

Wisconsin Ag Climate Outlook

Week of March 25, 2024

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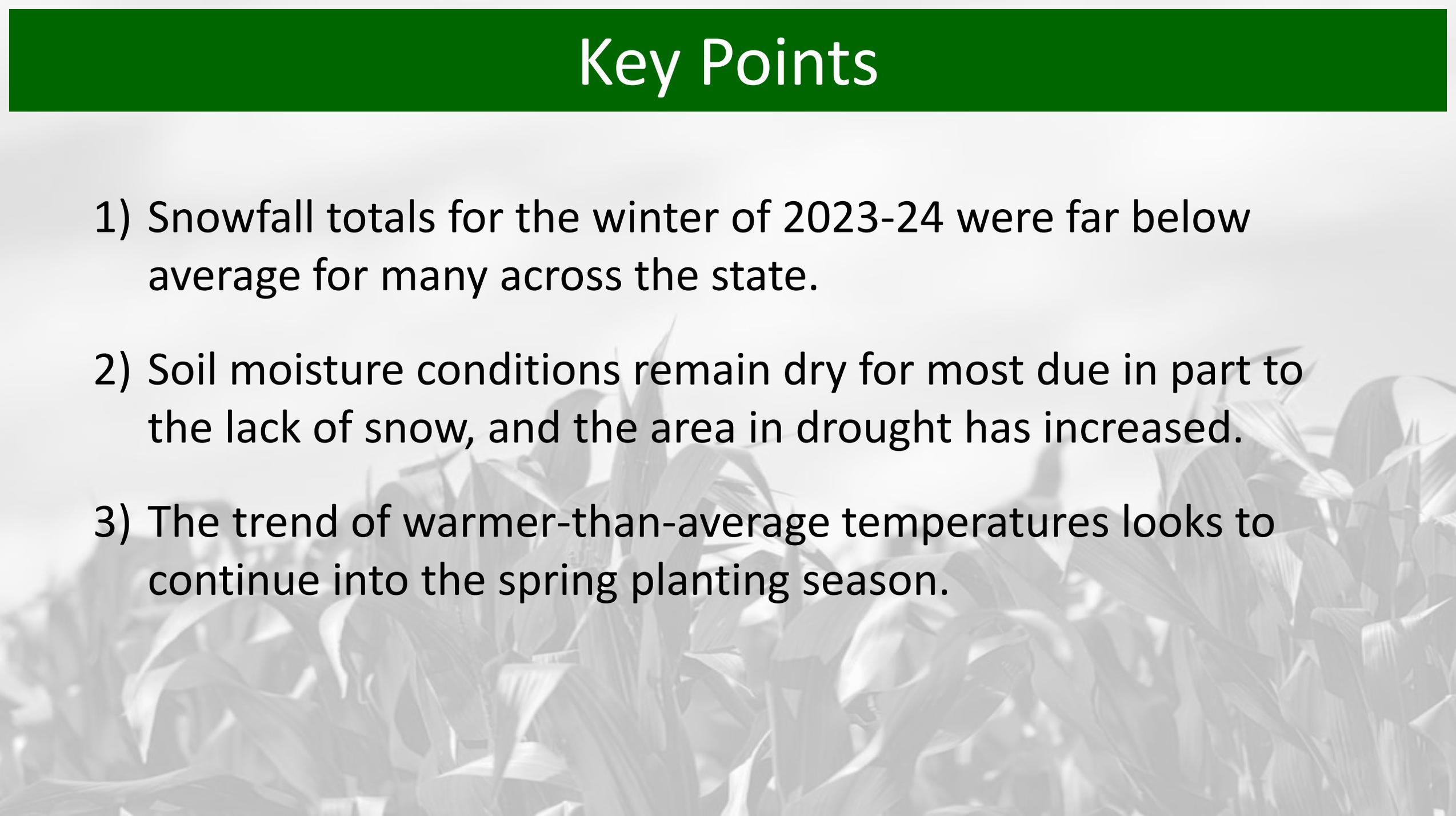
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Key Points

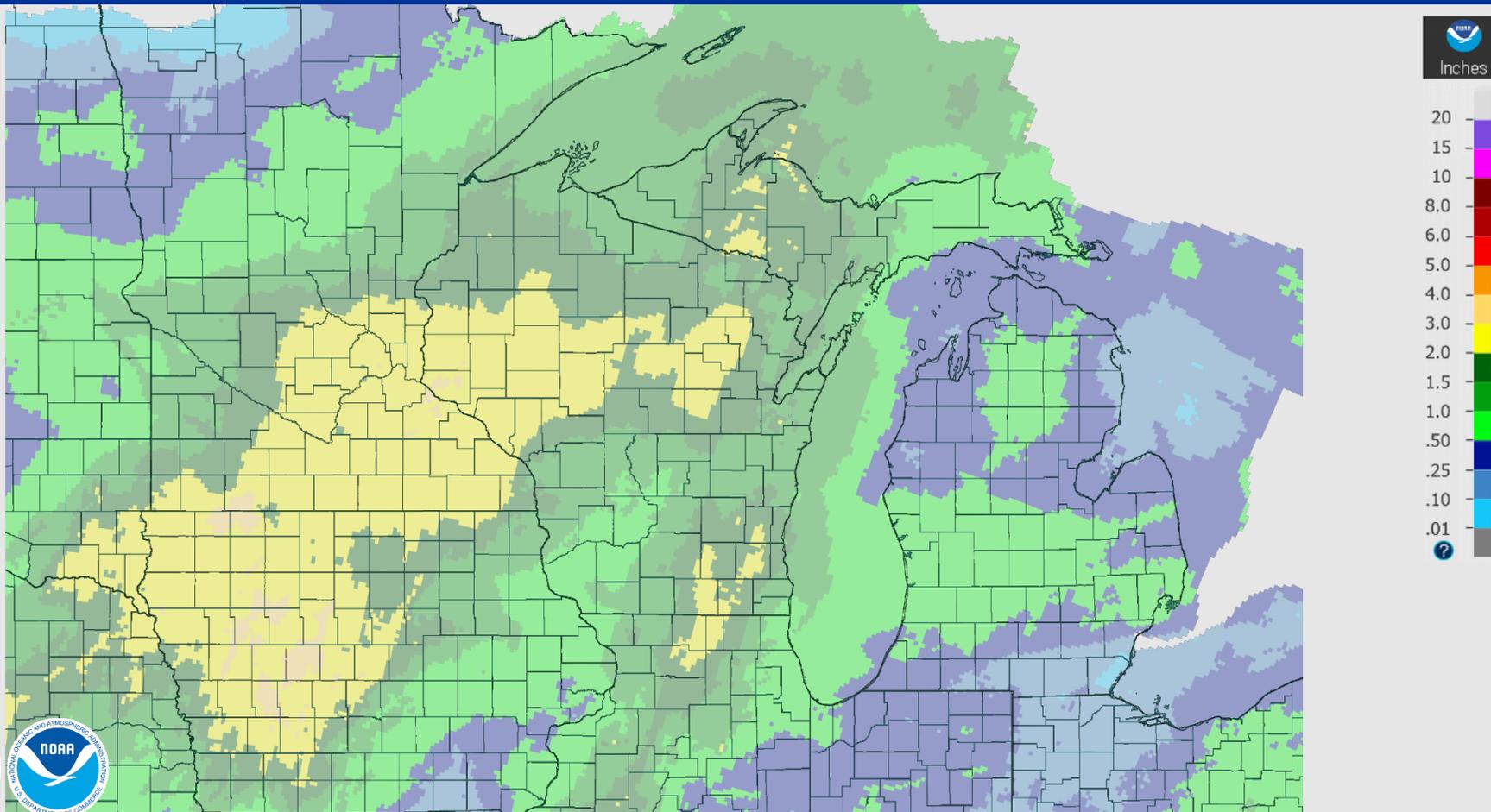
- 1) Snowfall totals for the winter of 2023-24 were far below average for many across the state.
 - 2) Soil moisture conditions remain dry for most due in part to the lack of snow, and the area in drought has increased.
 - 3) The trend of warmer-than-average temperatures looks to continue into the spring planting season.
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7 Day Precip

March 26, 2024 7-Day Observed Precipitation

Created on: March 26, 2024 - 14:33 UTC

Valid on: March 26, 2024 12:00 UTC



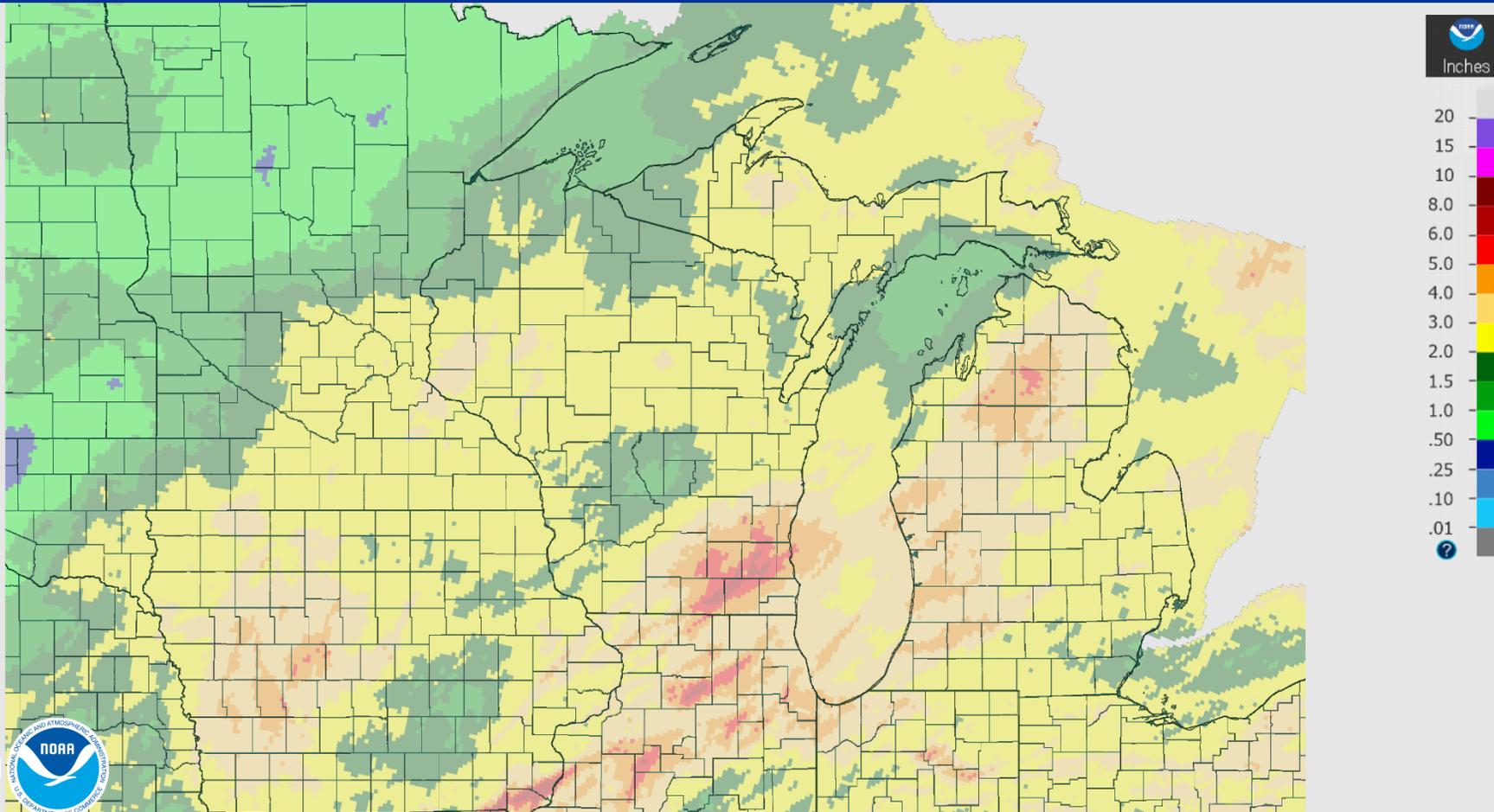
- Most of the state saw **at least 1"** of precip this past week.
- Highest amounts in the NW/NC → **2-3"**, with **>3"** in parts of Pierce County.

30 Day Precip

March 26, 2024 30-Day Observed Precipitation

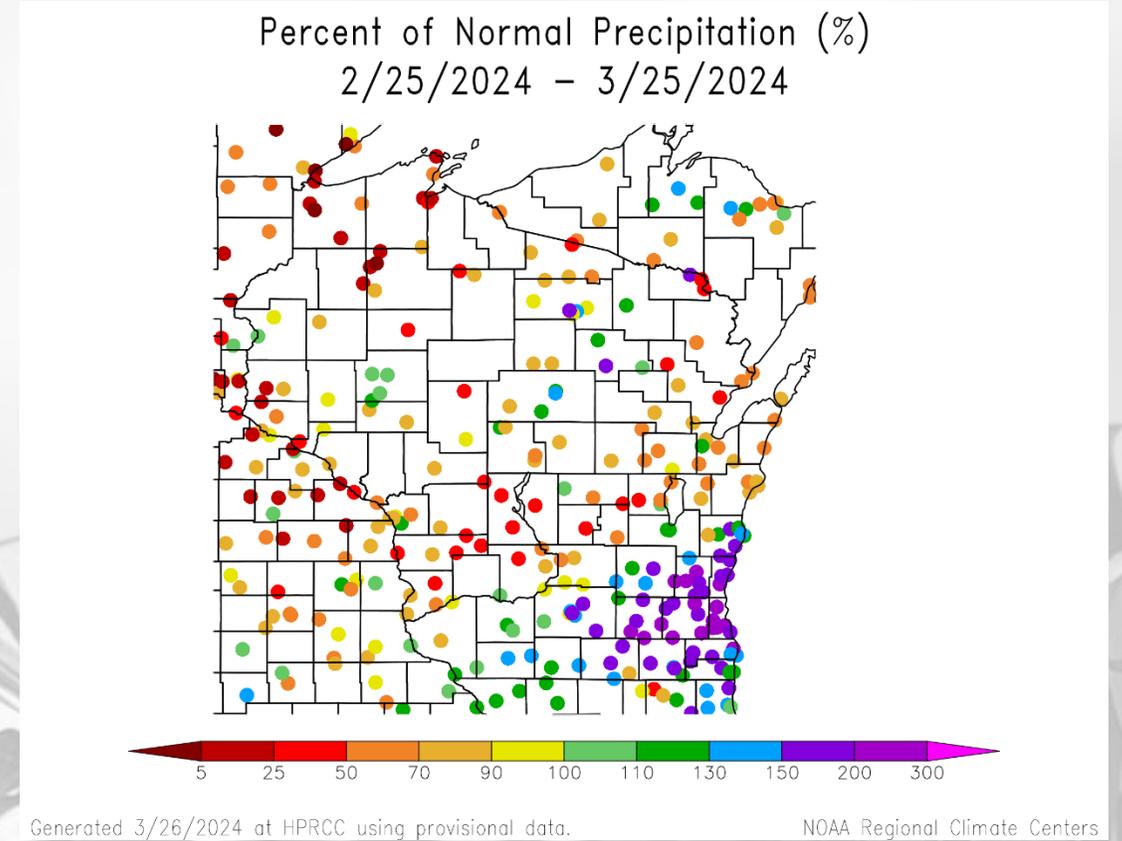
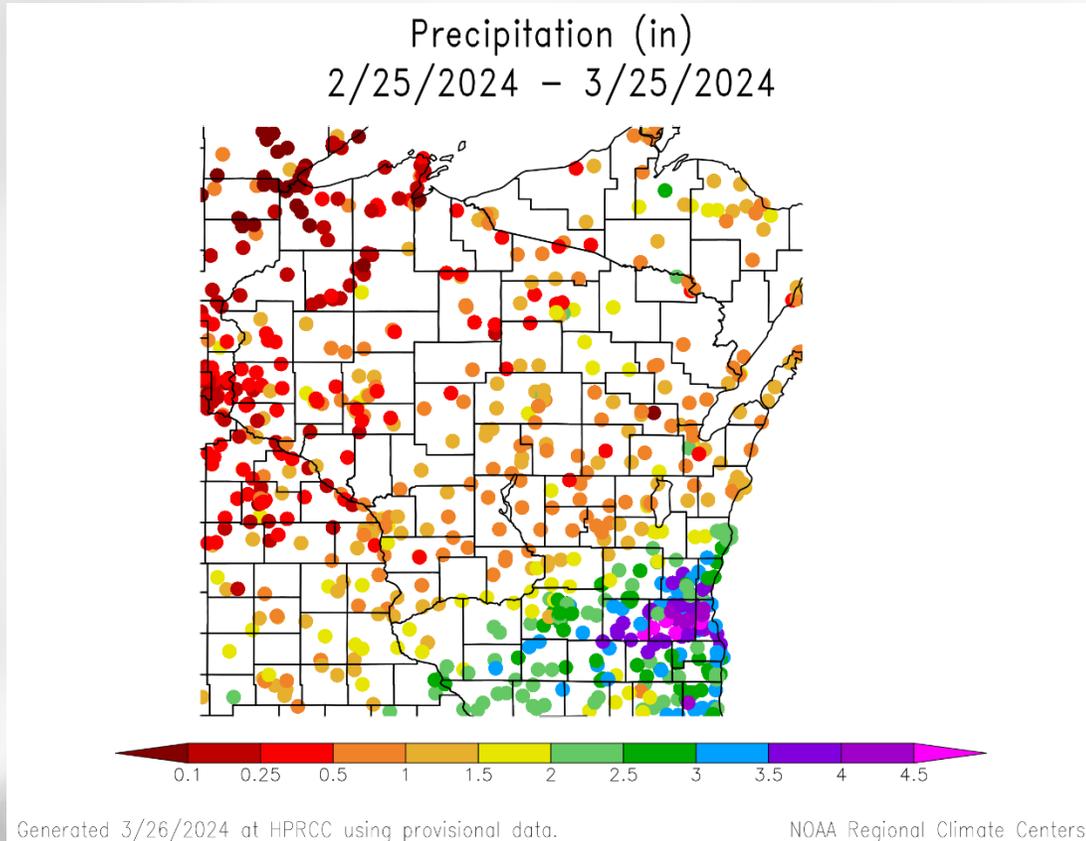
Created on: March 26, 2024 - 14:45 UTC

Valid on: March 26, 2024 12:00 UTC



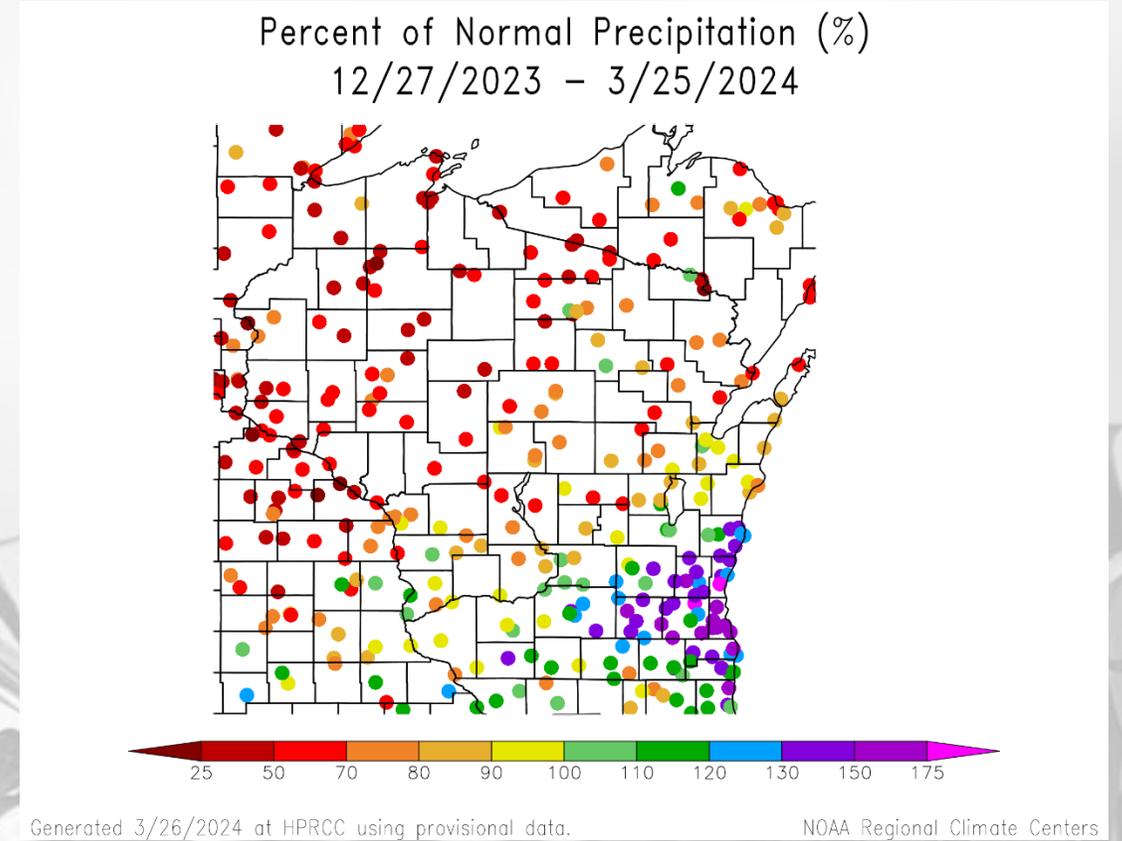
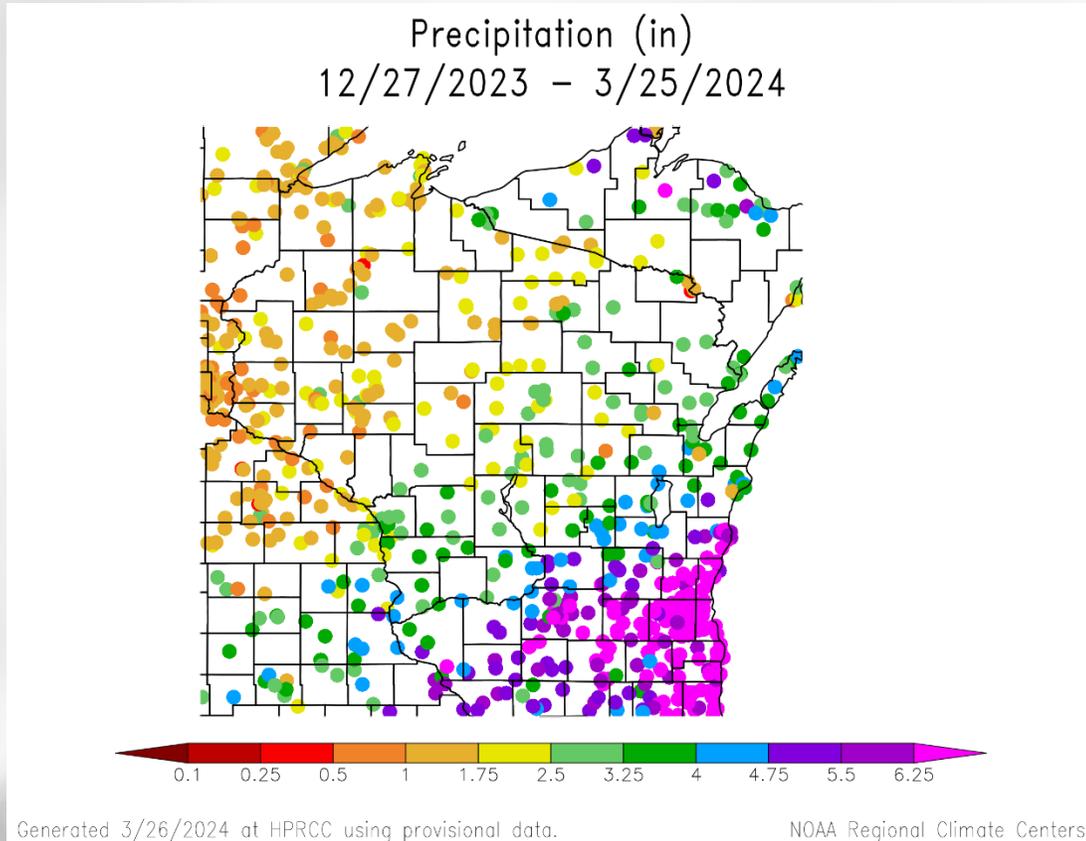
- Most of the state saw **at least 2"** of precip this past month.
- Highest amounts in the SE → **5+"** in locations between Milwaukee & Madison.

30 Day Precip Total/% Avg.



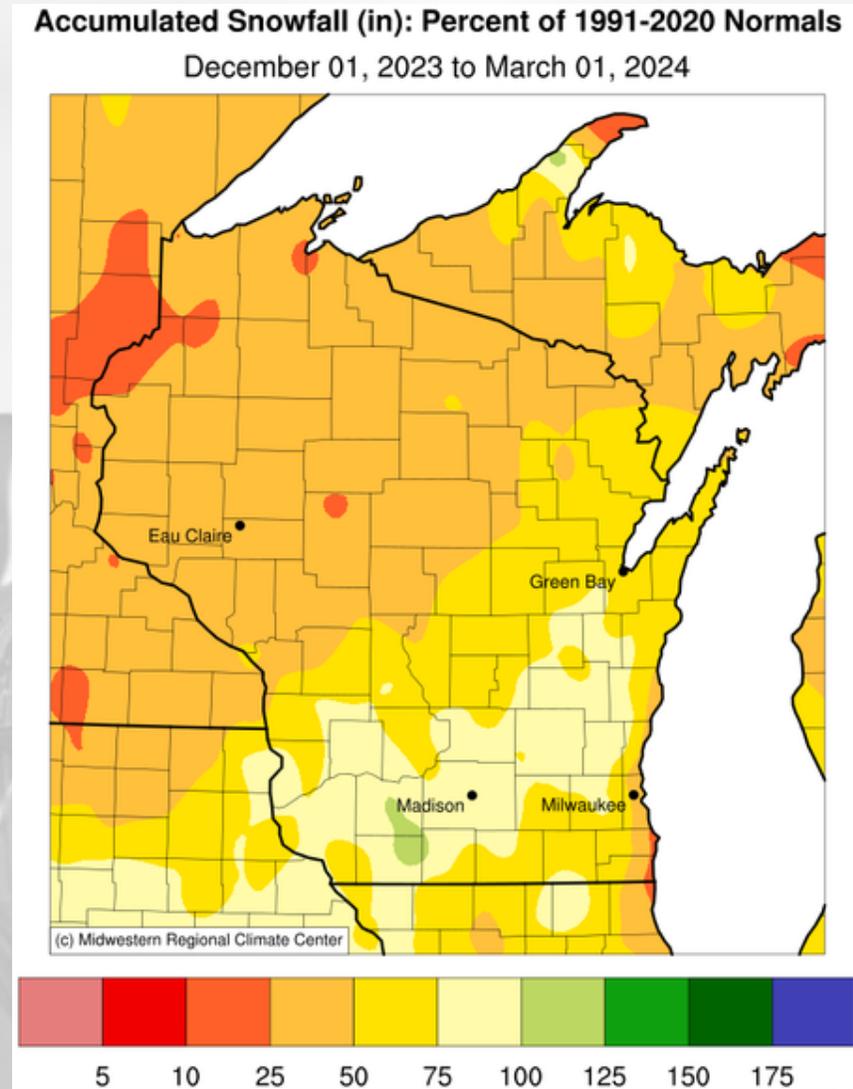
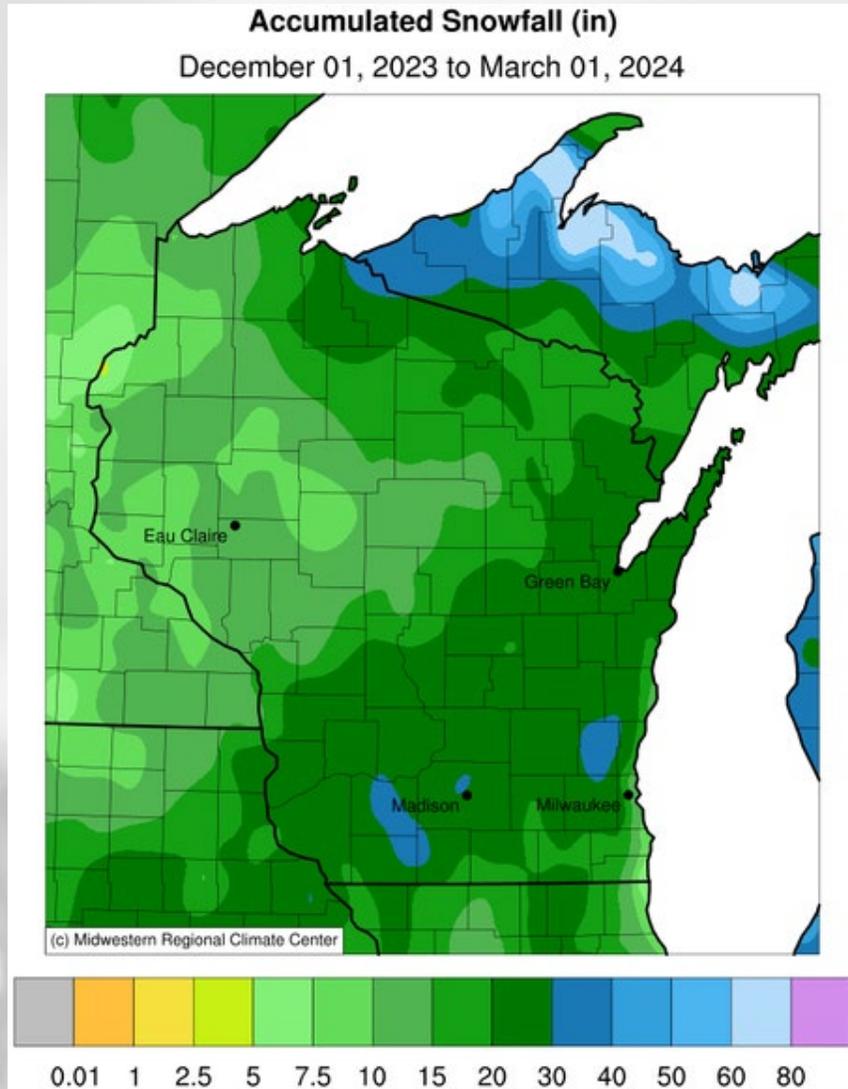
- Highest precip totals in the SE (>3") and lowest in the NW (<1").
- 150+% of long-term average precip in the SE.
- Mixed bag in the rest of the state → many locations in the C and NW saw <50% of average.

90 Day Precip Total/% Avg.



- Highest precip totals in the SE (>6") and lowest in the NW (<2").
- 150+% of long-term average precip in the SE.
- <70% of average was common across stations in the N and W.

Winter Snowfall Recap



- Seasonal snowfall totals (12/1 to 3/1) ranged from **10-30"** for most in WI
- **30-40"** in pockets in the S, E, and N.
- **<10"** for some in the NW.
- Snowfall was **below normal** for almost the entire state → **<50%** of seasonal average in the NW and NC.

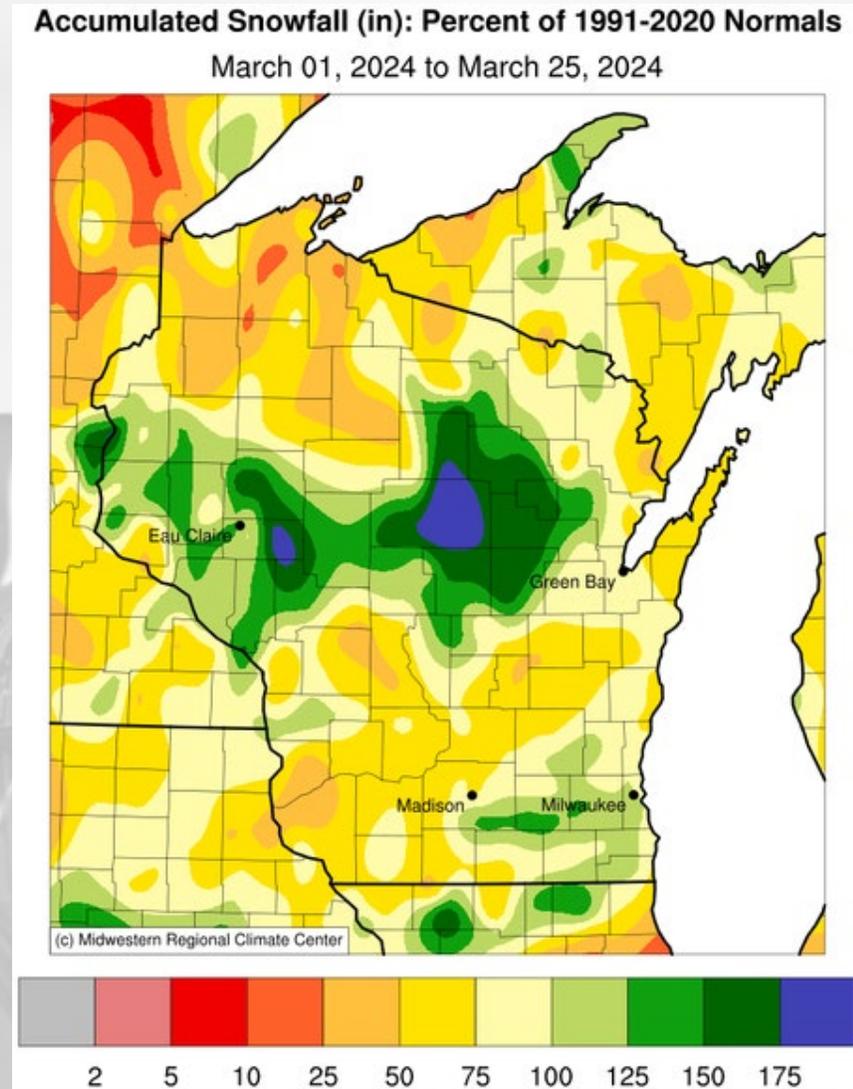
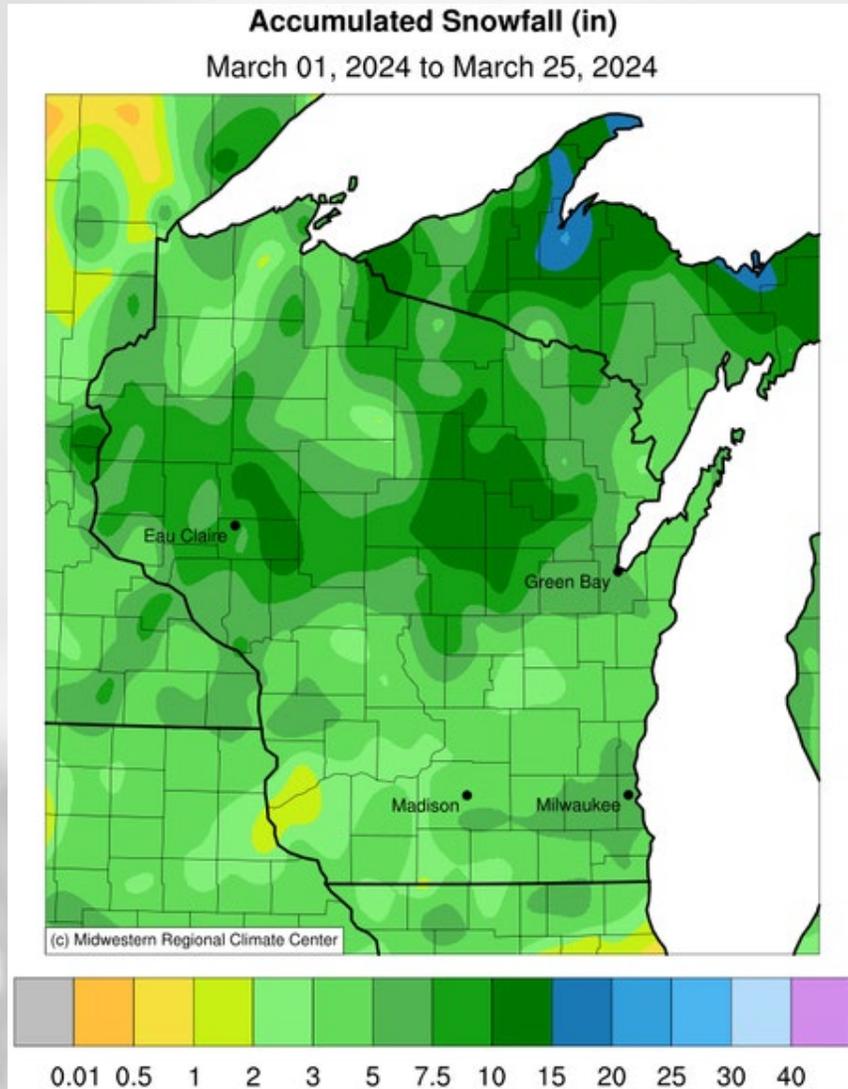
Station-Level Snowfall Totals

Station	City	Winter 2023-24 Total ¹	Rank (Lowest)	Low Record (Year)	First Year of Record
KDLH	Duluth, MN	15.7"	1 st	<i>New Record</i>	1948
KMSP	Twin Cities, MN	11.1"	6 th	5.2" (1943-44)	1939
KEAU	Eau Claire	13.3"	9 th	7.9" (1957-58)	1950
KAUW	Wausau	15.1"	4 th	15.1" (1943-44)	1942
KGRB	Green Bay	30.5"	66 th	9.0" (1943-44)	1887
KLSE	La Crosse	15.6"	18 th	5.8" (1943-44)	1939
KMKE	Milwaukee	19.5"	10 th	0.0" (1939-40) ²	1939
KMSN	Madison	30.2"	47 th	3.1" (1960-61)	1940
KDBQ	Dubuque, IA	33.7"	50 th	8.3" (2001-02)	1951

<https://scacis.rcc-acis.org/>

(1) Period is from Dec. 1st to March 1st the following year.
 (2) This year was missing a large amount of daily data

March Snowfall Recap



- March snowfall helped make up some of the earlier-season deficit in the NW and NC
- **5-10"** was common in the NW and NC, in some cases **>150%** of average.

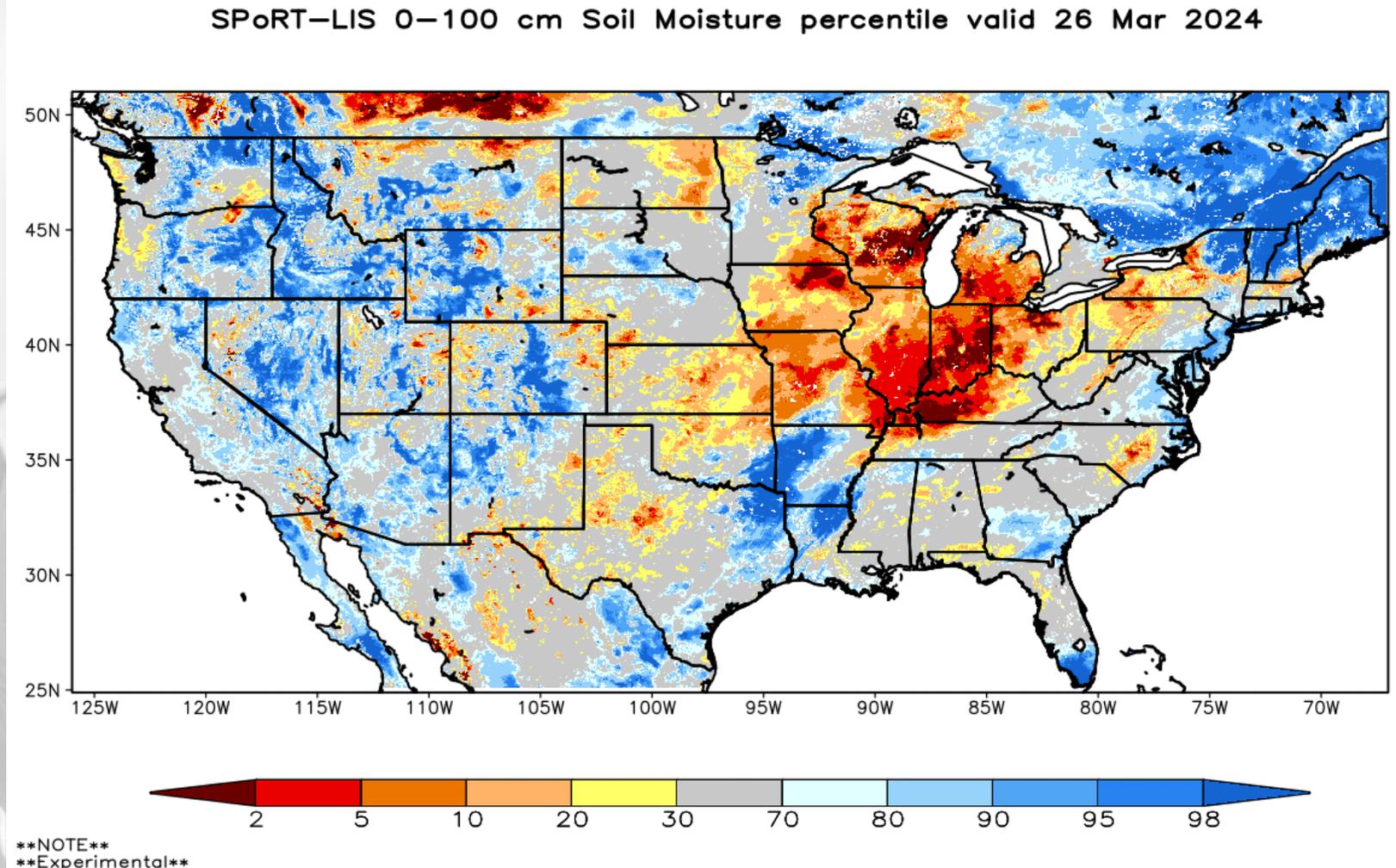
Soil Moisture Models

- Most of the state remains drier than normal.
- Driest soil moisture conditions in central part of the state; less dry to the north and south.

Model Notes:

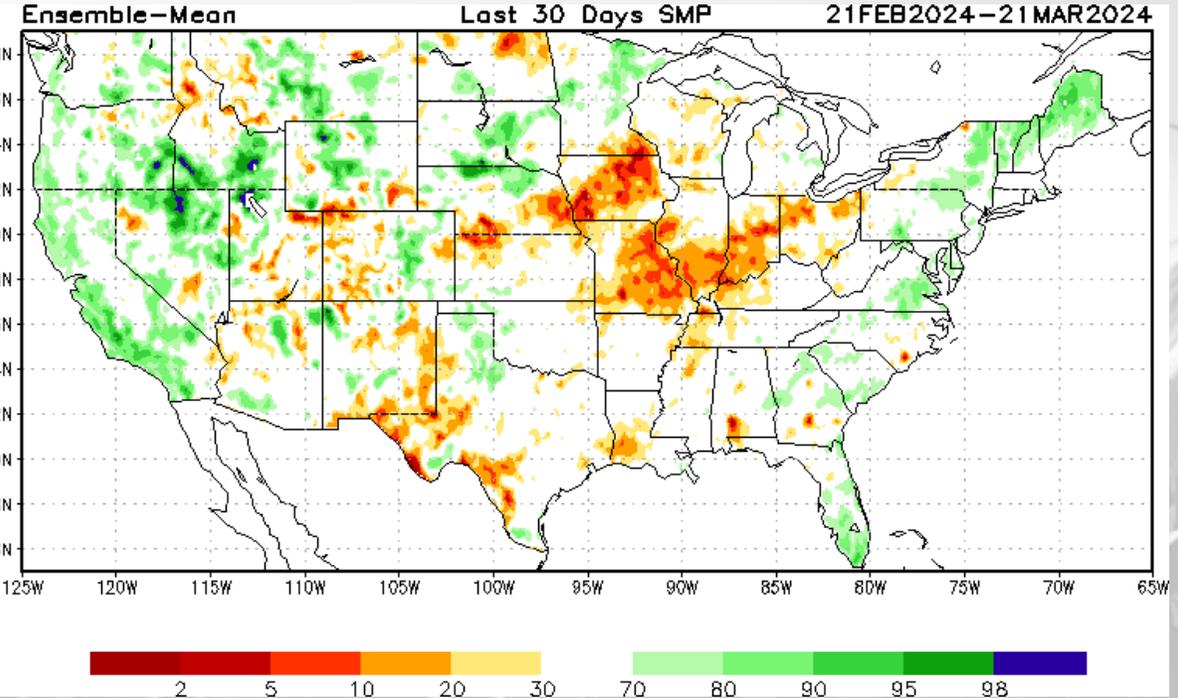
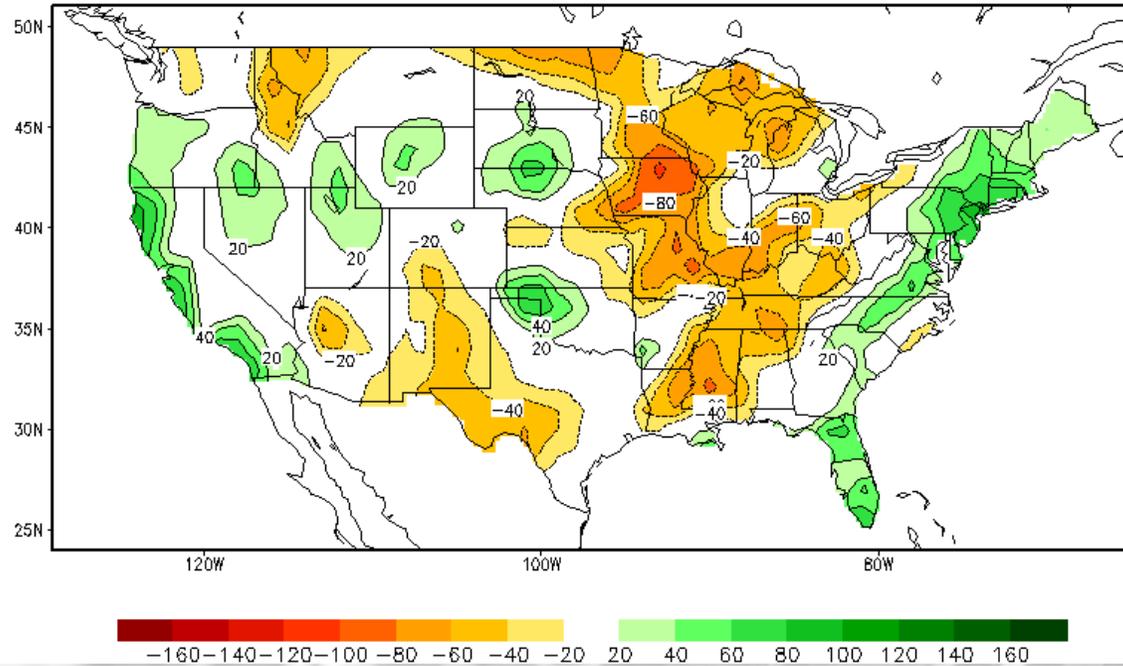
Red areas would be top 5 driest in 100 years. Dark red = top 2 driest.

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



Soil Moisture Models

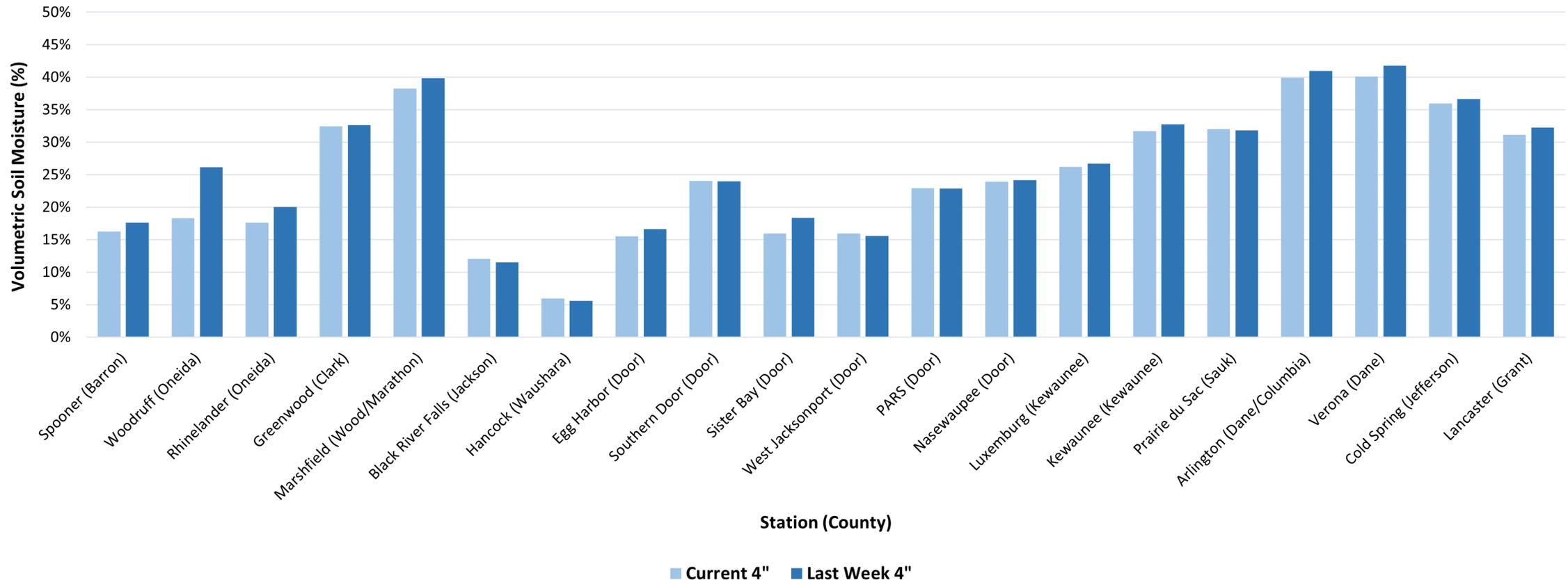
Calculated Soil Moisture Anomaly (mm)
FEB, 2024



https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml
https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml#

Soil Moisture - Wisconet

Wisconet 4" Soil Moisture



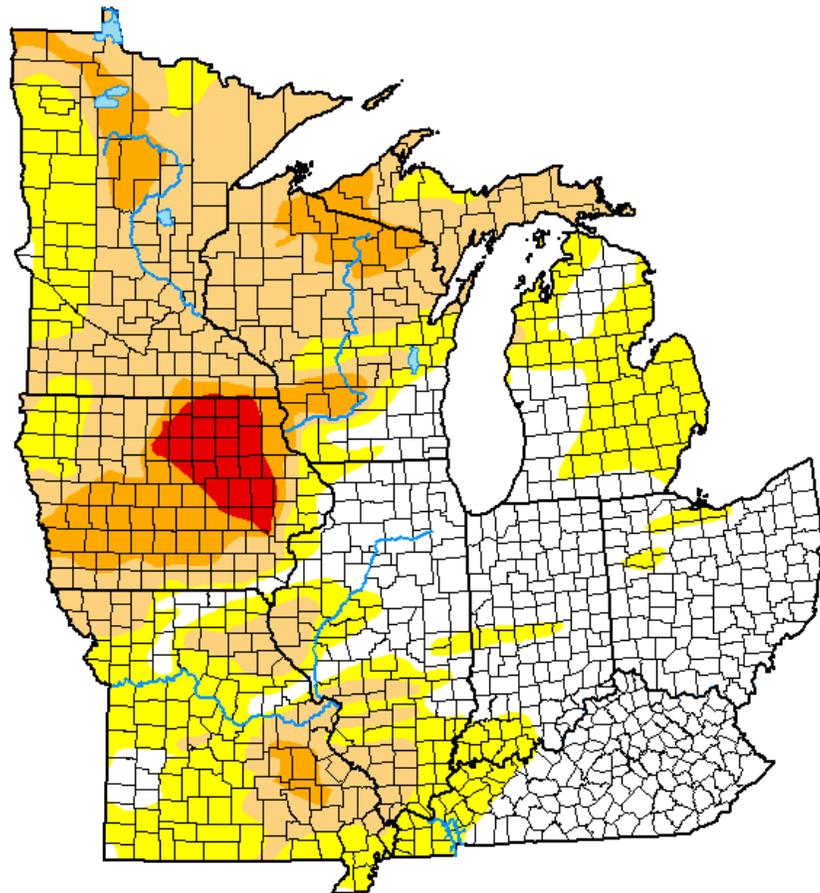
Current: 7-day average ending on 3/25

Last Week: 7-day average ending on 3/18

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

US Drought Monitor

U.S. Drought Monitor Midwest



March 19, 2024

(Released Thursday, Mar. 21, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	33.06	66.94	39.97	11.45	2.28	0.00
Last Week <small>03-12-2024</small>	28.03	71.97	42.19	11.49	2.32	0.00
3 Months Ago <small>12-19-2023</small>	19.20	80.80	49.10	22.83	4.22	0.00
Start of Calendar Year <small>01-02-2024</small>	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year <small>09-26-2023</small>	16.82	83.18	54.98	23.81	6.21	0.13
One Year Ago <small>03-21-2023</small>	83.47	16.53	6.76	1.78	0.17	0.06

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:

Brad Rippey
U.S. Department of Agriculture



droughtmonitor.unl.edu

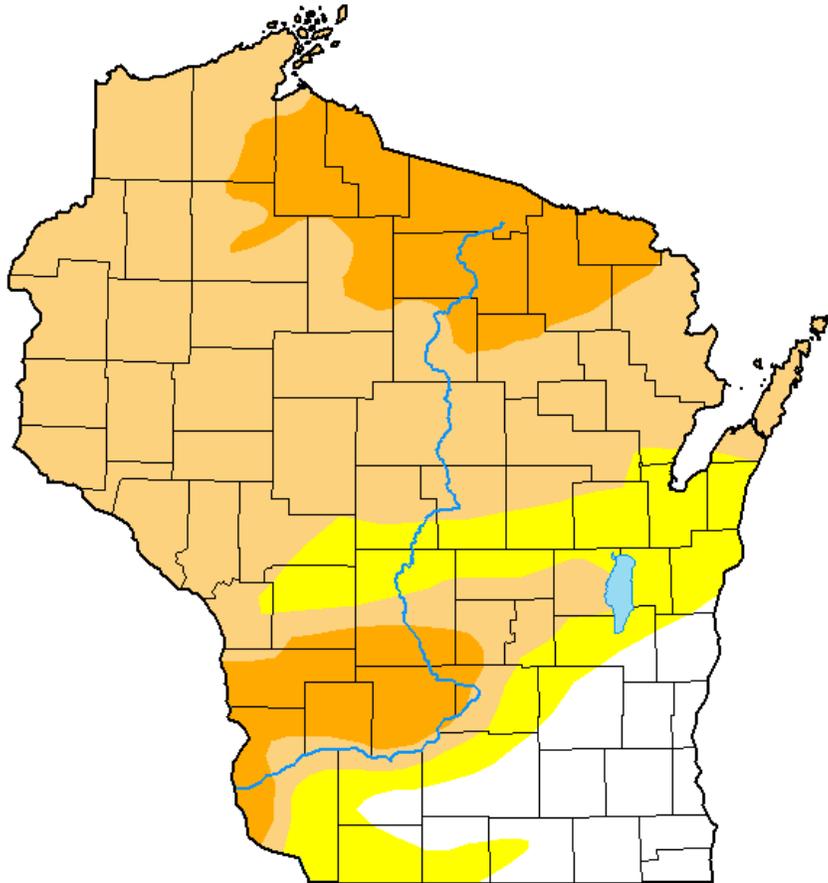
- Compared to 3 months ago:
 - Reductions in all drought category areas.
 - Area in D1 or higher drought down by nearly **10%**.
 - Area in D3-D4 drought down from **4.2% to 2.3%**.
- Most of the areas in drought are west of the Mississippi River.
- Majority of D3 is eastern IA.

Note: D0 is not considered drought.

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

US Drought Monitor

U.S. Drought Monitor Wisconsin



March 19, 2024

(Released Thursday, Mar. 21, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.83	88.17	72.32	19.02	0.00	0.00
Last Week 03-12-2024	11.51	88.49	72.37	18.45	0.00	0.00
3 Months Ago 12-19-2023	33.10	66.90	37.43	16.80	0.26	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 03-21-2023	100.00	0.00	0.00	0.00	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:

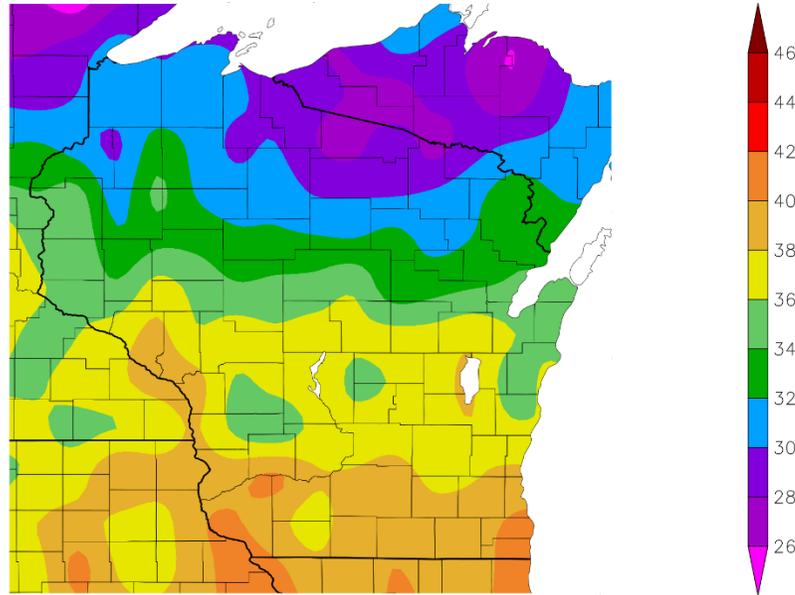
- **D1-D4** – 72.3% ↑
- **D2-D4** – 19.0% ↑
- **D3-D4** – 0.0% --
- **D4** – 0.0% --

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

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

30 Day Temperatures

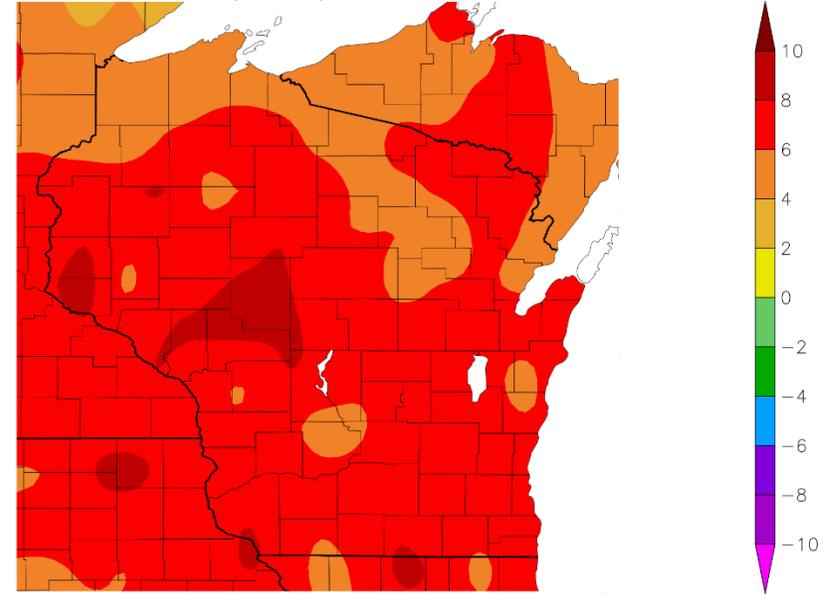
Temperature (F)
2/25/2024 – 3/25/2024



Generated 3/26/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
2/25/2024 – 3/25/2024

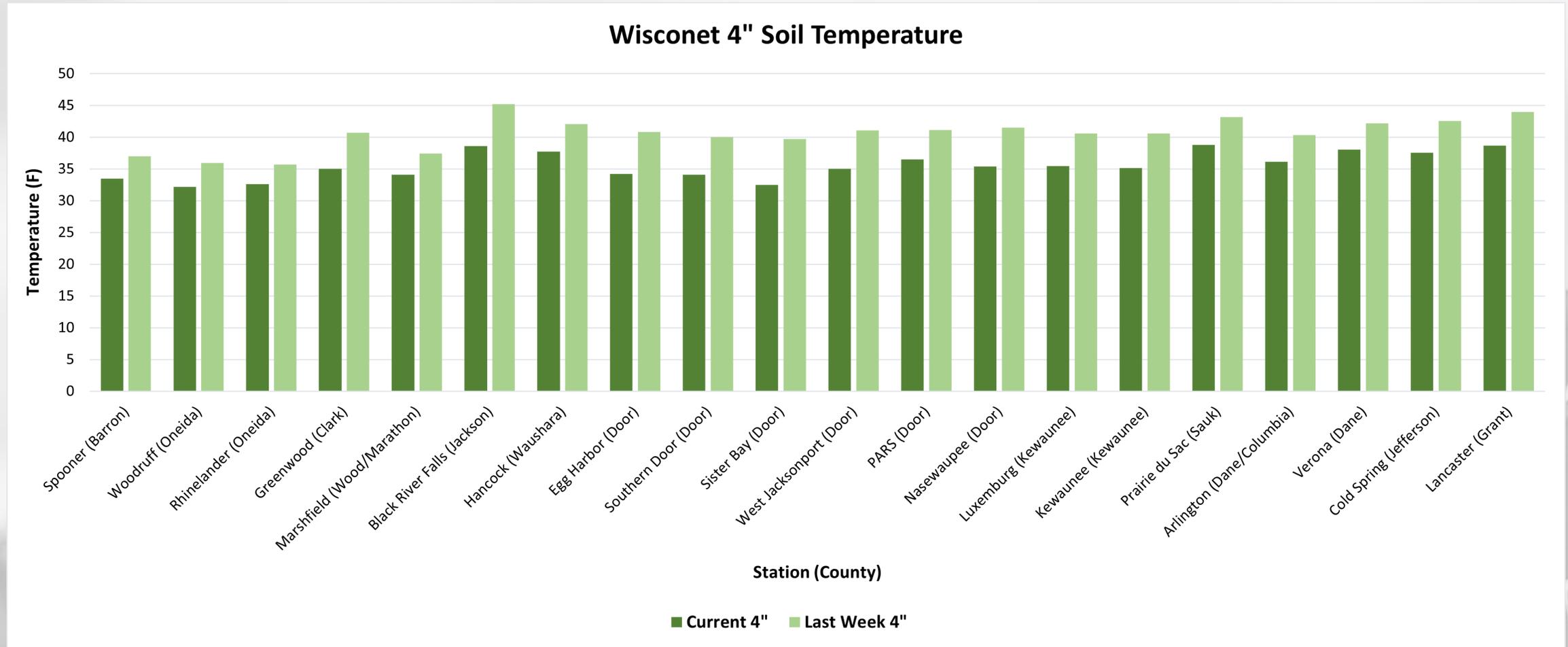


Generated 3/26/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Temperatures over the last 30 days ranged from **38-40°F** in the S to **26-30°F** in the far N.
- The entire state was above average in temperature.
 - **6°F** or higher for most (areas in red).

Soil Temperature - Wisconet



Current: 7-day average ending on 3/25

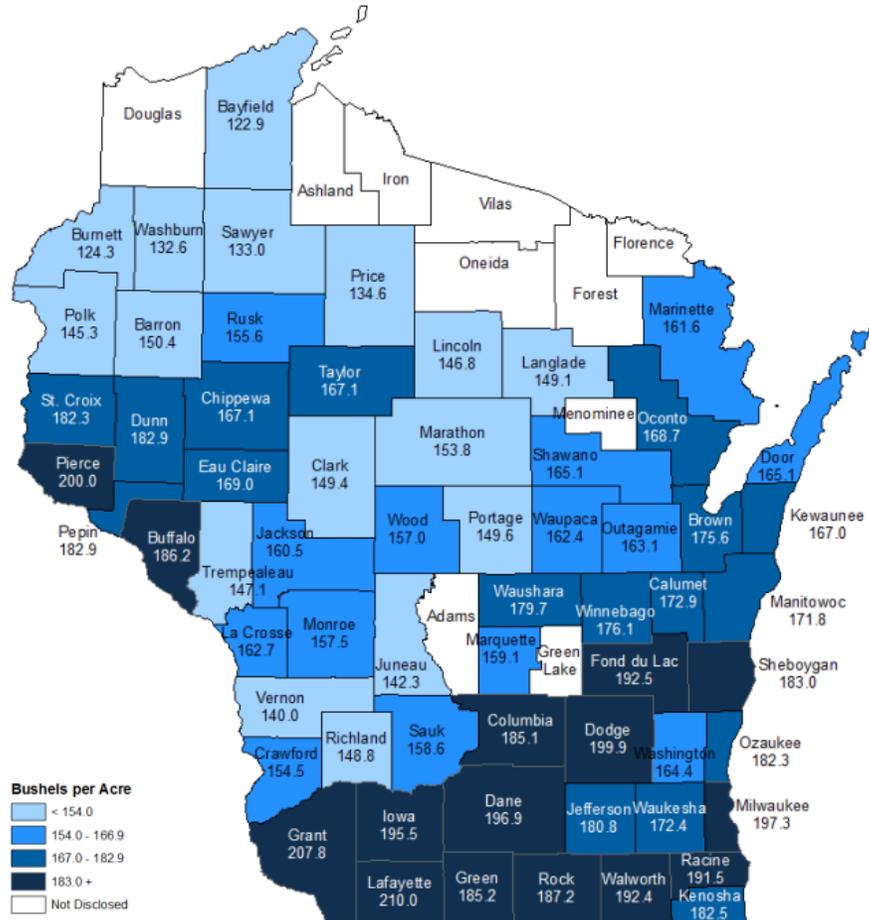
Last Week: 7-day average ending on 3/18

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

NASS 2023 Yield Estimates

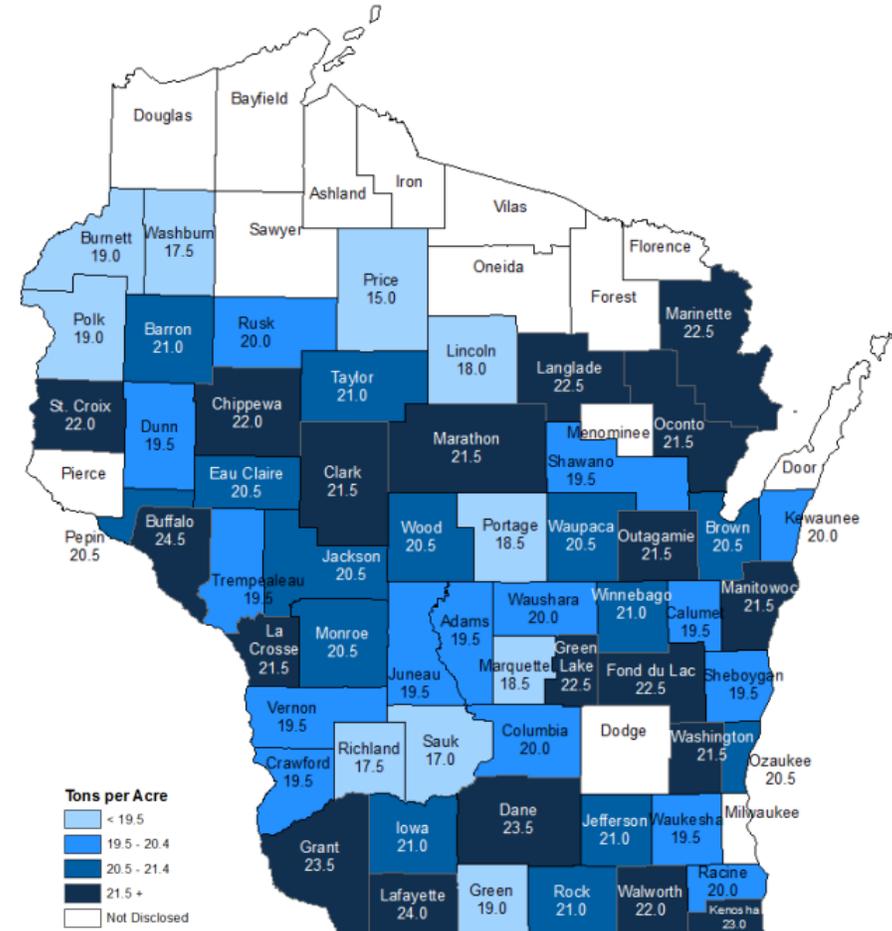
Corn for Grain Yield – Wisconsin: 2023

State Average: 176.0 Bushels per Acre



Corn for Silage Yield – Wisconsin: 2023

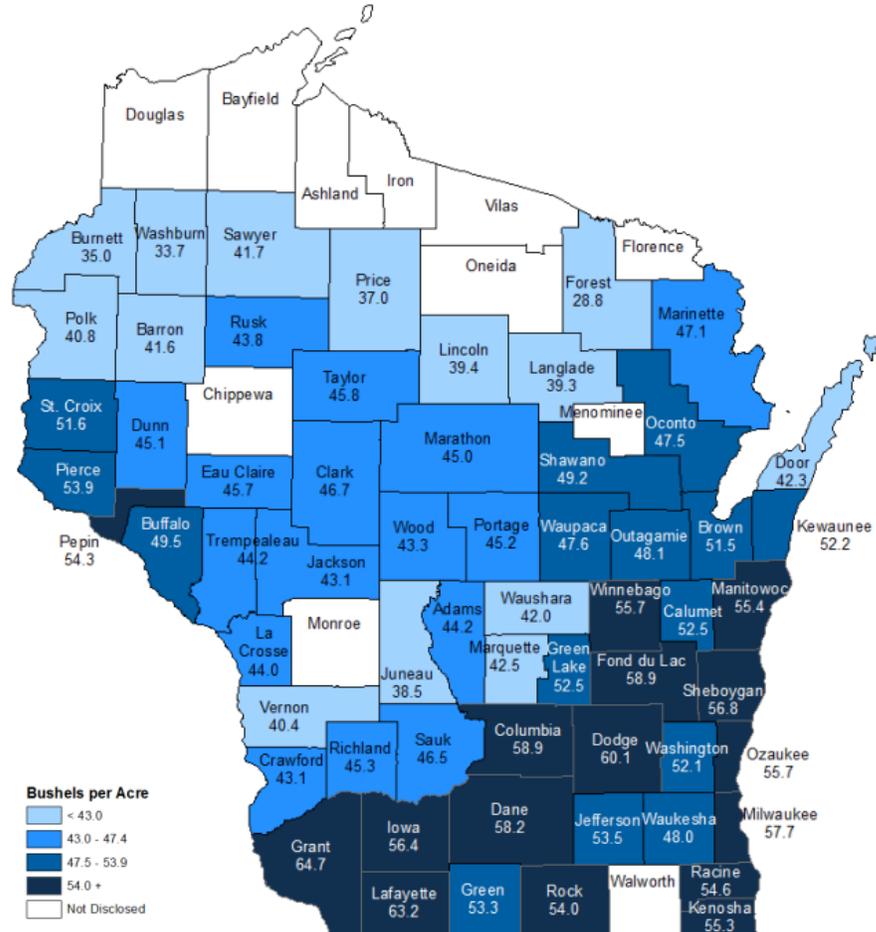
State Average: 21.0 Tons per Acre



NASS 2023 Yield Estimates

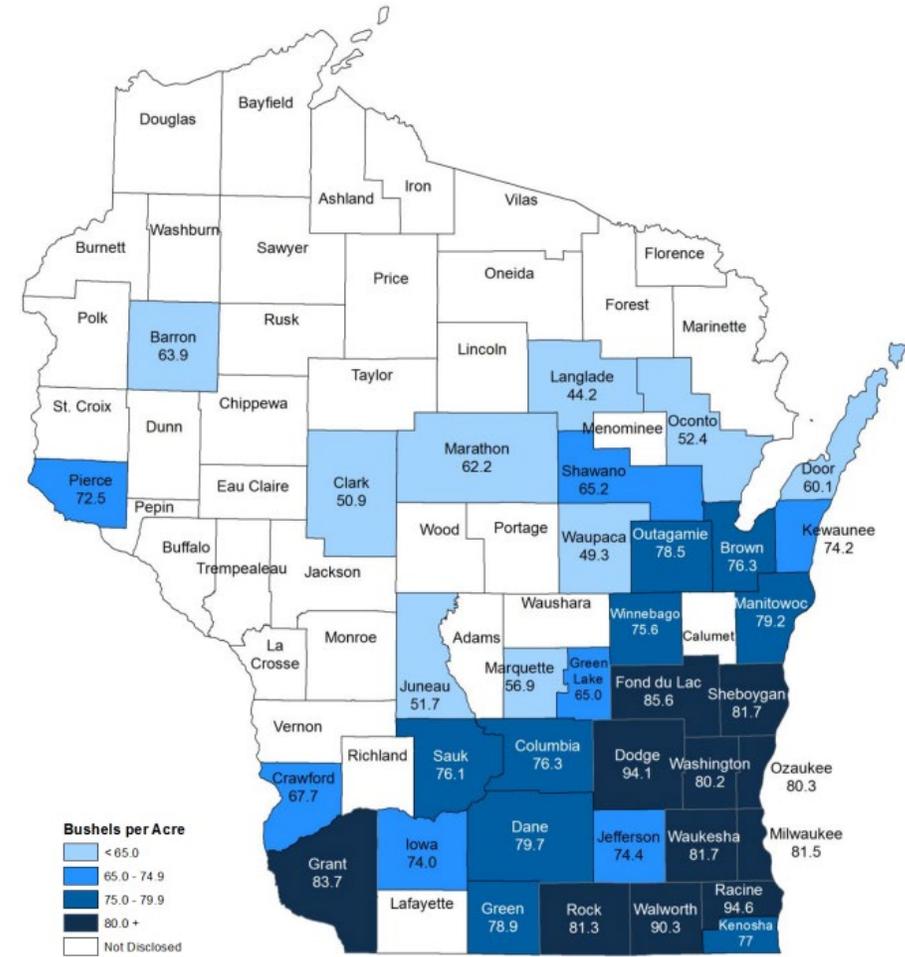
Soybean Yield – Wisconsin: 2023

State Average: 51.0 Bushels per Acre

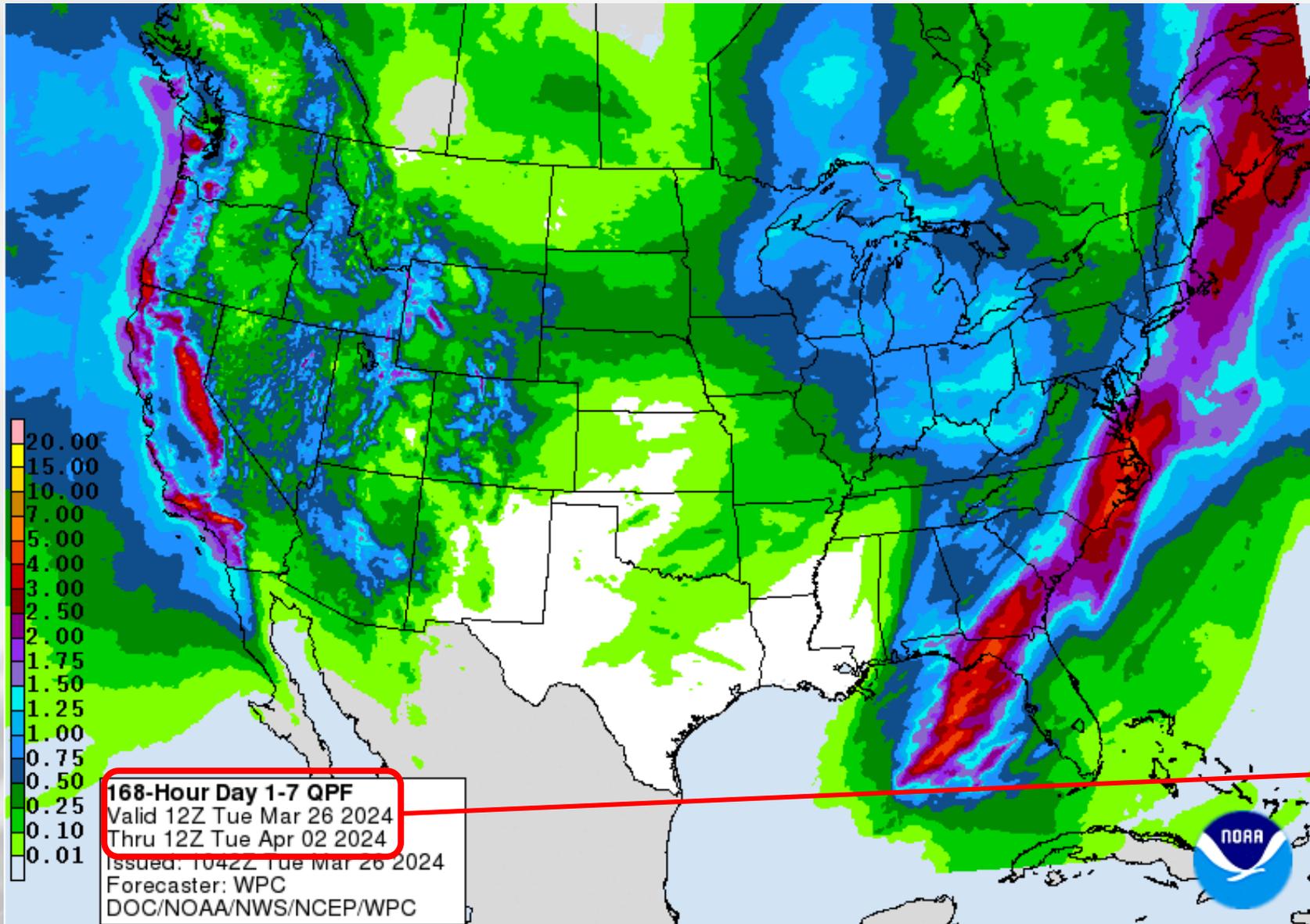


Winter Wheat Yield – Wisconsin: 2023

State Average Yield: 76.0 Bushels per Acre



7 Day Precip Forecast

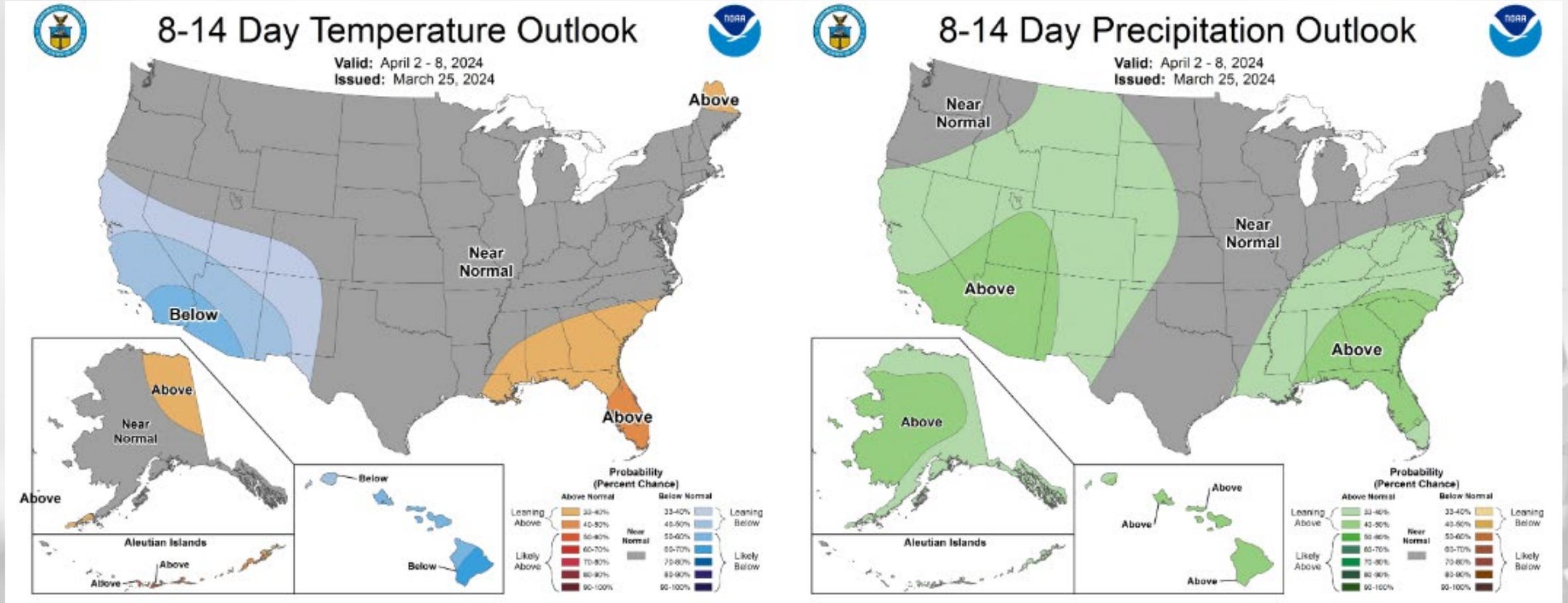


- Chances of multiple rounds of precip over the next week → **0.5" or more.**
- Precip could fall as snow or rain depending on temperatures.

Forecast for 3/26/24 thru 4/1/24

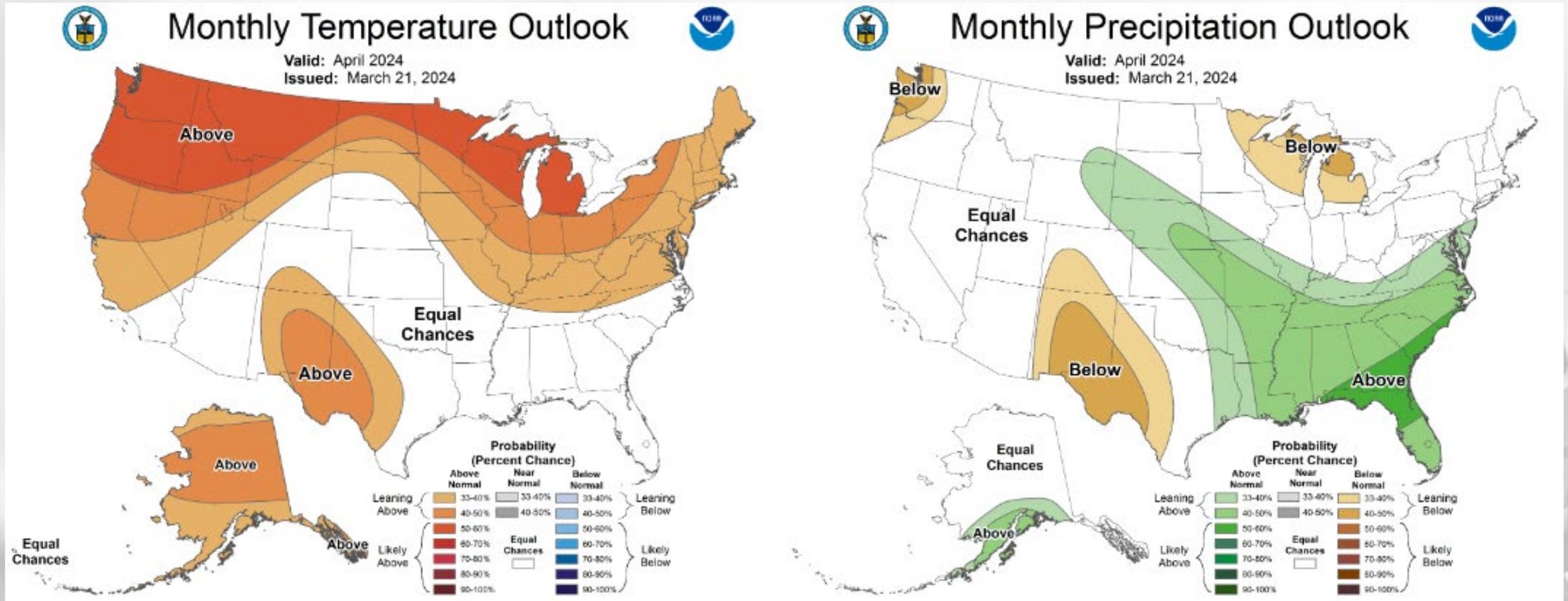
<https://www.wpc.ncep.noaa.gov/qpf/p168i.gif>

8-14 Day Temp & Precip Outlook



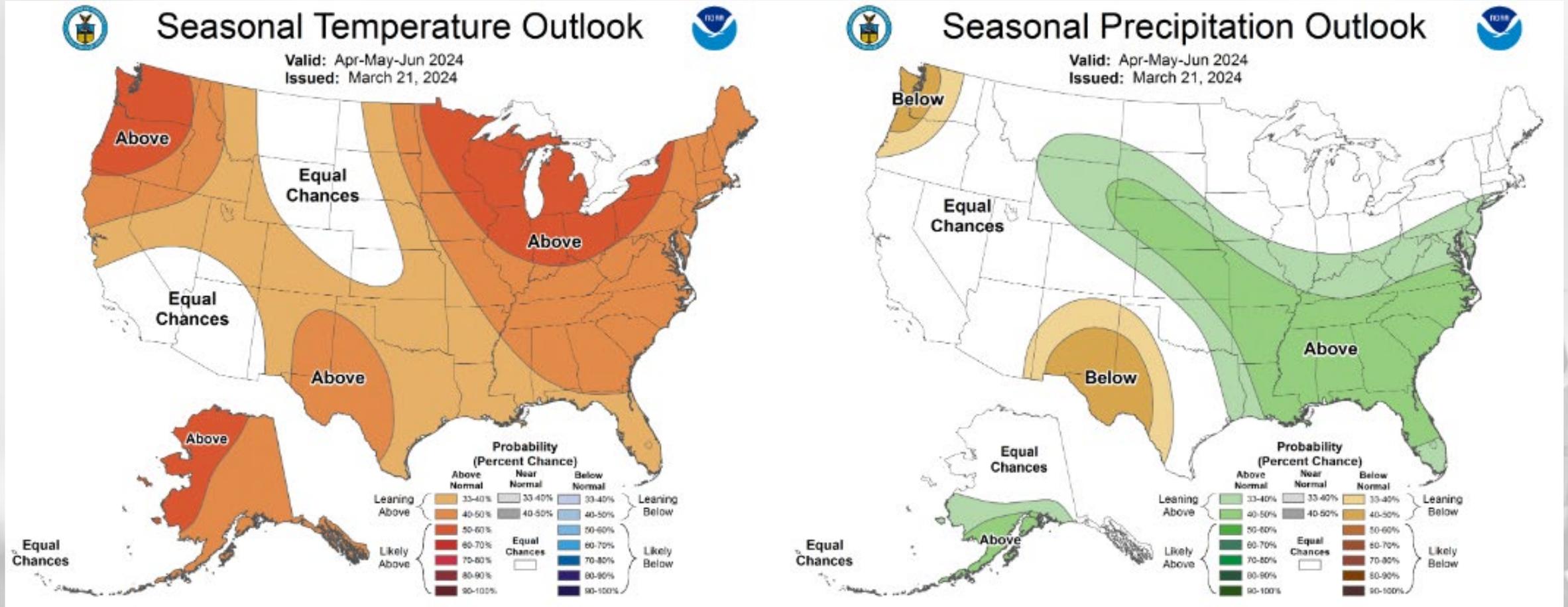
First week in April: Temperatures & precipitation are likely to be near normal.

30 Day Temp & Precip Outlook



Month of April: Temperatures likely to be above normal. Precipitation is leaning below normal for most.

90 Day Temp & Precip Outlook



Spring into Early Summer: Temperatures likely to be above normal. Precipitation indications are for equal chances of above/at/below average.

Take-Home Points

Current conditions:

- Far below-average seasonal snowfall totals were common across the N and W. Some snow events in March brought some relief.
- The dryness was accompanied by late winter temperatures that were much warmer than average.

Impact:

- Soil moisture conditions remain drier than normal for many in the central part of the state.
- D1+ drought area has increased in coverage by >30% since late December, due in part to low snowfall totals.
- Field work has begun for some farmers with the warmer-than-average March.

Outlook:

- March is projected to wrap up with near-normal temperatures, with a few opportunities for precip over the next week for most.
- The warmer-than-normal conditions have a higher probability to persist into April due in part to continued El Nino.
 - However, a transition to La Nina is expected by June.

Agronomic Considerations

Planting Considerations

- Drier field conditions should allow for a good planting season.
- Consider termination timing of cover crops to preserve soil moisture.
- If planting early, consider planting depth adjustments to ensure planting into moisture.

Nutrient & Herbicide Applications

- As always, producers should be considering climate and soil moisture conditions when setting their crop yield goals and apply nutrients accordingly.
- Herbicides may have longer carryover if not enough cold or precipitation occurred over winter, check labels for rotational restrictions.
- Ensure both day and nighttime temperatures are conducive for the necessary duration for effective herbicide applications...Remember pre-emergent herbicides require moisture for activation and consider duration of effectiveness if planting early.

Manure Applications

- Warmer drier winter has provided a late winter/early spring manure application window (this was an observation when flying into Madison).
- Early season manure applications into warm soil conditions may lead to increased mineralization/nitrification and potential for N loss if receive “typical” heavy spring rainfall events, particularly if not applied to a growing cover crop or if the cash crop will not be planted soon after application.

Small Grains

- Wheat N typically goes on a green up...will be earlier than normal with warm conditions.
- Potential for earlier planting of spring grains, if warmer weather continues. However, there is still a risk with potential for freeze.

Breaking Dormancy

- Likely early breaking of dormancy for overwintering crops – potential for increased winterkill if temperatures snap back to cold.

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>



COCORAHS "PRECIPITATION ABSURDITY" CONTINUES THRU MARCH 31ST

CURRENT STANDINGS

<u>Station Count Rank</u>	<u>New Station Count</u>	<u>Station Count Rank</u> ▲	<u>Per Capita Count</u>	<u>Per Capita Rank</u>	<u>Population in Millions</u>
Minnesota	514	1	89.90	1	5.72
Tennessee	137	2	19.43	4	7.05
Wisconsin	109	3	18.50	5	5.89
Kansas	68	4	23.15	2	2.94
Texas	55	5	1.83	31	30.03

Contact Info

Photo Credit: USDA



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