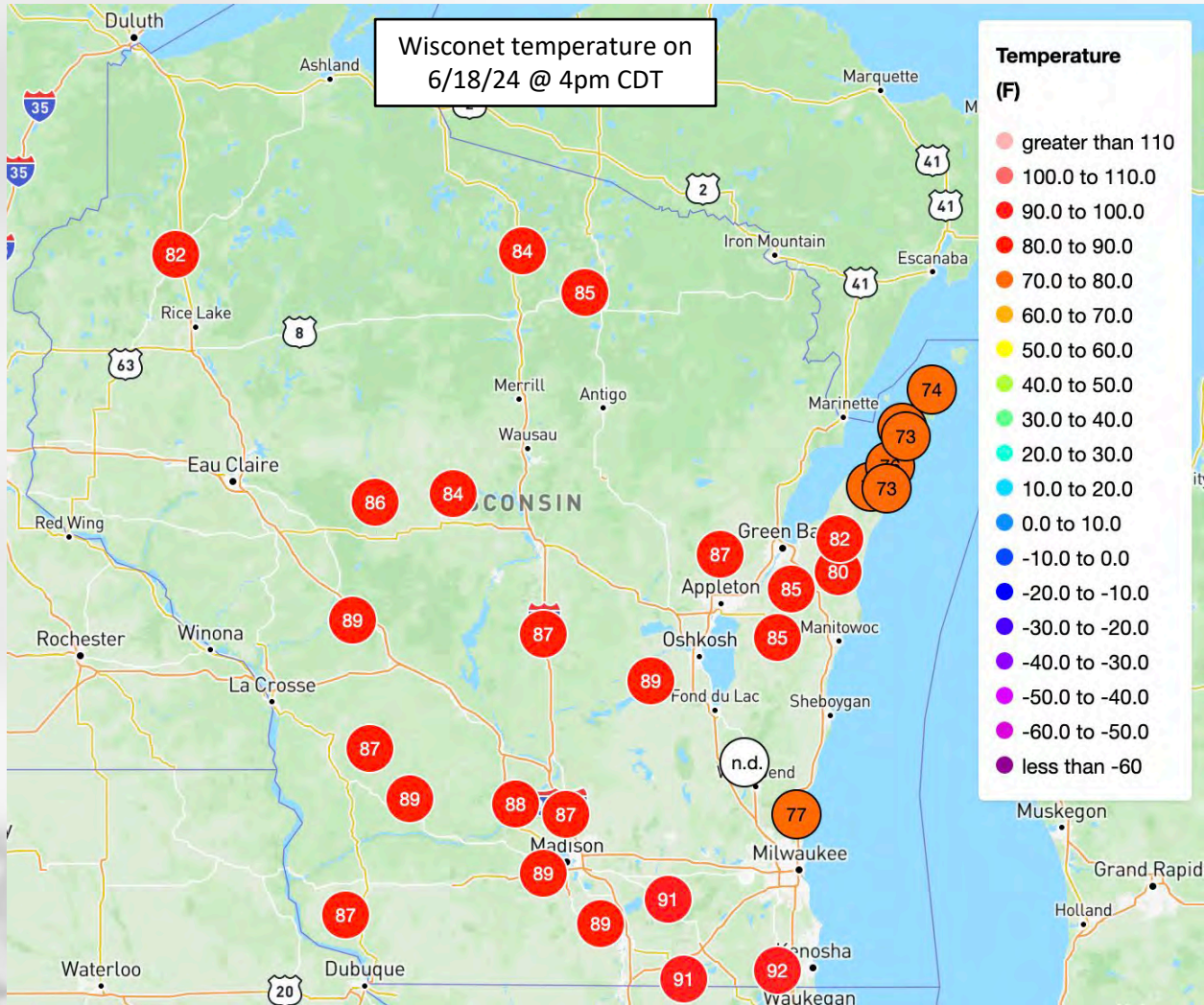
USDM Time Series



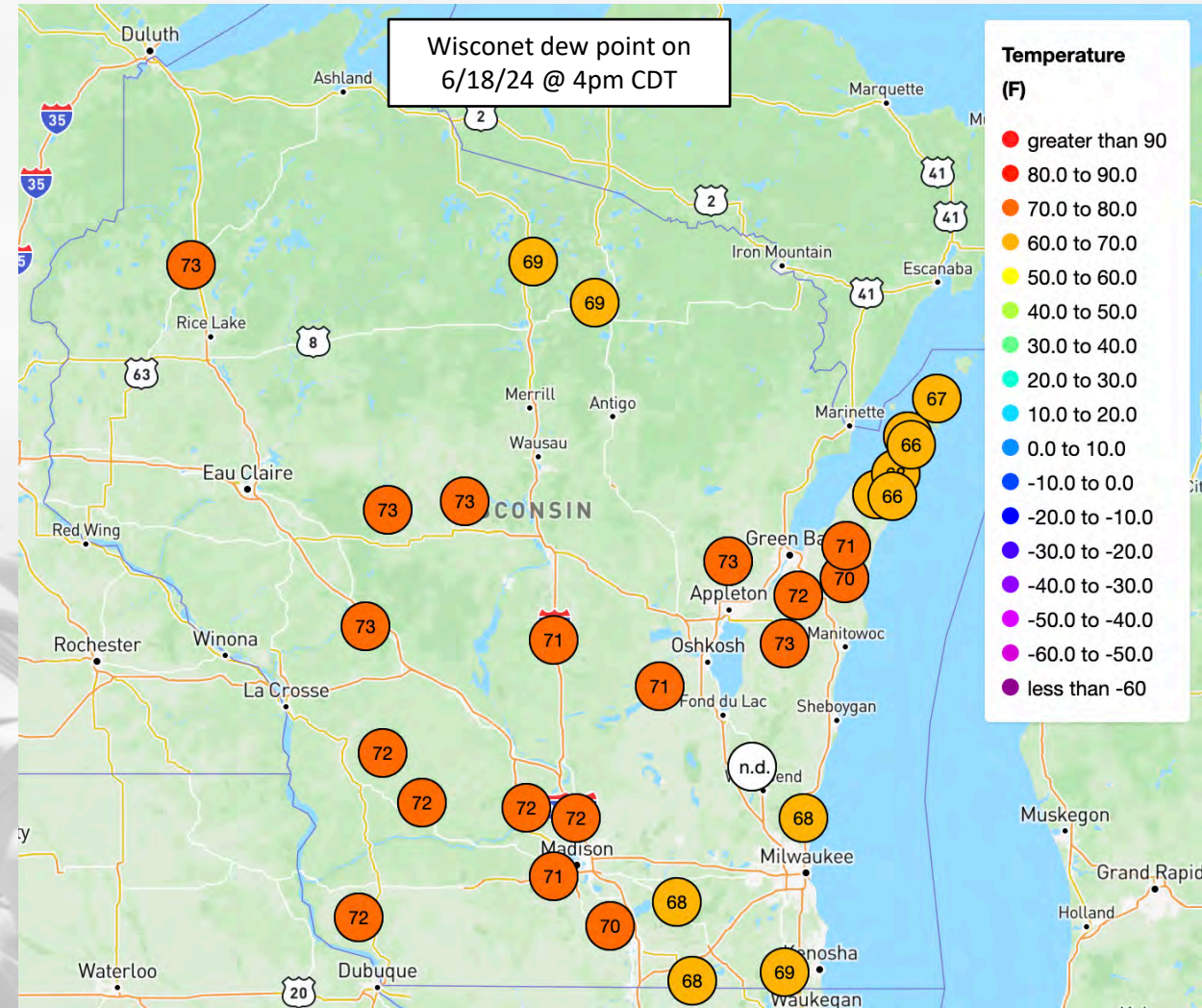
<http://droughtmonitor.unl.edu/>

Heat & Humidity Continue On for Most of WI

Wisconet temperature on 6/18/24 @ 4pm CDT



Wisconet dew point on 6/18/24 @ 4pm CDT

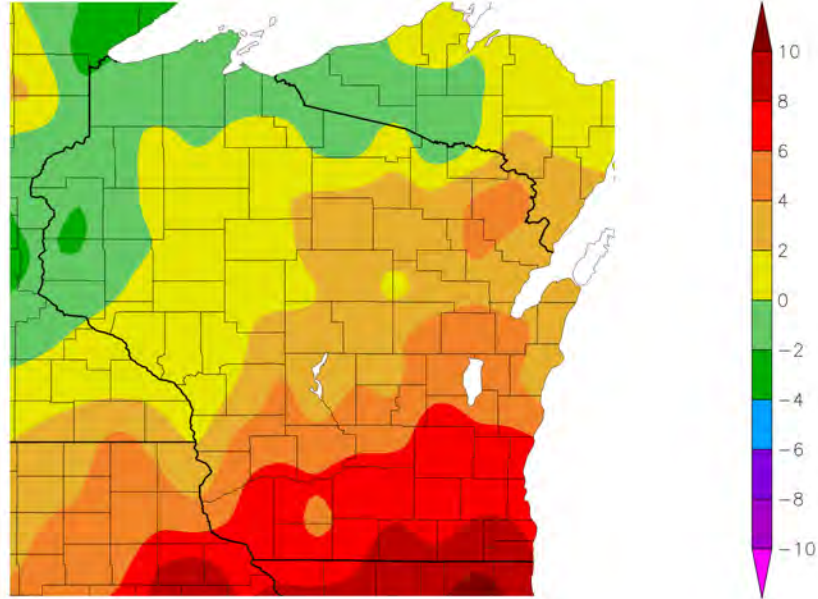


NWS HeatRisk Tool:
<https://www.wpc.ncep.noaa.gov/heatrisk/>

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

7 Day Temperatures

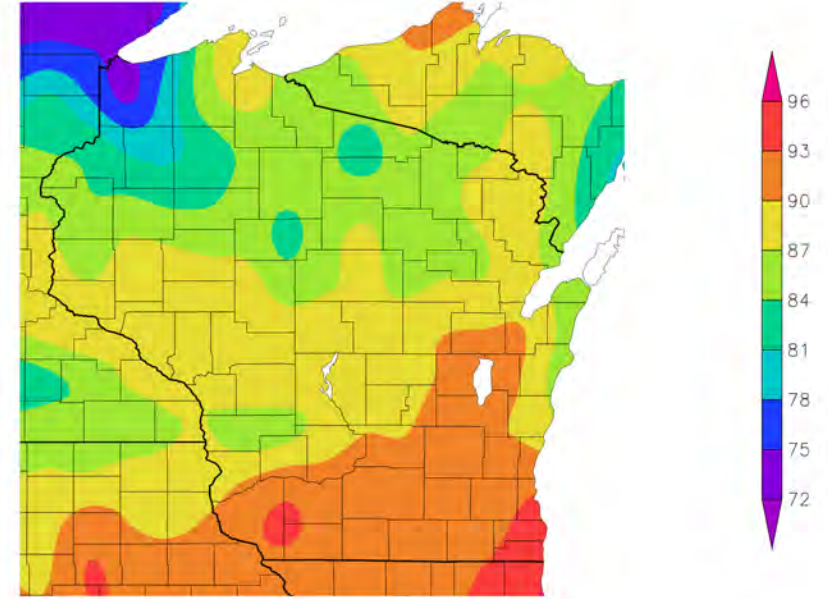
Departure from Normal Temperature (F)
6/17/2024 – 6/23/2024



Generated 6/24/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highest 1-Day Maximum Temperature (F)
6/17/2024 – 6/23/2024



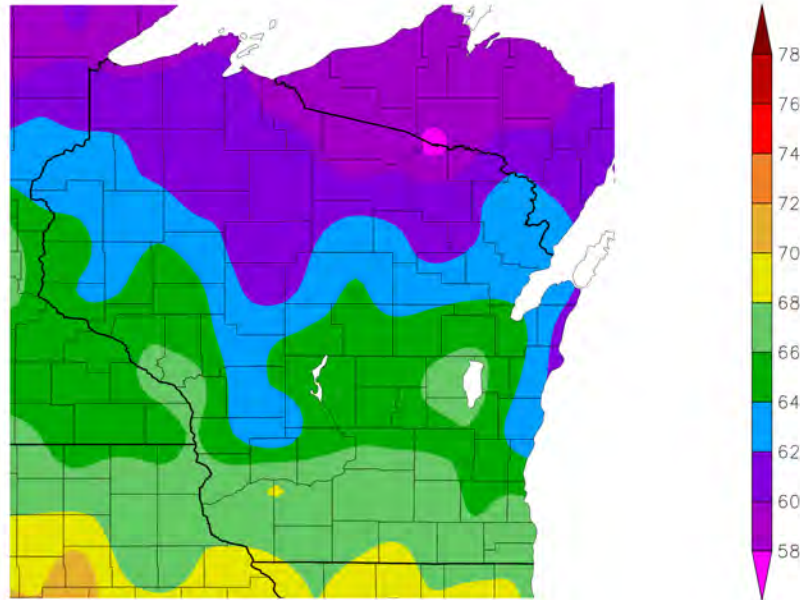
Generated 6/24/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Temps ranged from **2°F** below normal in the north to **10°F** above normal in the south.
- Much of the state saw **80+°F**, and even **90+°F** to the south and around Lake Winnebago.

30 Day Temperatures

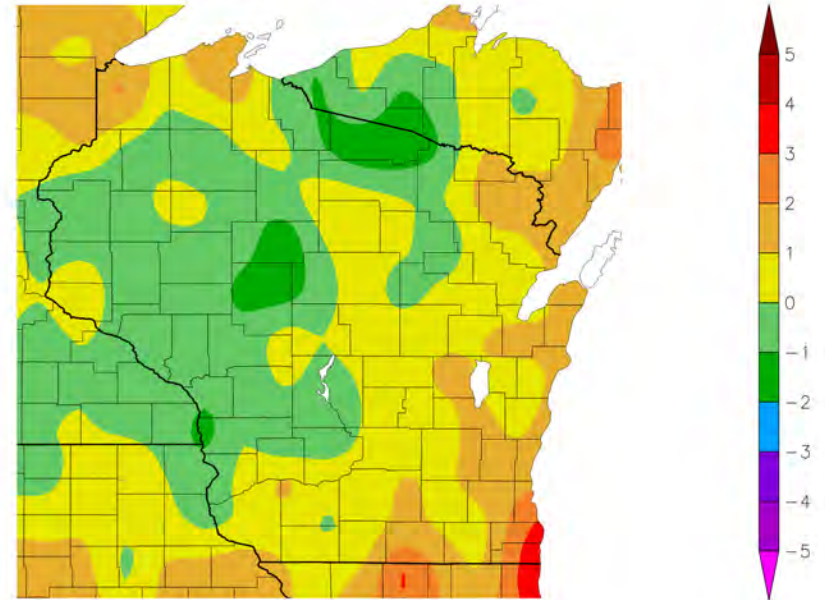
Temperature (F)
5/25/2024 – 6/23/2024



Generated 6/24/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
5/25/2024 – 6/23/2024



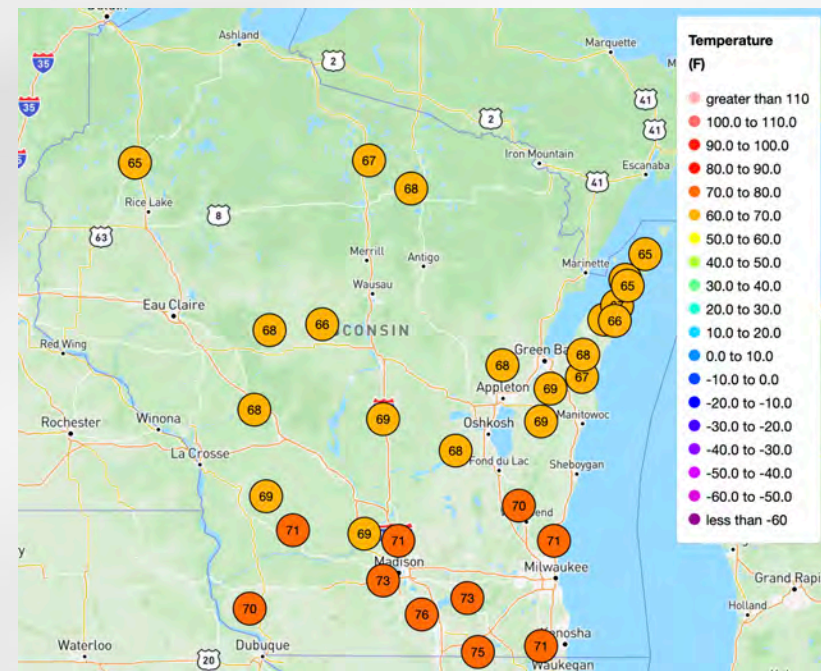
Generated 6/24/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

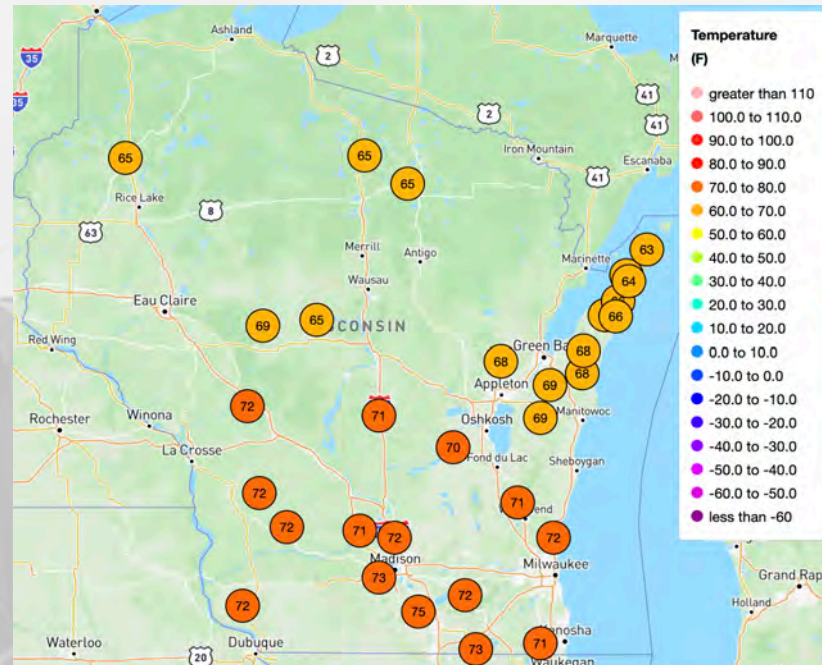
- Temperatures for the past month ranged from **66-68°F** in the S to **58-60°F** in the far N.
 - **-/+1°F** of climatological average across the state, with the warmer anomalies along the Great Lakes.
 - **+2°F** for far SE WI and **-2°F** around Taylor, Clark, and Vilas Counties.

Wisconet Soil Temp – 4" Depth

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

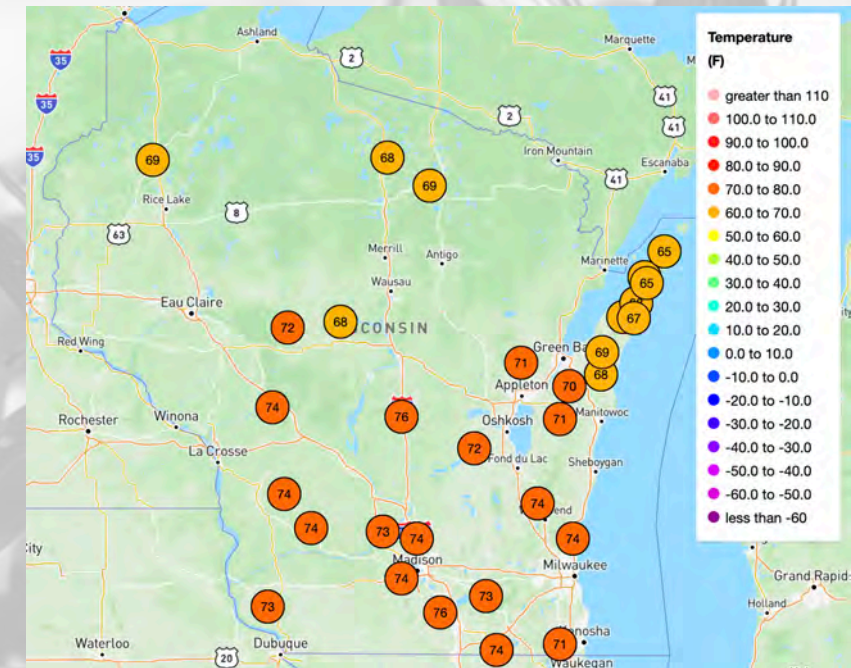


Late morning on June 21



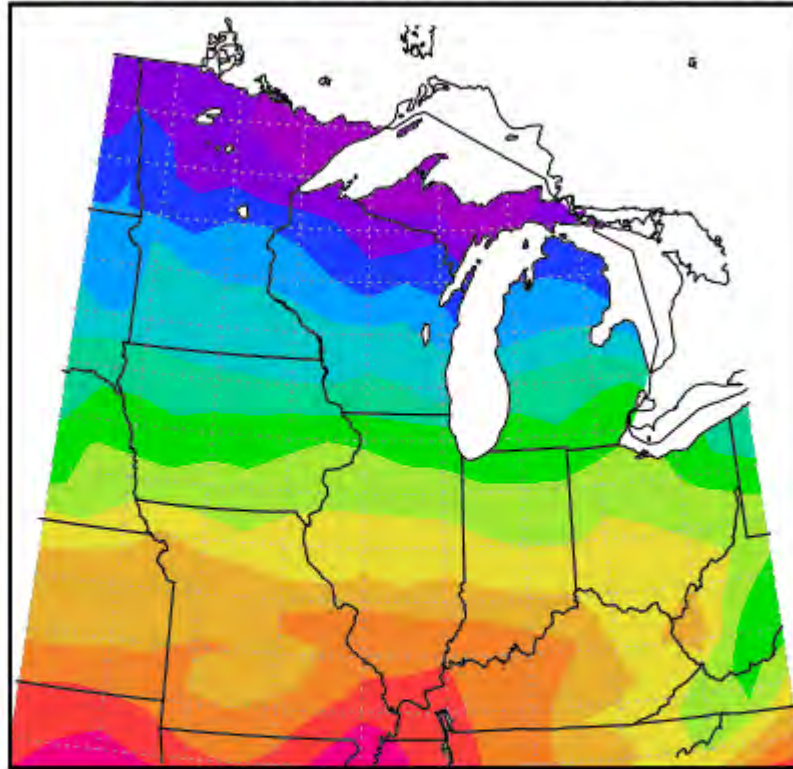
Late morning on June 23

Late morning on June 25



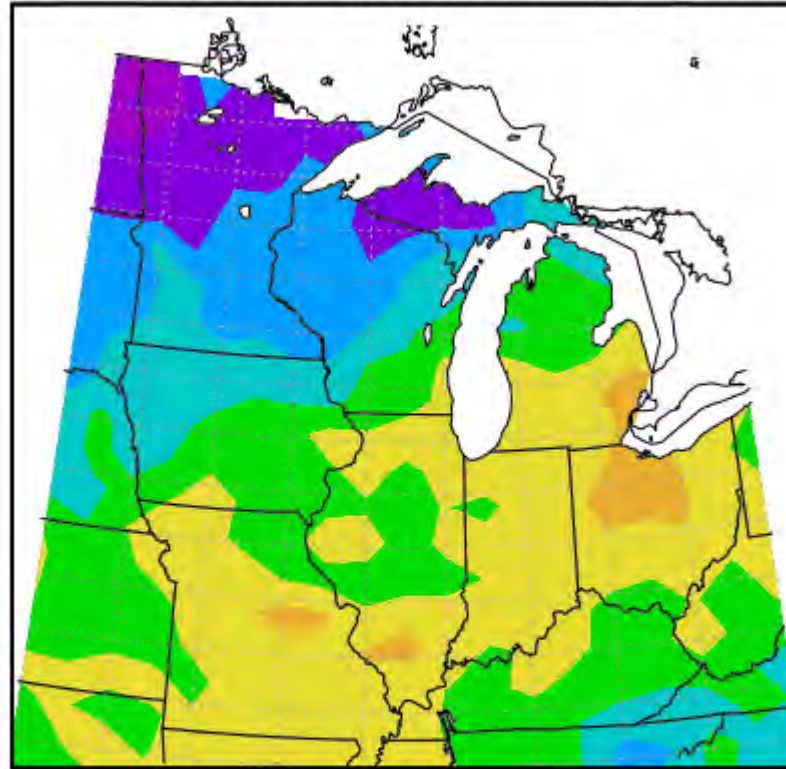
Growing Degree Days (Base = 50°F; Since April 1)

Total MGDD from 4/1/2024 to 6/24/2024



Midwestern Regional Climate Center
Purdue University

MGDD Departure, 4/1/2024 to 6/24/2024



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

- **1000-1100** GDD in the S to **600-700** GDD in the N.
- SE WI is **100-200** GDD further ahead of the average; **0-100** ahead of average in the W/NW; **Slightly behind** average in north-central.

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

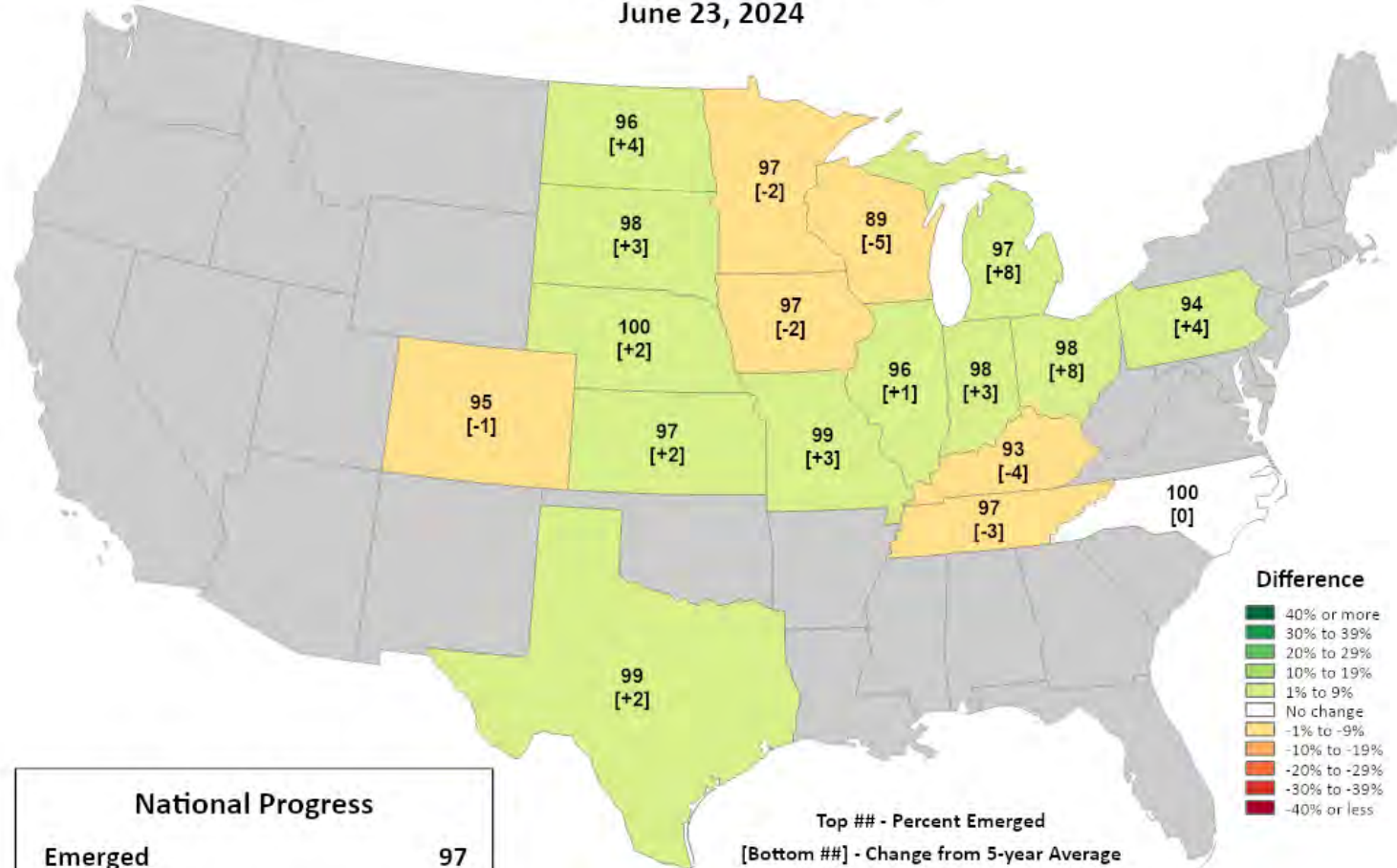


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Corn Progress

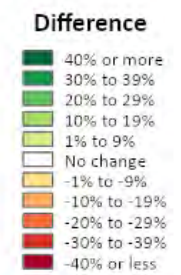
Percent Emerged

June 23, 2024



National Progress	
Emergenced	97
Change from 5-year Average	+1

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



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

- Emergence is running **behind** the 5-year average in WI and to the W in IA and MN. **Ahead** of normal in the rest of the Midwest.
- Wisconsin → **89% complete**; 5% behind of the 5-year average pace. **5% increase** from last week.

NASS Crop Progress – Soybean

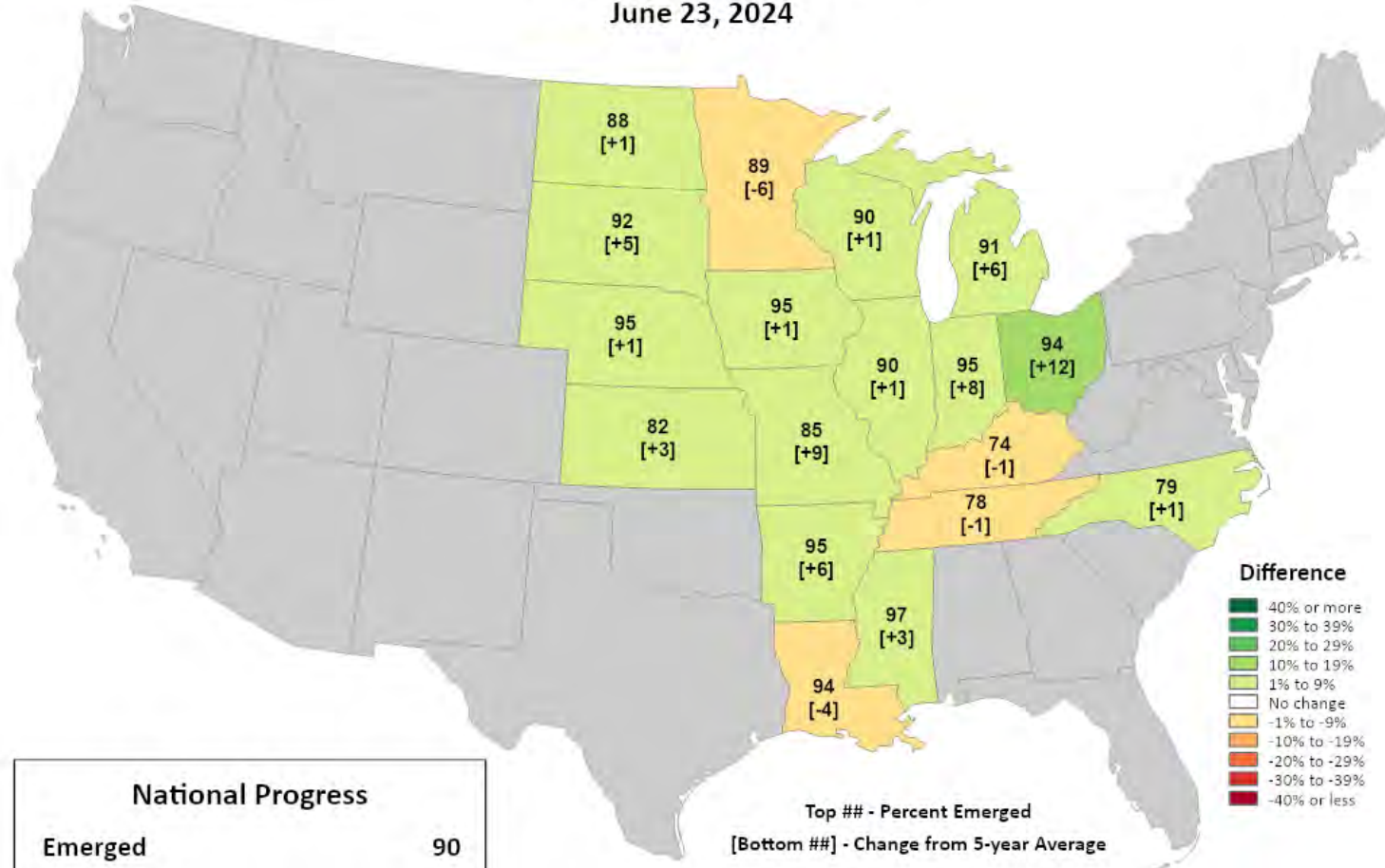


This product was prepared by the
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World Agricultural Outlook Board (WAOB)

Soybeans Progress

Percent Emerged

June 23, 2024



National Progress	
Emergenced	90
Change from 5-year Average	+3

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

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

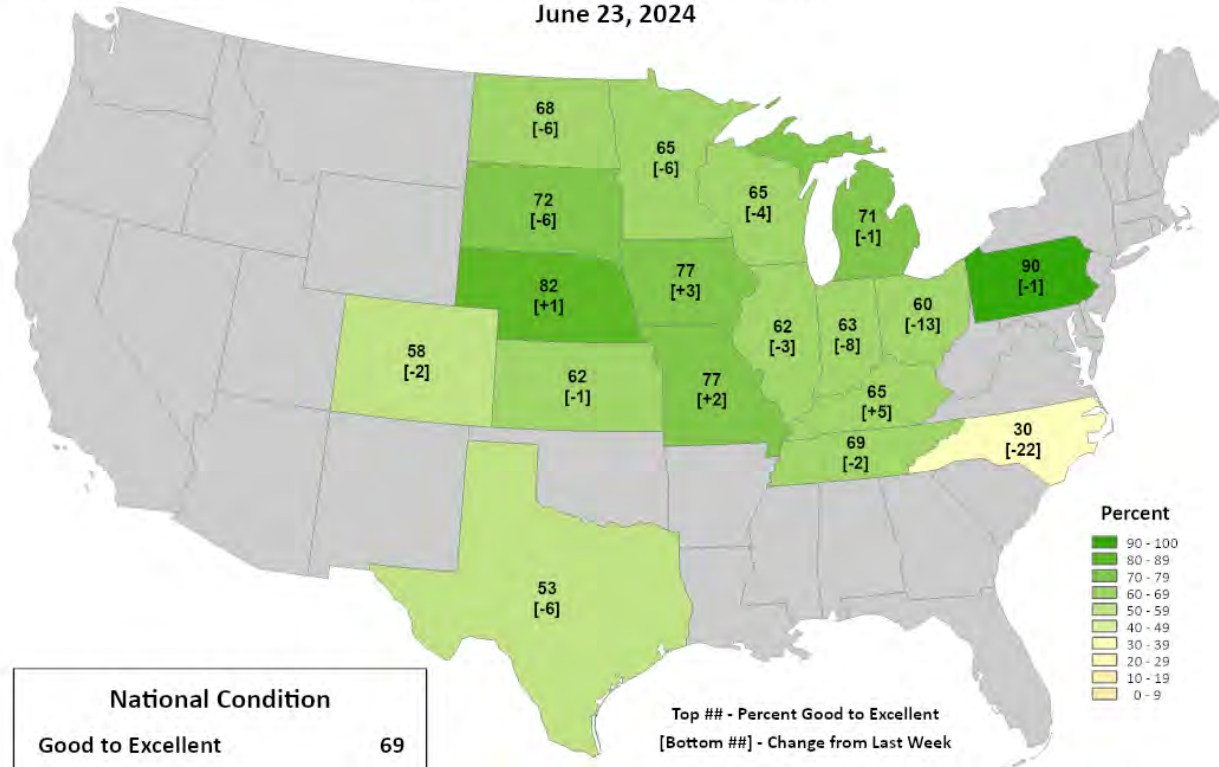
- Emergence is running slightly **ahead** of the 5-year average in WI and surrounding states, except MN.
 - Wisconsin → **90% emergence complete**; 1% ahead of the 5-year average pace. **7% increase** from last week.
 - Planting → **97% planted**

NASS Crop Condition



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World Agricultural Outlook Board (WAOB)

Corn Conditions Percent Good to Excellent June 23, 2024



National Condition	
Good to Excellent	69
Change from Last Week	-3

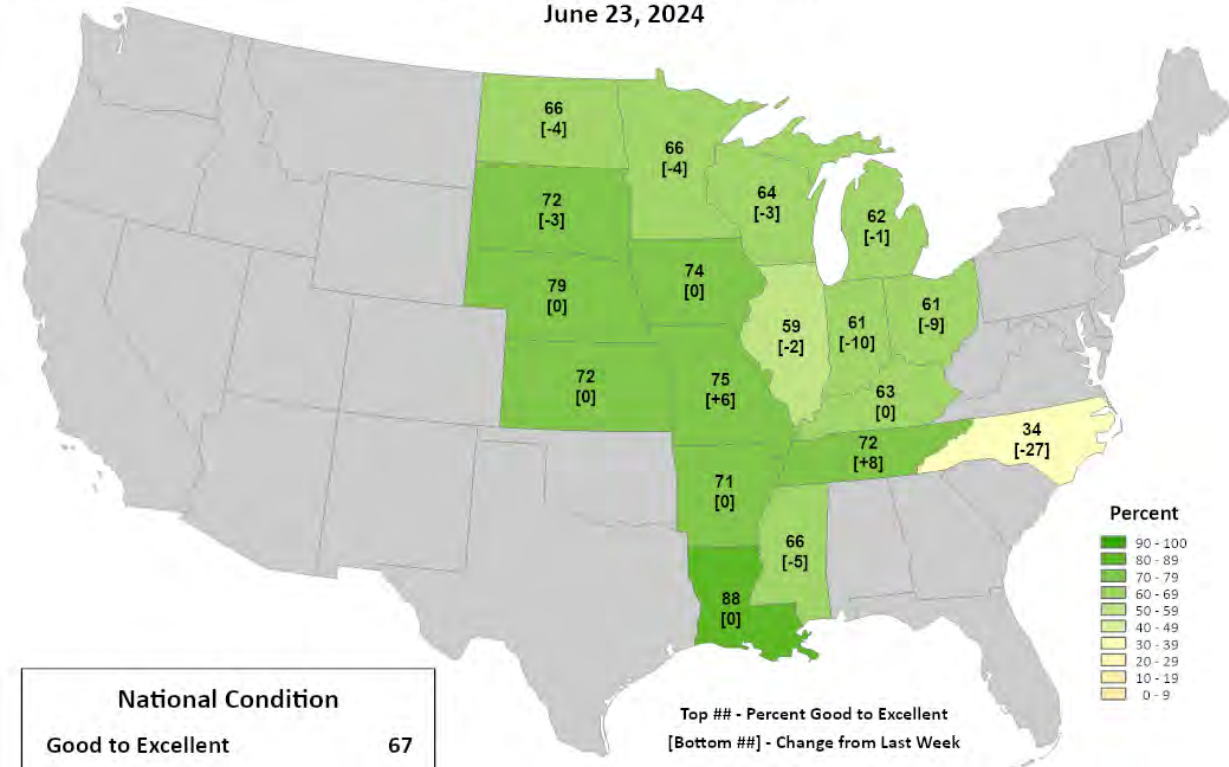
Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week

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



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

Soybean Conditions Percent Good to Excellent June 23, 2024

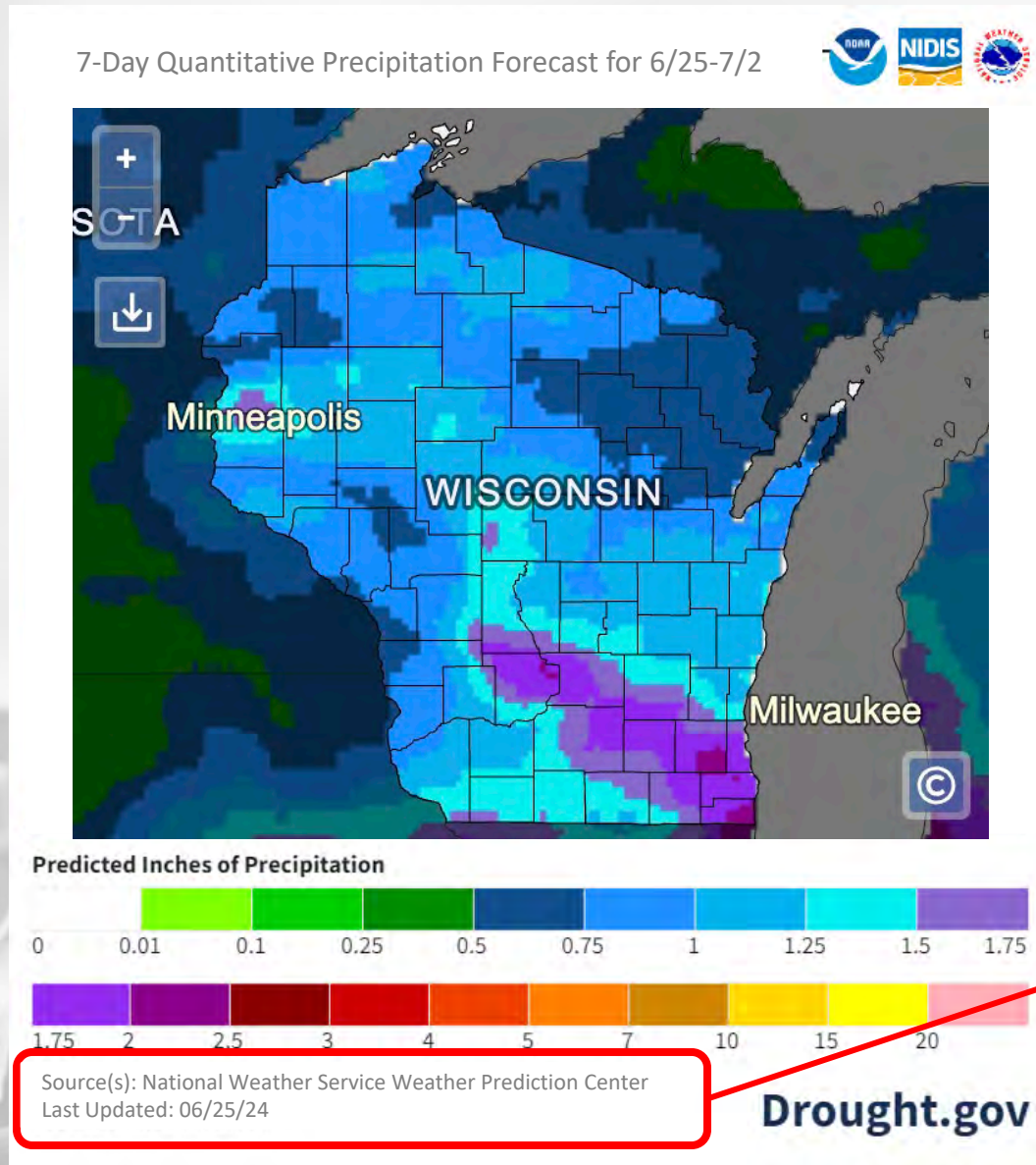


National Condition	
Good to Excellent	67
Change from Last Week	-3

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

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

7 Day Precip Forecast



- A couple of rounds of rain and t-storms are forecasted over the next week, with higher chances in south-central and southeast WI.

Forecast for 6/25/24 thru 7/2/24
(Begins at 7am CDT)

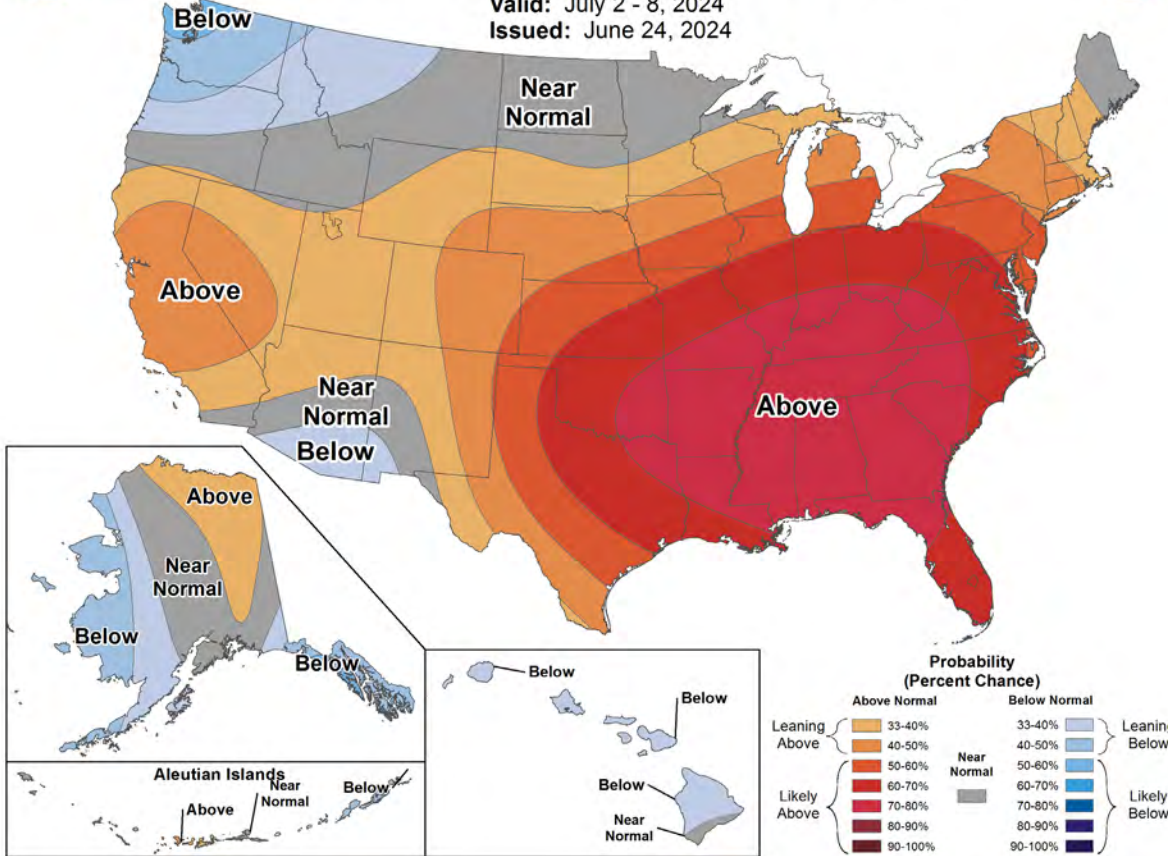
<https://www.wpc.ncep.noaa.gov/qpf/p168i.gif>
<https://www.drought.gov/states/wisconsin>

8-14 Day Temp & Precip Outlook



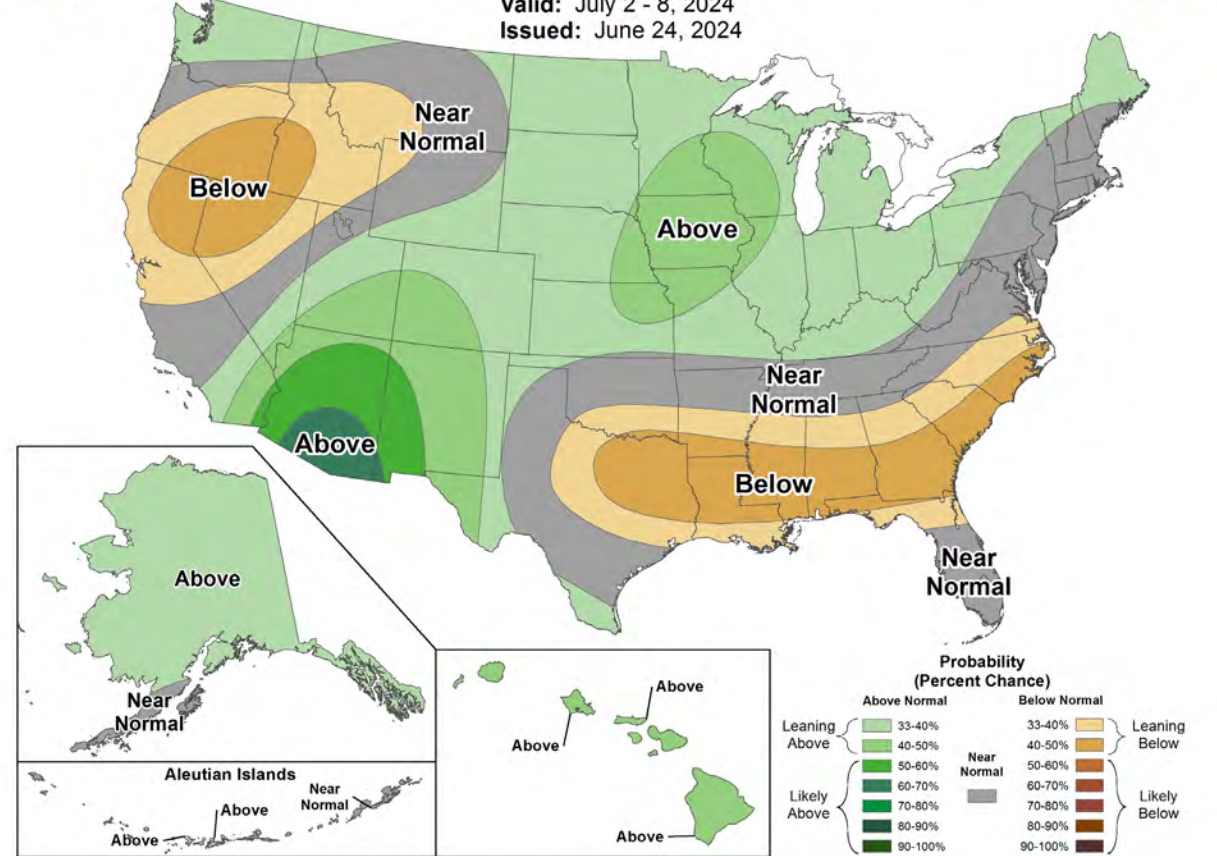
8-14 Day Temperature Outlook

Valid: July 2 - 8, 2024
Issued: June 24, 2024



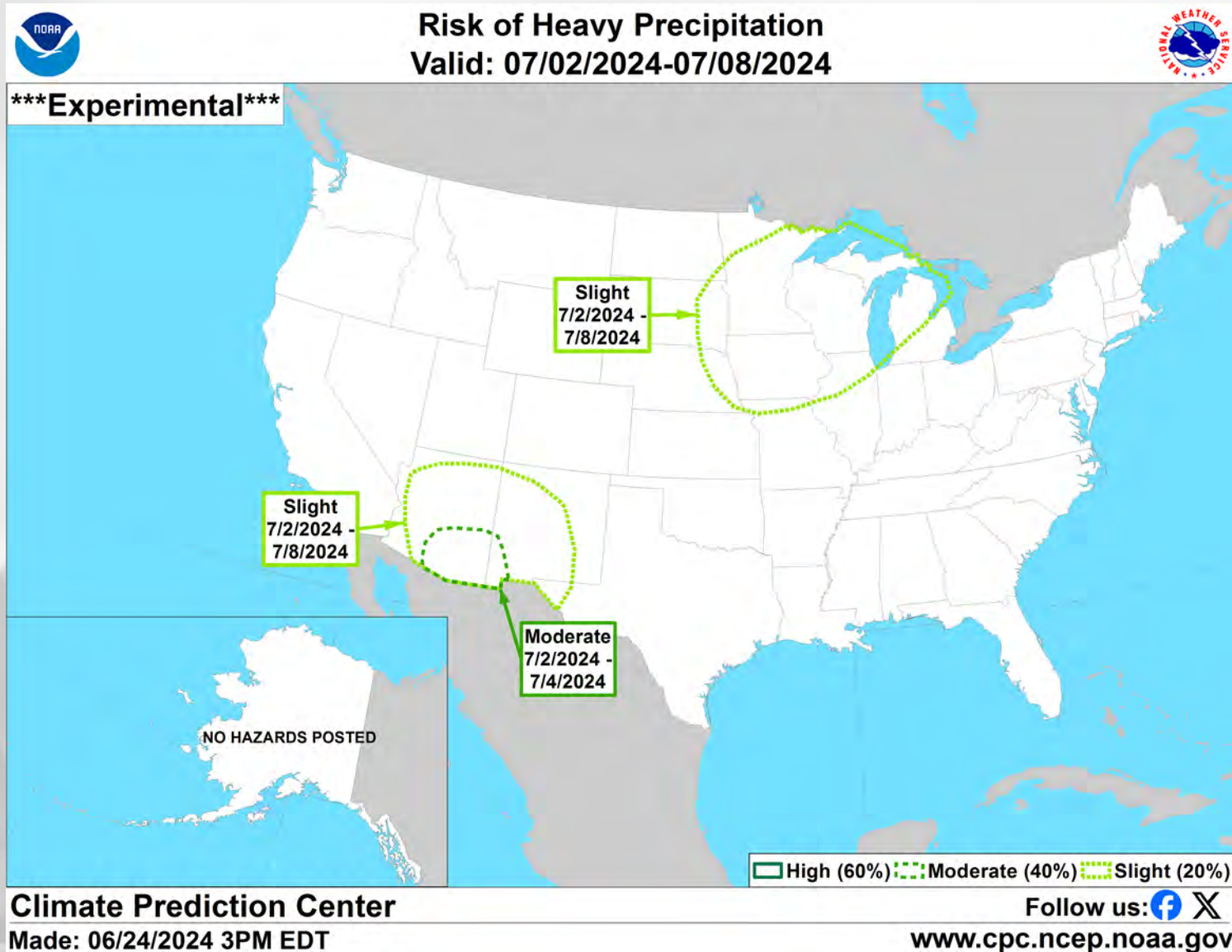
8-14 Day Precipitation Outlook

Valid: July 2 - 8, 2024
Issued: June 24, 2024



Beginning of July: Temperatures and precipitation leaning above normal.

8-14 Day Precip Hazard Outlook



- **Slight risk for excessive rainfall** in place for all of WI between July 2-8.
 - *Be aware of possible flooding.*

<http://www.cpc.ncep.noaa.gov/>

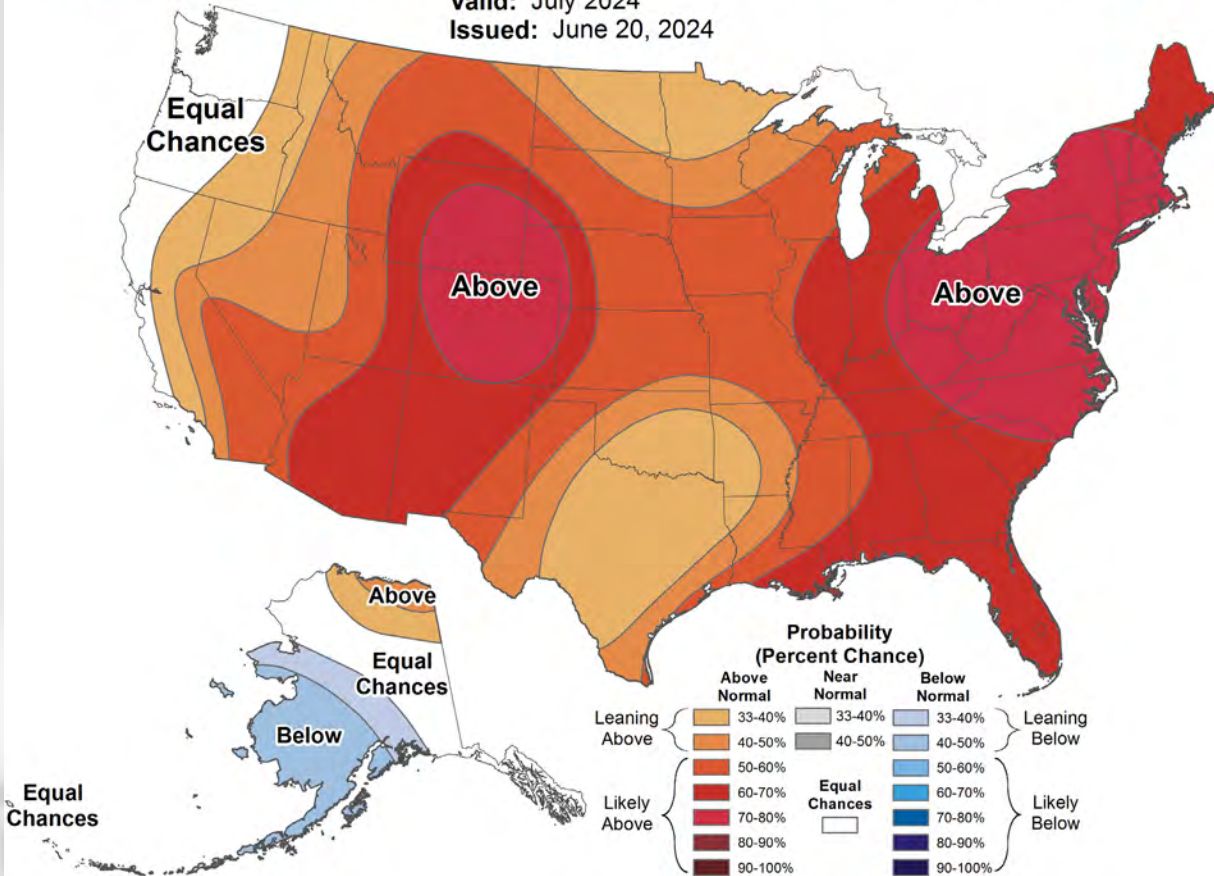
30 Day Temp & Precip Outlook



Monthly Temperature Outlook



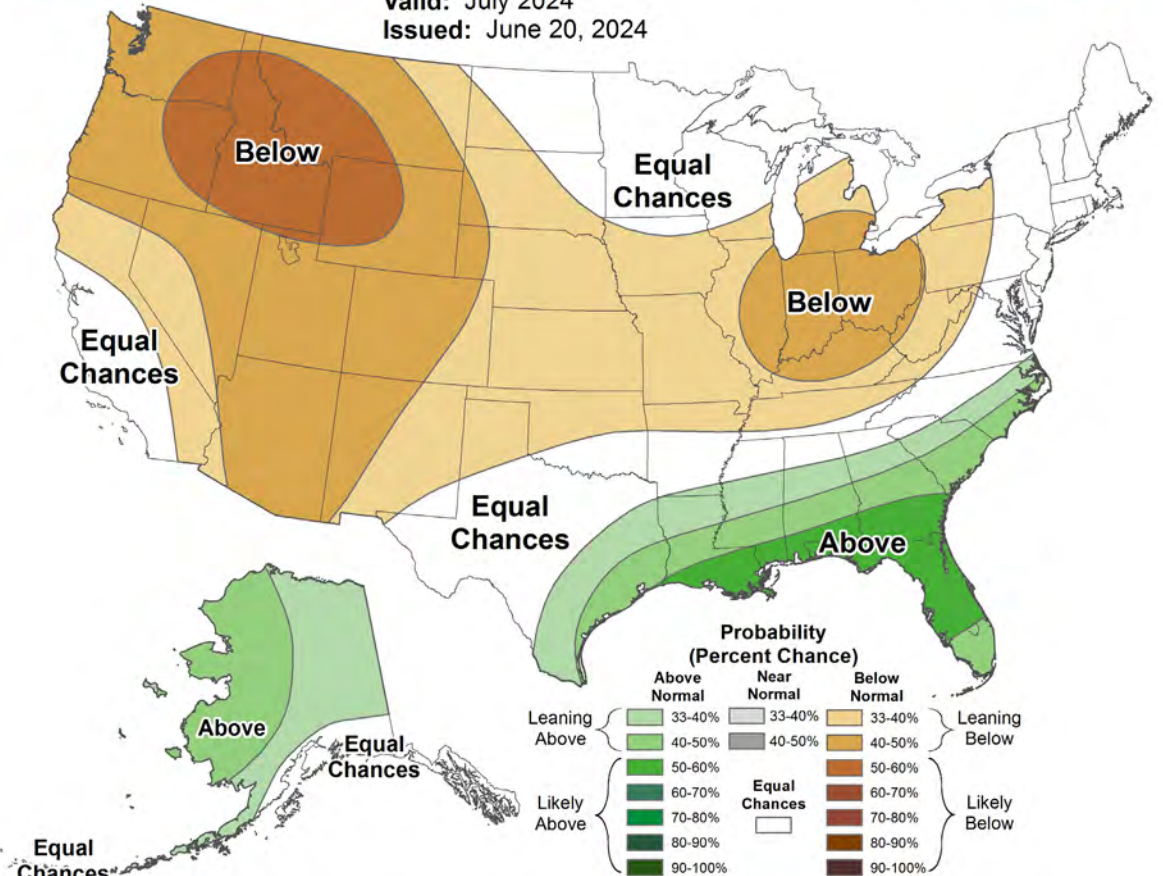
Valid: July 2024
Issued: June 20, 2024



Monthly Precipitation Outlook

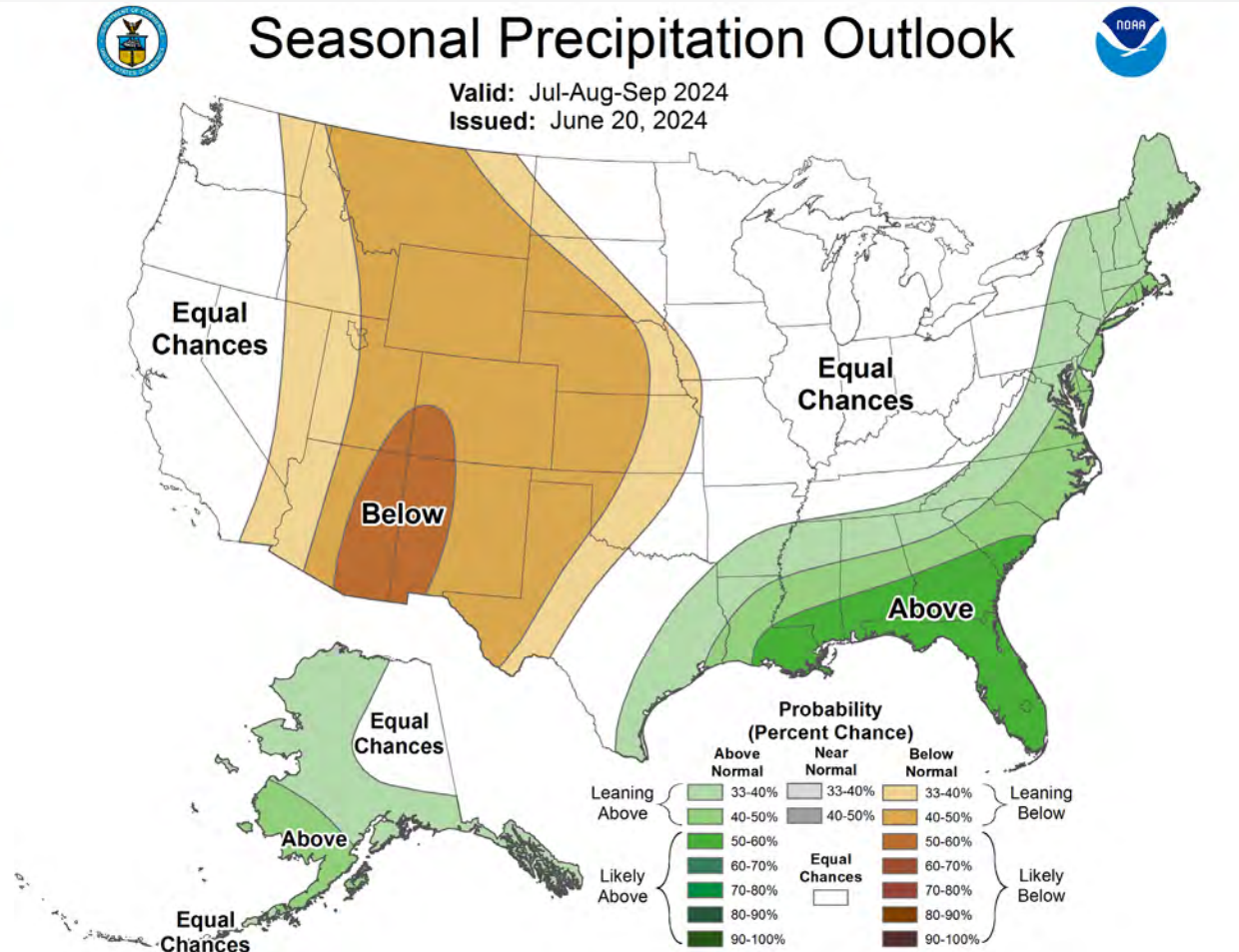
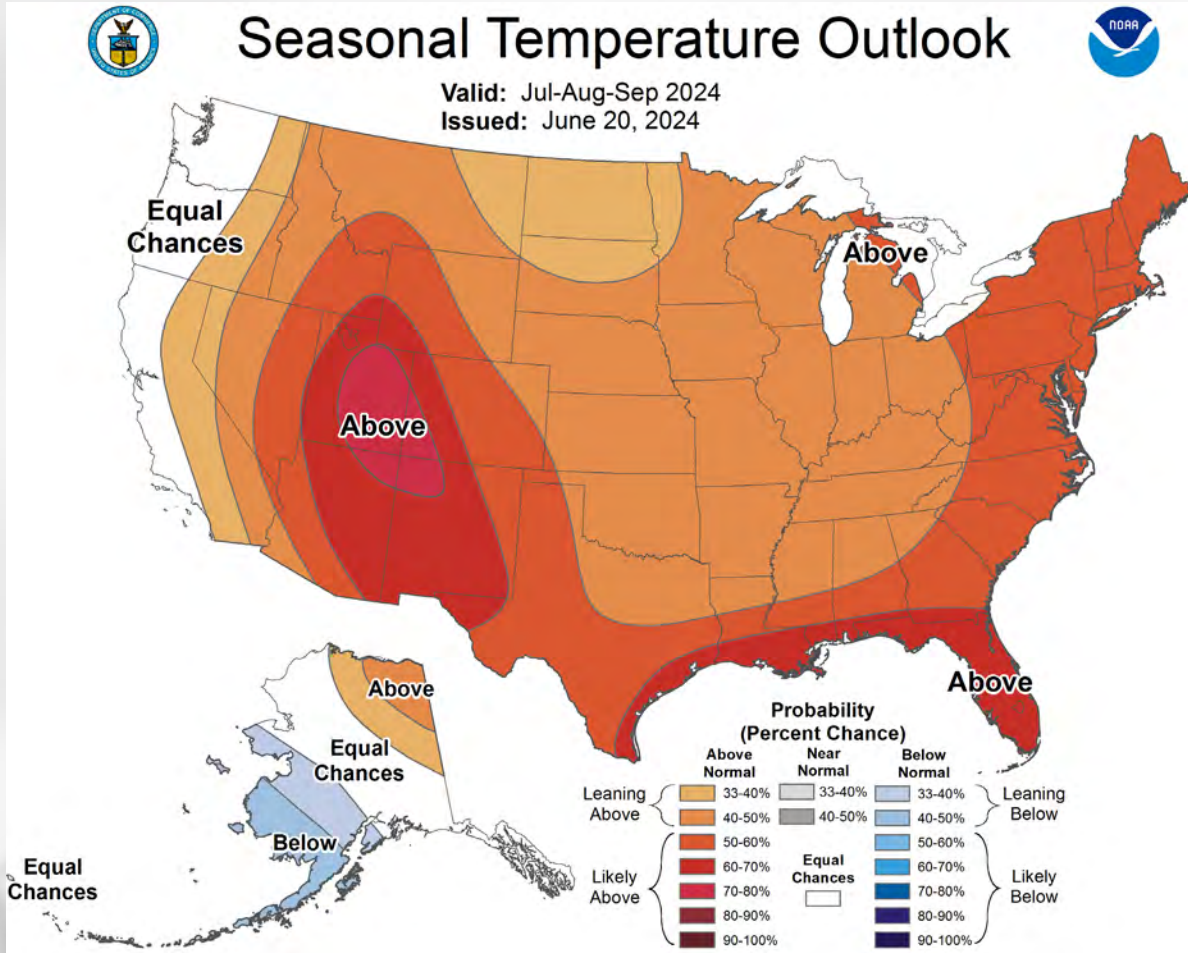


Valid: July 2024
Issued: June 20, 2024



Month of July: Temperature is leaning above normal. Precipitation is showing equal chances for much of the state, with a possibility for below normal conditions in far southern WI.

90 Day Temp & Precip Outlook



July-Sept: Temperatures leaning above normal. Precipitation indications are for equal chances of above/at/below average.

Take-Home Points

Current conditions:

- **2-3"** of rainfall widespread across much of WI, with heavier bands of **4-6"** for parts of S WI.
- Damaging **tornadoes, winds, and hail** were prevalent this week.
- **Heat & humidity** persisted for most of the state, keeping temperatures **2-10°F** above normal, except for NW WI.

Impact:

- A majority of top and subsoils remain in adequate condition; meanwhile, numerous rivers are under minor and moderate flood stages.
- Drought has stayed away from WI, but unfortunately dryness has increased in the lower Midwest.
- Growing degree days surpassed **1000** units in southern counties and are approaching **700** units to the north.
- Corn & soybeans are **~90%** emerged, with conditions for both crops at **~65%** good to excellent.

Outlook:

- The forecast is calling for **1+"** of rain statewide over the next week; potentially **1.5-2+"** for SE WI.
 - **Excessive rainfall risk** is in place.
- Potentially **warmer** and **wetter** to begin July.
- It's possible **warmer-than-normal** conditions will persist throughout July, August, and September.
 - *A transition to La Niña is expected over the summer months.*

Agronomic Considerations

Crop Development

- Soil moisture is adequate or even high in most places. Be cautious about going in the fields in muddy conditions, especially with more rain forecasted.
- As we are at 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 to assess fertilizer needs.
- Consider splitting nutrient applications if possible
- Consider using urease and nitrification inhibitors to minimize leaching or denitrification.

Manure Applications

- Runoff risk is possible in parts of the state over 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 [here](#) to receive text alerts when pests are in your region.
- Start to monitor for potato leafhopper pressure in alfalfa.
- Consider applying a fungicide on winter wheat as conditions have been right for Fusarium Head Blight and vomitoxin development. Read more [here](#)

Forage Management

- Warm temperatures may bring opportunities for haylage in a day for those still taking first cut. Ensure wide swaths to increase dry down rate.
- Monitor regrowth for weevil damage. Warm temperatures should lead to regrowth of alfalfa.

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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