

Wisconsin Ag Climate Outlook

Week of July 15, 2024

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Key Points

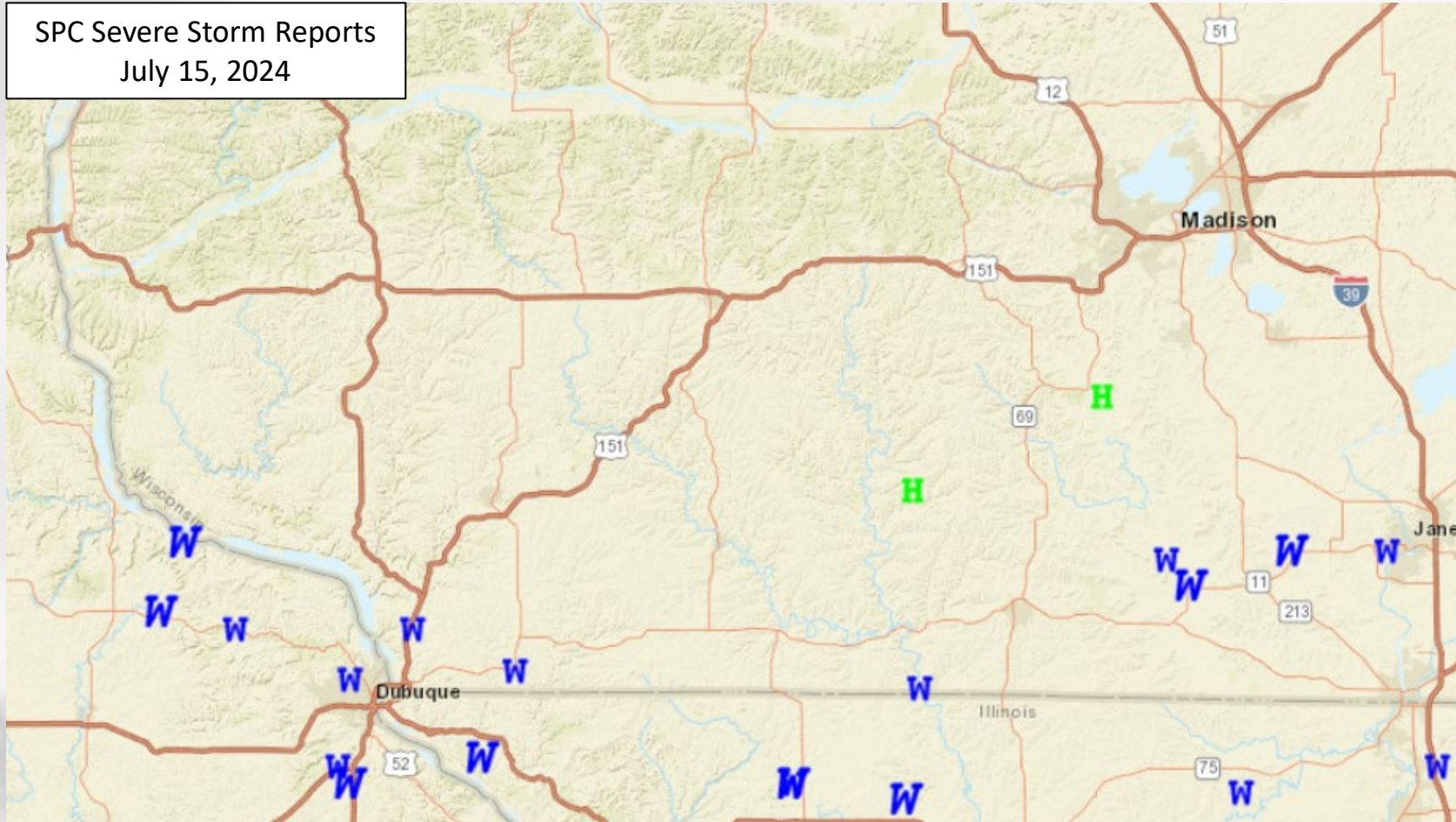
Navigate to select slides by clicking on the [links](#) below.

- 1) Southern & western counties experienced another [wet](#) (& [stormy](#)) week, resulting in high soil moisture [percentiles](#).
- 2) Temps trended [above average](#) last week, with the remainder of July leaning towards being [warmer-than-normal](#).
- 3) A relatively [dry](#) next 7 days is forecasted, with [near normal](#) precip chances.

- *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](#).*

Monday Night Storms

SPC Severe Storm Reports
July 15, 2024



Location	Wind Report
Hazel Green	72 mph
Brodhead	78 mph
Footville	84 mph
Dubuque Airport	79 mph
Galena, IL	80 mph

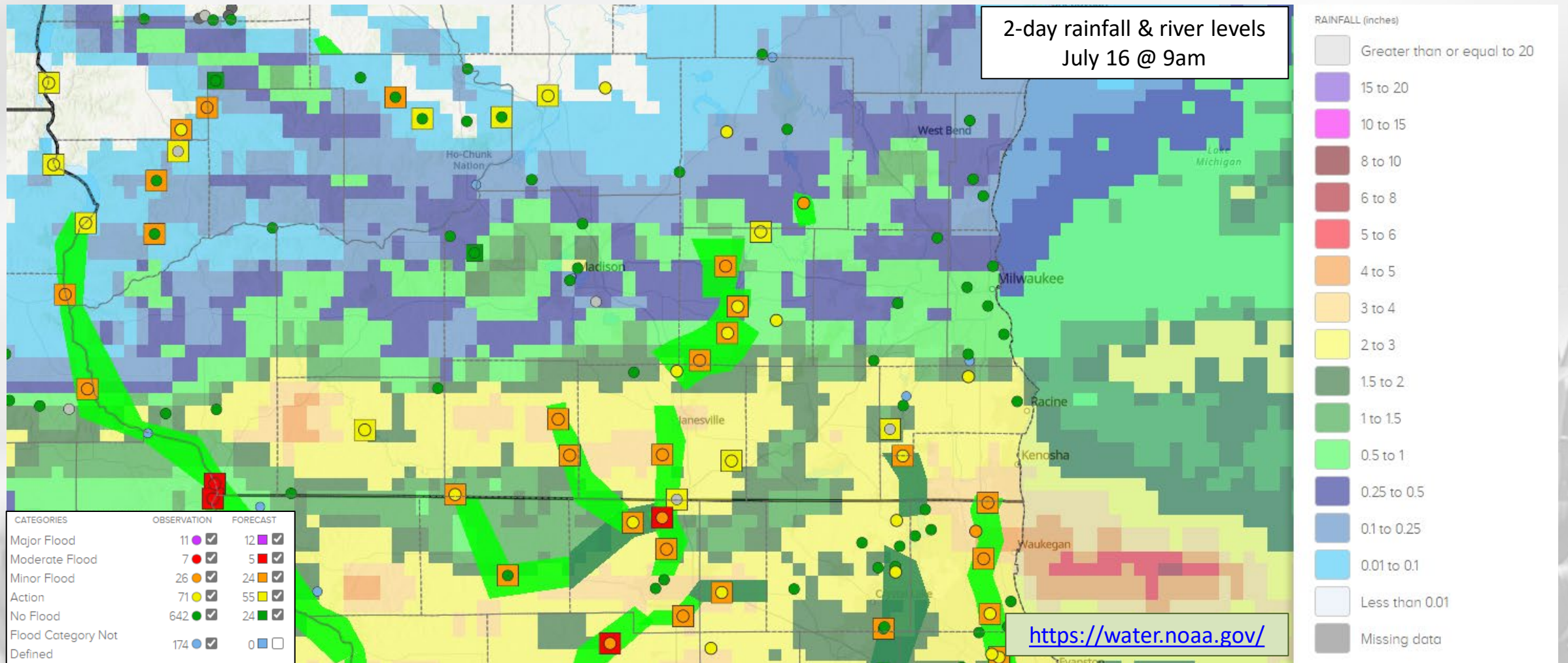
Local Media Coverage

Cuba City Storm Damage: [LINK](#)

Rock River Flooding: [LINK](#)

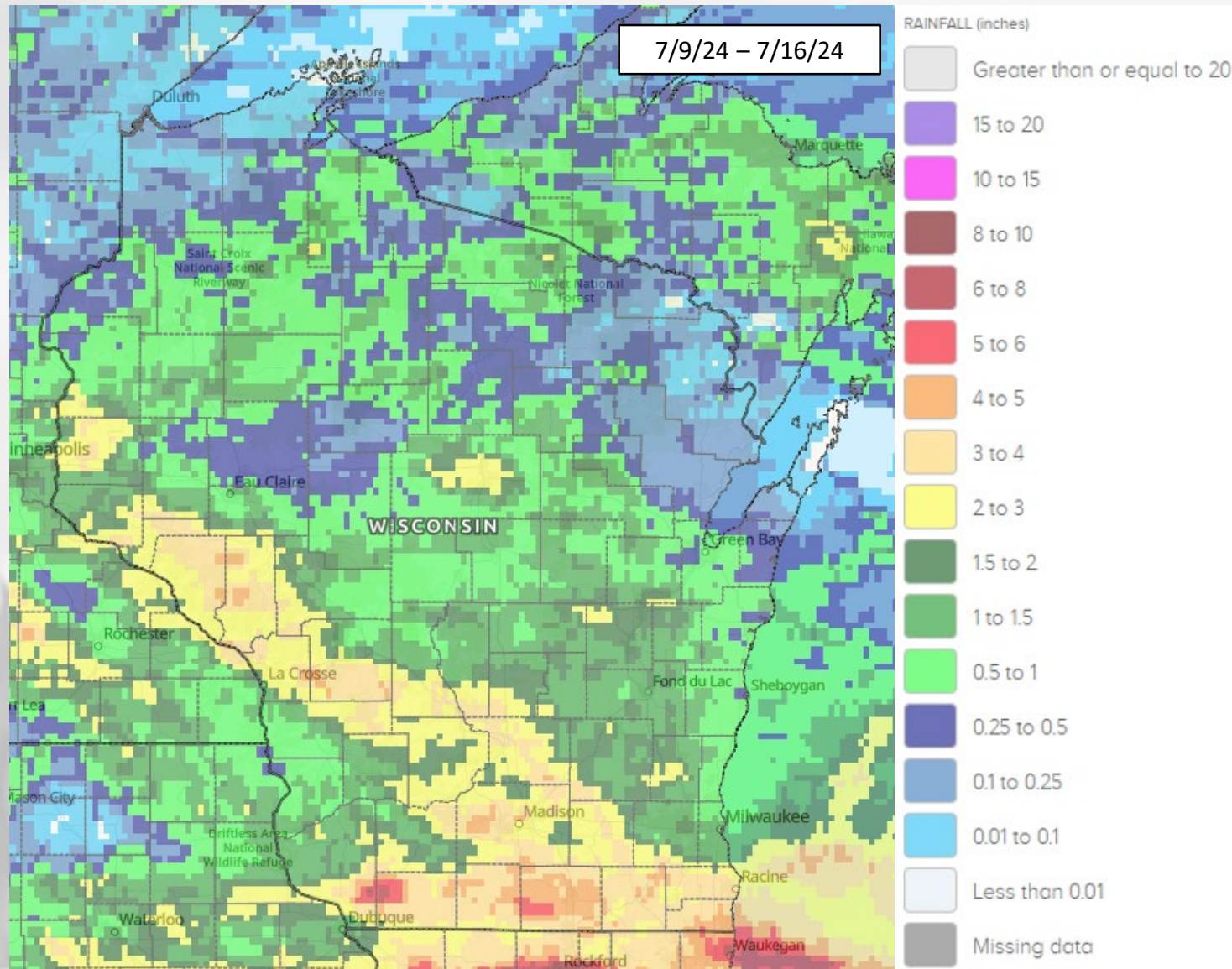
Chicago Area Damage: [LINK](#)

A Soggy Few Days in the South



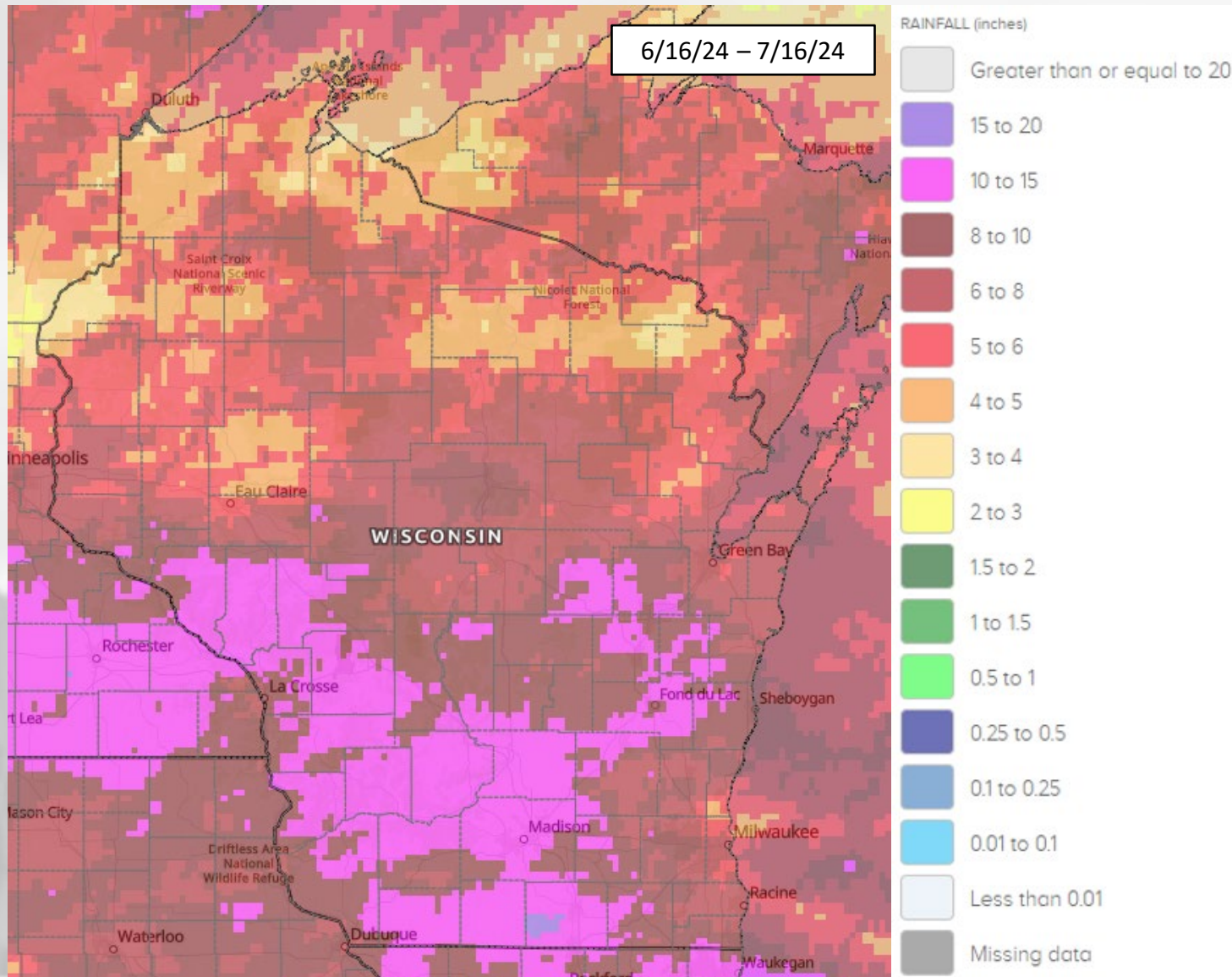
- **Multiple inches** of rainfall have fallen along the WI/IL border region since Sunday morning.
- As the excess water makes its way into the rivers, expect **rises in levels** along the Pecatonica, Sugar, Rock, & Fox Rivers over the next few days. **Minor to moderate flooding** can be expected.

7 Day Precip



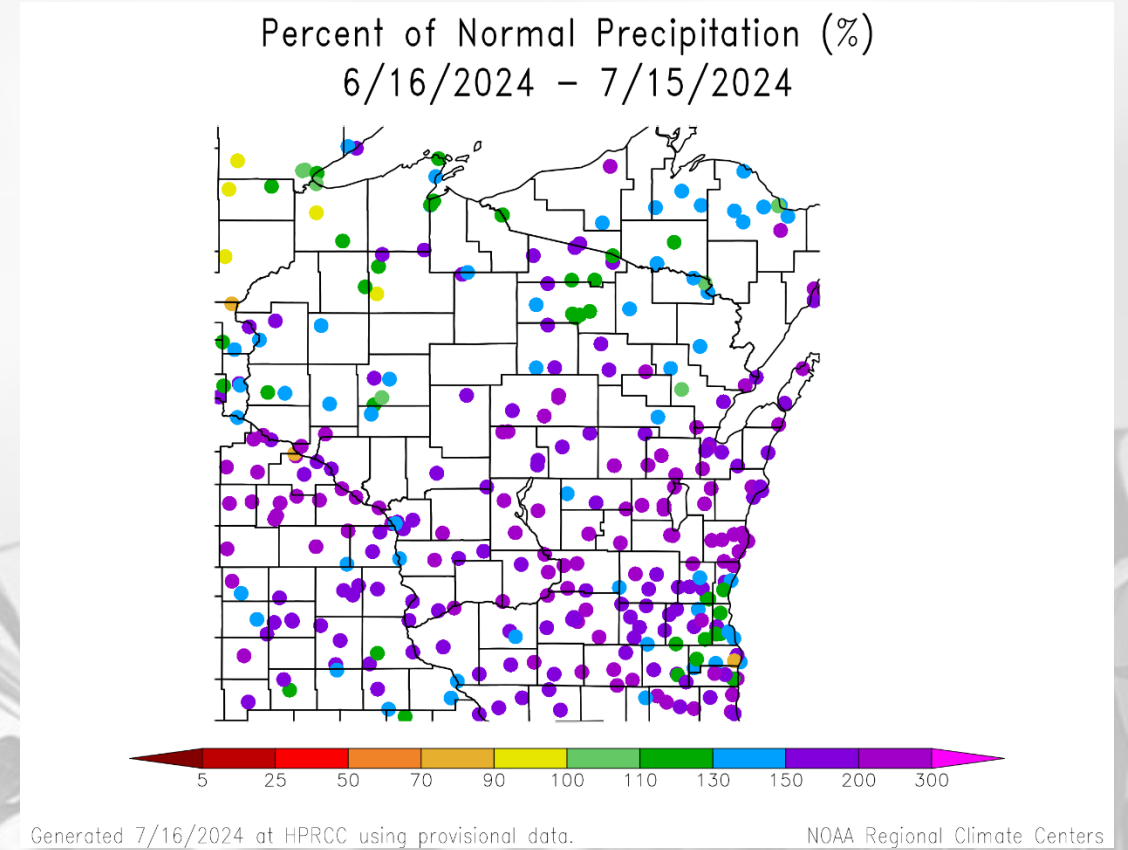
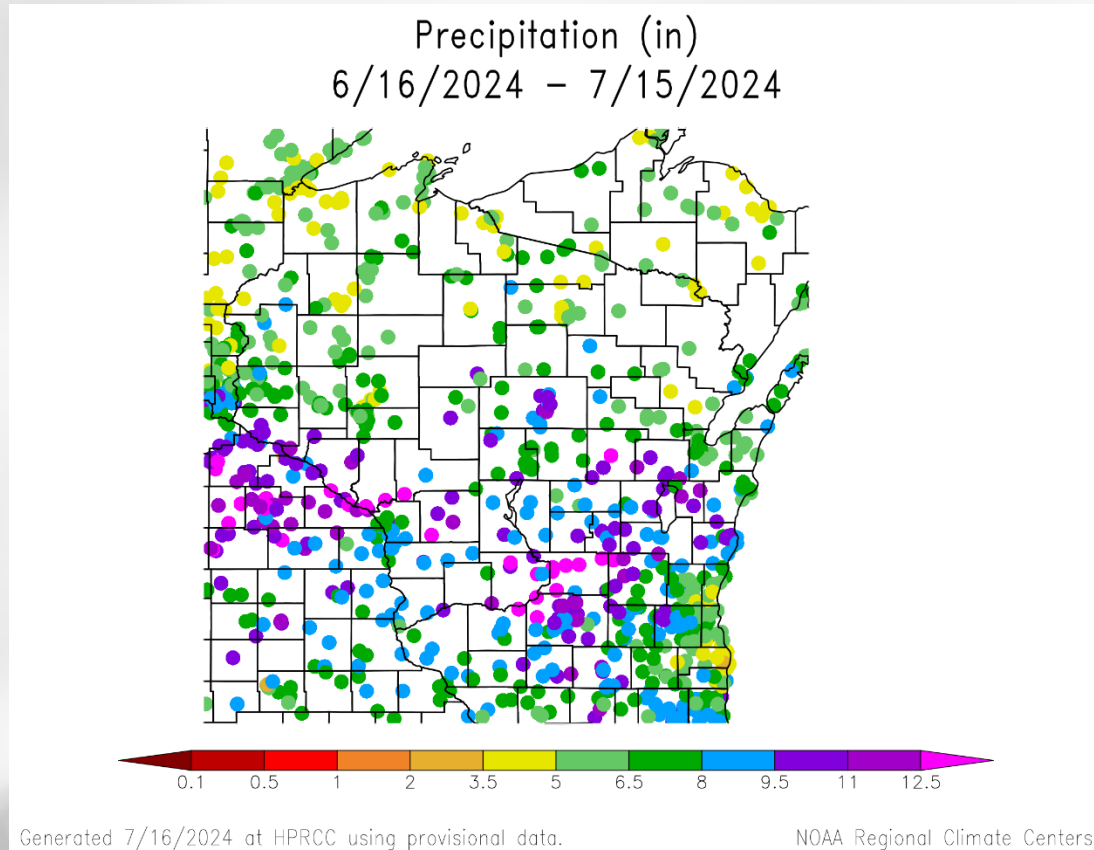
- **2" or more** of rainfall was observed in the western and far southern counties last week.
- Heaviest rainfall (**>4"**) was observed in the far southern tier of counties.
 - **5+"** in the Platteville area & west of Janesville.
- **<1"** was common in the north.

30 Day Precip



- **6-10"** of monthly precip common across the southern 2/3rd of the state.
- **10" or more** was common in the WC, SW, and SC counties.
- **4-6"** common in the northern counties, with pockets of **<4"**.

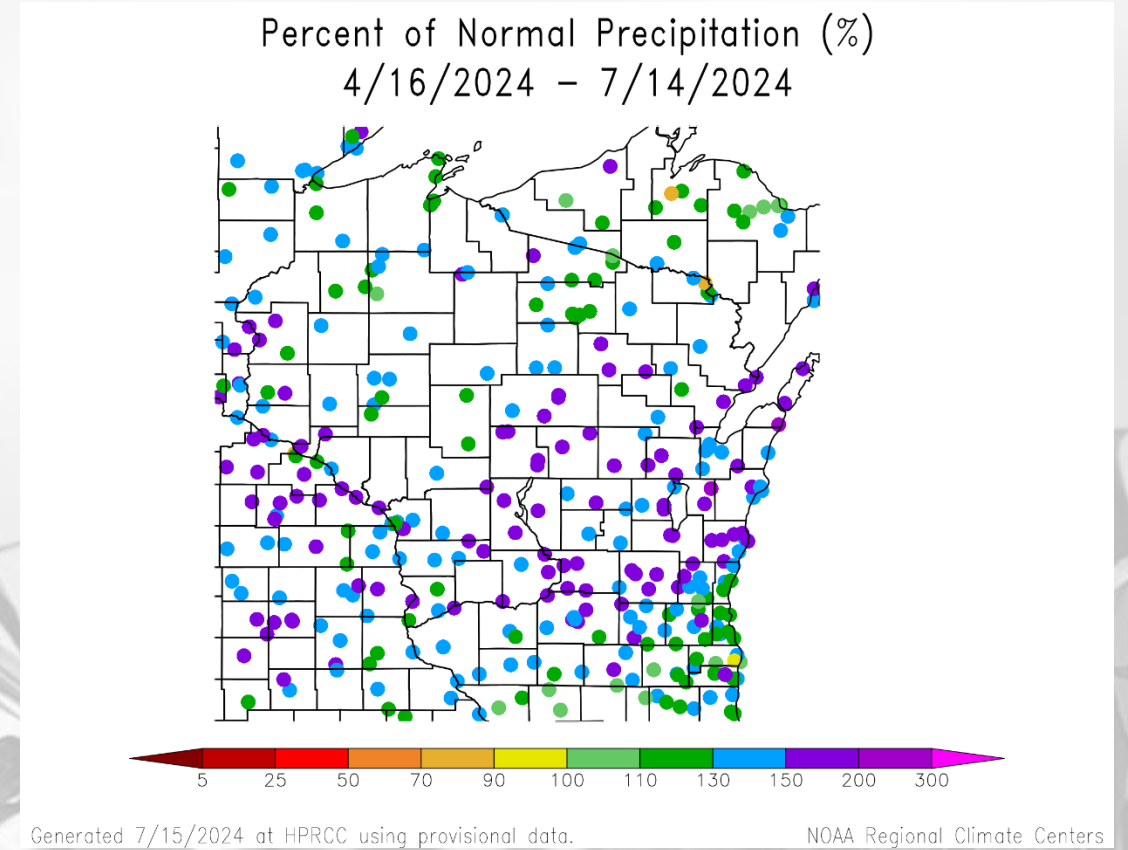
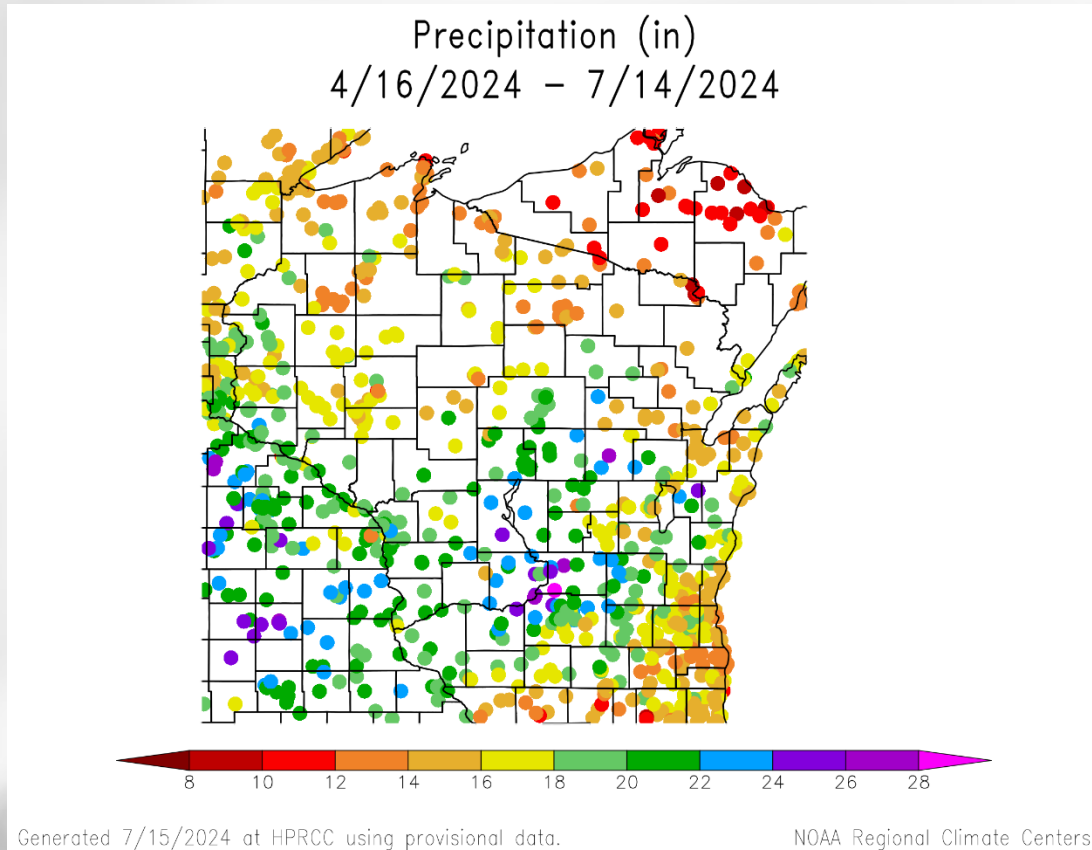
30 Day Precip Total/% Avg.



- Monthly totals of **over 1 foot** north of Madison and in Buffalo/Trempealeau Counties.
- Totals of **8" or more** were commonplace in the southern half of the state.
- Most stations are running at **150-300%** of the climatological average (1991-2020).

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

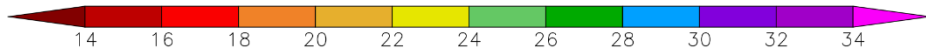
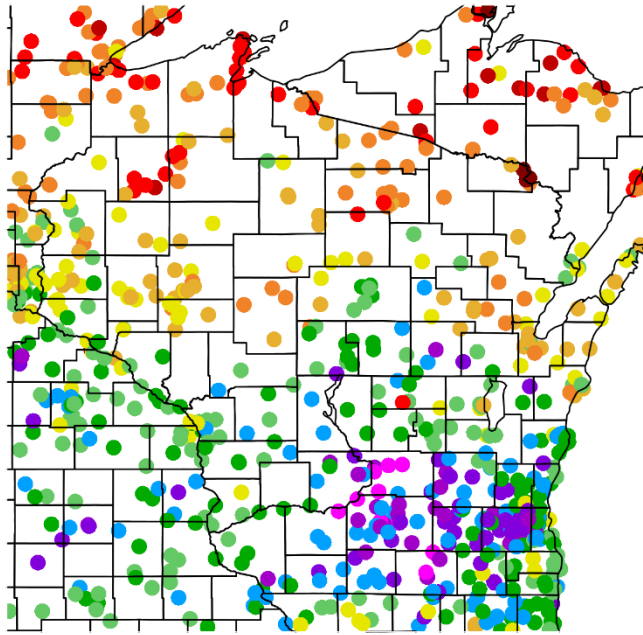
90 Day Precip Total/% Avg.



- **Over 2 feet** of precip accumulated just north of Madison, with **18+”** common in the W, C, and SW/SC counties.
- Lowest totals in the Milwaukee area and far northern counties → **<16”** common.
- Majority of stations are at **130% or more** of normal; closer to **100%** near Milwaukee and the NW/NC.

2024 Precipitation (so far)

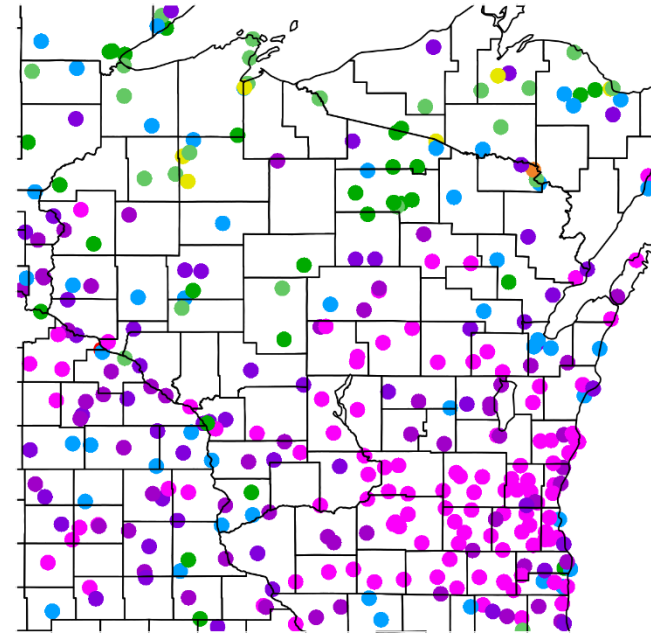
Precipitation (in)
1/1/2024 – 7/15/2024



Generated 7/16/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)
1/1/2024 – 7/15/2024

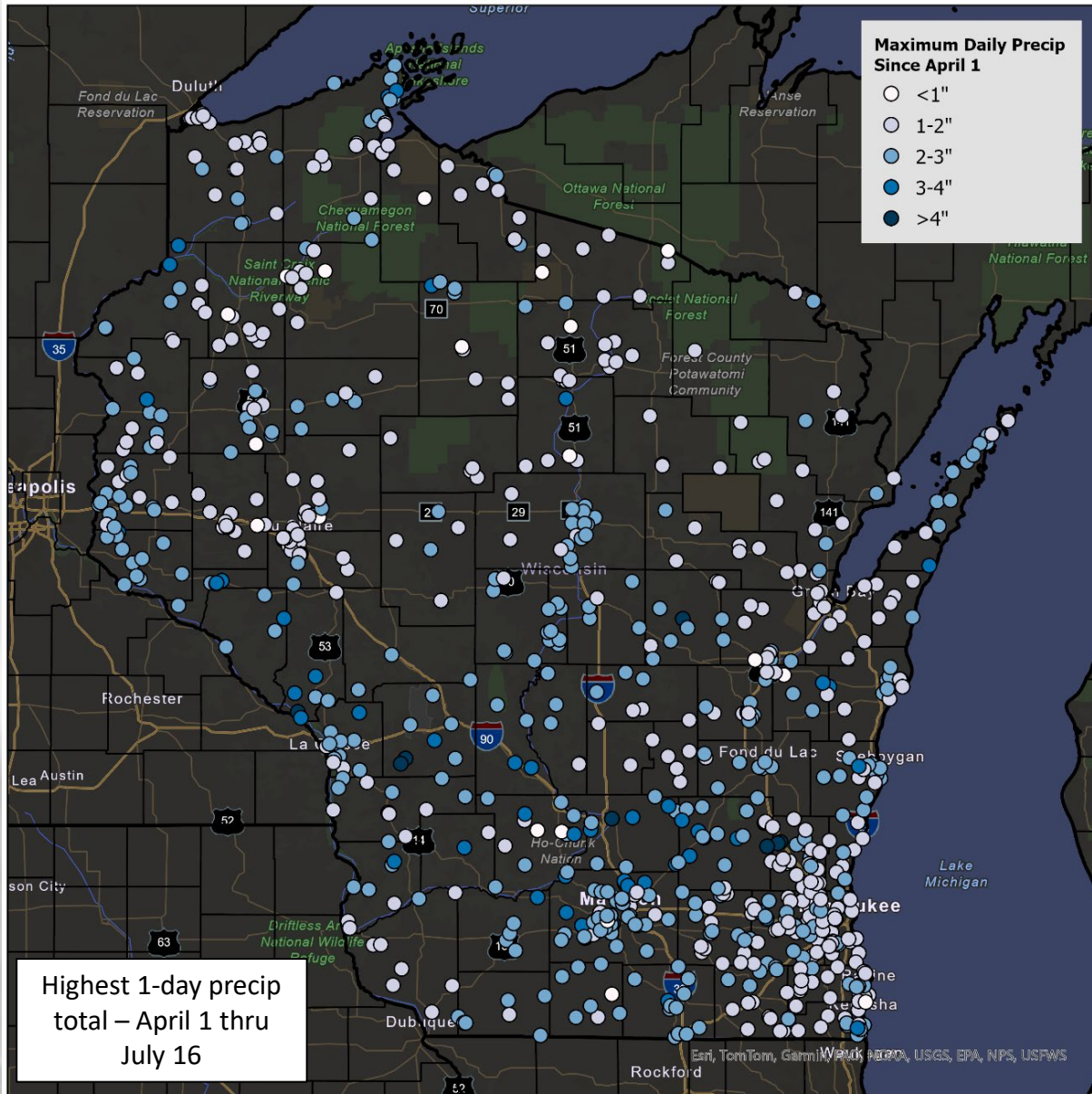


Generated 7/16/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Highest Daily Precip (Since April 1)



Top 10 1-day Total Precip

Station	Precip	Date
HARTFORD 6.0 NNW	5.30	June 4
OGDENSBURG 2.5 E	4.82	July 6
UW ARBORETUM - MADISON	4.81	June 20
CASHTON 3NNW	4.56	July 14
PORTAGE WWTP	4.43	July 14
TREMPEALEAU 1.8 NW	4.26	July 14
ALLENTON WWTP	4.09	June 4
ALLENTON 1.4 WSW	4.09	June 4
CASHTON 4.8 N	4.02	July 14
HORICON WWTP	3.84	June 4

Precipitation Rankings

Record Driest	Bottom ¼	Bottom ⅓	Normal	Top ⅓	Top ¼	Record Wettest
Period	Value	1901-2000 Mean	Anomaly	Rank (1895-2024)	Driest/Wettest Since	Record
June 2024 1-Month	6.97" (177.04mm)	4.17" (105.92mm)	2.80" (71.12mm)	125th Driest	Driest since: 2023	1910
				6th Wettest	Wettest since: 2010	1968
May-Jun 2024 2-Month	12.51" (317.75mm)	7.71" (195.83mm)	4.80" (121.92mm)	130th Driest	Driest since: 2023	1988
				1st Wettest	Wettest to Date	2024
Apr-Jun 2024 3-Month	16.16" (410.46mm)	10.34" (262.64mm)	5.82" (147.83mm)	127th Driest	Driest since: 2023	1988
				4th Wettest	Wettest since: 2013	1968
Mar-Jun 2024 4-Month	18.73" (475.74mm)	12.14" (308.36mm)	6.59" (167.39mm)	130th Driest	Driest since: 2023	1910
				1st Wettest	Wettest to Date	2024
Feb-Jun 2024 5-Month	19.19" (487.43mm)	13.17" (334.52mm)	6.02" (152.91mm)	129th Driest	Driest since: 2023	1988
				2nd Wettest	Wettest since: 2013	2013
Jan-Jun 2024 6-Month	20.38" (517.65mm)	14.32" (363.73mm)	6.06" (153.92mm)	128th Driest	Driest since: 2023	1988
				3rd Wettest	Wettest since: 2017	2013

Compared to last spring/summer:

- **April-June 2023** – 10th driest on record
- **May-June 2023** – 3rd driest on record
- **May-Aug 2023** – 4th driest on record
- **June 2023** – 5th driest on record
- **Jun-Aug 2023** – 7th driest on record

<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/rankings>

Soil Moisture Models

- **80th percentile or greater** for soil moisture conditions across the state with most receiving higher-than-normal rainfall since early June.
- **95th-100th percentile** for many in the western and south-central counties, having received **150-300+%** of normal precip over the past 2 weeks.

Model Notes:

Red areas = top 5 driest in 100 years.

Dark red areas = top 2 driest in 100 years.

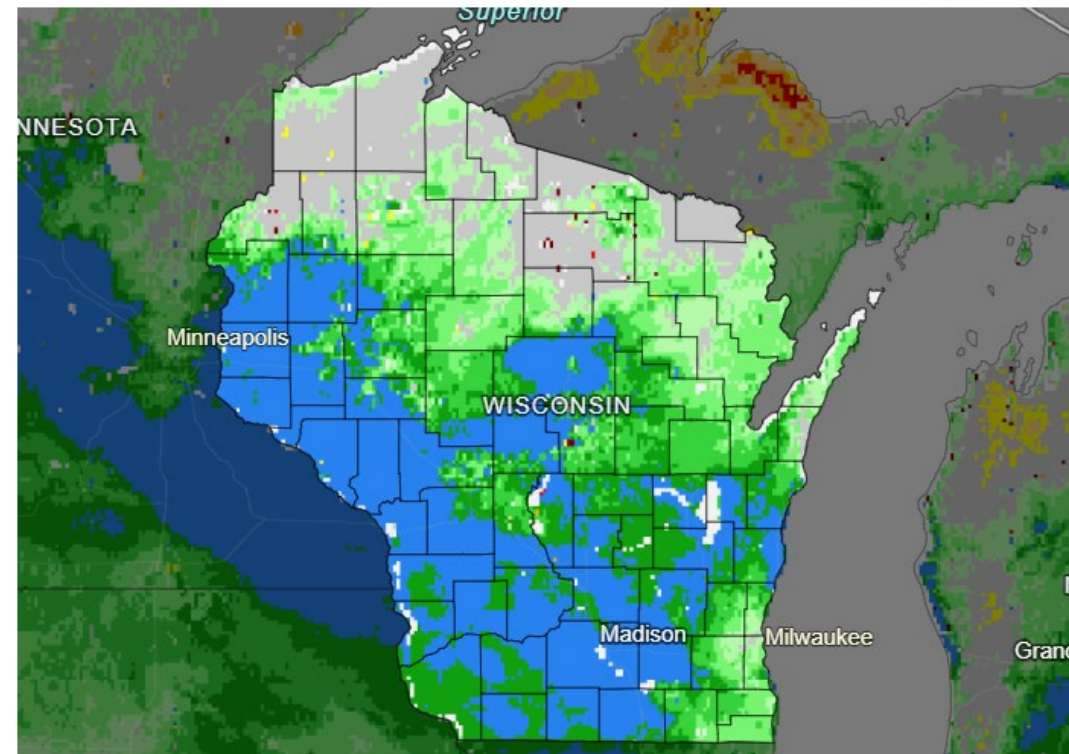
Blue areas = top 2 wettest in 100 years.

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.

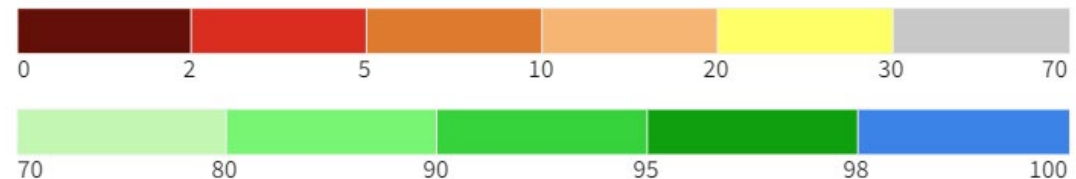
https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html

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

0-100 cm Soil Moisture Percentile



0-100 cm Soil Moisture Percentile

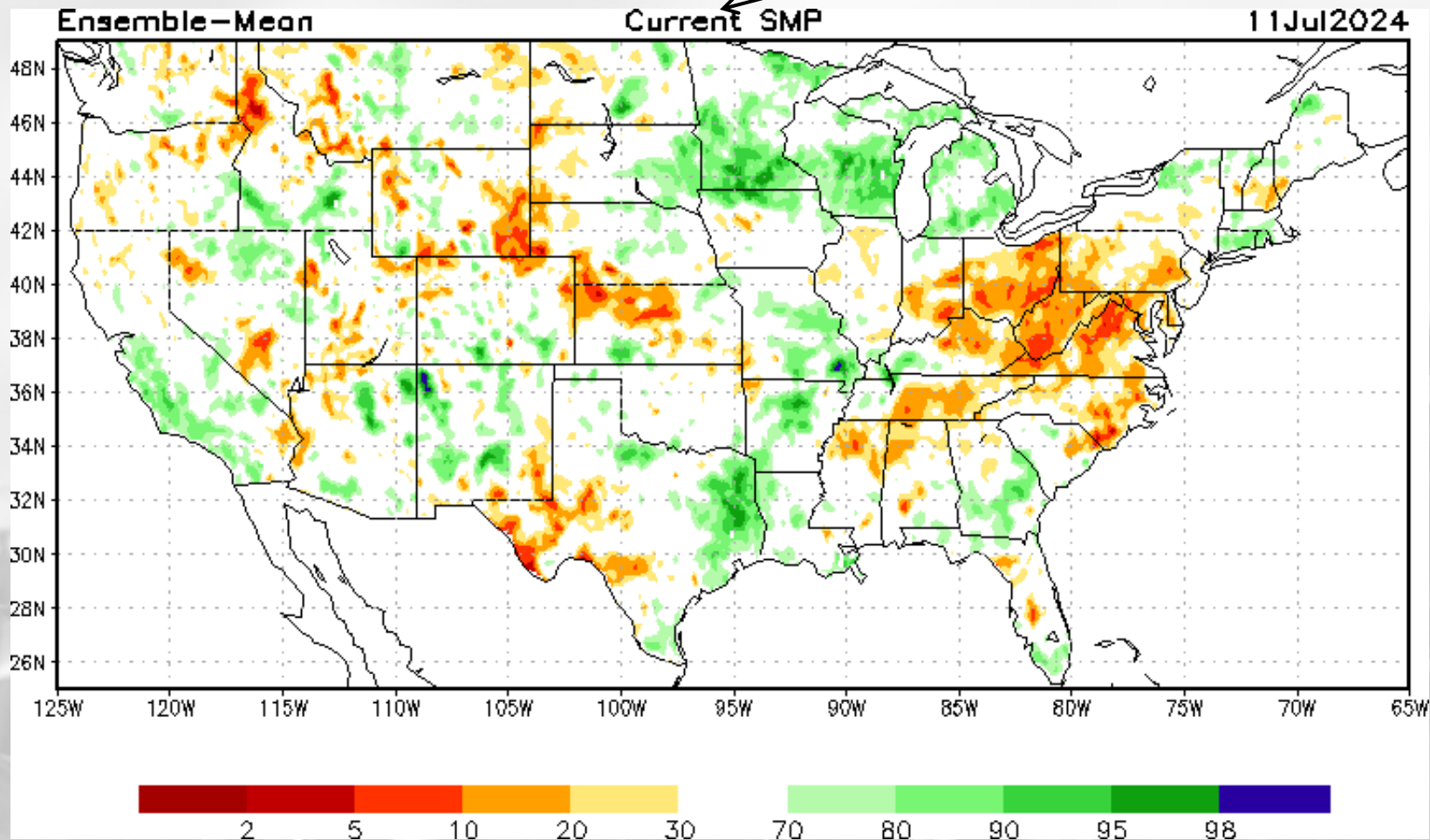


Source(s): NASA
Data Valid: 07/16/24

Drought.gov

Soil Moisture Models

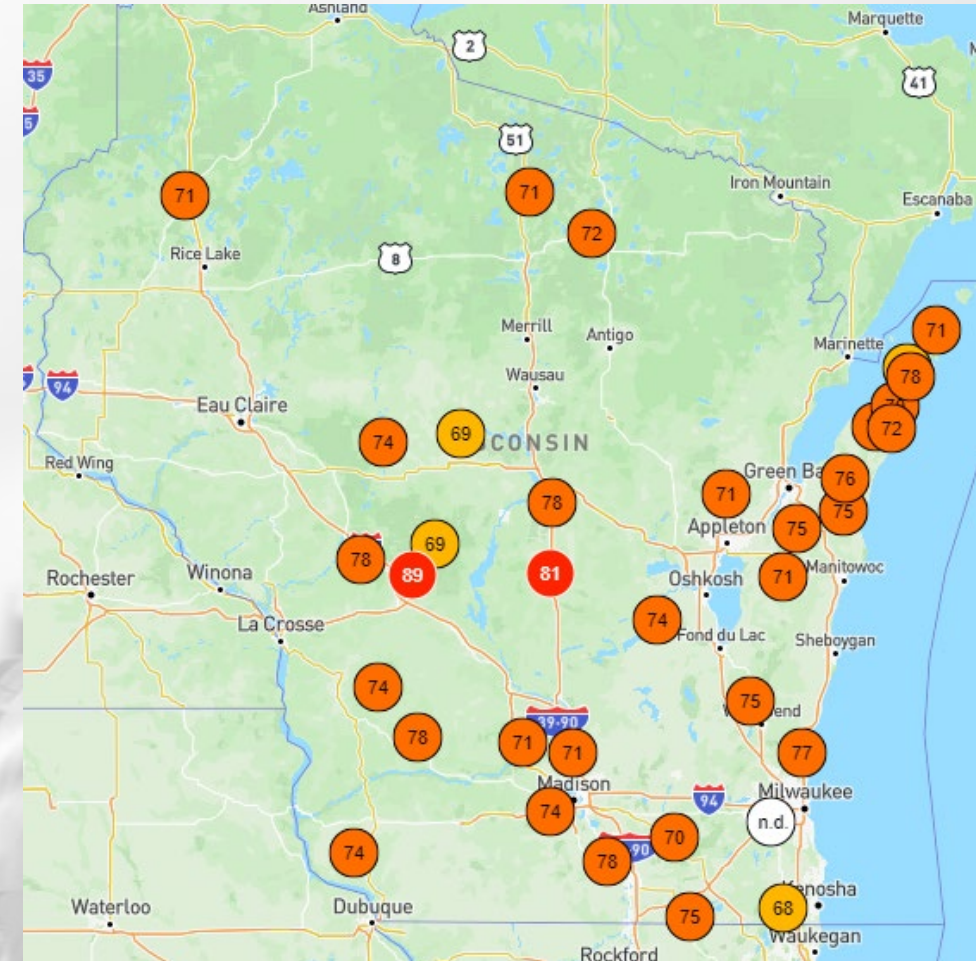
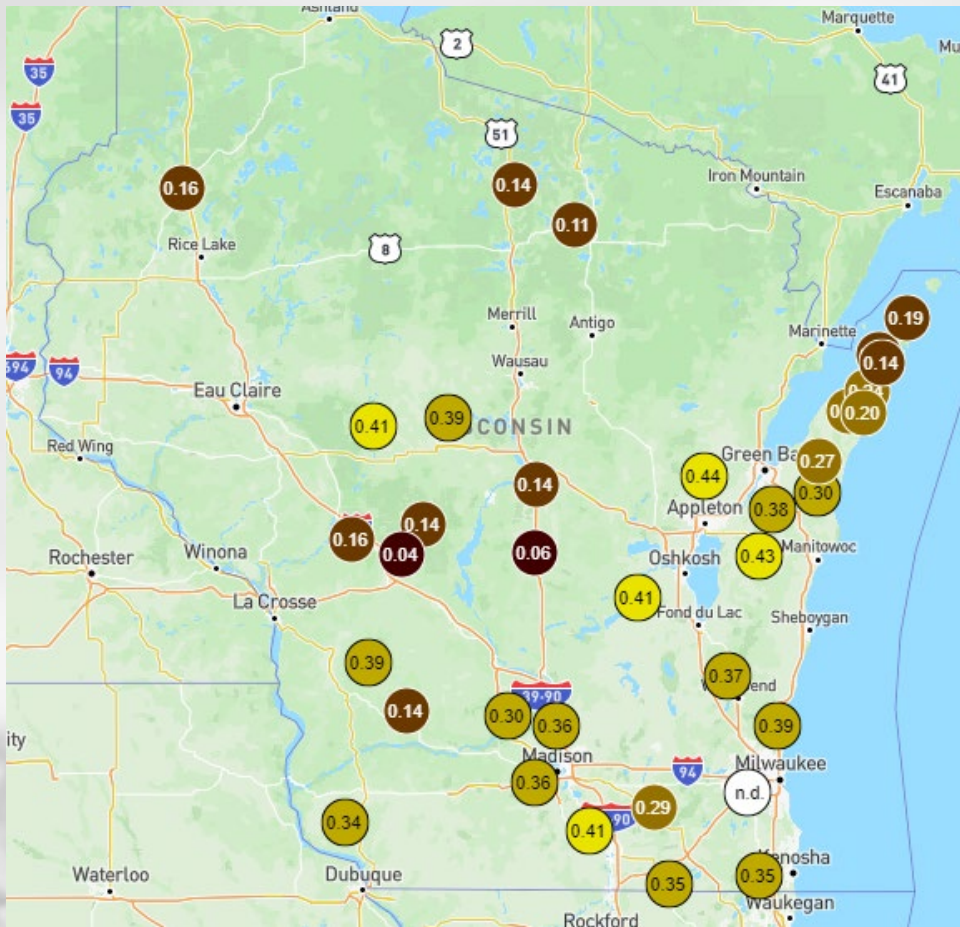
NOTE: this map displays the soil moisture percentile for July 11. It was the most recent update on July 16.



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

Wisconet Soil Moisture & Temp (4" Depth)

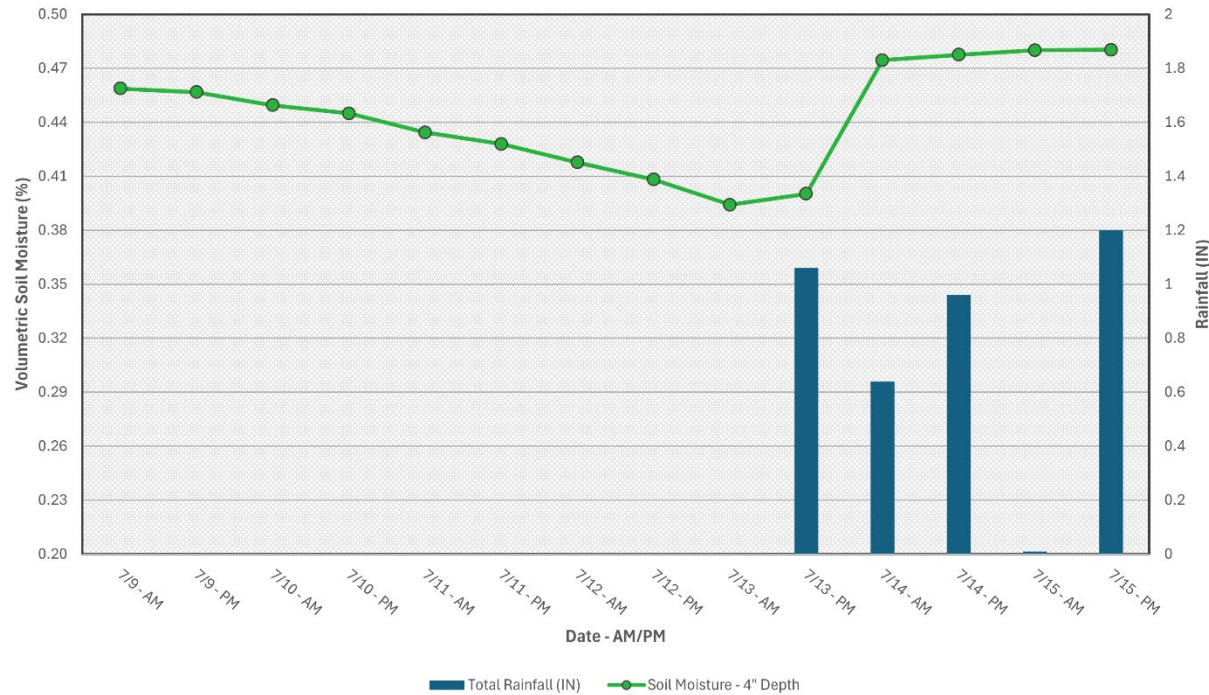
Friday, July 12th @ Midday



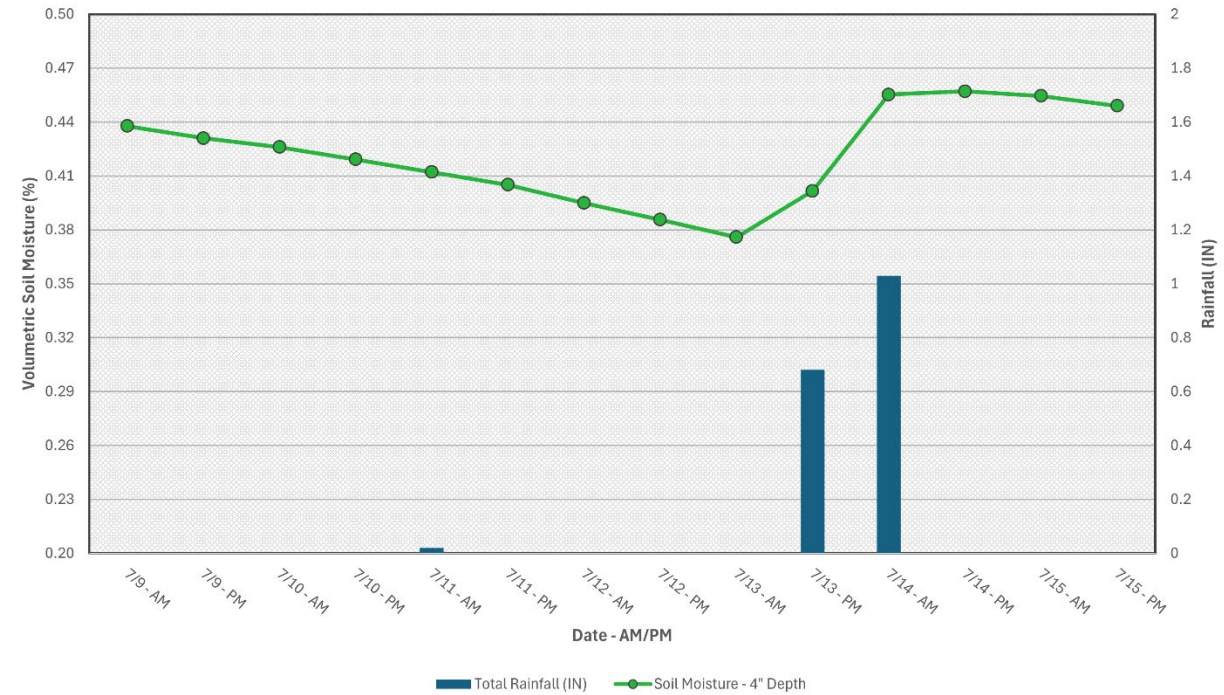
Wisconet Soil Moisture – 4" Depth

Soil moisture time series at select Wisconet stations

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



Rain & Soil Moisture - La Farge (Vernon Co.), WI (LAFG)

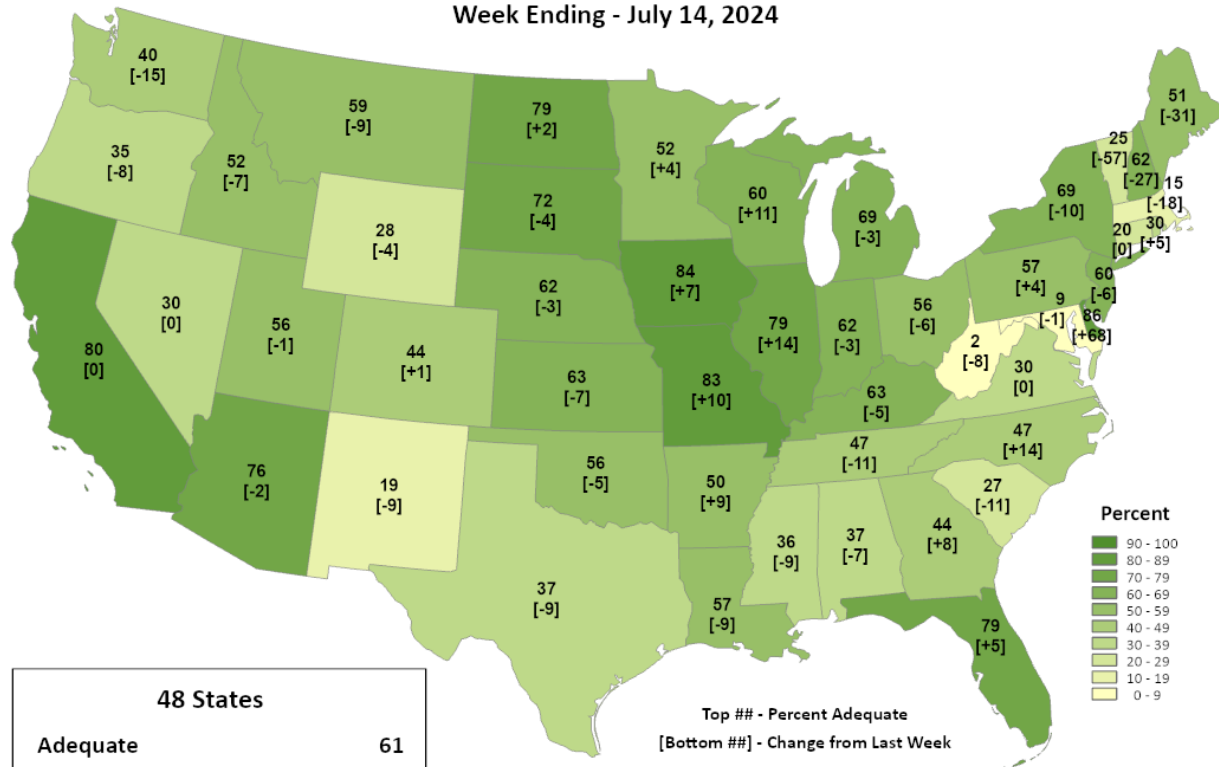


NASS Topsoil & Subsoil Moisture



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

Topsoil Moisture Percent Adequate Week Ending - July 14, 2024



48 States	
Adequate	61
Change from Last Week	-2

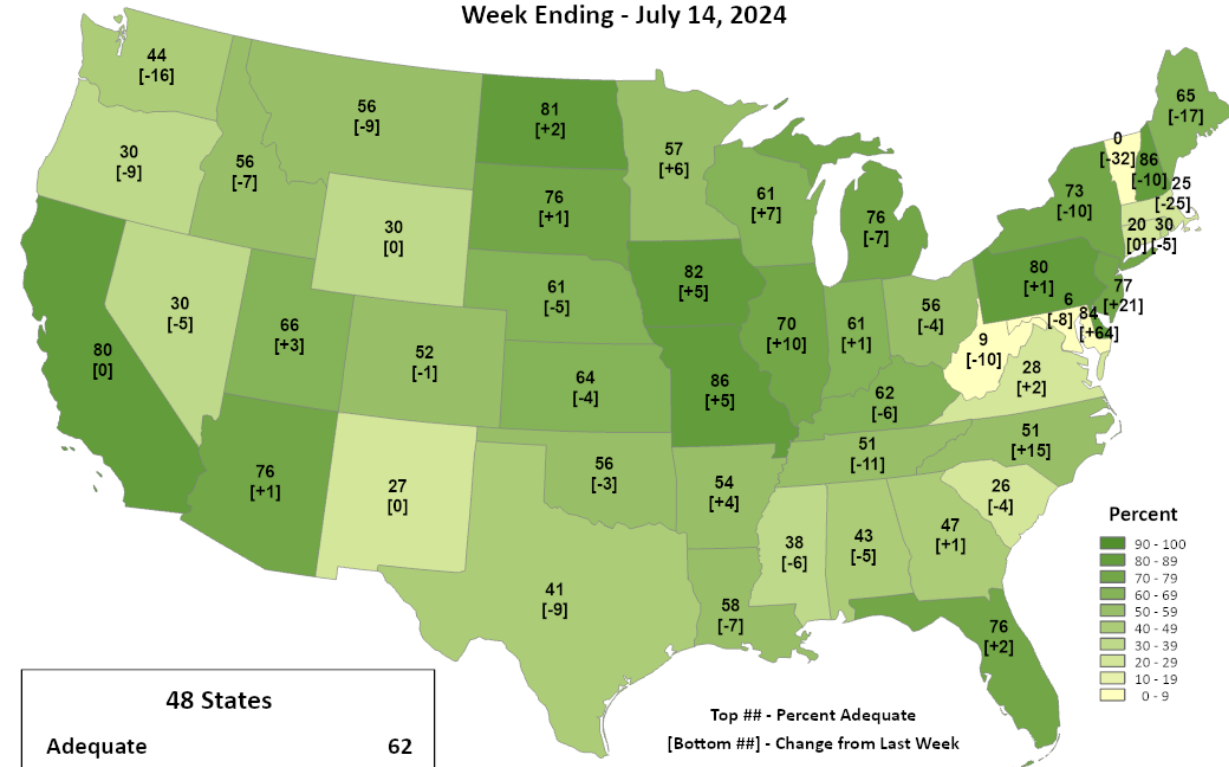
Top ## - Percent Adequate
[Bottom ##] - Change from Last Week

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)

Subsoil Moisture Percent Adequate Week Ending - July 14, 2024



48 States	
Adequate	62
Change from Last Week	-1

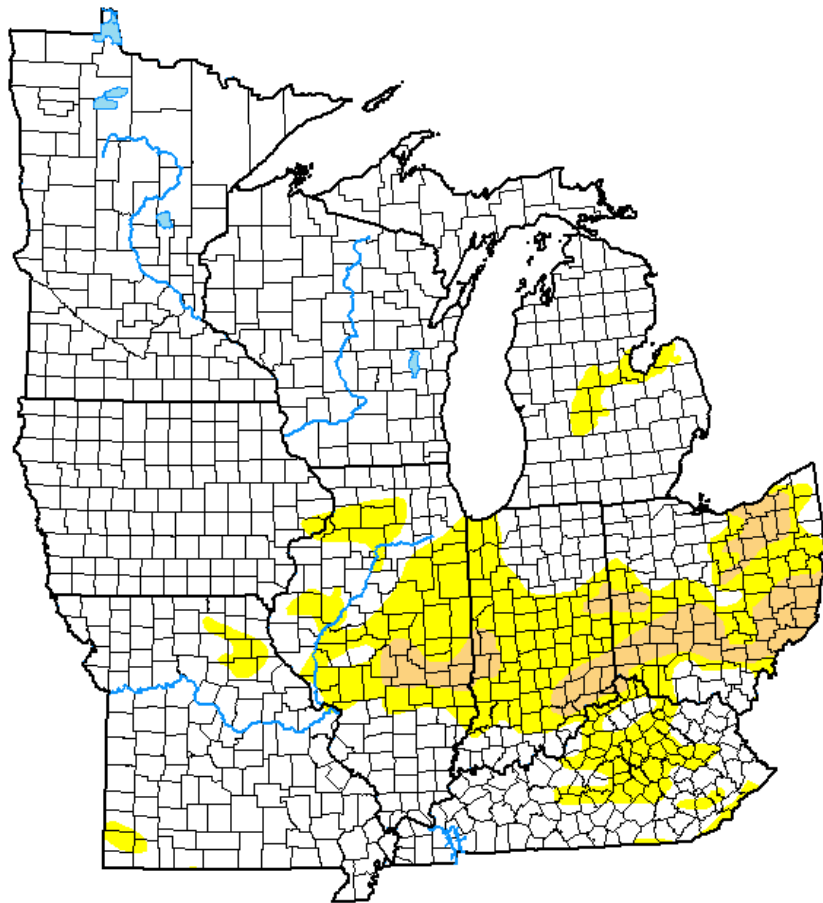
Top ## - Percent Adequate
[Bottom ##] - Change from Last Week

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

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

US Drought Monitor

U.S. Drought Monitor Midwest



July 9, 2024

(Released Thursday, Jul. 11, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	80.70	19.30	4.50	0.00	0.00	0.00
Last Week <i>07-02-2024</i>	75.12	24.88	5.61	0.00	0.00	0.00
3 Months Ago <i>04-09-2024</i>	45.14	54.86	26.55	7.42	1.19	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>07-11-2023</i>	12.10	87.90	63.95	26.03	5.31	0.45

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:

Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu

- Compared to last week:
 - Slight **decreases** in D1 coverage area from NE MO across central IL to the Ohio Valley.
- **4.5%** of the Midwest is categorized in D1 (moderate) drought.
- **19%** of the Midwest is in D0 (abnormally dry) conditions, down from **25%** last week.

Note: D0 is not considered drought.

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

US Drought Monitor

U.S. Drought Monitor Wisconsin



July 2, 2024

(Released Wednesday, Jul. 3, 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 06-25-2024	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago 04-02-2024	13.90	86.10	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 07-04-2023	0.00	100.00	92.75	27.36	2.74	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



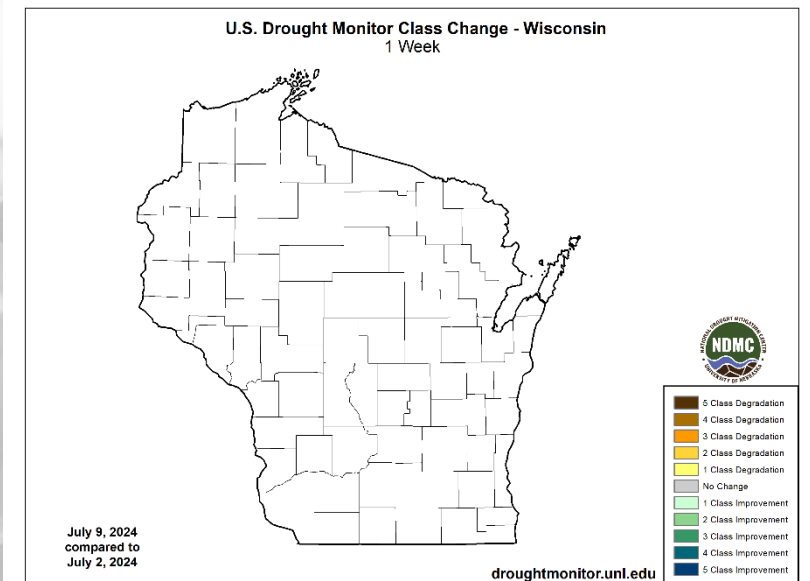
droughtmonitor.unl.edu

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

Amount of state in:

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

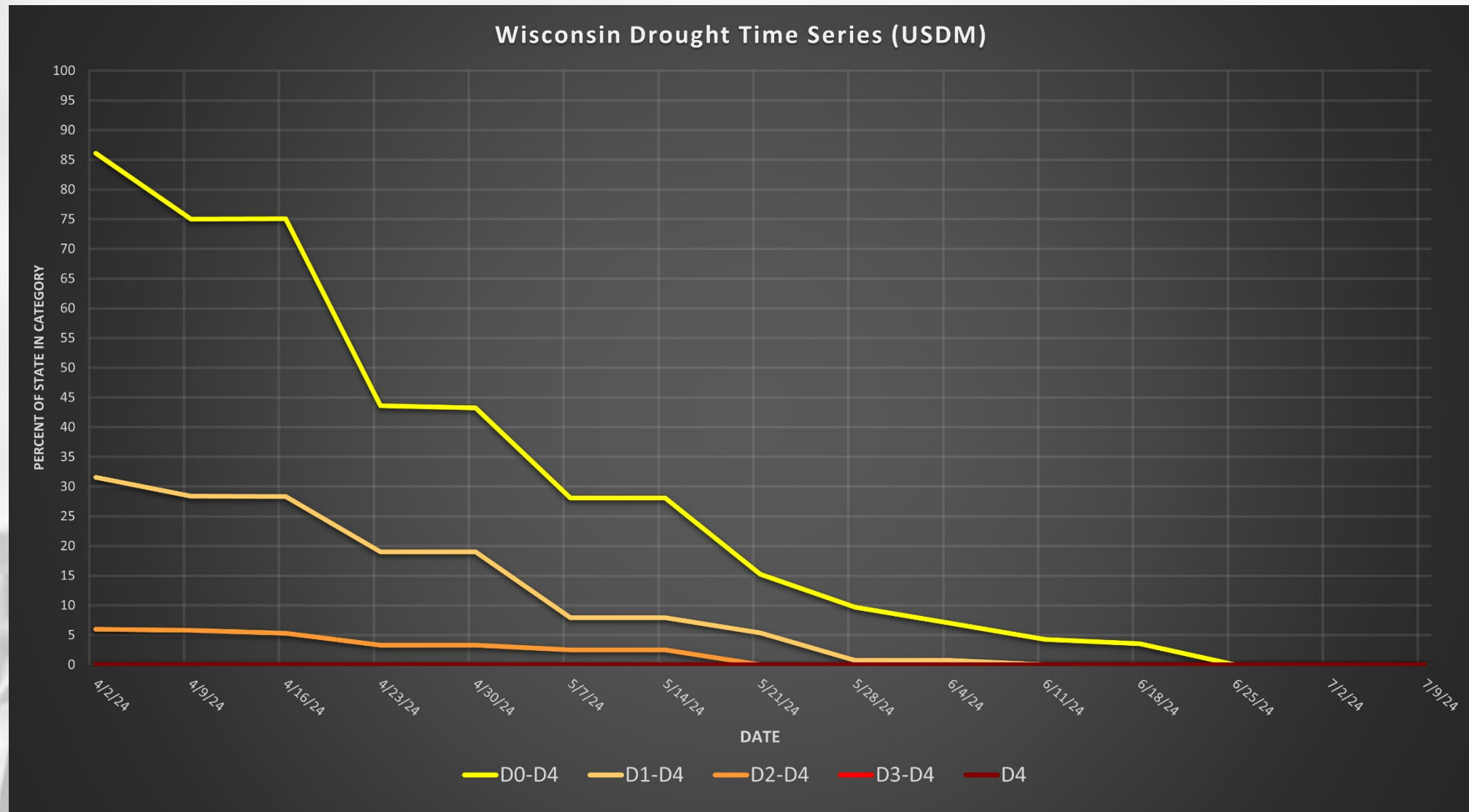
Note: ↑↓ indicate change from last week. Red up arrows indicate increase in drought area; vice-versa for green arrows.



July 9, 2024
compared to
July 2, 2024

droughtmonitor.unl.edu

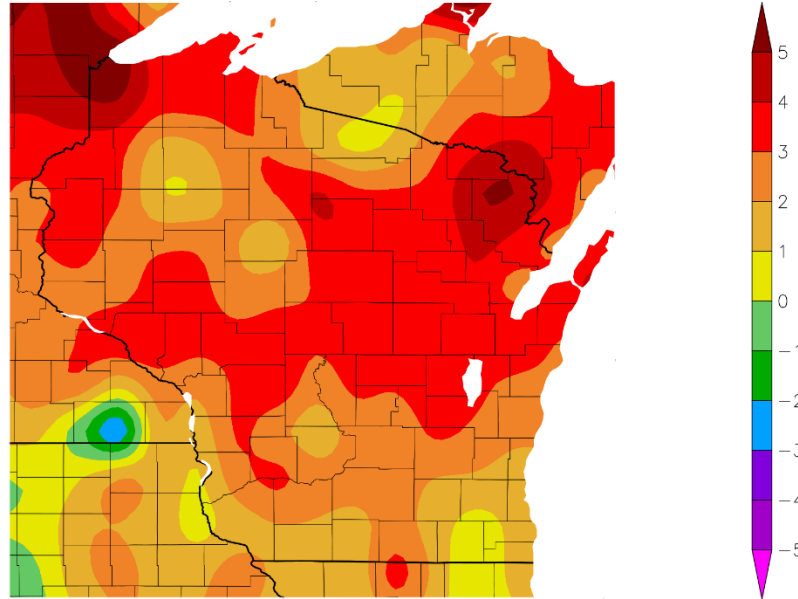
USDM Time Series



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

7 Day Temperatures

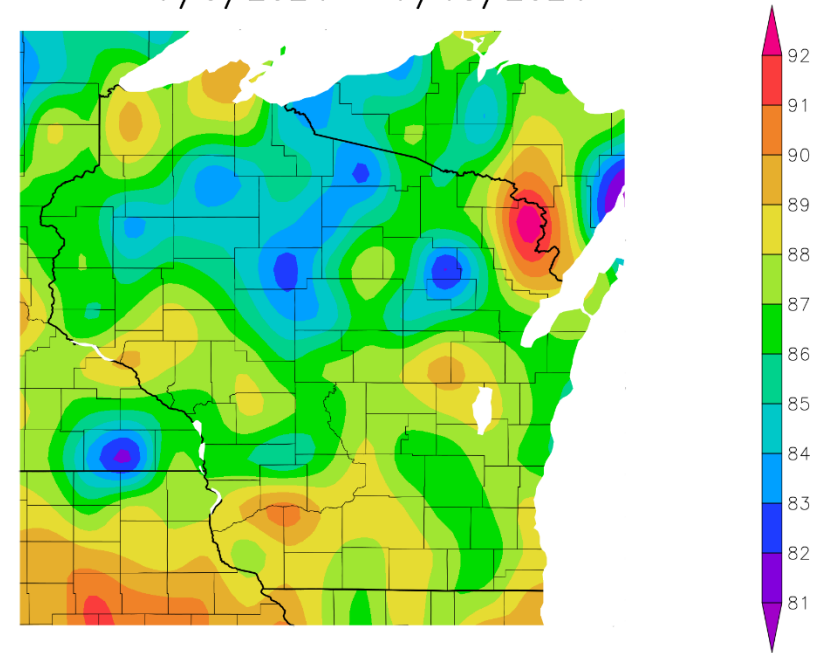
Departure from Normal Temperature (F)
7/9/2024 – 7/15/2024



Generated 7/16/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highest 1-Day Maximum Temperature (F)
7/9/2024 – 7/15/2024



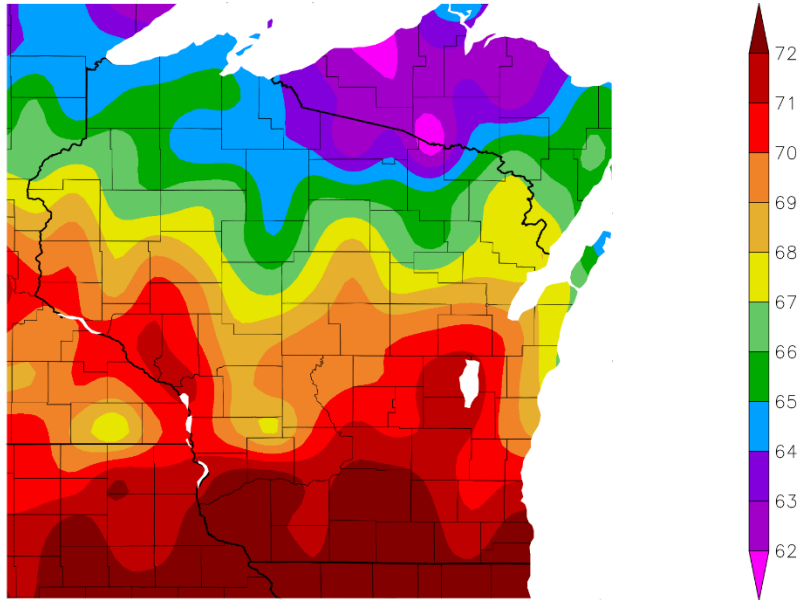
Generated 7/16/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Last week was warmer than average across the state, with many being **2-4°F above normal**.
- **4-5+°F above normal** in the far NW and NE corners of the state.
- Weekly maximum temps reached the **upper 80's to low 90's** for most.

30 Day Temperatures

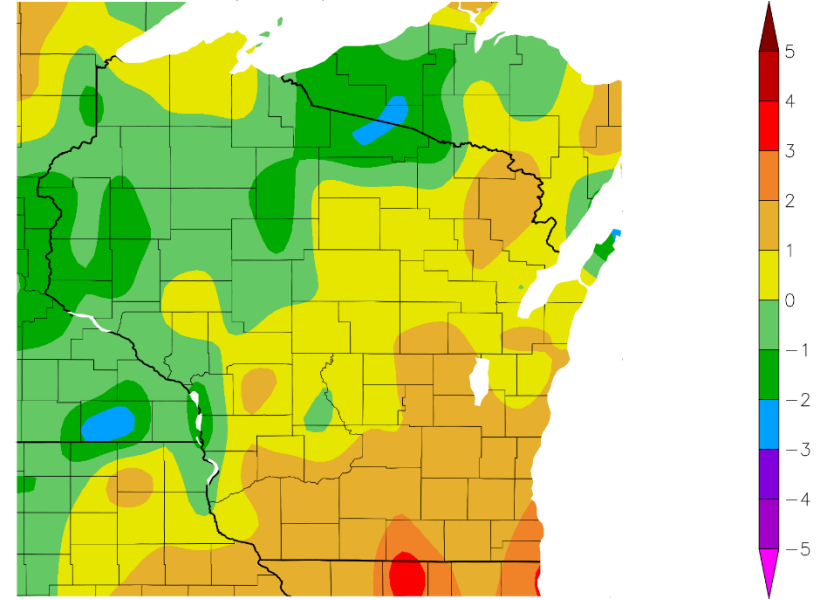
Temperature (F)
6/16/2024 – 7/15/2024



Generated 7/16/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
6/16/2024 – 7/15/2024



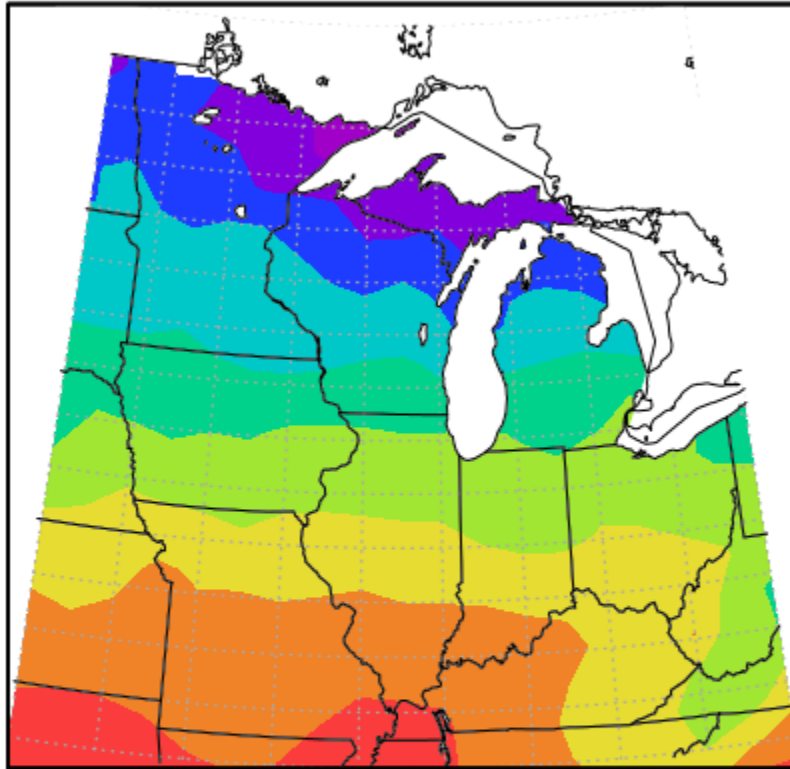
Generated 7/16/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Temperatures for the past month ranged from **70-72+°F** in the S & W to **62-65°F** in the far N.
 - **2°F or less** above the climatological average was common from the S, C, and E counties.
 - **At or below normal** along the Mississippi River and the NW/NC counties.

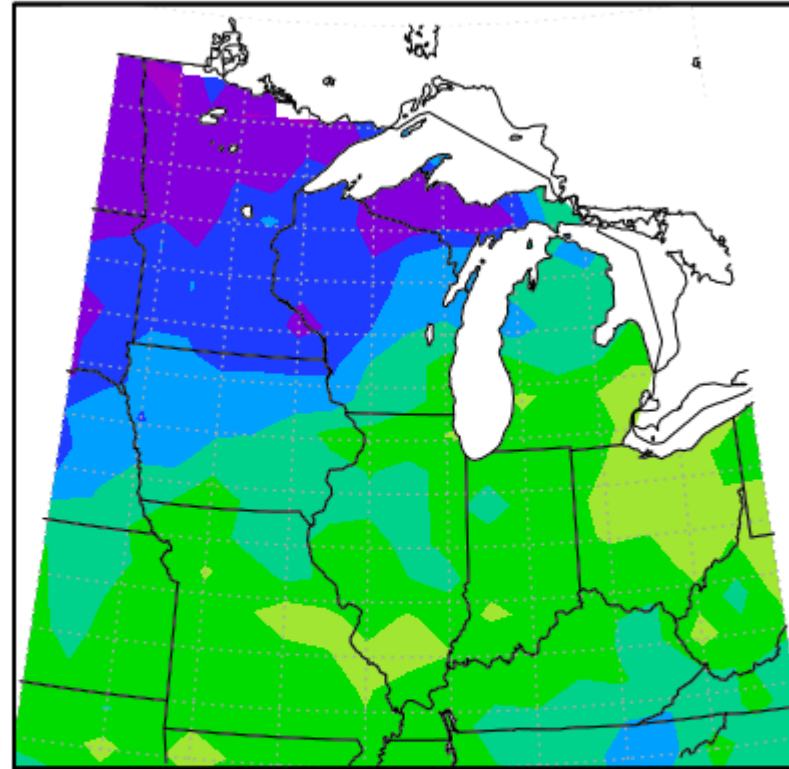
Growing Degree Days (Base = 50°F; Since April 1)

Total MGDD from 4/1/2024 to 7/15/2024



Midwestern Regional Climate Center
Purdue University

MGDD Departure, 4/1/2024 to 7/15/2024



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

- **1400-1600** GDD in the S to **800-1200** 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

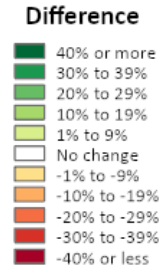
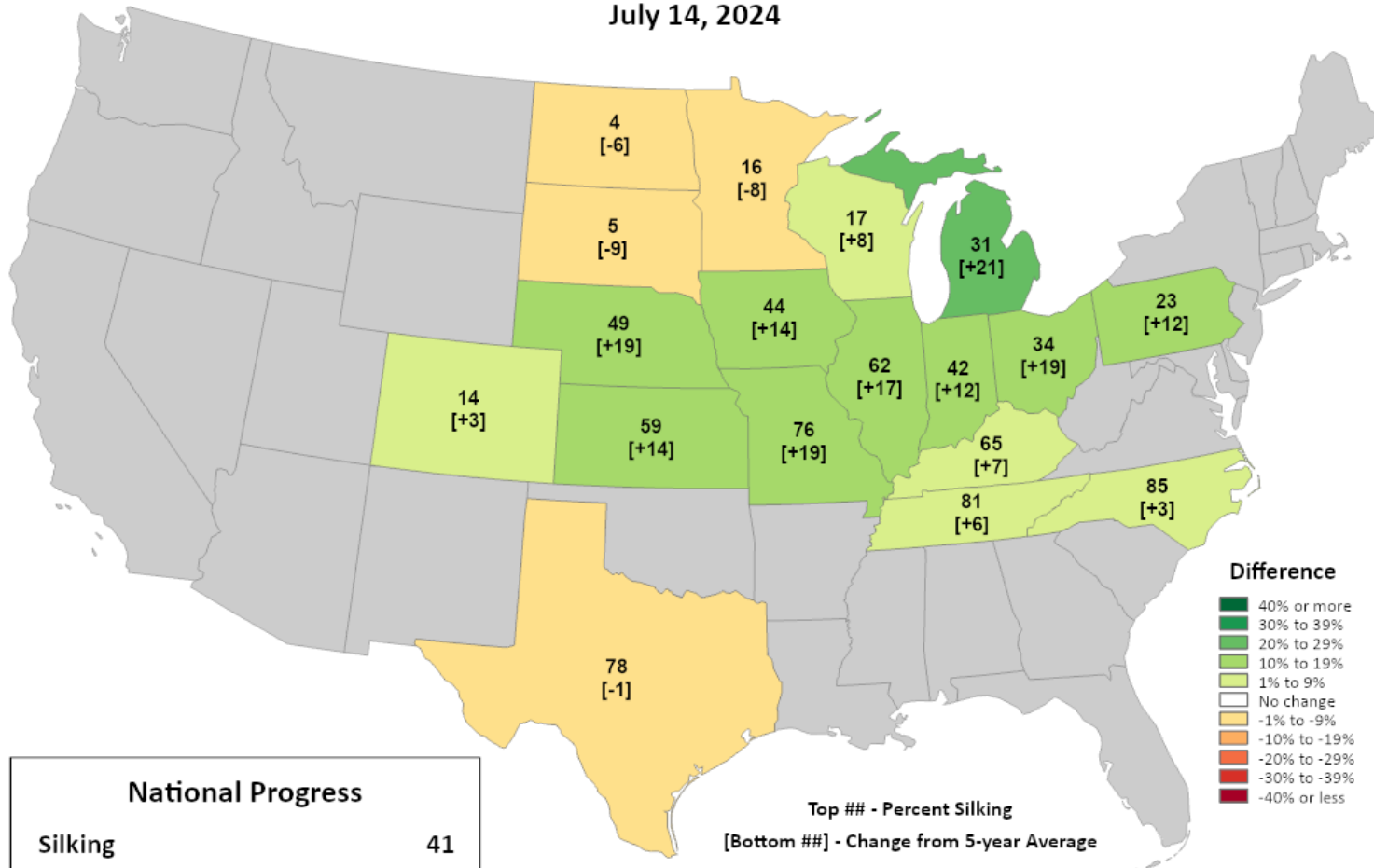


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Corn Progress

Percent Silking

July 14, 2024



National Progress	
Silking	41
Change from 5-year Average	+9

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

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

- Silking is underway in some WI corn fields. Silking is **ahead of normal pace** in WI and points to the S & E.
 - In WI, silking is **17% complete**. 8% ahead of the 5-year average pace & up **14%** from last week.

NASS Crop Progress – Soybean

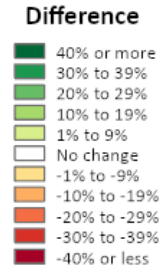
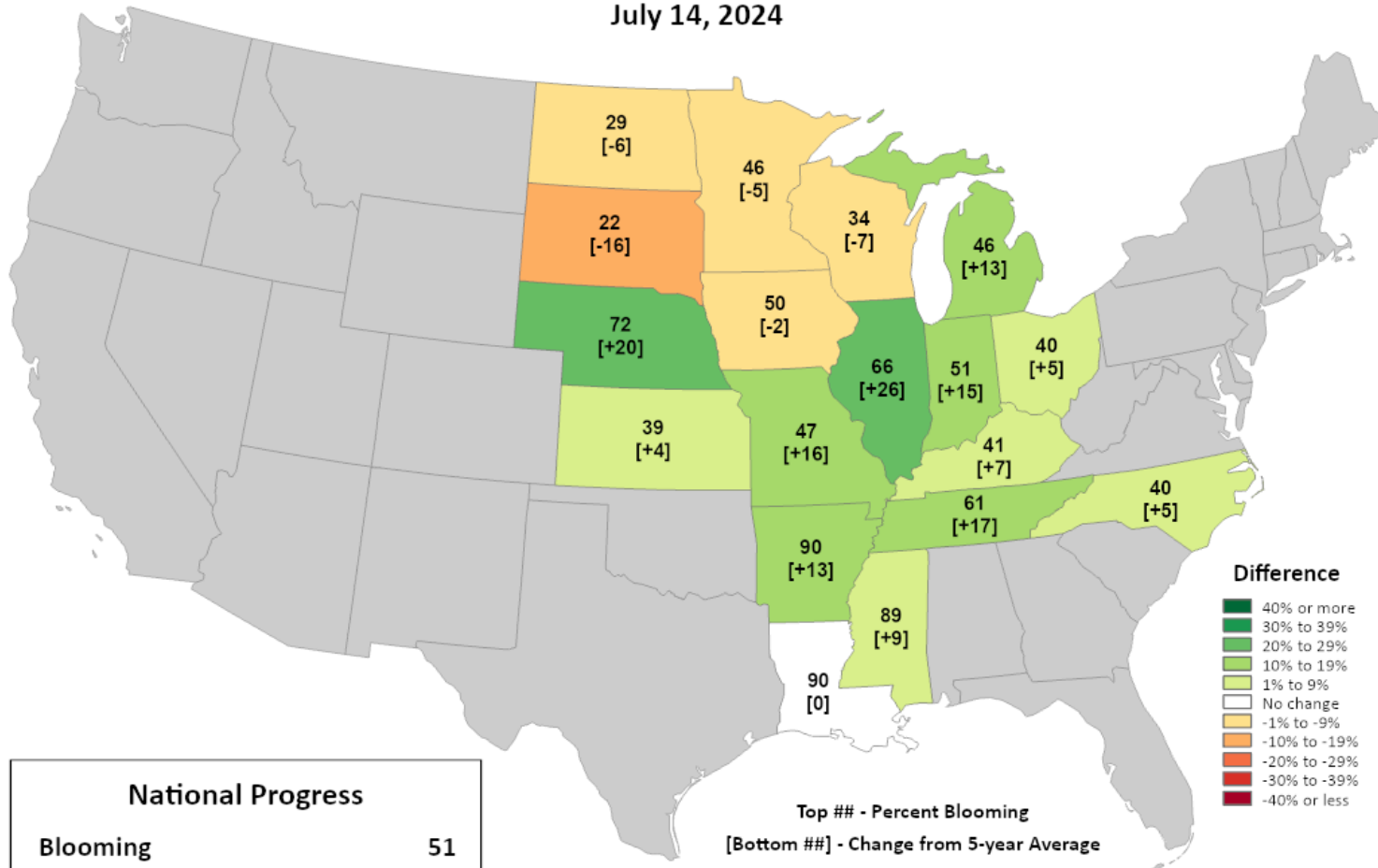


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World Agricultural Outlook Board (WAOB)

Soybeans Progress

Percent Blooming

July 14, 2024



National Progress	
Blooming	51
Change from 5-year Average	+7

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 **behind normal pace** in WI and points to the W/NW.
 - In WI, blooming is **34% complete**. 7% behind of the 5-year average pace & up **12%** from last week.

NASS Crop Condition

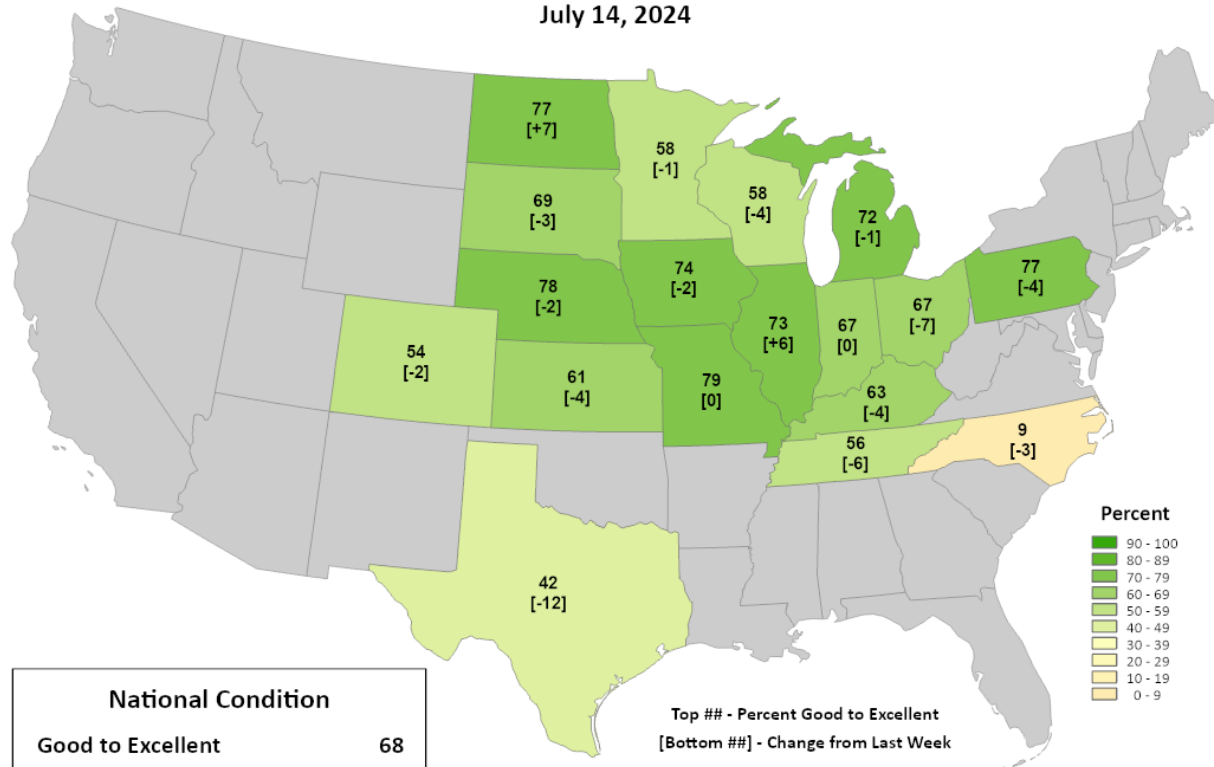


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World Agricultural Outlook Board (WAOB)

Corn Conditions

Percent Good to Excellent

July 14, 2024



National Condition	
Good to Excellent	68
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.

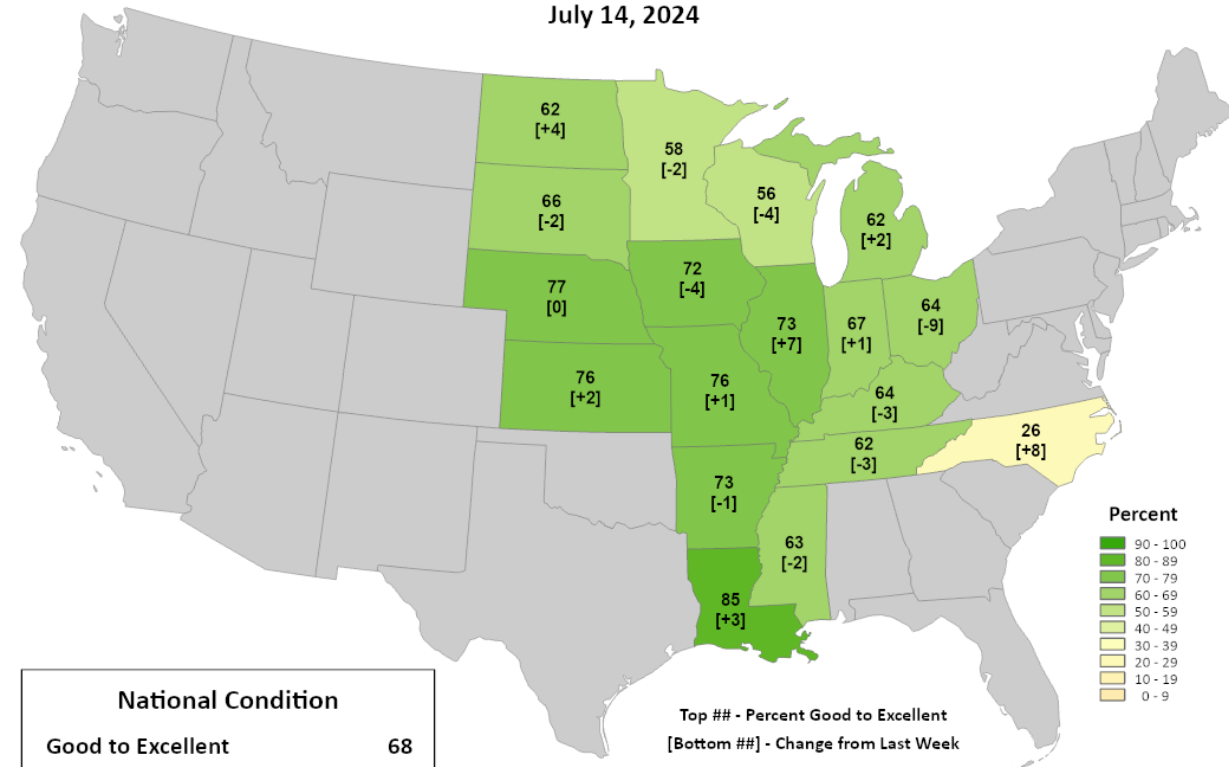


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Soybean Conditions

Percent Good to Excellent

July 14, 2024



National Condition	
Good to Excellent	68
Change from Last Week	0

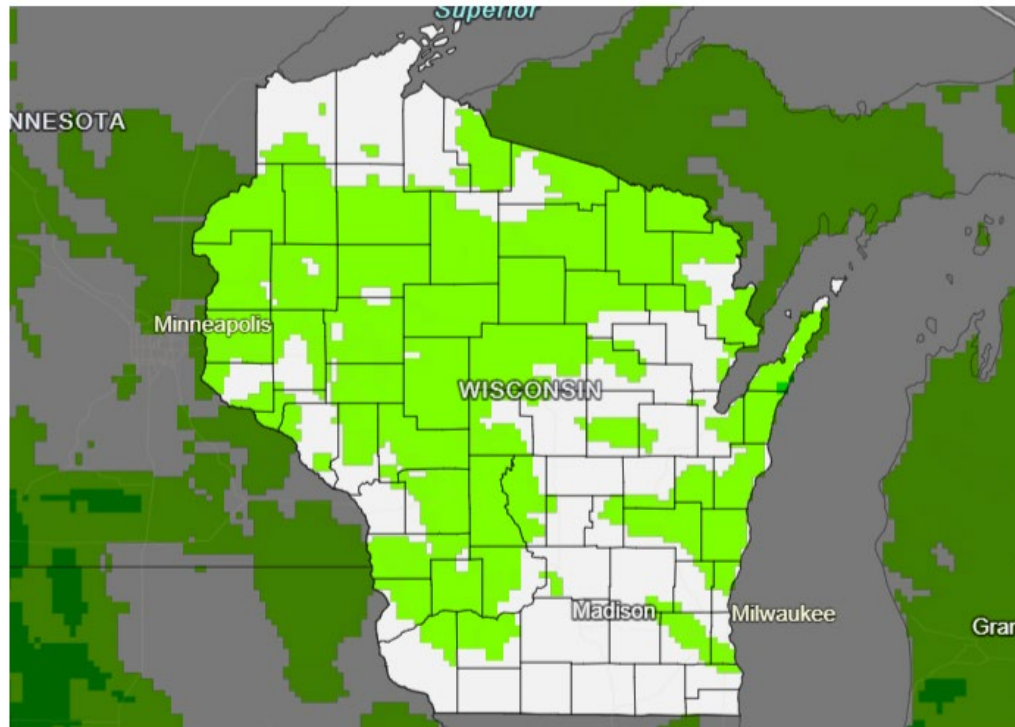
Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week

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 16–2024



Predicted Inches of Precipitation



Source(s): National Weather Service Weather Prediction Center
Last Updated: 07/16/24

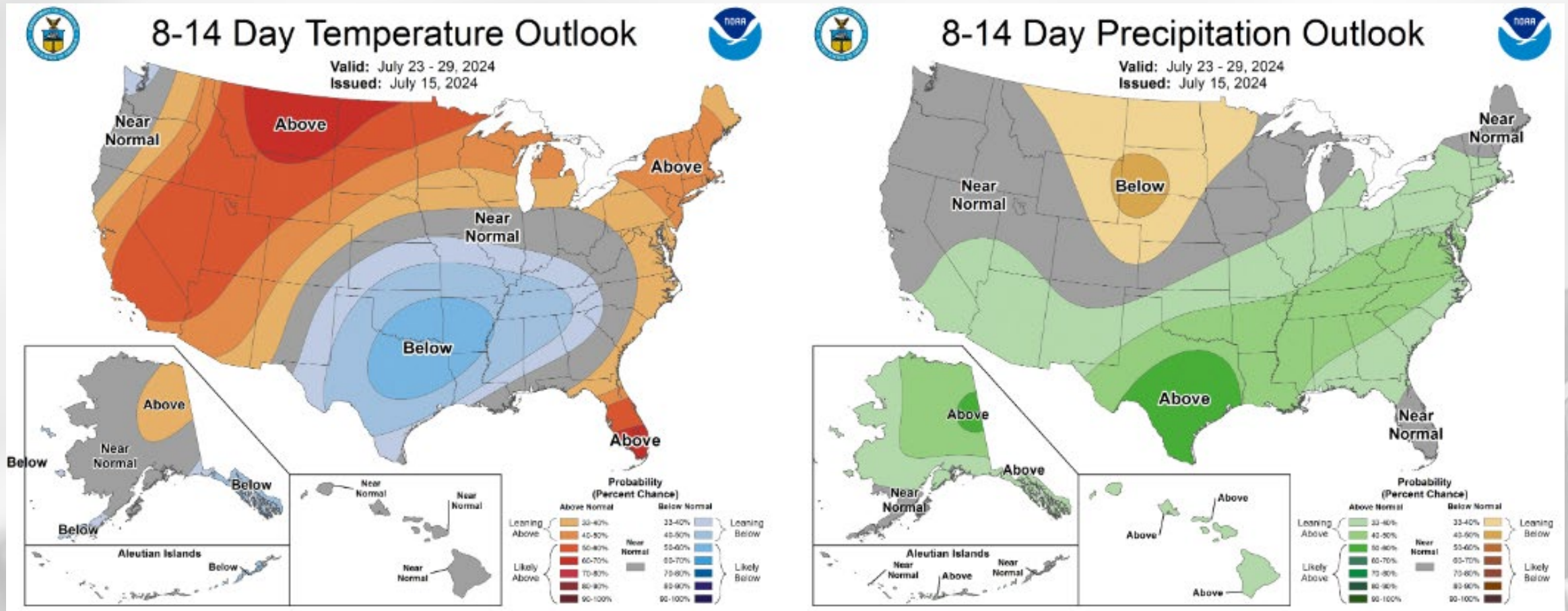
Drought.gov

- A quieter week of rainfall is forecasted for Wisconsin, with most forecasted to receive **0.1" or less**.
- Precip will be most likely in the Driftless Region, along Lake Michigan, and in the north.

Forecast for 7/16/24 thru 7/23/24
(Begins at 7am CDT)

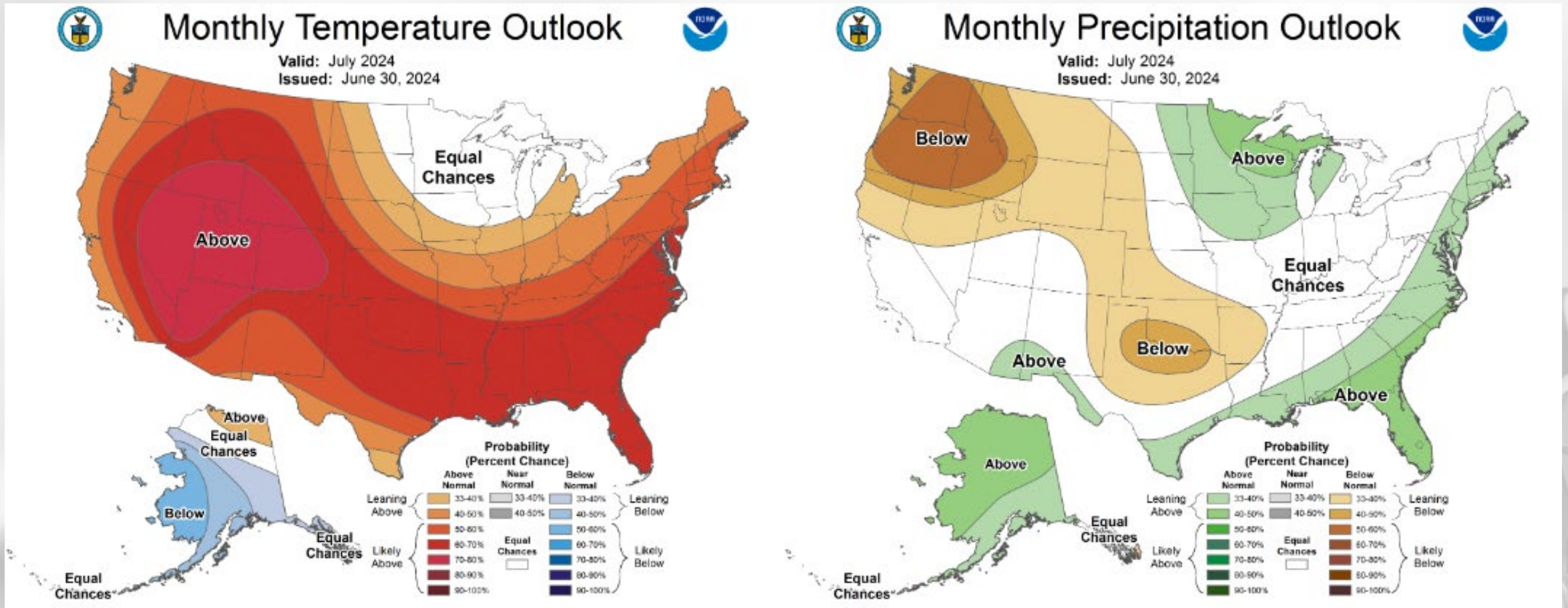
<https://www.wpc.ncep.noaa.gov/qpf/p168i.gif>
<https://www.drought.gov/states/wisconsin>

8-14 Day Temp & Precip Outlook



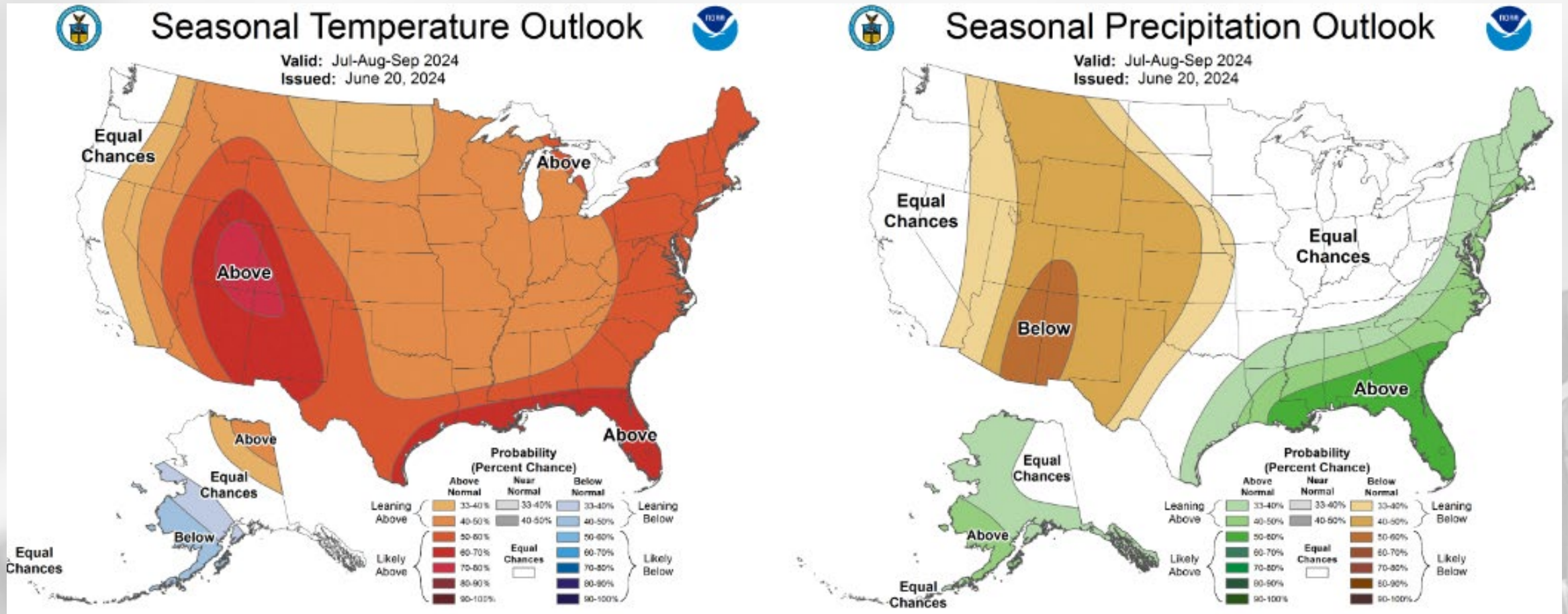
End of July: Temperatures leaning above normal. Precipitation leaning near normal.

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:

- Areas of southern and western WI received **multiple inches** of rainfall last week, adding to monthly totals already **well above normal**. River levels along the IL state line are in **flood stage**.
- **Warmer conditions** made a return last week, with highs reaching the **90's** at some locations in the state.

Impact:

- Soil moisture levels are in **high percentiles** due to a very wet summer thus far; **~60% adequate moisture** reported for topsoil and subsoil.
- Corn silking is well underway and is **ahead of normal pace**, but soybean bloom is **falling behind normal pace**.
 - Both crops saw a **decline** in the percent in good to excellent condition last week.
- GDD accumulation since April 1 is **near or above 1000 units** statewide.

Outlook:

- A drier week (**0.1" or less** of precip) is forecasted for most of WI over the next 7 days.
- Higher likelihood to stay **warmer-than-normal** heading into the latter half 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 trafficking fields during muddy conditions to avoid rutting. Remember, compaction occurs when soil water content is at, or slightly above, field capacity!
- 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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