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 Weather Outlook

Week of April 21, 2024

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Key Points

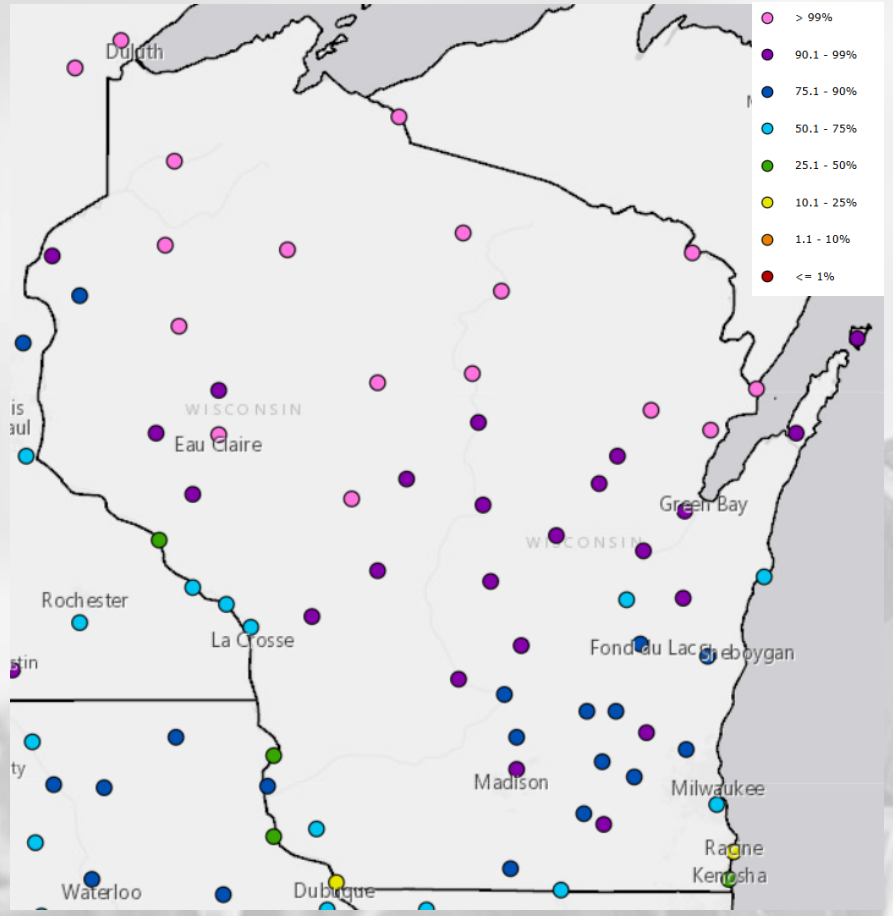
Navigate to select slides by clicking on the links below.

1) Year-to-date precip deficits have been reduced or eliminated after a wet week across the state.
2) Soils continue to warm with frost gone at almost all measuring stations in the state.
3) Drought coverage was again reduced, covering only far SW counties now.
4) Another wet week is predicted for WI, with the first days of May leaning towards warmer and drier than normal.

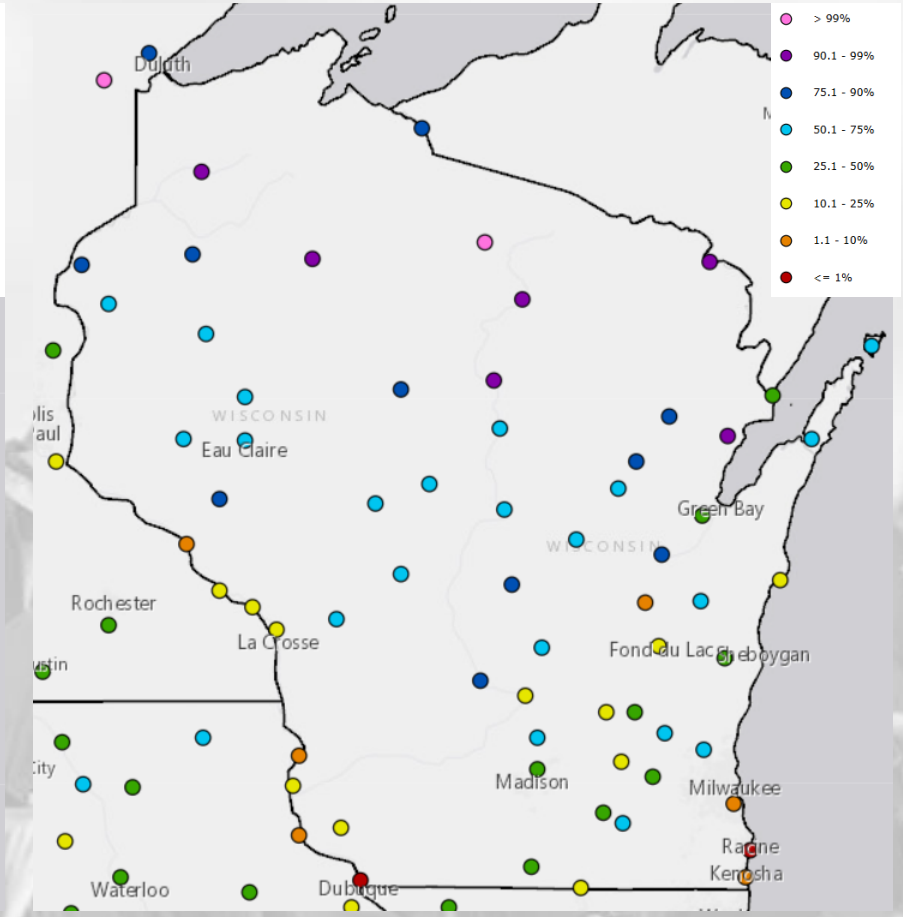
- *For this week's agronomic recommendations from UW Extension, click here.*
- *For this week's crop progress updates from USDA NASS, click here.*

Freeze Risk

Daily Low ≤ 32°F



Daily Low ≤ 28°F



- Maps show the probability of a **freeze occurring after April 22nd.**
- For most of the state, there is a **≥90% chance** of a 32°F freeze occurring after the 22nd; **≥50% chance** of a 28°F freeze.
- Likelihood is **lesser** along the Mississippi River and in the south/east.

https://mrcc.purdue.edu/gismaps/freeze_probabilities_2020

Gaining Ground

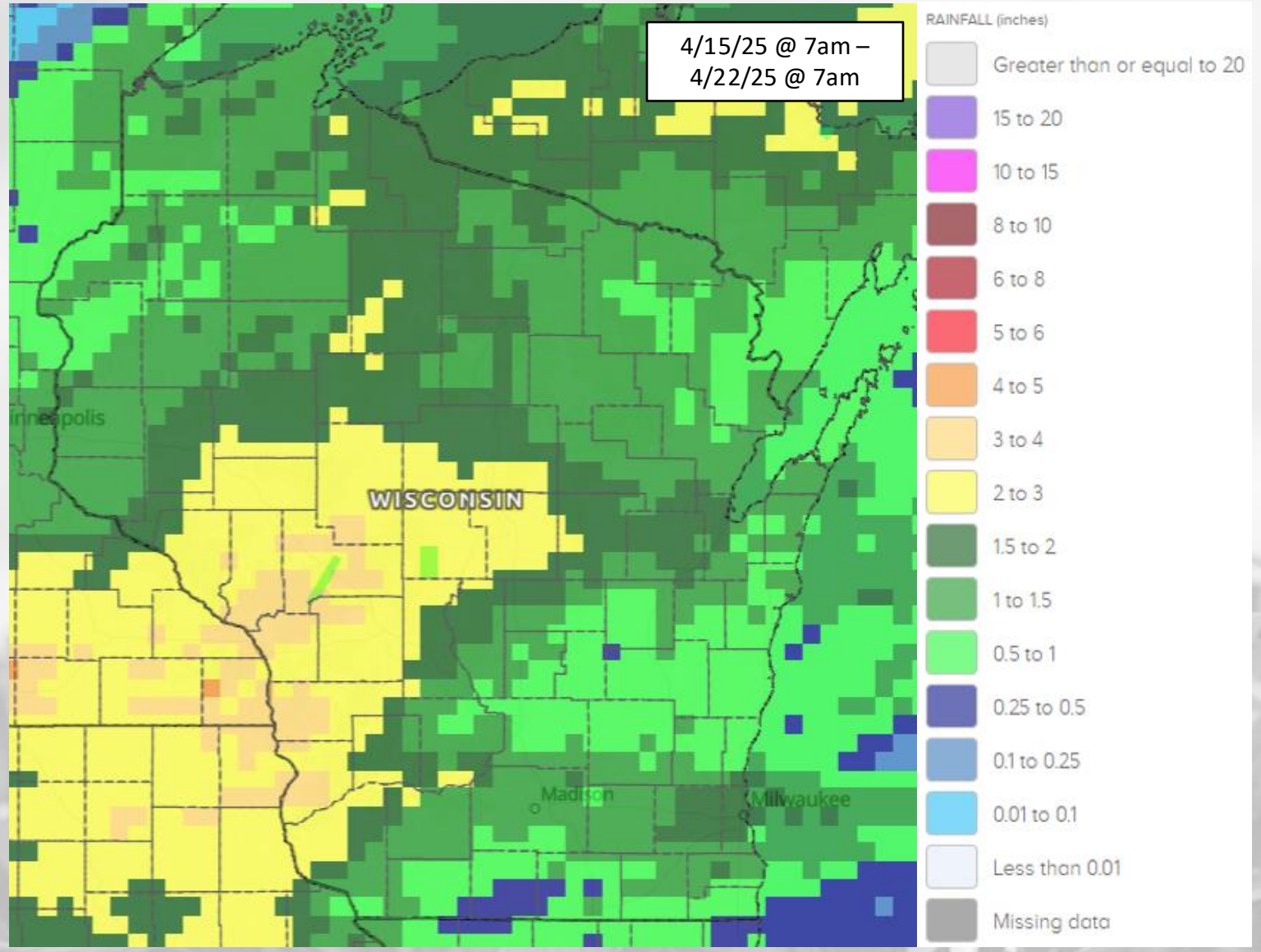
Precip stats by climate division → 2025 totals before and after this past week

Climate Division	% of Normal (1/1 – 4/14)	Precip (4/15 – 4/21)	% of Normal (1/1 – 4/21)
WI01	116	1.45	133
WI02	125	1.57	139
WI03	127	1.30	134
WI04	96	2.42	126
WI05	111	1.68	124
WI06	97	1.29	107
WI07	79	1.85	95
WI08	83	1.06	88
WI09	89	1.10	94

A wet week across the state helped **reduce or eliminate** year-to-date precip deficits.

https://mrcc.purdue.edu/CLIMATE

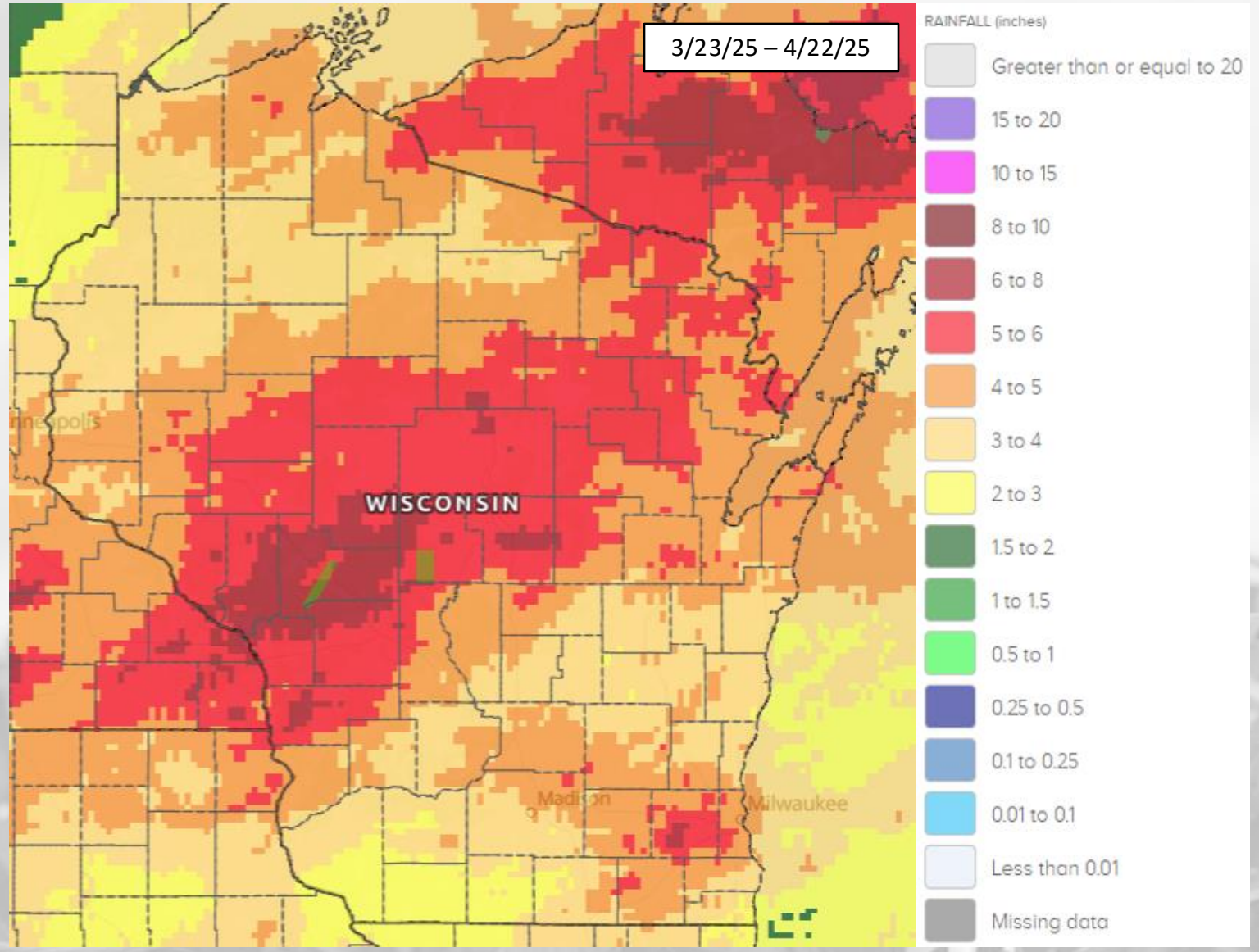
7 Day Precip



- **Half inch or more** of precip fell across the state last week, with **most receiving over an inch**.
- **Heaviest in the SW/WC**, with totals of 2-4” (Prairie du Chien up to Eau Claire and over to Stevens Point).
- Lesser totals in the **SE/SC, far NE, and far NW**.

https://water.noaa.gov/

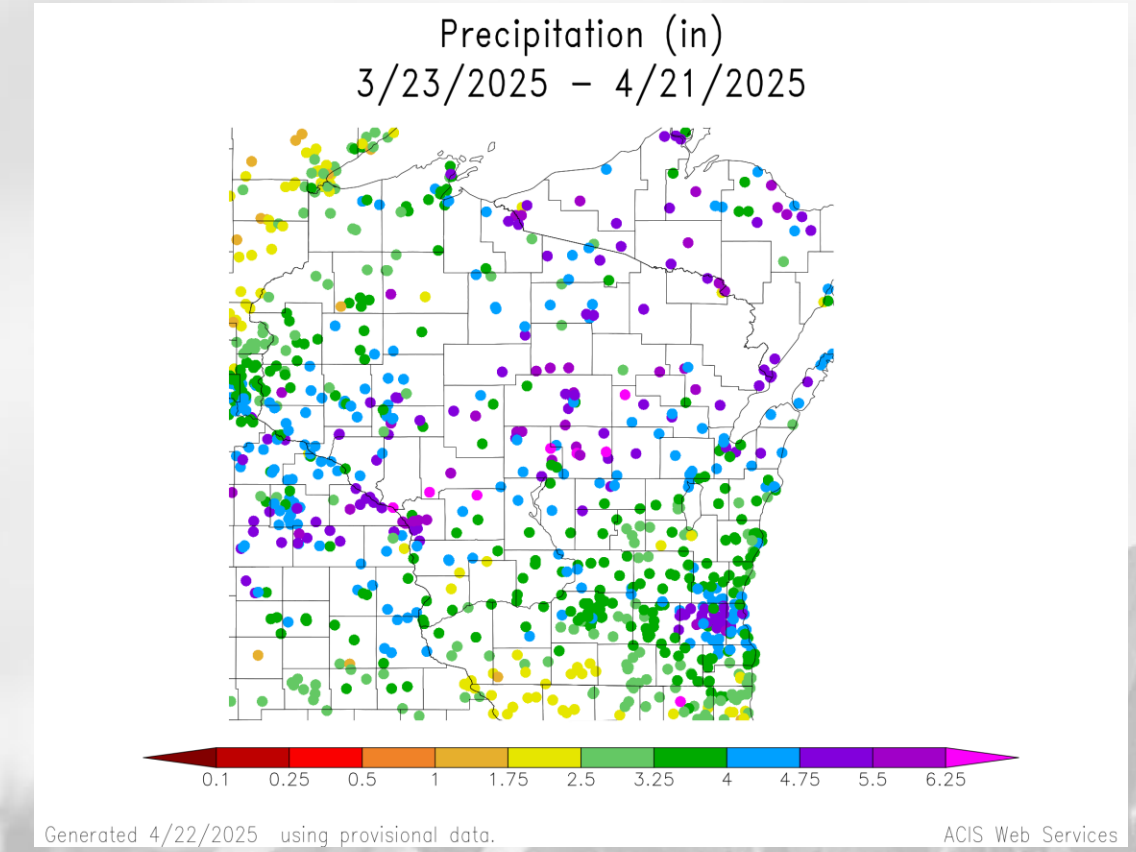
30 Day Precip

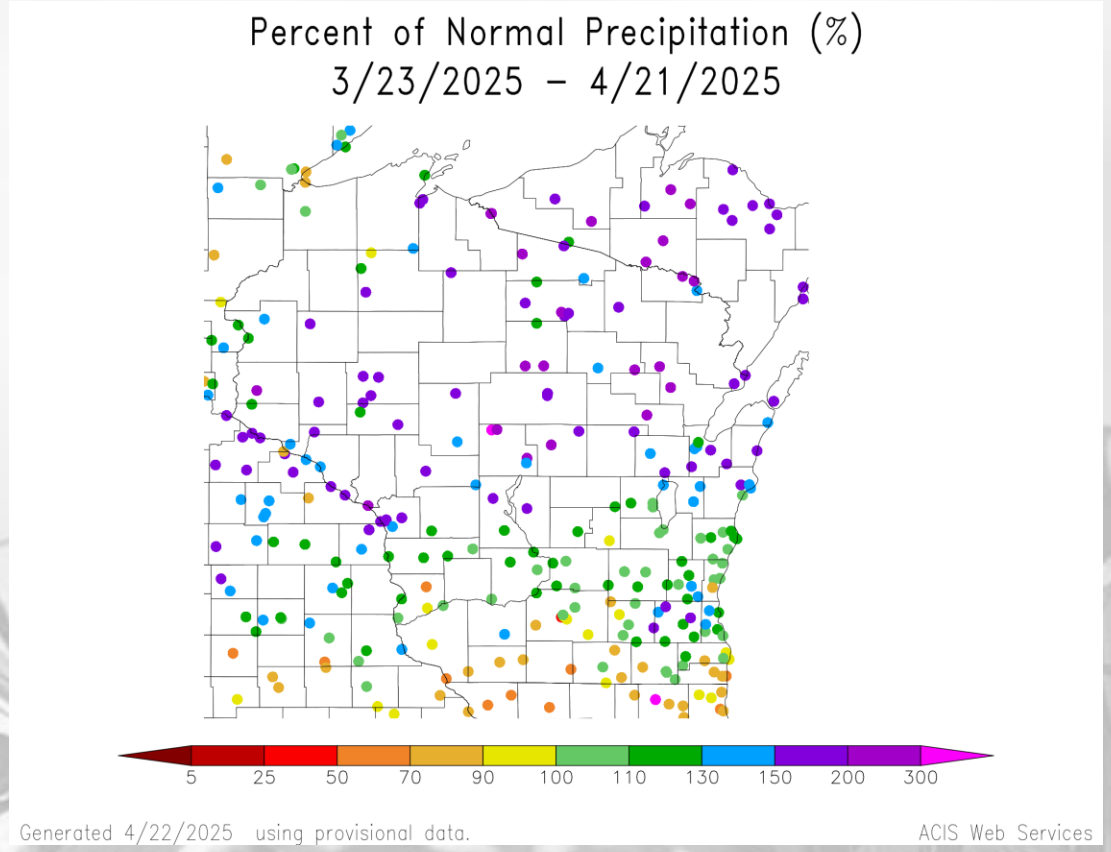


- Heaviest precipitation concentrated in a band from La Crosse to Marinette County. → **5-8”**
- This still includes totals from the late March ice storm.
- **2-5”** across the rest of WI outside of the belt mentioned above.

https://water.noaa.gov/

30 Day Precip Total/% Avg.

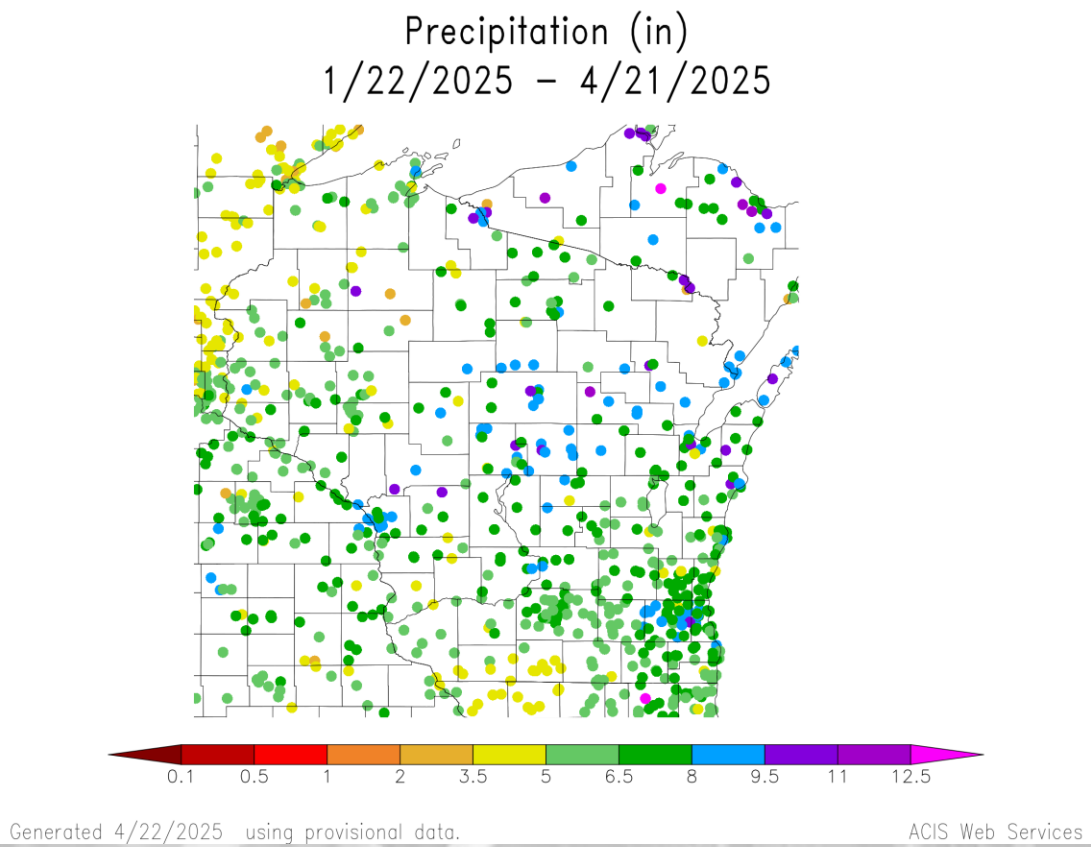


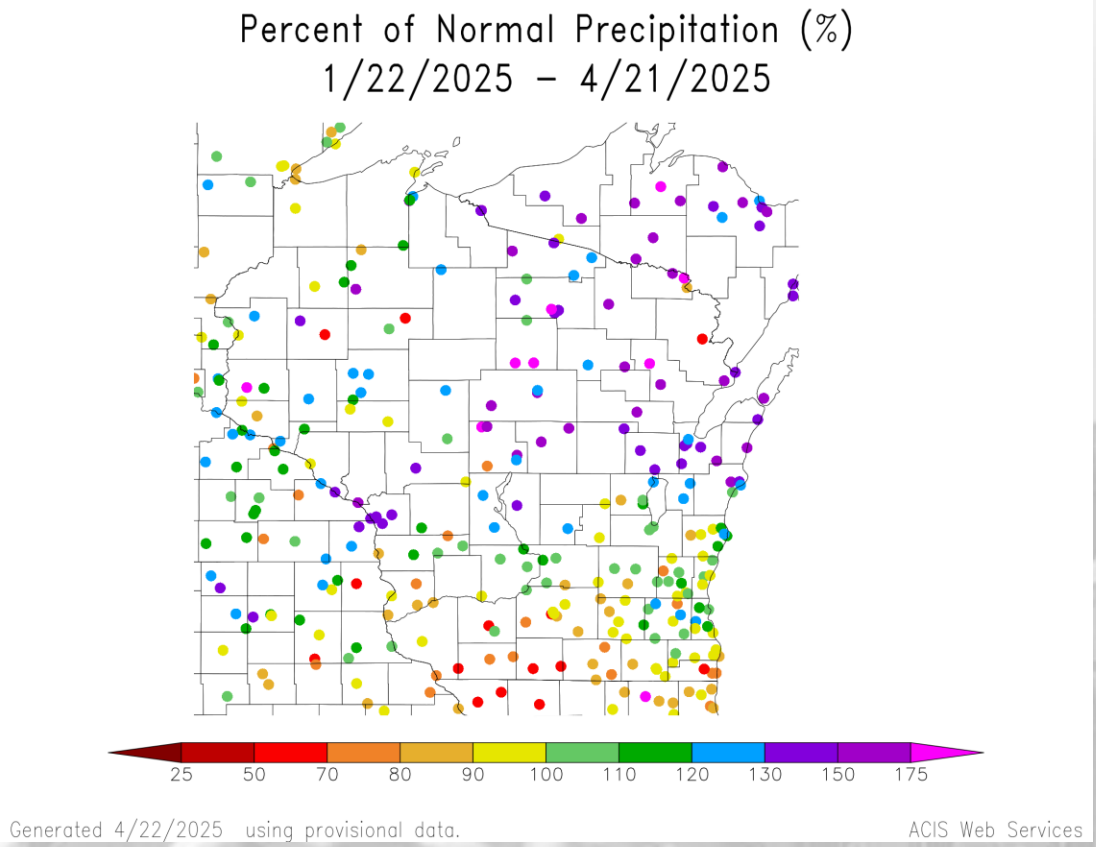


- Precip totals over the past 30 days were highest from the **west-central to northeast,** as well as by **Milwaukee**.
  - **4" or more** was common across stations in these areas → **130% or more** of 30-year normal.
  - Elsewhere, **2.5-4"** was common → below-to-near normal; **most below normal along the IL border**.

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

90 Day Precip Total/% Avg.

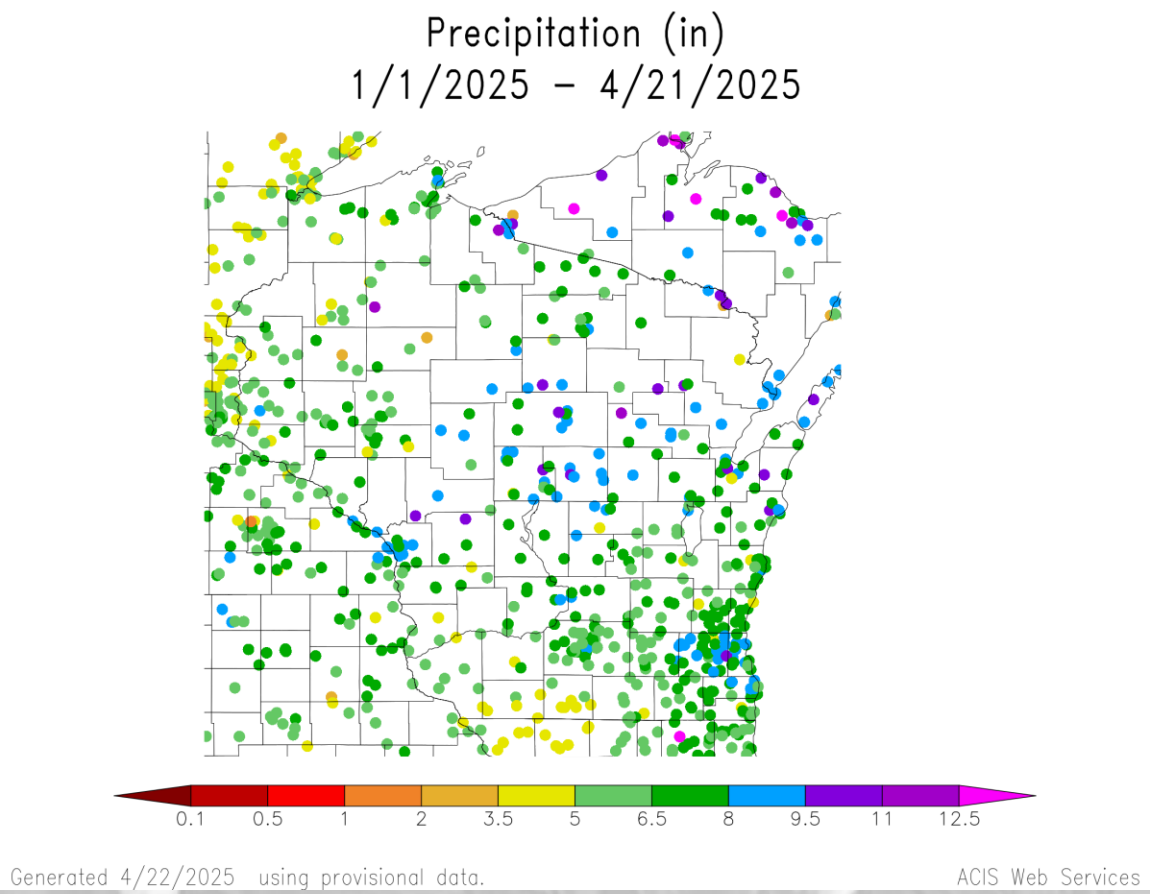


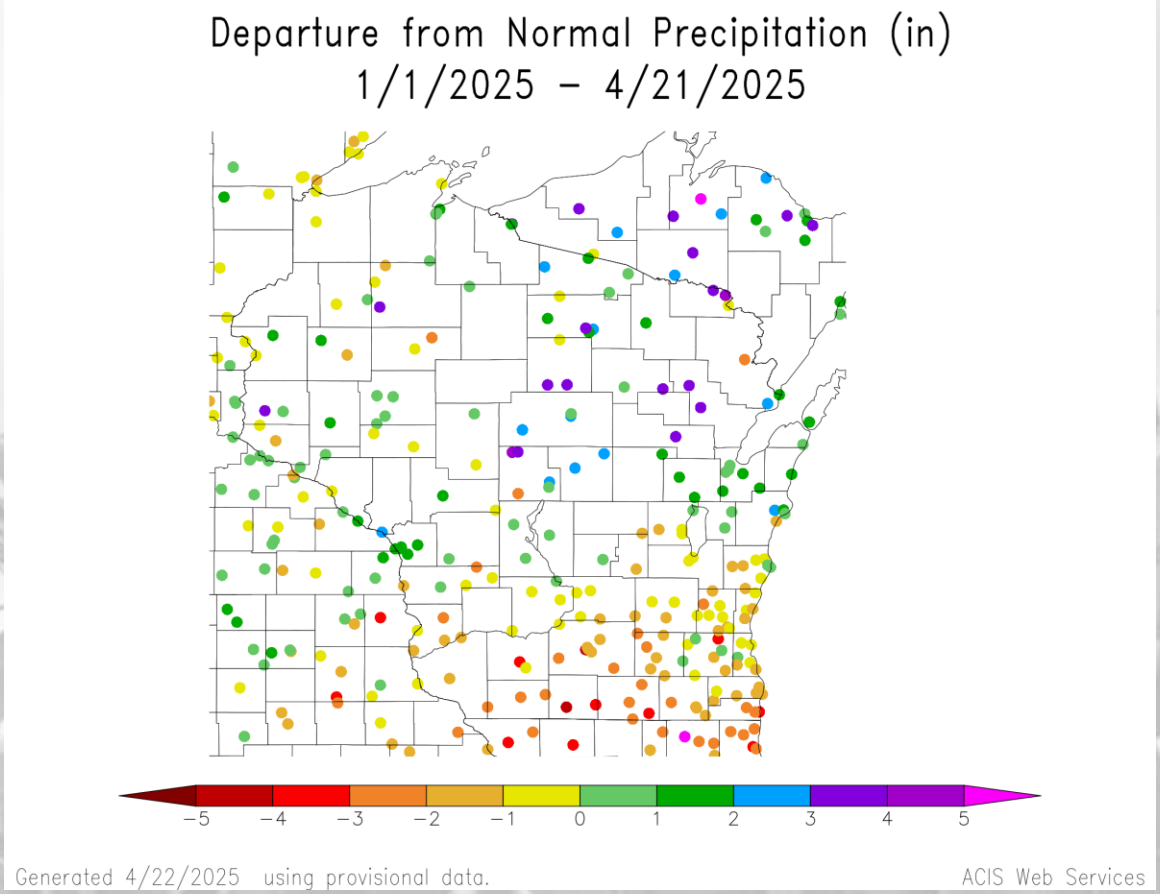


- **>5”** common across most of WI, with **totals highest in the WC-to-NE belt** → >8” common
  - **150-175%** the 30-year normal at many stations in the NE/NC.
- **Above the 30-year normal** is common in the central and north, contrasting **50-90% of normal** in the south.

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

2025 Precipitation (so far)





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

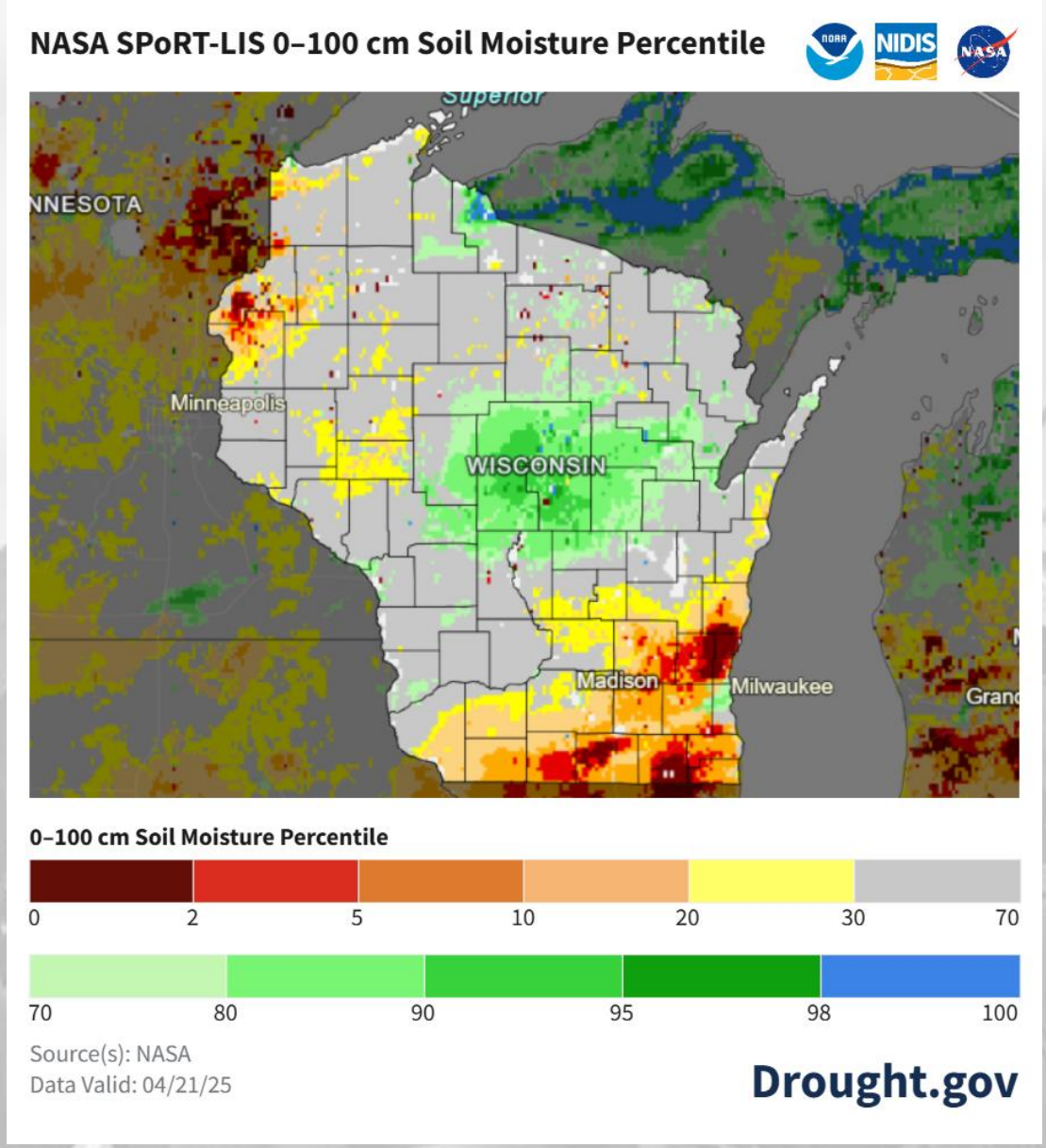
Soil Moisture Models

- **70th percentile or higher** in the central and NE counties with higher-than-normal precip so far this year.
- **20th percentile or lower** in the south where the last 30-90 days have been drier-than-normal.
- **Reductions in dryness** in the west-central and southwest from last week's precip.

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.

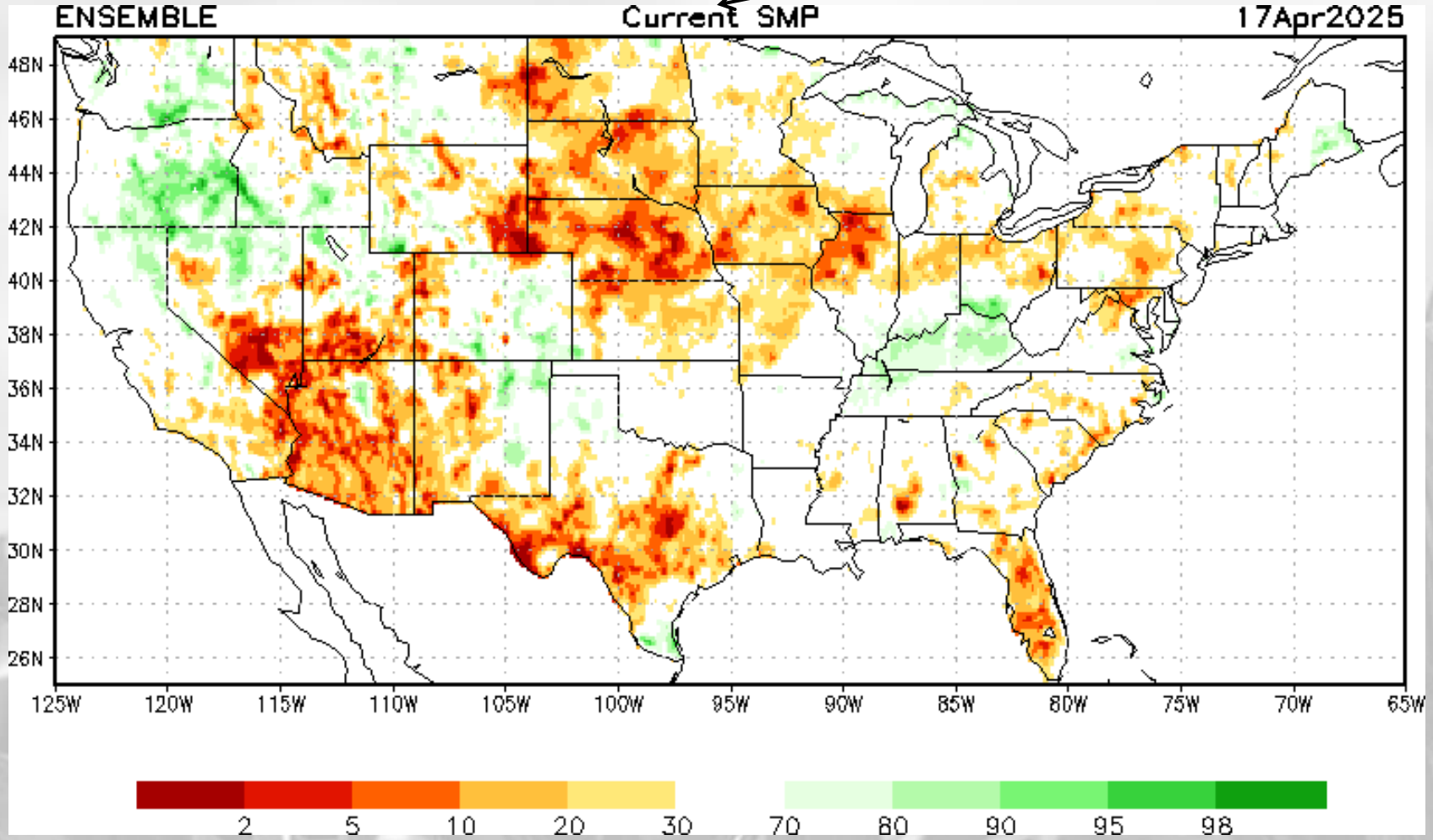
It's worth noting that each soil moisture model has their own characteristics and input variables, so there tends to be variation between models. Thus, it's worthwhile to look at multiple models opposed to just one.

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



Soil Moisture Models

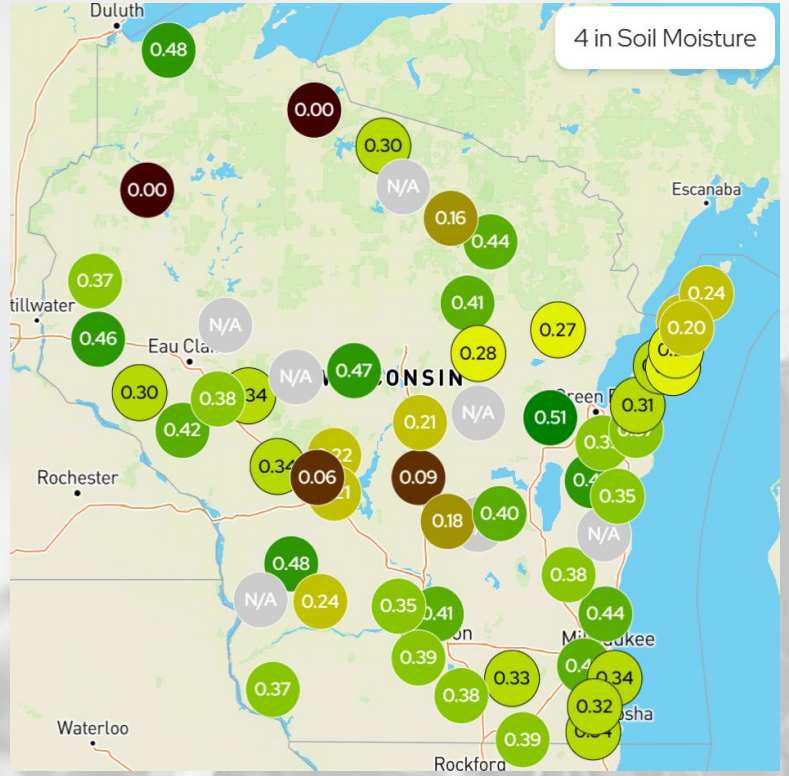
NOTE: this map displays the soil moisture percentile for Apr. 17. It was the most recent update on Apr. 22.

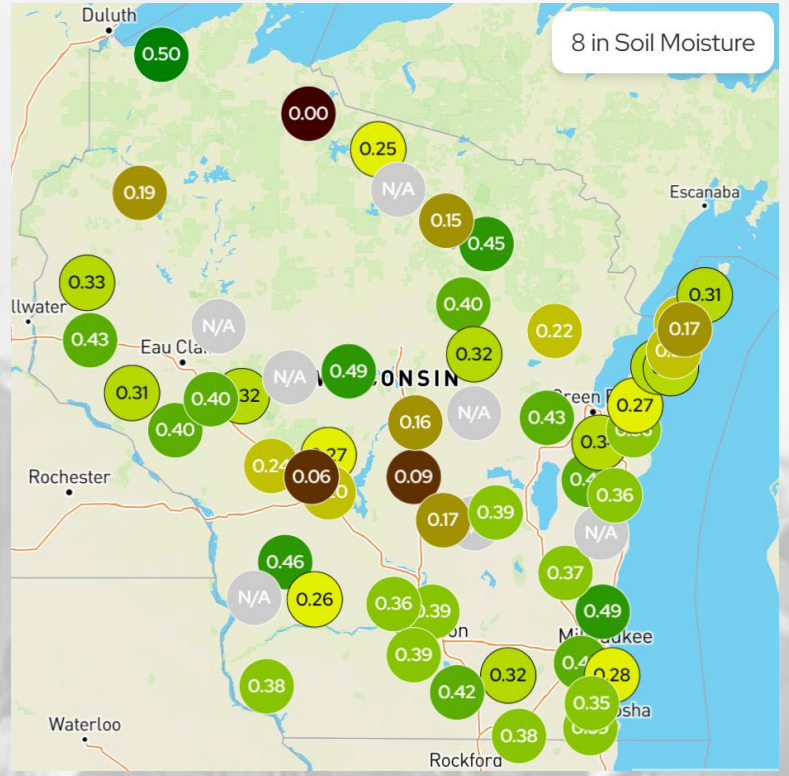


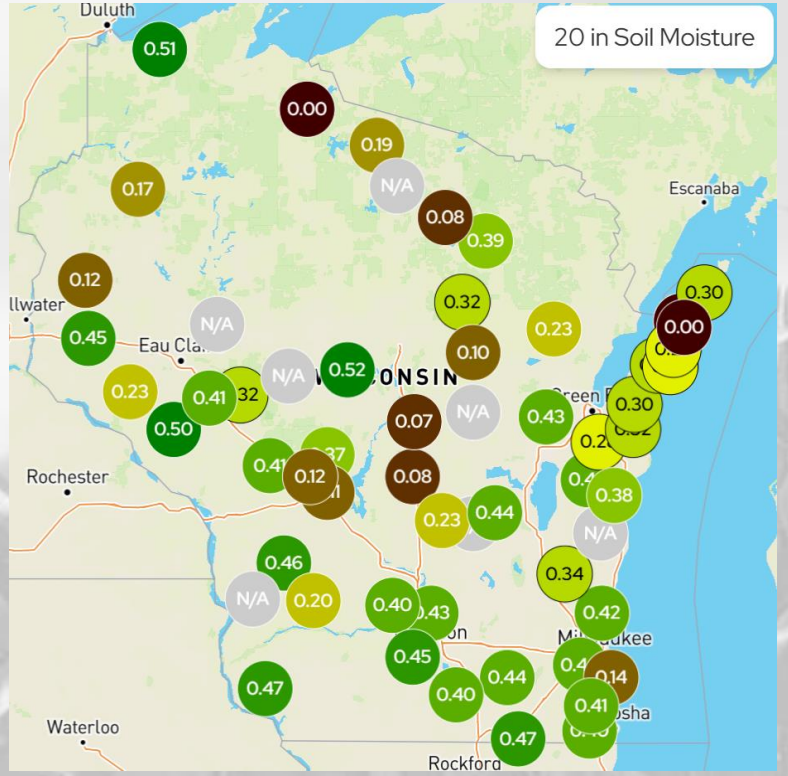
https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml

Wisconet Soil Moisture

Maps showing soil moisture conditions on
April 22nd @ Mid-morning

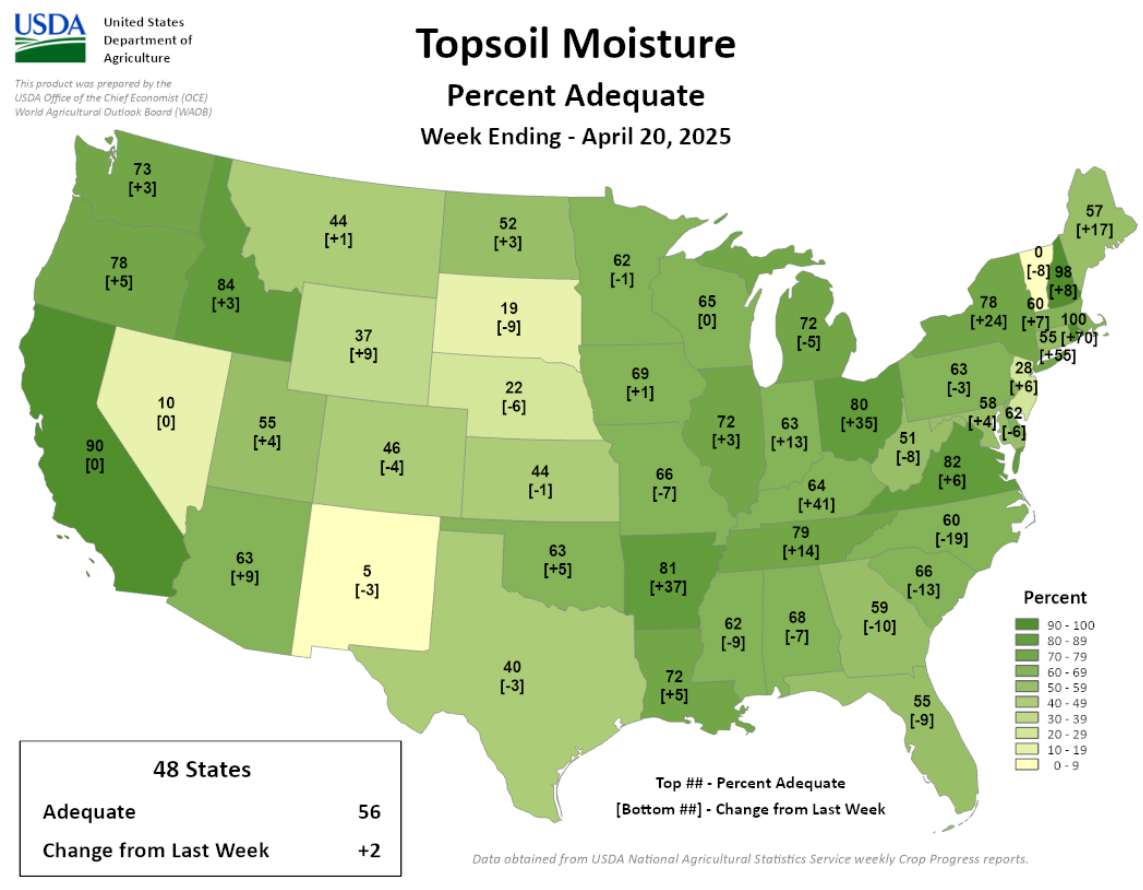


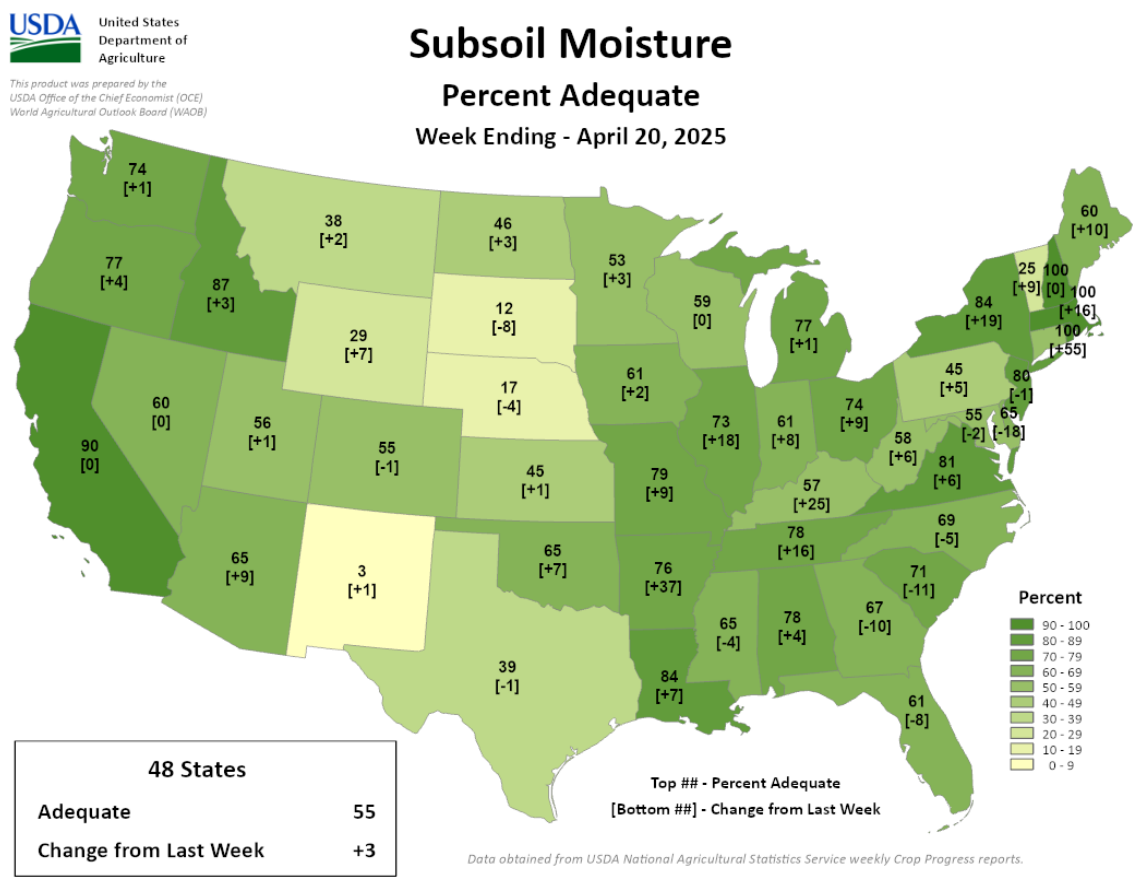




https://wisconet.wisc.edu/

Adequate Soil Moisture



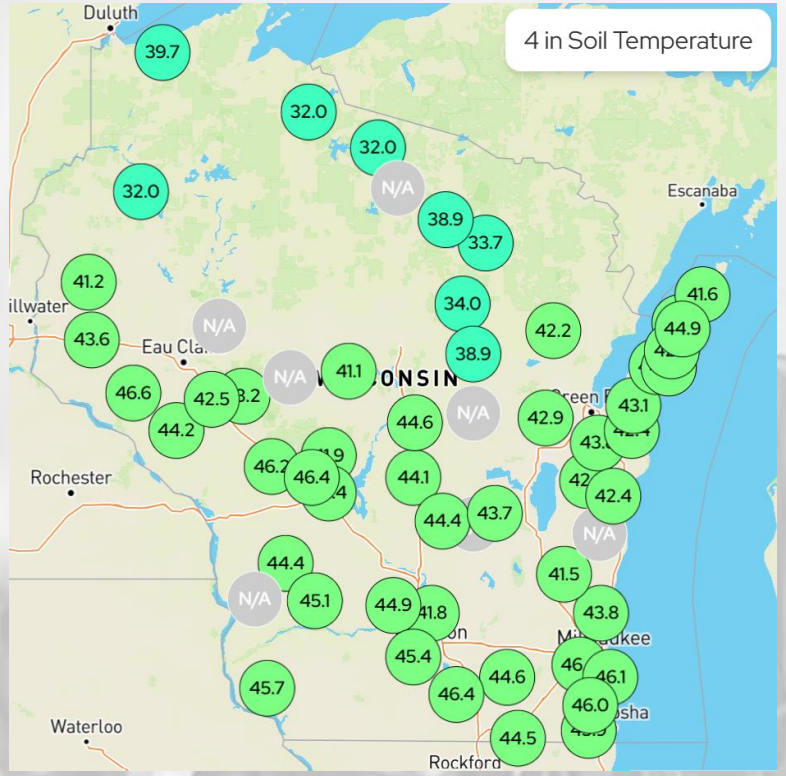


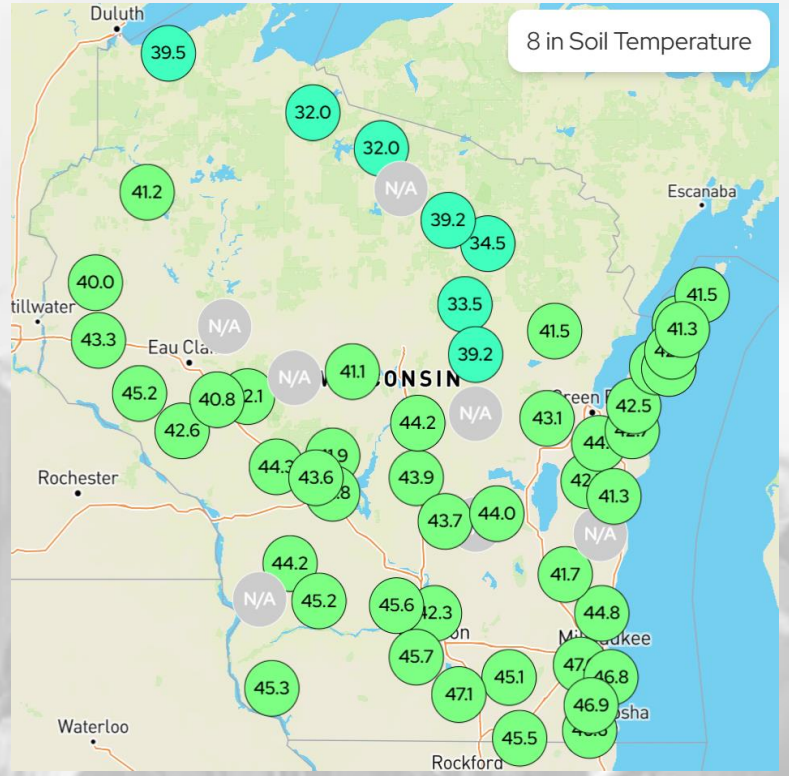
- **60-65%** of agricultural soils in the state with **adequate** topsoil and subsoil moisture.
- **19%** of fields in the state are reported as having **surplus** topsoil moisture.

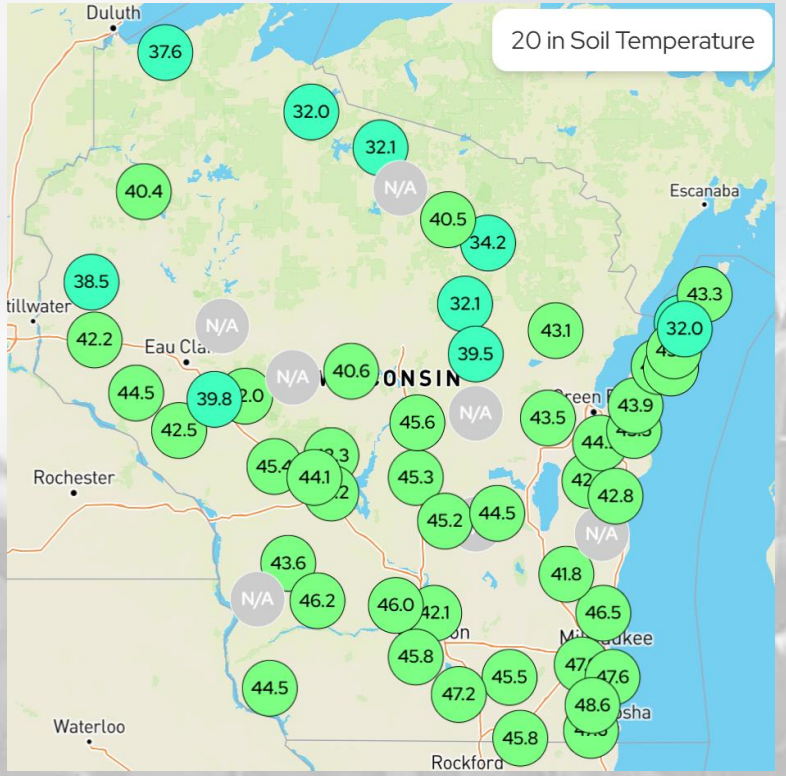
https://agindrought.unl.edu/Other.aspx

Wisconet Soil Temperature

Maps showing soil temperature conditions
on April 22nd @ Mid-morning

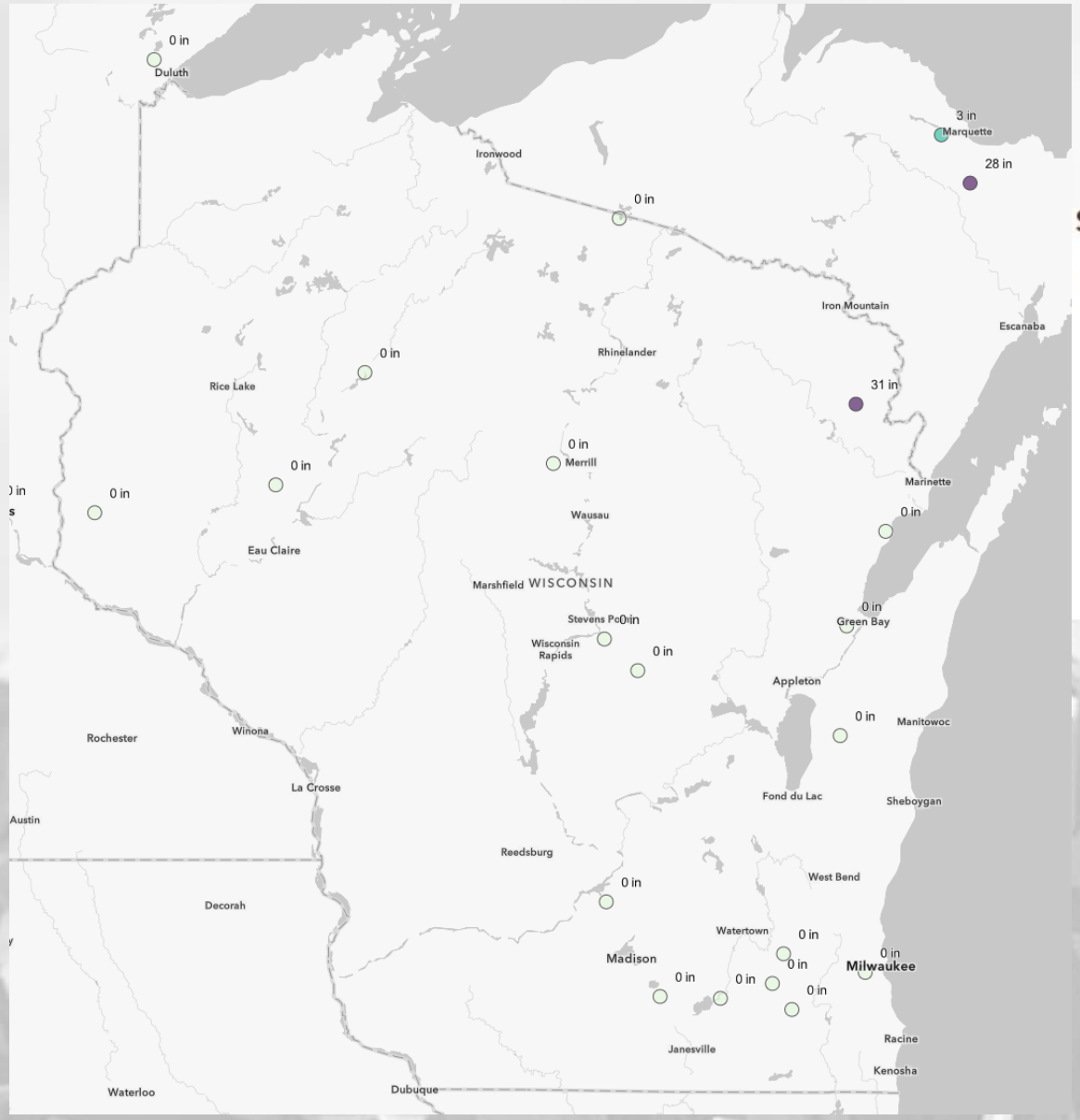


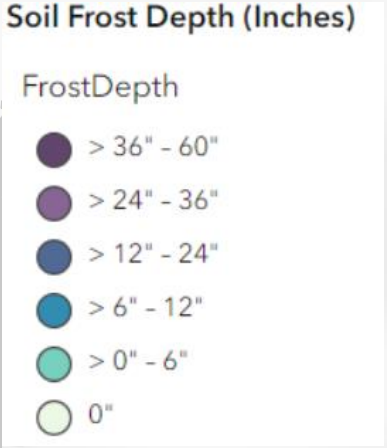




https://wisconet.wisc.edu/

Frost Depth





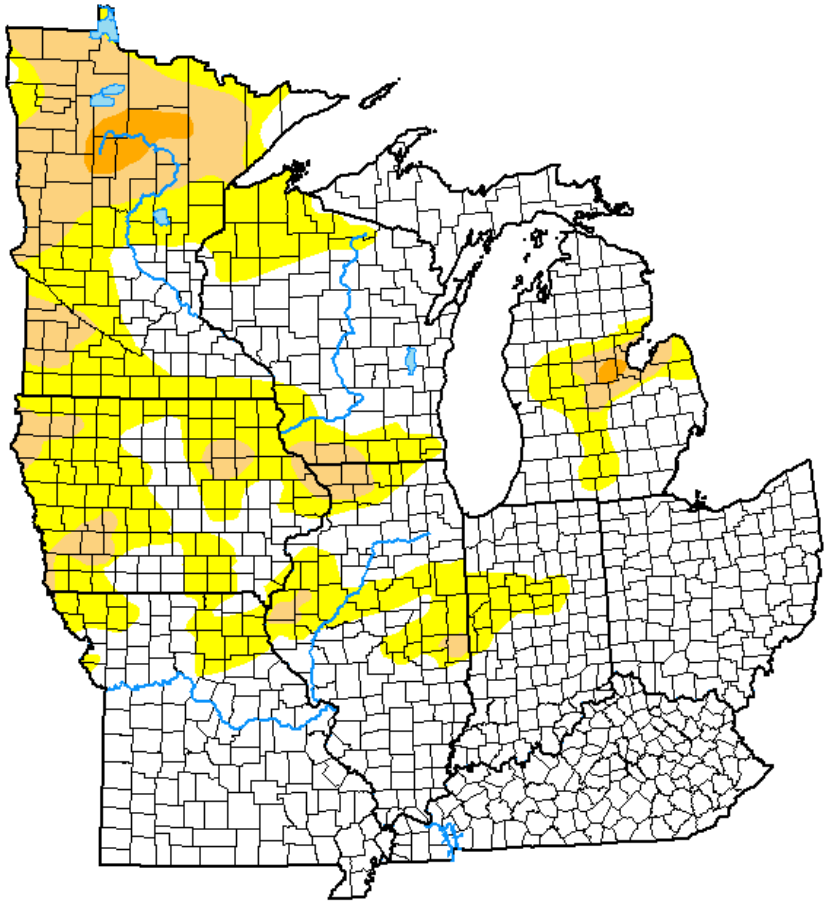
- Only **one station** in far NE Wisconsin is reporting frost to a depth of 31”.
- Wisconet is reporting 20-40” soil temps in the **mid to upper 30’s** in northern WI, with **40’s more common** in the C & S.

About This Map (from NOAA): *“This map displays recent frost depth measurements in terms of inches below the soil surface. Frost depth reports are commonly from frost tube instruments, visual reports from construction or cemetery sites, or other types of electronic probes.”*

Map updated on 4/24/25

https://www.weather.gov/ncrfc/lmi_frostdepthmap

US Drought Monitor



U.S. Drought Monitor

Midwest

April 22, 2025

(Released Thursday, Apr. 24, 2025)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	65.57	34.43	11.00	1.07	0.00	0.00
Last Week 04-15-2025	57.30	42.70	13.22	1.07	0.00	0.00
3 Months Ago 01-21-2025	46.74	53.26	29.29	3.56	0.00	0.00
Start of Calendar Year 01-07-2025	44.12	55.88	29.47	3.56	0.00	0.00
Start of Water Year 10-01-2024	21.78	78.22	28.15	6.40	1.46	0.66
One Year Ago 04-23-2024	58.41	41.59	23.36	6.34	0.30	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

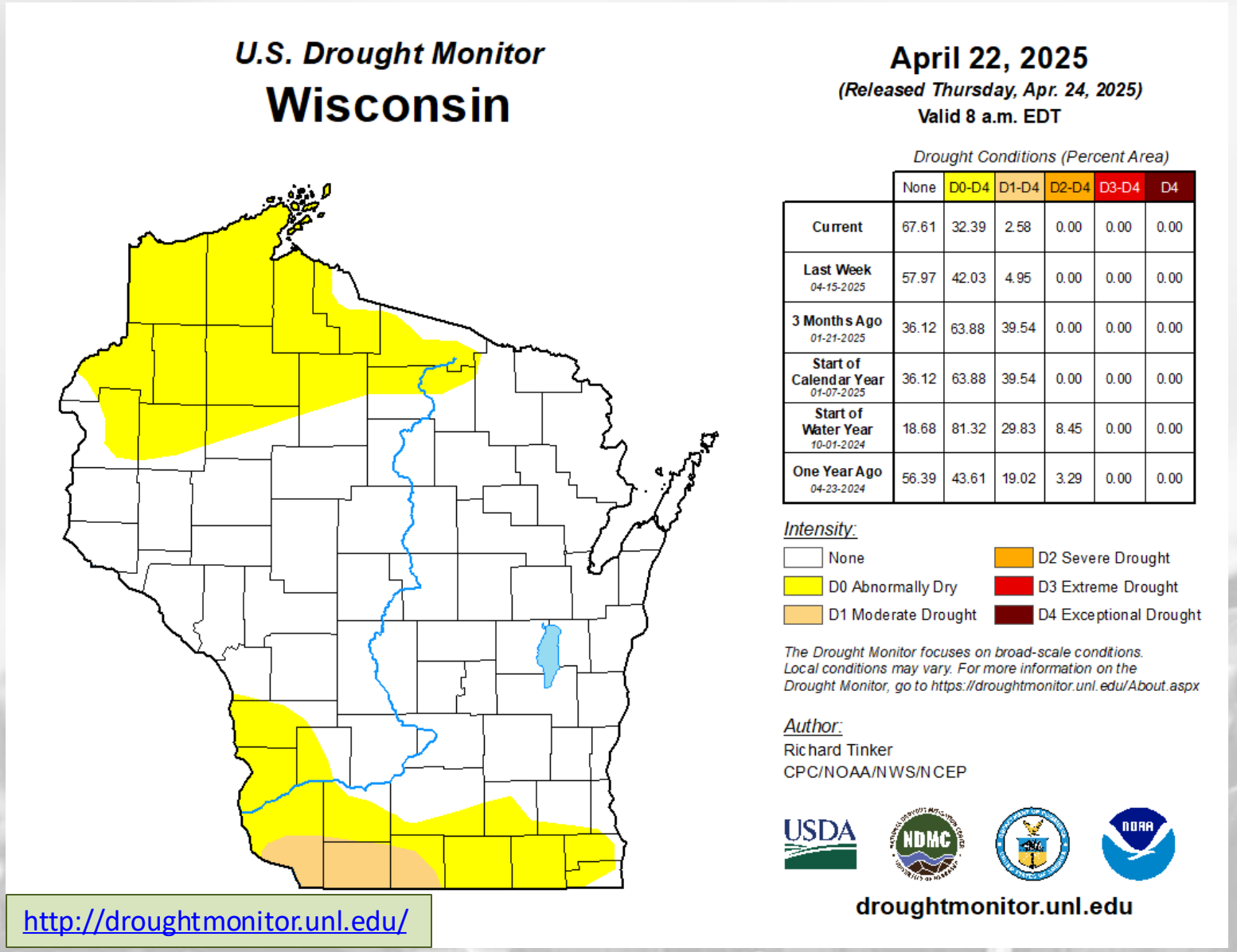
droughtmonitor.unl.edu

- Compared to last week:
  - **Decrease** in D0 & D1 coverage
- **1 class improvement** across northern and southwest WI.
- **1.1%** of the region remains in D2 drought, **unchanged** from last week.
  - D2 is in **northern MN and east-central MI**.
- **89%** of the region is drought free (11% in D1 or D2).

Note: D0 is not considered drought.

http://droughtmonitor.unl.edu/

US Drought Monitor

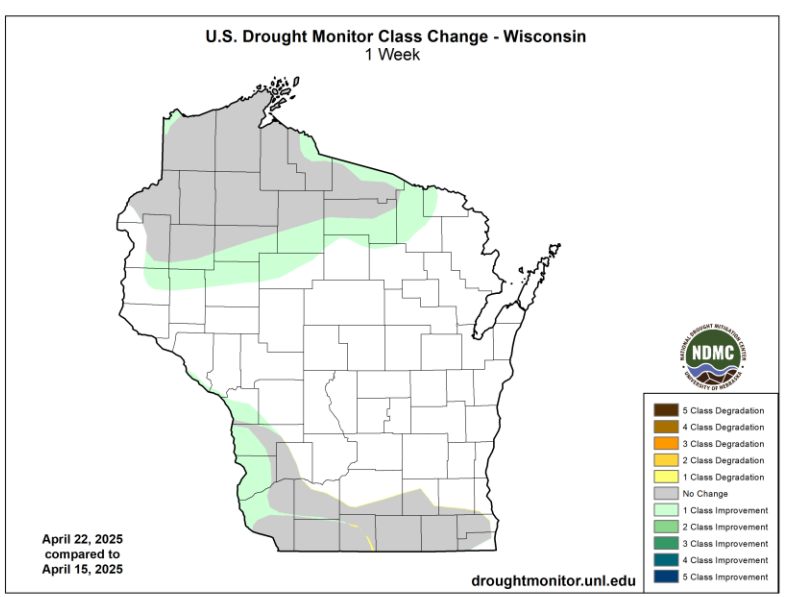


http://droughtmonitor.unl.edu/

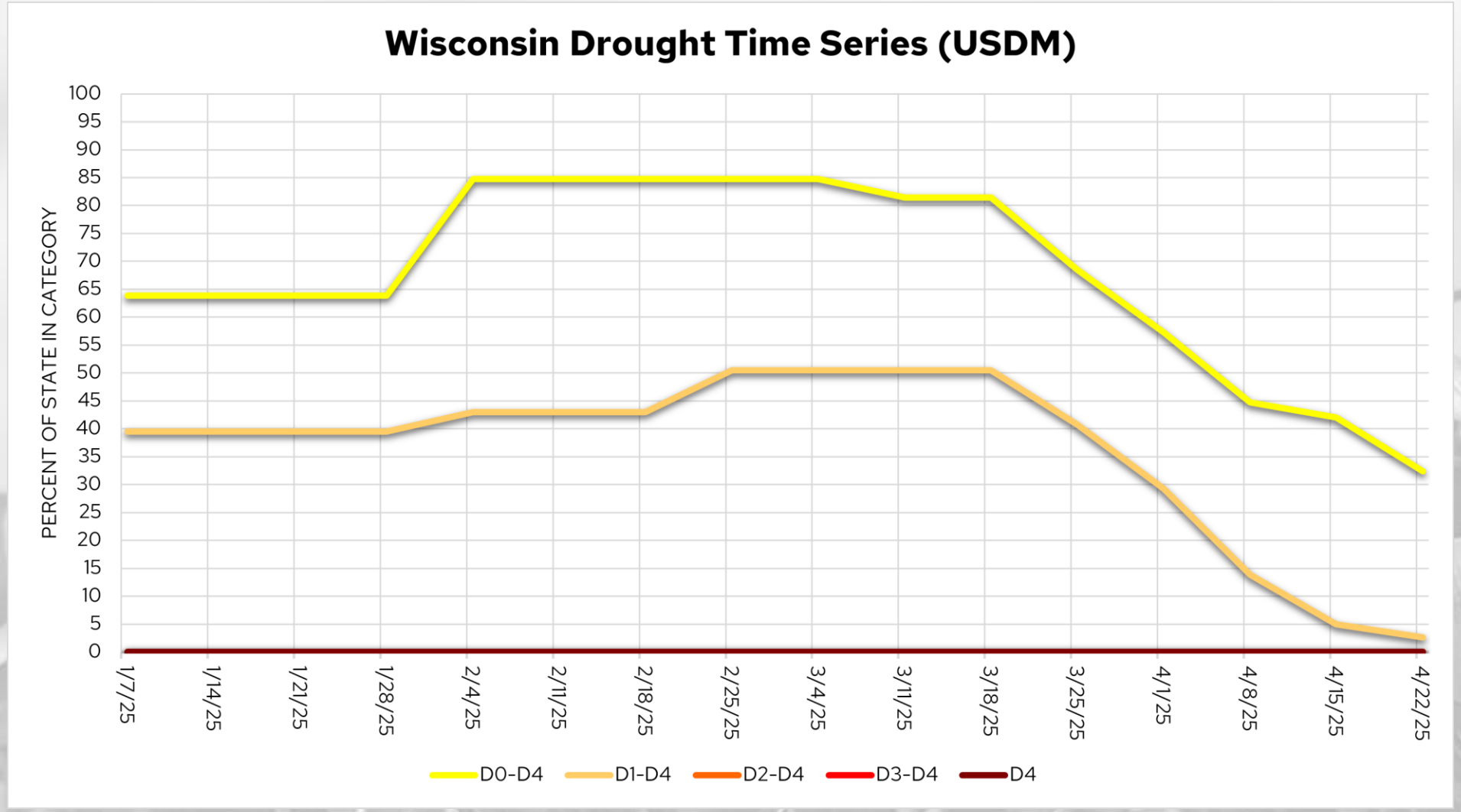
Amount of state in:

- D1-D4 – 2.6% ↓
- 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.

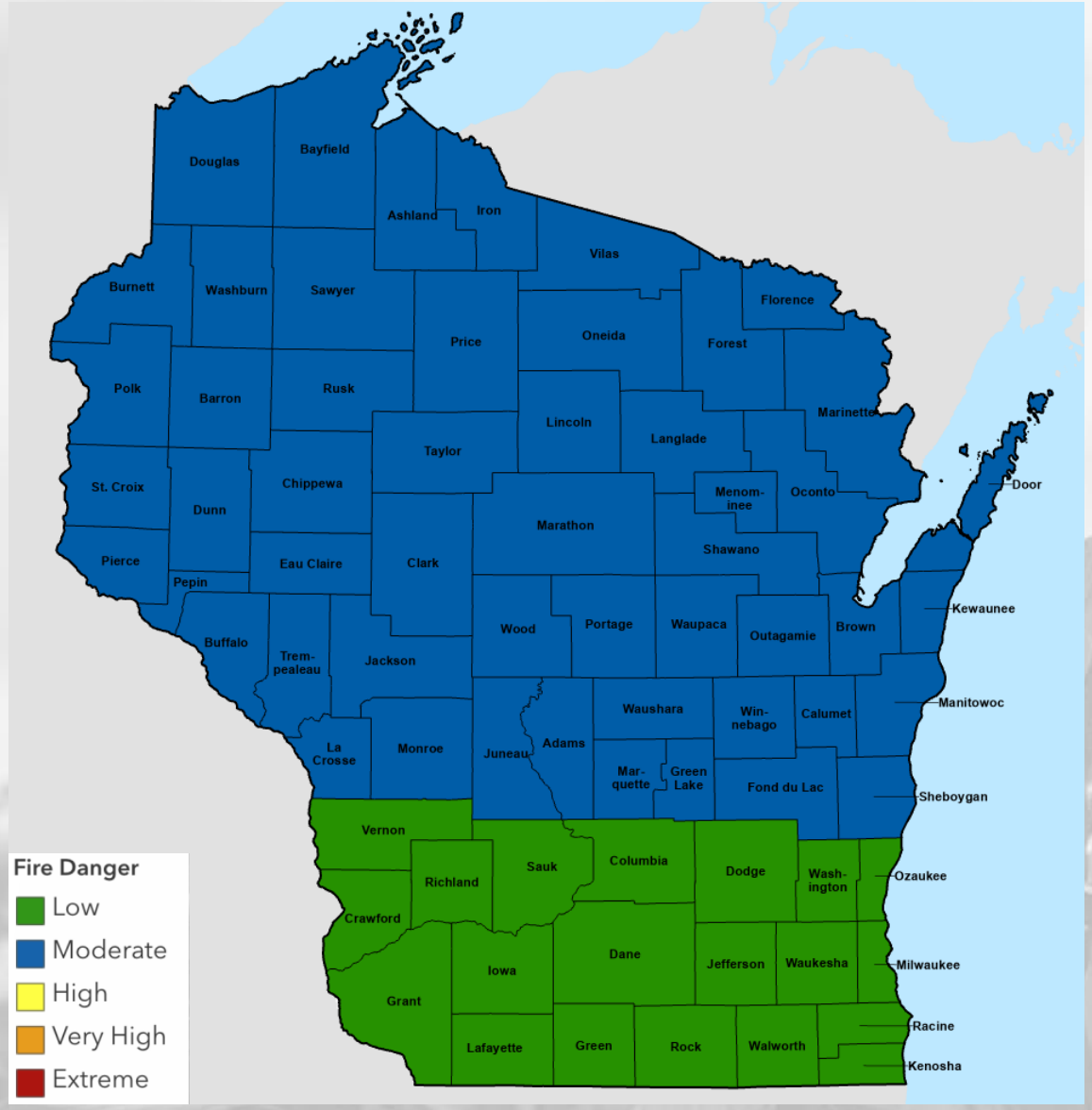


USDM Time Series



http://droughtmonitor.unl.edu/

Wildfire Risk



A fire danger of **LOW** means wildfires do not easily ignite and will spread slowly.

A fire danger of **MODERATE** means wildfires can ignite and will spread but are relatively easy to contain.

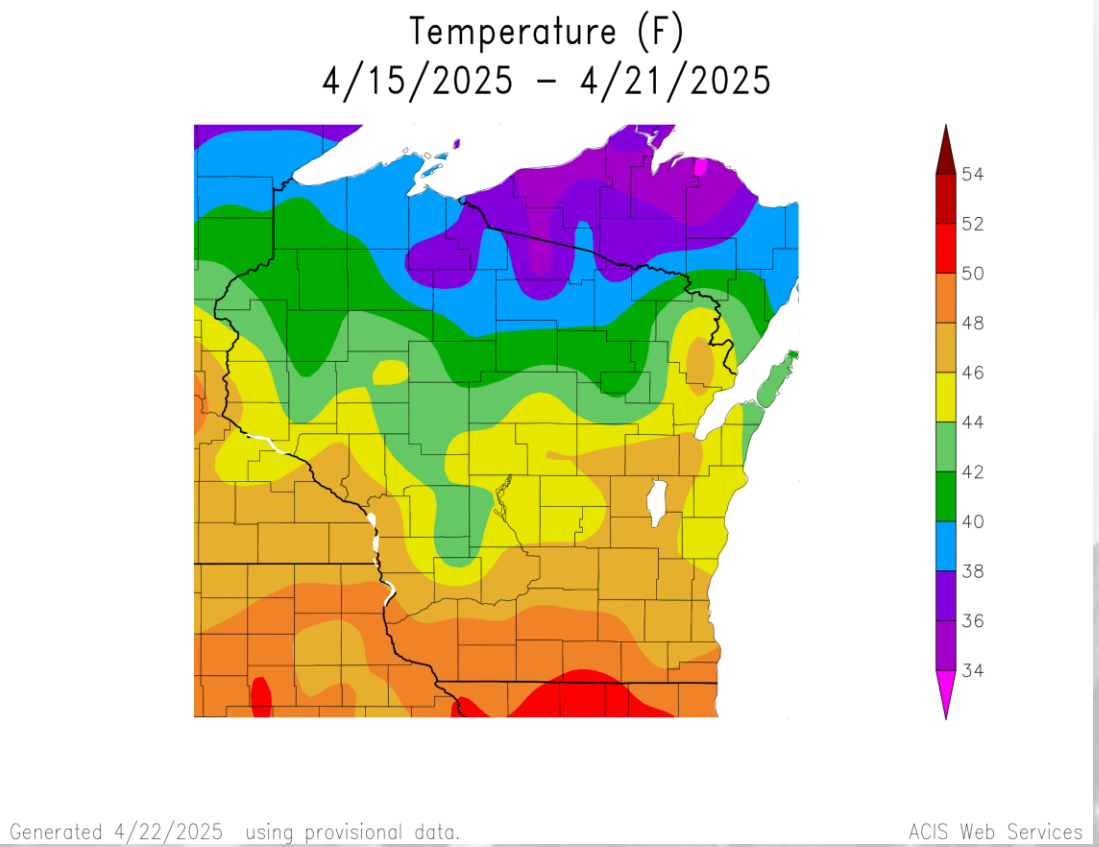
A fire danger of **HIGH** means wildfires ignite easily, spread rapidly, and can be challenging to control.

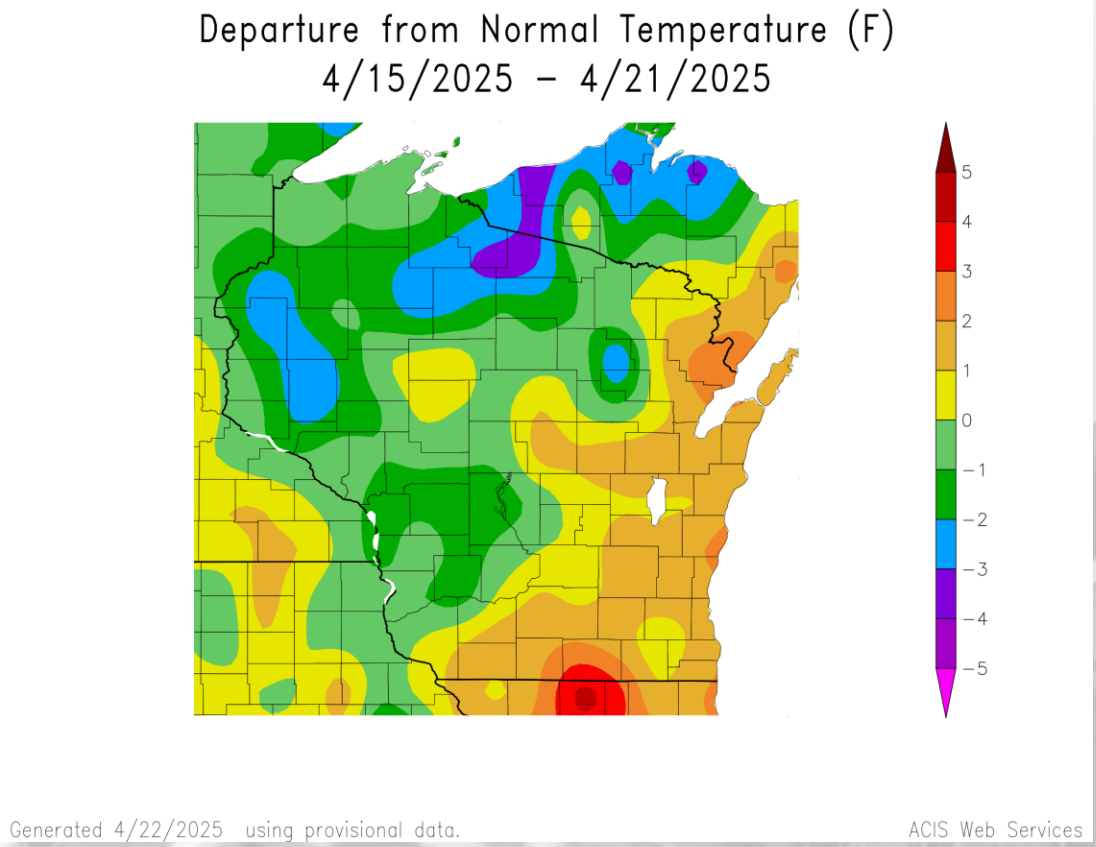
A fire danger of **VERY HIGH** means wildfires start easily, spread rapidly with increased intensity and are difficult to control.

Map updated on 4/24/25

https://apps.dnr.wi.gov/wisburn/#/

7 Day Temperatures

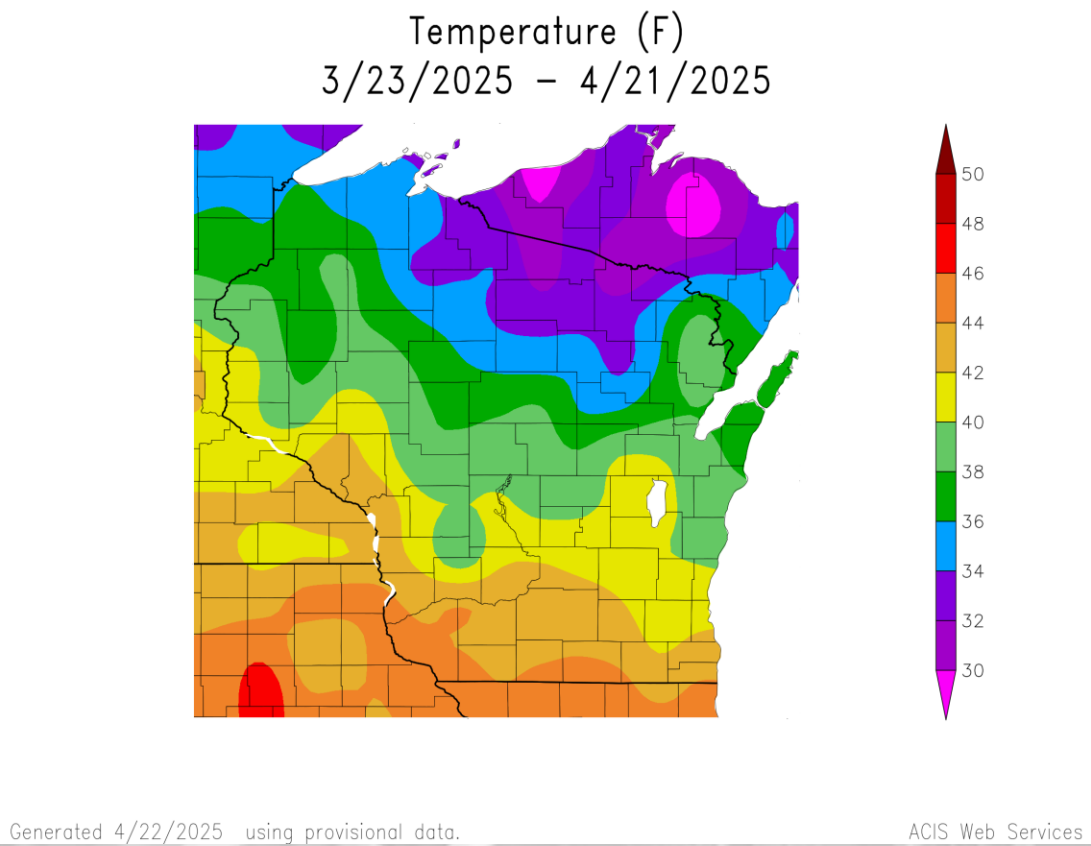


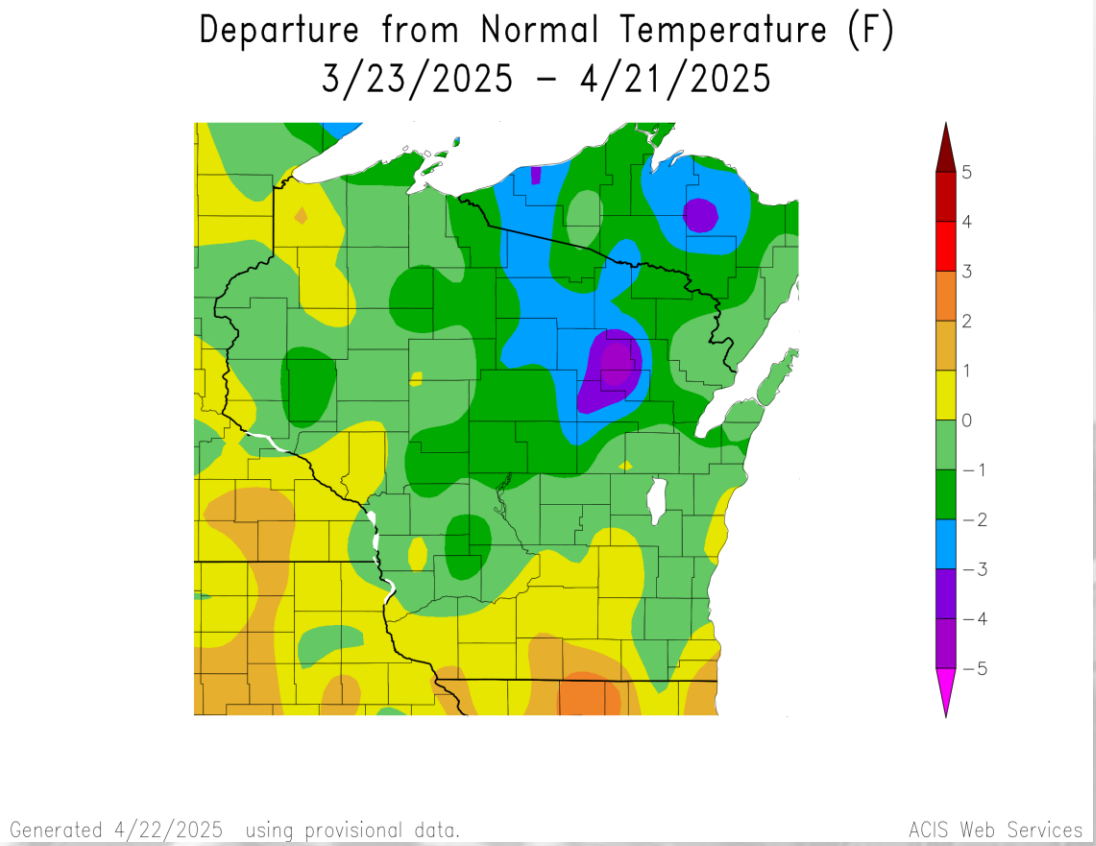


- Temperature range of **46-50°F** in the south to **36-40°F** in the far north.
- Most of the state was **within -/+2°F of climatological average** last week.
- **Above normal temps** in the east, with **cooler-than-average conditions** further west and north.

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

30 Day Temperatures

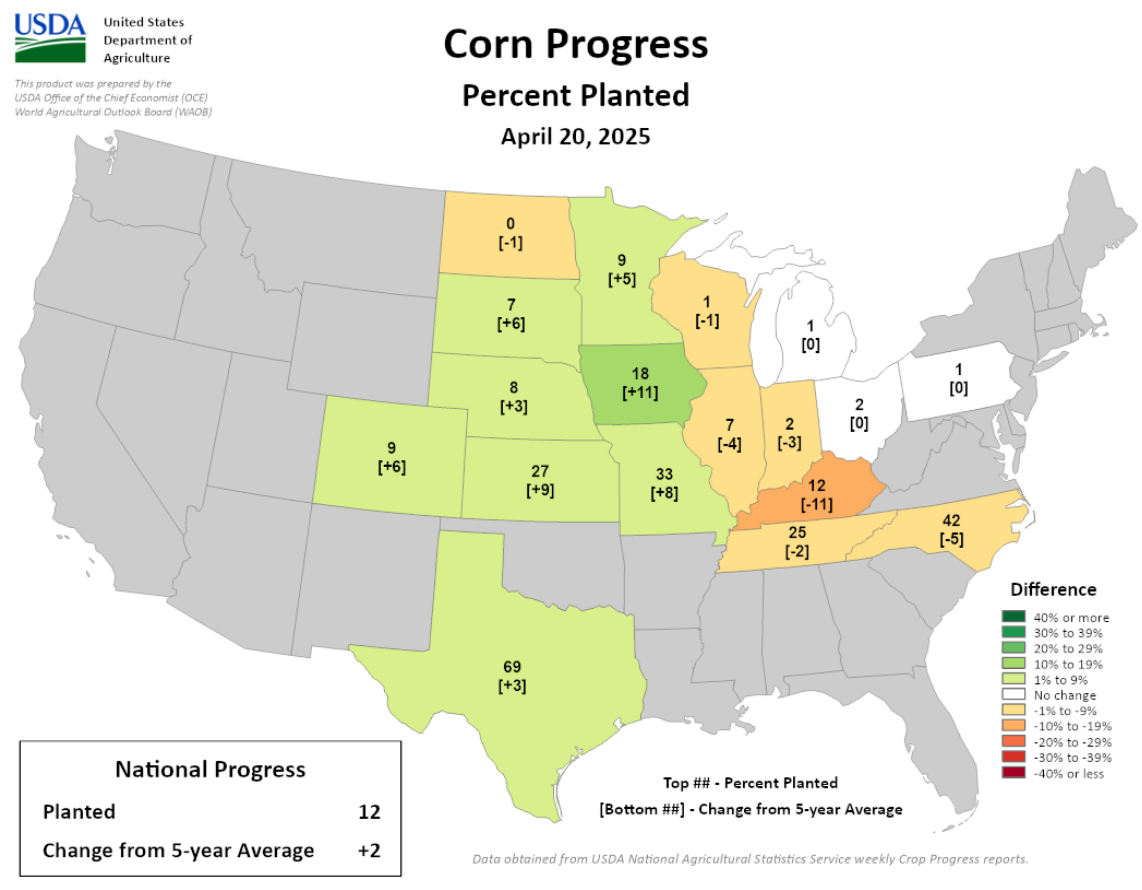


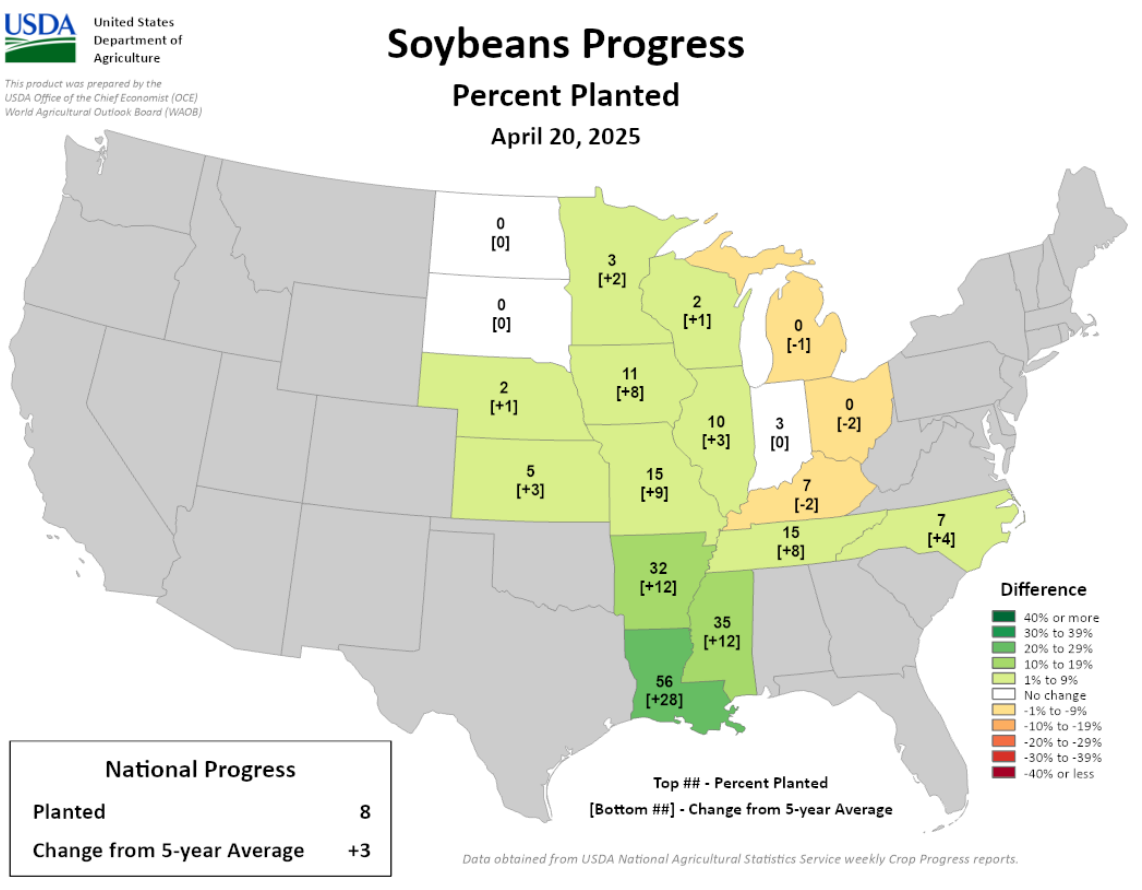


- Temperatures for the past month ranged from **40-46°F** in the S & W to **30-36°F** in the far NC.
  - **1-3°F below normal** in the central and north compared to climatological (1991-2020) average.
  - Temps **above the climatological average** in the south and portions of the west.

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

Corn & Soybean Progress



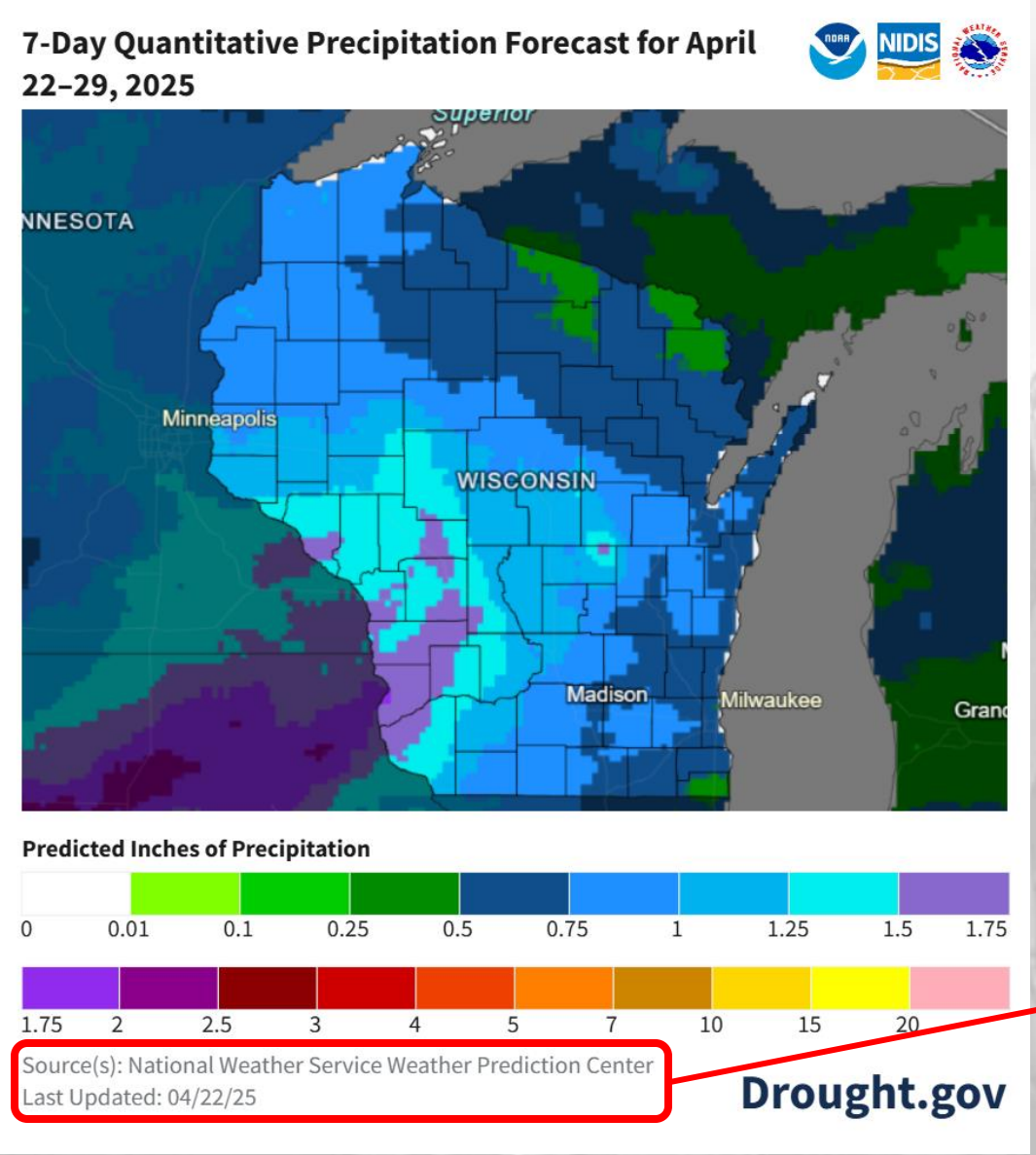


Planting is **underway** for corn and soybeans but has been **limited** by wet conditions.

- **In the news**: https://www.brownfieldagnews.com/news/cool-wet-fields-are-slowing-most-wisconsin-farmers/

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

7 Day Precip Forecast

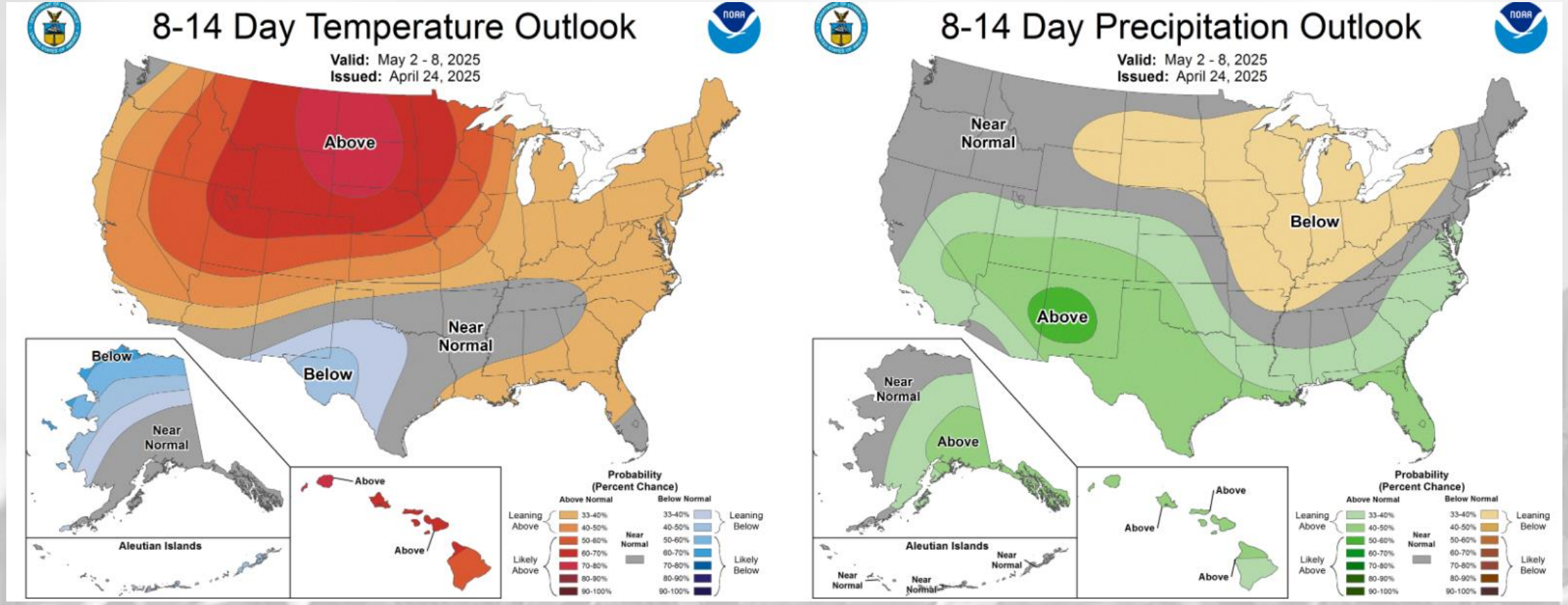


- **Another active week** for precip upcoming.
  - **Multiple rounds** of precip this week and into early next week. Check your local forecast for timing/totals.
  - Highest chances for precip once again in the **SW and WC regions**.
  - Potential for **over an inch** of new precip in the west. **Lesser chances** in the N and E.

Forecast for 4/22/25 thru 4/29/25
(Begins at 7am CDT)

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

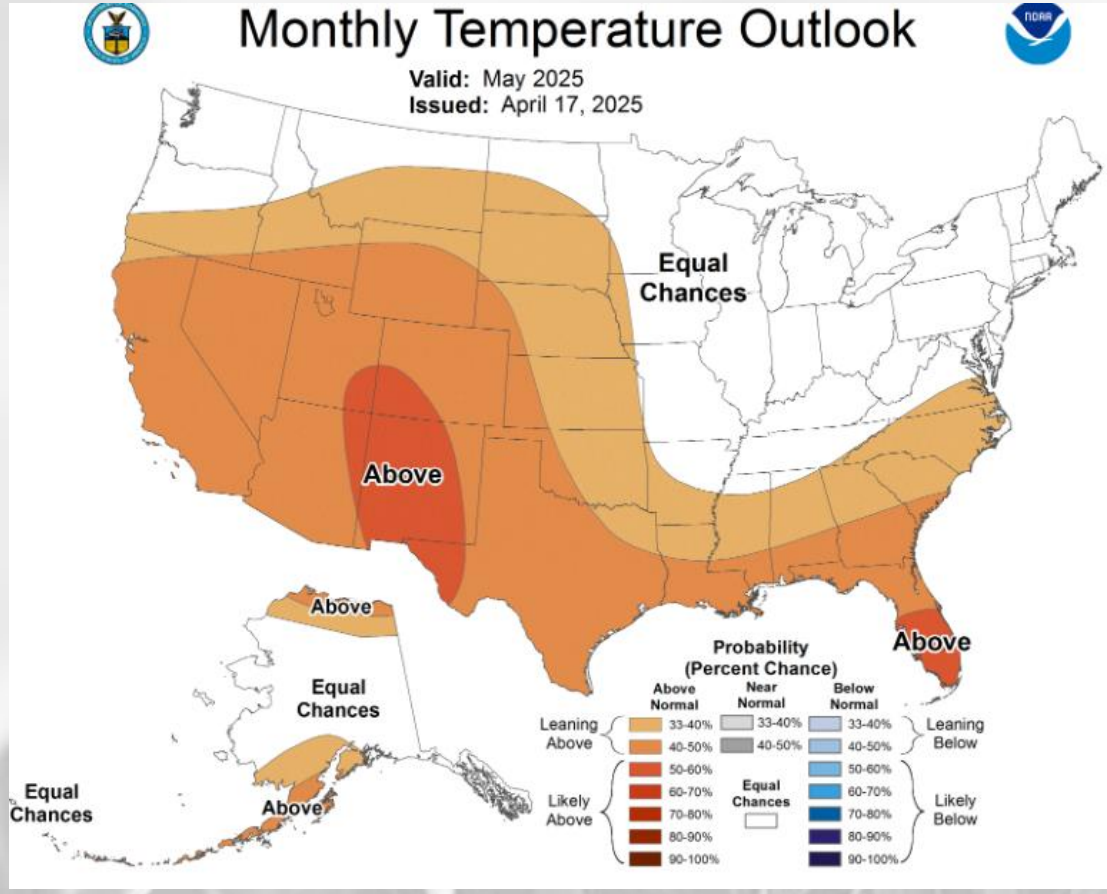
8-14 Day Temp & Precip Outlook

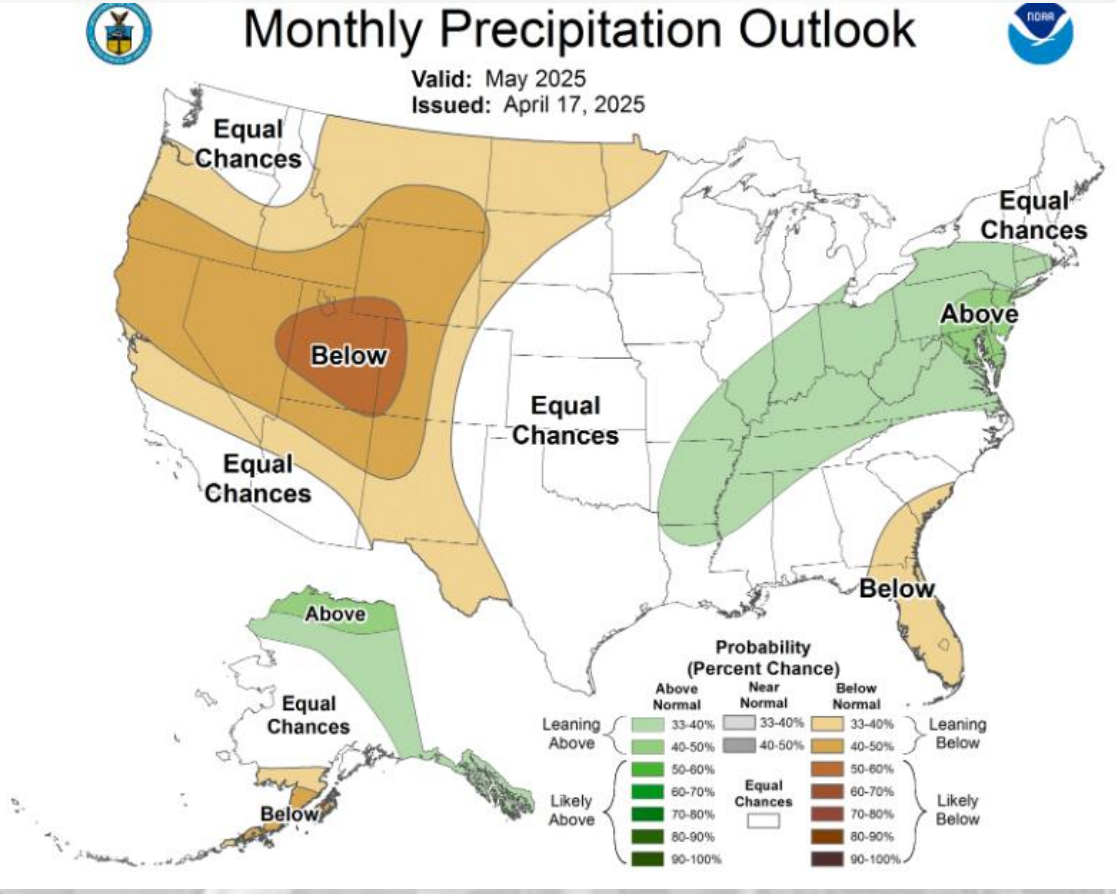


Start of May: Temperatures likely to be above normal, with precipitation leaning towards below normal.

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

30 Day Temp & Precip Outlook

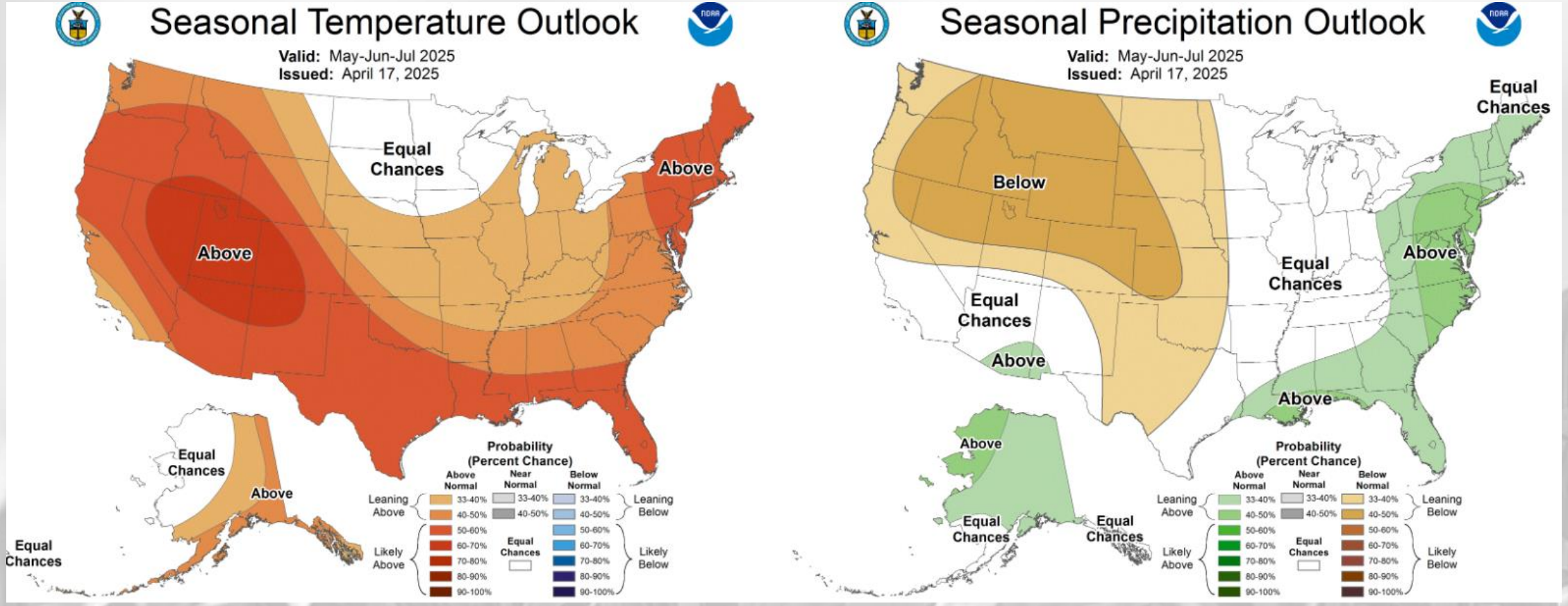




Month of May: Temperature and precipitation uncertainty with equal chances for above, near, or below normal.

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

90 Day Temp & Precip Outlook



Late Spring into Summer: Chances slightly lean toward above normal temperatures for S & E WI, with uncertainty (equal chances) for both temperature (outside of the S & E) and precipitation (statewide).

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Take-Home Points

Current Conditions

- It was an **active week for precip** in WI, especially in the west-central (2-4”). Most in the state had **at least an inch** of new precip.
- Temperatures were **seasonal across the state** last week, with conditions leaning above (below) climatological average in the east (west).

Impact

- Soil moisture conditions remain **driest in the south,** but rains last week helped **alleviate dryness in the west.**
  - **>97%** of the state is drought-free, with the remining **D1 coverage in the far SW**.
- Corn and soybean planting are underway (**1% & 2% complete**, respectively), limited somewhat by **cool and wet conditions** (Source: NASS).
- Wildfire risk is **low to moderate** across the state. **Check the DNR map daily** for the latest updates on risk.
- Wisconet soil temperature readings down to 20” depth are **at or above freezing statewide**. Frost is all but gone statewide.

Outlook

- Another **active week for precip** is predicted for the state. Chances are once again **highest in the west/southwest**.
- As we wrap up April and begin May, probabilities are **leaning towards warmer and drier** than normal.
- The month of May looks **more uncertain** for temperatures and precip with equal chances for above, near, or below normal.

Agronomic Considerations

Field Work and Conditions

- Soil temperatures to 4" are still cool in some northern areas, ensure temps are reaching 50 degrees at a minimum before planting. (See WiscoNet). Also note upcoming insurance dates.
- Avoid trafficking fields in moist conditions to prevent compaction and rutting.
- Consider preplant nitrate tests to assess nitrate levels before fertilizing.
- Avoid fertilizer applications in wet and cool conditions. Nitrogen loss is greater in wet conditions.
- In drier regions of the state, consider earlier termination of cover crops to retain soil moisture if conditions remain dry.

Manure Applications

- Reminder of Wisconsin's NR 151 Runoff Rules with the timing of manure spreading and current runoff levels. Check DATCP Runoff Risk Advisory Forecast.

Pest Management

- Start scouting fields by foot to note any early emerging weeds.
- Ensure temperatures (day, night, and soil) are conducive for herbicide applications. Pre-emergent herbicides require moisture for activation.
- Be observant of black cutworm and true armyworm moths migrating to the state. Check trap catches in your region with the DATCP Pest Survey.

Forage Management

- Check existing alfalfa fields for signs of winterkill (Evaluating stands).
- New alfalfa seedings can germinate at 32-34°F; most of the state is past low temperatures being dangerous for new seedings.

Small Grains

- Assess winter grain stands and fertility needs. Reports of winterkill have been reported in Central Wisconsin and north.

More on the following slide ↓

Agronomic Considerations

Specialty Crops

Vegetables

- Consider the timing of cover crop termination to help manage cabbage maggots. Cabbage maggots overwinter in Wisconsin. When the flies emerge, they are attracted to fields with high organic matter. If possible, terminate and incorporate cover crops 2-3 weeks before planting to reduce the attractiveness of these fields as egg laying sites.
    - More info on cabbage maggots
- Start scouting for black cutworm migrating to the state with weather fronts. Check trap catches in your region with the DATCP pest survey.
    - More info on monitoring for black cutworm
- Reference the Vegetable Disease and Insect Forecasting Network (VDIFN) to know what diseases and insects to be scouting for in your area

Fruit

- Rain in the past week has driven disease infection events for several fruit crops. Reminder: Many protectants will wash off after 1 inch of rain. Refer to Wisconsin Fruit News for the latest updates.
- Fruit growers can reference the NEWA weather station network for past and forecasted disease infection events. Check out your nearest weather station:
    - NEWA Weather Station Network (Cornell).
- Fruit growers may consider hanging white or yellow sticky cards for tarnished plant bug. Scouting may begin for early-season lepidopteran larvae as well.

User Survey

Are you a regular user of the Wisconsin Ag Weather Outlook (WAWO)? 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 WAWO.

If you have any trouble accessing or filling out the survey, please email Josh Bendorf at jbendorf@wisc.edu.

Thank you!!
-The WAWO 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:
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