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 April 1, 2024

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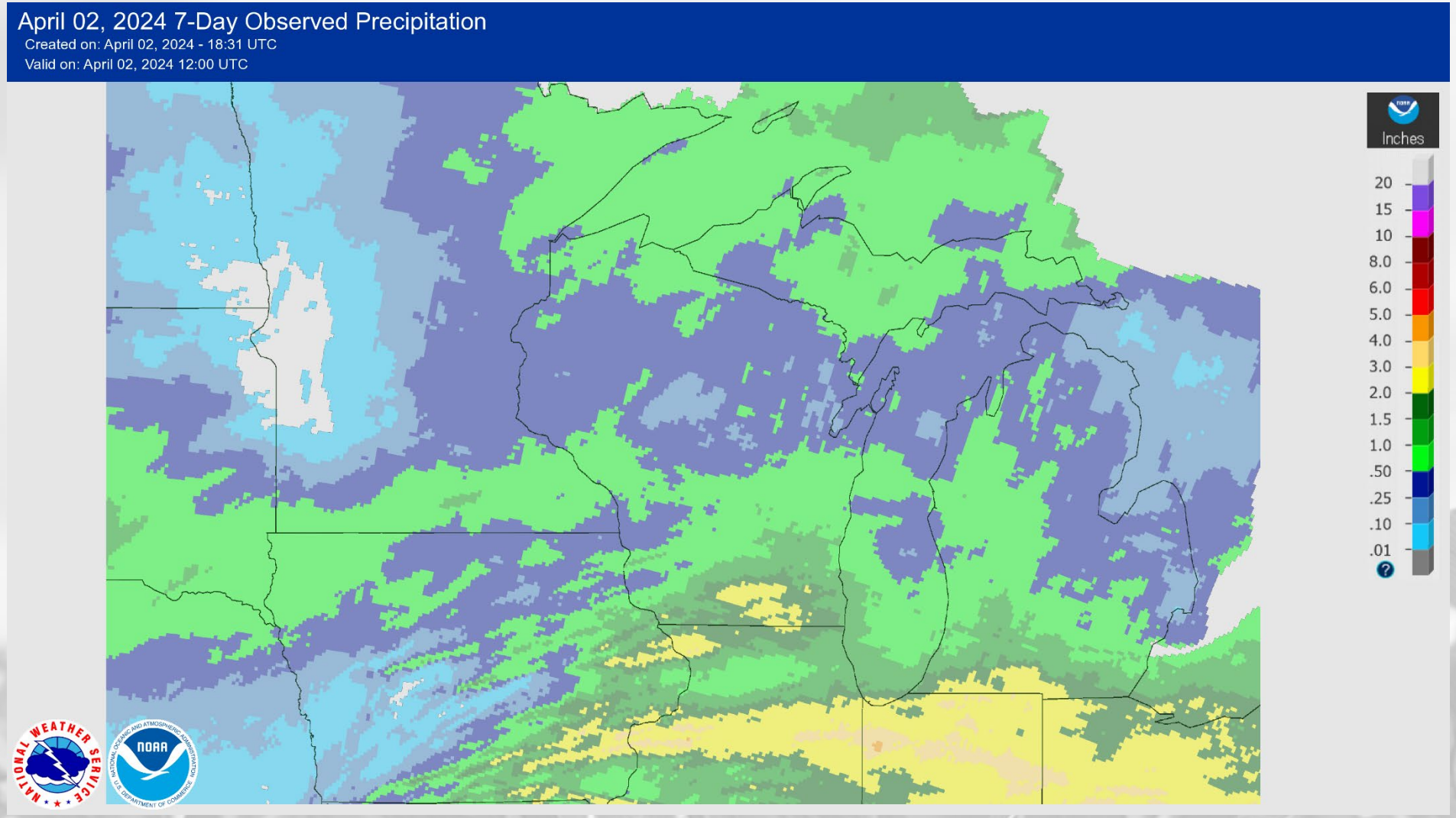
Key Points

1) Northern parts of the state received snow last week, and a lot of the snowpack has melted with soil temps above freezing.

2) Notable improvements in soil moisture from last week, with a subsequent reduction of area in drought.

3) Likely to be warmer and wetter than normal heading into the month of April.

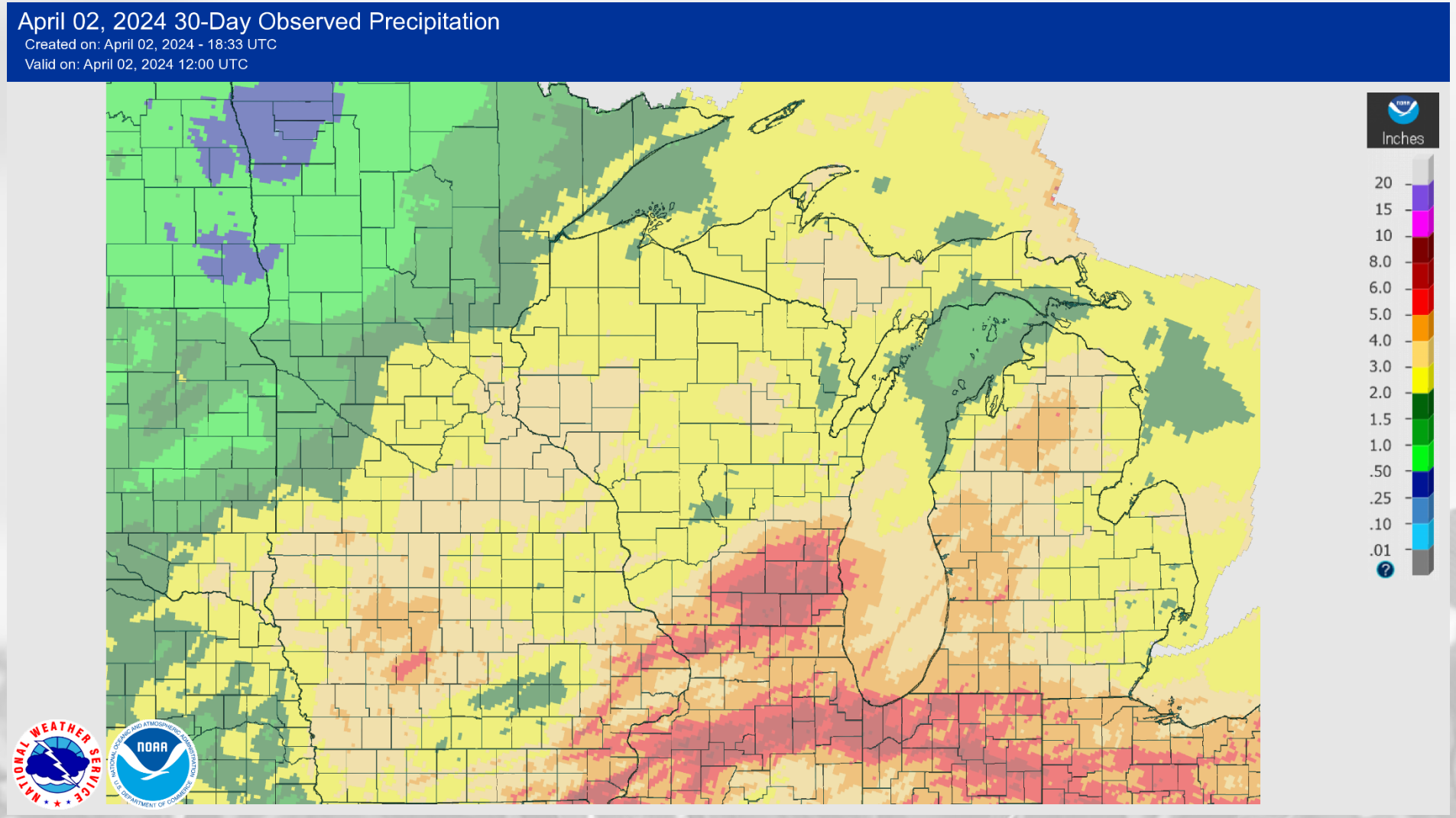
7 Day Precip



- Most of the state saw **<1”** of precip this past week.
- Highest amounts in the South Central → **2-3”**

https://water.weather.gov/precip/

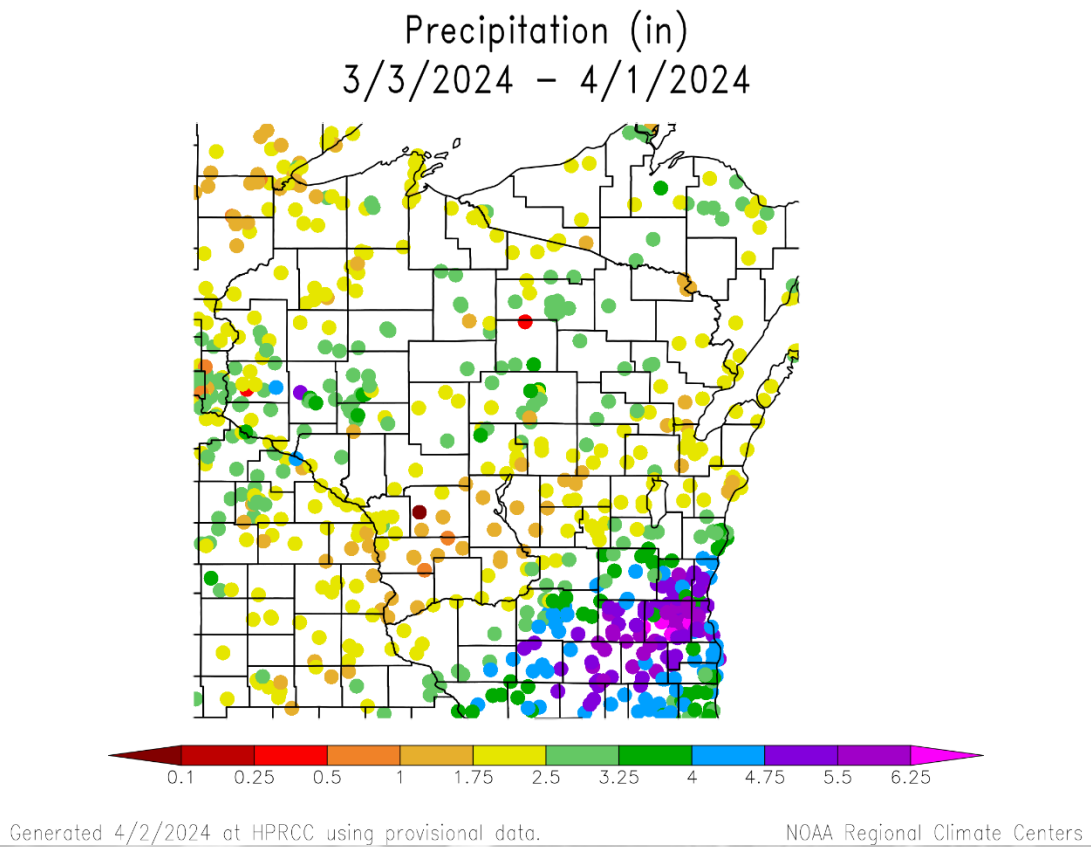
30 Day Precip

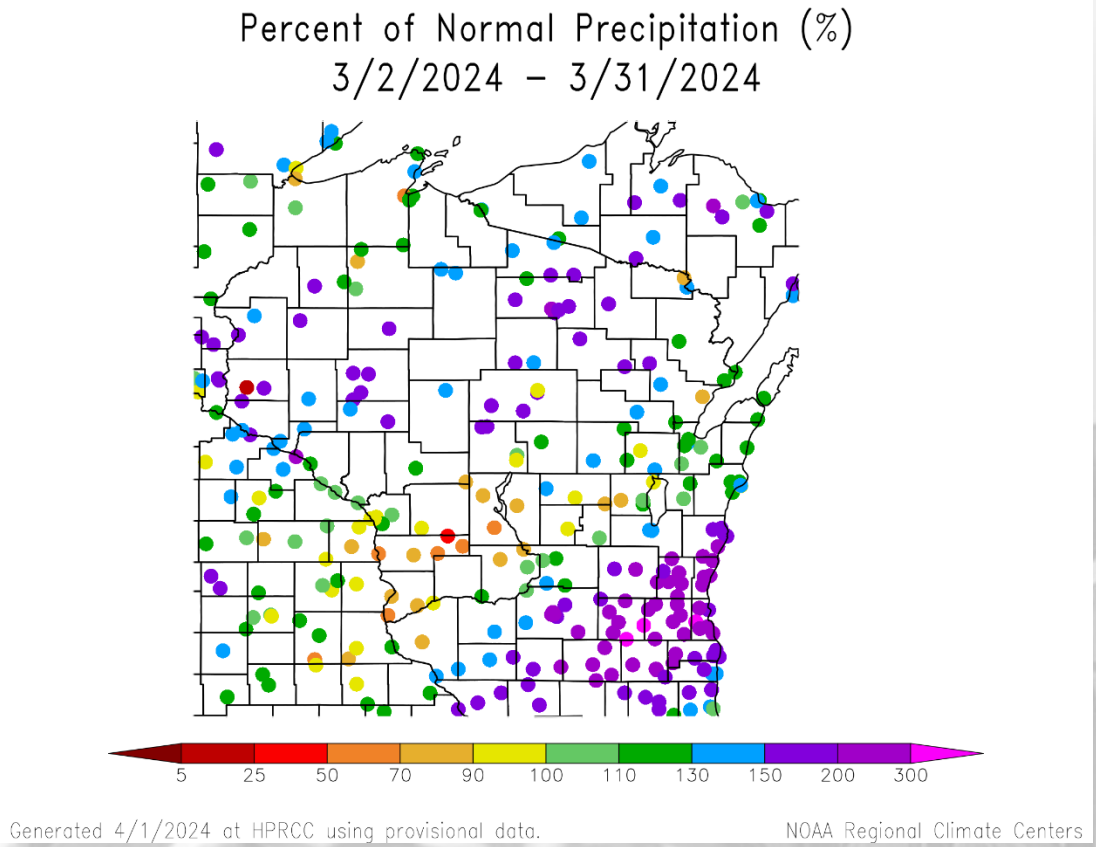


- Most of the state has seen **2-4”** of precip since March 2nd.
- Highest amounts in the SE → **5-8”** in locations between Milwaukee & Madison.

https://water.weather.gov/precip/

30 Day Precip Total/% Avg.

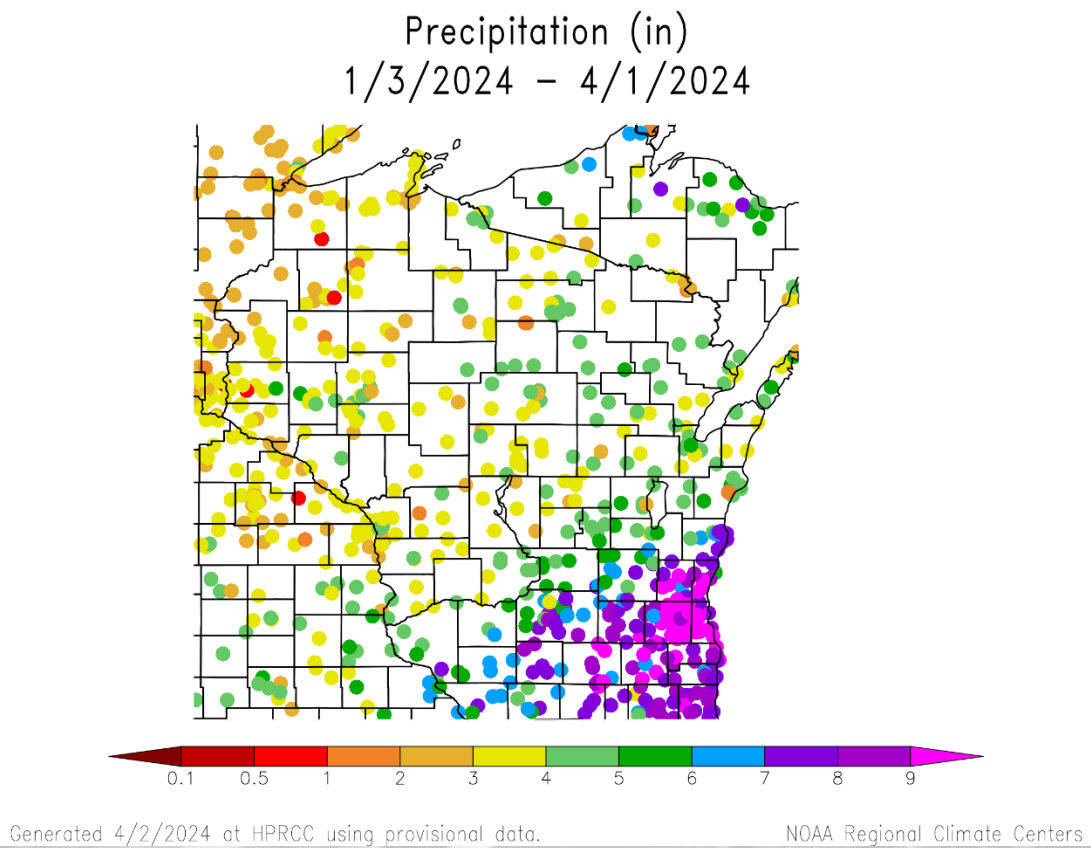


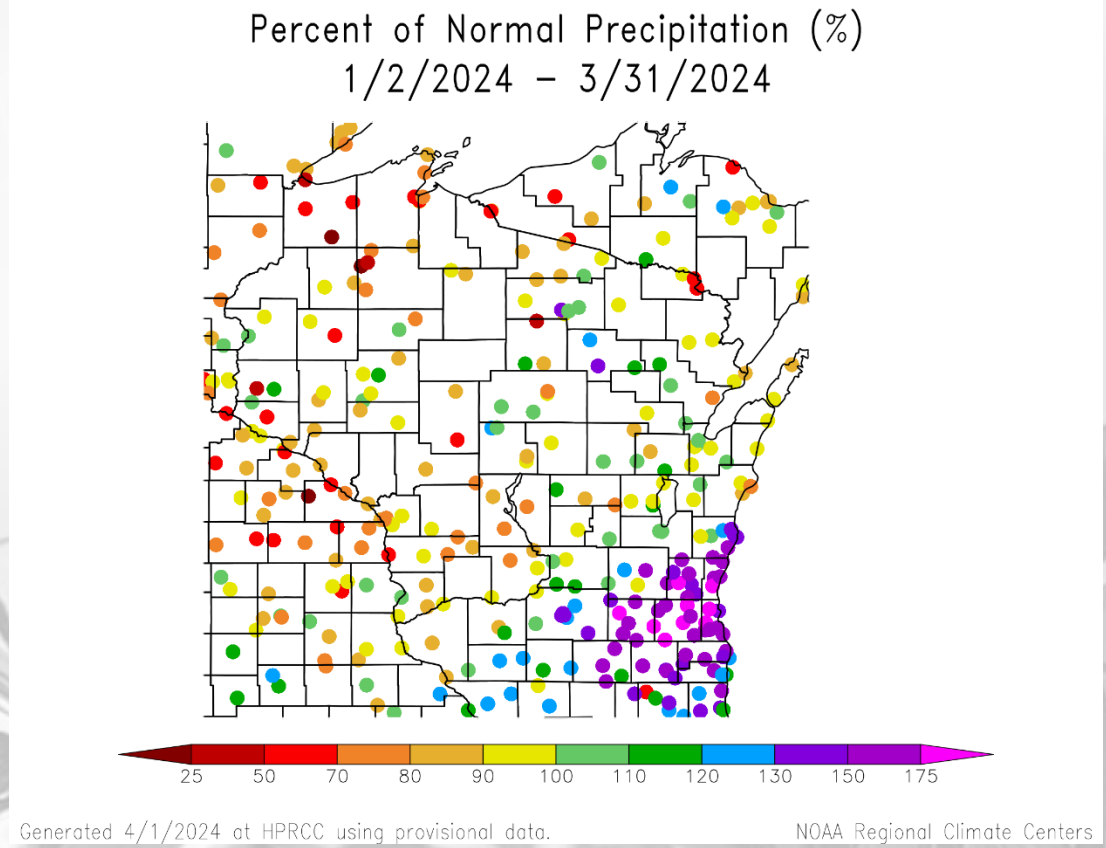


- Highest precip totals in the SE (>4”) and lowest in Vernon/Monroe Cos. (<2”).
- 200+% of long-term average precip at stations in the SE.
- Below-average precip across the Driftless & central parts of the state.

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

90 Day Precip Total/% Avg.

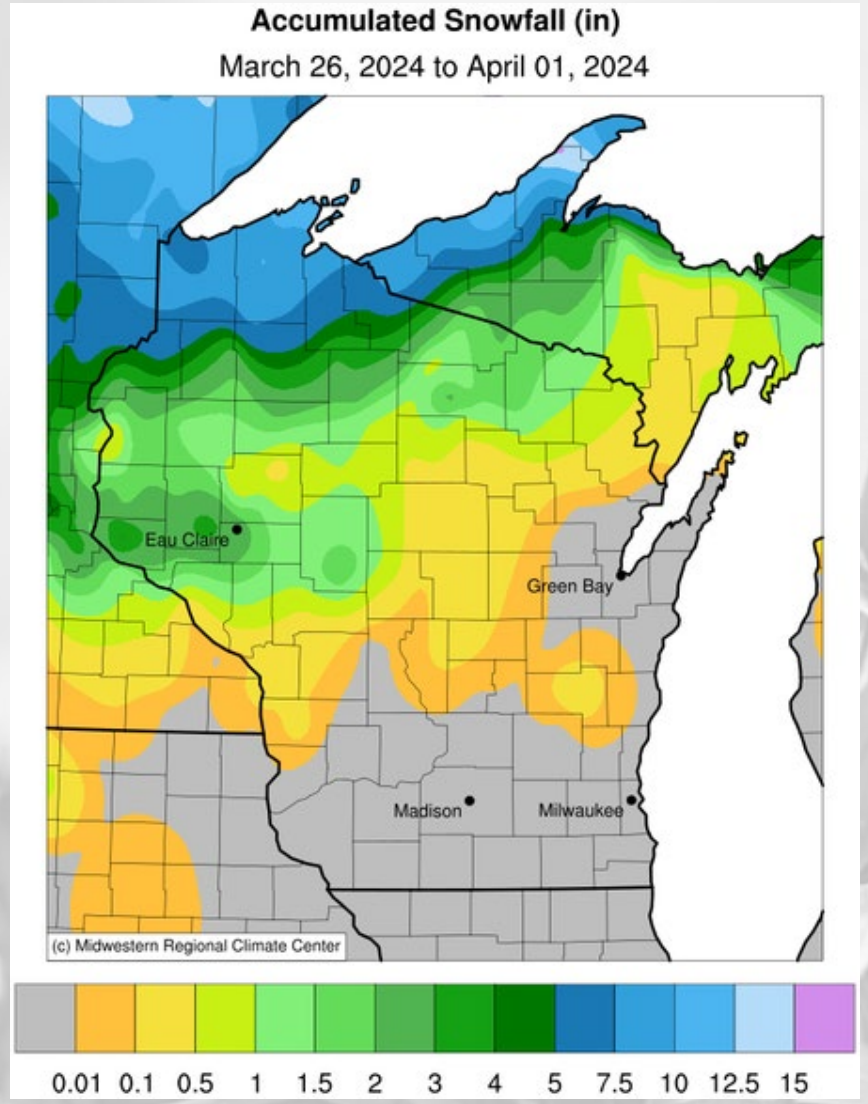


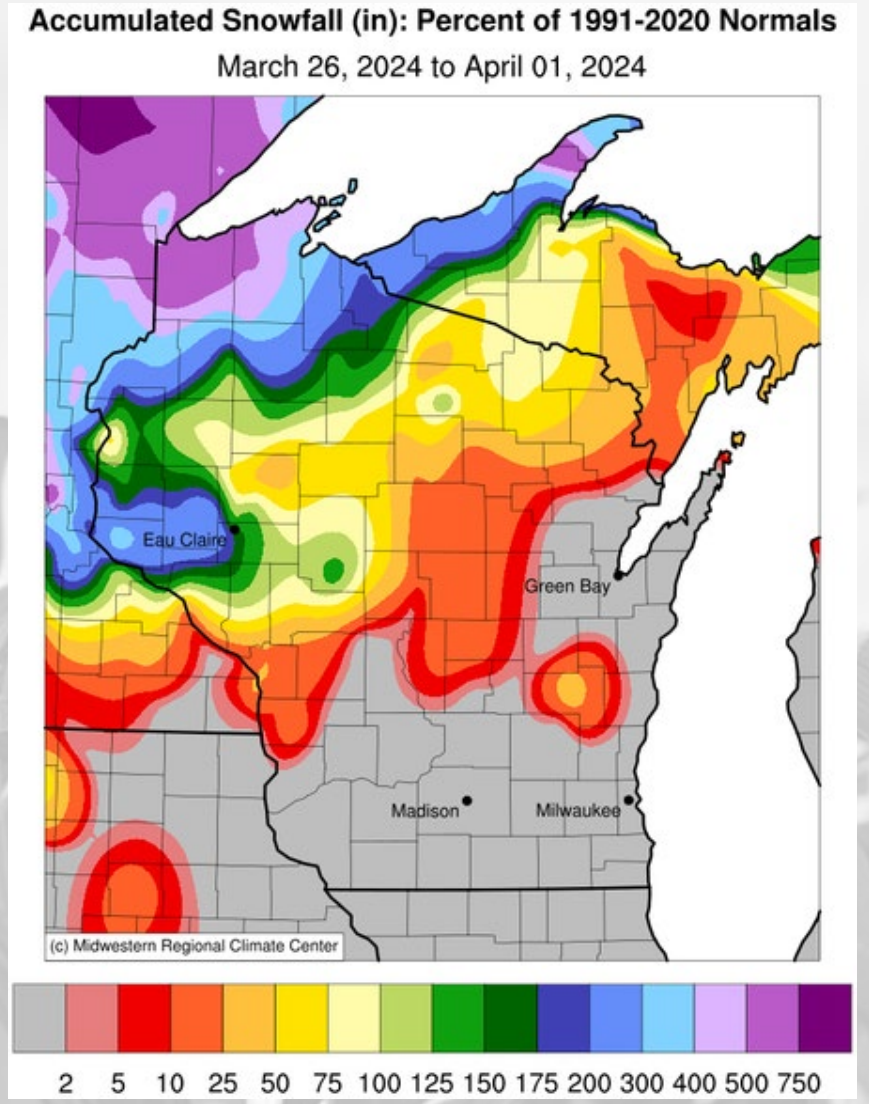


- Highest precip totals in the SE (>7”) and lowest in the NW (<3”).
- 150+% of long-term average precip in the SE.
- <100% of average was common across stations in the N and W.

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

Weekly Snowfall Recap

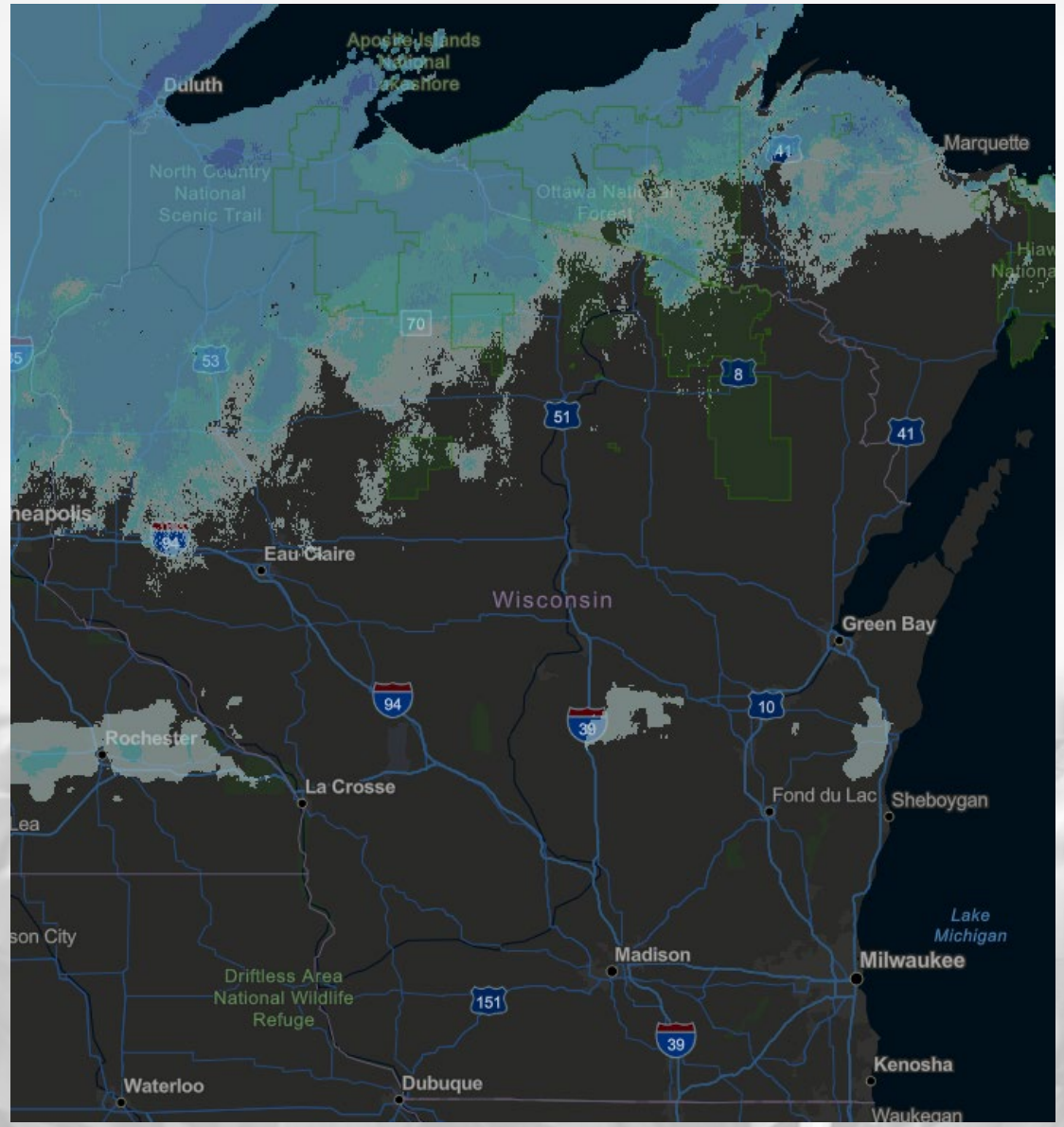




- **No snowfall** in southern 2 tiers of counties in the state.
- Highest totals along the Lake Superior lakeshore **(5+”)**
  - Totals **>200%** of 30-year average
- **<1”** for areas in the middle of the state.

https://mrcc.purdue.edu/CLIMATE

Current Snow Depth



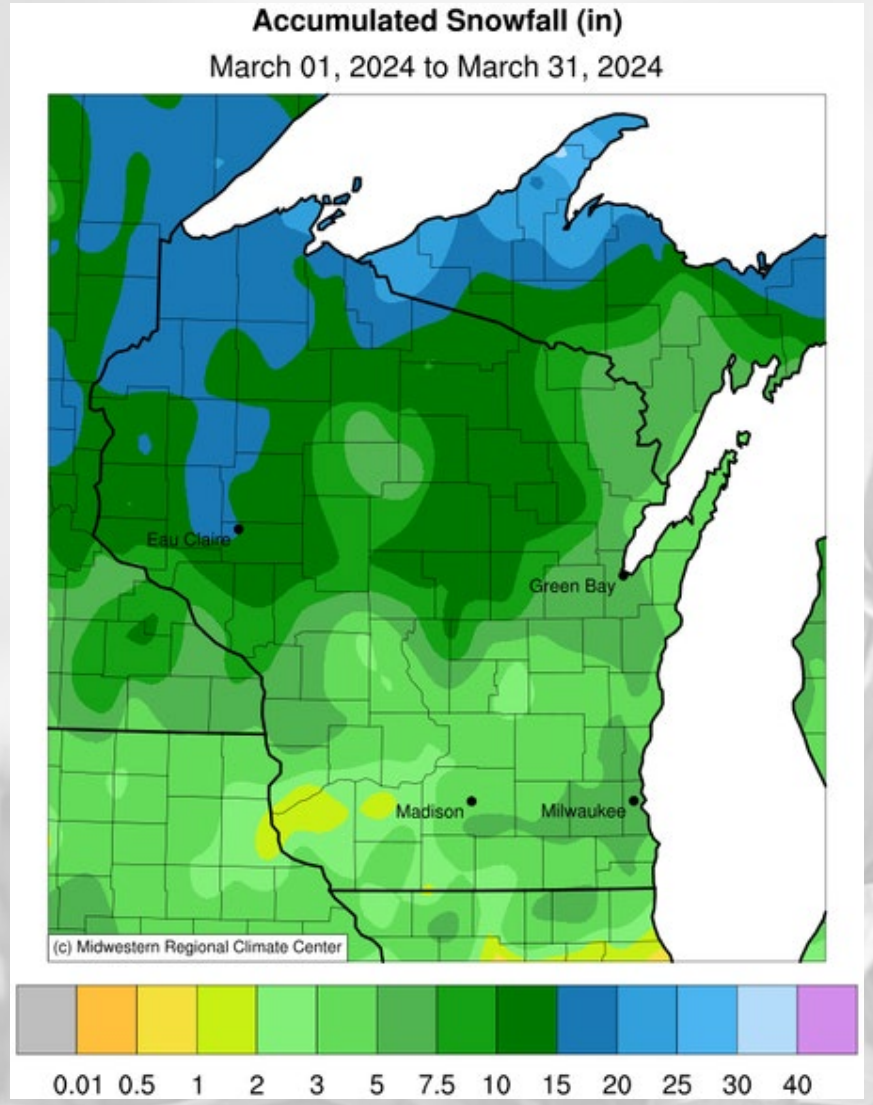
Snow Depth (inches)

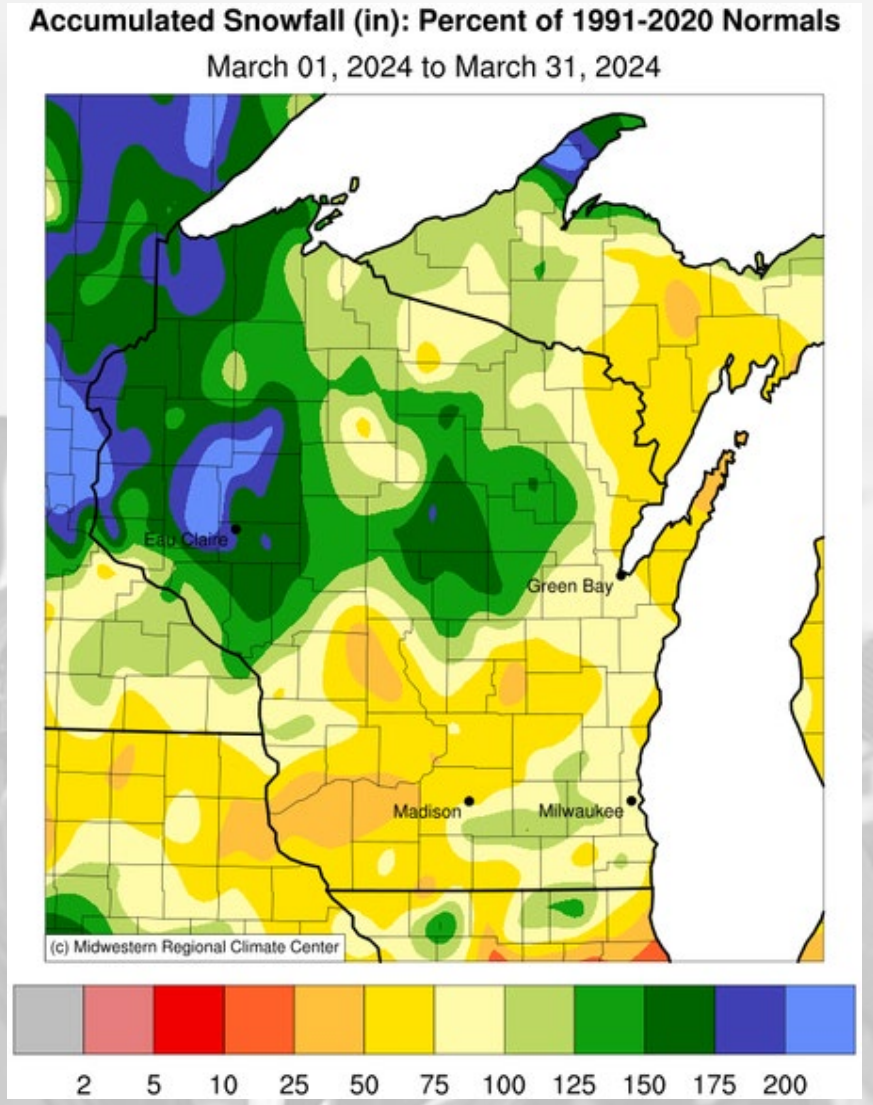
- 0 - 0.39
- 0.39 - 2.0
- 2.0 - 3.9
- 3.9 - 9.8
- 9.8 - 20

Map is from the morning of April 2nd

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1045012.html

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 **>200%** of average.

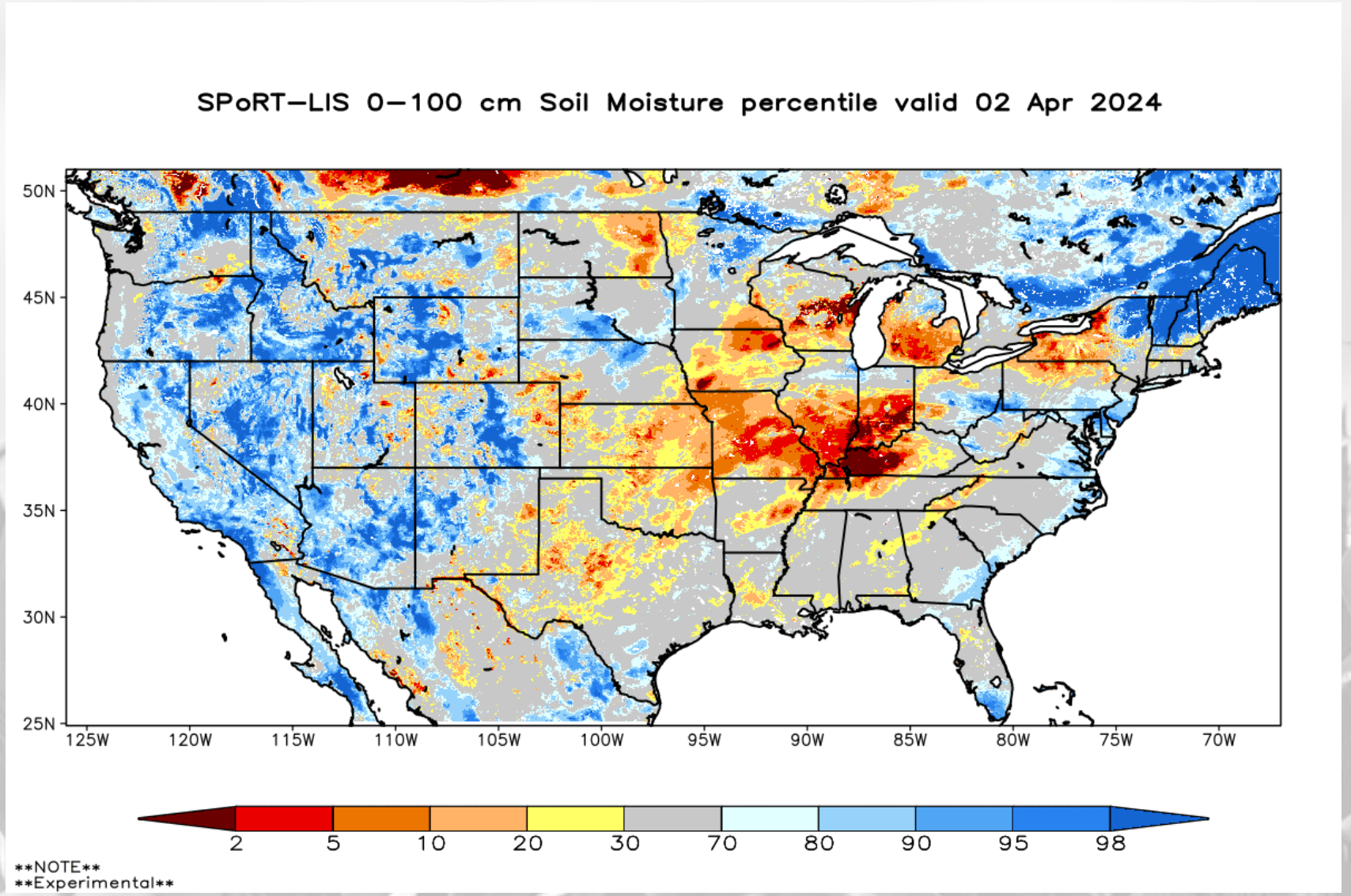
https://mrcc.purdue.edu/CLIMATE

Soil Moisture Models

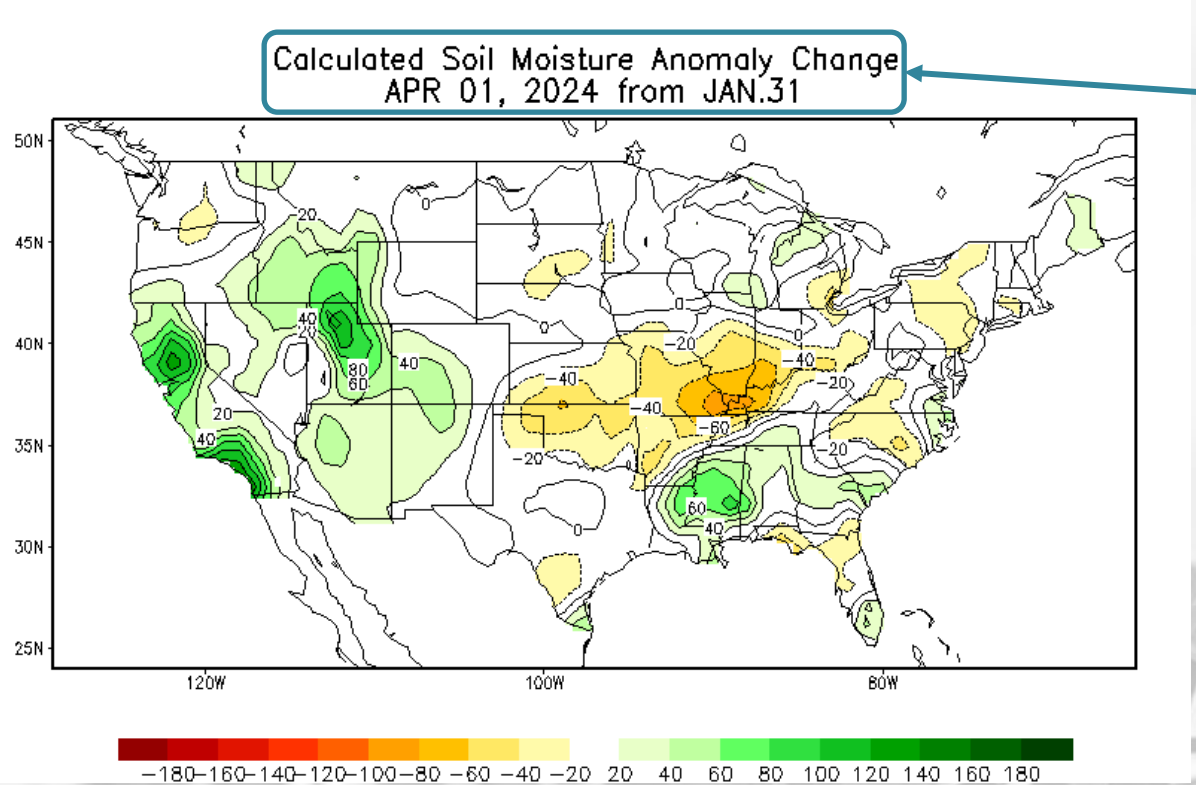
- Reduction in red and orange areas (drier than normal) from last week.
  - Higher March snowfall brought relief to the North.
- Driest soil moisture conditions in Green Bay/Door County area, according to this model.

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

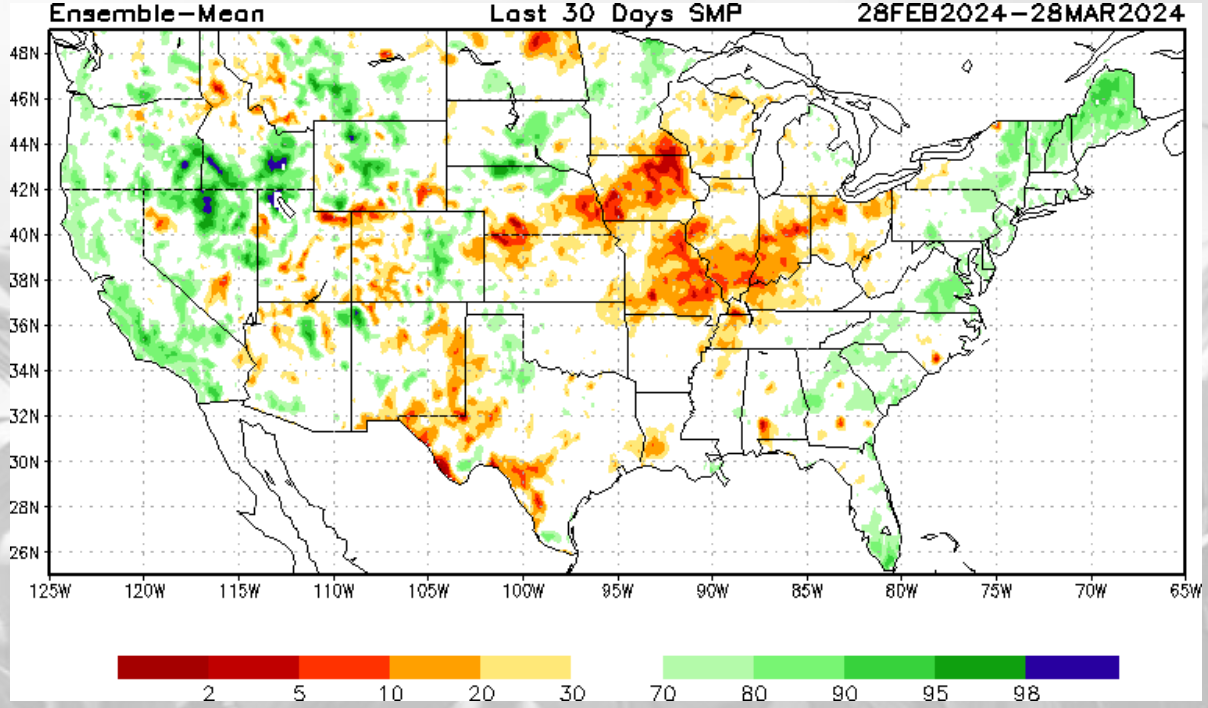
https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html



Soil Moisture Models

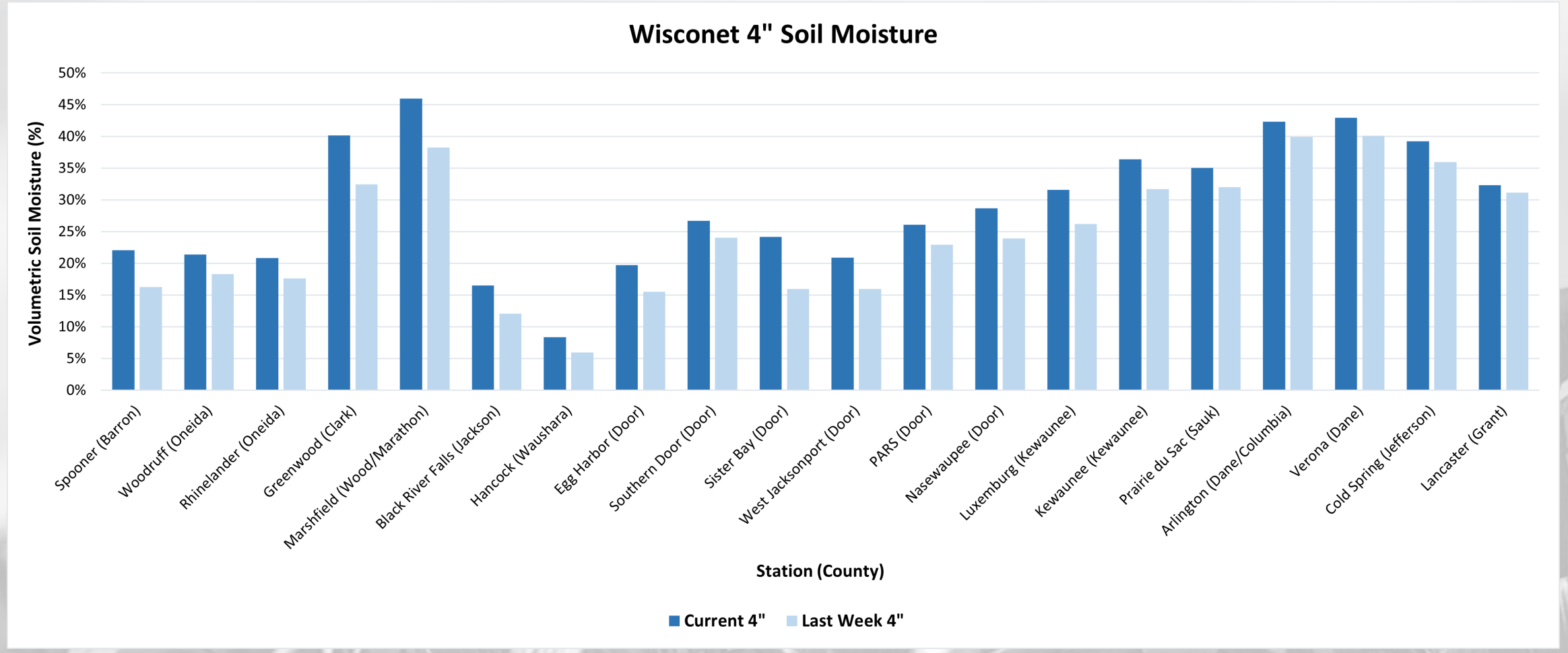


Soil moisture improvement since January



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

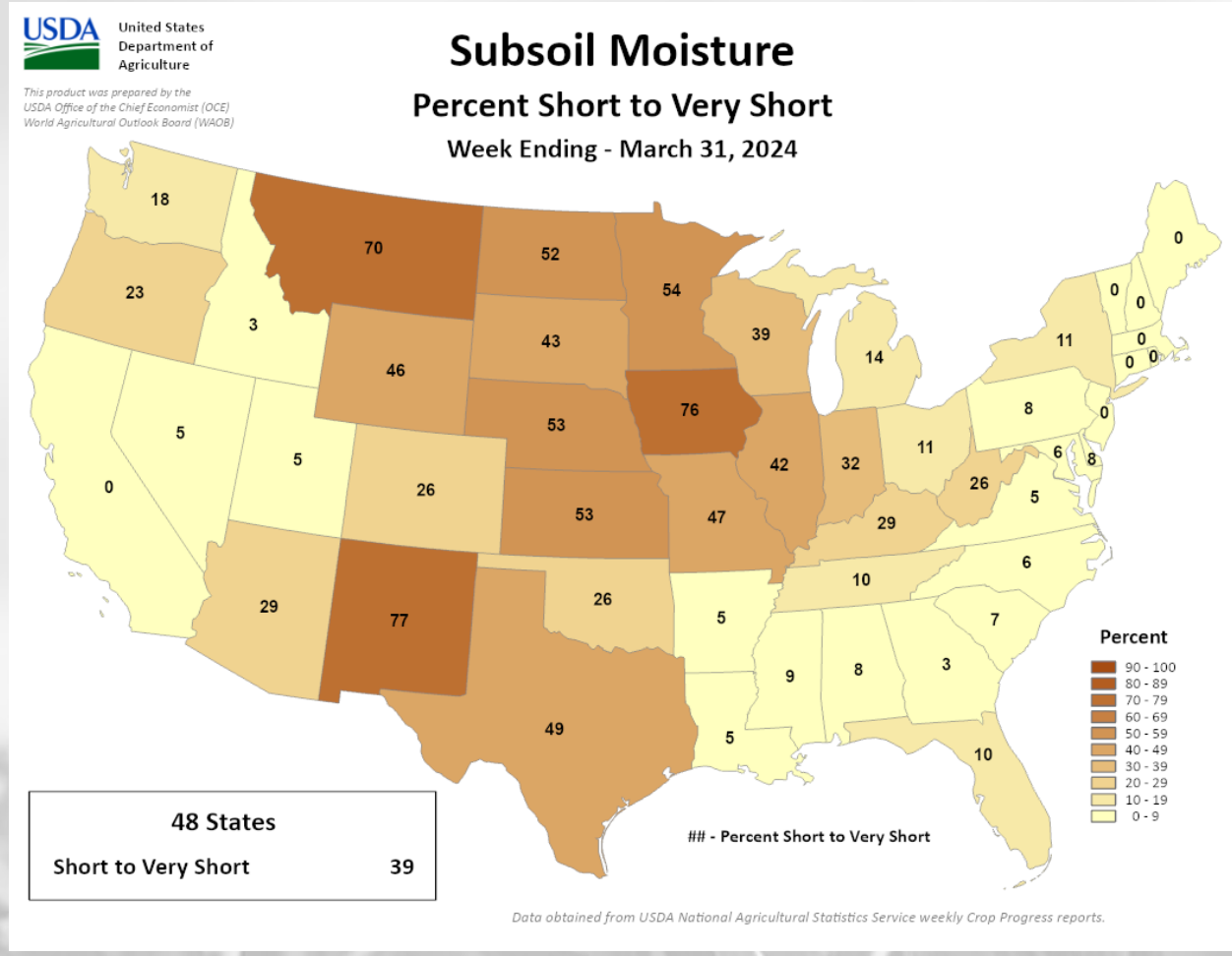


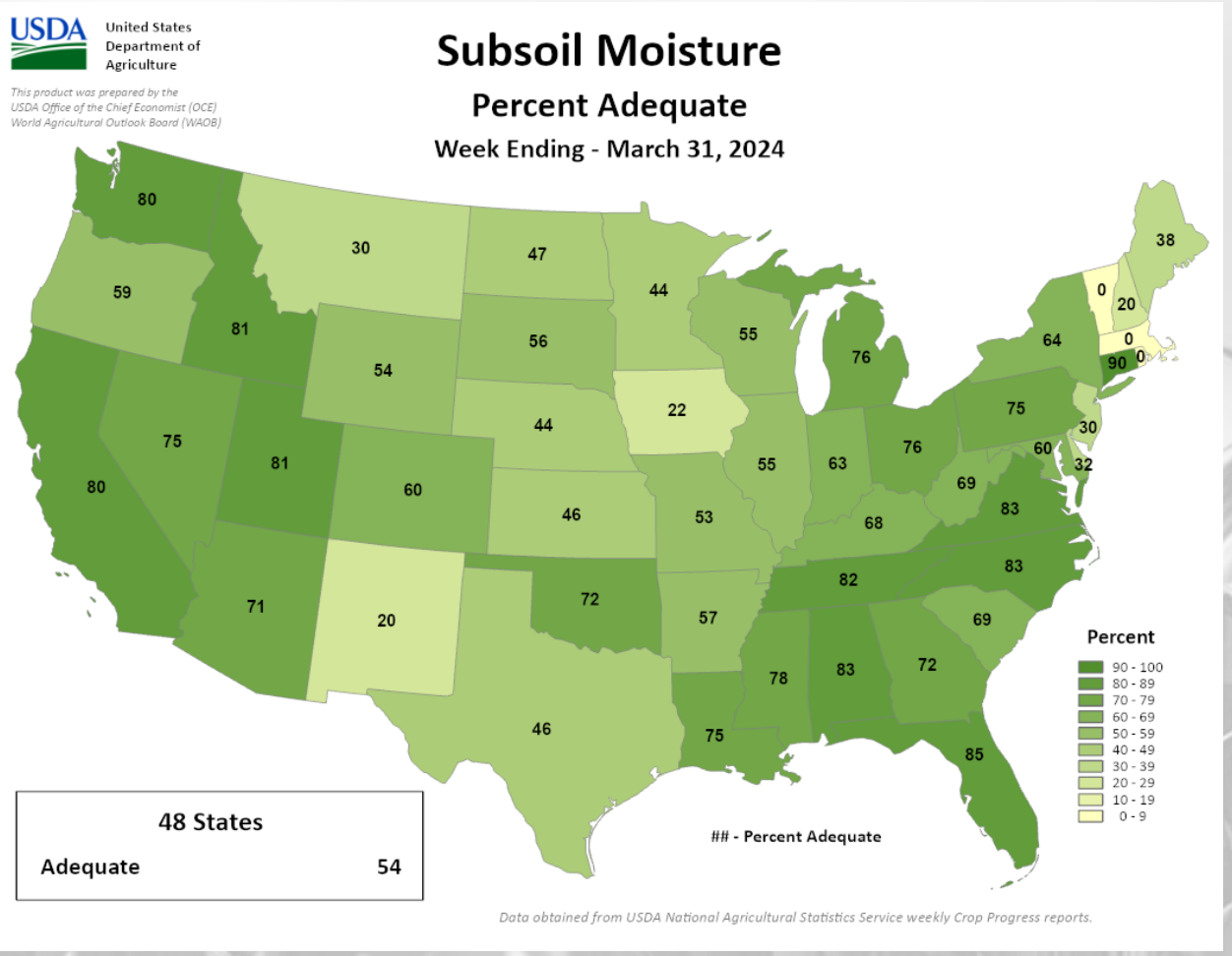
Current: 7-day average ending on 4/1

Last Week: 7-day average ending on 3/25

https://wisconet.wisc.edu/

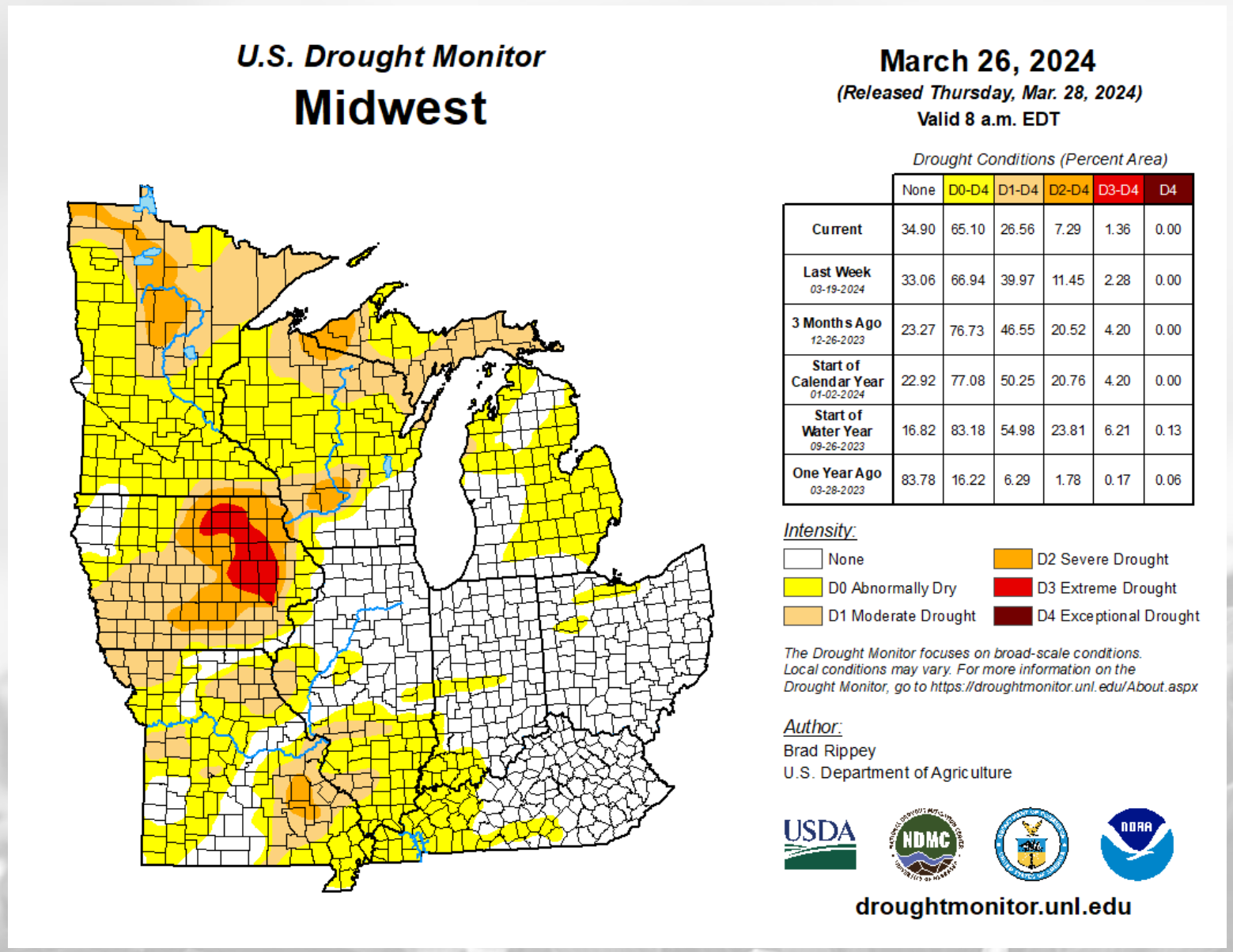
NASS Subsoil Moisture





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

US Drought Monitor

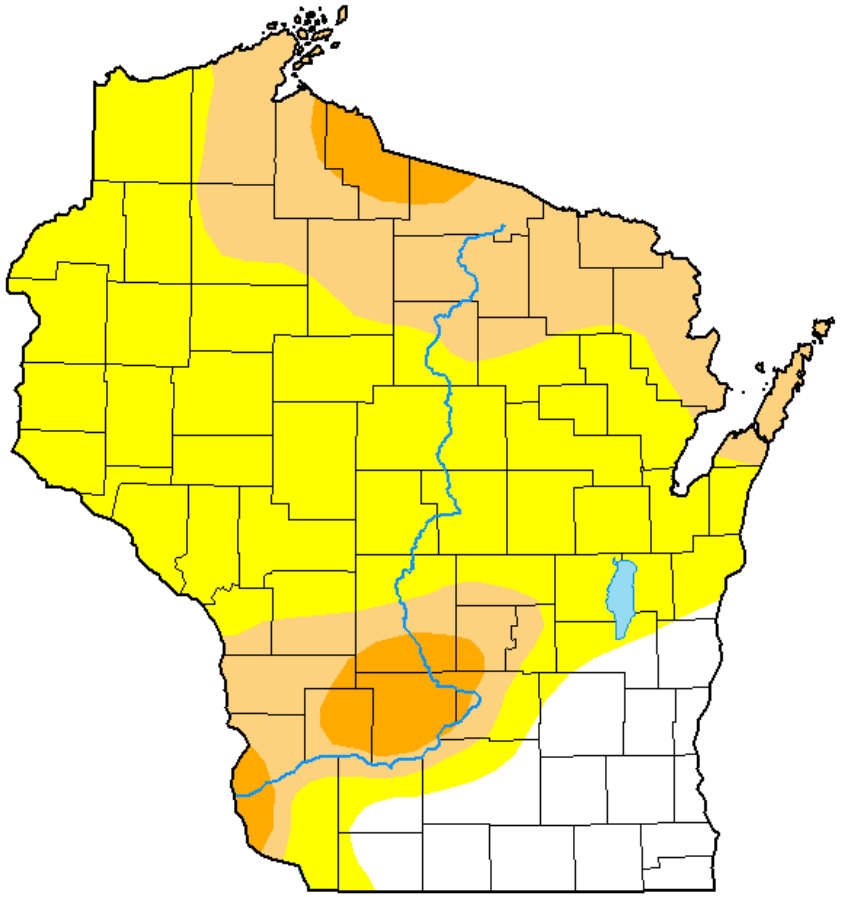


- Compared to last week:
  - Reductions in all drought category areas.
  - Area in D1 or higher drought down by over **13%**.
  - Area in D3-D4 drought down from **2.3% to 1.4%**.
- Most of the areas in drought are west of the Mississippi River and in the U.P.
- All of the D3 area is eastern IA.

Note: D0 is not considered drought.

http://droughtmonitor.unl.edu/

US Drought Monitor



U.S. Drought Monitor

Wisconsin

March 26, 2024

(Released Thursday, Mar. 28, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	13.96	86.04	31.55	5.99	0.00	0.00
Last Week 03-19-2024	11.83	88.17	72.32	19.02	0.00	0.00
3 Months Ago 12-26-2023	33.04	66.96	37.34	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 03-28-2023	100.00	0.00	0.00	0.00	0.00	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:

Brad Rippey

U.S. Department of Agriculture

droughtmonitor.unl.edu

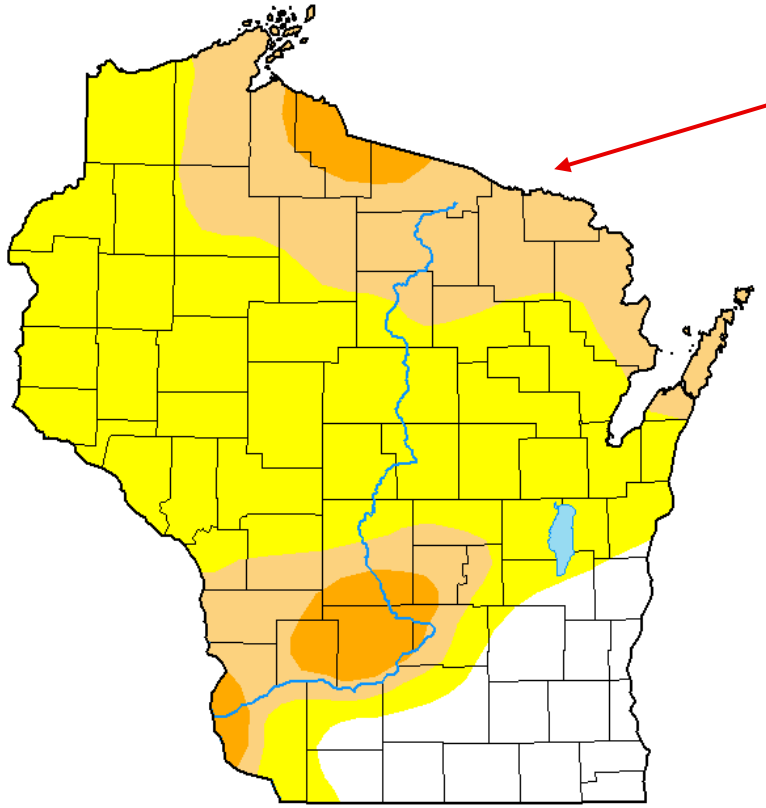
Amount of state in:

- D1-D4 – 31.6% ↓
- D2-D4 – 6.0% ↓
- 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/

Drought Area Reduction



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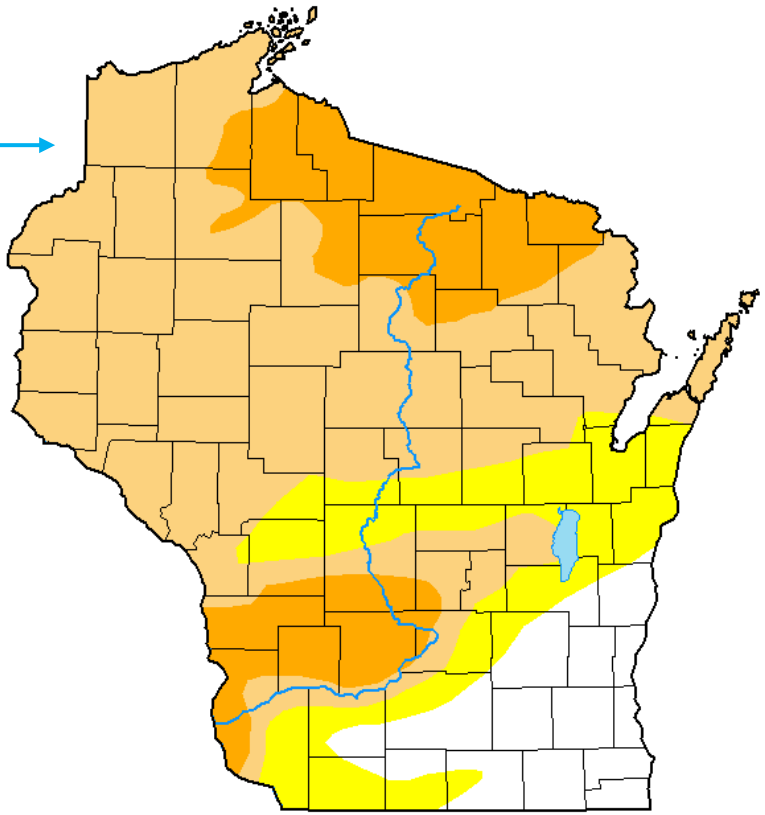
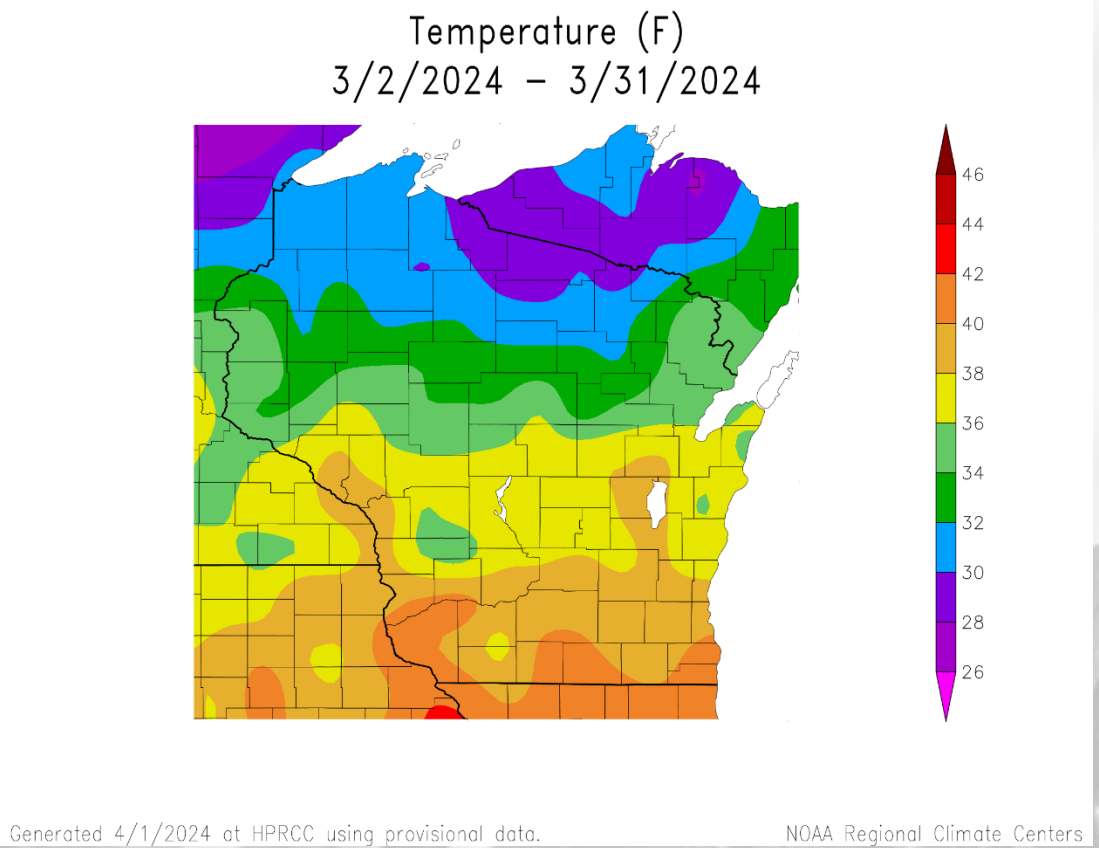
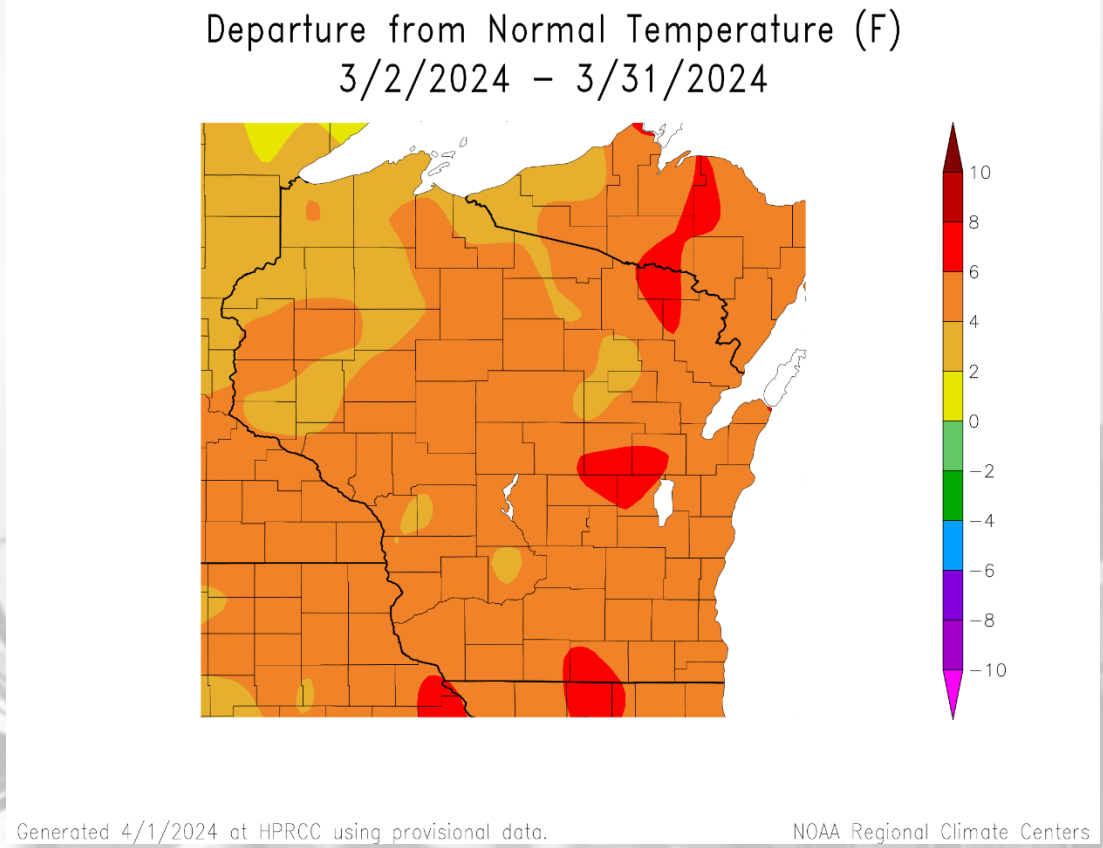


http://droughtmonitor.unl.edu/

30 Day Temperatures

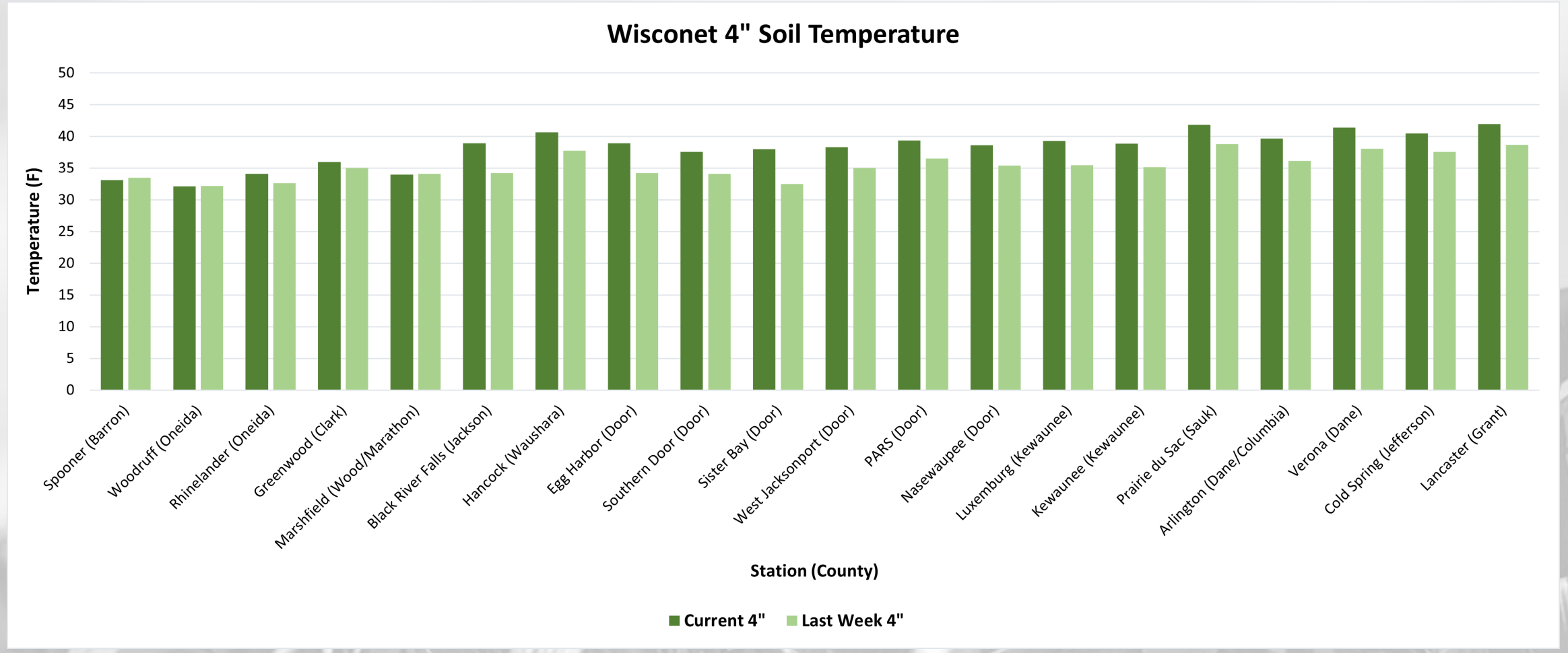




- Temperatures over the last 30 days ranged from **38-42°F** in the S to **28-32°F** in the far N.
- The entire state was above average in temperature.
  - **4°F** or higher for most (areas in dark orange/red).

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

Soil Temperature - Wisconet

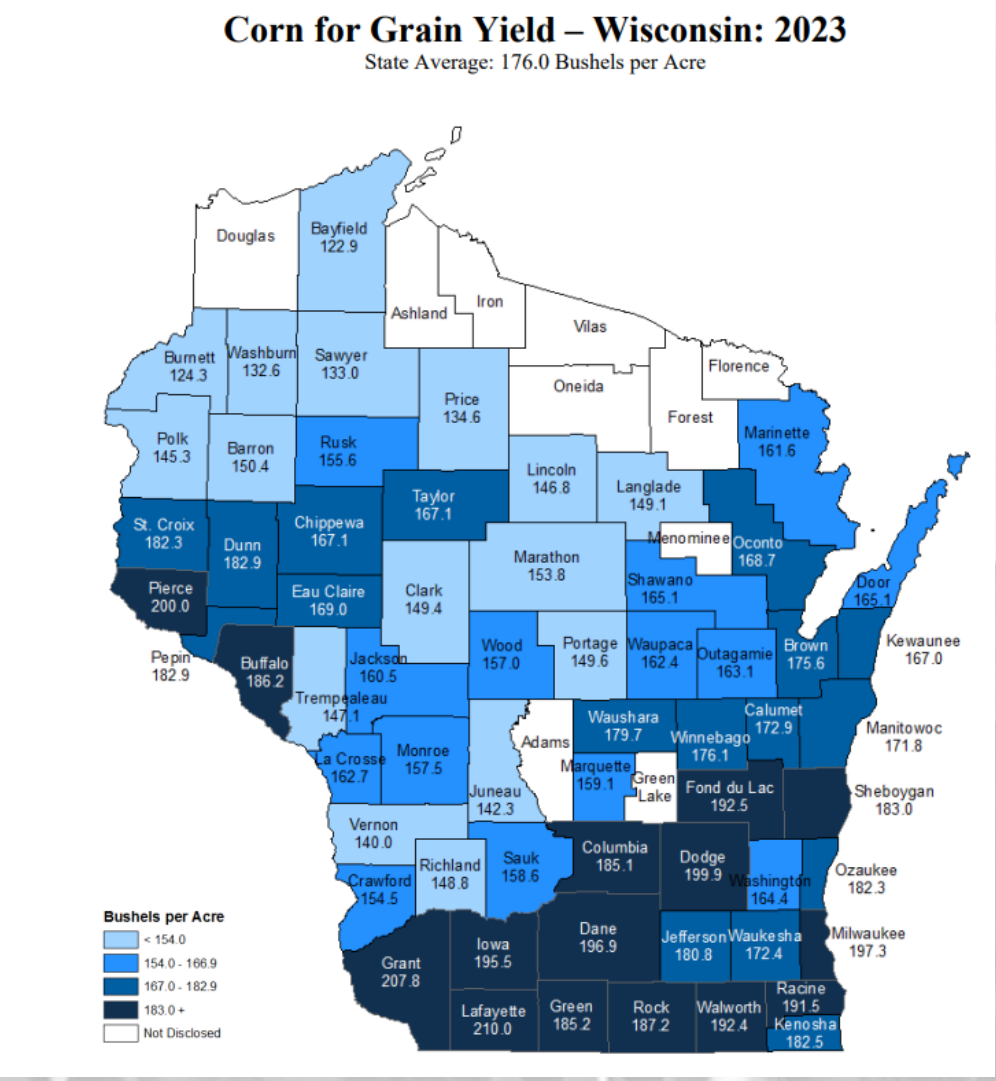


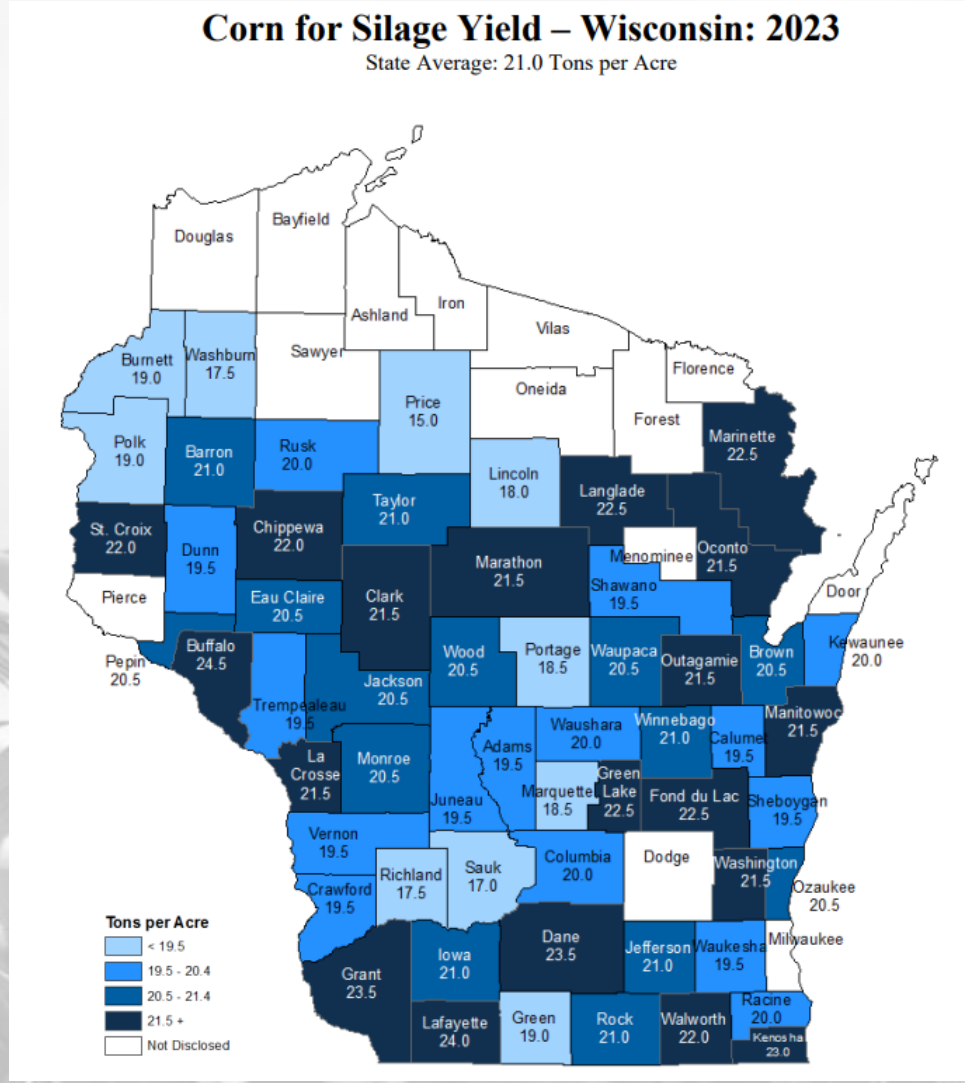
Current: 7-day average ending on 4/1

Last Week: 7-day average ending on 3/25

https://wisconet.wisc.edu/

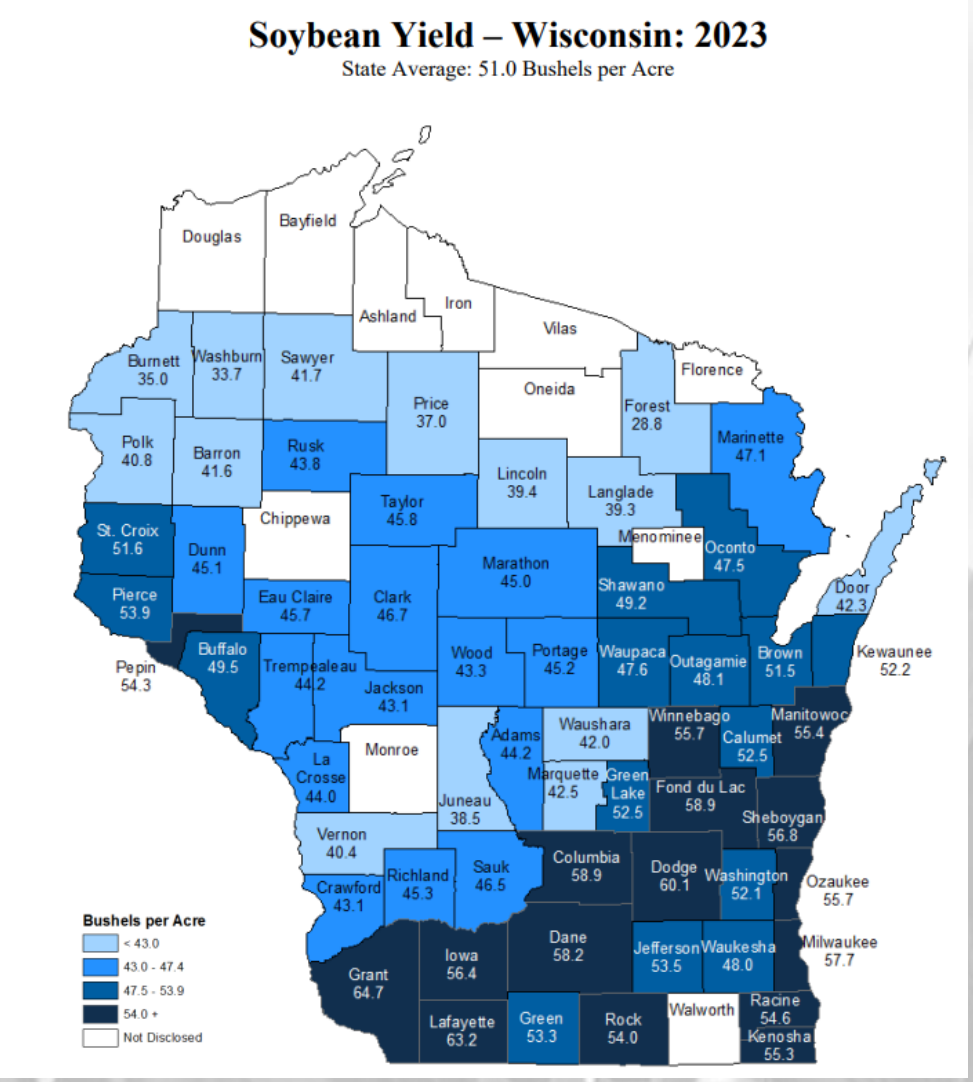
NASS 2023 Yield Estimates

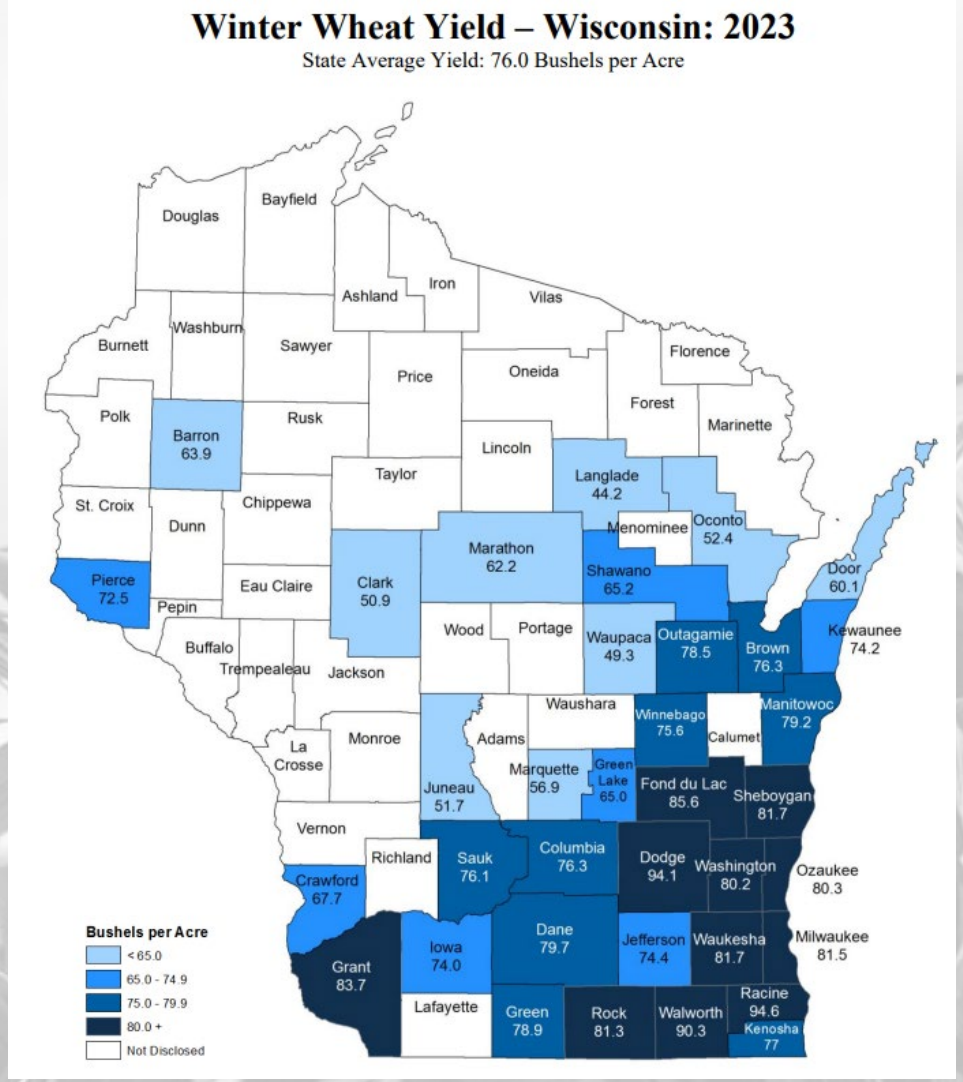




https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/County_Estimates/index.php

NASS 2023 Yield Estimates





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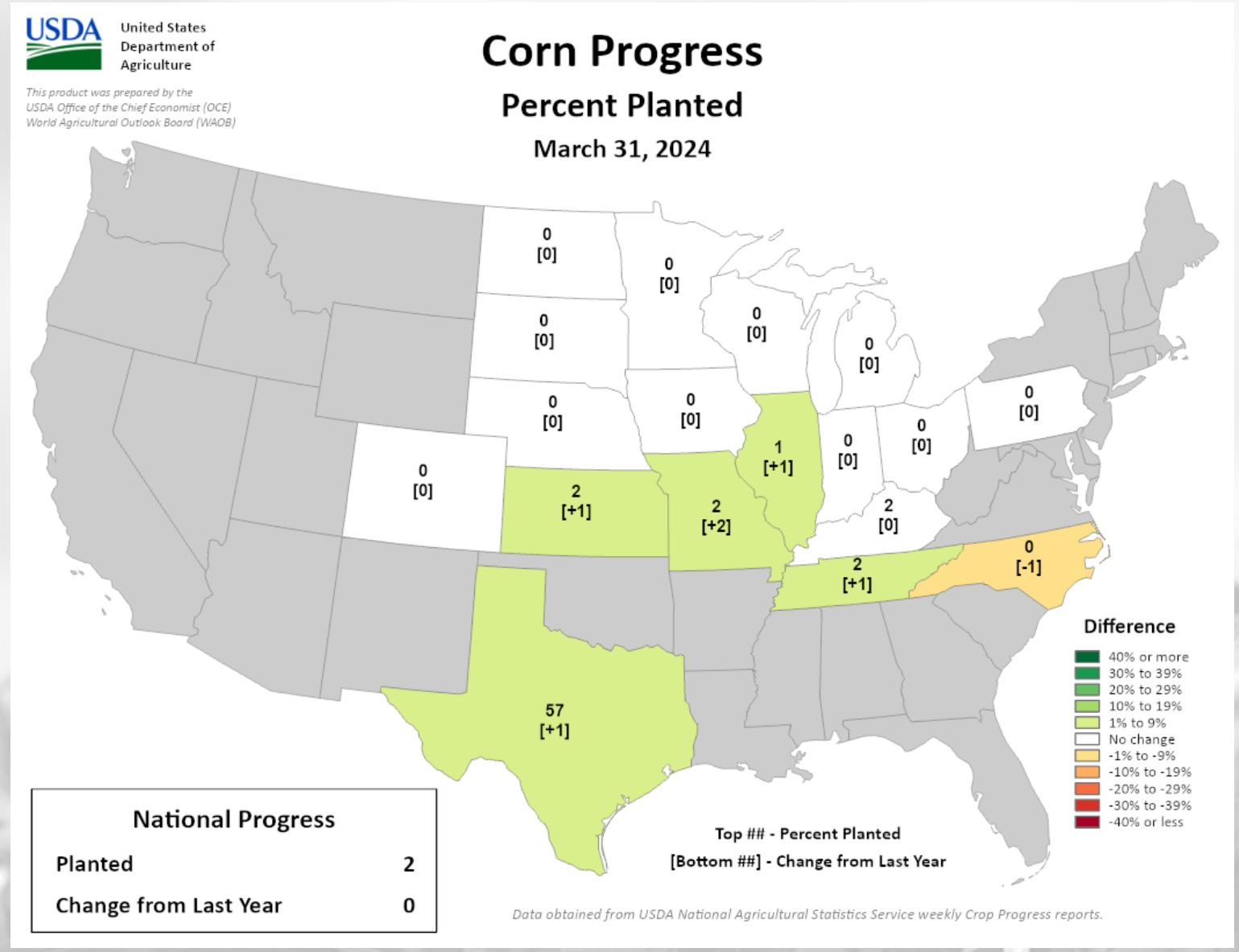
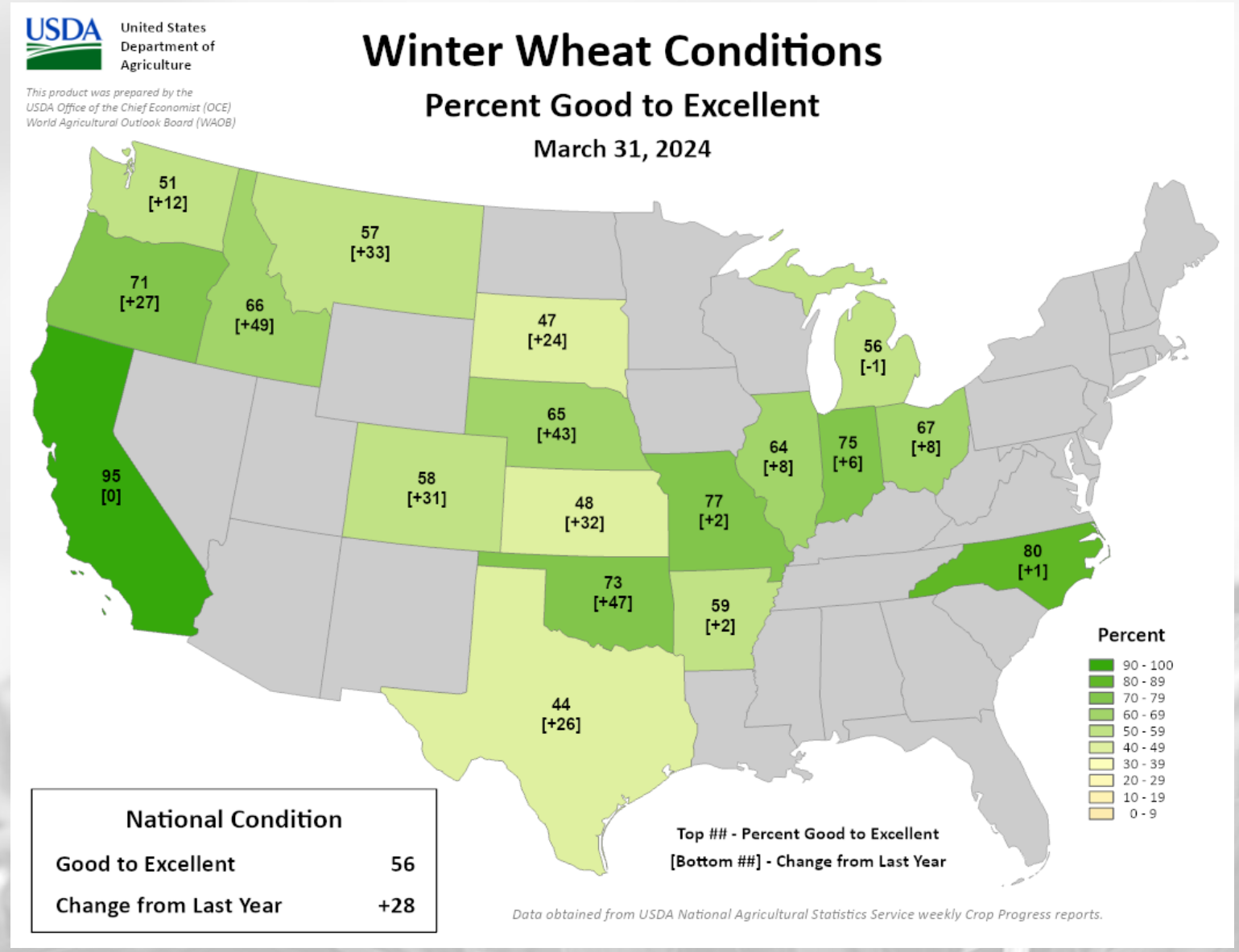
NASS Crop Progress – Corn



- Planting has begun for some in states to the south of Wisconsin.
  - This is **ahead of schedule** for those states.

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

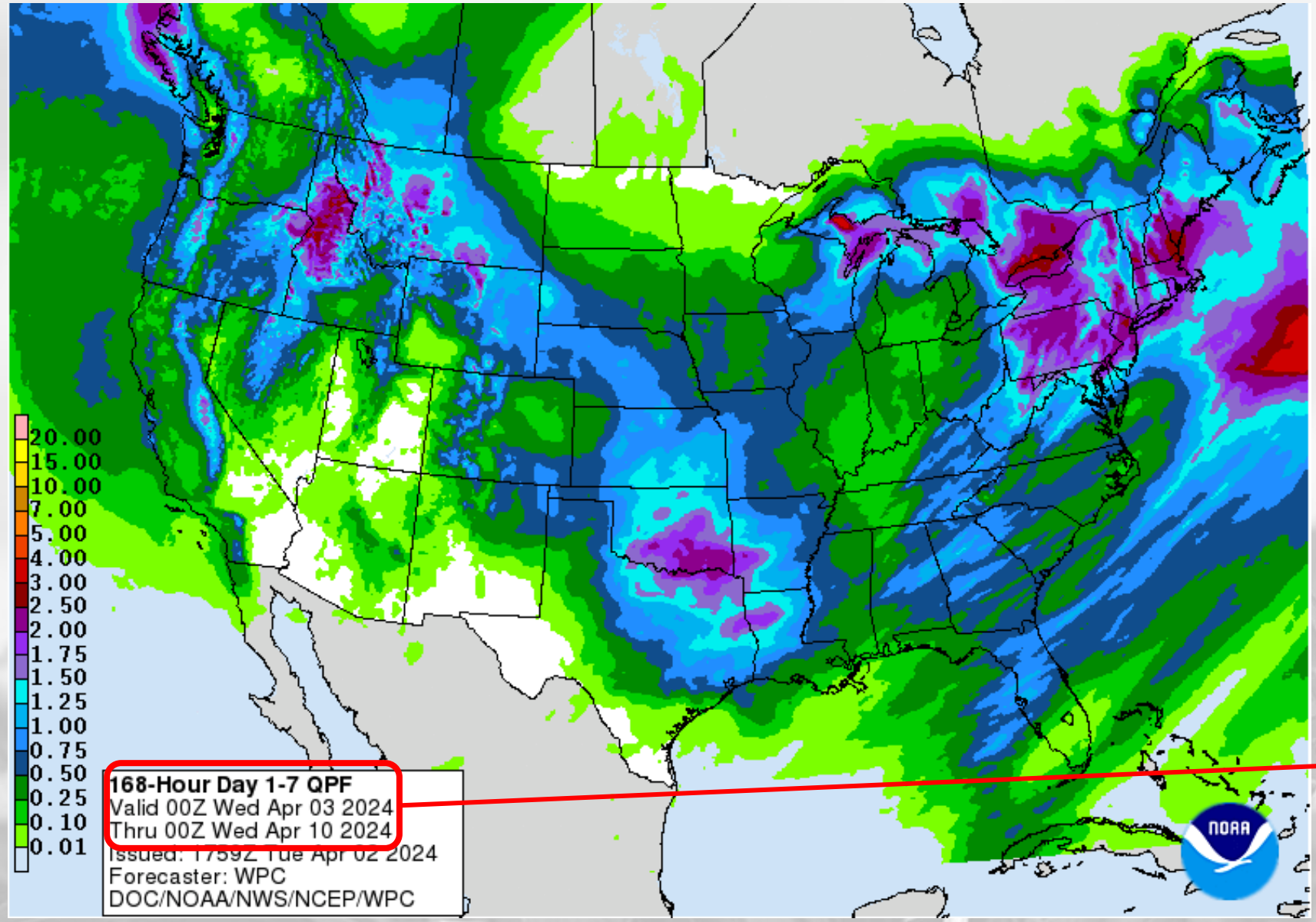
NASS Crop Progress – Winter Wheat



- In states to the south of Wisconsin, winter wheat condition is **>60%** good to excellent.
  - Better than last year at this time.

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

7 Day Precip Forecast

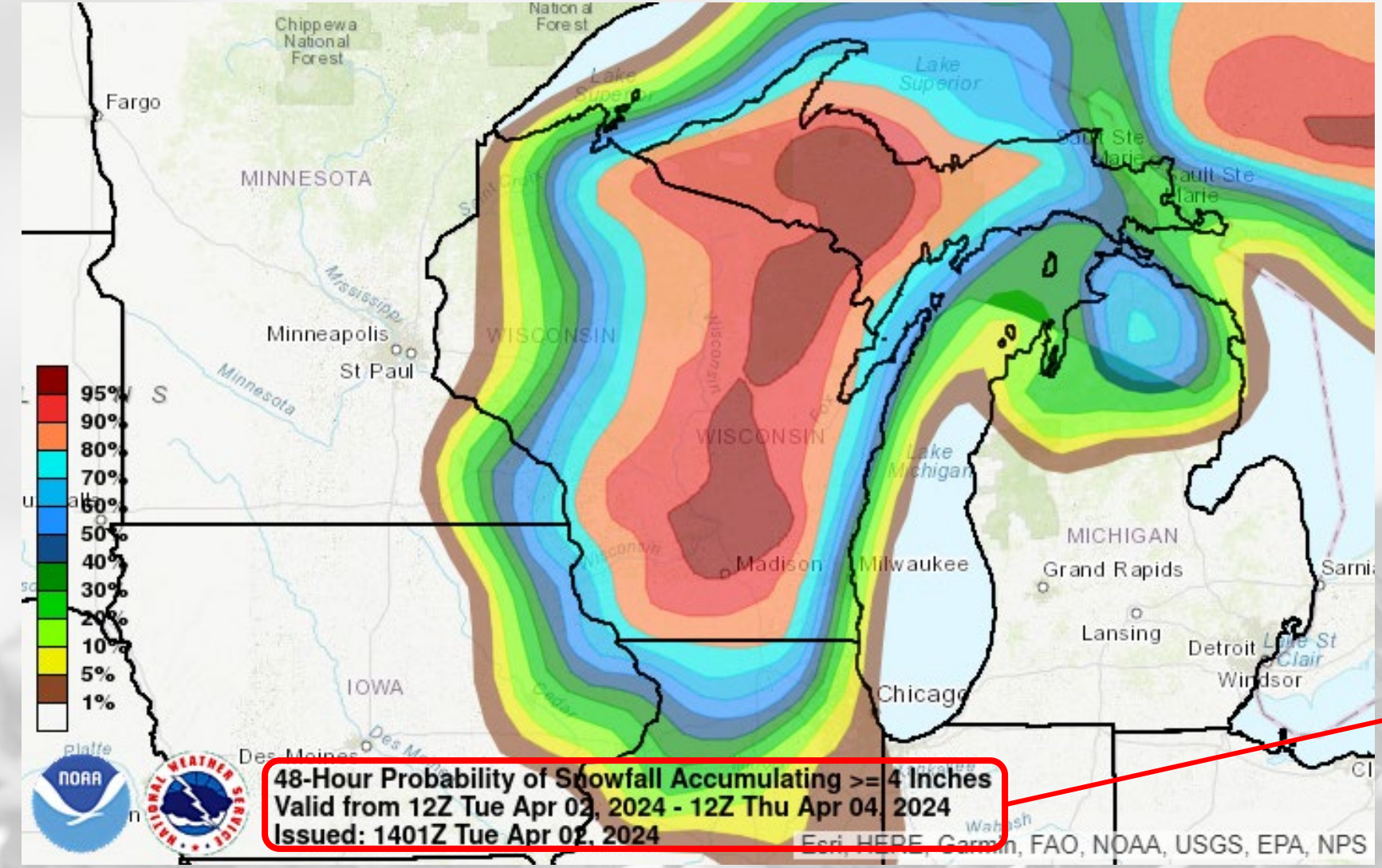


- Chances of multiple rounds of precip over the next week → **1.0" or more for some.**
  - Substantial winter storm moving through on Wednesday.
  - Second possible round on Sunday into Monday.

Forecast for 4/2/24 thru 4/9/24

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

Mid-Week Snowfall

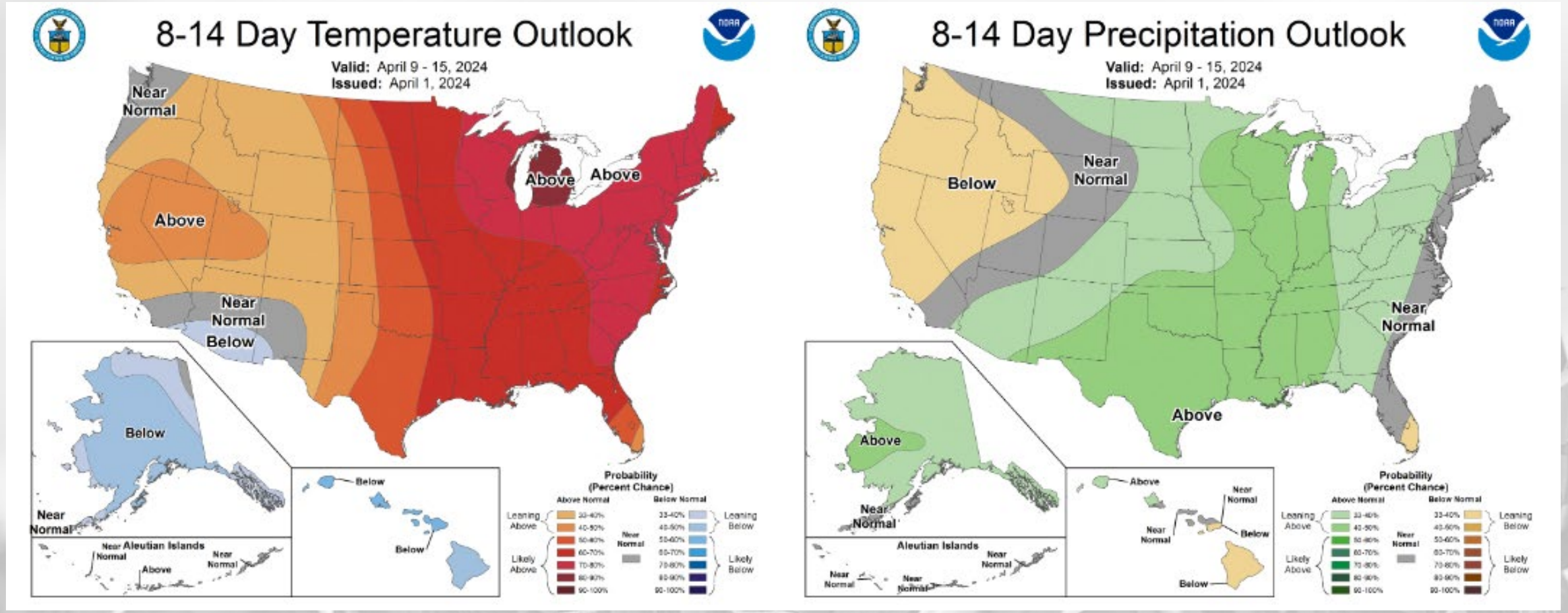


- **High probability (>80%)** for several inches of snow across the middle of the state.
  - Be aware of travel impacts!
  - Moisture will help further alleviate drought (once melted).

Forecast for 4/2/24 (7 am) thru 4/4/24 (7 am)

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

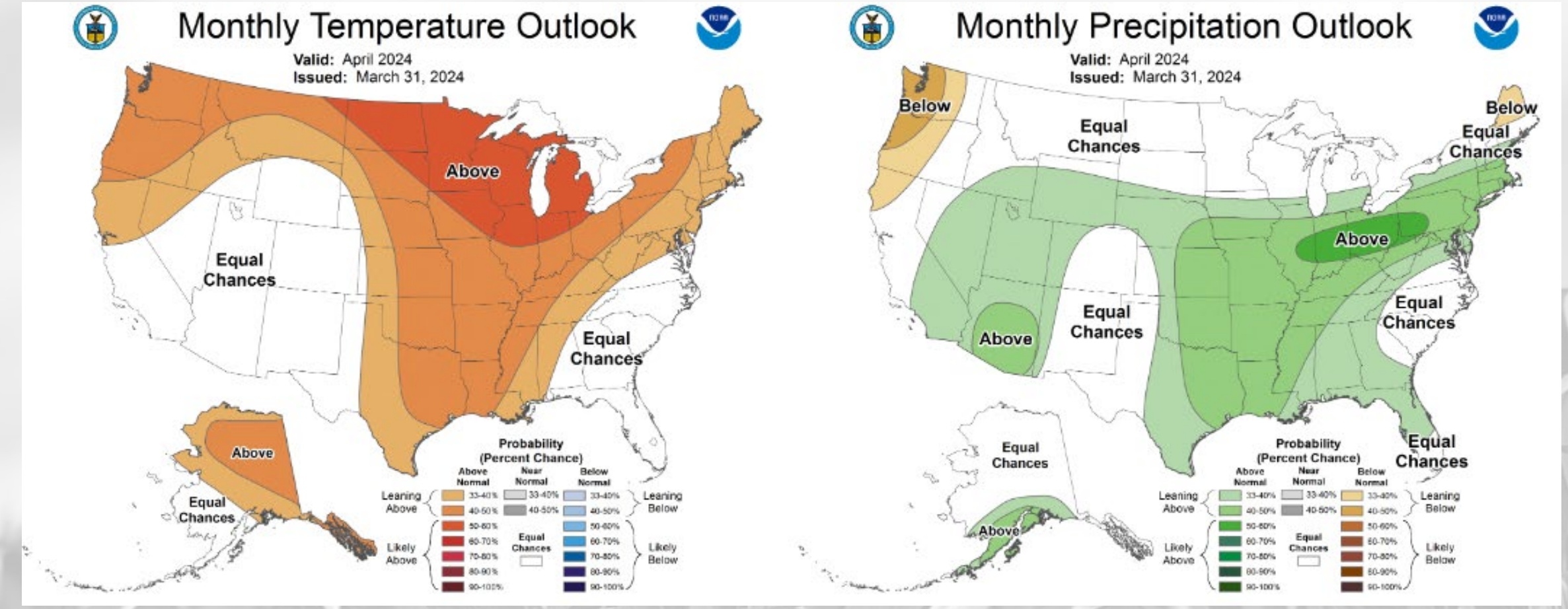
8-14 Day Temp & Precip Outlook



Second week in April: Temperatures & precipitation are likely to be <u>above normal</u>.

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

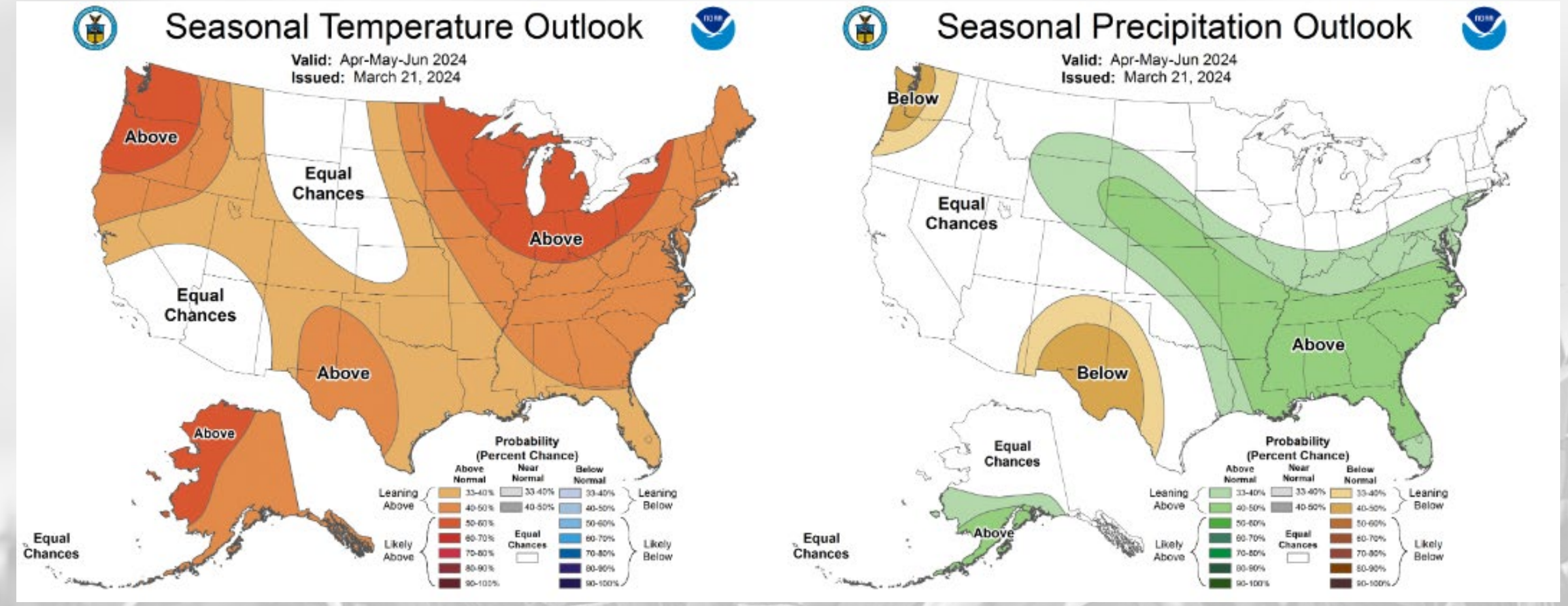
30 Day Temp & Precip Outlook



Month of April: Temperatures likely to be above normal. Precipitation is showing equal chances; leaning above normal near the IL line.

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

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.

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

Take-Home Points

Current conditions:

- Snowfall in the north (and subsequent melting) brought some moisture relief.
- March was a warmer-than-average month, wrapping up with some near-normal temps.

Impact:

- Soil moisture conditions were notably improved with the precipitation and snow melt.
- D1+ drought area drastically decreased in the state by **>40%.**
- Corn planting has begun in the Midwest, with winter wheat making progress.

Outlook:

- A strong winter system is forecasted to drop several inches of snow across a large portion of WI this week.
- Early to mid-April is likely to have above normal temps and precip.
- The warmer-than-normal conditions have a higher probability to persist through April due in part to continued El Nino.
    - However, a transition to La Nina is expected by June.

Agricultural Considerations

Planting Considerations

- Watch for soil moisture to increase with this week's wet snow, and monitor for planting conditions.

Nutrient & Herbicide Applications

- As always, producers should be considering climate and soil moisture conditions when setting their crop yield goals and apply nutrients accordingly.
- Ensure daytime, nighttime, & soil temperatures are conducive for the necessary duration for effective herbicide applications

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.
- With increased precipitation be aware of runoff potential at manured or tilled sites, and adjust nutrient plans accordingly.

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.

Livestock

- If calving outdoors, be sure to create a dry spot for calves to get dry to maintain core temperature.

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

FINAL STANDINGS

Station Count Rank	New Station Count	Station Count Rank ▲	Per Capita Count	Per Capita Rank	Population in Millions
Minnesota	573	1	100.22	1	5.72
Tennessee	150	2	21.27	6	7.05
Wisconsin	149	3	25.29	3	5.89
Kansas	80	4	27.24	2	2.94
North Carolina	67	5	6.26	15	10.70

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