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 8, 2024

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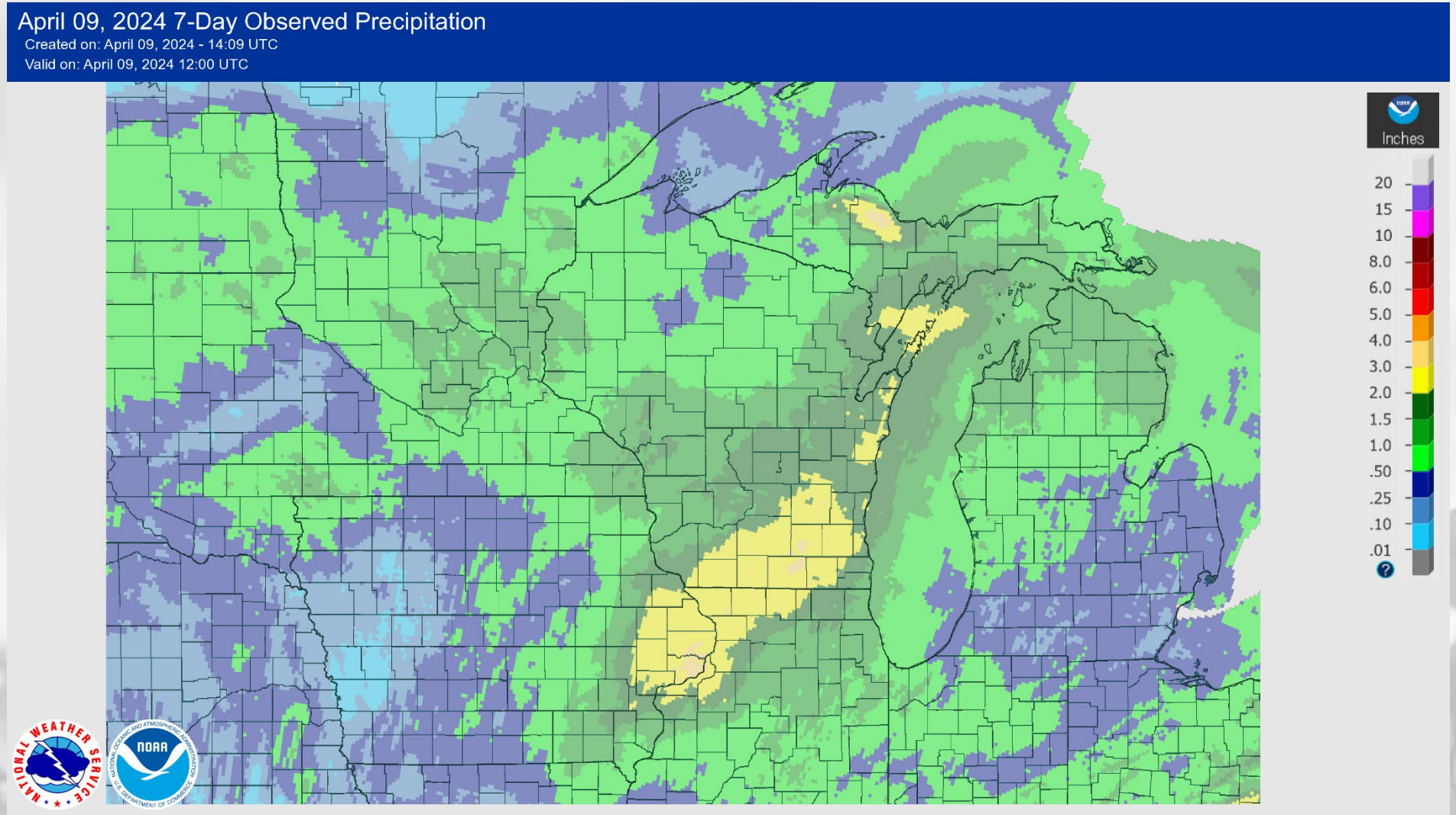
Key Points

1) A major snowstorm impacted the sate last week, bringing several inches of snow that melted within days of falling.

2) The rainfall & snowmelt last week helped to improve soil moisture conditions from last week.

3) After a wet & wintry start to the month, mid-April probabilities are leaning towards above-normal temps & above-normal precip.

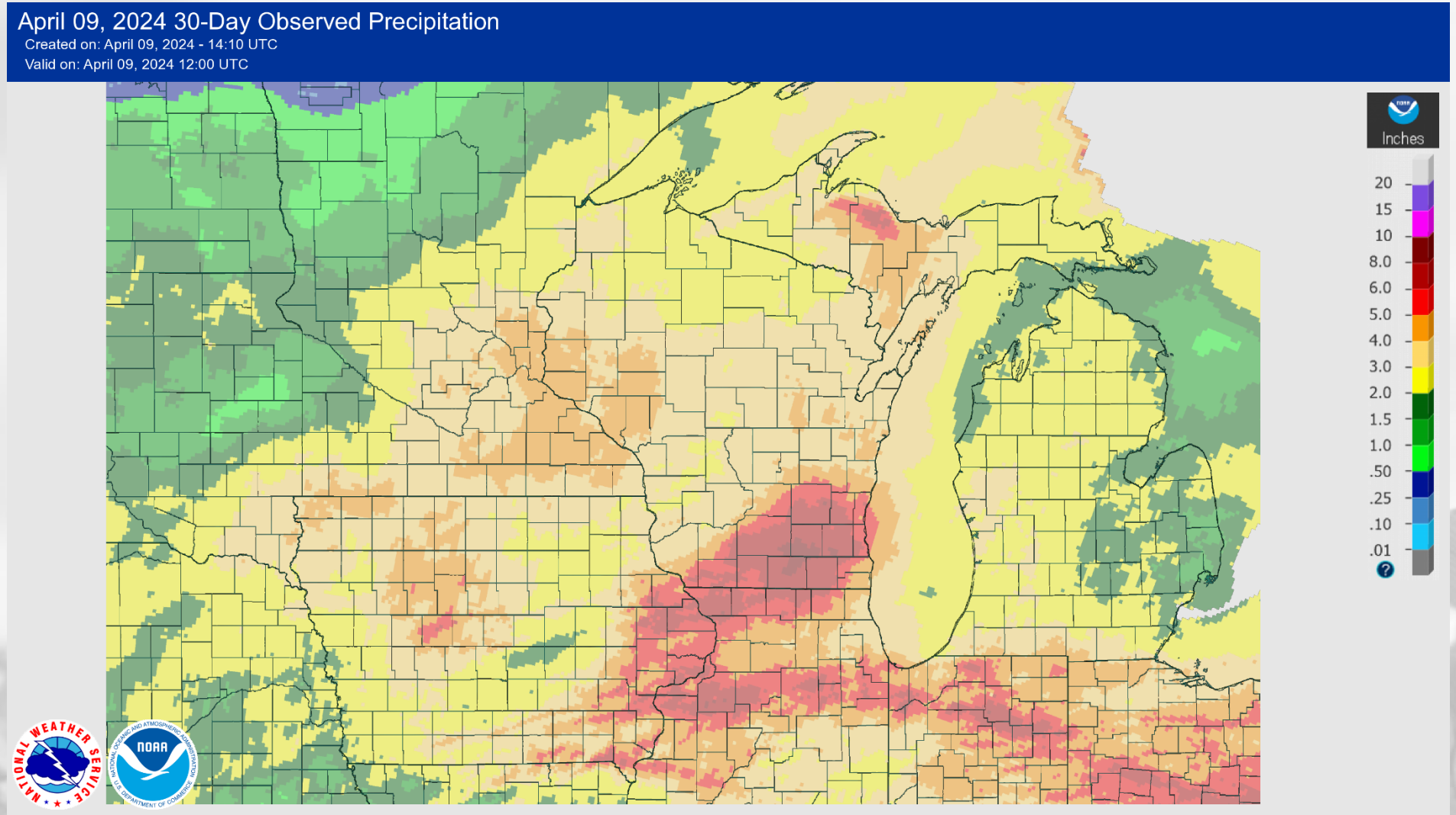
7 Day Precip



- Southern 2/3 of the state saw **>1”** of precip this past week.
- A good portion of this fell as snow.
- Highest amounts in the South Central → **2-3+”**

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

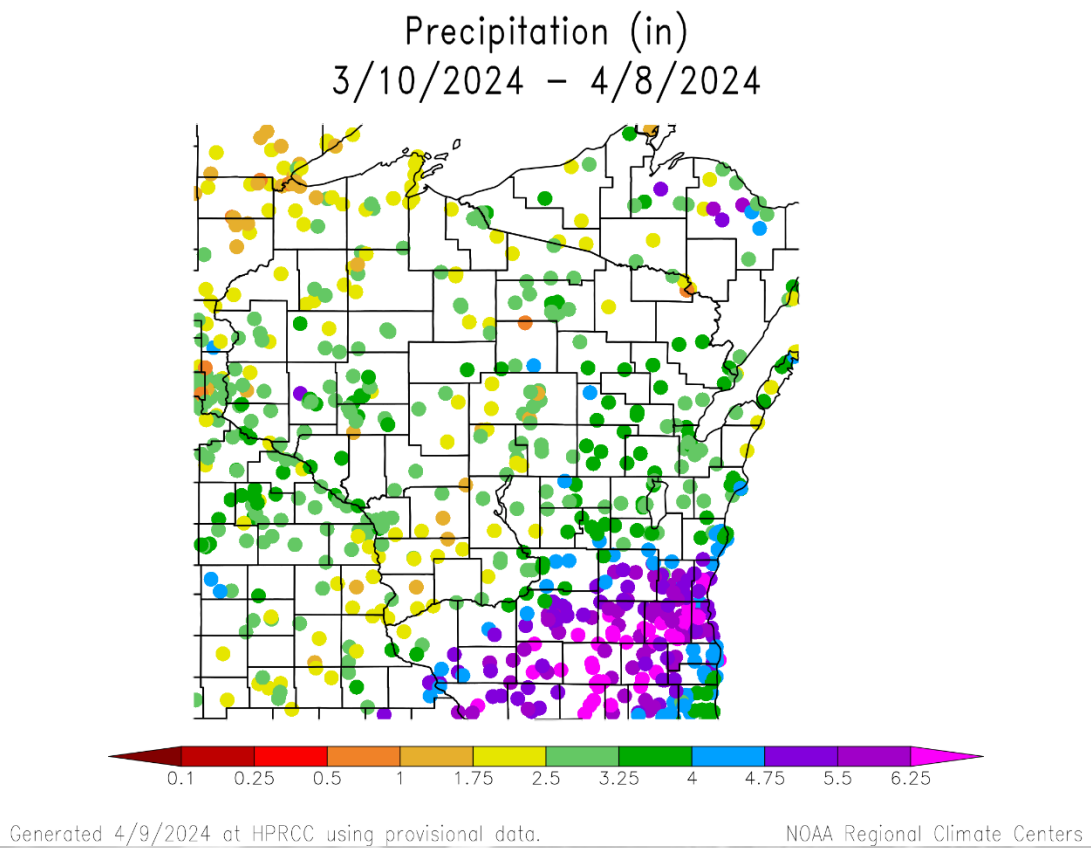
30 Day Precip

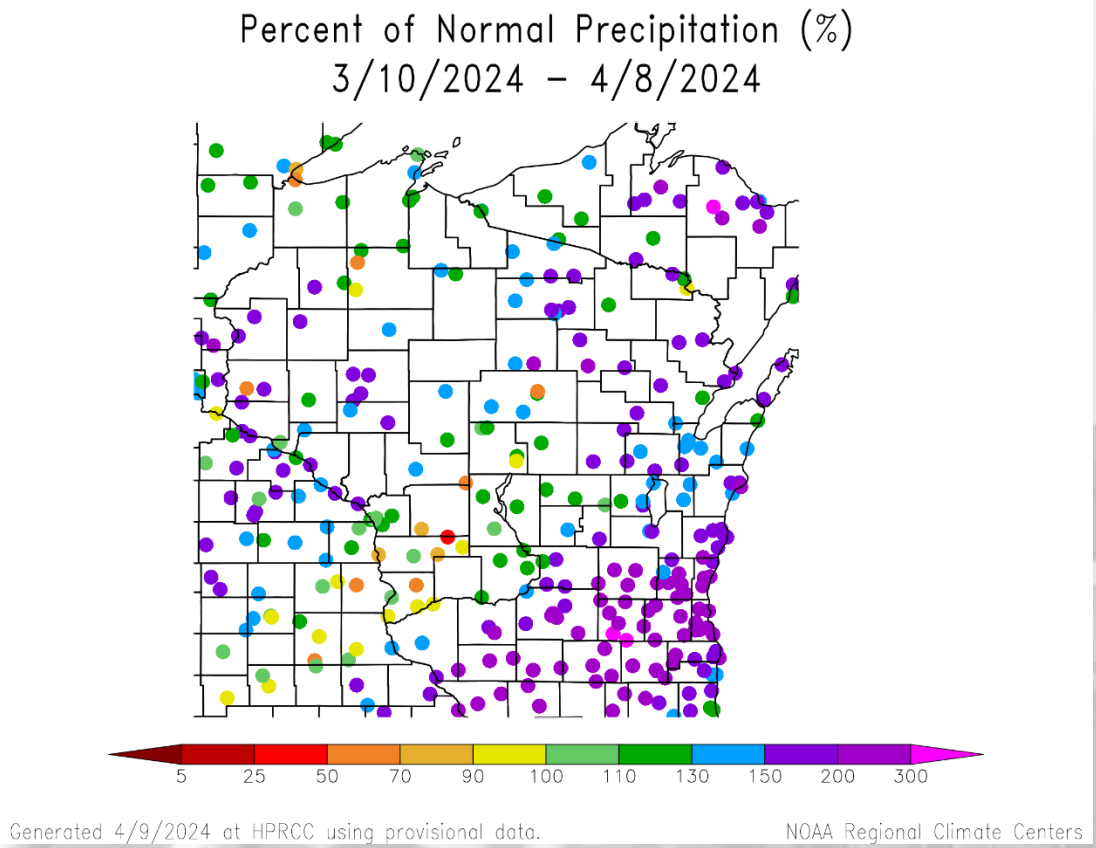


- Most of the state has seen **3-5+”** of precip over the past month.
- Highest amounts in the SE → **5-8”** widespread from Dubuque to Milwaukee.

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

30 Day Precip Total/% Avg.

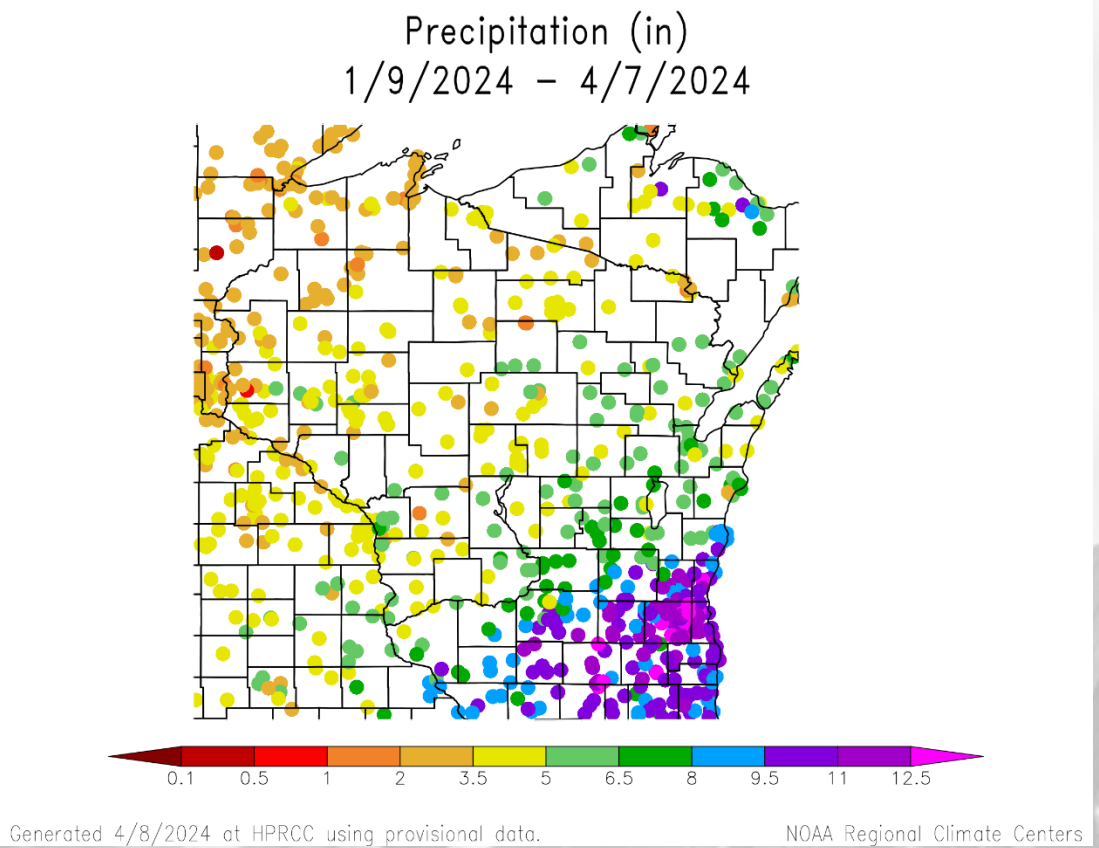


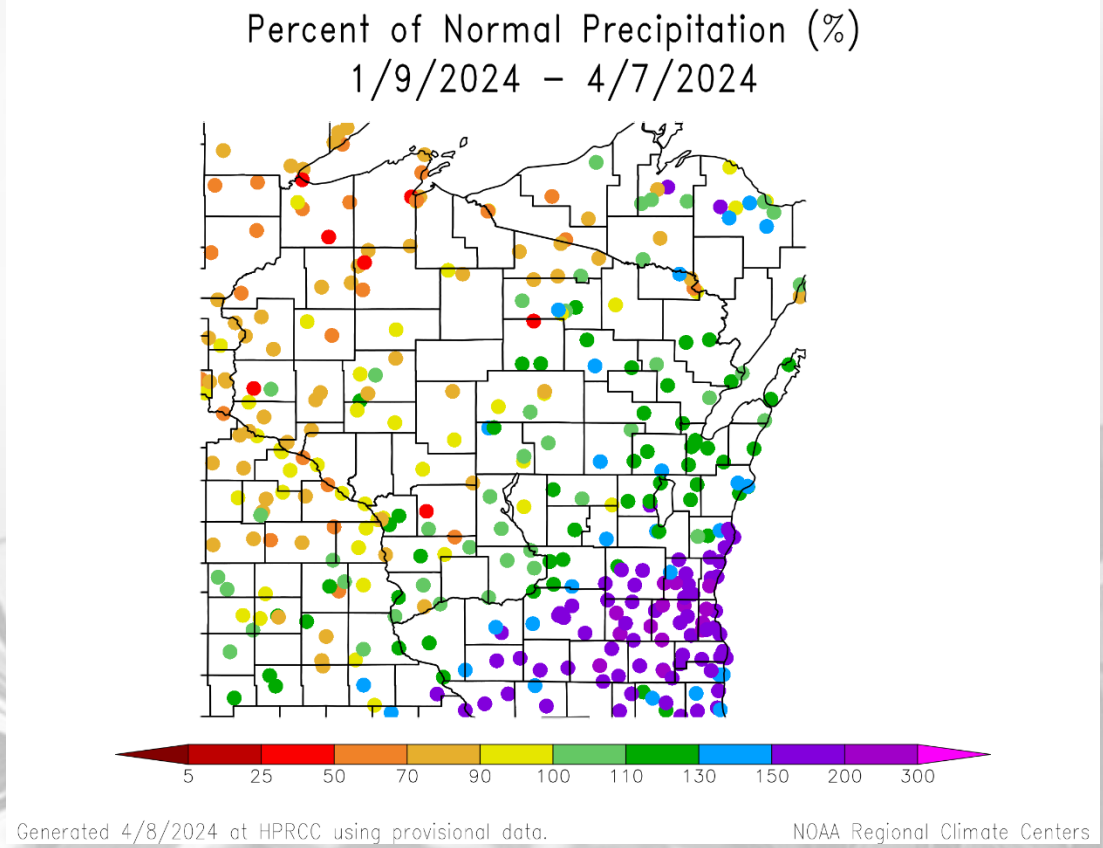


- Highest precip totals in the SE (>5”) and lowest in the Driftless & far NW (<2.5”).
- Majority of stations at or above long-term average
  - Exception of some stations in the SW and NW

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

90 Day Precip Total/% Avg.

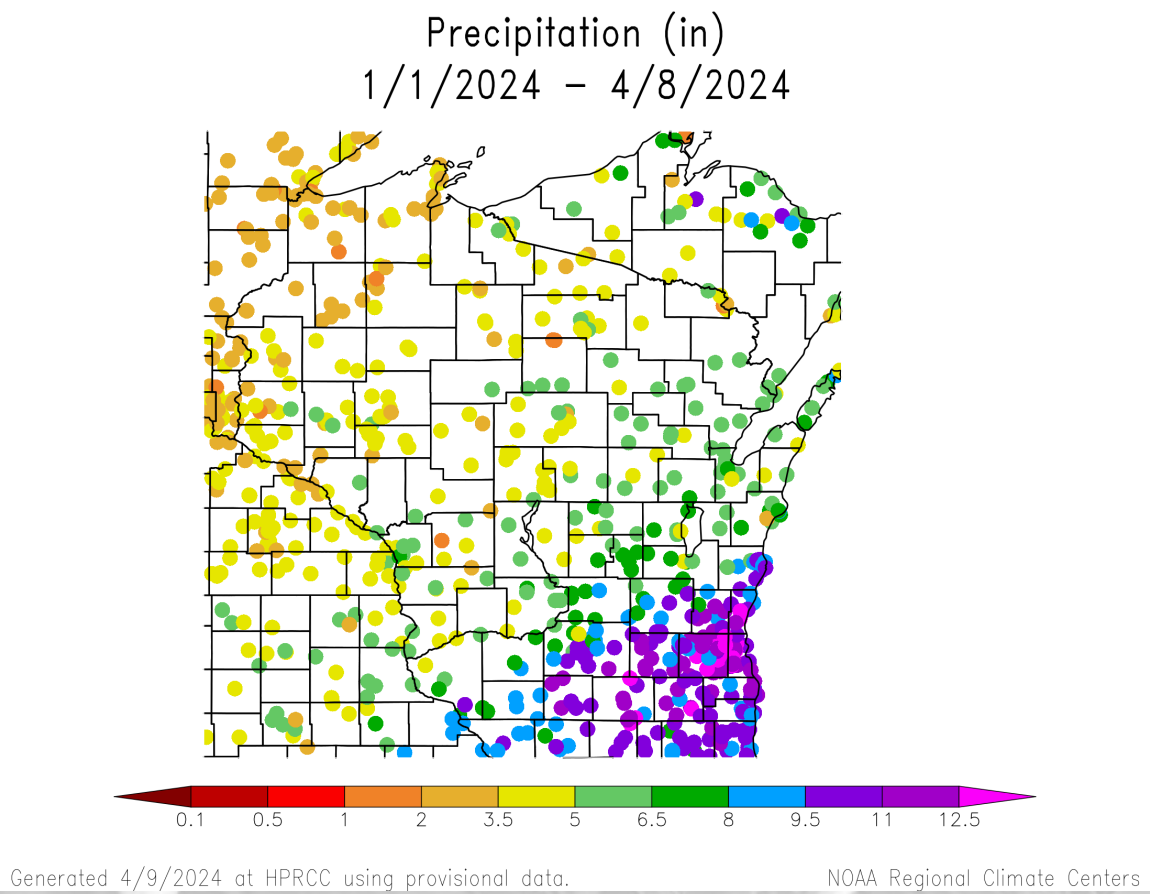


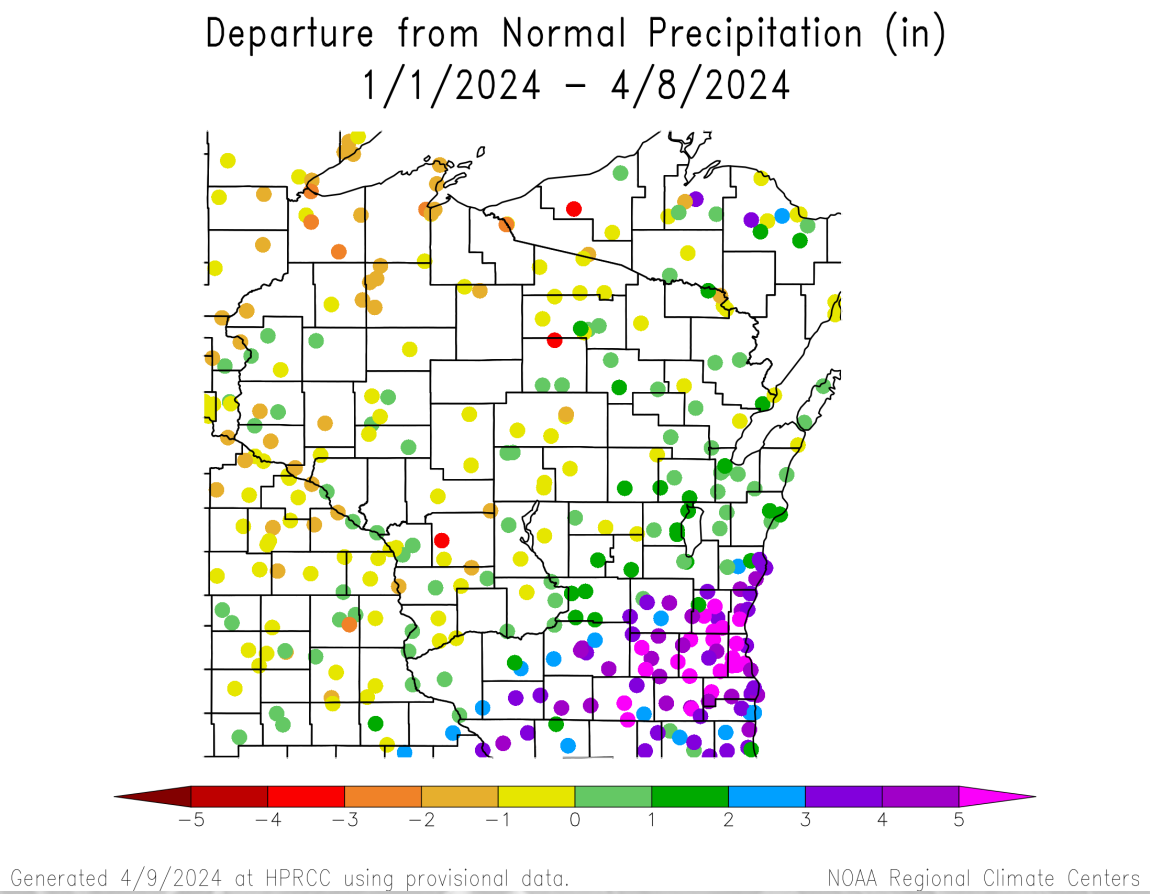


- Highest precip totals in the SE (>8”) and lowest in the NW (<3.5”).
- 150+% of long-term average precip in the SE.
- <100% of average was common across stations in the N and W.

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

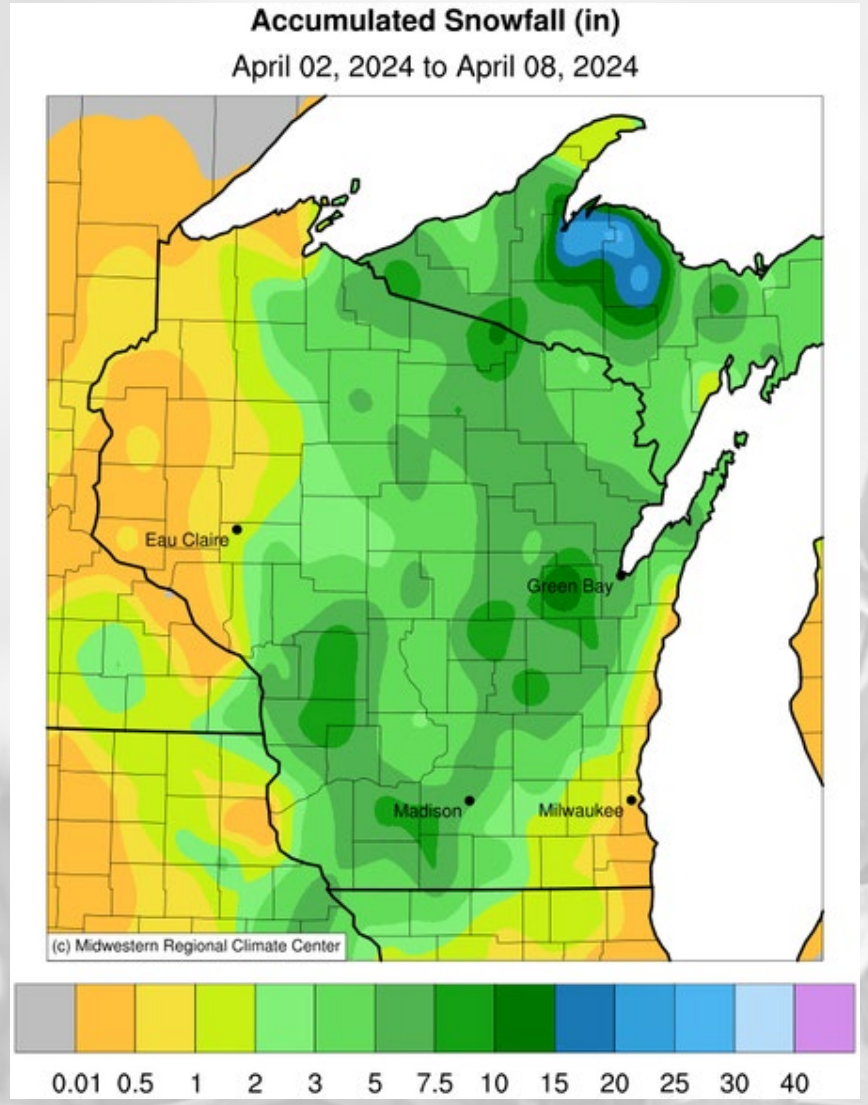
Precipitation since Jan. 1

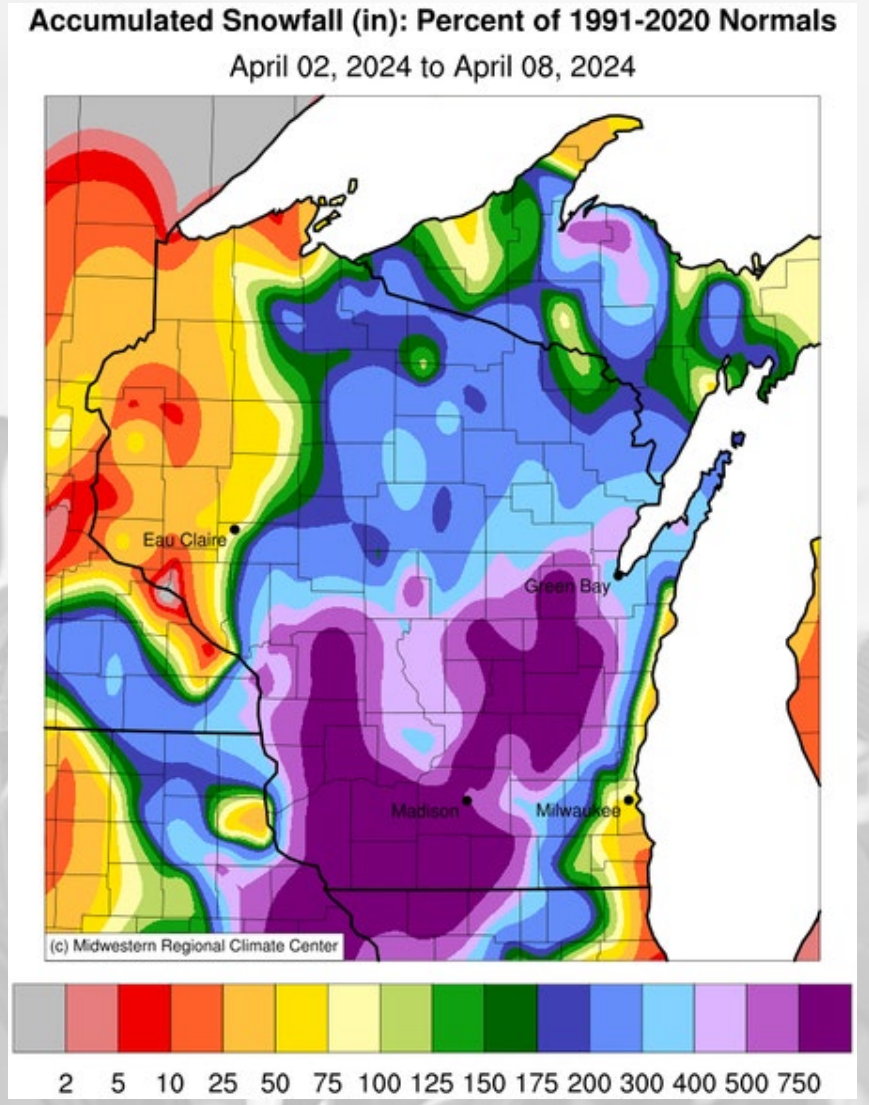




https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

Early Spring Snow (…& lots of it!)





- The entire state saw some snowfall last week during this late-season storm.
- Highest amounts in the Appleton area **(>10”).**
- Many areas saw more than **double or triple** their normal weekly snowfall totals.
- This was a very wet snowfall which will be helpful in replenishing soil moisture.

https://mrcc.purdue.edu/CLIMATE

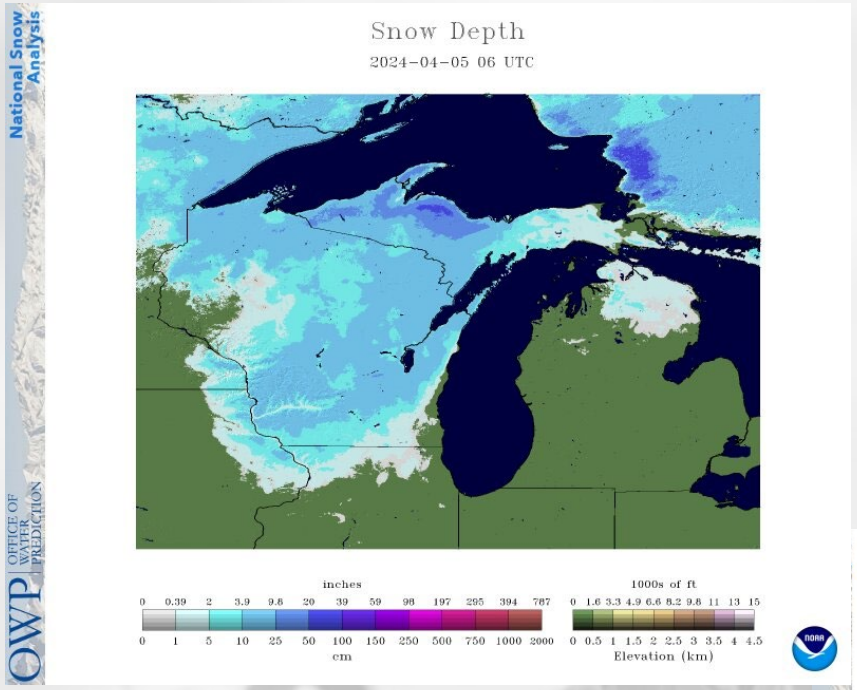
Highest Snow Totals

Name	Station Type	County	Total Snowfall (in)
SHIOCTON	COOP	Outagamie	18.1
LA CROSSE WFO	COOP	La Crosse	16.6
WILD ROSE 0.5 E	CoCoRaHS	Waushara	12.2
LAC VIEUX DESERT	COOP	Vilas	12.0
LA FARGE	COOP	Vernon	11.0
ELDORADO 2.3 S	CoCoRaHS	Fond du Lac	10.4
RIPON	COOP	Fond du Lac	10.4
WARRENS 4.7 WSW	CoCoRaHS	Monroe	10.1
APPLETON	COOP	Outagamie	9.5
DODGEVILLE 2.7 NE	CoCoRaHS	Iowa	9.4
ARLINGTON	COOP	Columbia	9.3
WIS RAPIDS GRAND AV B	COOP	Wood	9.1
MT. HOREB WWTP	COOP	Dane	9.0

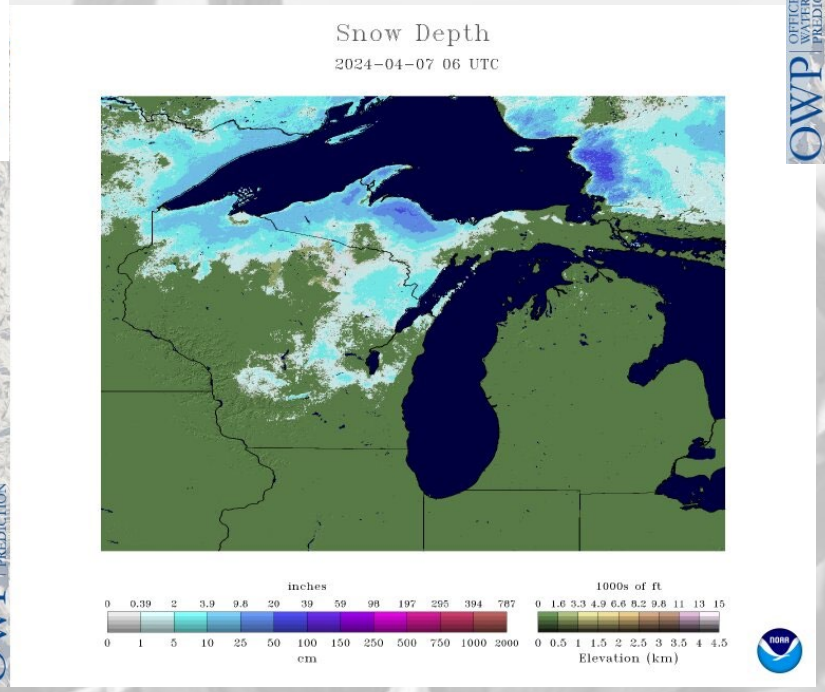
Total snow accumulation between April 2-9, 2024

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

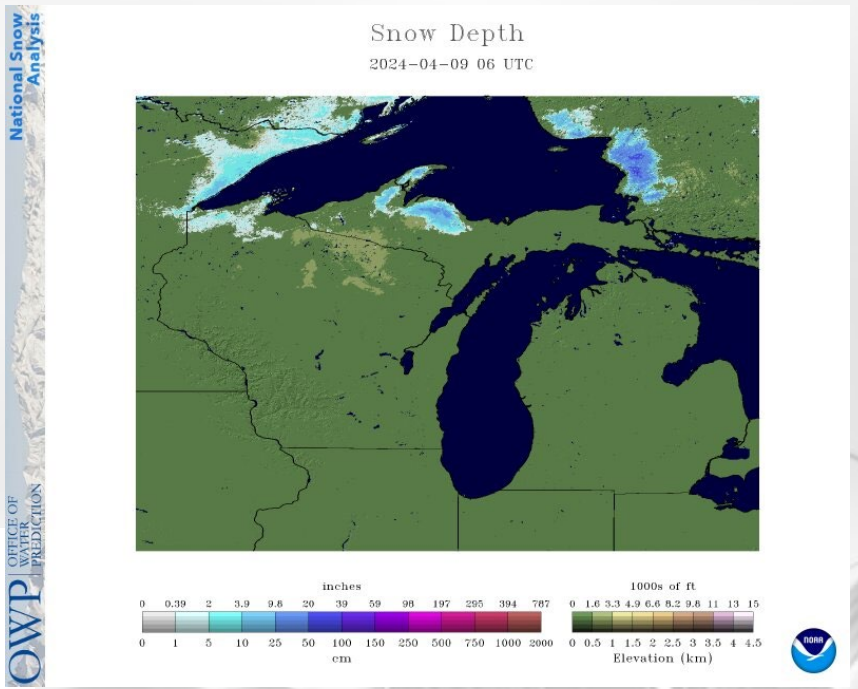
The snow didn’t last long!



April 5th



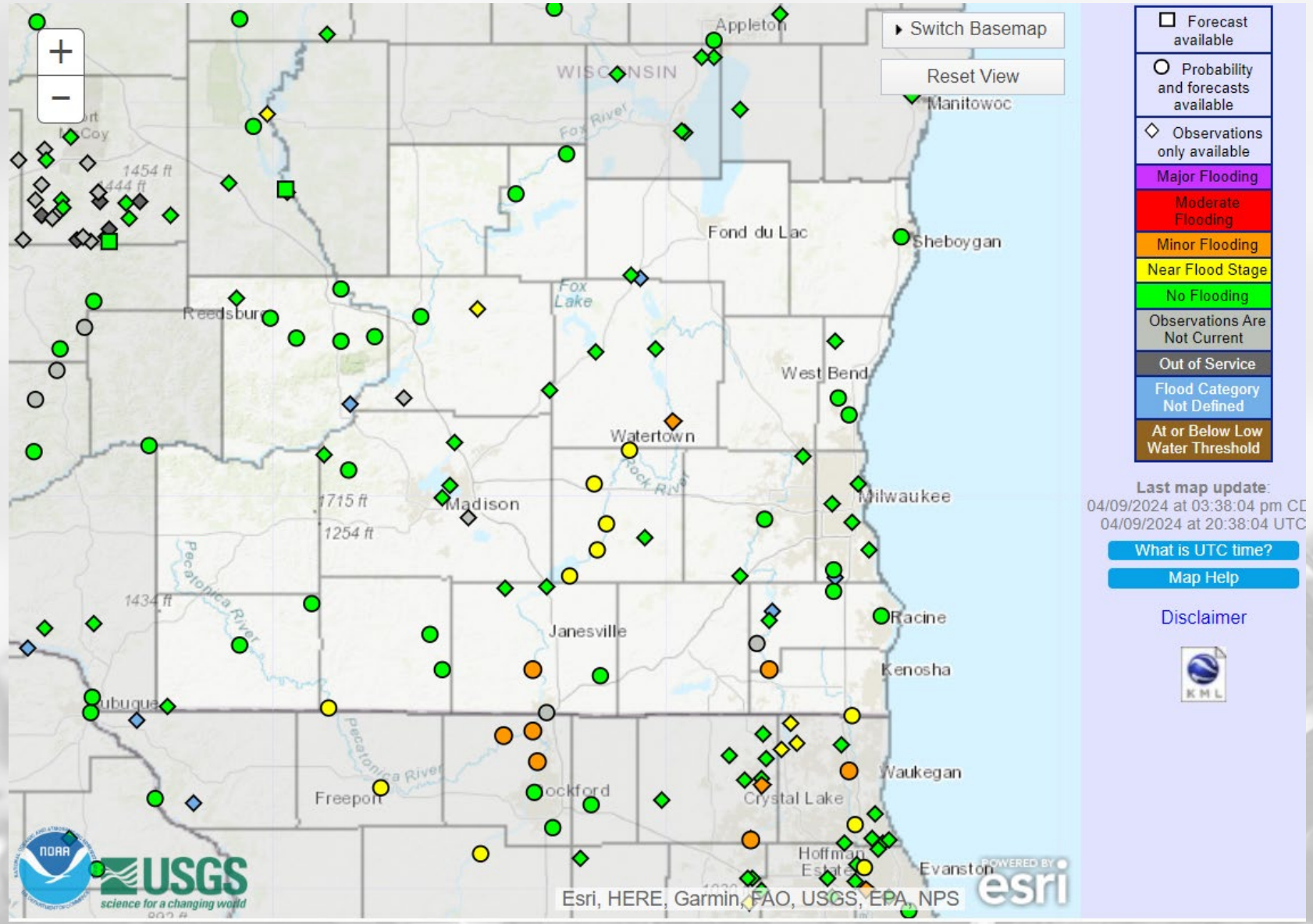
April 7th



April 9th

https://www.nohrsc.noaa.gov/nsa/

River Levels



- With the higher-than-average precipitation and the melting snow, several river gauges in SE WI are **near or at minor flood stage**.
- *Always be aware of the hazards of flood waters!*

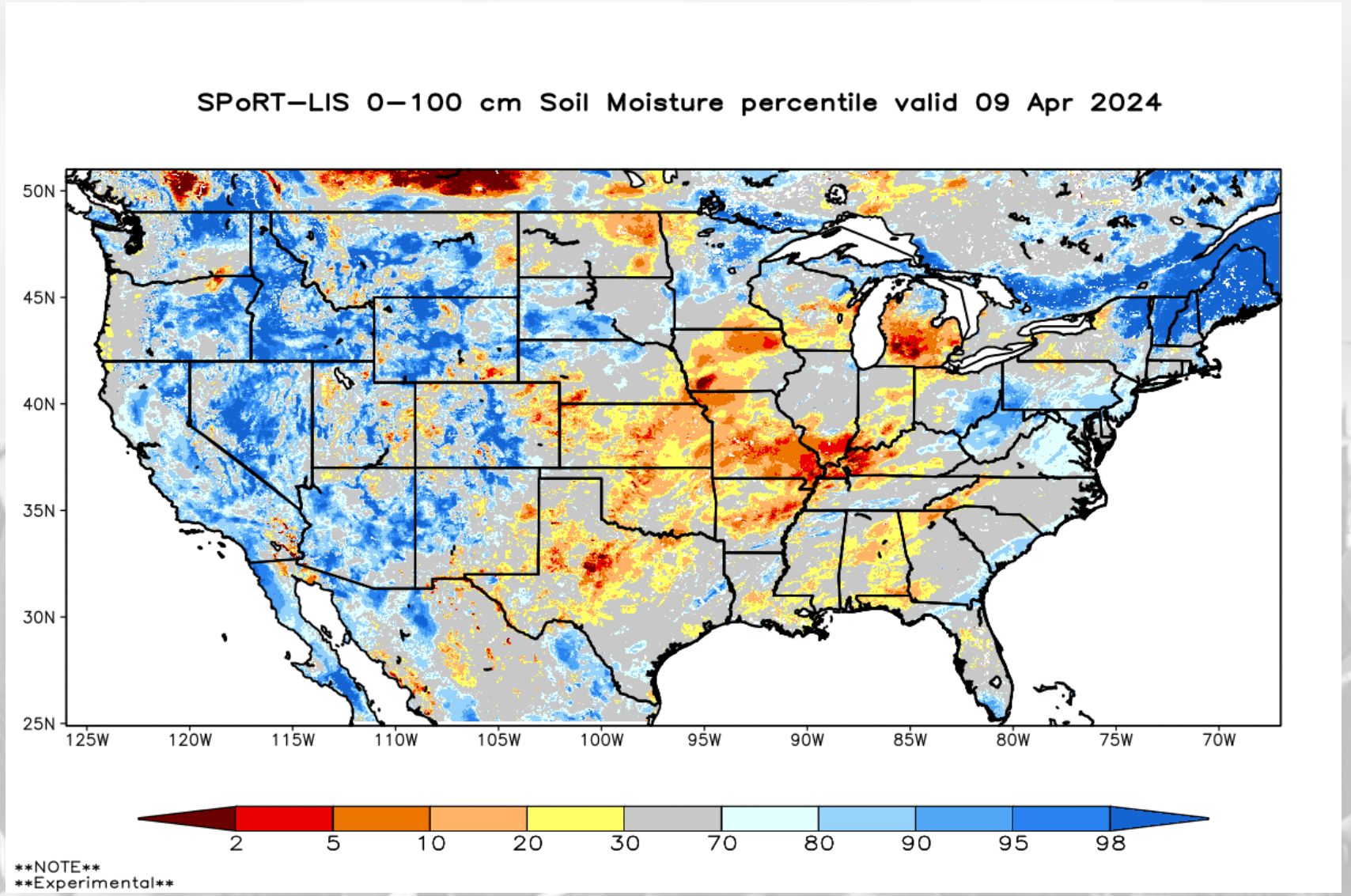
https://water.weather.gov/ahps/

Soil Moisture Models

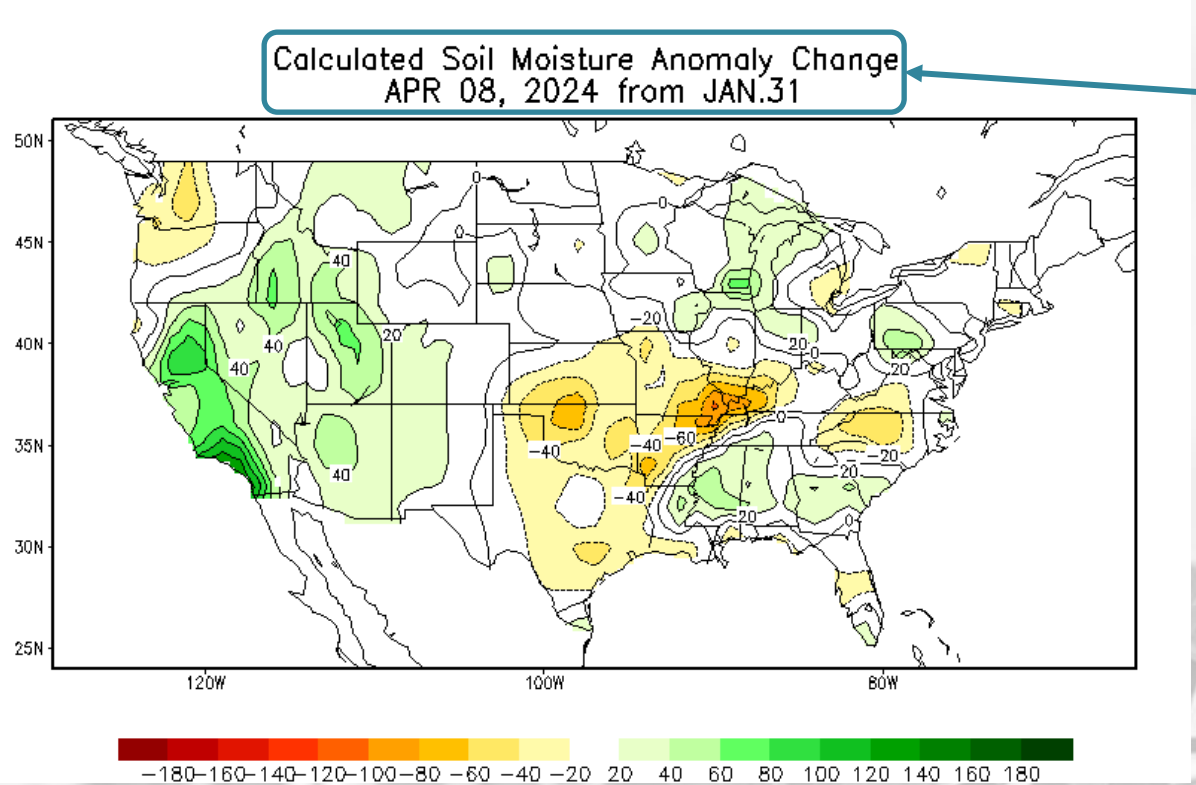
- **Continued improvement** in soil moisture conditions (less area in red/orange)
  - Early April snowstorm brought a good shot of moisture.
- Driest soil moisture conditions in Green Bay/Door County area, according to this model.

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

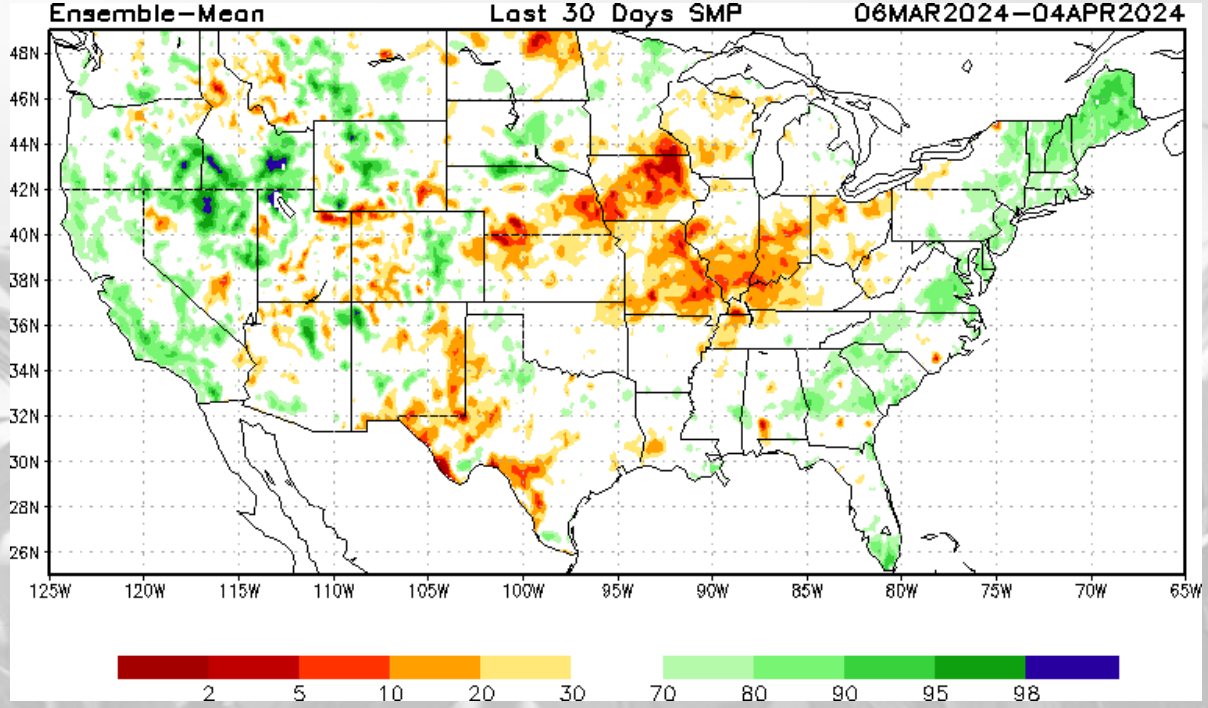
https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html



Soil Moisture Models

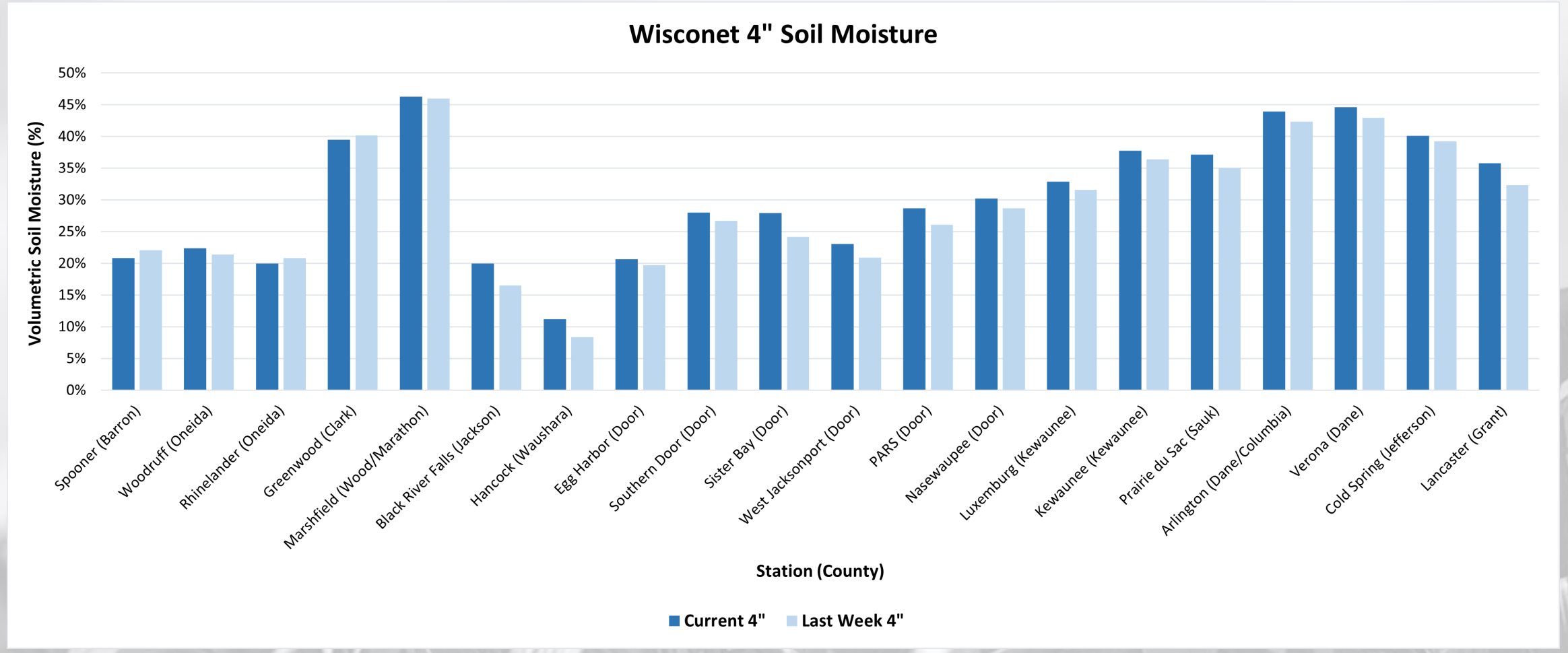


Soil moisture improvement in E/SE WI since January



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

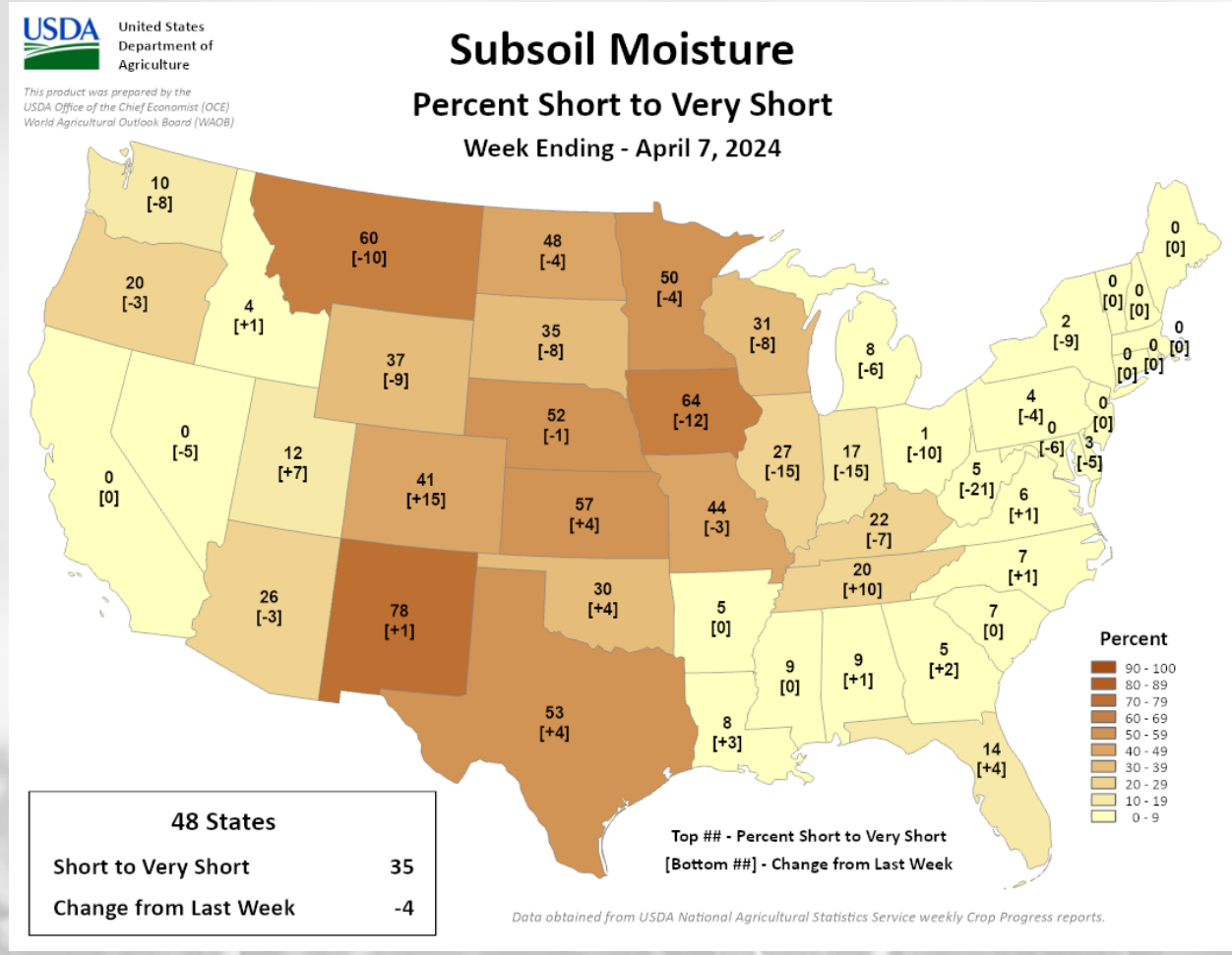


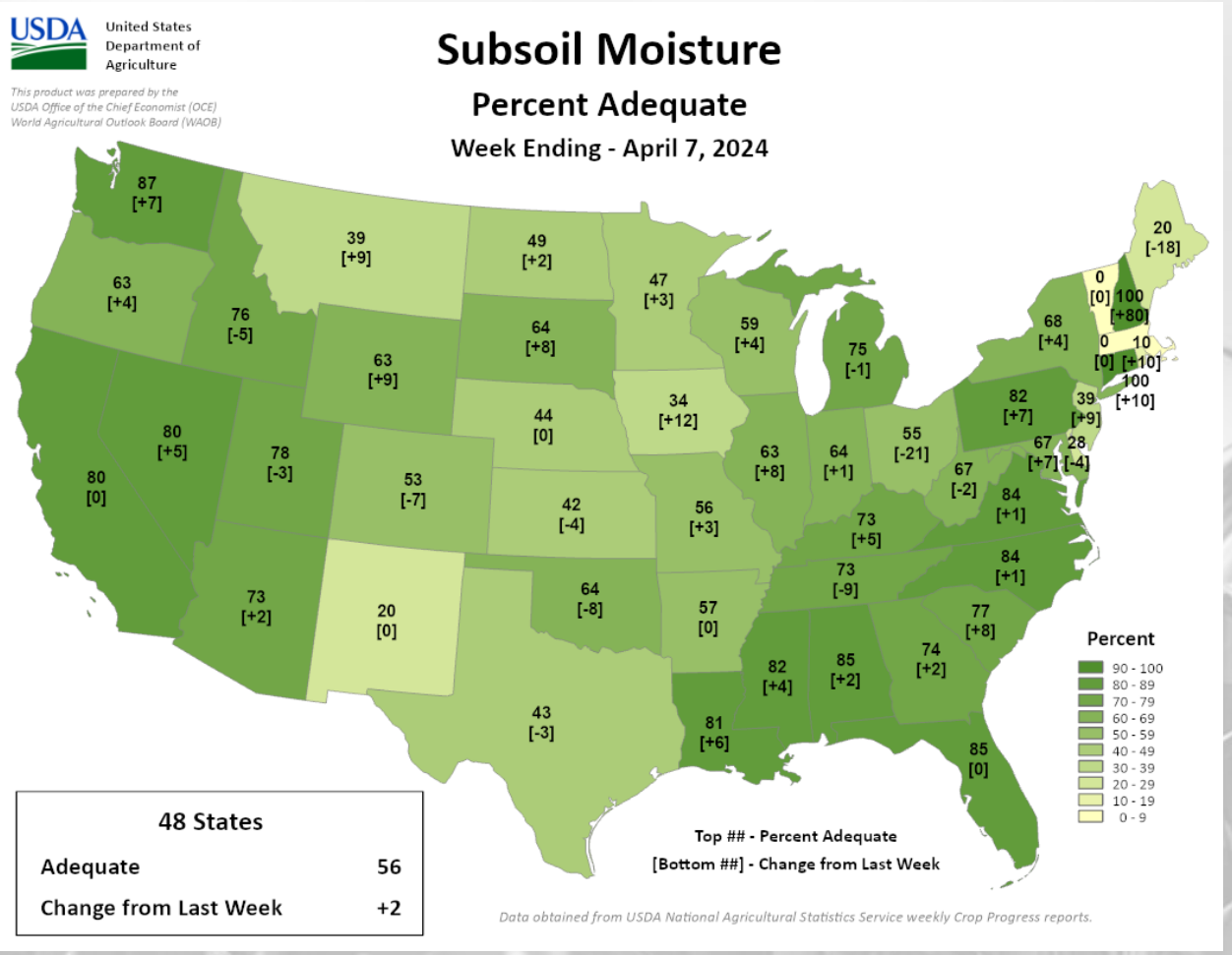
Current: 7-day average ending on 4/8

Last Week: 7-day average ending on 4/1

https://wisconet.wisc.edu/

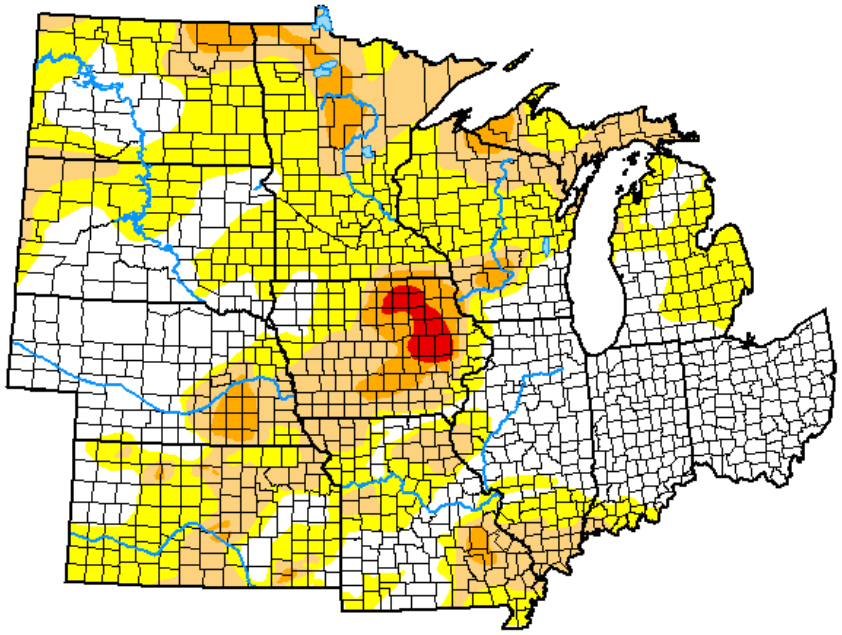
NASS Subsoil Moisture





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

US Drought Monitor



U.S. Drought Monitor

North Central States

April 2, 2024

(Released Thursday, Apr. 4, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	38.82	61.18	25.26	5.92	0.85	0.00
Last Week *03-26-2024*	36.99	63.01	24.79	6.05	0.89	0.00
3 Months Ago *01-02-2024*	37.52	62.48	38.54	16.91	3.77	0.02
Start of Calendar Year *01-02-2024*	37.52	62.48	38.54	16.91	3.77	0.02
Start of Water Year *09-26-2023*	25.87	74.13	49.98	25.16	7.67	0.73
One Year Ago *04-04-2023*	50.91	49.09	27.71	16.49	9.03	4.59

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 Pugh
CPC/NOAA

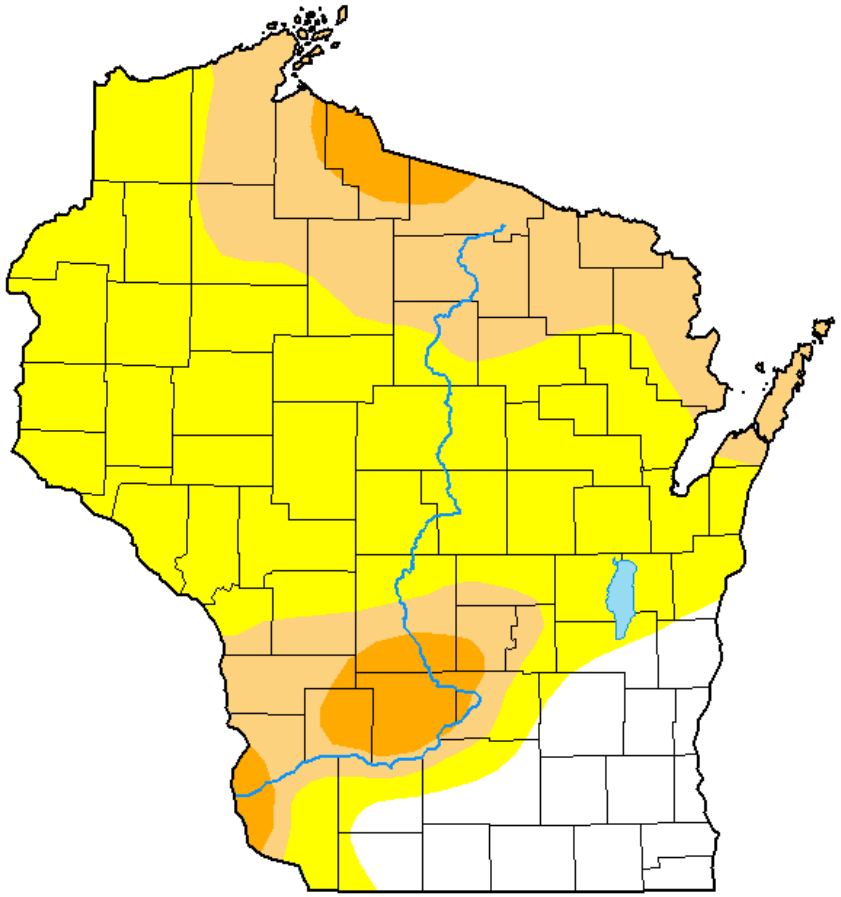
droughtmonitor.unl.edu

- Compared to last week:
  - Minor changes in drought category area (-/+).
- Ohio & Indiana are nearly drought-free.
- D3 level drought persists in eastern IA.

Note: D0 is not considered drought.

http://droughtmonitor.unl.edu/

US Drought Monitor



U.S. Drought Monitor

Wisconsin

April 2, 2024

(Released Thursday, Apr. 4, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	13.90	86.10	31.55	5.99	0.00	0.00
Last Week 03-26-2024	13.96	86.04	31.55	5.99	0.00	0.00
3 Months Ago 01-02-2024	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 04-04-2023	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

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CPC/NOAA

droughtmonitor.unl.edu

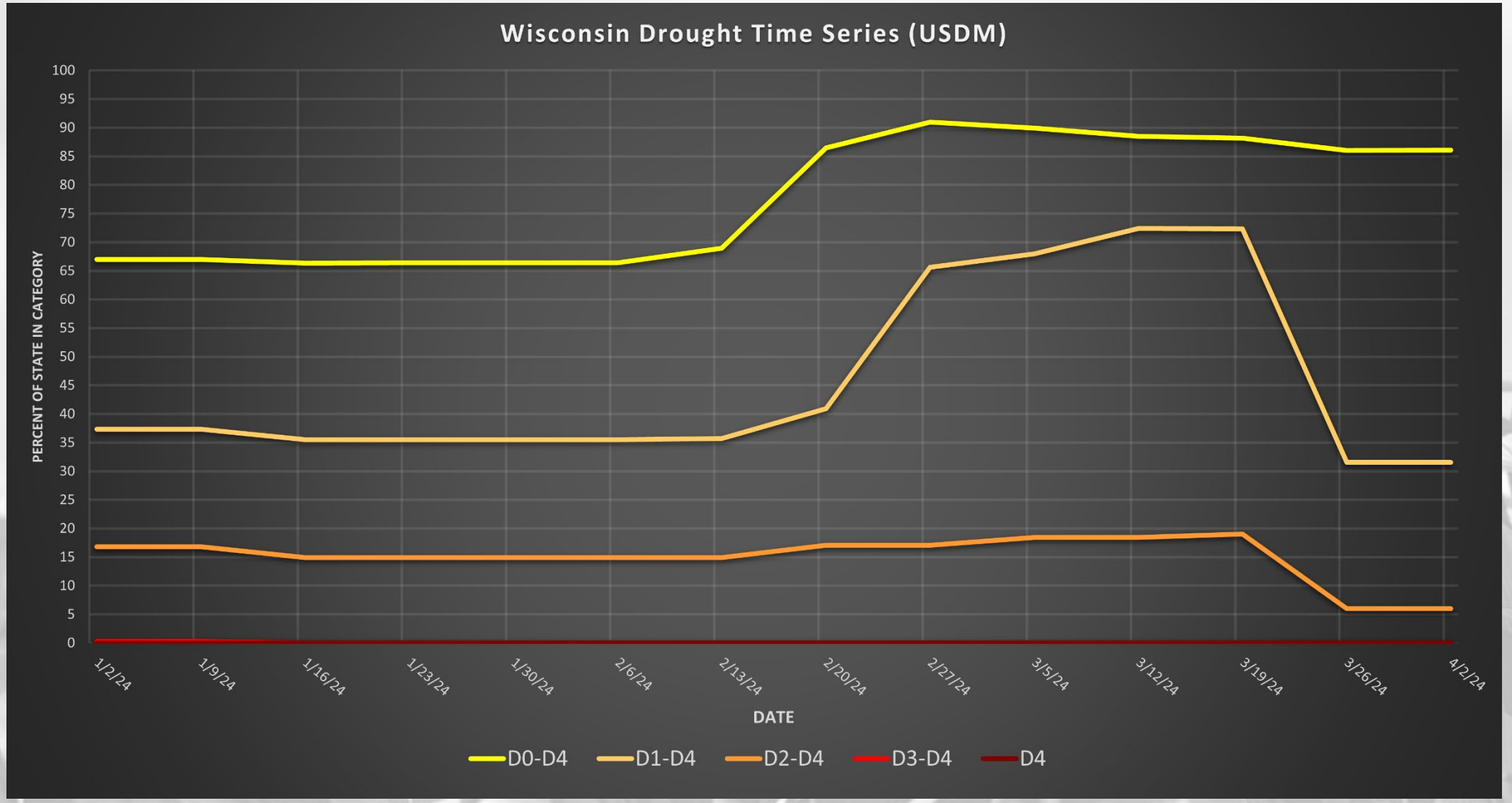
Amount of state in:

- 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.

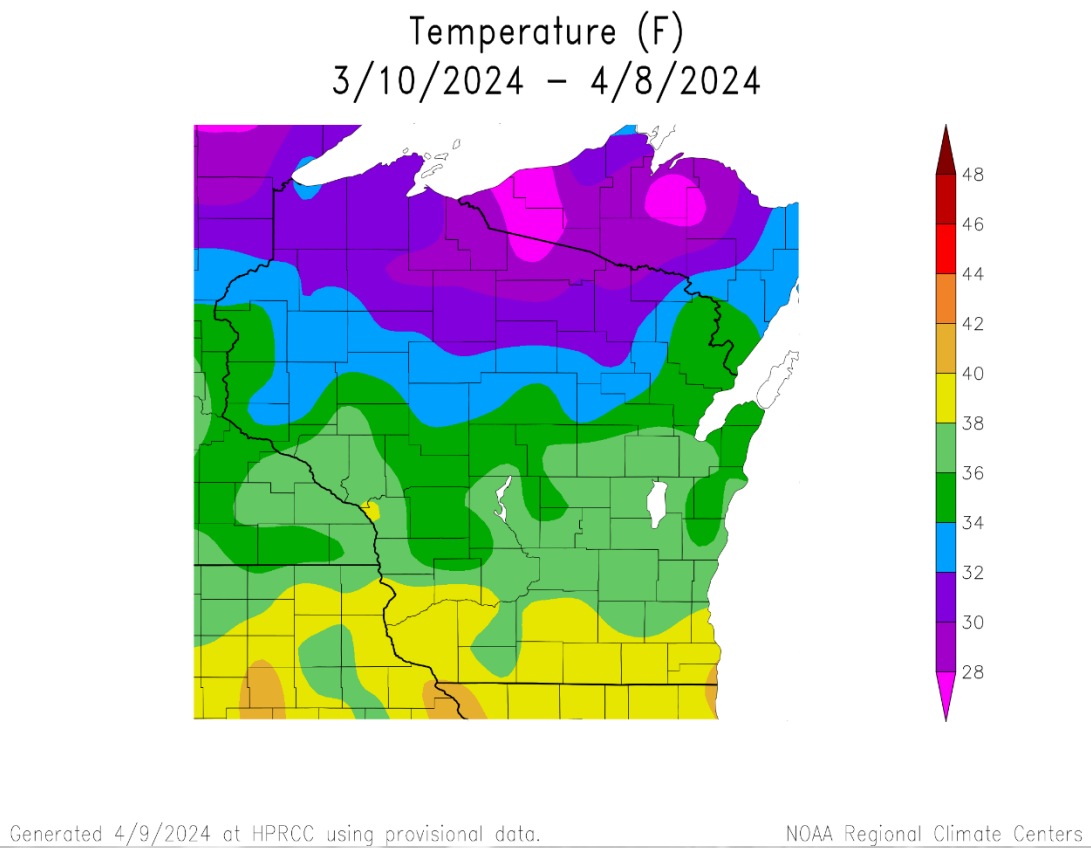
http://droughtmonitor.unl.edu/

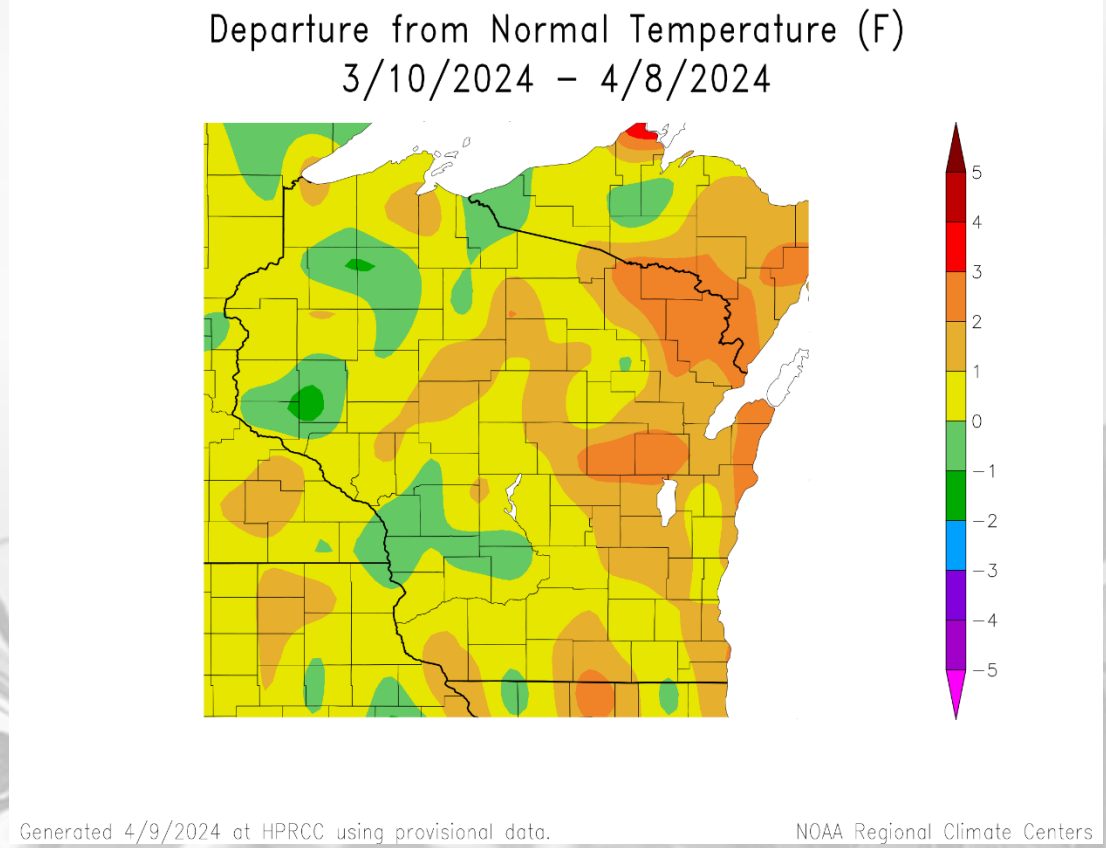
USDM Time Series



http://droughtmonitor.unl.edu/

30 Day Temperatures

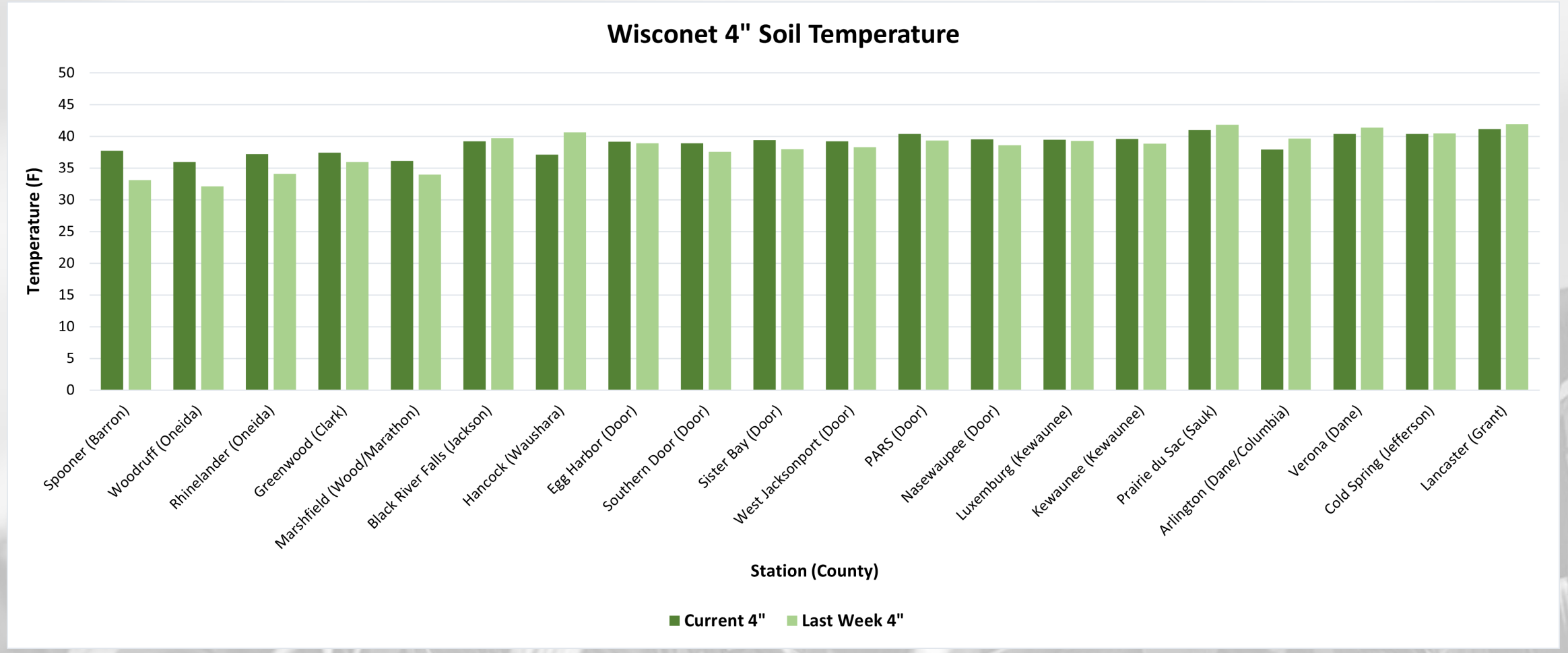




- Temperatures over the last 30 days ranged from **36-40°F** in the S to **28-32°F** in the far N.
- Most of the state was within **-/+ 1°F** of average.
  - **2°F** or higher than average for some in the E and NE.

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

Soil Temperature - Wisconet

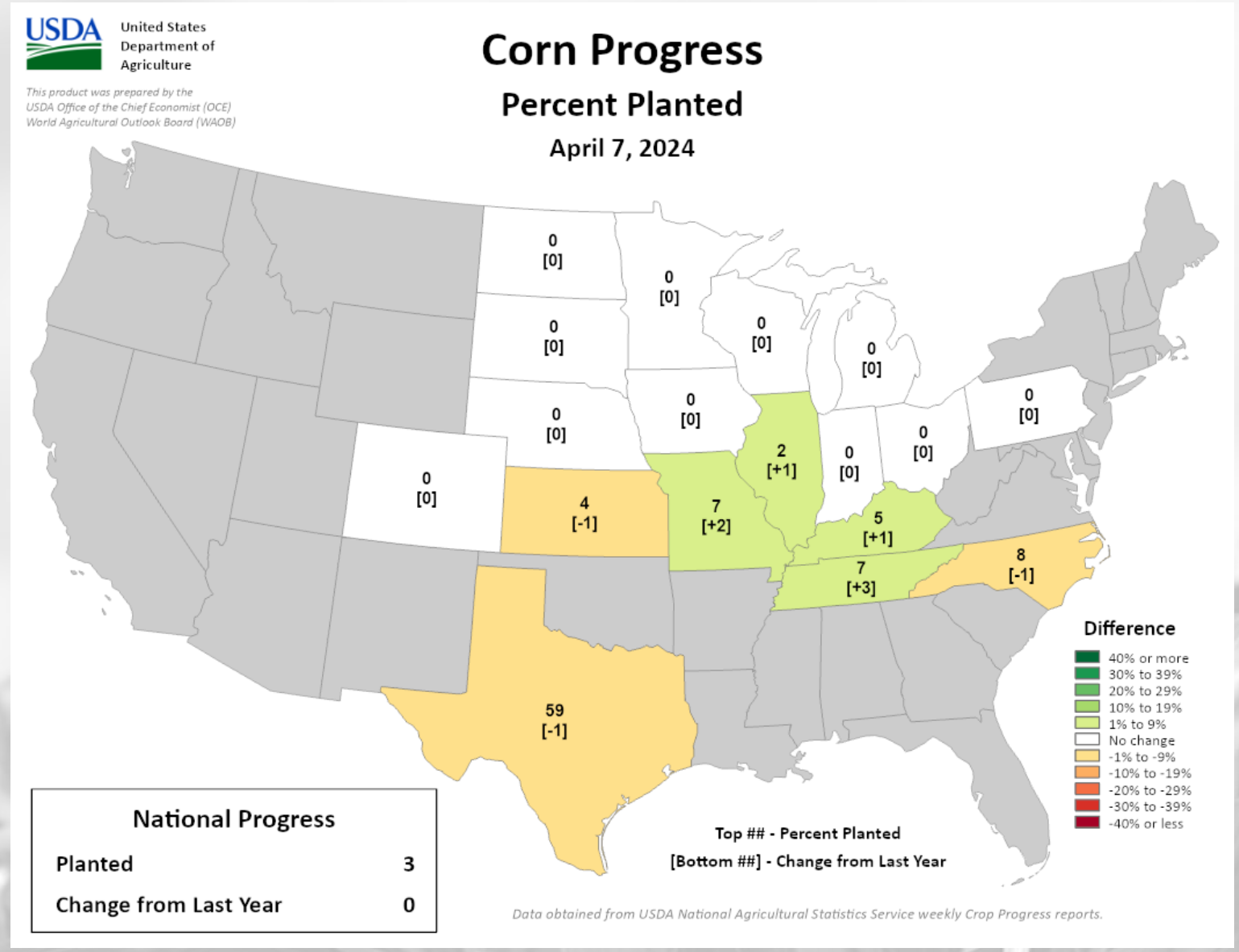


Current: 7-day average ending on 4/8

Last Week: 7-day average ending on 4/1

https://wisconet.wisc.edu/

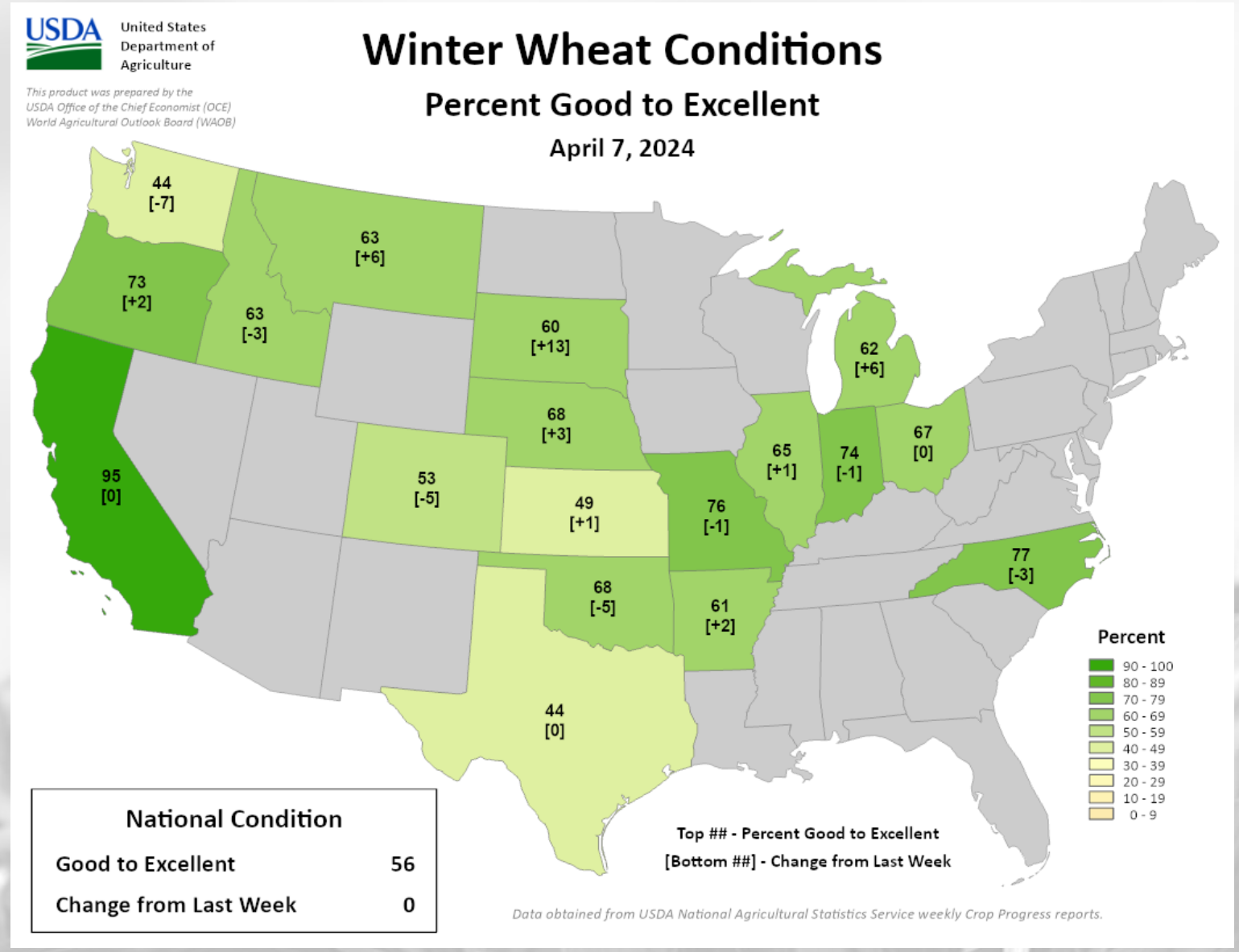
NASS Crop Progress – Corn



- 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

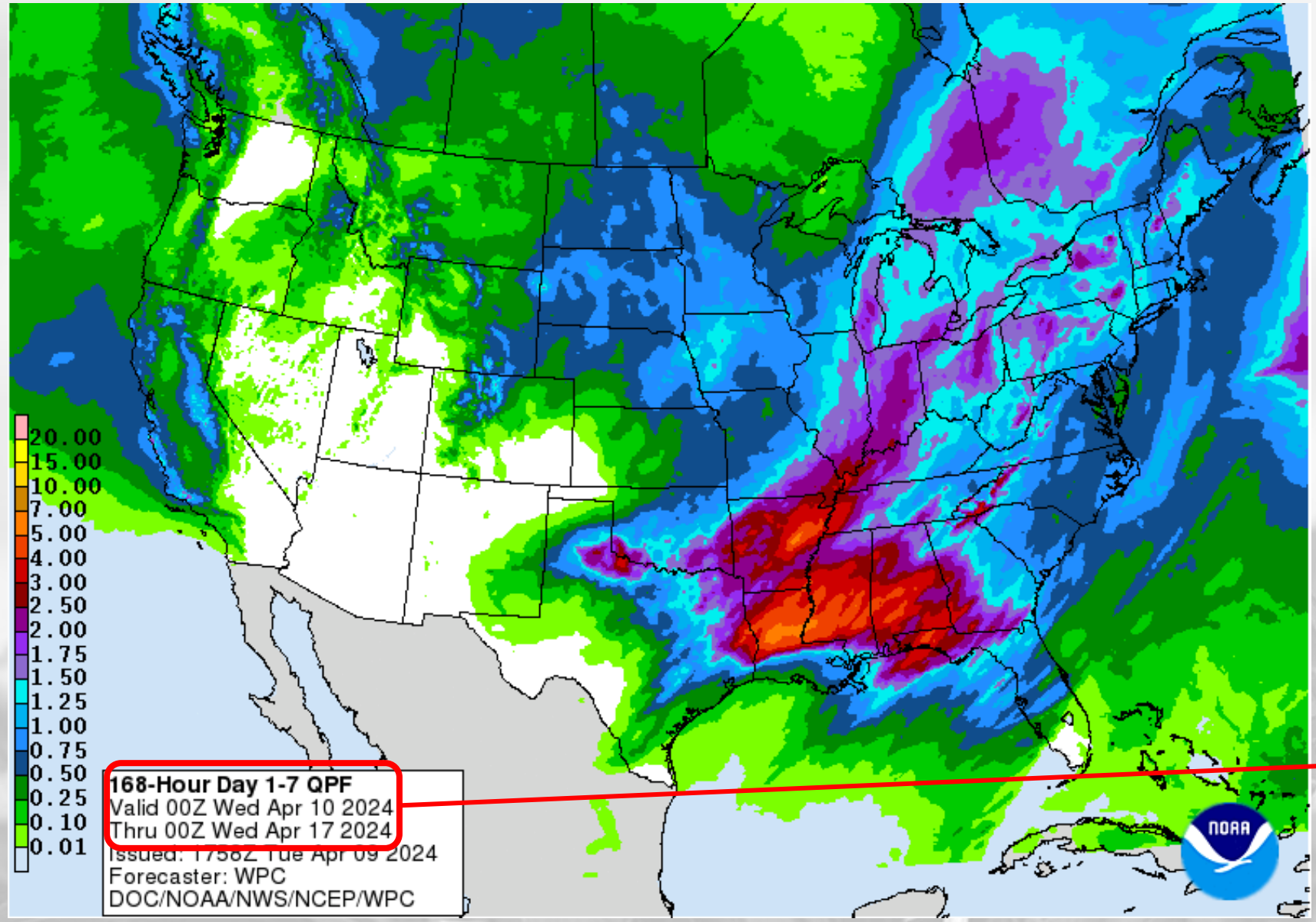
NASS Crop Progress – Winter Wheat



- In states around Wisconsin, winter wheat condition is **>60%** good to excellent.
  - Similar to last week

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

7 Day Precip Forecast

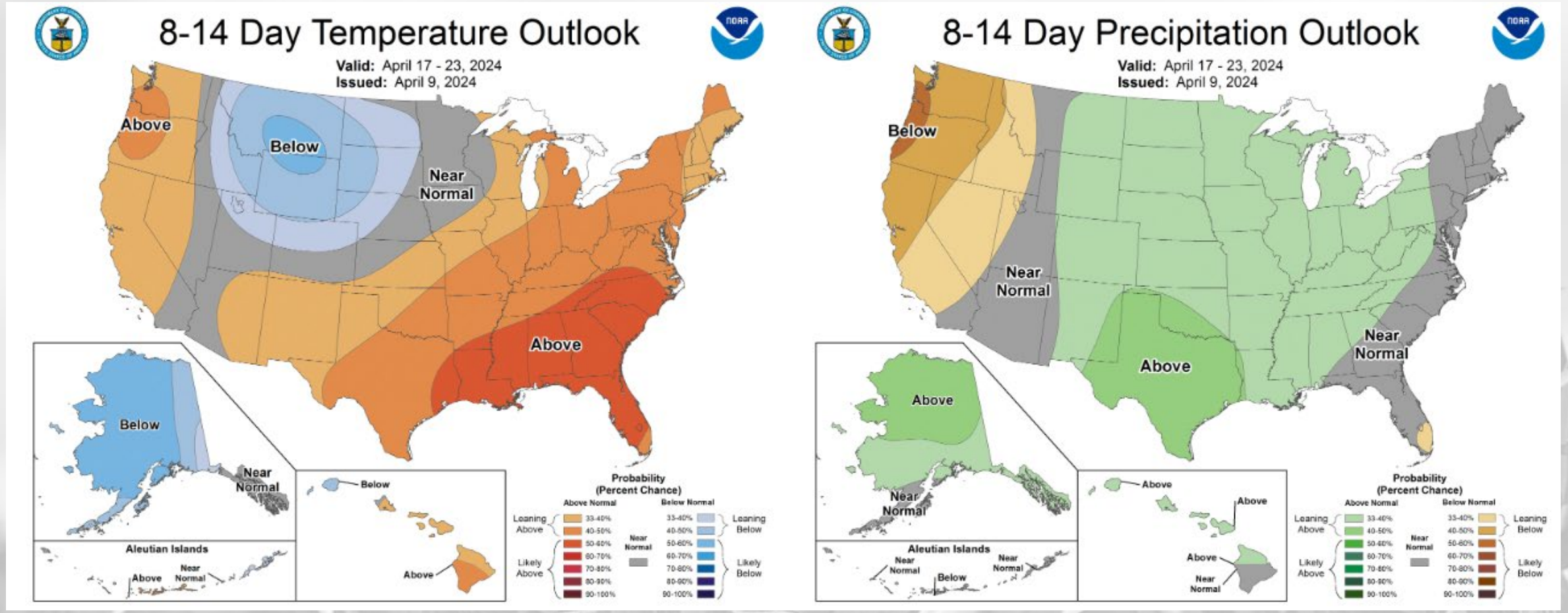


- Chances of multiple rounds of precip over the next week → **1.0" or more for some.**
  - Rain late Thursday into early on Friday.
  - Another chance of rain early next week.

Forecast for 4/9/24 thru 4/16/24

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

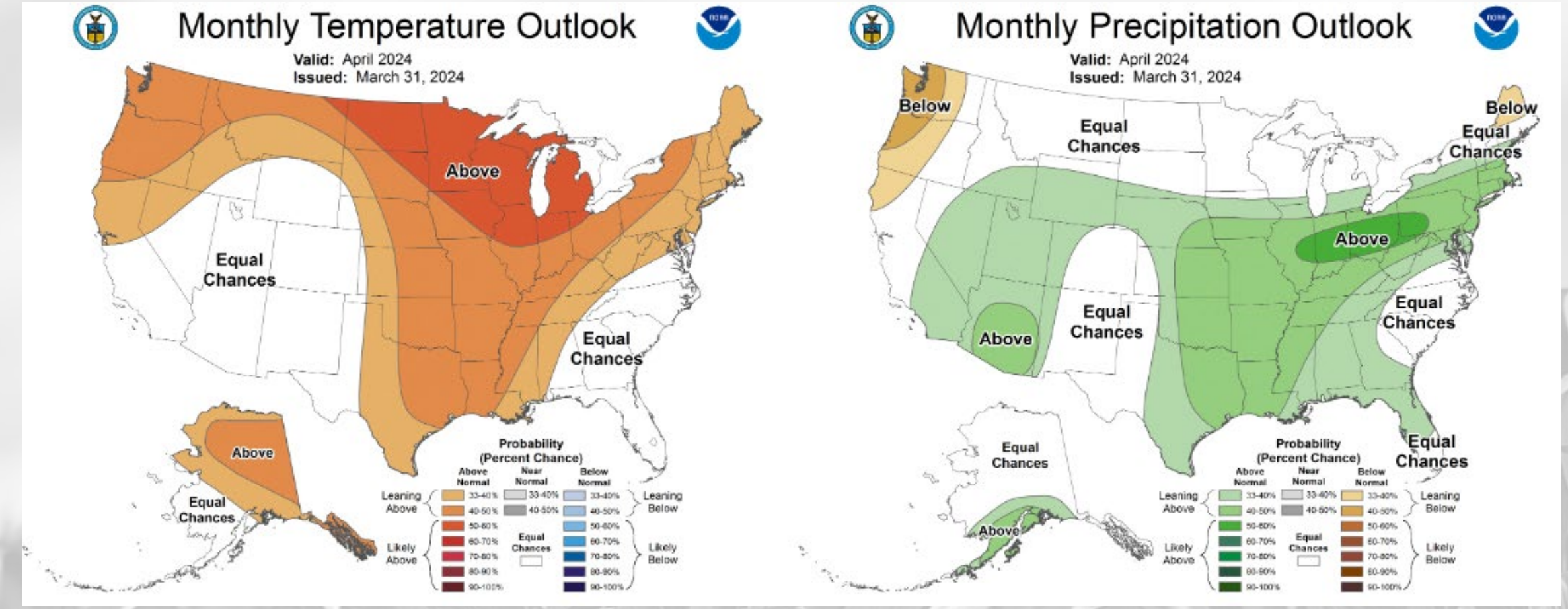
8-14 Day Temp & Precip Outlook



Third/fourth week in April: Temperatures leaning above to near normal. Precipitation is leaning above normal.

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

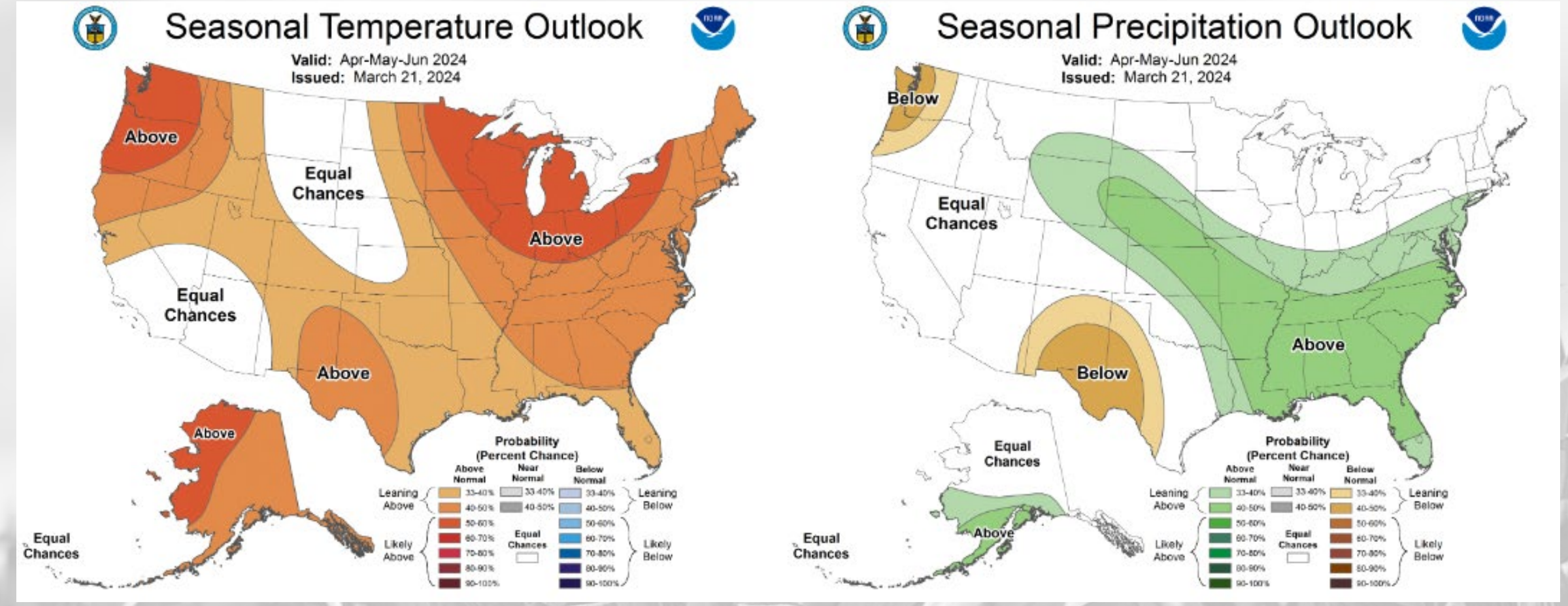
30 Day Temp & Precip Outlook



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:

- Substantial late-season snowfall event that melted within days of falling.
- April started out colder-than-average in the south, and a bit warmer-than-average in the north. Over the past 30 days, temps have been **-/+ 1°F** from average for most in WI.

Impact:

- Soil moisture conditions continued to improve with the snow melt.
- US Drought Monitor conditions in the state remain mostly unchanged from last week.
- Corn planting has been reported to be underway south of WI, but not yet in the state itself.

Outlook:

- A few chances for precipitation (rain) are forecasted for the next 7 days.
- The rest of April is looking to be warmer-than-average for most, with some uncertainty for precip ("equal chances").
- 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.

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. Also check insurance policies.

Nutrient & Herbicide Applications

- Consider using a preplant nitrate test to assess if there is nitrogen left over from last year due to drought conditions
- Observe soil moisture conditions before doing fieldwork so as to avoid soil compaction.
- Ensure daytime, nighttime, & soil 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.
- Read herbicide labels from products used last year to assess if carryover is a possibility due to warmth and lack of moisture.

Manure Applications

- DATCP is forecasting Runoff Risk in the coming week, especially in the southern part of the state
- 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.
- When seeding alfalfa be aware that it can germinate at 32-34°, but will die if temperatures drop below 24°, so it is best to wait to plant alfalfa until those low temperatures are unlikely.

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

Contact Info

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