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 14, 2024

Josh Bendorf
Climate Outreach Specialist
Wisconsin State Climatology Office
jbendorf@wisc.edu

Bridgette Mason
Assistant State Climatologist
Wisconsin State Climatology Office
bmmason2@wisc.edu

Steve Vavrus
State Climatologist
Wisconsin State Climatology Office
sjvavrus@wisc.edu

Dennis Todey
Director
USDA Midwest Climate Hub
dennis.todey@usda.gov

Anastasia Kurth
Regional Crops & Soils Educator
Sauk, Juneau, and Richland Counties
UW-Madison Division of Extension
anastasia.kurth@wisc.edu

Rue Genger
Emerging & Specialty Crops Program Manager
UW-Madison Division of Extension
rkgenger@wisc.edu

Emilee Gaulke
Diversified Vegetable Educator
Waukesha County
UW-Madison Division of Extension
emilee.gaulke@wisc.edu

Derrick Raspor
GLRI Field Coordinator
Wisconsin USDA-NRCS
derrick.raspor@usda.gov

Key Points

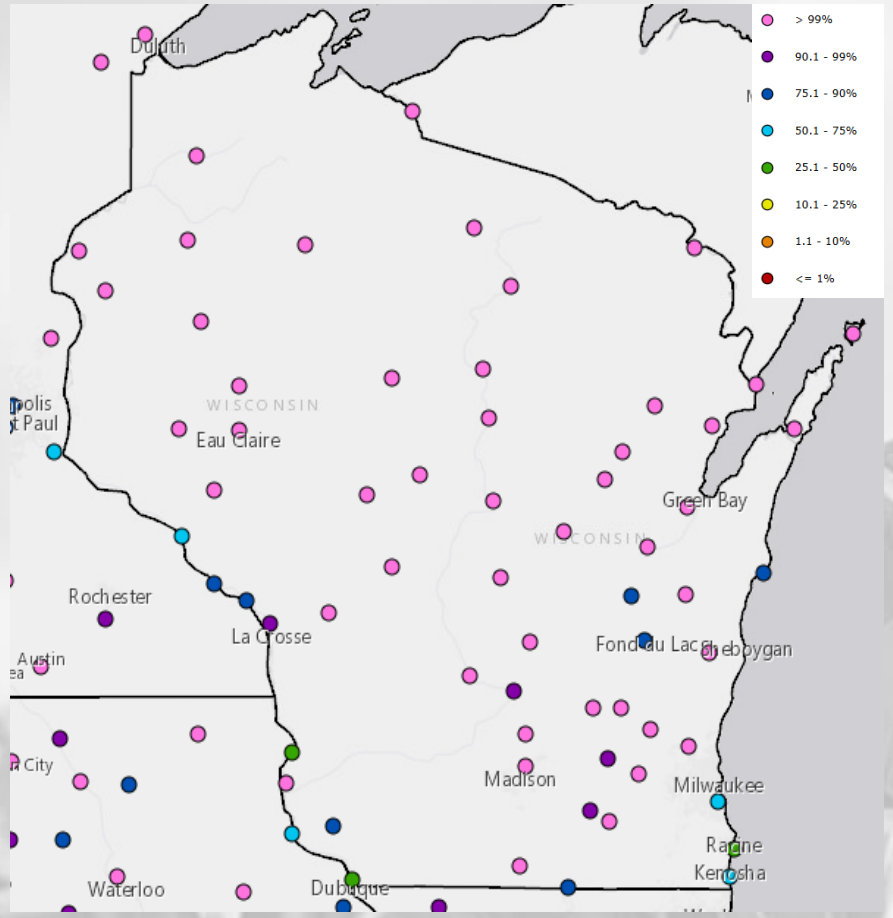
Navigate to select slides by clicking on the links below.

1) Last week was a quiet week for precip, with most of the state observing cooler-than-normal temps.
2) Soil moisture conditions remain driest in the south and northwest where 30- & 90-day precip totals have been lower.
3) Wildfire risk is high across almost all of the state.
4) Higher chances for precip during the next week, with higher odds for warmer and wetter conditions for late April.

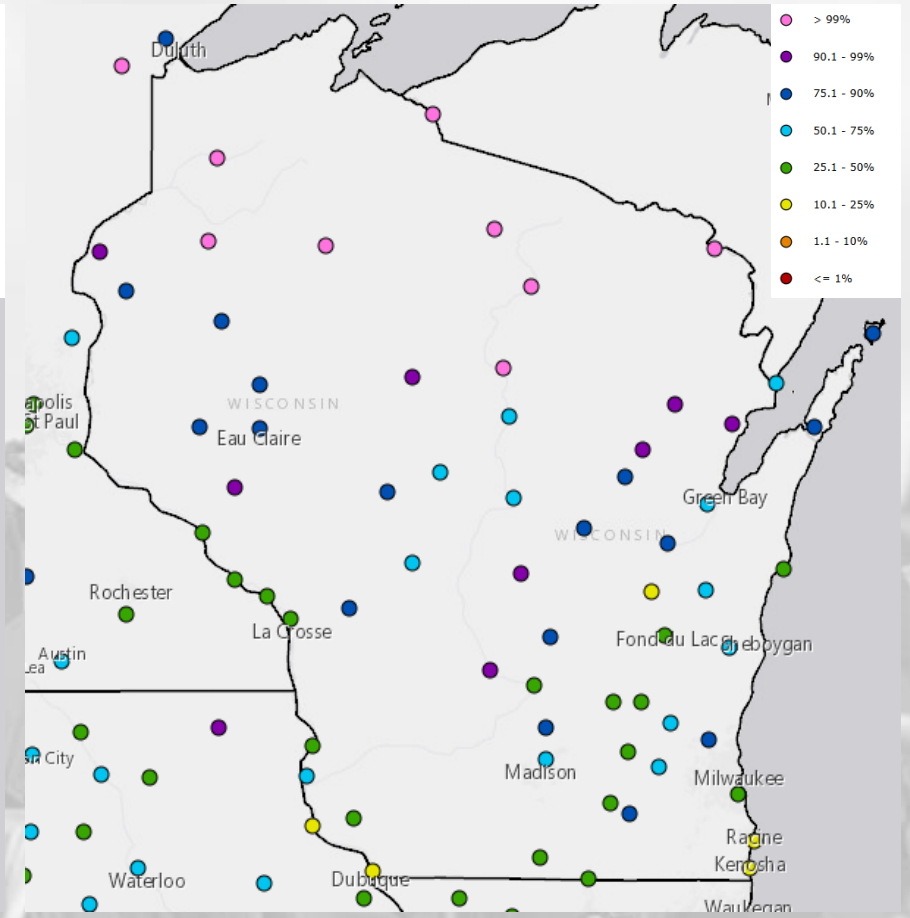
- *For this week's agronomic recommendations from UW Extension, click here.*

Freeze Risk

Daily Low ≤ 32°F



Daily Low ≤ 28°F



- Maps show the probability of a **freeze occurring after April 15th**.
- For most of the state, it is **very likely** that a freeze will occur after April 15th.
- Likelihood is **lesser** along the Mississippi River and in the south/east.

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

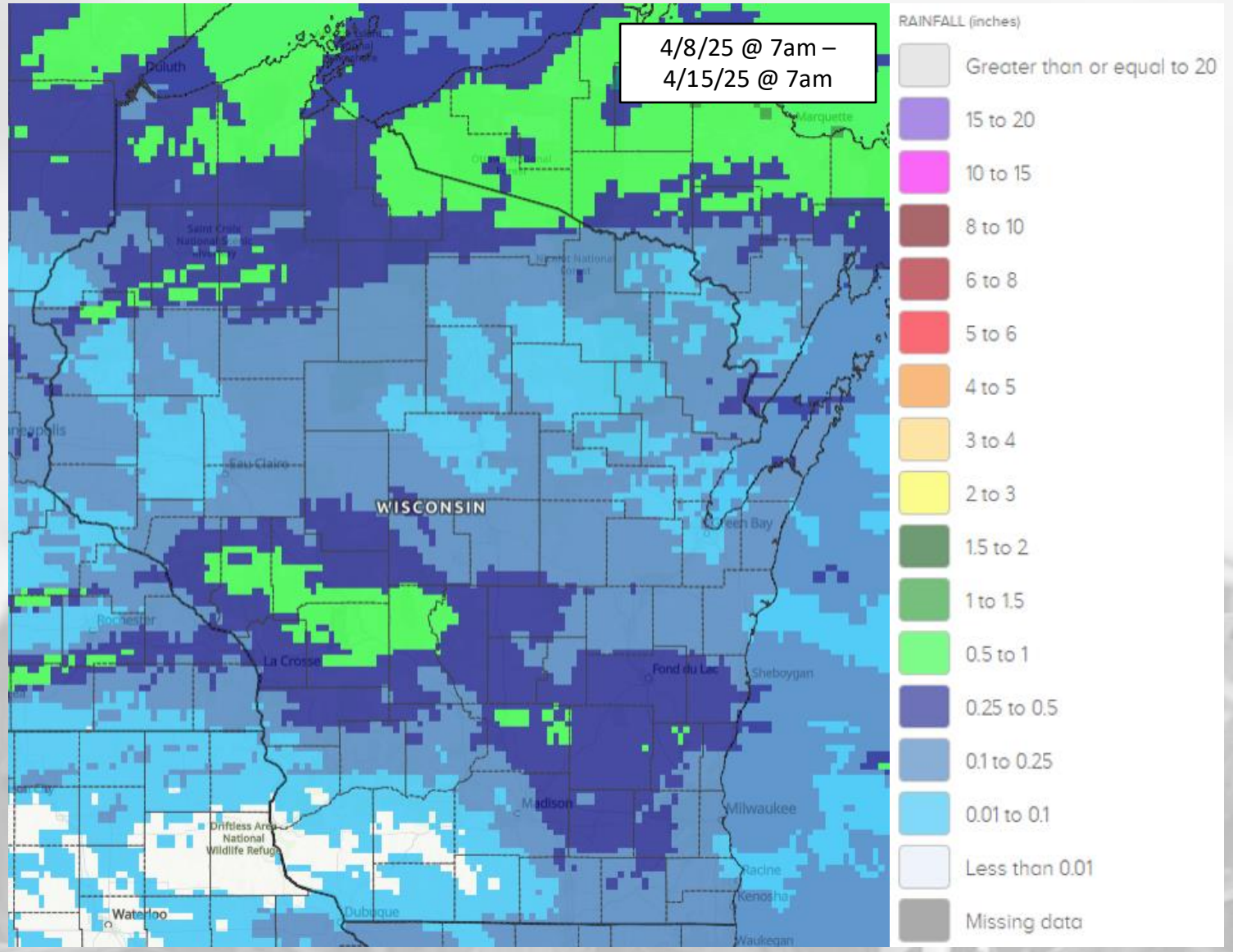
A Quiet Week

Precip stats by climate division → April 8 – 14

Climate Division	2025 Precip	Normal Precip	% of Normal
WI01	0.16	0.52	31
WI02	0.15	0.53	29
WI03	0.09	0.61	15
WI04	0.14	0.65	21
WI05	0.12	0.71	17
WI06	0.04	0.78	5
WI07	0.07	0.88	8
WI08	0.07	0.89	7
WI09	0.08	1.01	8

https://mrcc.purdue.edu/CLIMATE

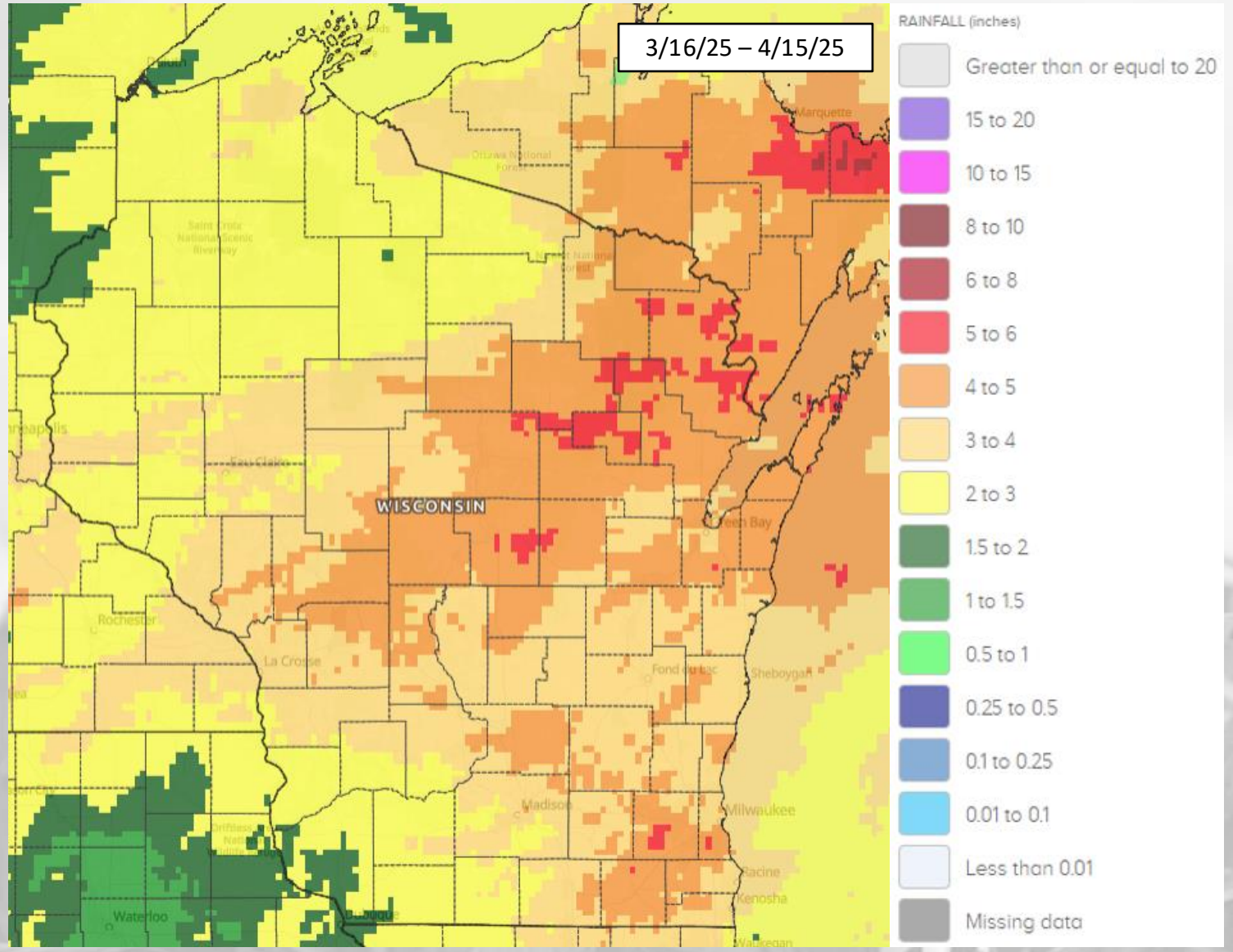
7 Day Precip



- **Half inch to inch** of precip fell across area of west-central and far northern WI last week.
- Most of the state saw **less than a quarter inch**.
- A **tenth of an inch or less** in the far SW, where conditions have been the **driest thus far in 2025**.

https://water.noaa.gov/

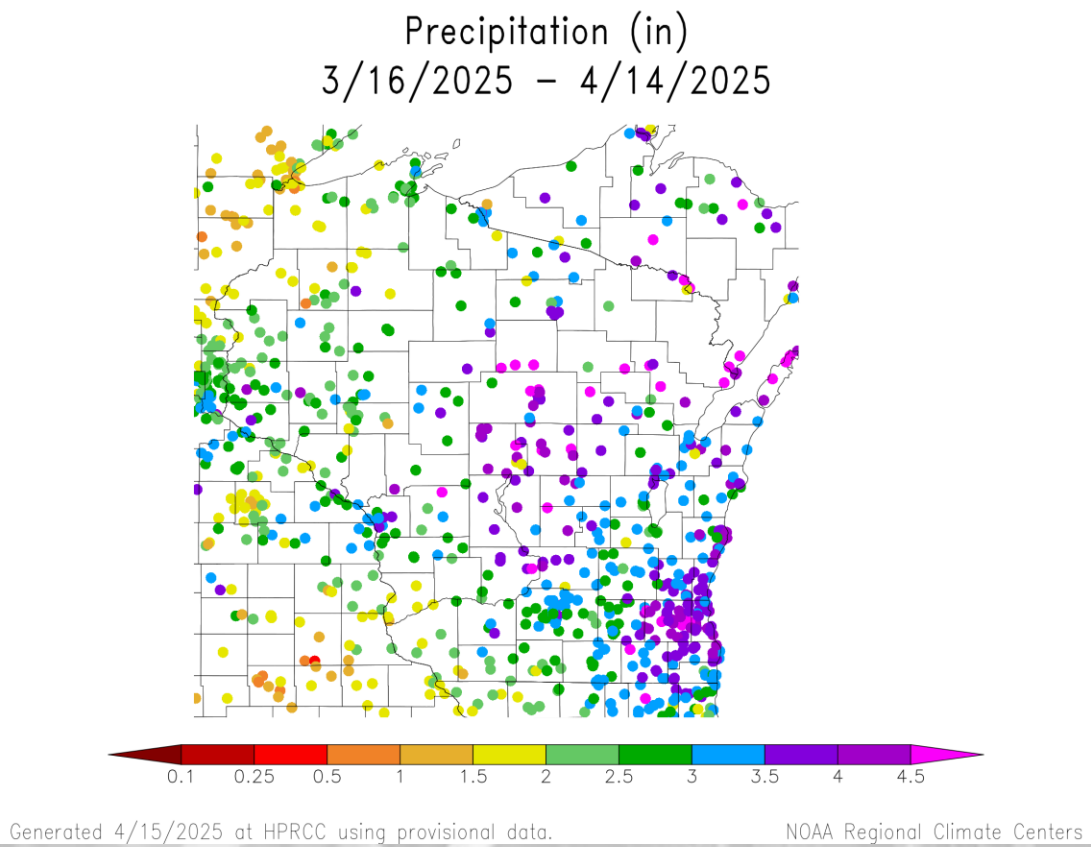
30 Day Precip

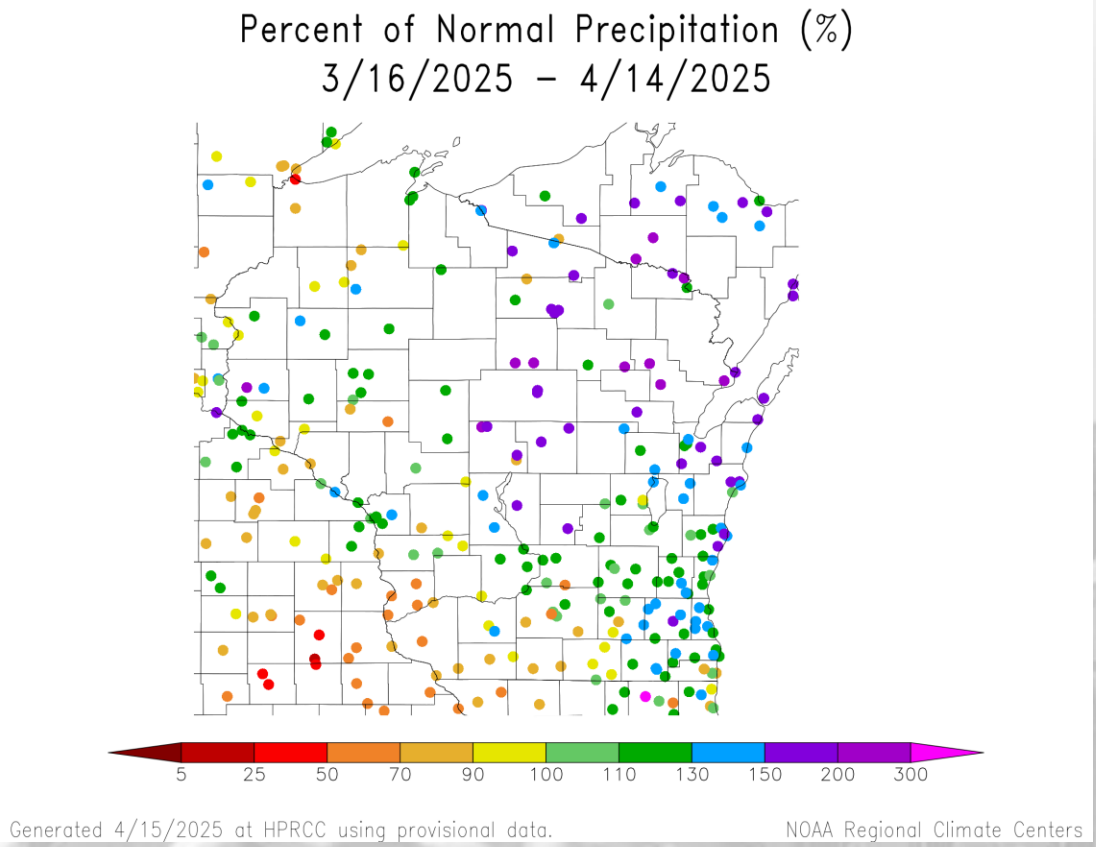


- Heaviest precipitation concentrated in the NE & far SE counties → **4-6”**
- **Multiple inches** of precipitation fell across the north during the late March ice storm.
- **2-4”** across the majority of WI.

https://water.noaa.gov/

30 Day Precip Total/% Avg.

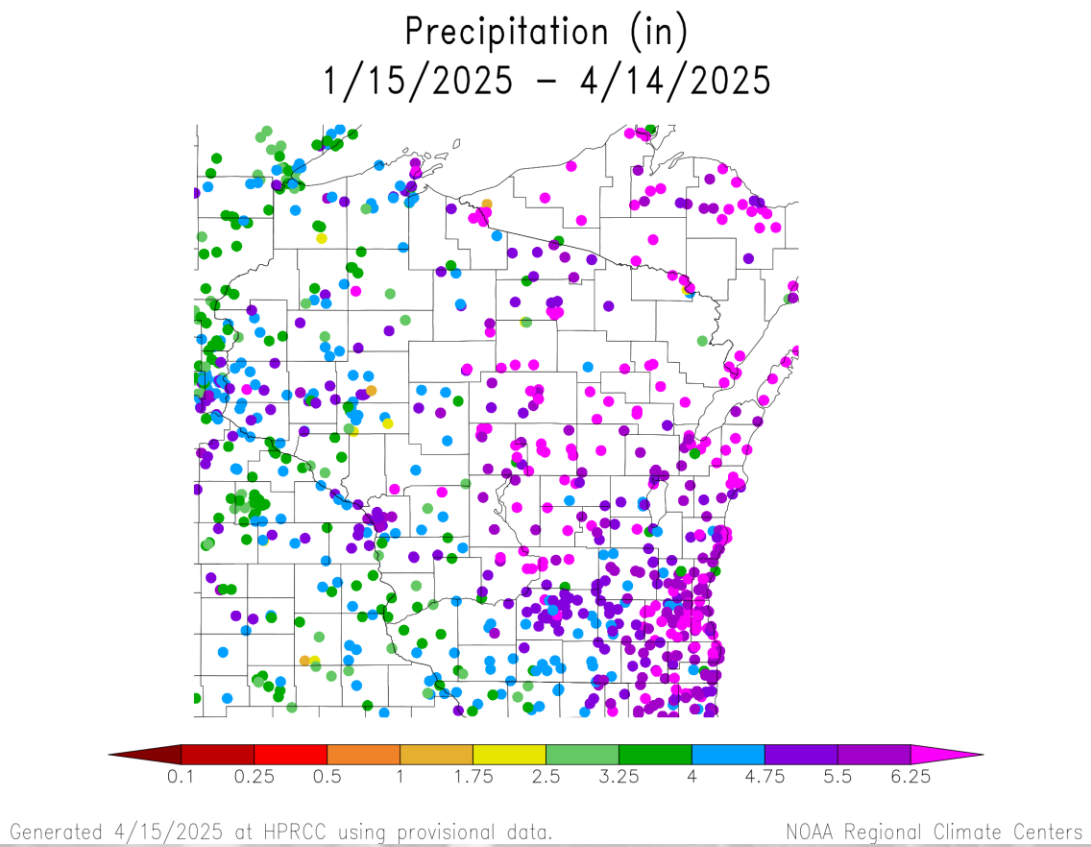


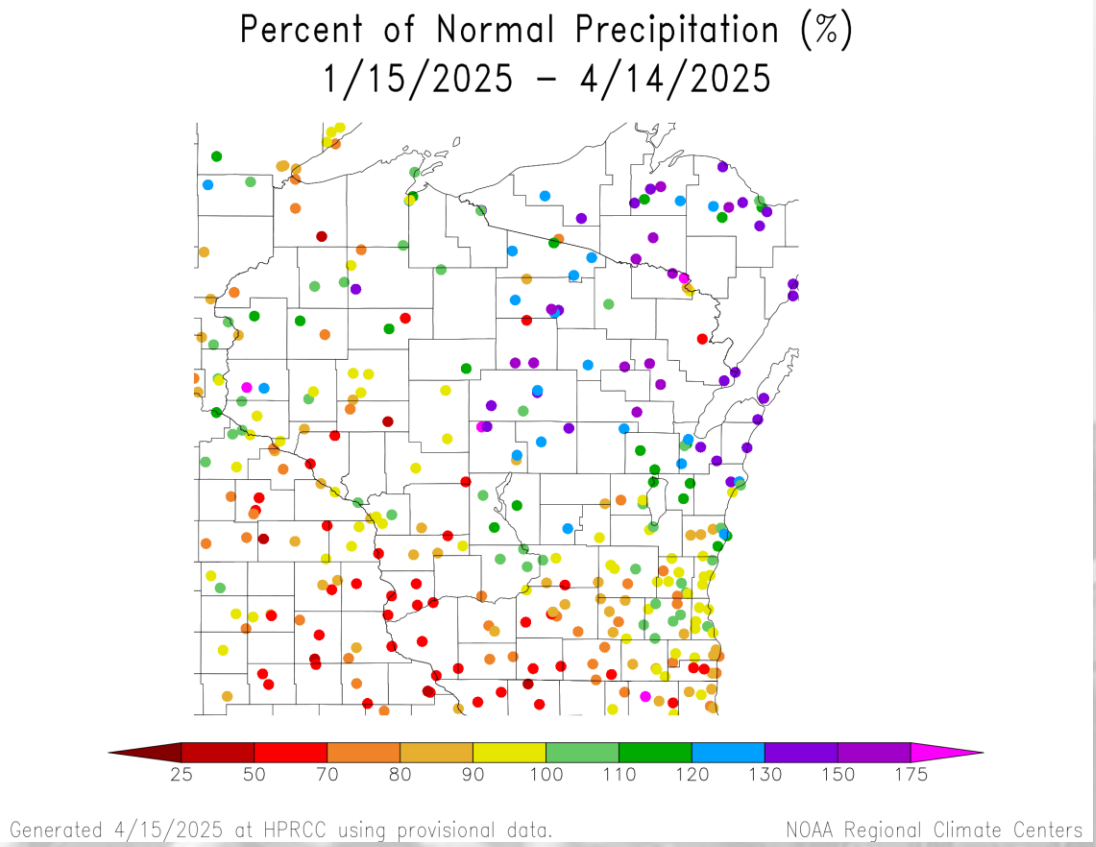


- Precip totals over the past 30 days were **more concentrated on the eastern side** of the state.
  - **3" or more** was common across stations in the Central & East → **130% or more** of 30-year normal.
  - Further west, **1.5-3"** was common → below-to-near normal; **most below normal in the far SW**.

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

90 Day Precip Total/% Avg.

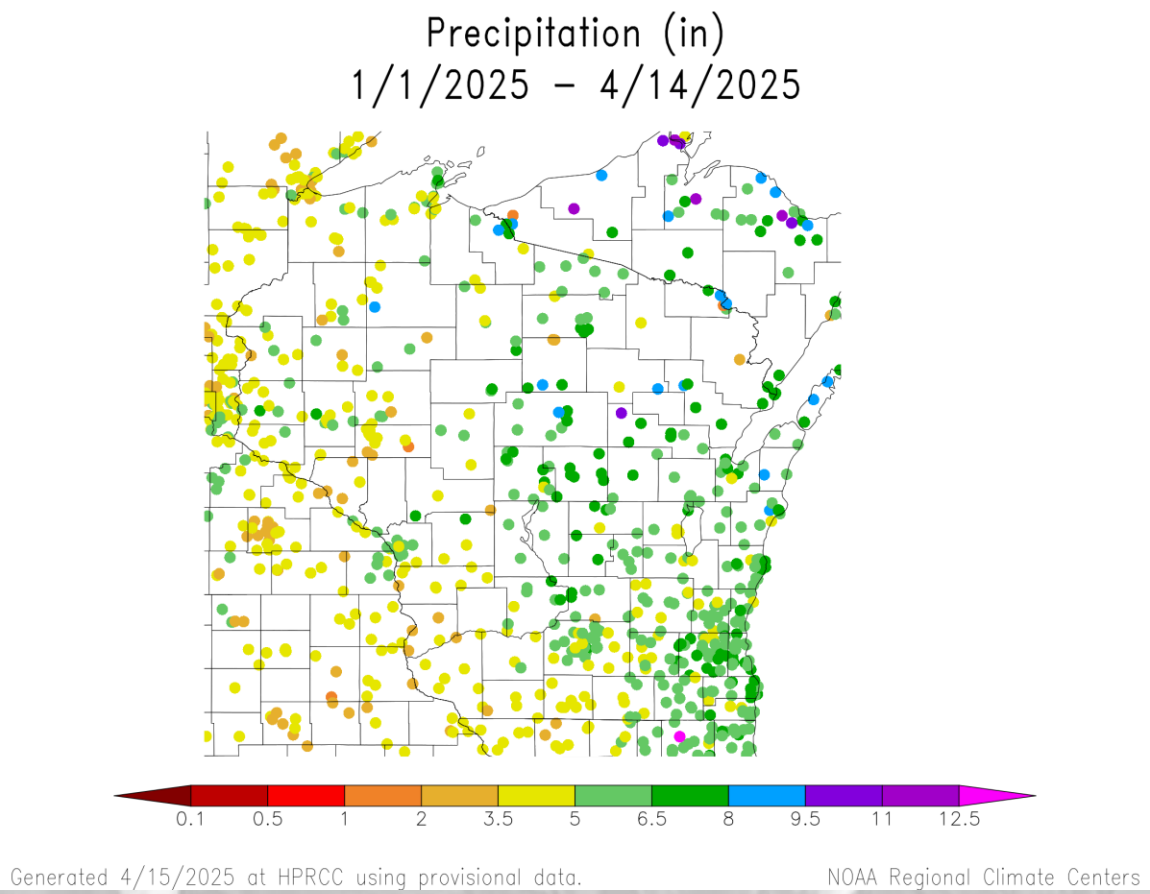


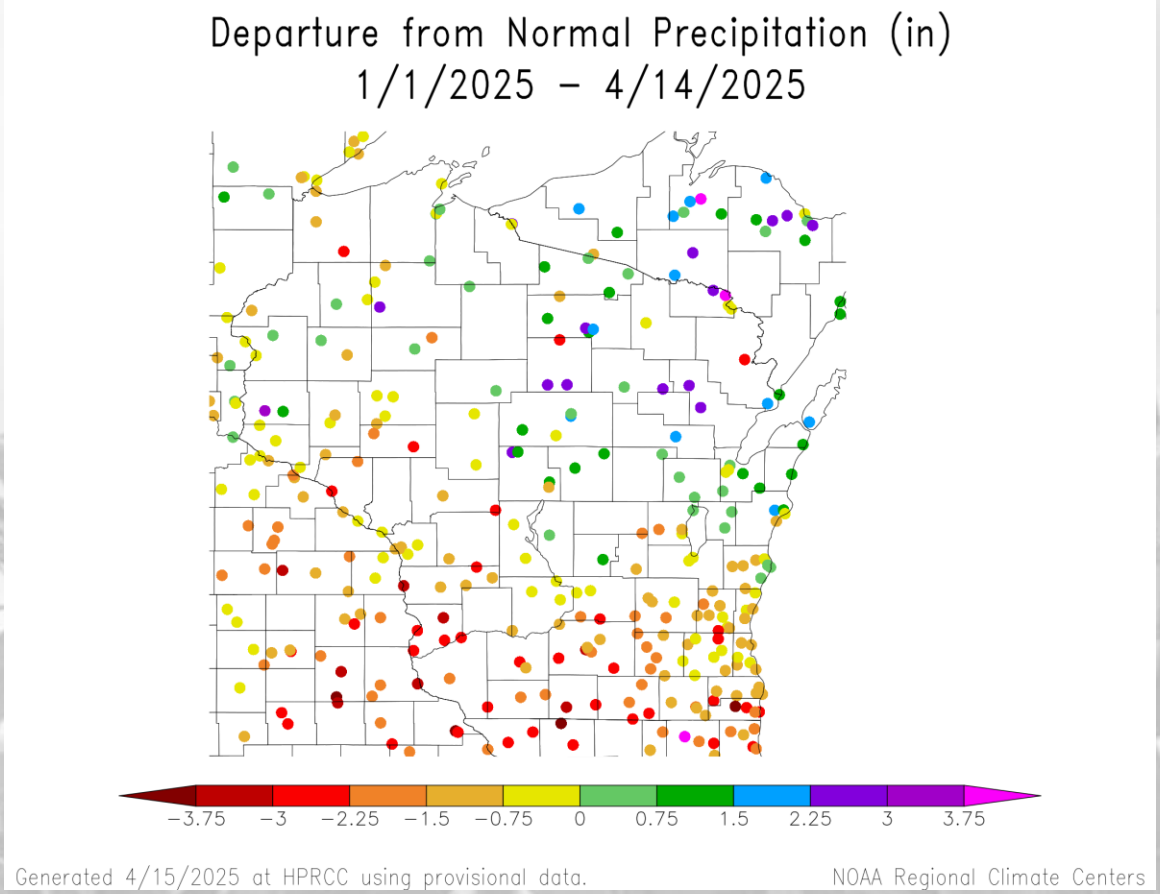


- **>4”** common across most of WI, with **totals highest on the Eastern side** → >6” common
  - **At or above** the 30-year normal; most above normal in the **NE**.
- **Below the 30-year normal** is common in the S & W → **<4”** common in the W/SW.

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

2025 Precipitation (so far)





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

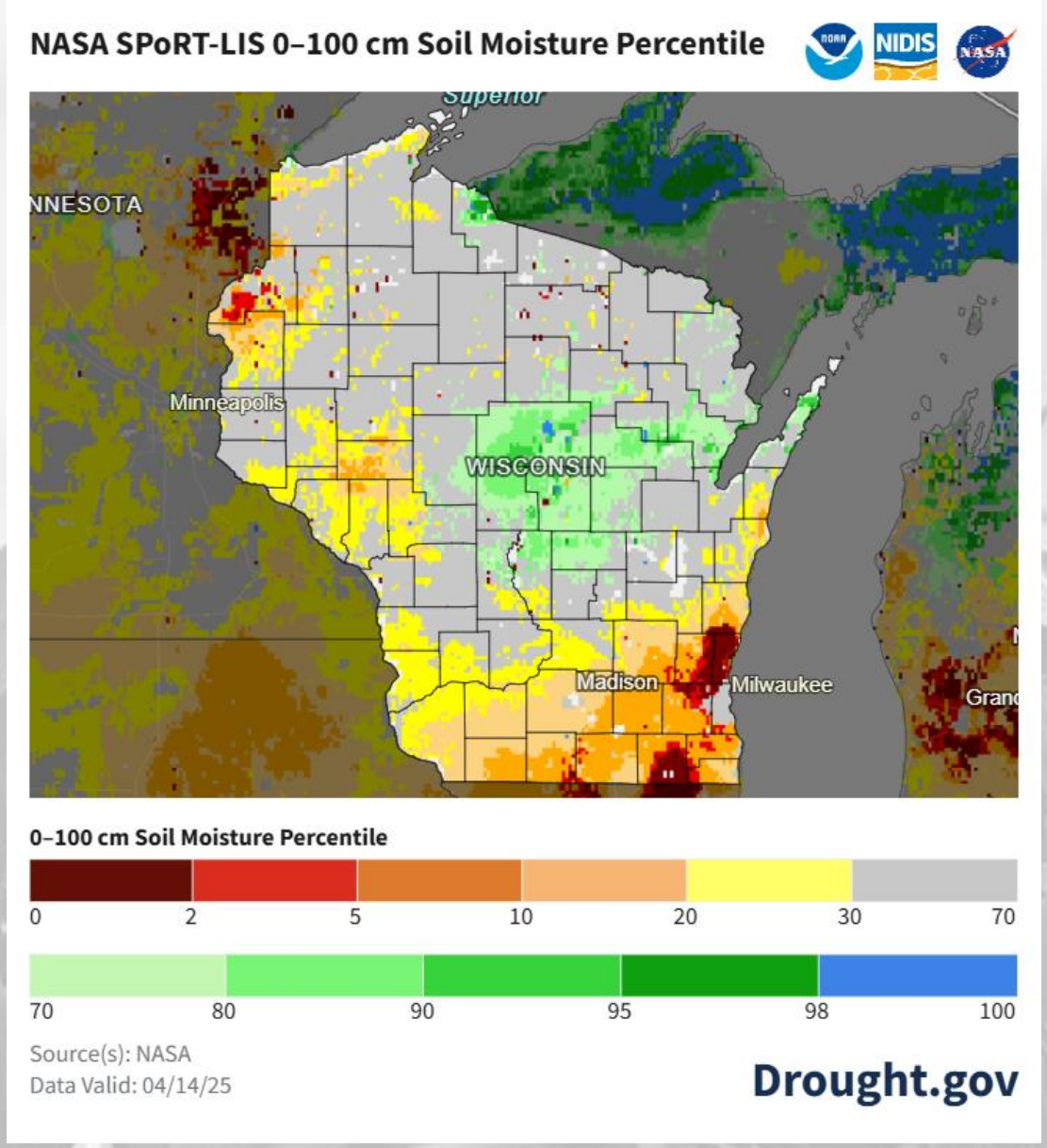
Soil Moisture Models

- **70th percentile or higher** in the central and NE counties with the high precipitation totals from last 30 days.
- **20th percentile or lower** in the south where the last 30-90 days have been drier-than-normal.
- **Near-normal percentiles** for the majority of the state.

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.

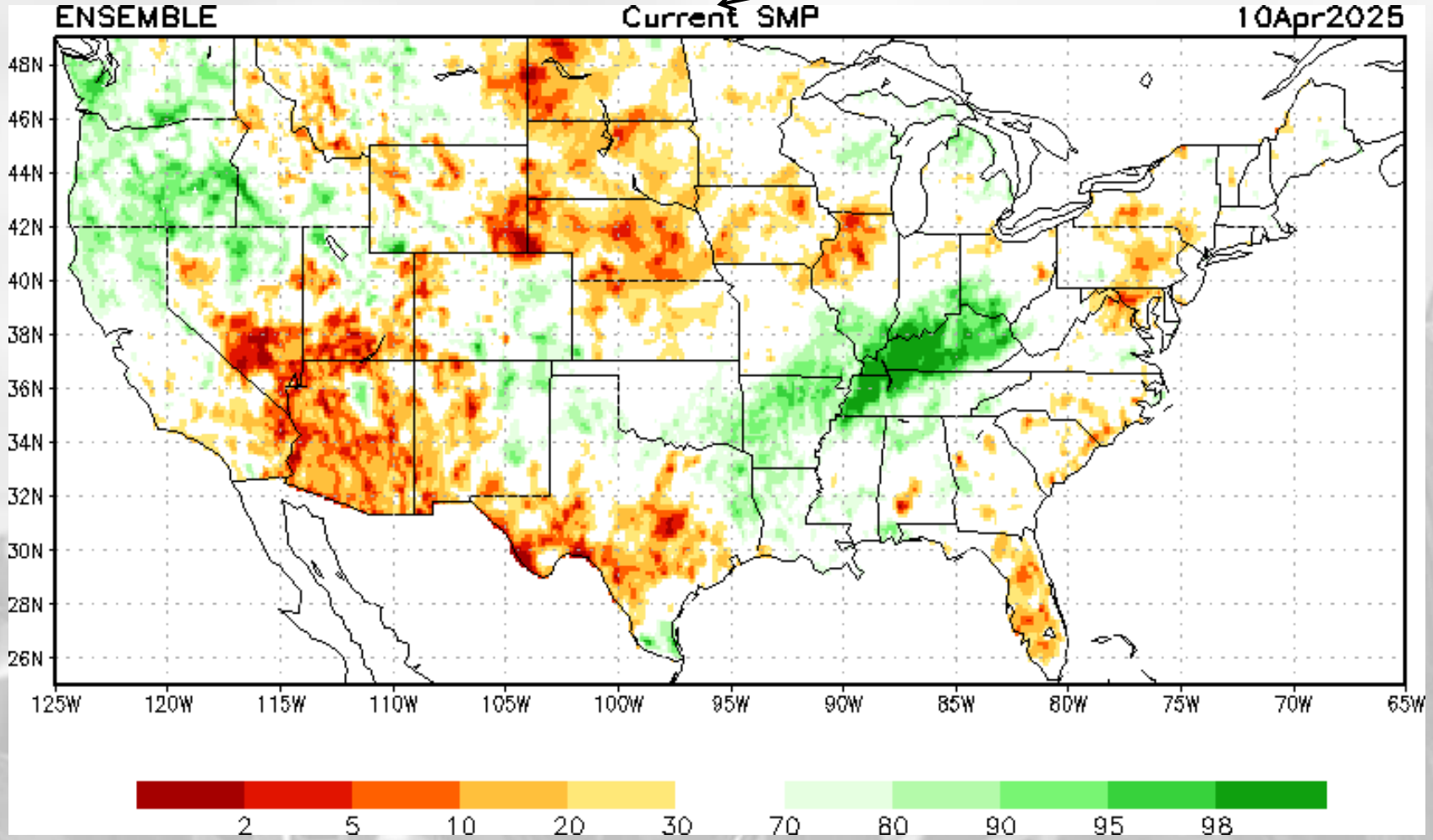
It's worth noting that each soil moisture model has their own characteristics and input variables, so there tends to be variation between models. Thus, it's worthwhile to look at multiple models opposed to just one.

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



Soil Moisture Models

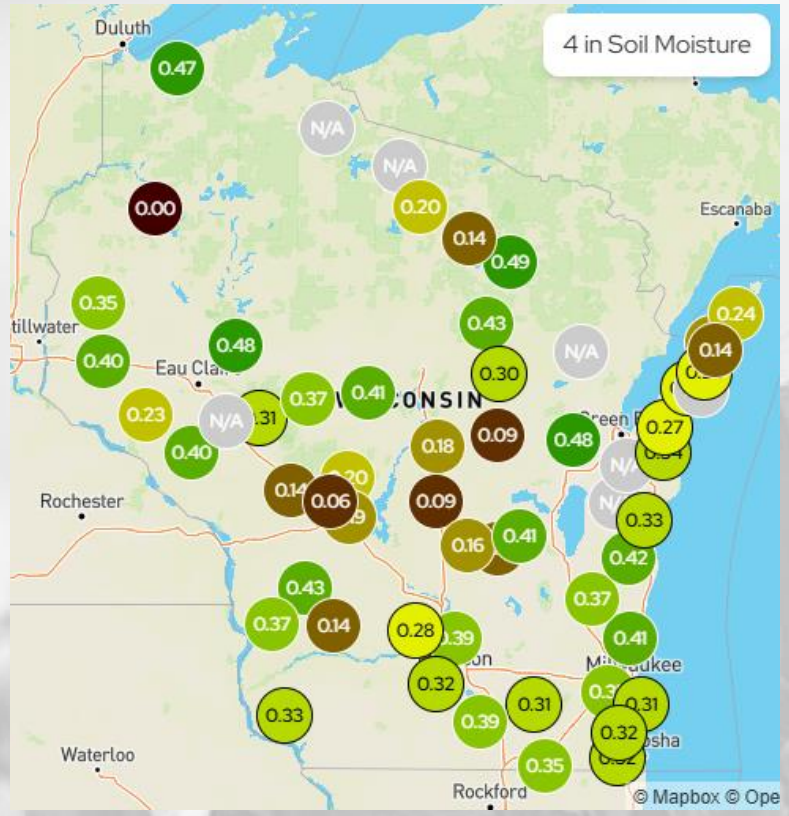
NOTE: this map displays the soil moisture percentile for Apr. 10. It was the most recent update on Apr. 15.

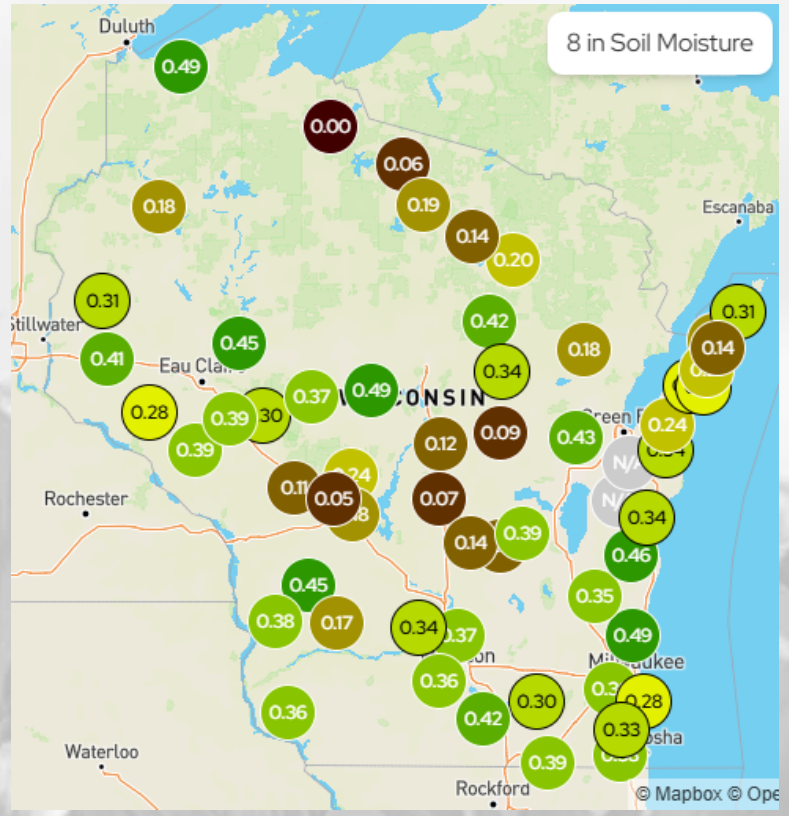


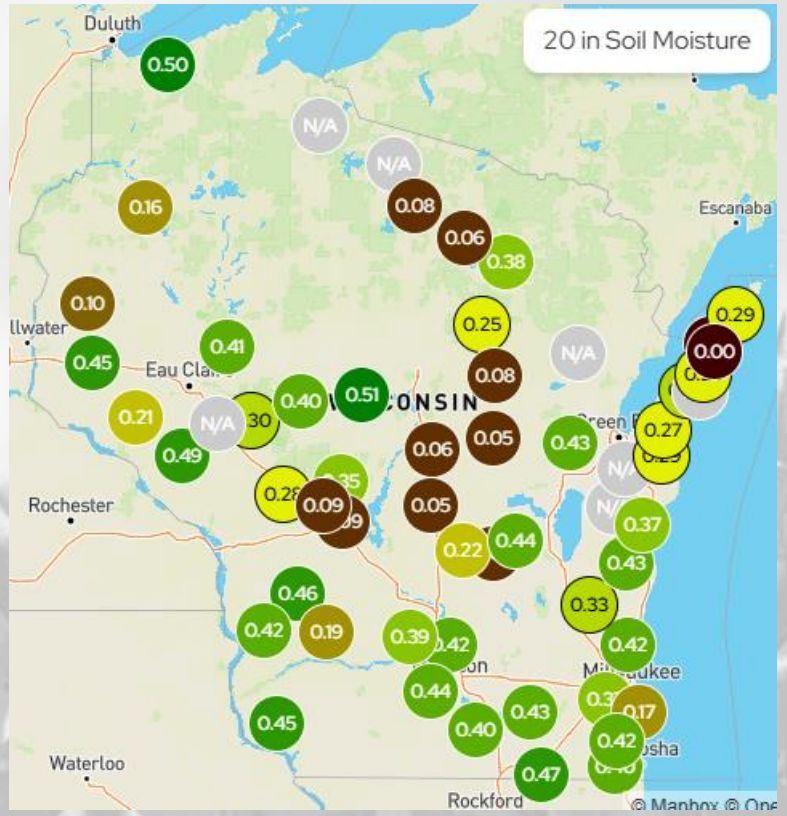
https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml

Wisconet Soil Moisture

Maps showing soil moisture conditions on
April 15th @ Mid-morning



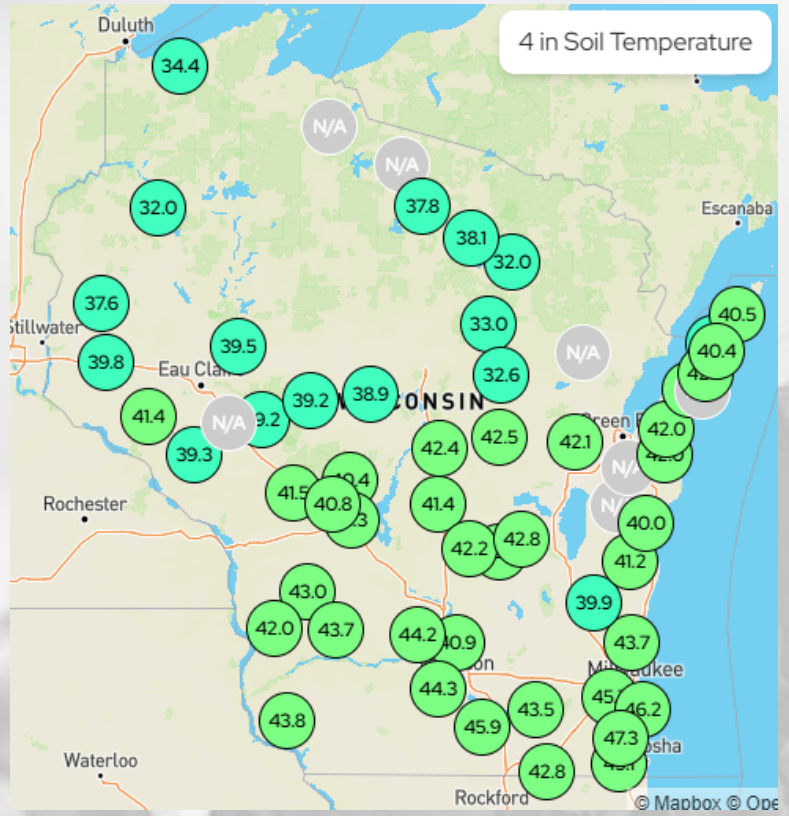


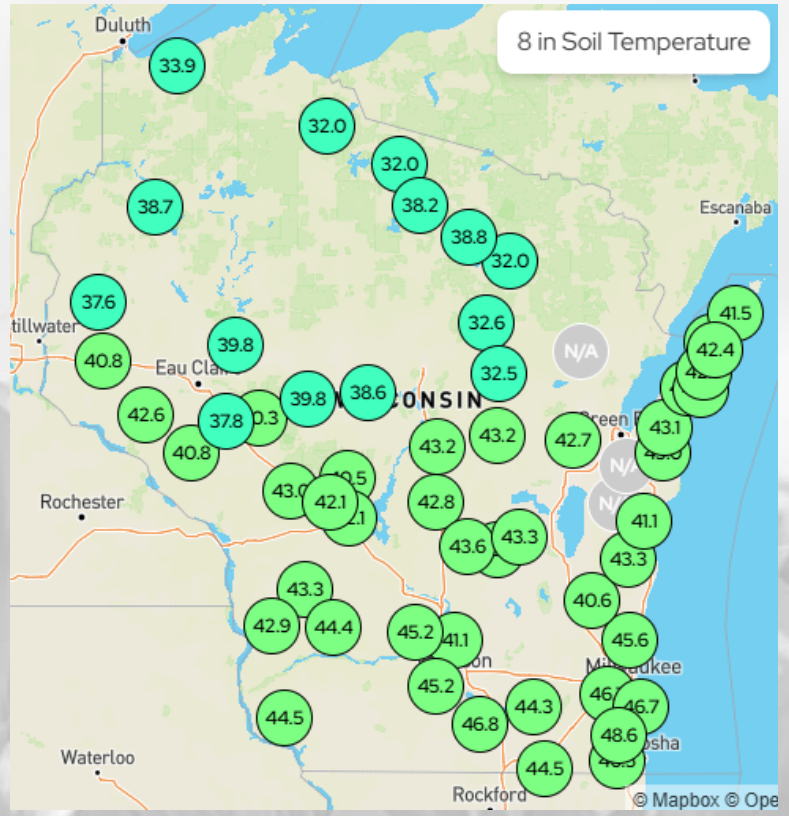


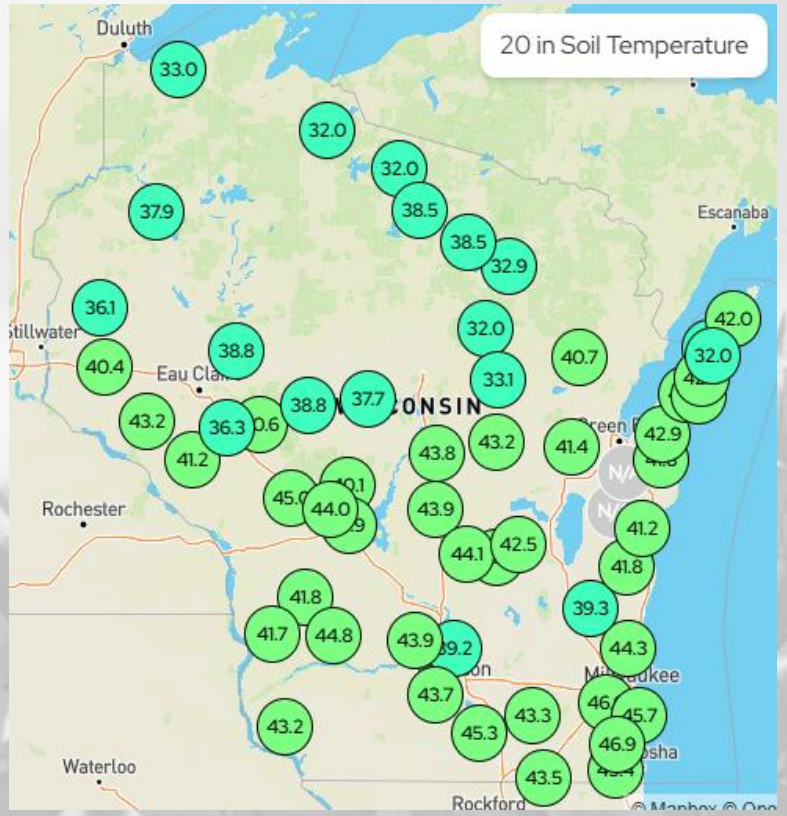
https://wisconet.wisc.edu/

Wisconet Soil Temperature

Maps showing soil temperature conditions
on April 15th @ Mid-morning

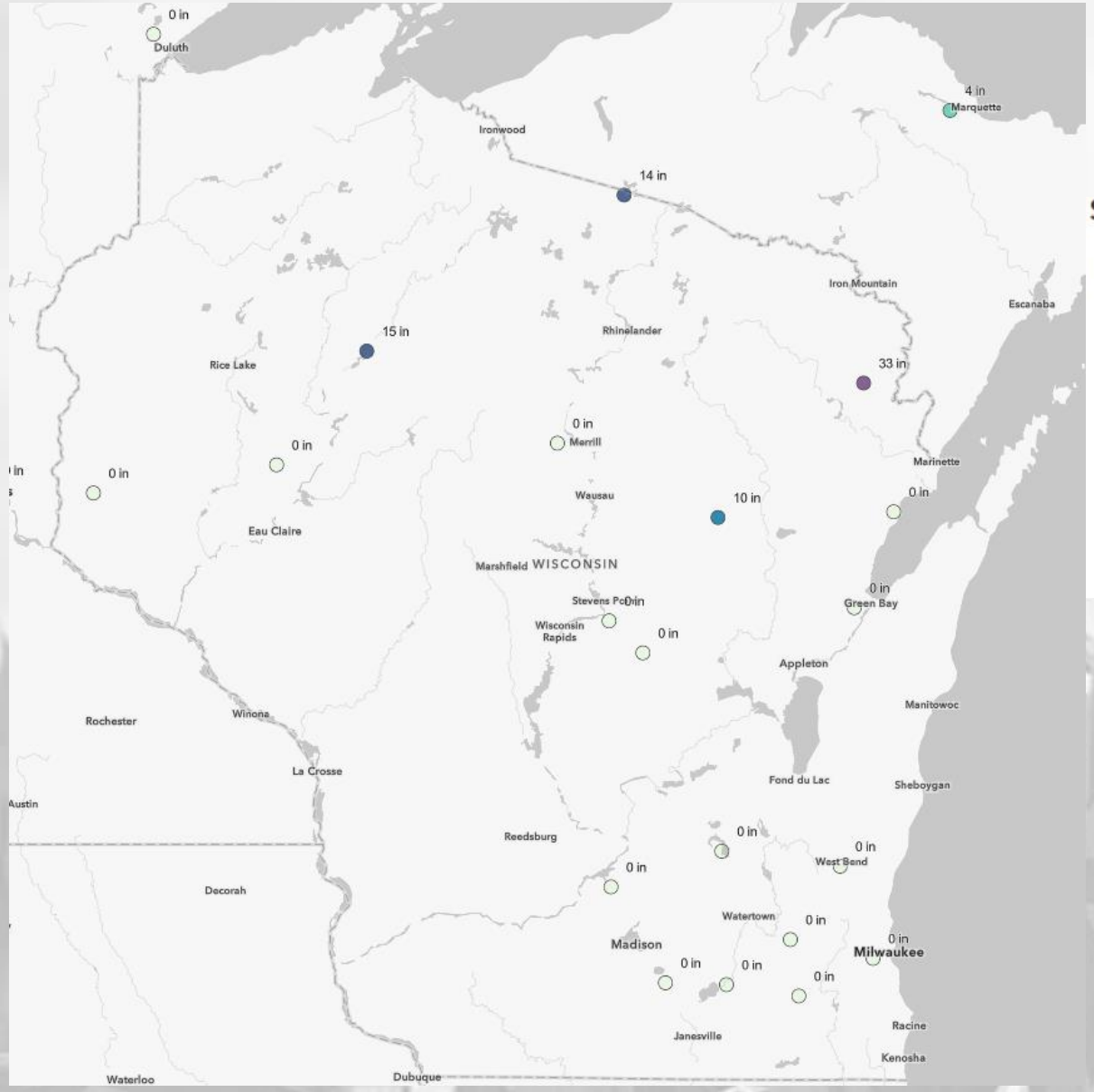


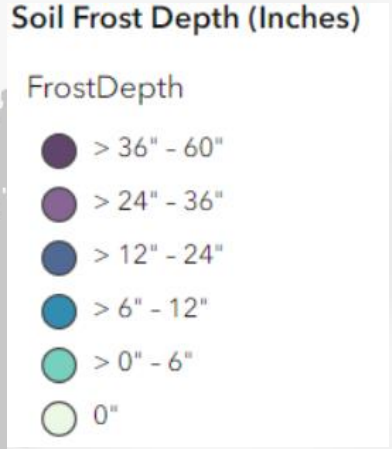




https://wisconet.wisc.edu/

Frost Depth





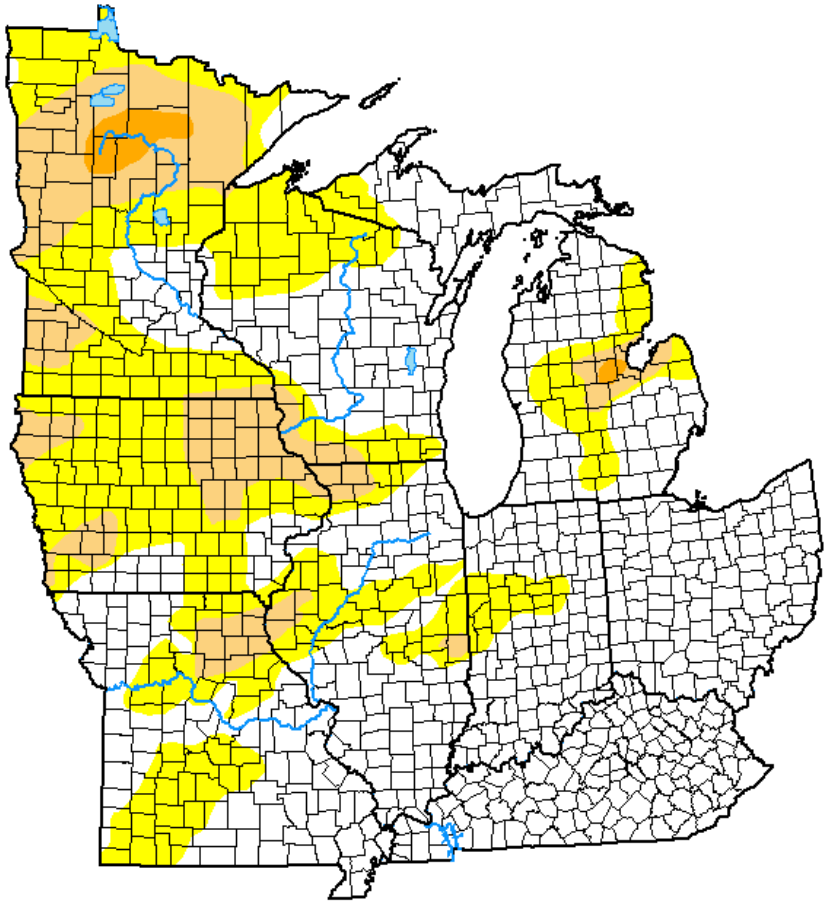
- Deep soil frost has **continued to thaw** since last week. Only a few stations in the north report frost.
- In areas with frost persisting, **near-surface soils are thawed** with average temps above freezing last week.
- South of Wausau, the state is **frost free** with soil temps in the 40's.

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 4/17/25

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

US Drought Monitor



U.S. Drought Monitor

Midwest

April 15, 2025

(Released Thursday, Apr. 17, 2025)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	57.30	42.70	13.22	1.07	0.00	0.00
Last Week 04-08-2025	57.18	42.82	14.85	1.07	0.00	0.00
3 Months Ago 01-14-2025	45.82	54.18	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 04-16-2024	48.71	51.29	25.60	6.57	0.84	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:

Curtis Riganti

National Drought Mitigation Center

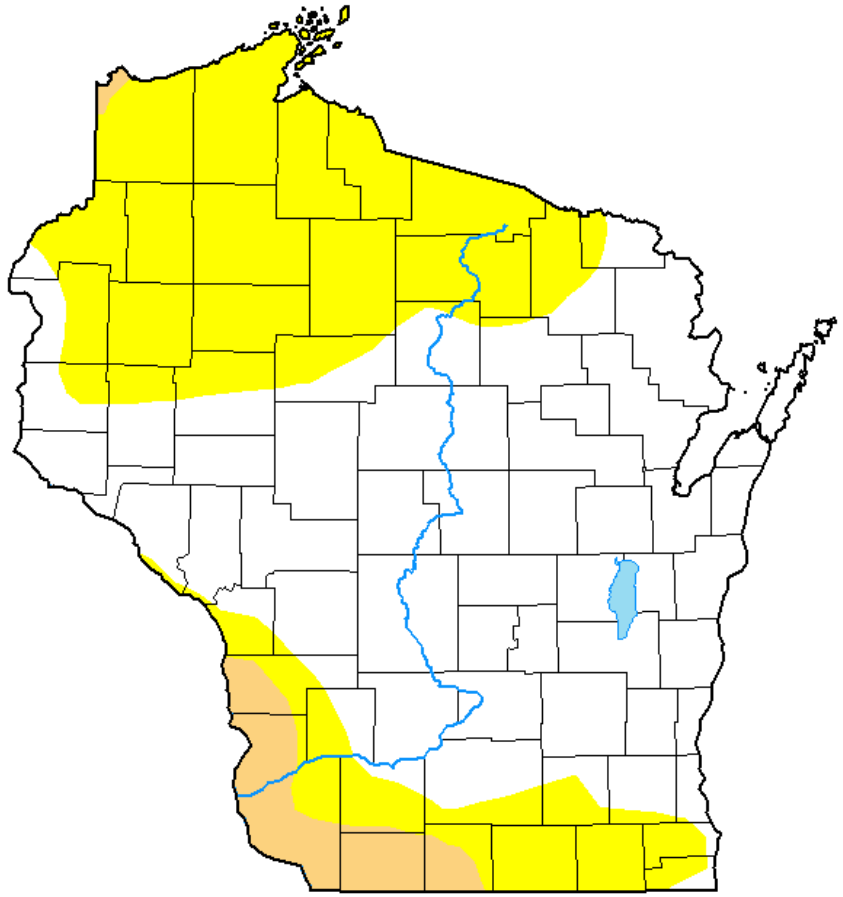
droughtmonitor.unl.edu

- Compared to last week:
  - **Decrease** in D0 & D1 coverage
- **1 class improvement** across northern, west-central, & SE WI.
- **1.1%** of the region remains in D2 drought, **unchanged** from last week.
- **>86%** of the region is drought free (13.2% in D1 or D2).

Note: D0 is not considered drought.

http://droughtmonitor.unl.edu/

US Drought Monitor



April 15, 2025
(Released Thursday, Apr. 17, 2025)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	57.97	42.03	4.95	0.00	0.00	0.00
Last Week *04-08-2025*	55.24	44.76	13.81	0.00	0.00	0.00
3 Months Ago *01-14-2025*	36.12	63.88	39.54	0.00	0.00	0.00
Start of Calendar Year *01-07-2025*	36.12	63.88	39.54	0.00	0.00	0.00
Start of Water Year *10-01-2024*	18.68	81.32	29.83	8.45	0.00	0.00
One Year Ago *04-16-2024*	24.94	75.06	28.34	5.30	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:
Curtis Riganti
National Drought Mitigation Center

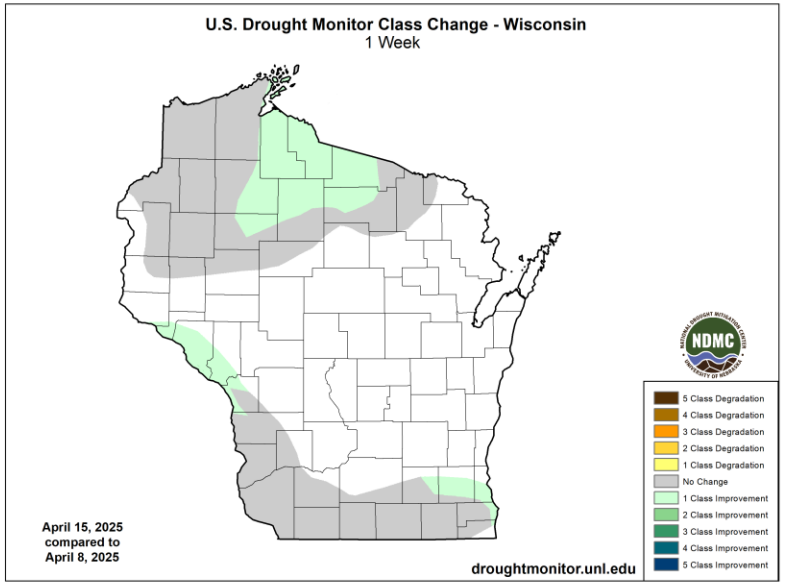
droughtmonitor.unl.edu

http://droughtmonitor.unl.edu/

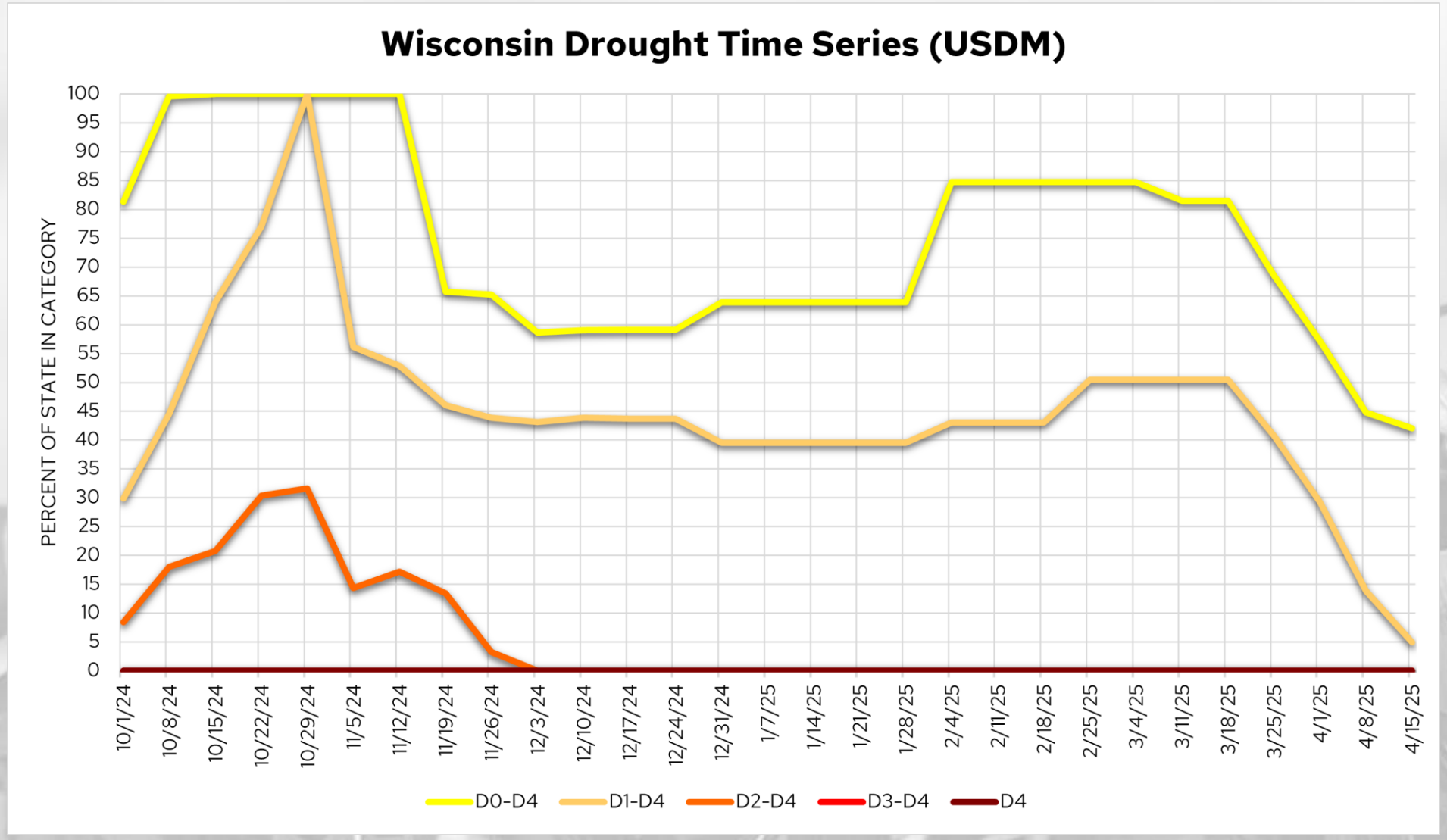
Amount of state in:

- D1-D4 – 4.95% ↓
- 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.

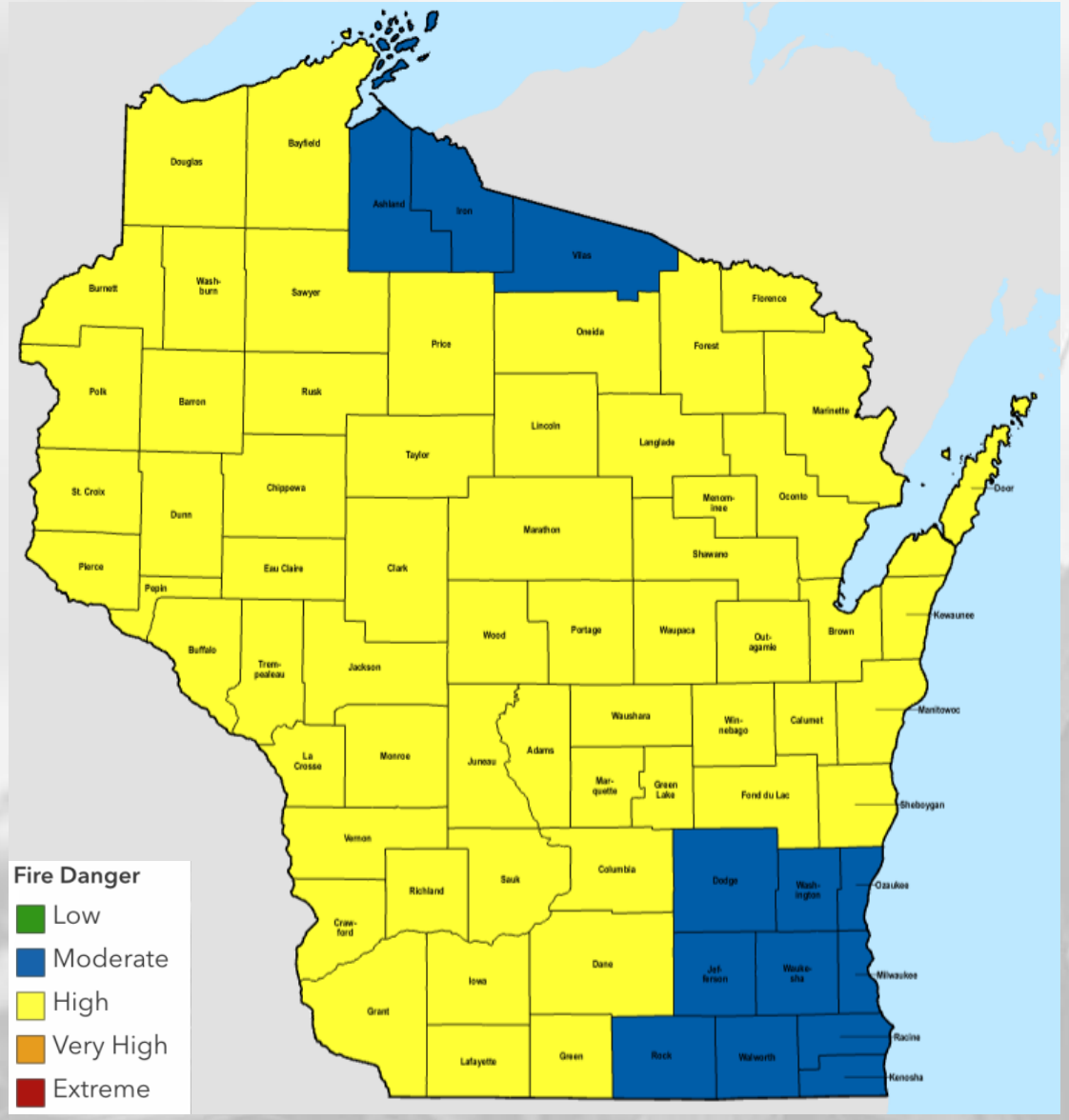


USDM Time Series



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.

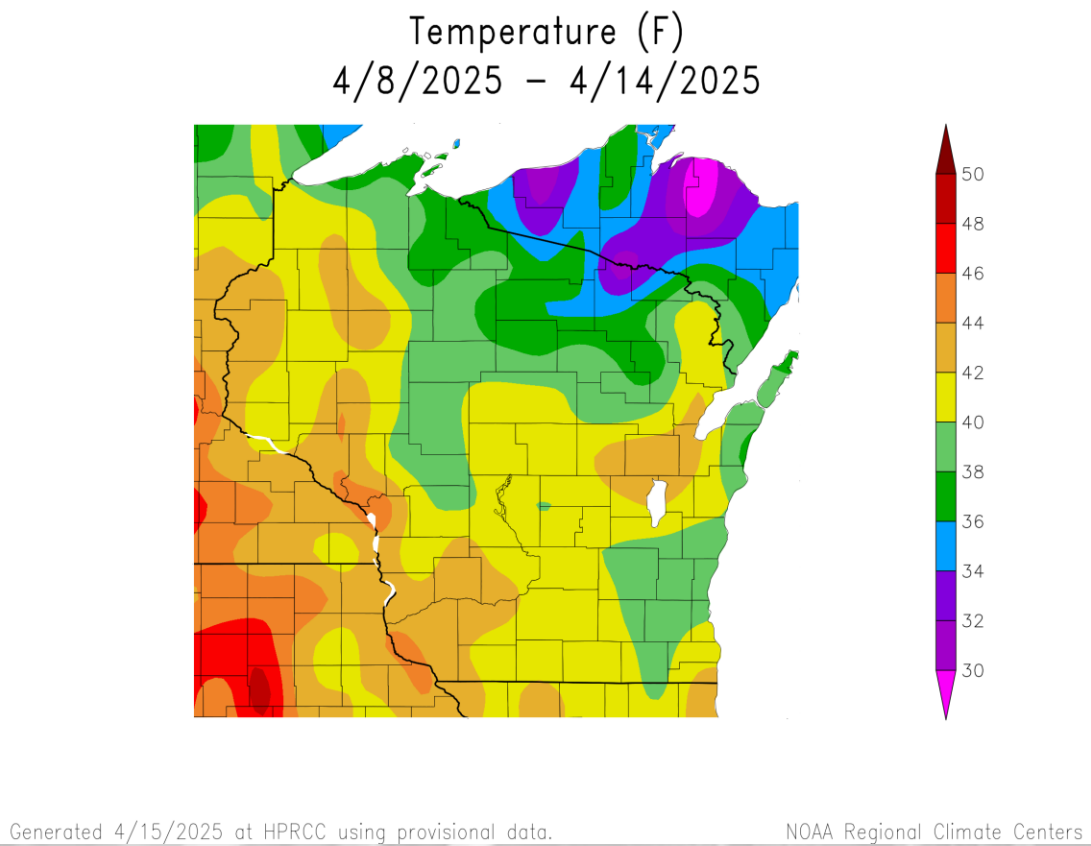
A fire danger of **HIGH** means wildfires ignite easily, spread rapidly, and can be challenging to control.

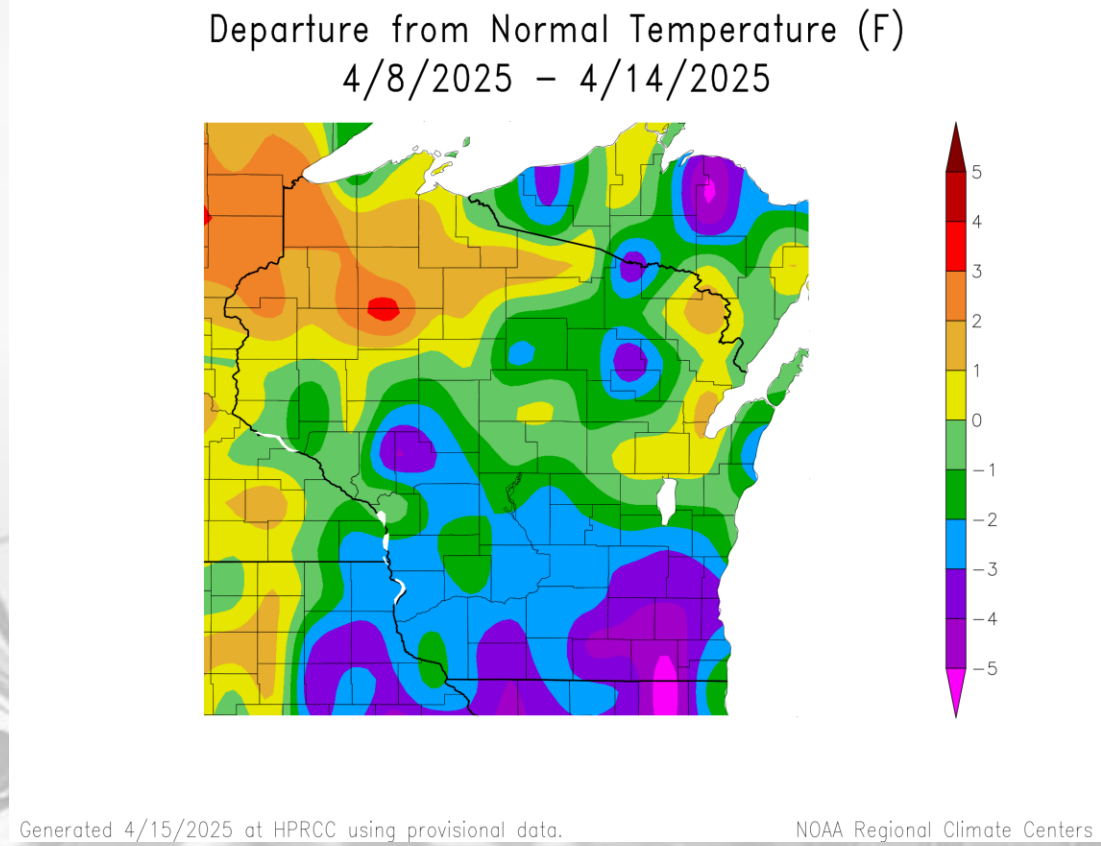
A fire danger of **VERY HIGH** means wildfires start easily, spread rapidly with increased intensity and are difficult to control.

Map updated on 4/17/25

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

7 Day Temperatures

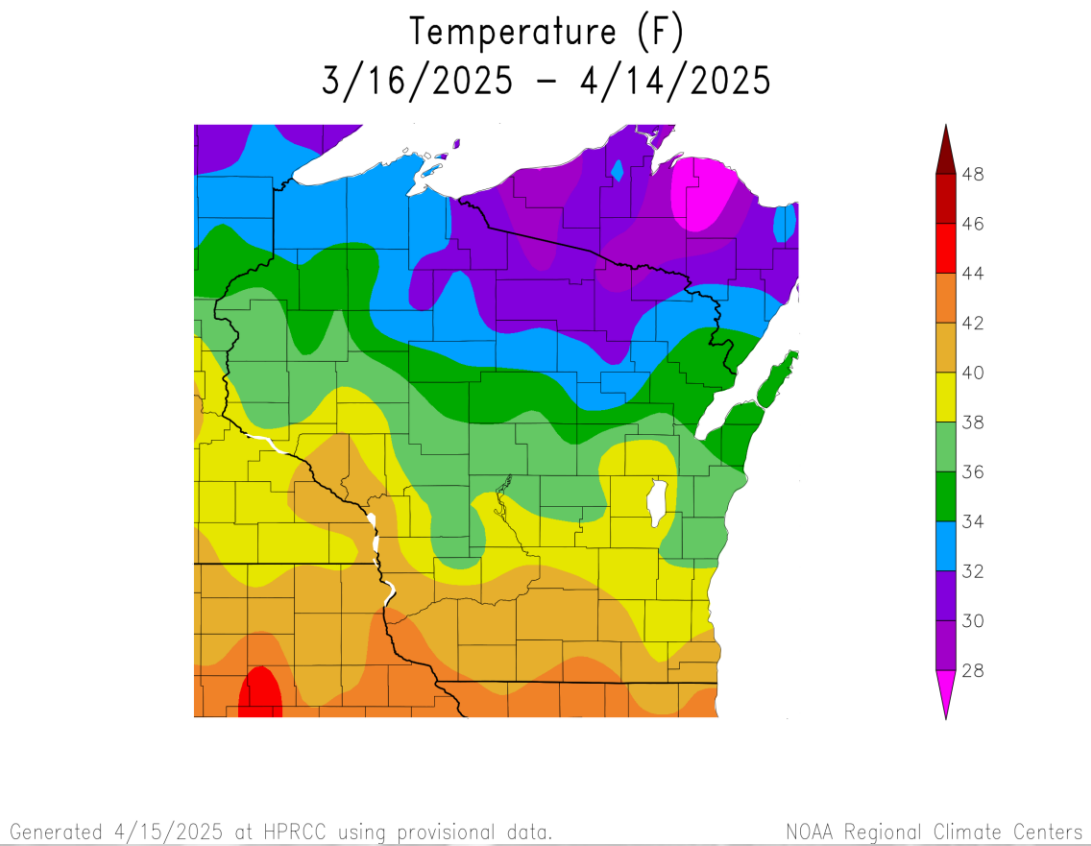


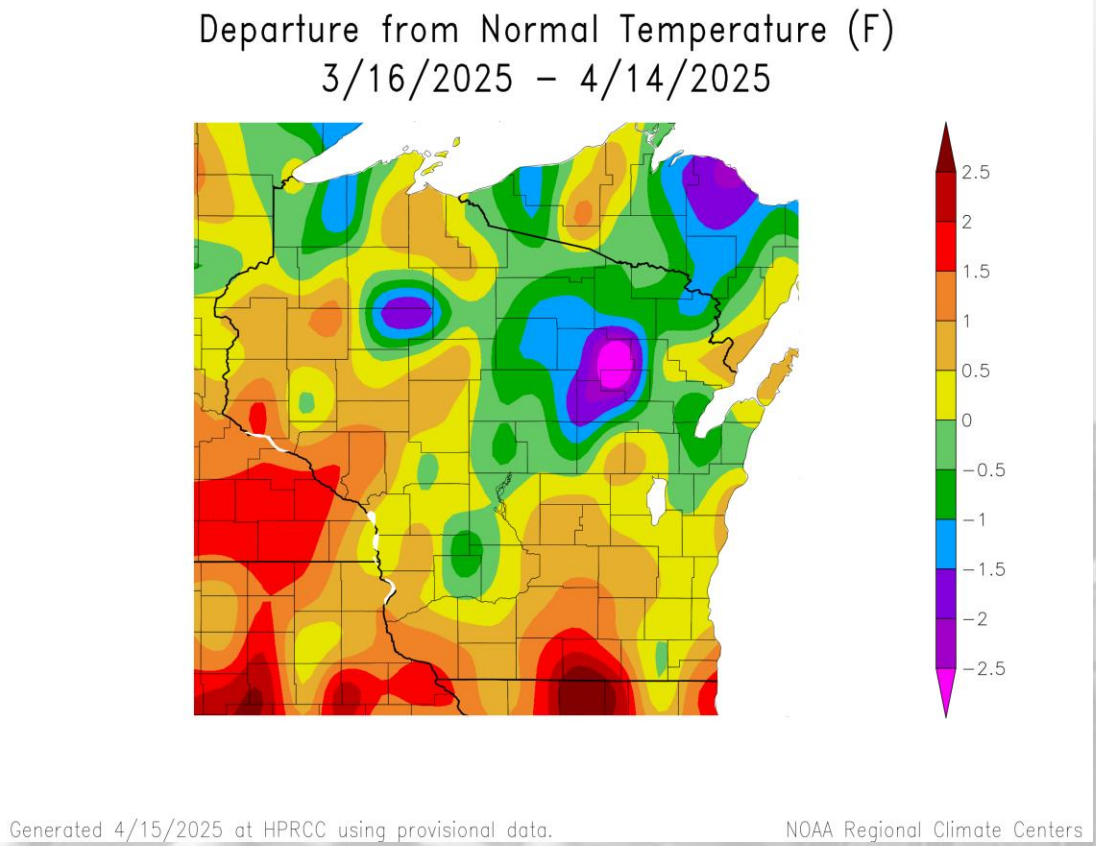


- **Cooler-than-normal** conditions in the south; **2-4°F below normal** across most of southern WI.
- **Near-to-above normal** in the north/NW, with average temps of **38-44°F.**
  - Similar temperature range in the south; warmer closer to the western border.

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

30 Day Temperatures

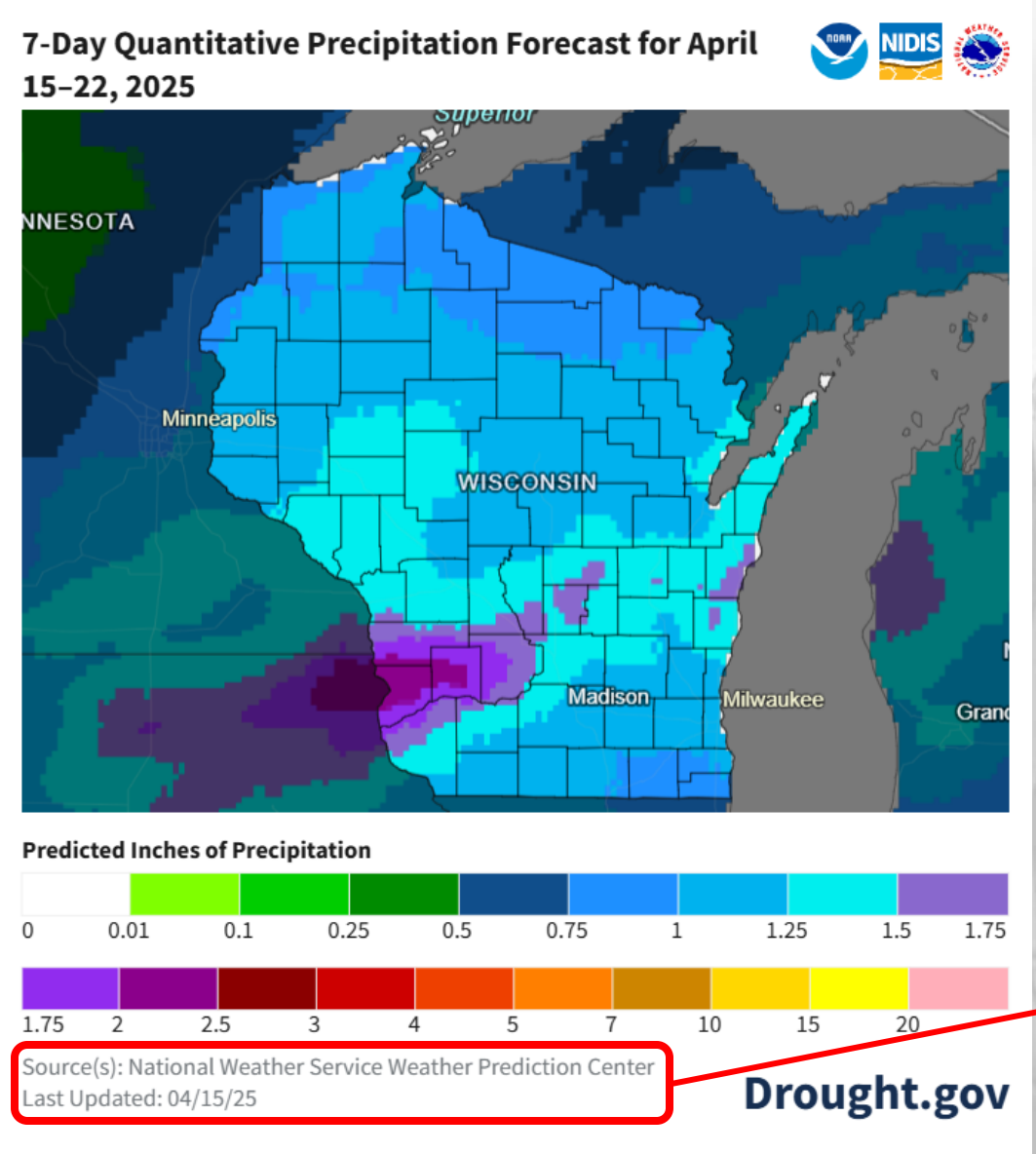




- Temperatures for the past month ranged from **40-44°F** in the S & W to **30-34°F** in the far NC.
  - **≥2°F above normal** in the south and west compared to climatological (1991-2020) average.
  - Temps below the climatological average in the NC and NE regions.

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

7 Day Precip Forecast

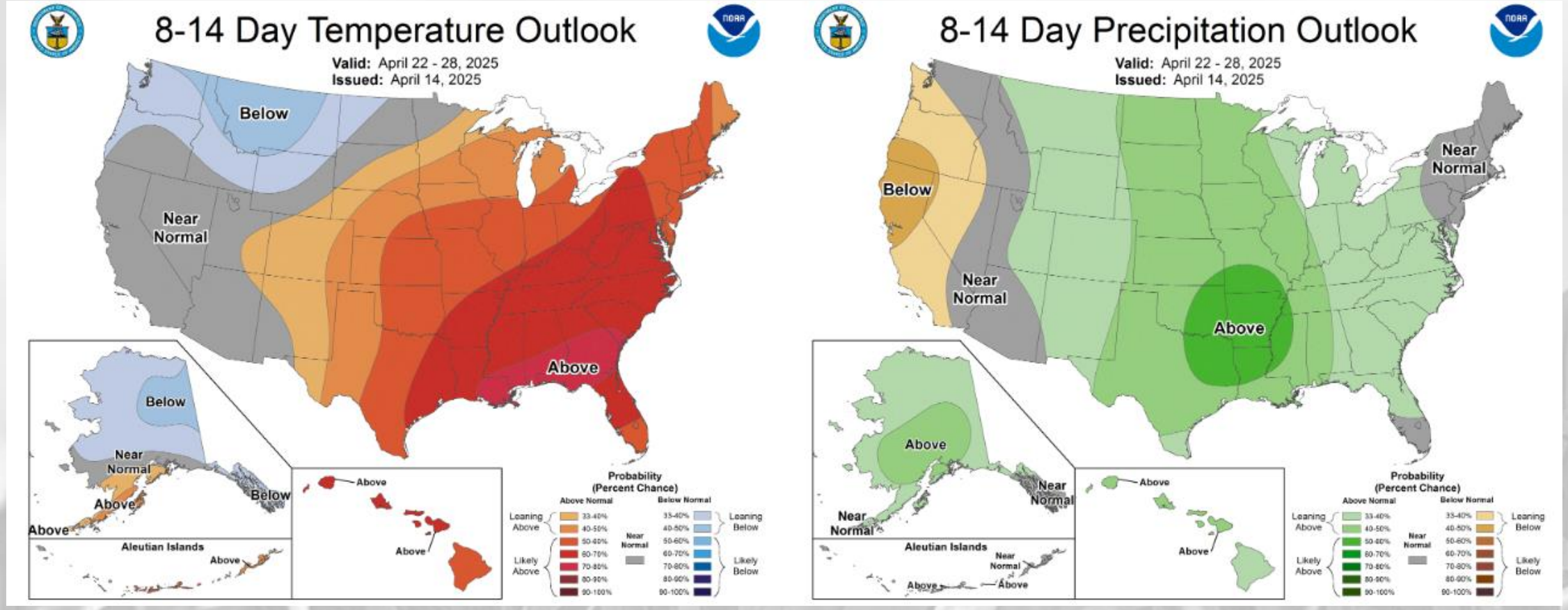


- **Statewide precip chances** over the next week.
  - Best chances on **Thu afternoon – Friday** and **Sun evening – Monday**.
  - **≥1" of precip** is predicted to fall across most of WI.
  - SW counties, which have been very dry in 2025, have the **highest precip chances**.

Forecast for 4/15/25 thru 4/22/25
(Begins at 7am CDT)

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

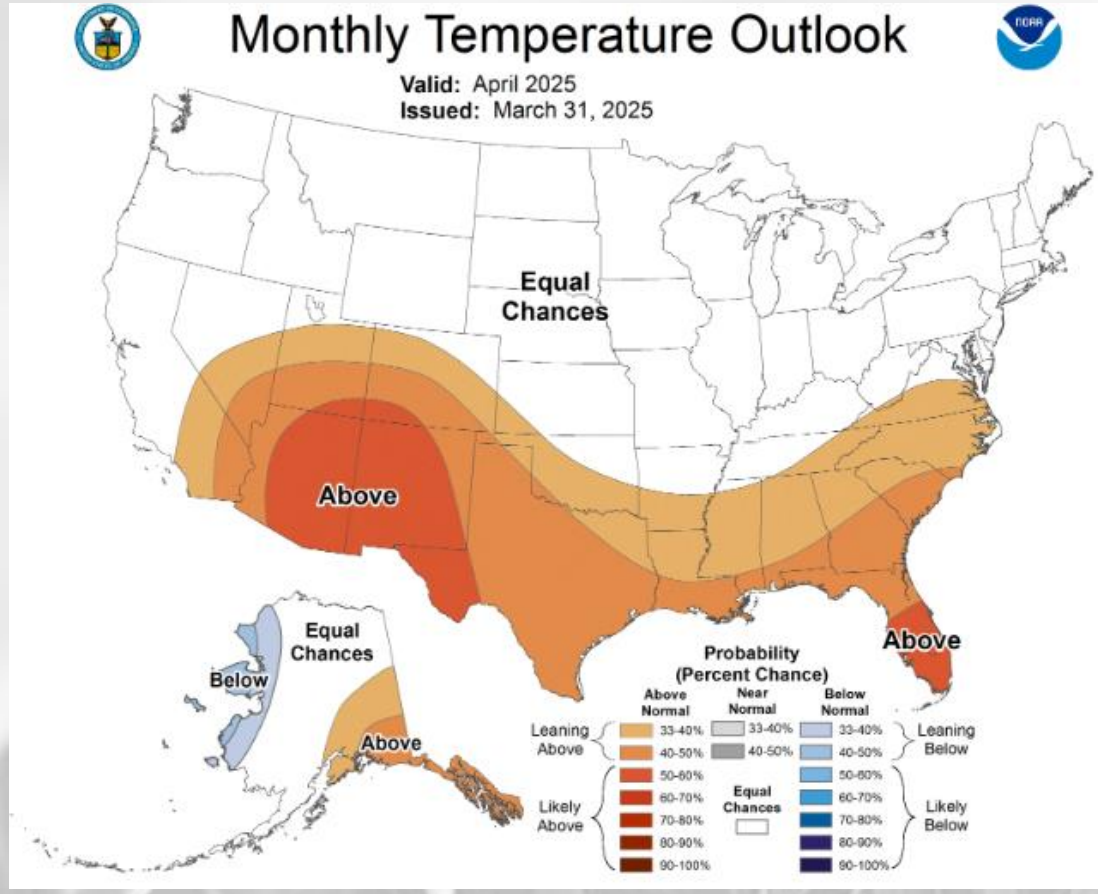
8-14 Day Temp & Precip Outlook

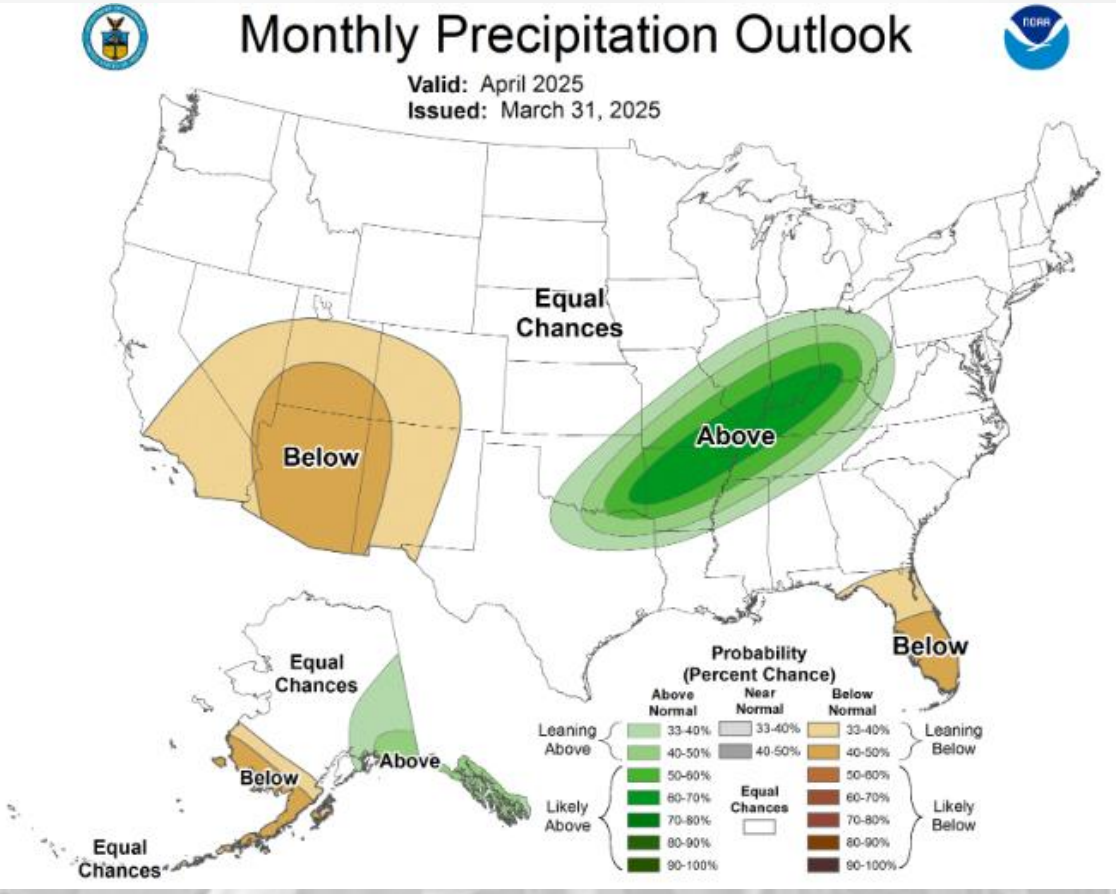


Late April: Temperatures leaning towards above normal, with precipitation leaning towards above normal.

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

30 Day Temp & Precip Outlook

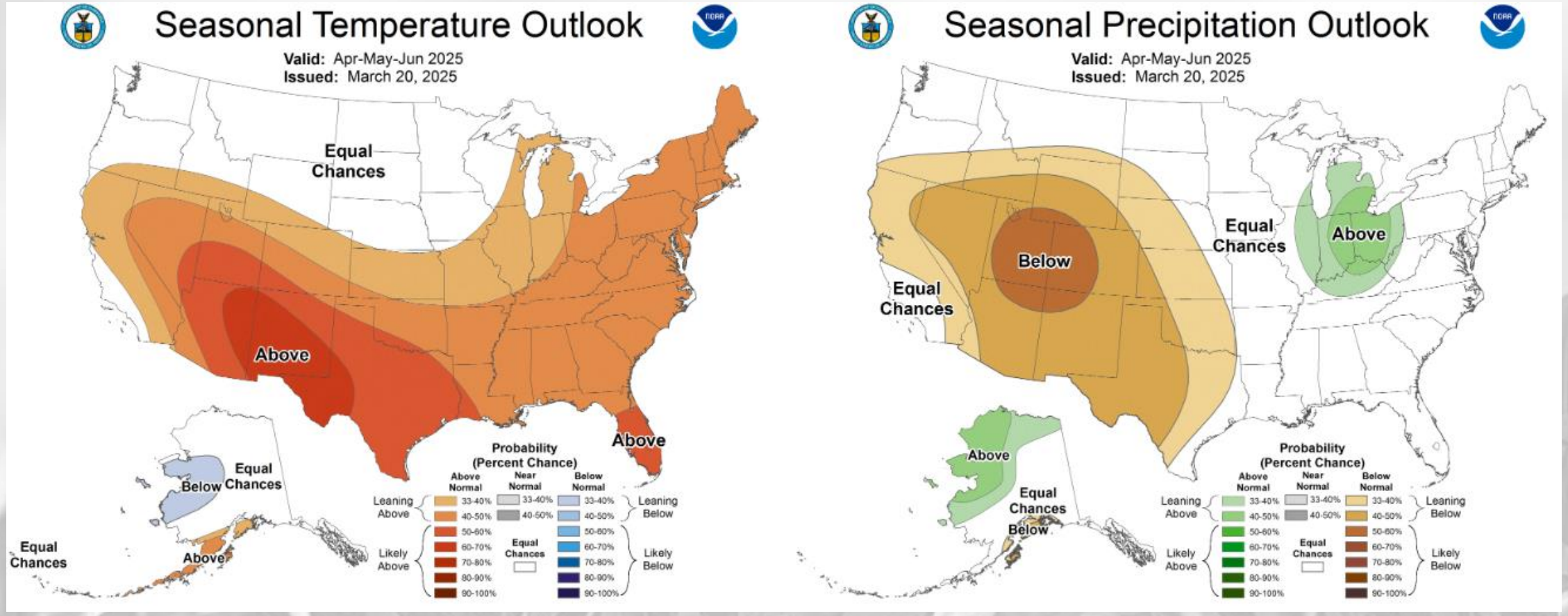




Month of April: Temperature and precipitation uncertainty with equal chances for above, near, or below normal.

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

90 Day Temp & Precip Outlook



Spring into Early Summer: Chances slightly lean toward **above normal** temperatures and precipitation for S & E WI, with **uncertainty (equal chances)** for both temperature and precipitation for the rest of WI with lingering influence from La Niña.

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

Take-Home Points

Current Conditions

- It was a **quiet week for precip** in WI, with most of the state receiving less than a half inch.
- **Cooler-than-normal conditions** were common across the state last week, **especially in the south**. The northwest was above average.

Impact

- Soil moisture conditions remain **driest in the south** where 2025 precip totals are well below normal.
  - **>95%** of the state is drought-free, with almost all the remining **D1 coverage in the SW**.
- Oat and potato planting is underway **(<10% complete)**, with most of the winter wheat crop **(88%)** rated in fair to good condition (Source: NASS).
- Wildfire risk is **high to very high** in the south and east; very high wildfire risk in the **southern 1/3 of the state**.
- Wisconet soil temperature readings down to 20” depth are **at or above freezing statewide**. Frost continues to thaw.

Outlook

- Statewide precip chances over the next week, with predictions of 1” or more for most. Chances are **highest in the southwest counties**.
- As we head into late April, temperature and precipitation probabilities are **leaning towards above normal**.
- April as a whole 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, 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. Conditions have been dry but upcoming rain may change conditions.
- 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.

Forage Management

- Check existing alfalfa fields for signs of winterkill (Evaluating stands).
- New alfalfa seedings can germinate at 32-34°F but temperatures below 24°F will cause death. Plan accordingly for new seedings this spring.

Small Grains

- Assess winter grain stands and fertility needs. Reports of winterkill have been reported in Central Wisconsin and north.
- There is still potential for early planting of spring grains but be aware of continuing possibility of freeze.

More on the following slide ↓

Agronomic Considerations

Specialty Crops

Vegetables:

- Small scale producers may consider tarping fields with adequate (but not excessive) soil moisture to avoid spring rains for later planting.
  - Tarping in the Northeast: A Guide for Small Farms
- Winter cutworms are active at 40°F - check high tunnel crops (e.g., overwintered hardy greens and direct-seeded spring greens) and early season field transplants (in the southern part of the state) for cutworm damage.
  - Winter cutworms in high tunnel crops
- 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.
  - https://vegento.russell.wisc.edu/pests/cabbage-maggot/

Fruit:

- Apple growers may consider using Promalin (gibberellin, cytokinin) as a frost rescue between pink and 10mm fruit and should be applied as soon as possible after a frost event.
  - Use of Promalin for Frost Rescue
- Wisconsin fruit growers can reference the Midwest Fruit Pest Management Guide, which is available for viewing online. Growers may order a hard copy here:
  - MFPMG Hard Copy
- Tree fruit growers with historic populations of European red mite or rosy apple aphid should begin scouting and may consider using oil between half-inch green and pink.
  - Tree fruit pests to be on the lookout for now

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:
https://cocorahs.org/Content.aspx?page=application

Contact Info


Photo Credit: USDA

Josh Bendorf
Climate Outreach Specialist
Wisconsin State Climatology Office
jbendorf@wisc.edu

Anastasia Kurth
Regional Crops & Soils Educator
Sauk, Juneau, and Richland Counties
UW-Madison Division of Extension
anastasia.kurth@wisc.edu

Bridgette Mason
Assistant State Climatologist
Wisconsin State Climatology Office
bmmason2@wisc.edu

Rue Genger
Emerging & Specialty Crops Program Manager
UW-Madison Division of Extension
rkgenger@wisc.edu

Steve Vavrus
State Climatologist
Wisconsin State Climatology Office
sjvavrus@wisc.edu

Emilee Gaulke
Diversified Vegetable Educator
Waukesha County
UW-Madison Division of Extension
emilee.gaulke@wisc.edu

Dennis Todey
Director
USDA Midwest Climate Hub
dennis.todey@usda.gov

Derrick Raspor
GLRI Field Coordinator
Wisconsin USDA-NRCS
derrick.raspor@usda.gov