USDA Midwest Climate Hub
U.S. DEPARTMENT OF AGRICULTURE

NRCS
Natural Resources Conservation Service

Wisconsin State Climatology Office
Nelson Institute for Environmental Studies

Extension
University of Wisconsin-Madison

Wisconsin Ag Climate Outlook

Week of November 19, 2024

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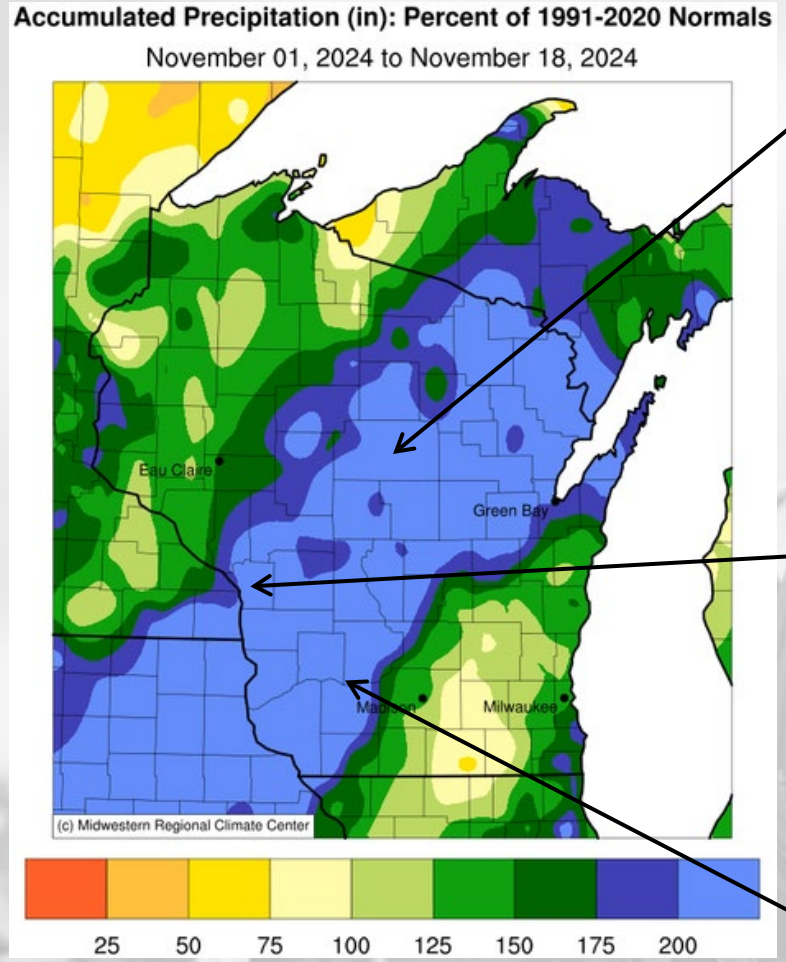
Key Points

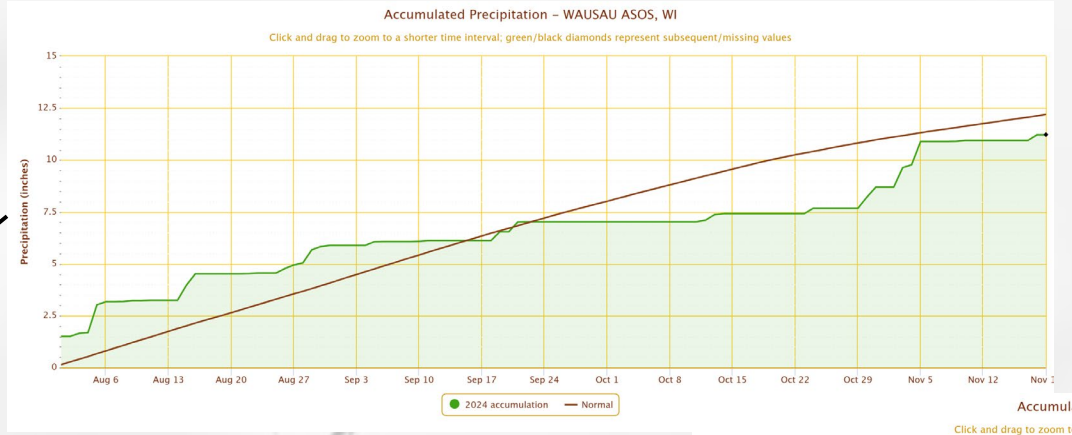
Navigate to select slides by clicking on the links below.

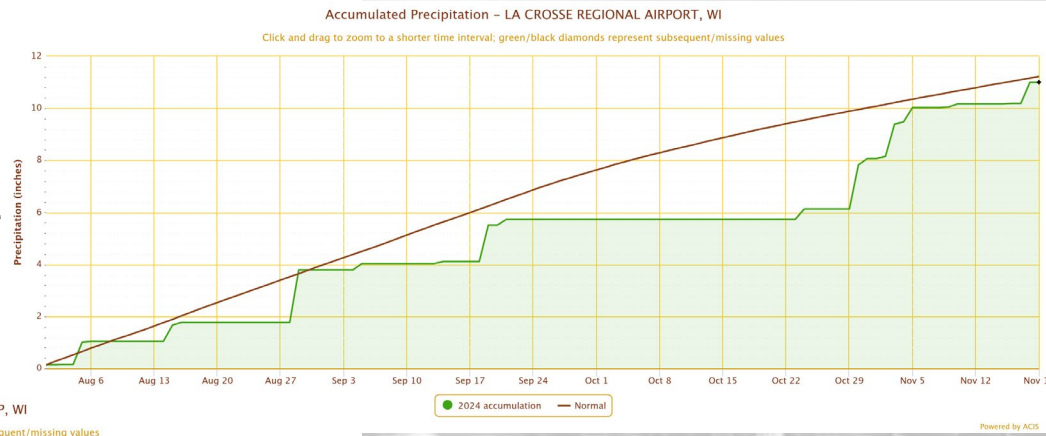
1) Additional precip last week has helped to further reduce fall precip deficits and replenish soil moisture levels.
2) Temps have continued to remain unseasonably warm, but a drop in temps is looking more likely in late November.
3) Chances for accumulating snow exist in the E/NE part of WI this week; precip may fall as rain or snow.

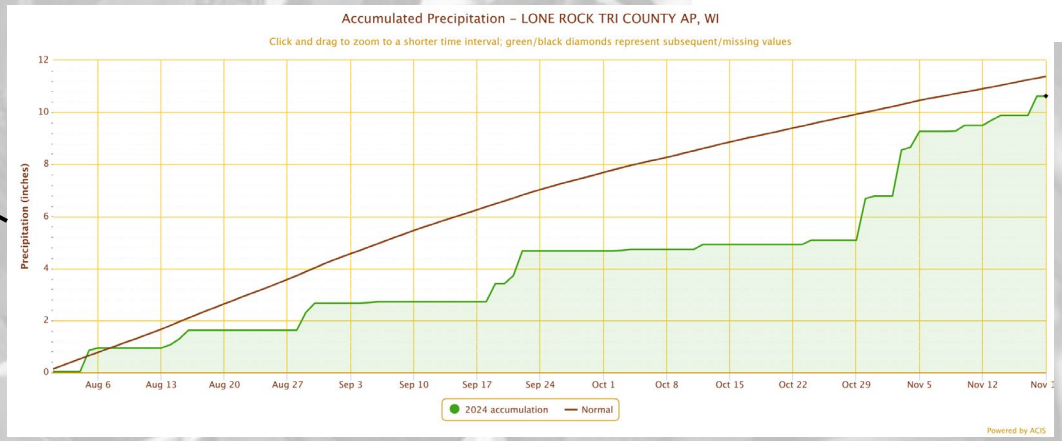
- *For this week's agronomic recommendations from UW Extension, click here.*
- *For NASS crop progress & condition maps, click here.*

Gains from November Rains





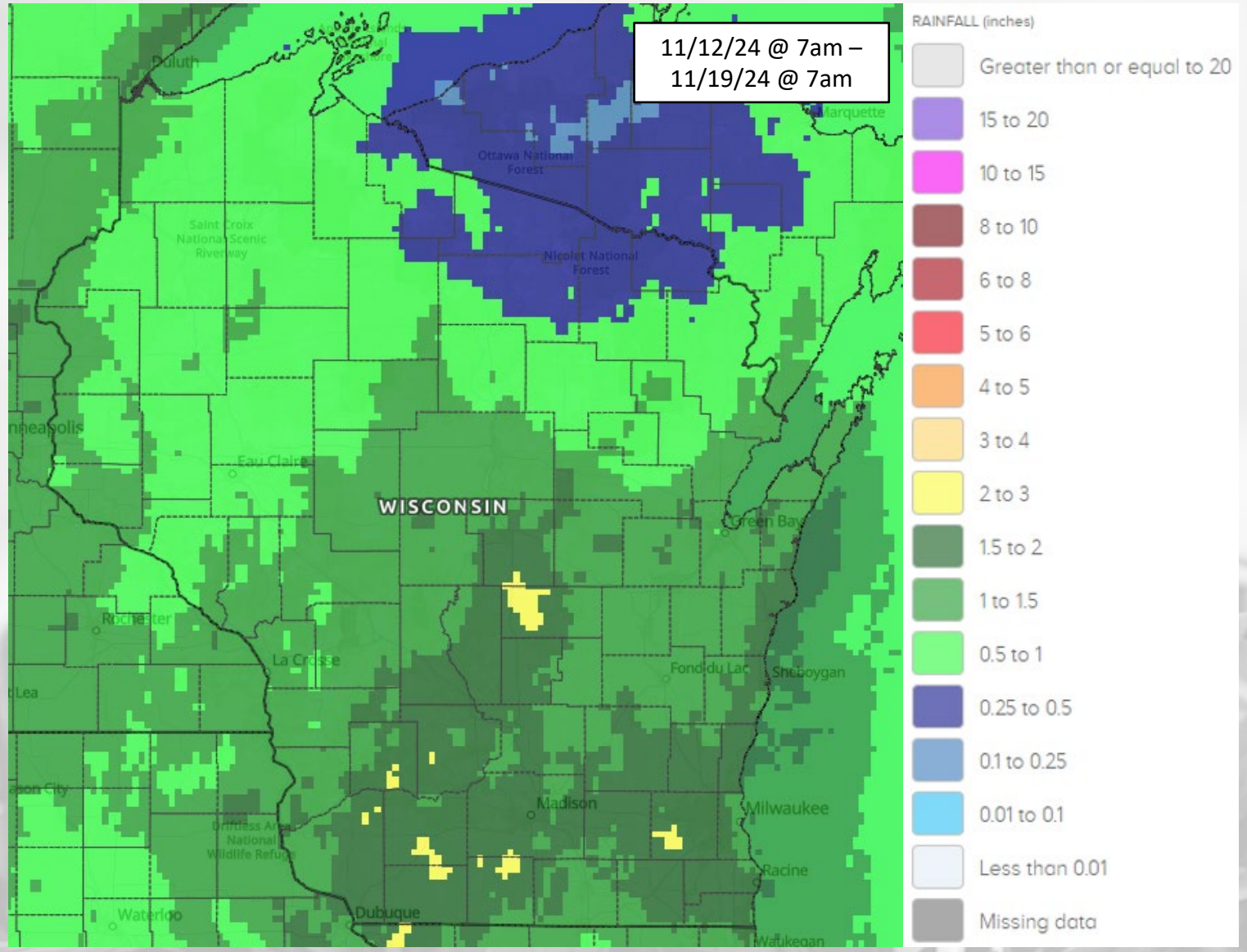




Large reductions in departure from average precip (since August 1) due to a wet November for many in WI.

https://mrcc.purdue.edu/CLIMATE

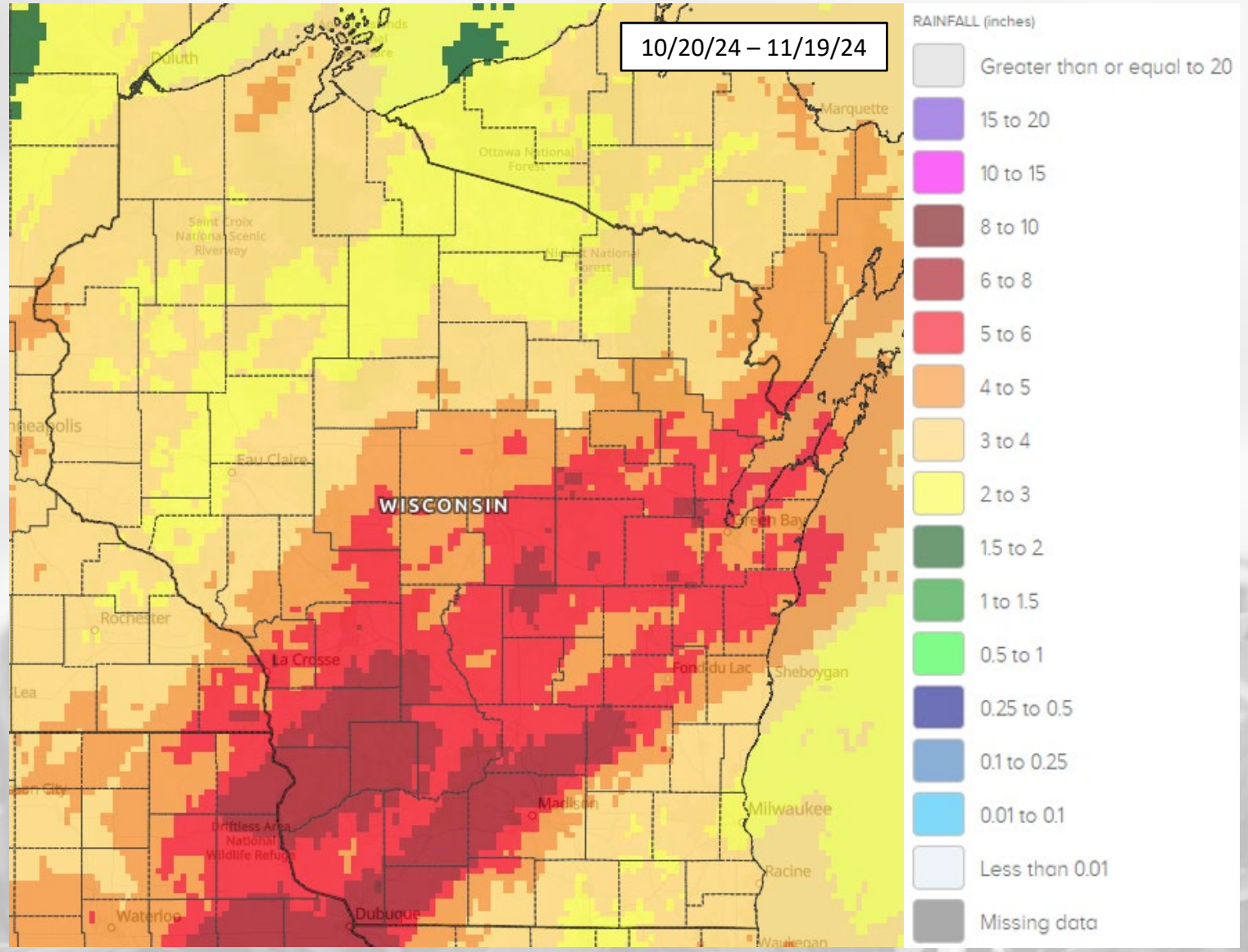
7 Day Precip



- Majority of the state received **0.5” or more** over the past week.
- **1-2”** in the southern & central counties, with **localized areas of >2”** in the south.
- **1” or less** in the northern extent of the state.

https://water.noaa.gov/

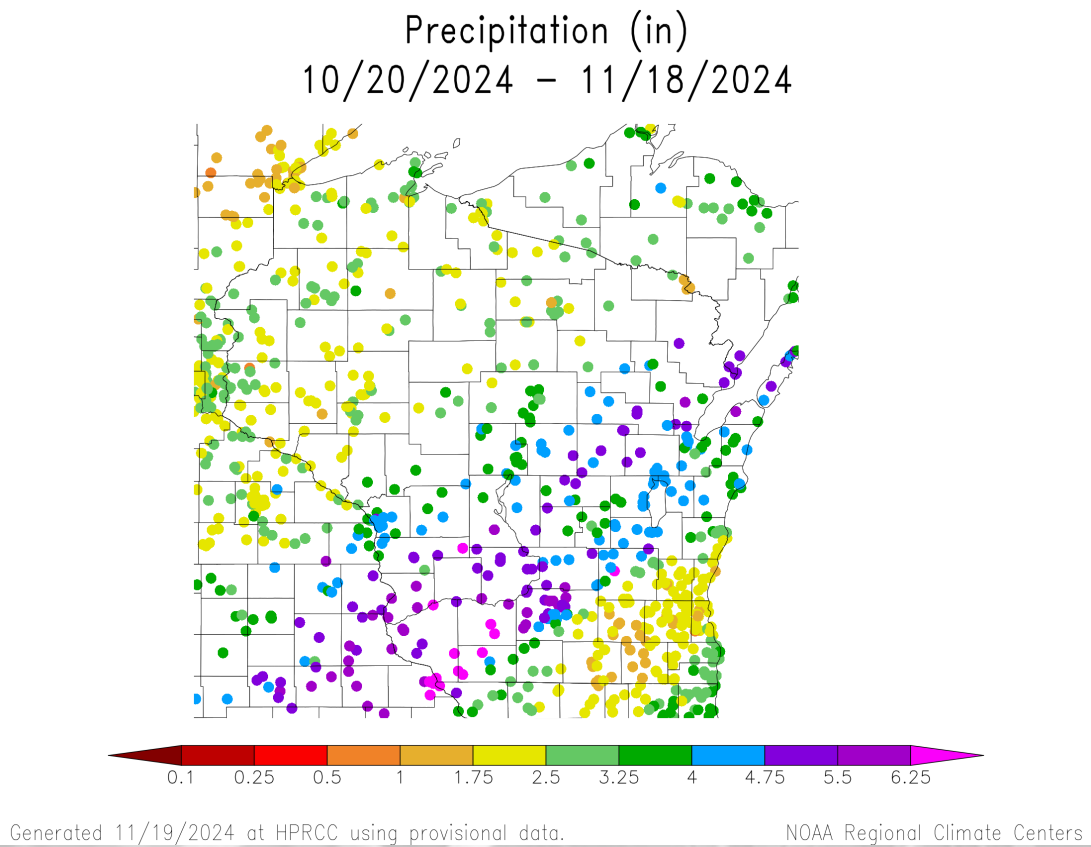
30 Day Precip

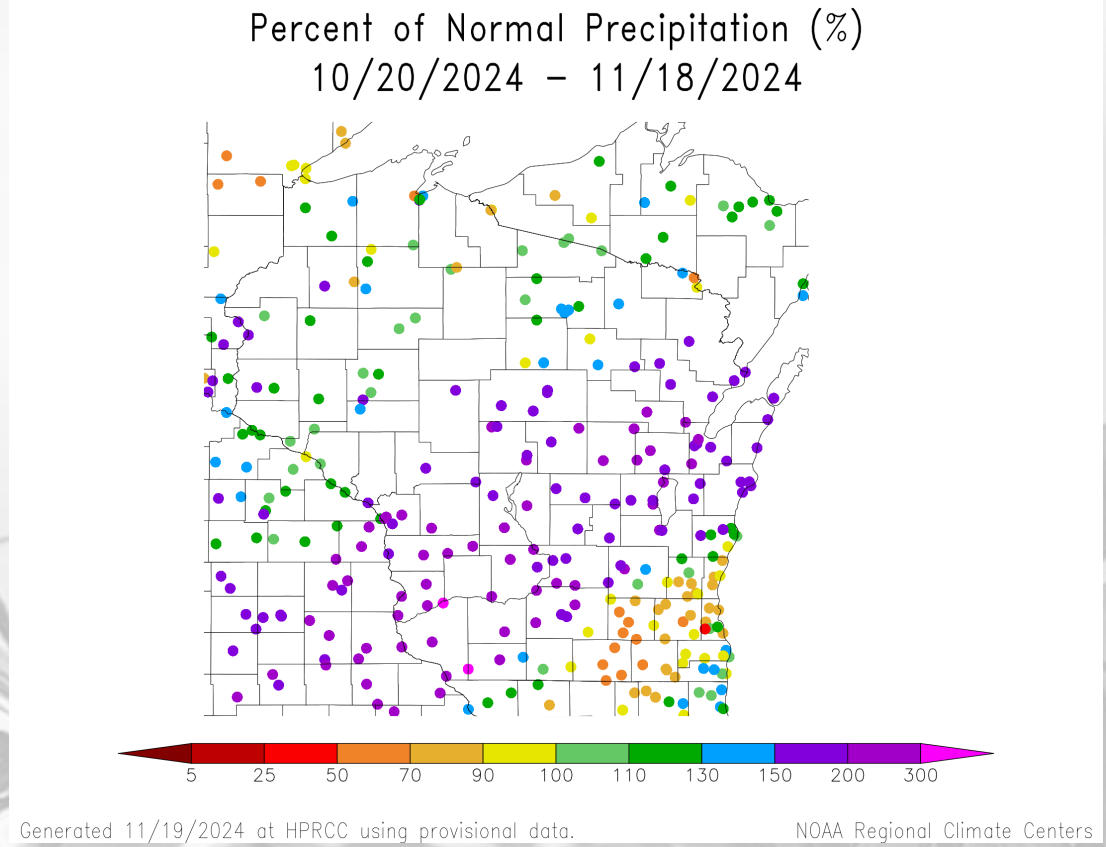


- A belt of **5+”** of rainfall since late October stretches from Dubuque to Green Bay.
- Totals as **high as 8”** within this SW-to-NE belt.
- **3” or more** is common across most of WI, with the lowest totals in the SE and NW.

https://water.noaa.gov/

30 Day Precip Total/% Avg.

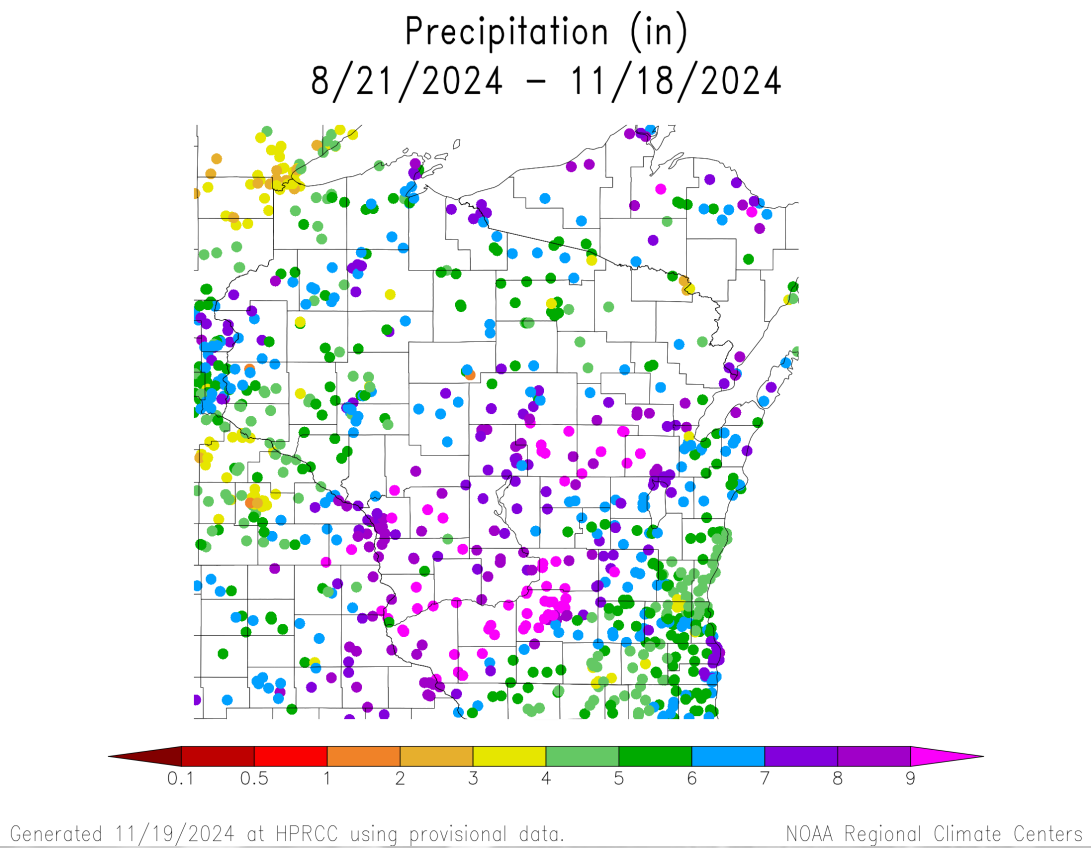


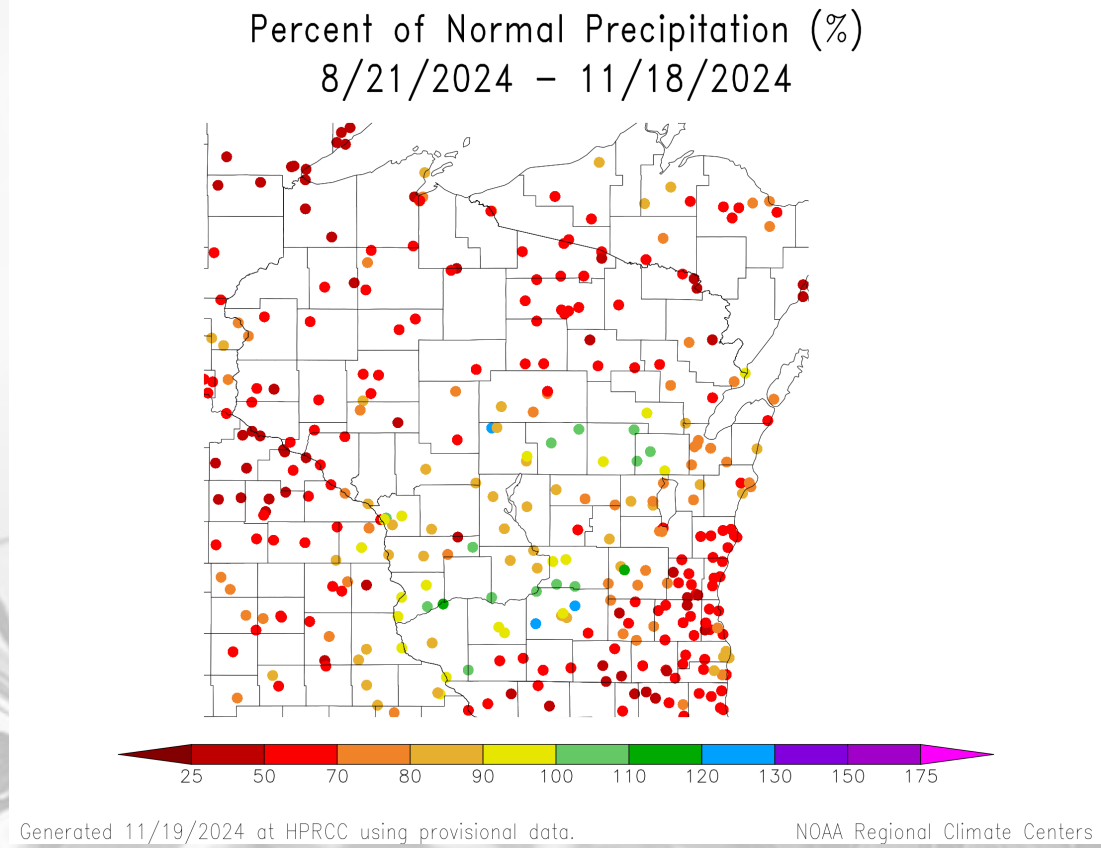


- **Band of 4-6+”** from Prairie du Chien to Green Bay → monthly totals now at **150-300% of 30-year normal**.
- **Near-to above normal** in NW Wisconsin → **~2-3”** of precip over the past 30 days
- **2.5” or less** in the SE → most stations are **below the 30-year normal**.

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

90 Day Precip Total/% Avg.

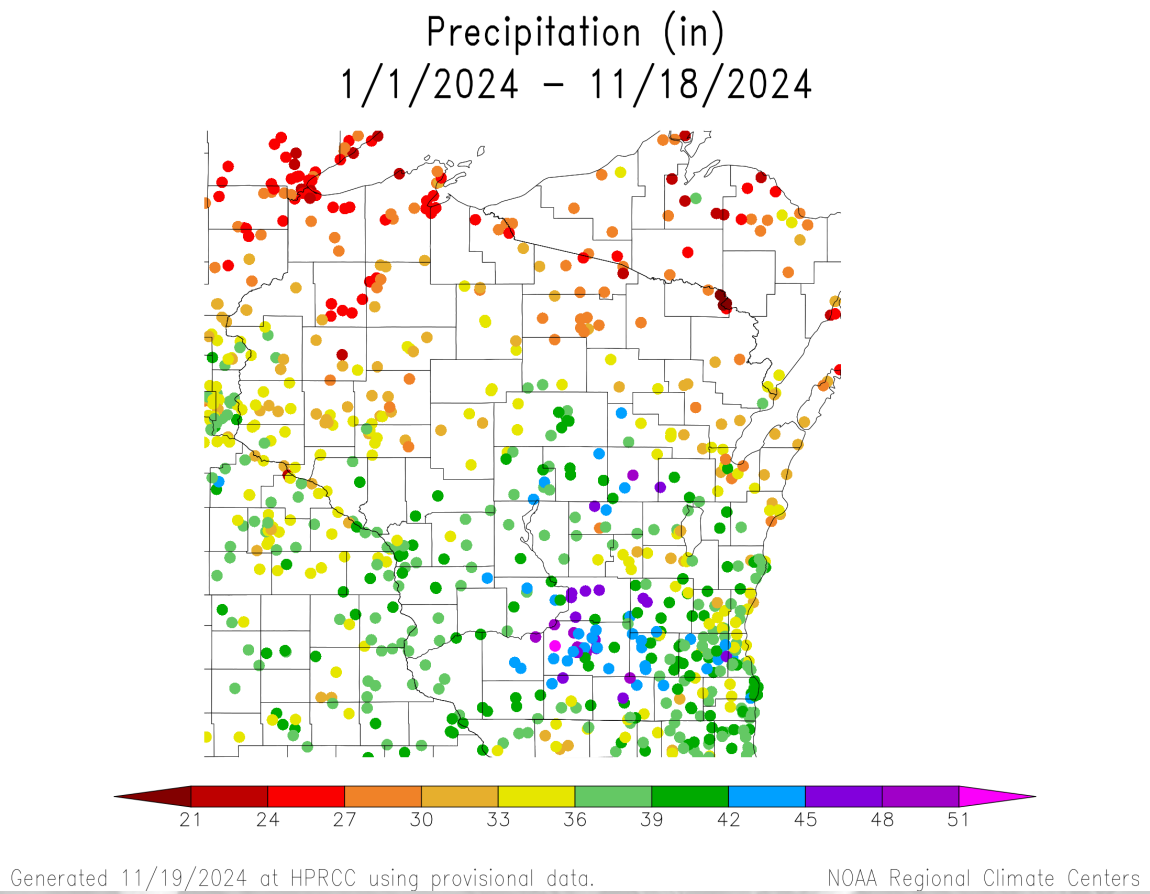


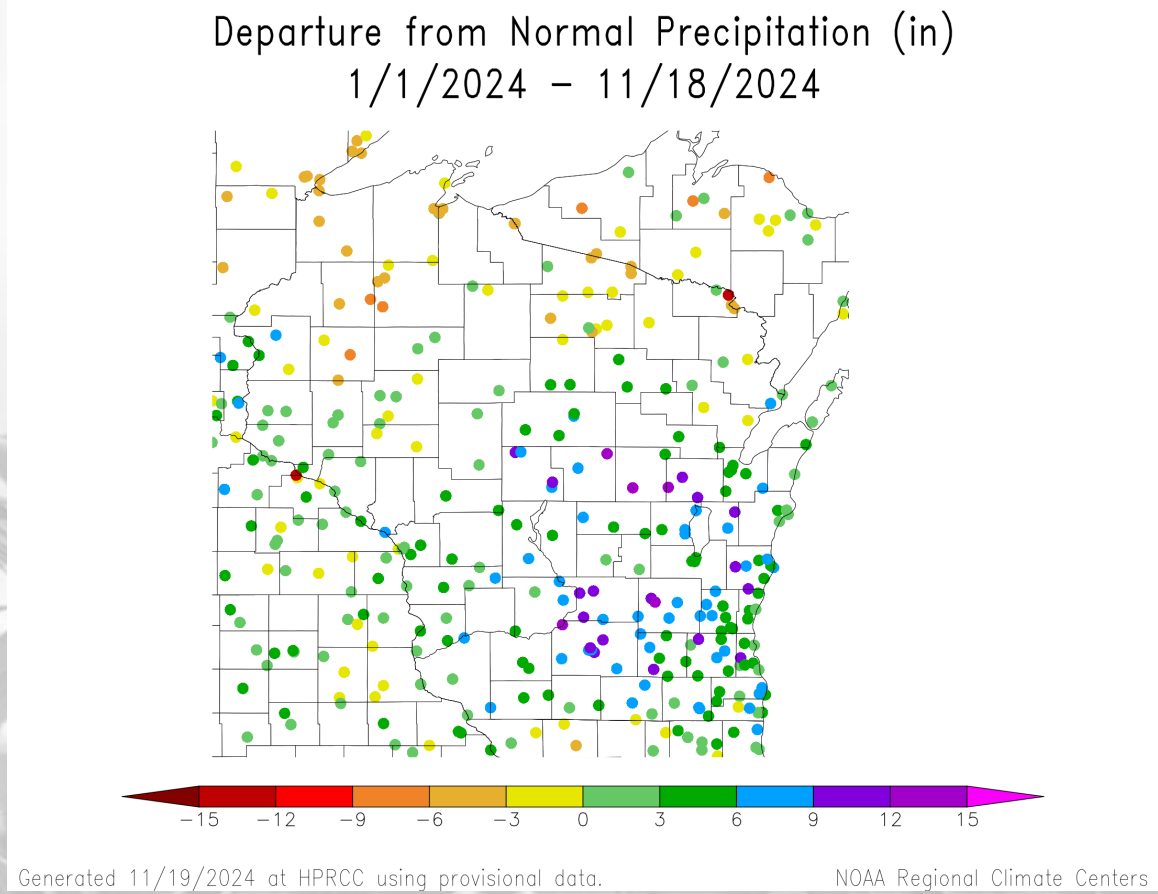


- **7-9+" of rain** across the SW-to-NE belt, most of which has fallen since late October.
  - **Near to slightly above** the climatological normal in this belt.
- **4-6"** at many stations in the NW and SE counties, which is **70% or less** of climatological normal.

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

2024 Precipitation (so far)





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

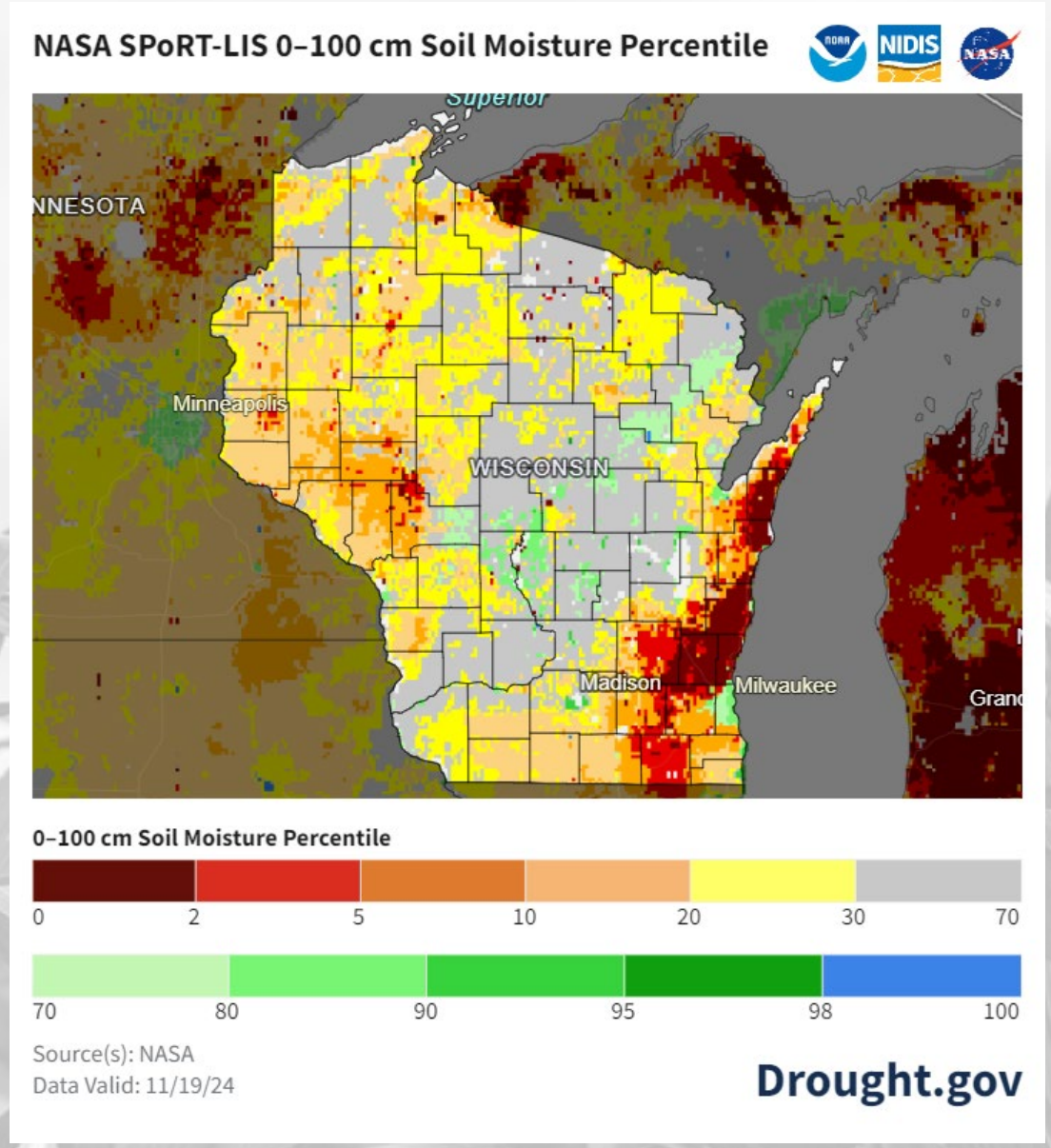
Soil Moisture Models

- **10th-30th percentiles** still in place in the south and west, but areas in red have been **greatly diminished** since late October.
- **Near-normal conditions** common in the central and northern counties
- The eastern shore is still **trending very dry.**

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.

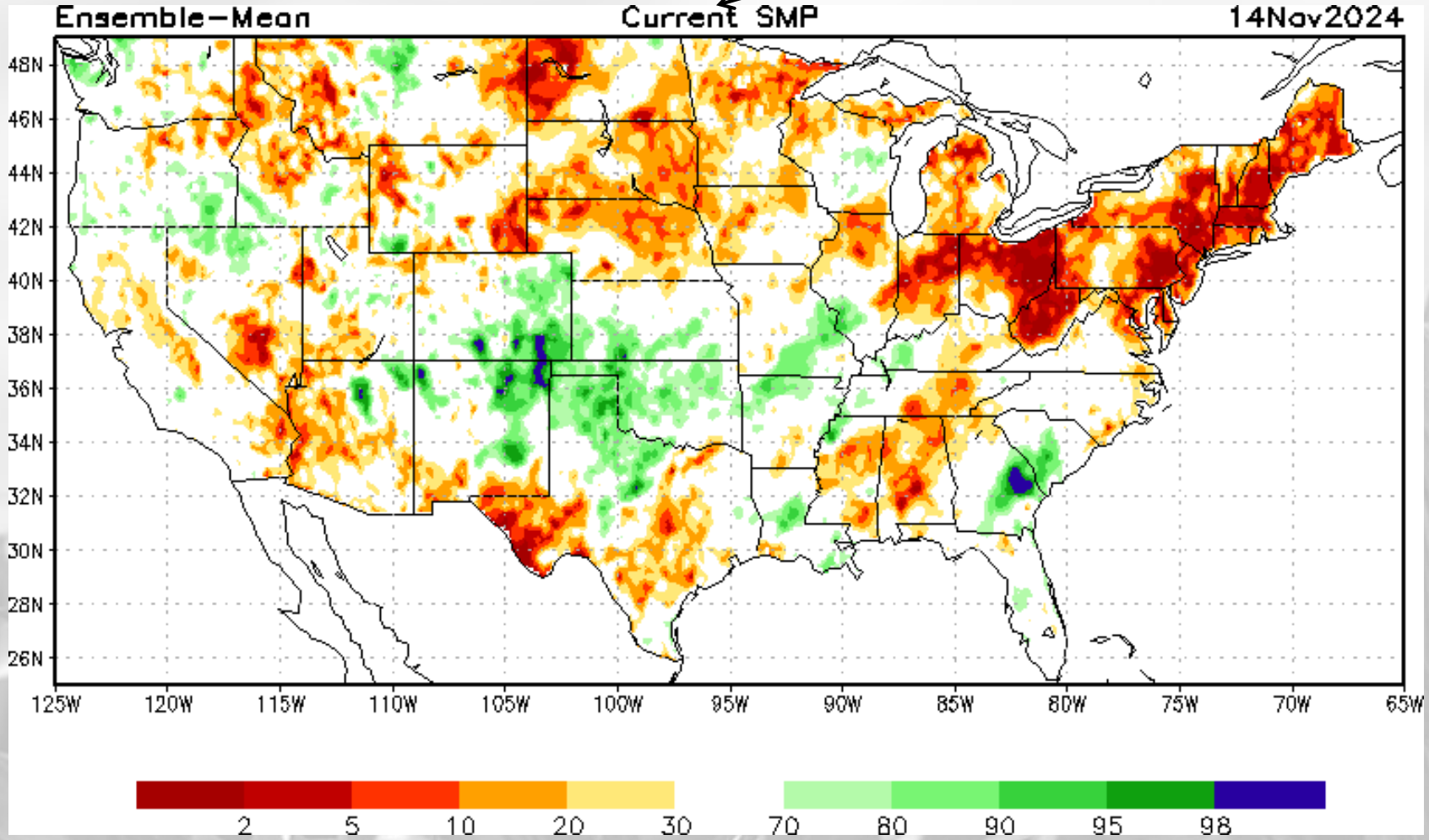
It's worth noting that each soil moisture model has their own characteristics and input variables, so there tends to be variation between models. Thus, it's worthwhile to look at multiple models opposed to just one.

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



Soil Moisture Models

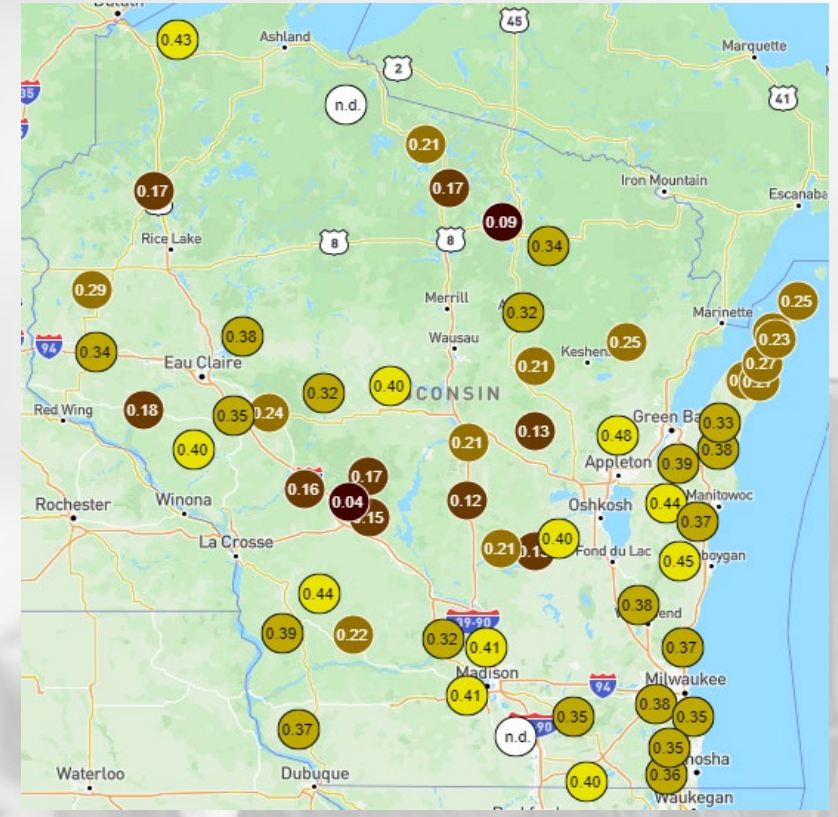
NOTE: this map displays the soil moisture percentile for Nov. 14. It was the most recent update on Nov. 19.



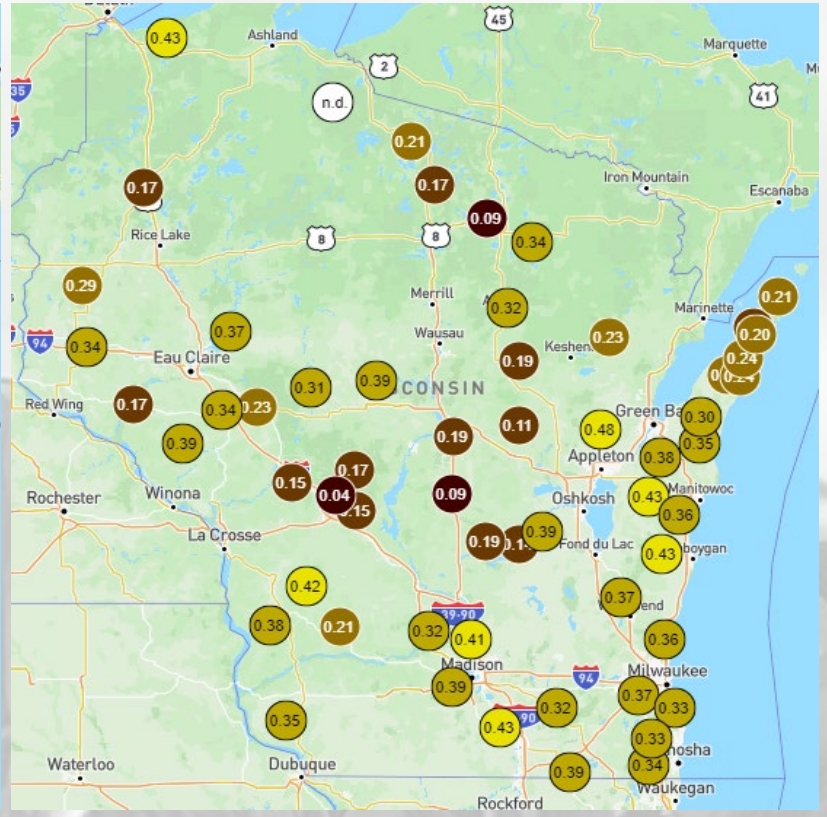
https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml

Wisconet Soil Moisture (4” Depth)

Thursday Nov. 14th @ Midday



Saturday Nov. 16th @ Midday



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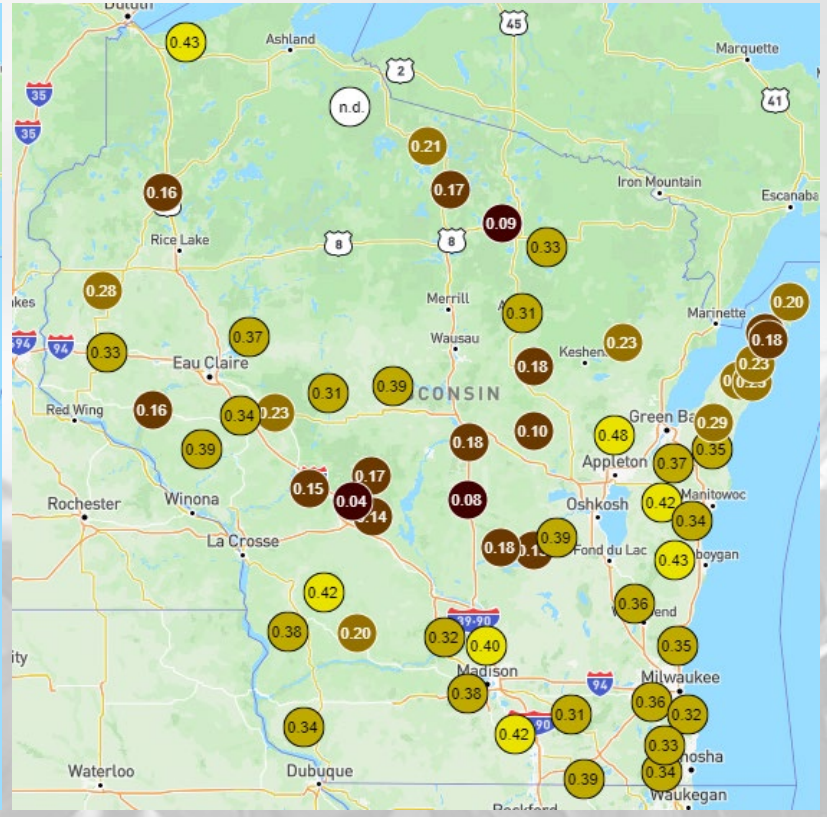
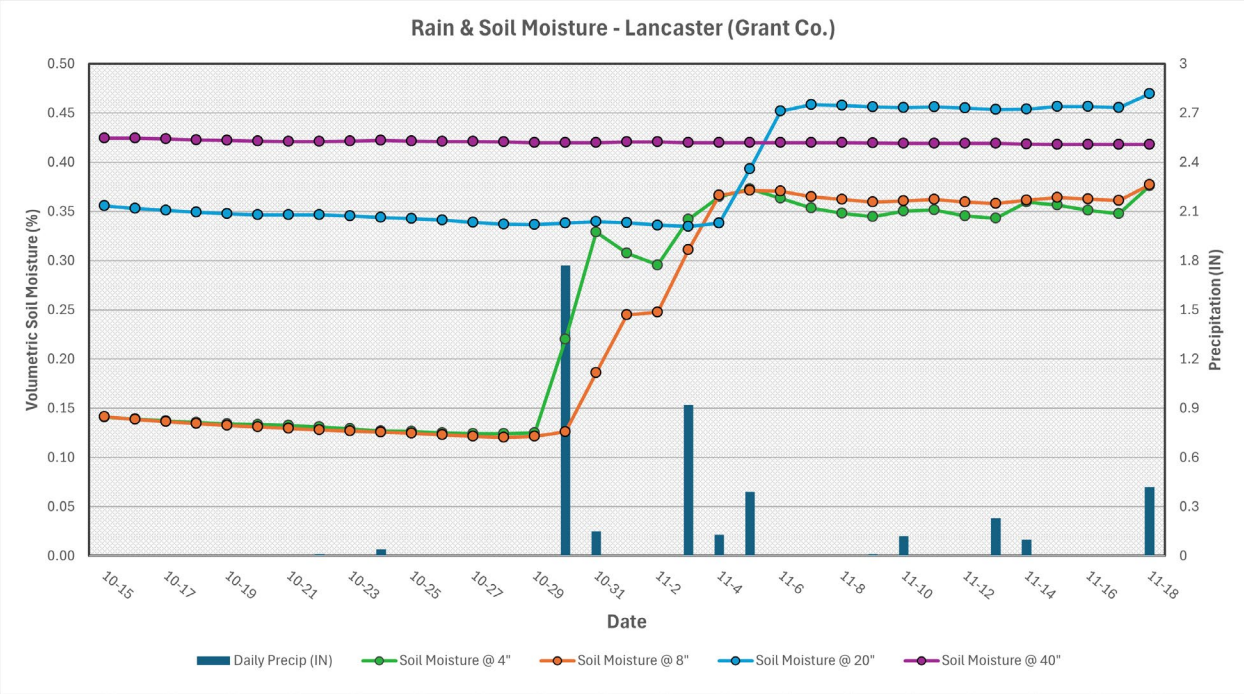
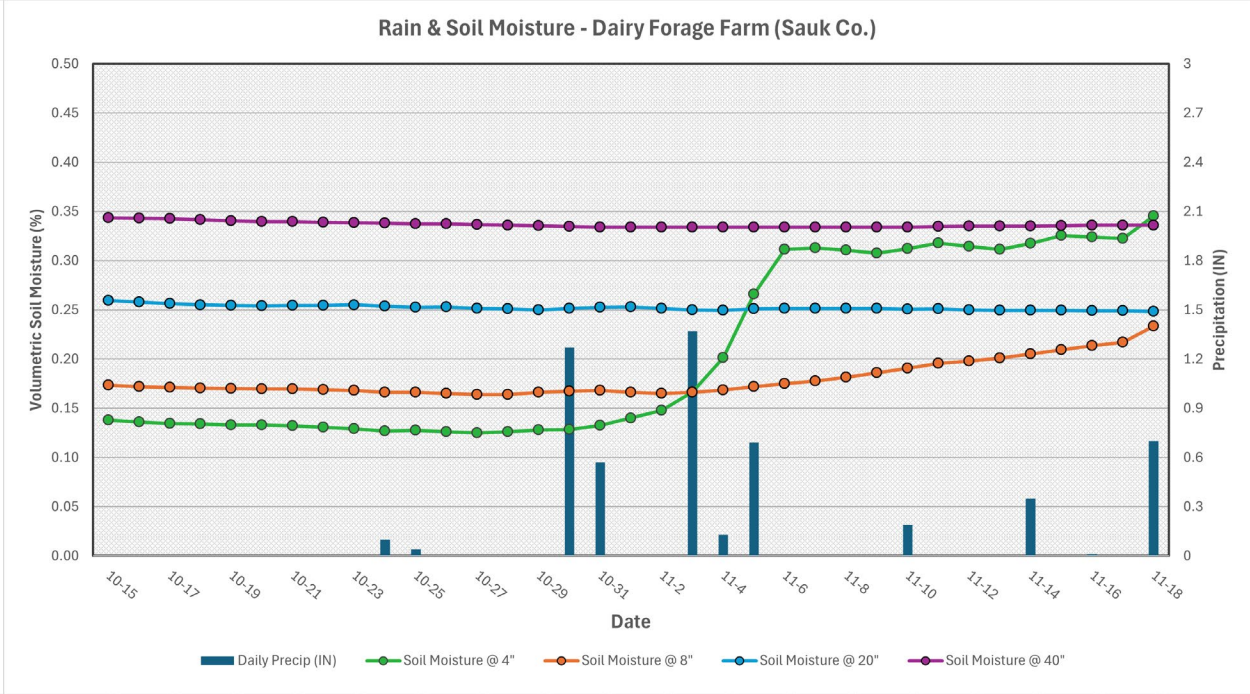


https://wisconet.wisc.edu/

Wisconet Soil Moisture – 4” Depth





5-week trend in soil moisture (multiple depths) & precip at Wisconet stations

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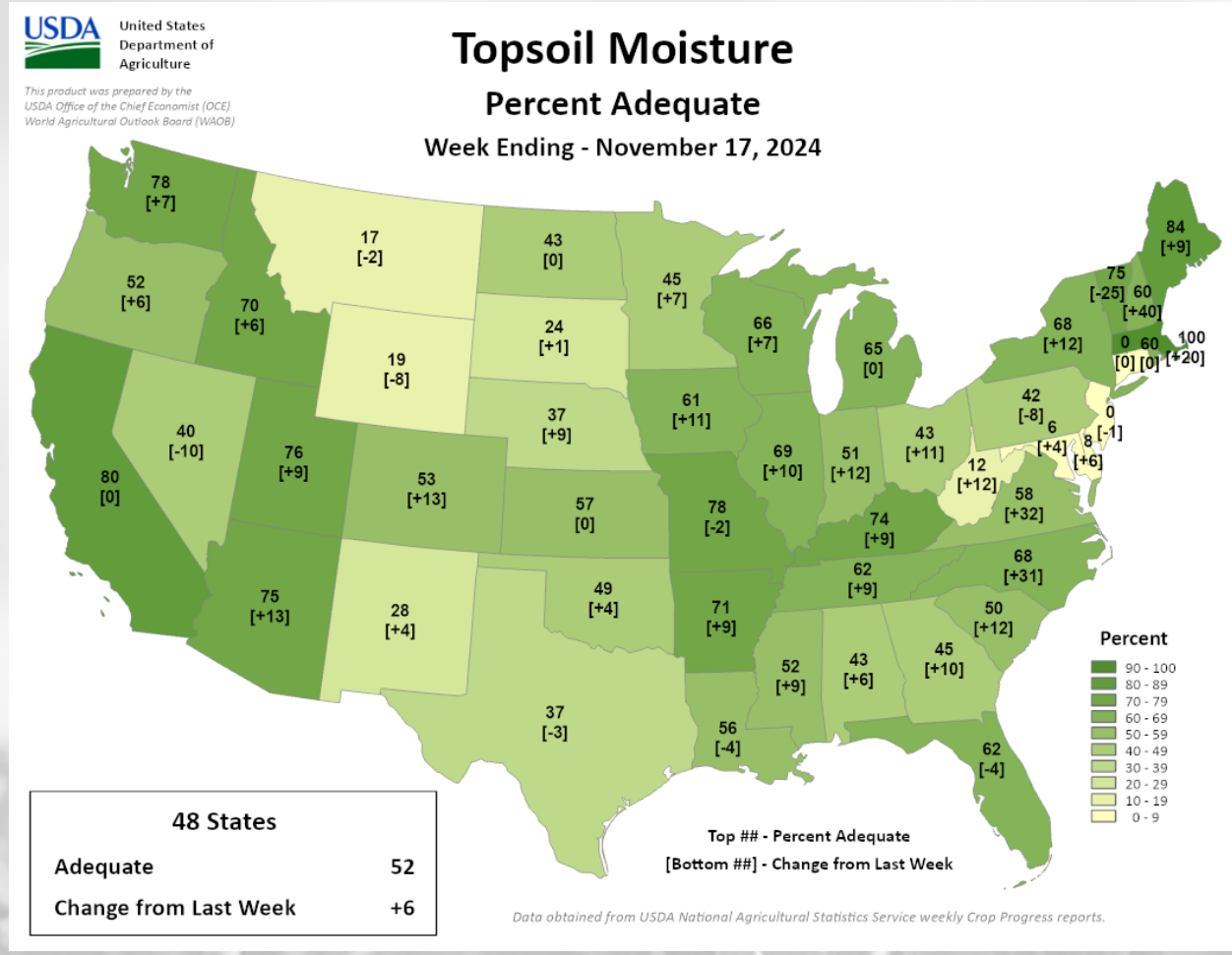
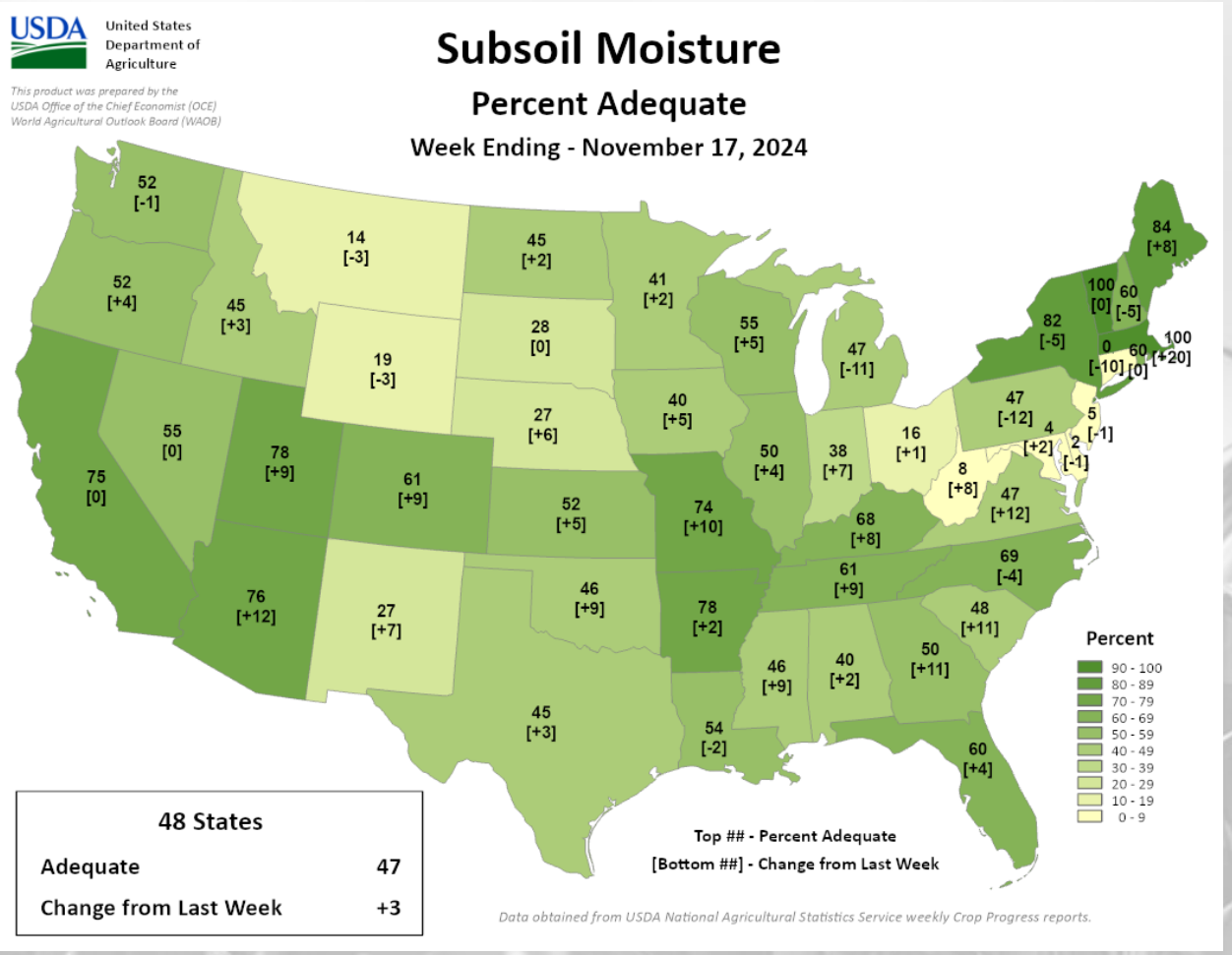
Notable responses in soil moisture at the 4- and 8-inch depths. Deeper soil moisture profiles held steady, with some gains in the 20-inch profile at Lancaster.

https://wisconet.wisc.edu/

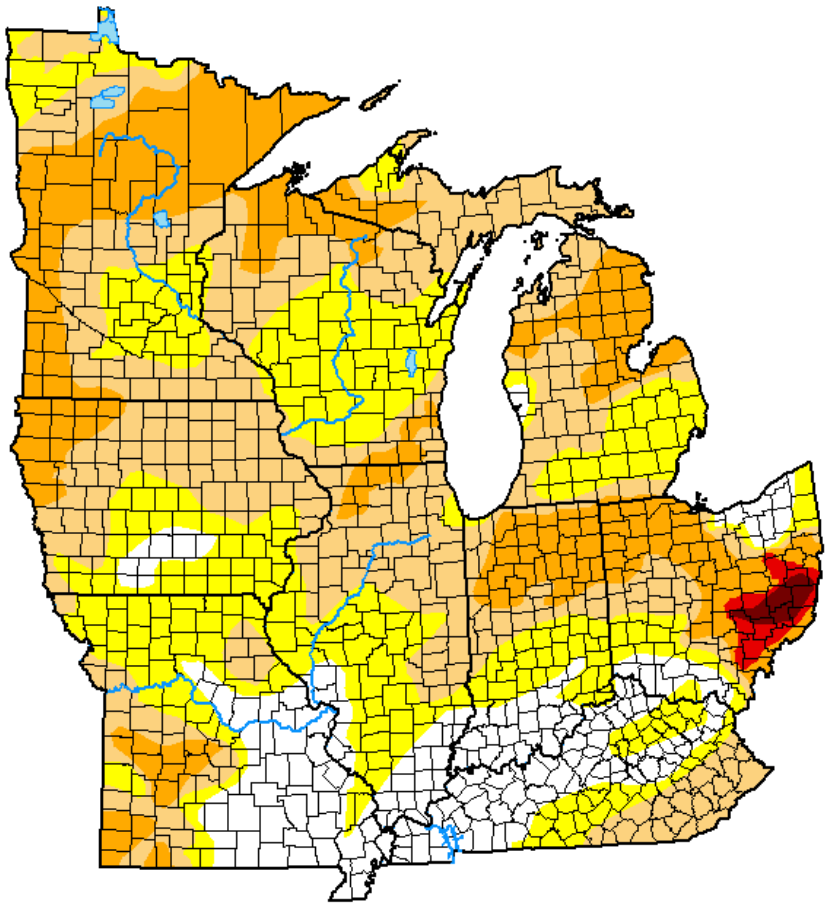
NASS Topsoil & Subsoil Moisture





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

US Drought Monitor



U.S. Drought Monitor

Midwest

November 12, 2024

(Released Thursday, Nov. 14, 2024)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	15.21	84.79	55.51	21.92	1.15	0.44
Last Week *11-05-2024*	6.27	93.73	59.45	25.49	1.69	0.66
3 Months Ago *08-13-2024*	80.24	19.76	4.29	1.33	0.01	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 *10-01-2024*	21.78	78.22	28.15	6.40	1.46	0.66
One Year Ago *11-14-2023*	30.51	69.49	37.07	15.61	3.30	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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:

Richard Tinker

CPC/NOAA/NWS/NCEP

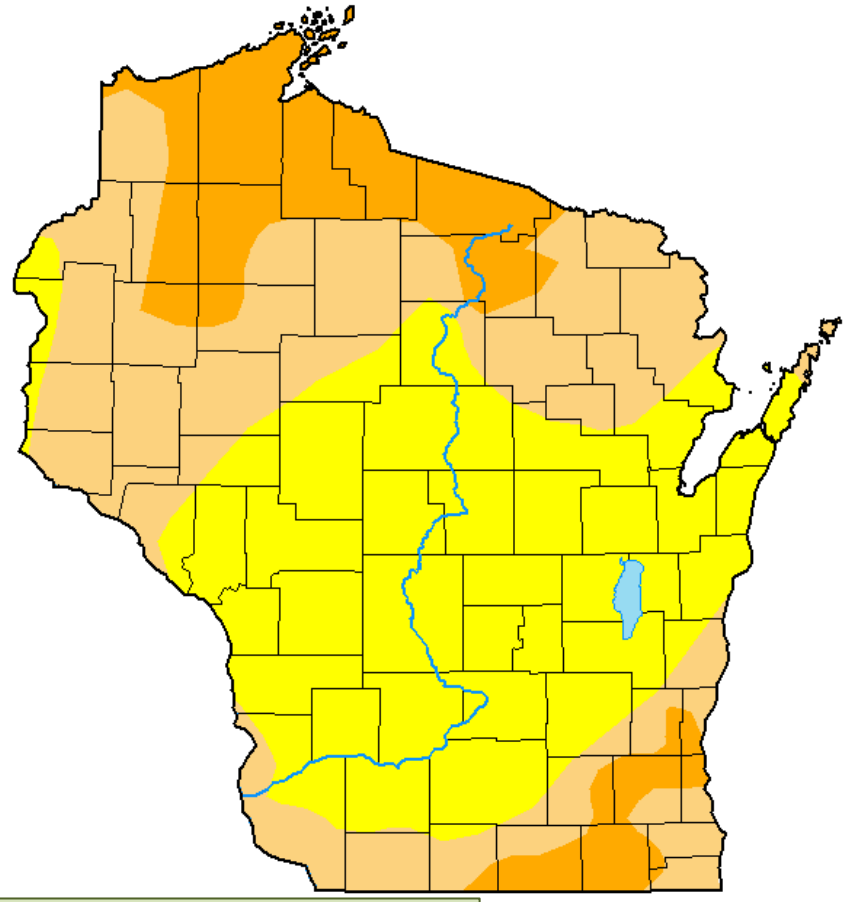
droughtmonitor.unl.edu

- Compared to last week:
  - **Decrease in D1 & D2 coverage** from last week by a few percentage points. Area of improvement mainly along the Ohio River and central IL.
  - Expansion of **D2 drought into SE WI**.
  - **Extreme to exceptional drought (D3-D4)** remains in place over SE Ohio.

Note: D0 is not considered drought.

http://droughtmonitor.unl.edu/

US Drought Monitor



http://droughtmonitor.unl.edu/

November 12, 2024
(Released Thursday, Nov. 14, 2024)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	52.85	17.19	0.00	0.00
Last Week *11-05-2024*	0.00	100.00	56.14	14.31	0.00	0.00
3 Months Ago *08-13-2024*	68.33	31.67	0.00	0.00	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 *10-01-2024*	18.68	81.32	29.83	8.45	0.00	0.00
One Year Ago *11-14-2023*	33.59	66.41	37.07	16.02	0.26	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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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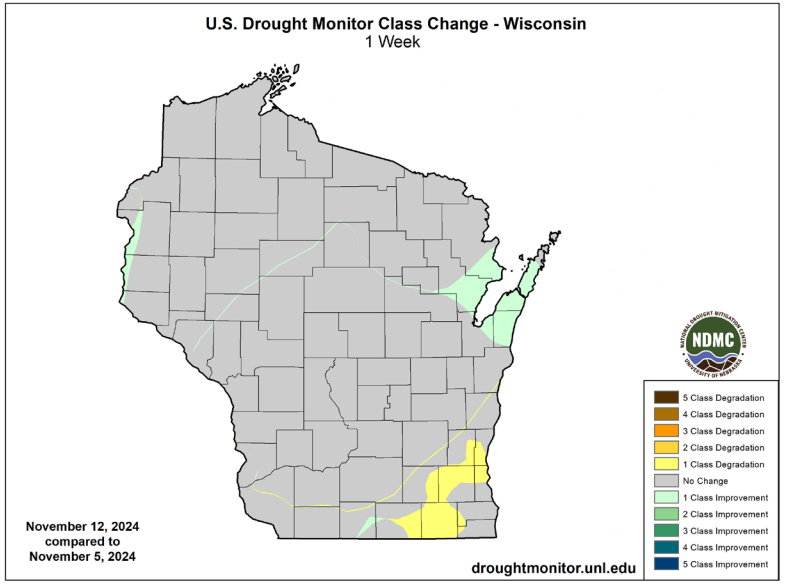
CPC/NOAA/NWS/NCEP

droughtmonitor.unl.edu

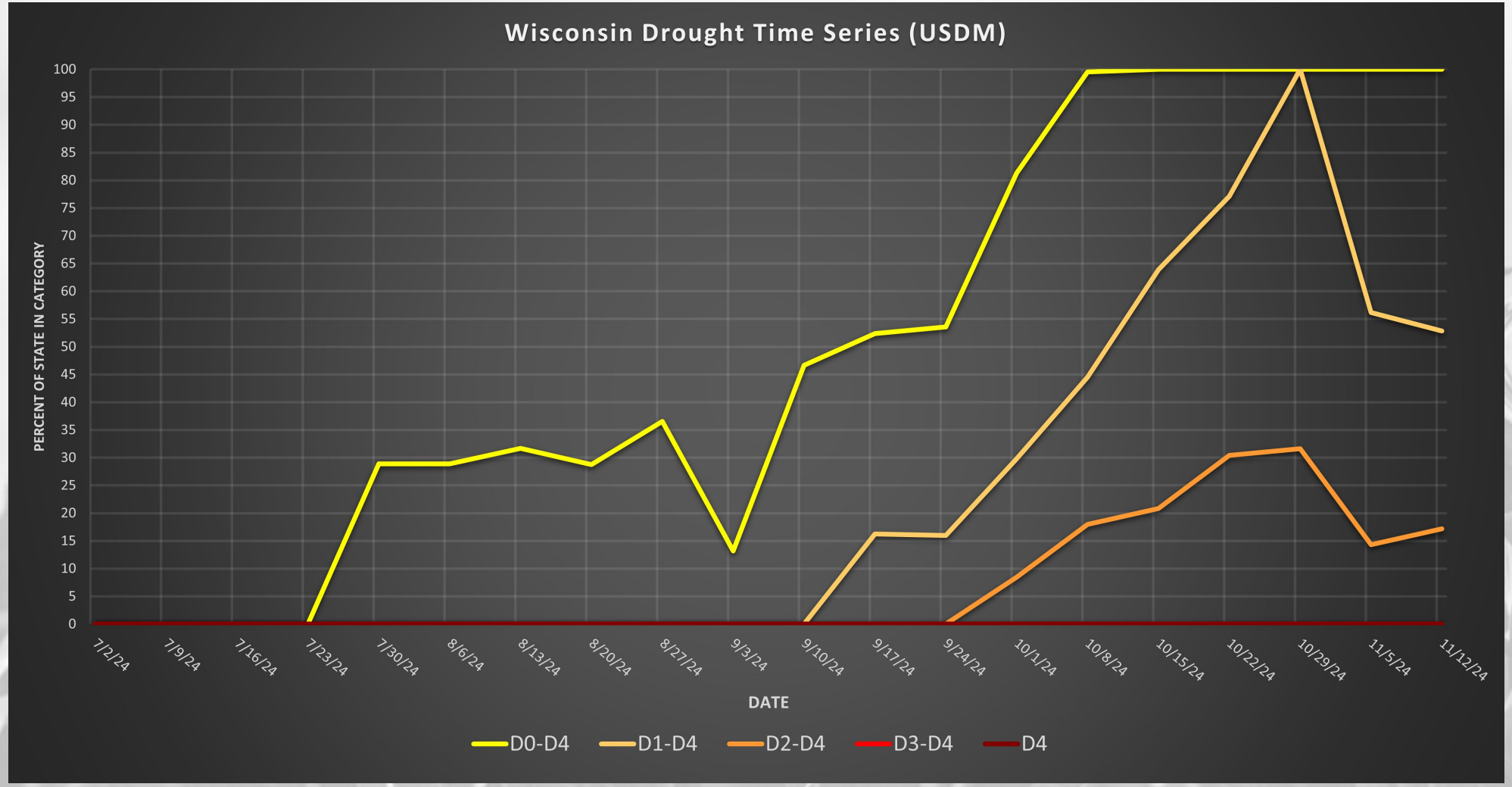
Amount of state in:

- D1-D4 – 52.9% ↓
- D2-D4 – 17.2% ↑
- 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.

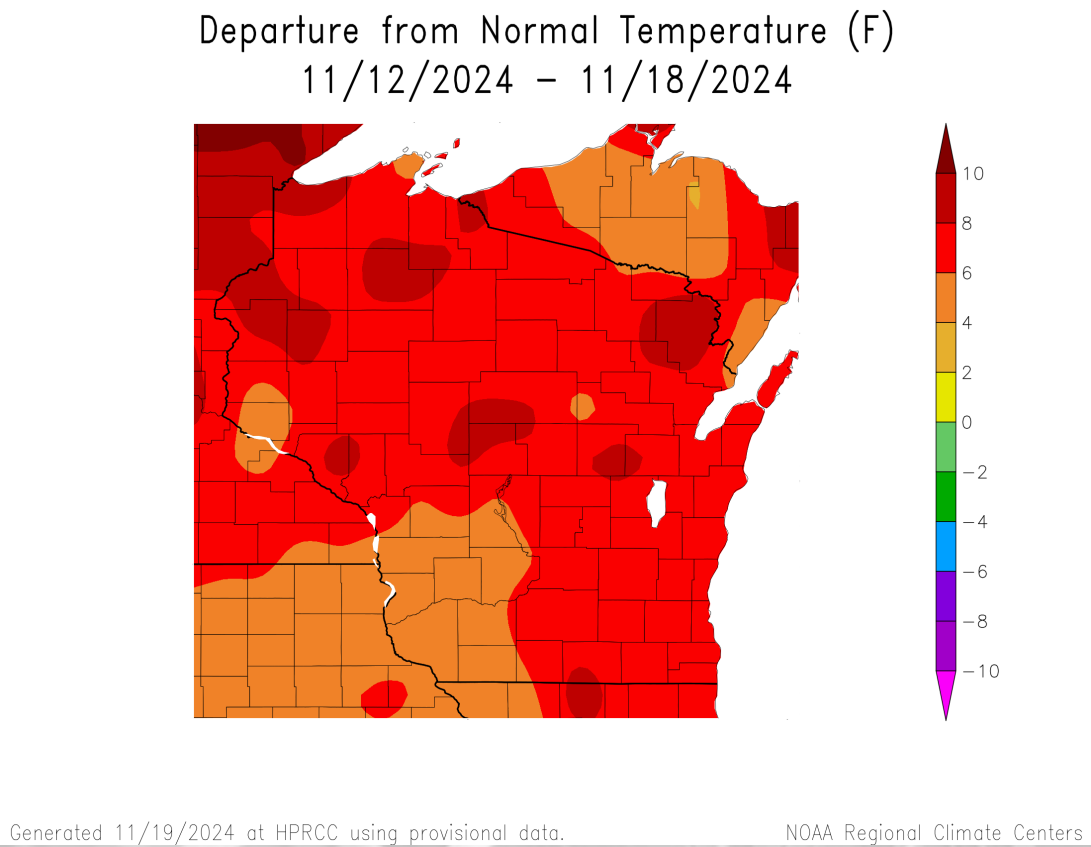


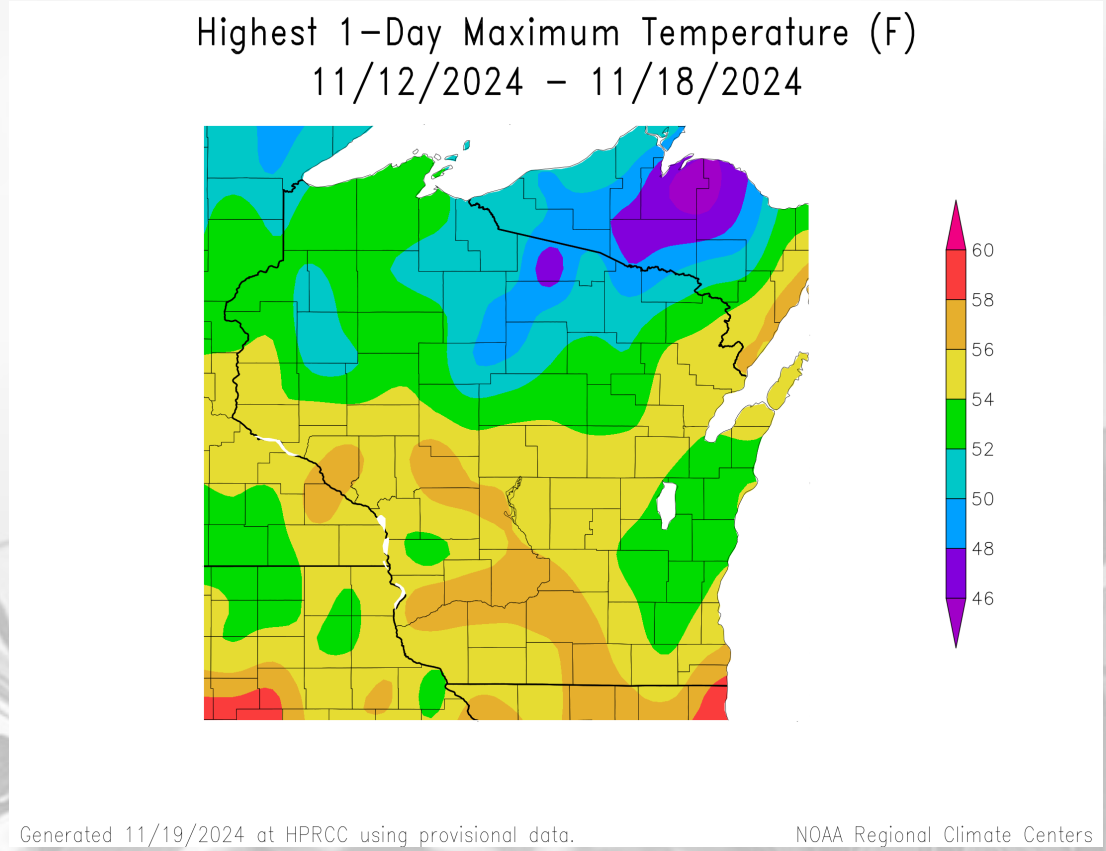
USDM Time Series



http://droughtmonitor.unl.edu/

7 Day Temperatures



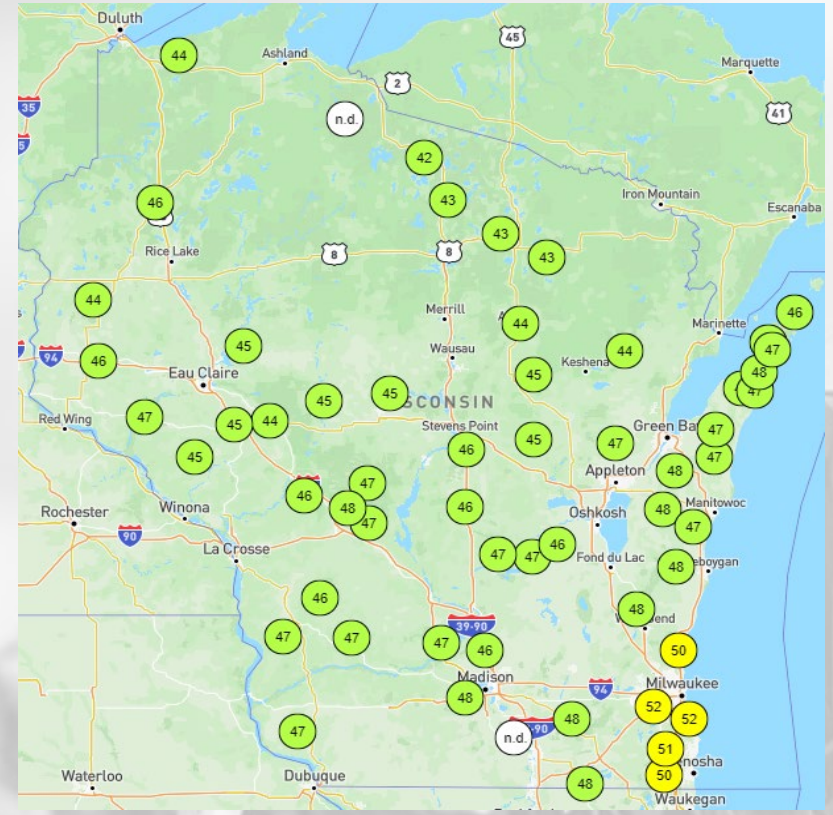


- **6+°F above** climatological normal for most of the state last week.
- **4-6°F above** normal in the SW counties.
- Weekly maximums were **mid to upper 50's** in the south and west last week, with **low 50's in the north**.

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

Wisconet Soil Temp (4” Depth)

Thursday Nov. 14th @ Midday



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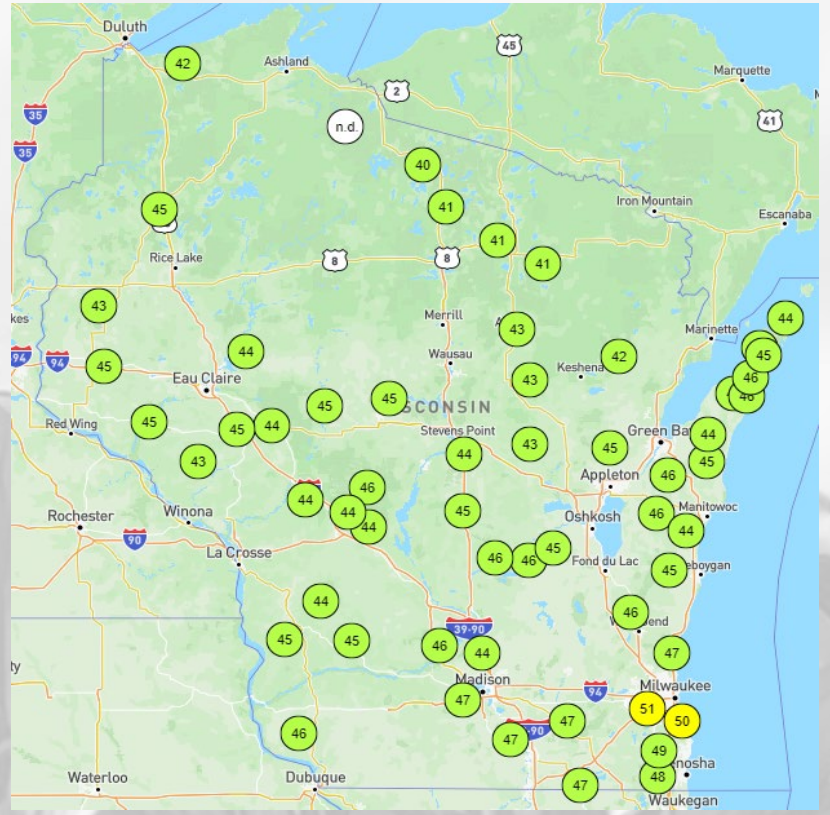

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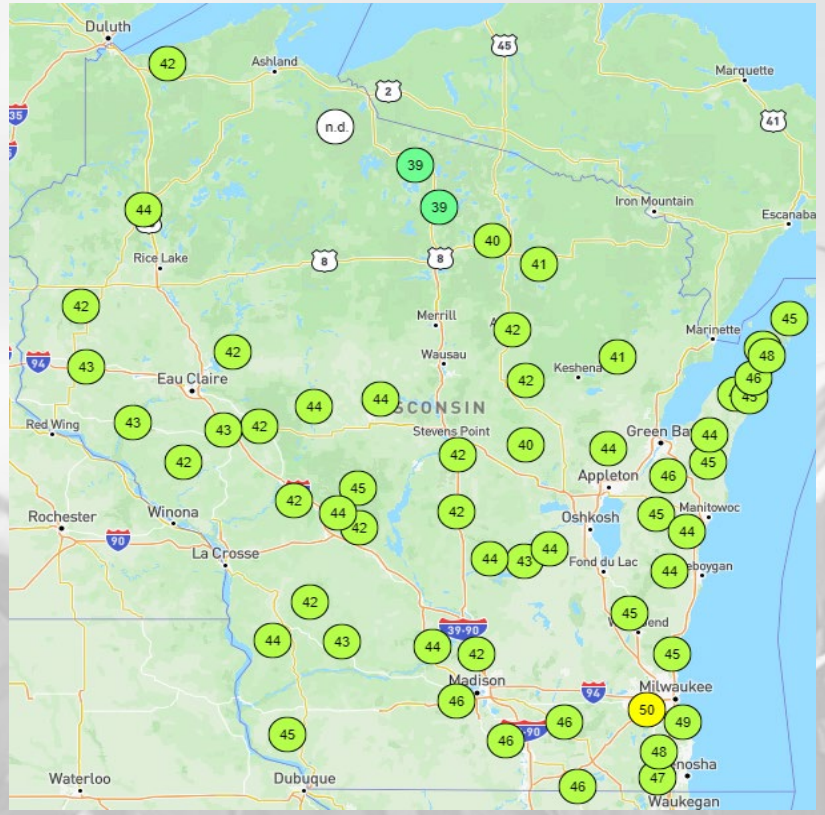
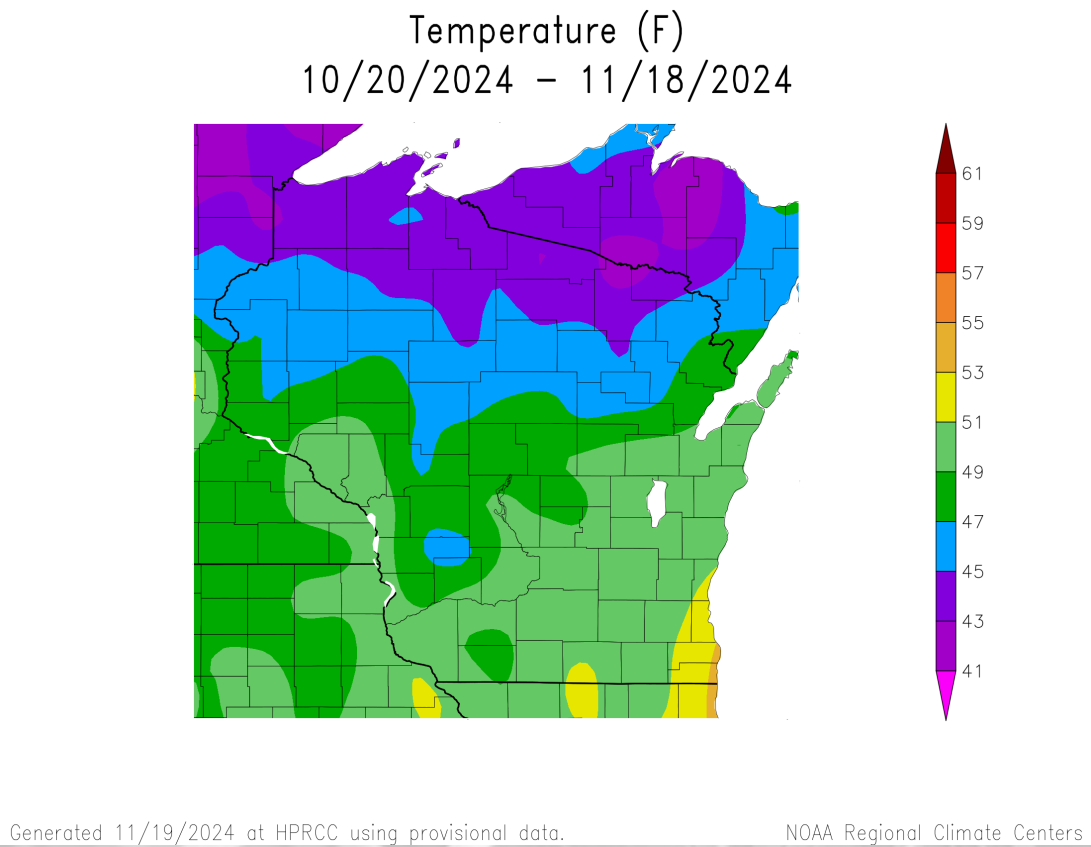
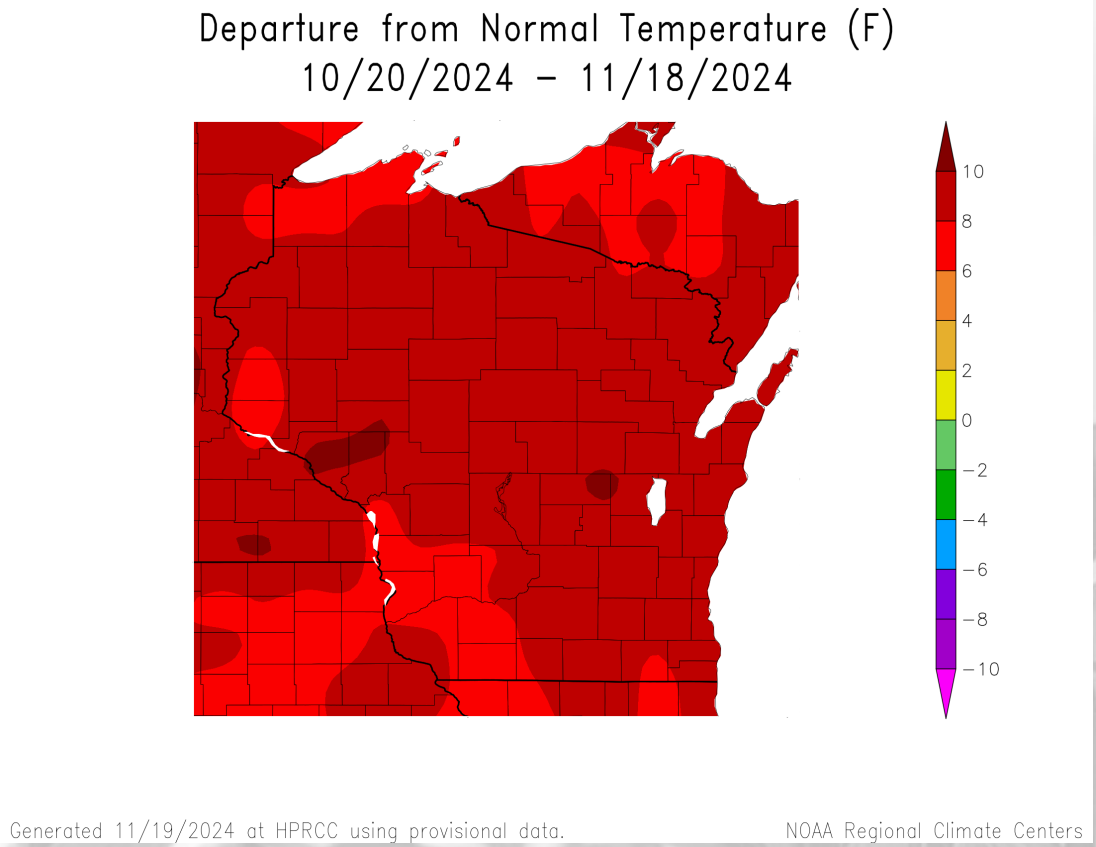


https://wisconet.wisc.edu/

30 Day Temperatures





- Temperatures for the past month ranged from **47-51°F** in the S to **43-47°F** in the far N.
  - **8-10°F above normal** for most of the state compared to climatological (1991-2020) average.

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

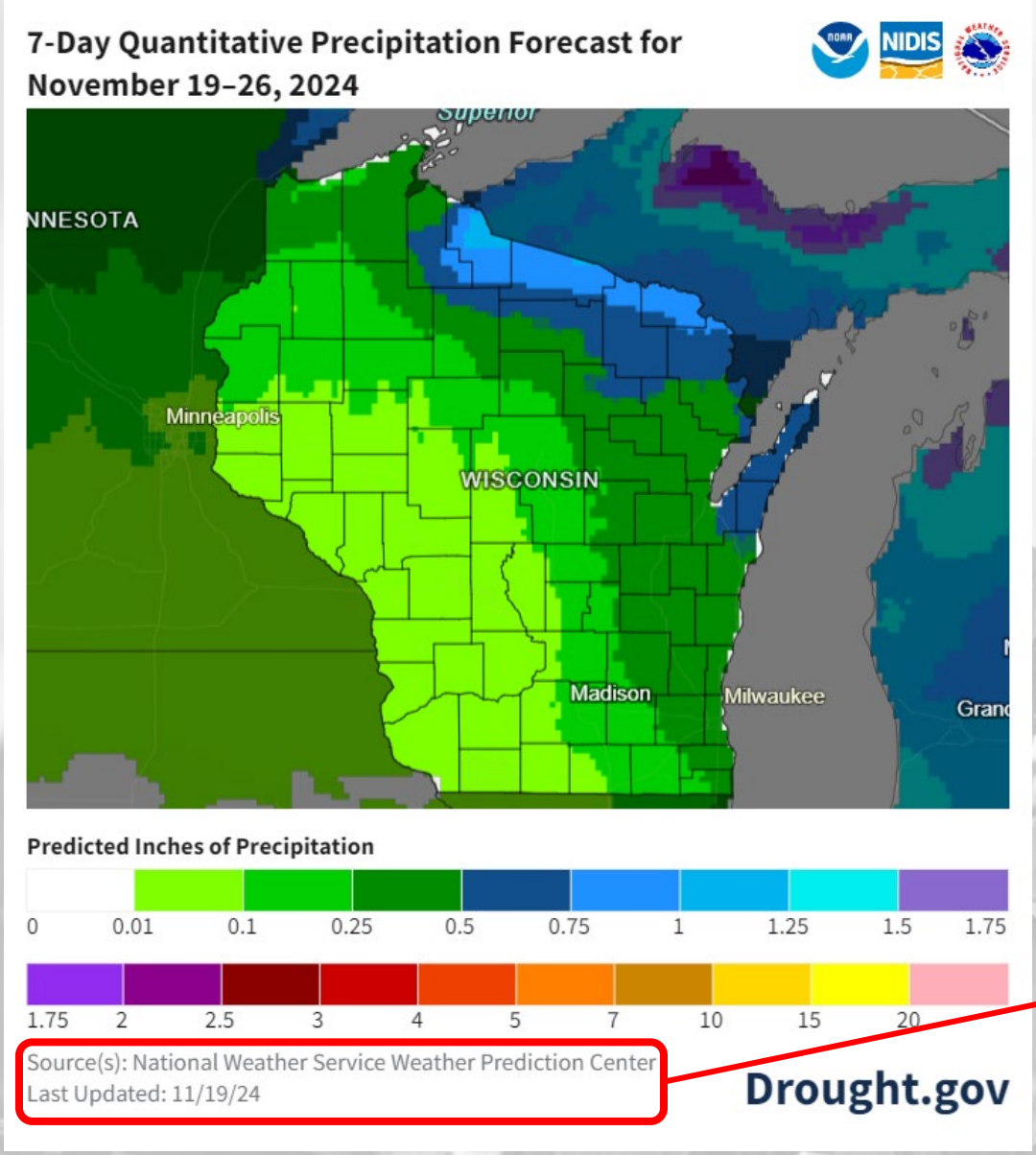
NASS Crop Progress – All Crops

From the November 18 Wisconsin Crop Progress & Condition Report:

- Corn for grain was **94 percent** harvested, remaining **well ahead** of last year and the 5-year average.
- Moisture content of corn harvested for grain was **16 percent**.
- Winter wheat crop is **94 percent** emerged, **2 days ahead** of last year.
- Winter wheat condition was rated **73 percent good to excellent**, down 1 percentage point from last week.

https://www.nass.usda.gov/

7 Day Precip Forecast

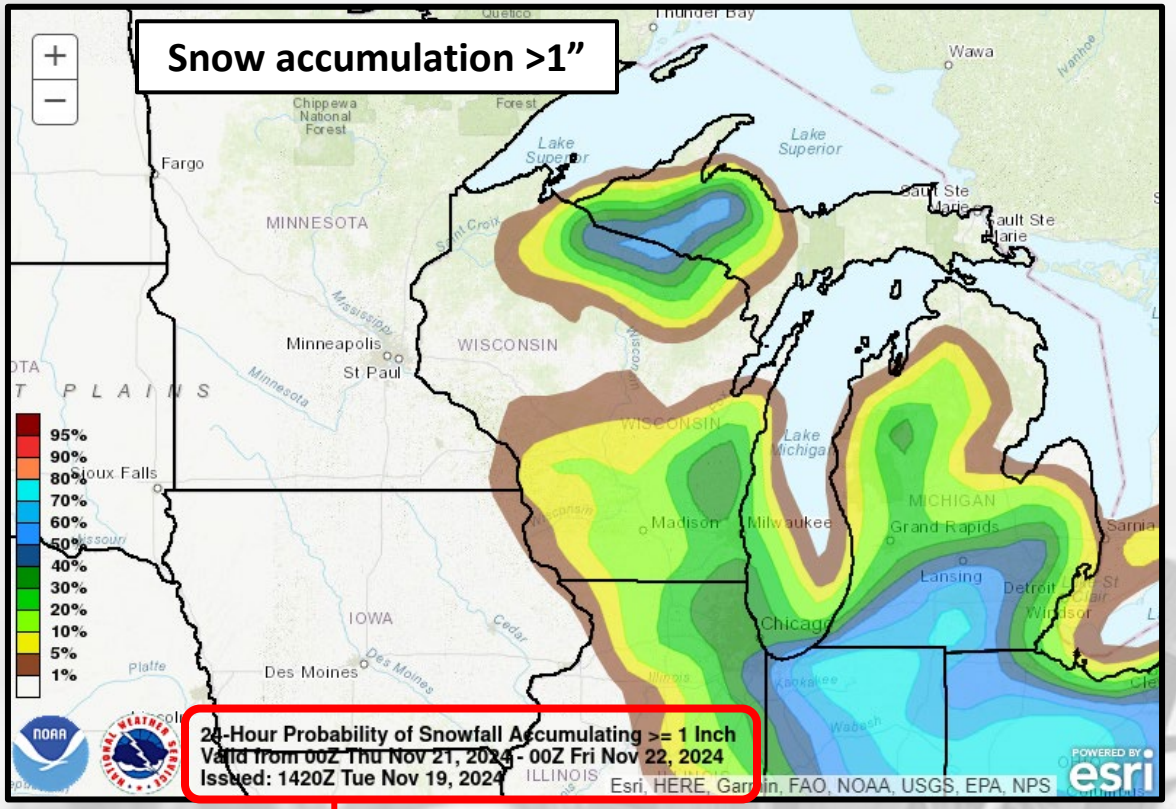


- **Statewide chances** for precip during the next 7 days.
  - Location: Best chances in the **N/NE**. Some precip could **fall as snow**.
  - Timing: Highest likelihood on **Wed night thru Thurs afternoon** (rain/snow). Lesser chances on other days.

Forecast for 11/19/24 thru 11/26/24
(Begins at 6am CST)

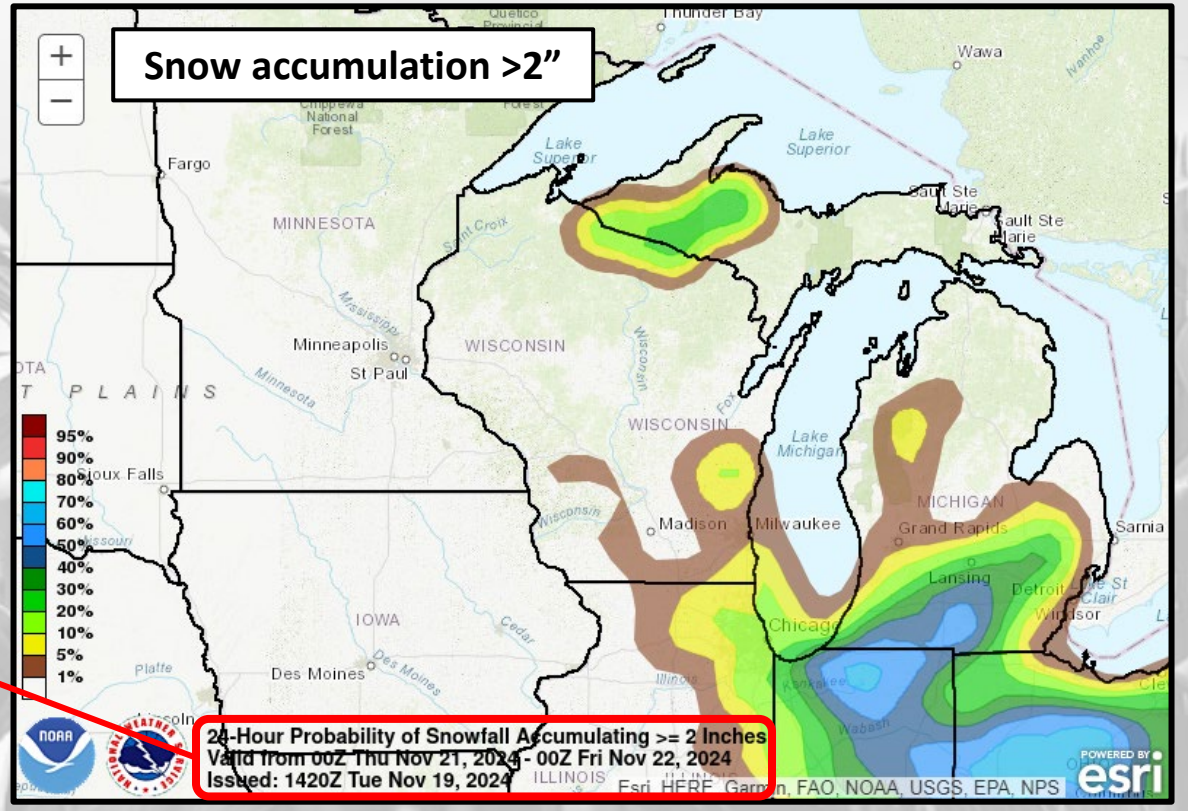
https://www.wpc.ncep.noaa.gov/qpf/p168i.gif
https://www.drought.gov/states/wisconsin

Snow Chances this Week



- Low pressure system will move from north-to-south over Michigan/Lake Michigan on **Wed night into Thurs**.
- Temperatures will be cold enough for precip to **fall as snow**.
- Most impactful in **eastern/northern WI**.

How to interpret maps: probability that 1 or 2 inches of snow will fall at given location over a 24-hour period.

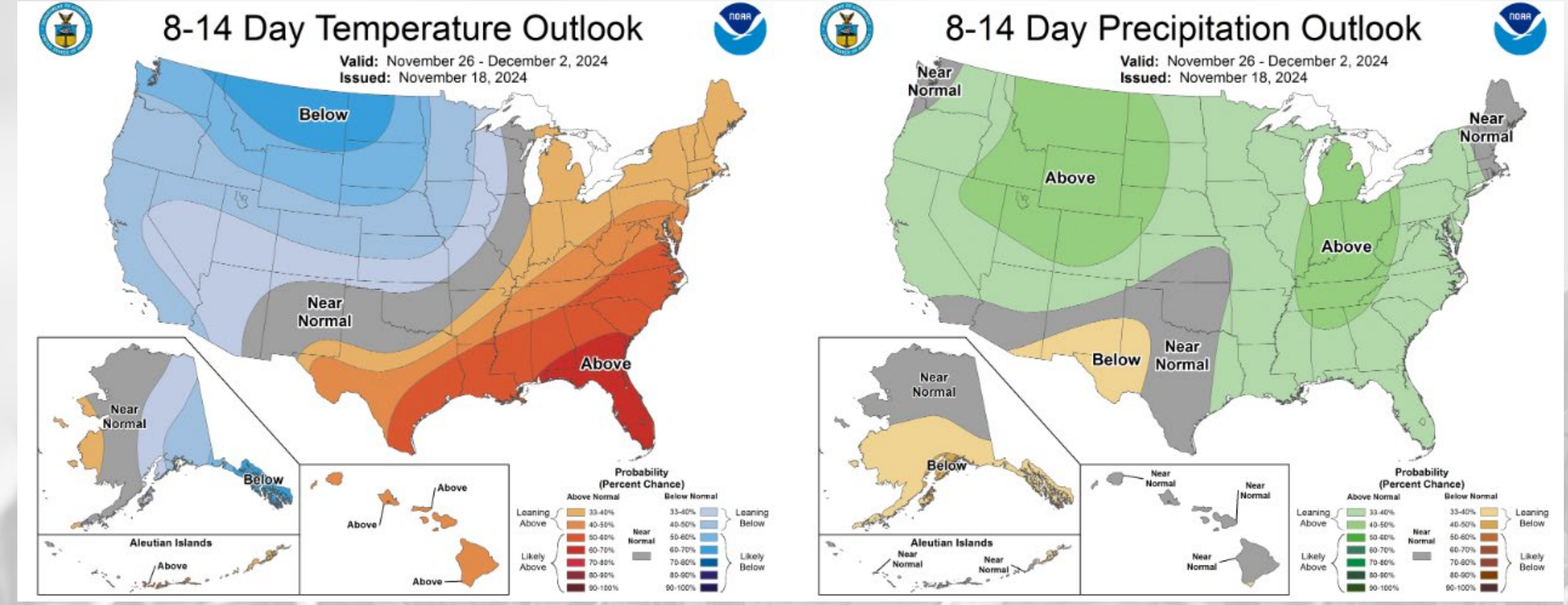


Snow Chances on Nov 20-21

Time Frame: 6pm-6pm CST

https://www.wpc.ncep.noaa.gov/qpf/p168i.gif

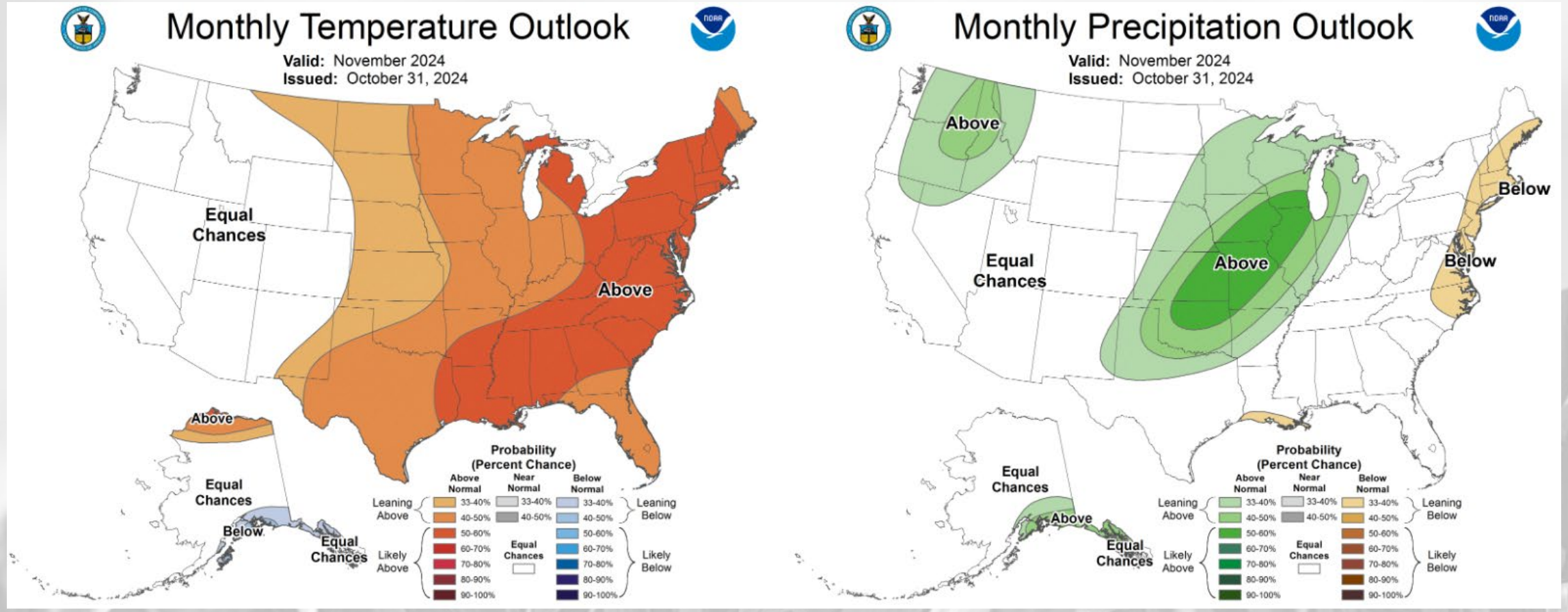
8-14 Day Temp & Precip Outlook



Transition to December: Temperatures leaning towards near-to-below normal, with precipitation yet again leaning towards above normal.

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

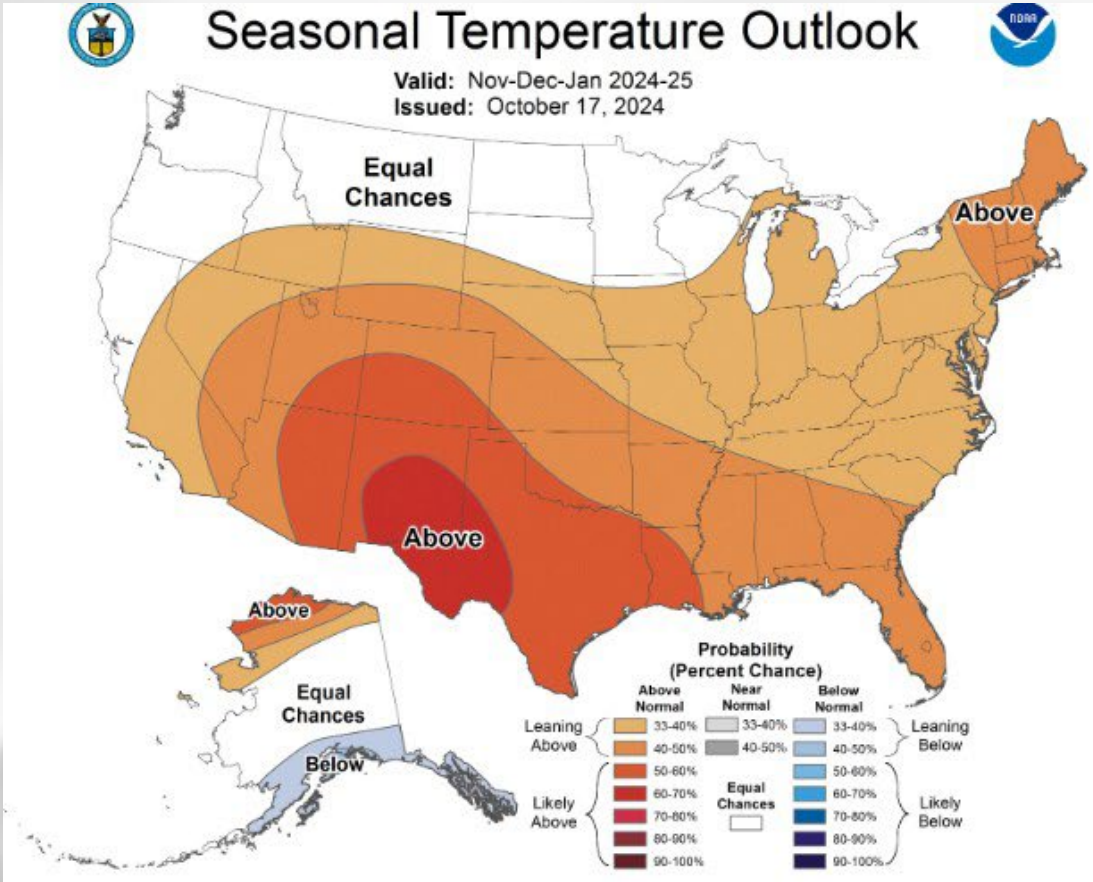
30 Day Temp & Precip Outlook

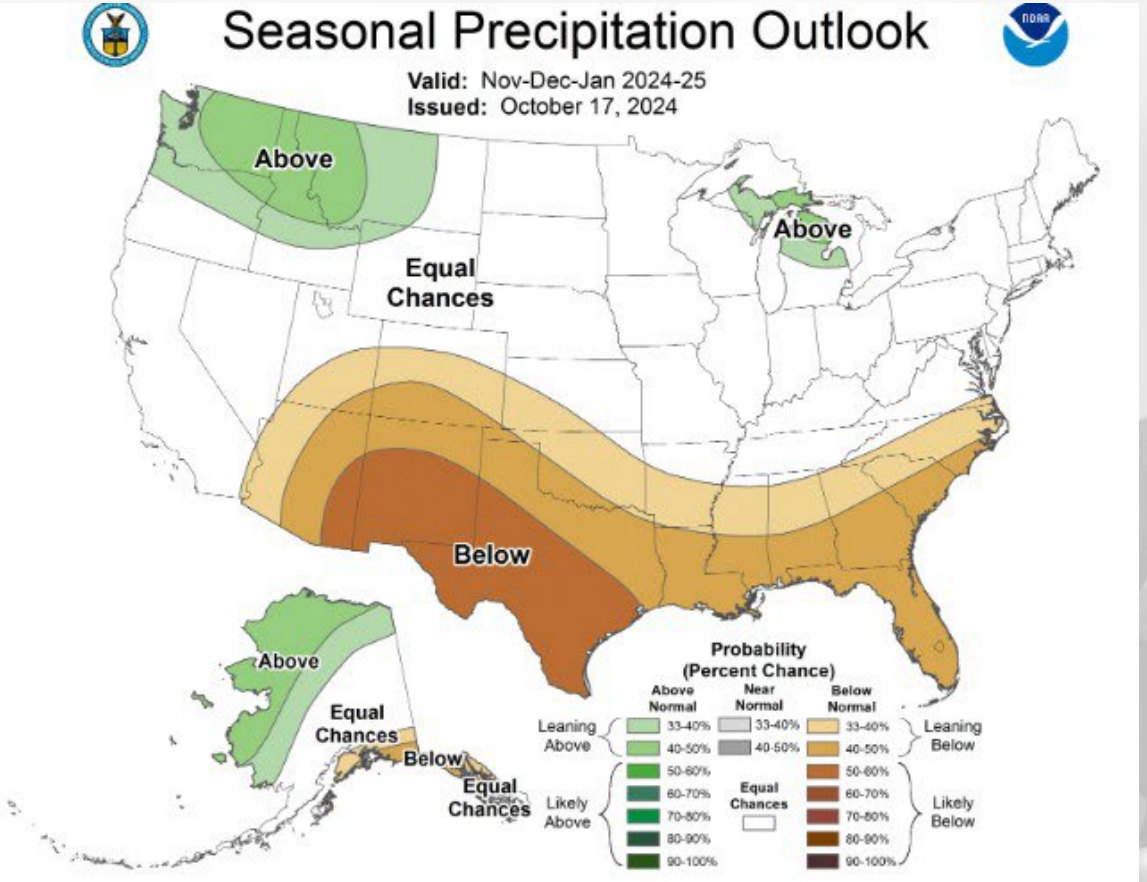


Month of November: Temperatures leaning towards above normal, with precipitation leaning towards above normal, especially in southern WI.

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

90 Day Temp & Precip Outlook





Late Fall into Winter: Temperatures showing equal chances in the north and leaning above normal in the south. Precipitation uncertainty with equal chances.

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

Take-Home Points

Current Conditions:

- The wet November that we have been experiencing continued last week with **1-2" of rain** falling across most of central and southern WI.
- Temperatures have continued to be **unseasonably warm**, but weekly maximums last week failed to top 60°F.

Impact:

- A large portion of WI is in **near-normal soil moisture percentiles** thanks to rainfall over the past 30 days.
  - However, SE WI was added to **D2 drought coverage** on the latest USDM map.
- Corn harvest, soybean harvest, and winter wheat emergence are **complete or very near completion** in WI.

Outlook:

- Best chance for precip exist in the **eastern and northern counties**, with the potential for **accumulating snow on Thursday**.
- A **drop in temperatures** is looking more likely as we wrap up November & transition to December, with a lean toward **above-normal precip** during the same period.
- Late fall into early 2025 is more **uncertain** for temperatures and precip.
  - **La Niña** is favored to be in place by September-November (according to the CPC); **less of a chance** for having a colder-than-normal winter.

Agronomic Considerations

Crop & Soil Management

- Soil is wet in many places, avoid working in wet fields when possible to reduce compaction issues.
- Look for areas where erosion may have occurred during the recent rains. Read more here.
- When making nutrient management decisions for next season, check out the new edition of Fast Facts from the Nutrient & Pest Management Team

Manure Applications

- Runoff risk is **low** throughout 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.
- Consider the relationship between manure and cover crops, learn more here.

Switch to Monthly Reports

- During the winter months, the Wisconsin Ag Climate Outlook (WACO) will be updated **once a month** as opposed to once a week.
- With corn and soybean harvest nearing completion in the state, the WACO will shift to monthly updates on climate and soil conditions as we approach the 2025 growing season.
- As planting season nears in the spring of 2025, we will once again begin updating the WACO slides weekly to provide farmers with up-to-date climate & environmental data as they prepare to begin field work.
- Please feel free to reach out to the team at anytime with questions or feedback on our slides. We are always looking for ways to improve WACO to better serve our farmers!

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

Contact Info


Photo Credit: USDA

Happy Thanksgiving!

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