

Wisconsin Ag Climate Outlook

Updated February 21, 2024

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Key Points

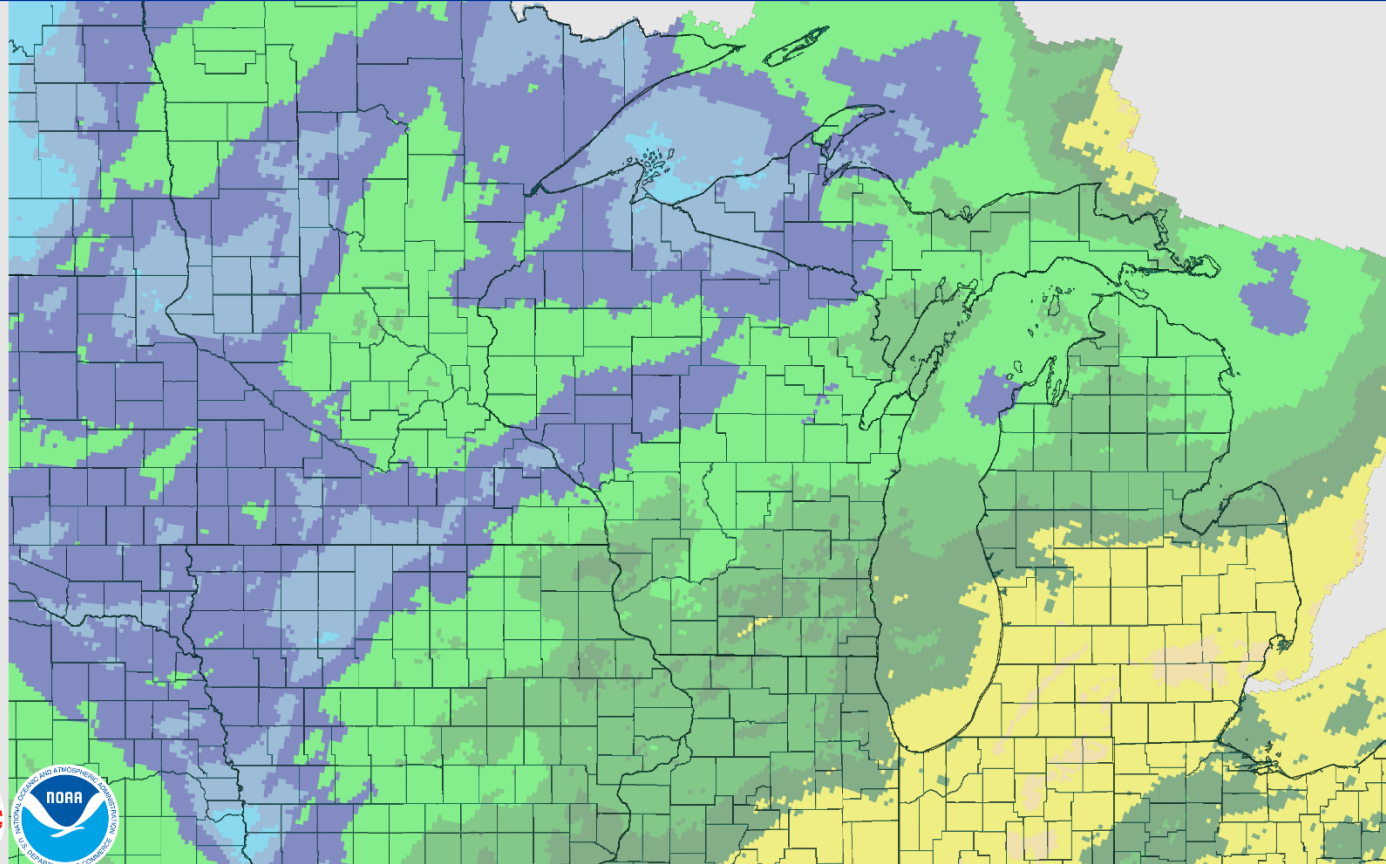
- 1) February has thus far been a warm and dry month, with very little snowfall, on track to be one of the two warmest Februarys on record.
- 2) Soil moisture levels remain dry, with some improvement in areas that received higher 30-day precip totals.
- 3) February will wrap up warmer-than-average, with predictions leaning warmer-than-average for March.

30 Day Precip

February 21, 2024 30-Day Observed Precipitation

Created on: February 21, 2024 - 17:07 UTC

Valid on: February 21, 2024 12:00 UTC

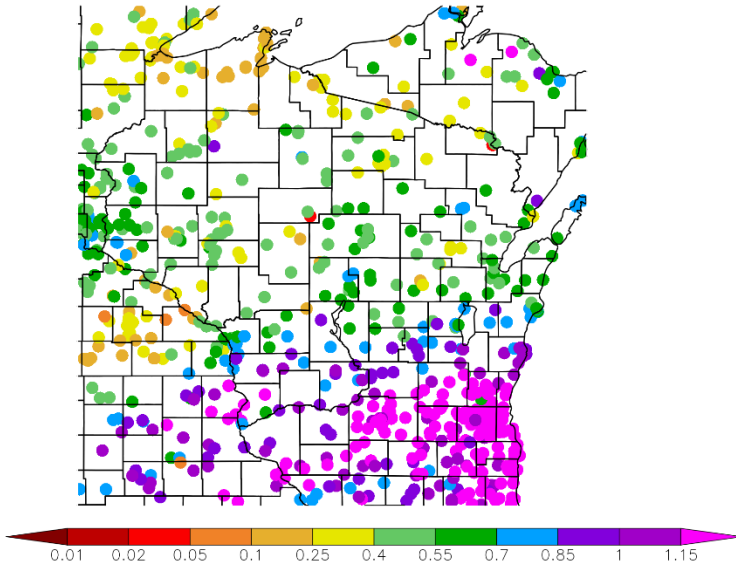


<https://water.weather.gov/precip/>

- Monthly totals of <2" for nearly the entire state
- Localized areas of 1.5-2" in the south

30 Day Precip Total/% Avg.

Precipitation (in)
1/21/2024 – 2/19/2024

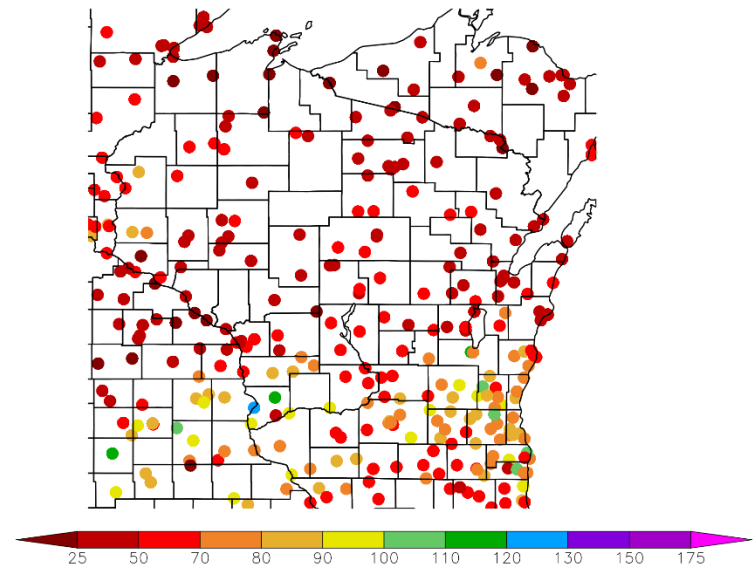


Generated 2/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- The majority of WI has been very dry over the last 30 days.
- <70% of normal 30-day precip totals for the central and northern counties.
- 70-100% in the S/SE; >100% at a few stations.

Percent of Normal Precipitation (%)
1/21/2024 – 2/19/2024



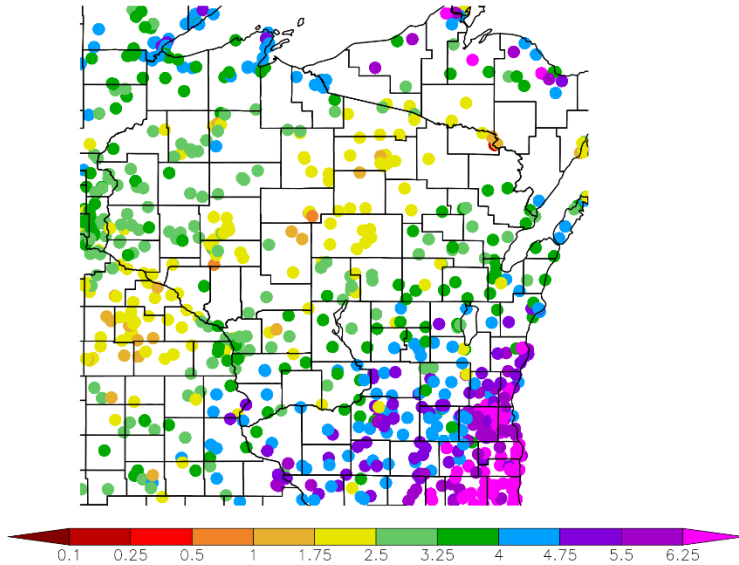
Generated 2/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

90 Day Precip Total/% Avg.

Precipitation (in)
11/22/2023 - 2/19/2024

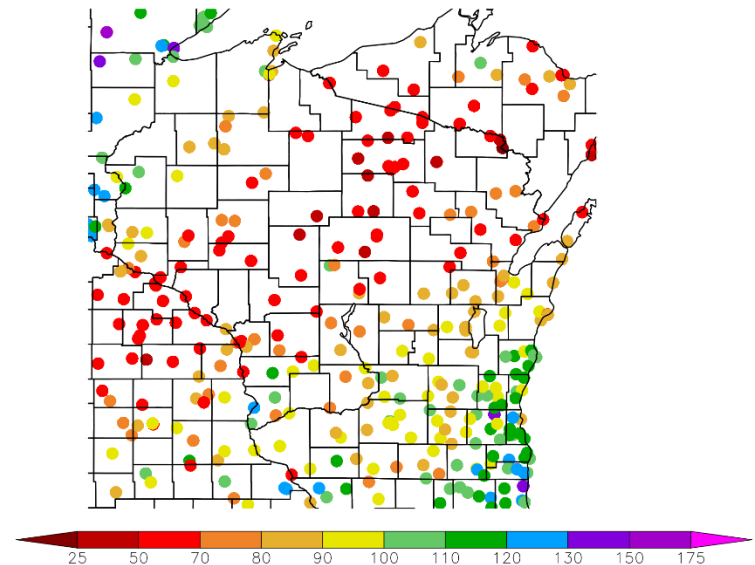


Generated 2/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Lowest totals in a belt stretching from WC to NE ($\leq 2.5''$).
 - $< 70\%$ of average
- Highest totals in the SE and SC ($\geq 5''$).
 - $> 100\%$ of average

Percent of Normal Precipitation (%)
11/22/2023 - 2/19/2024



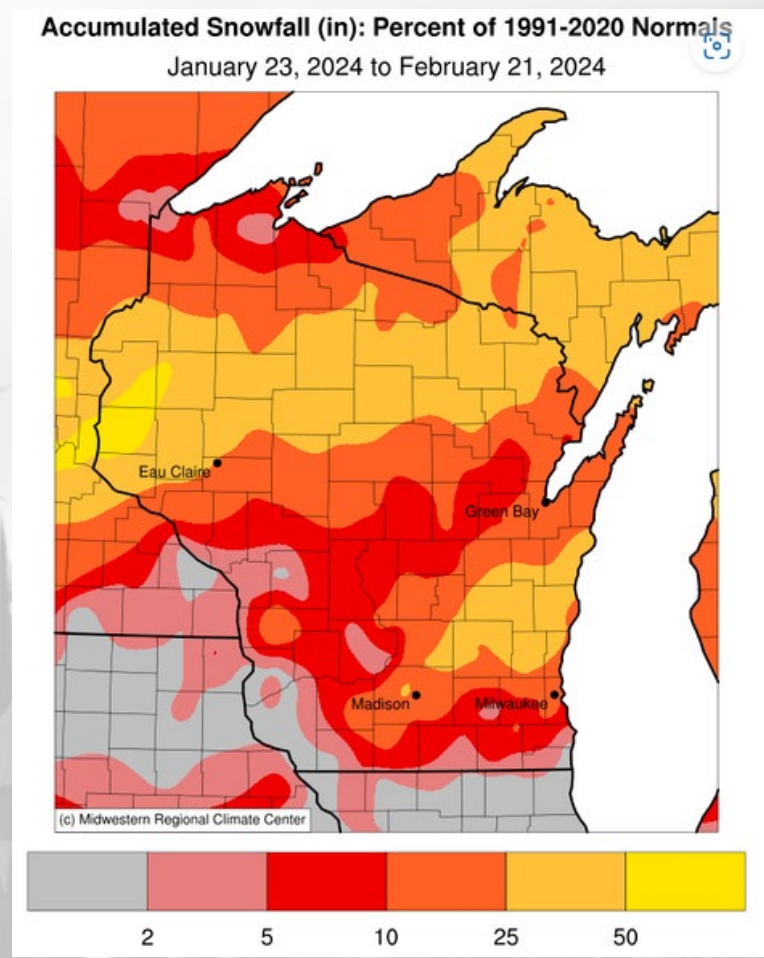
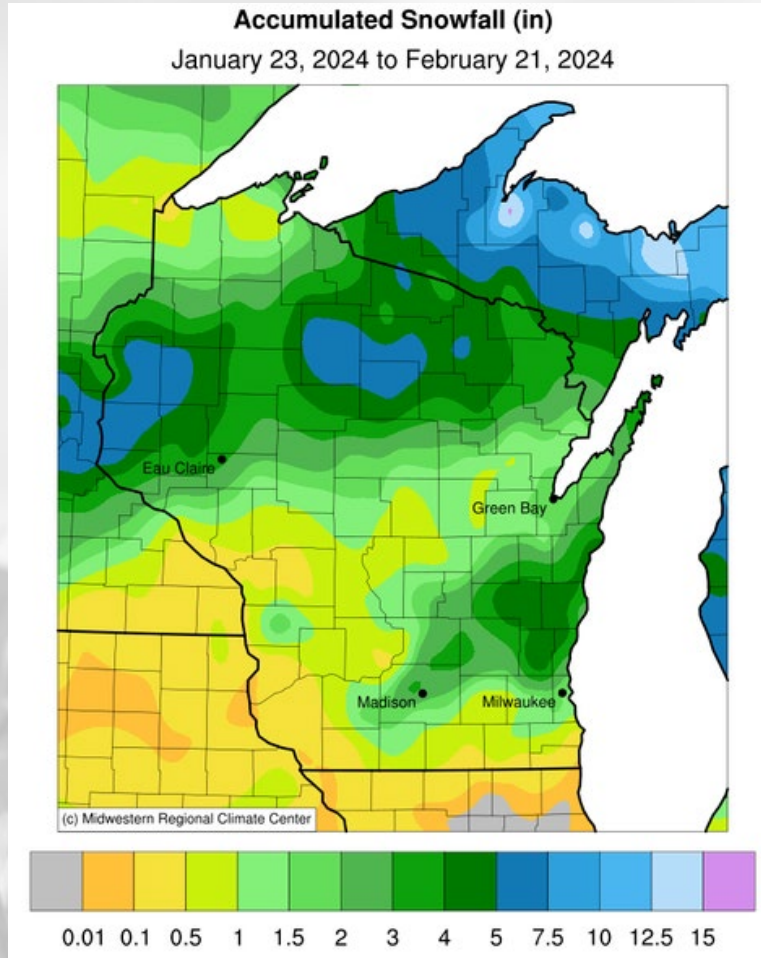
Generated 2/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

February (Lack of) Snowfall

- Snow totals ranging from **<1"** (S, SW) to **>5"** (NC, NW)
- Snowfall **<50%** of normal for most of the state; **<5%** in the SW



Seasonal Snowfall

Station	City	Winter 2023-24 Total ¹	Rank (Lowest)	Low Record (Year)	First Year of Record
KMSP	Twin Cities, MN	11.0"	6 th	5.2" (1943-44)	1939
KEAU	Eau Claire	12.3"	7 th	7.9" (1957-58)	1950
KAUW	Wausau	13.8"	4 th	10.8" (1943-44)	1942
KLSE	La Crosse	14.6"	16 th	5.8" (1943-44)	1939
KDLH	Duluth, MN	14.7"	1 st	New Record	1948
KMKE	Milwaukee	18.2"	9 th	0.0" (1939-40) ²	1939
KGRB	Green Bay	28.0"	59 th	9.0" (1943-44)	1887
KMSN	Madison	29.4"	45 th	3.1" (1960-61)	1940

(1) As of February 20th; period begins on December 1st

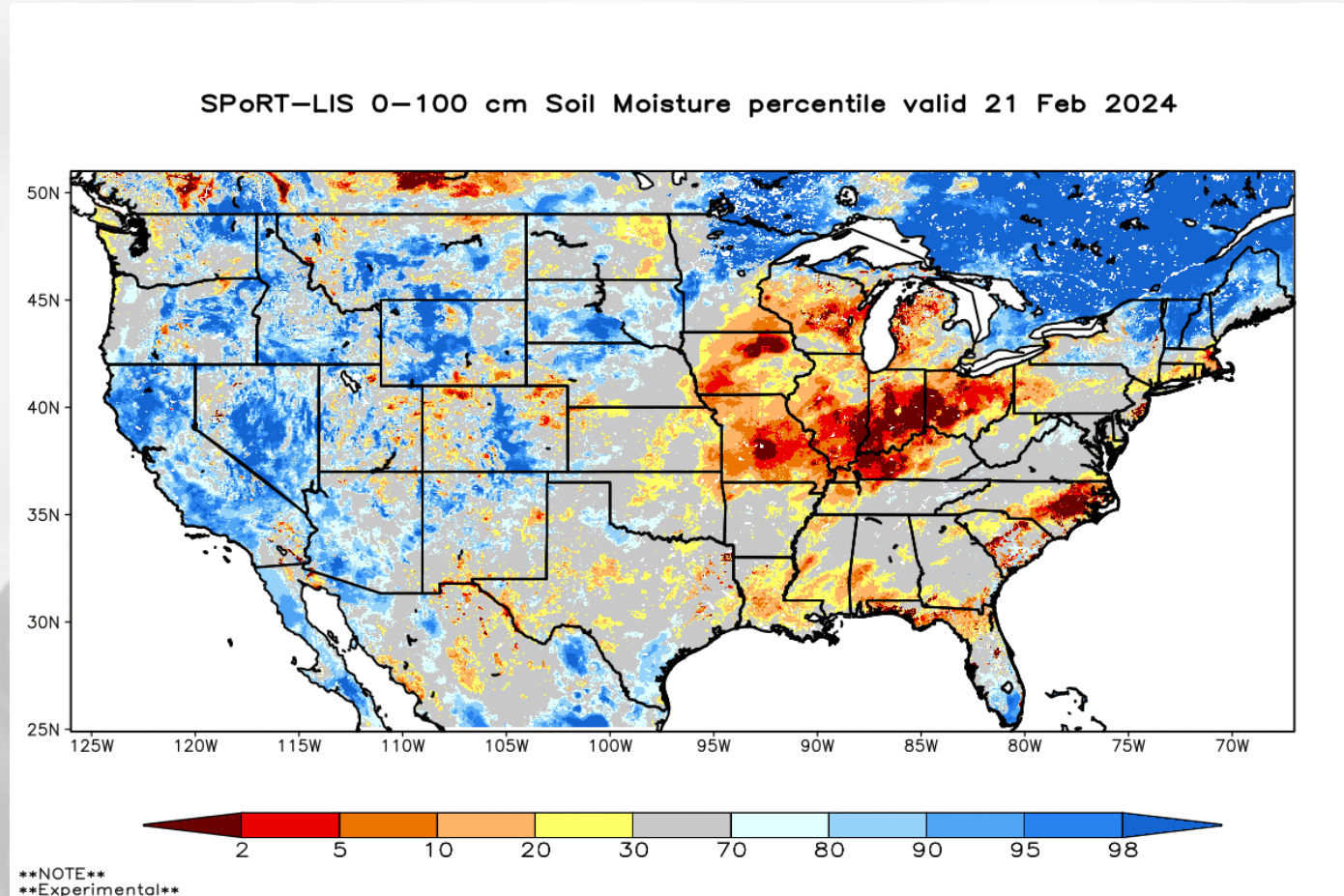
(2) This year was missing a large amount of daily data

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

Modeled Soil Moisture

- Most of the state remains drier than normal.
- Soil conditions improved to the S and E where precip amounts were higher.

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



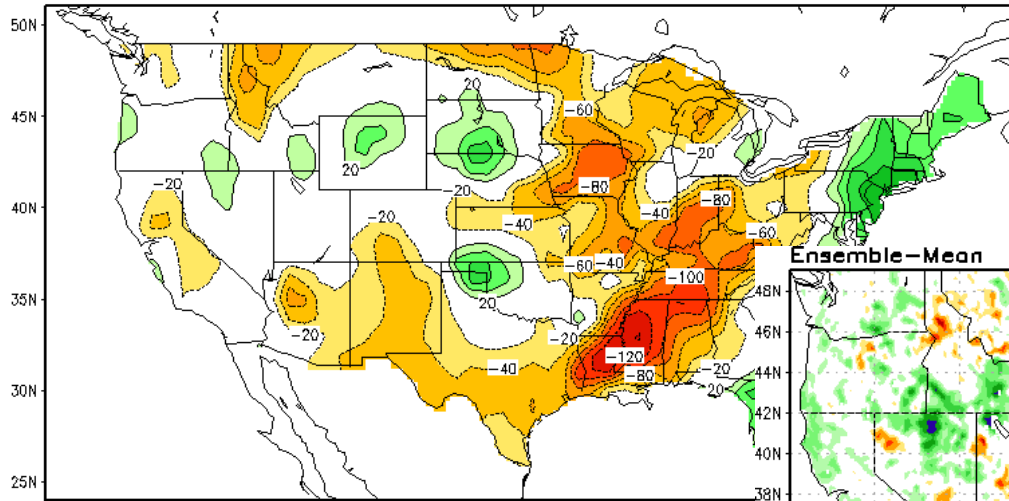
https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html

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#

Modeled Soil Moisture

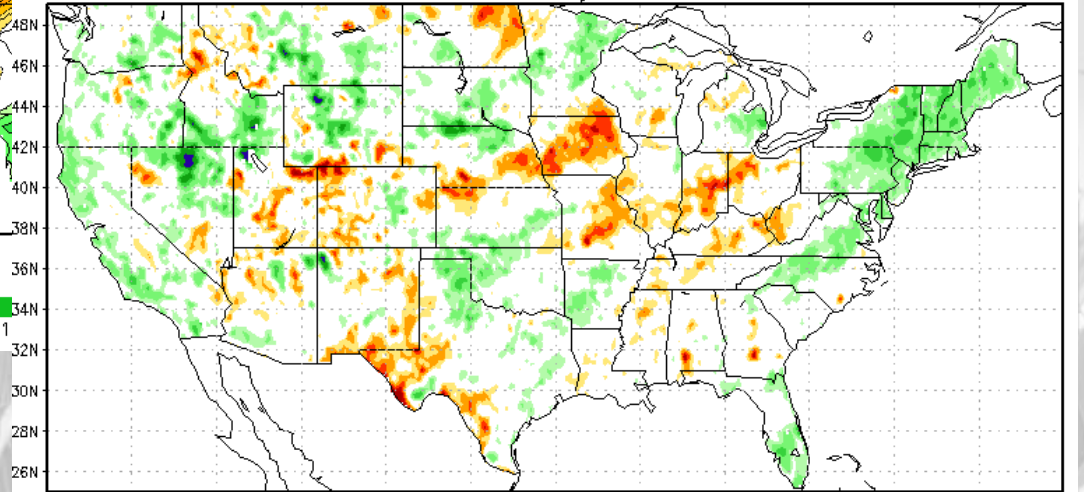
Calculated Soil Moisture Anomaly (mm)
JAN, 2024



Ensemble-Mean

Last 30 Days SMP

18JAN2024-16FEB2024



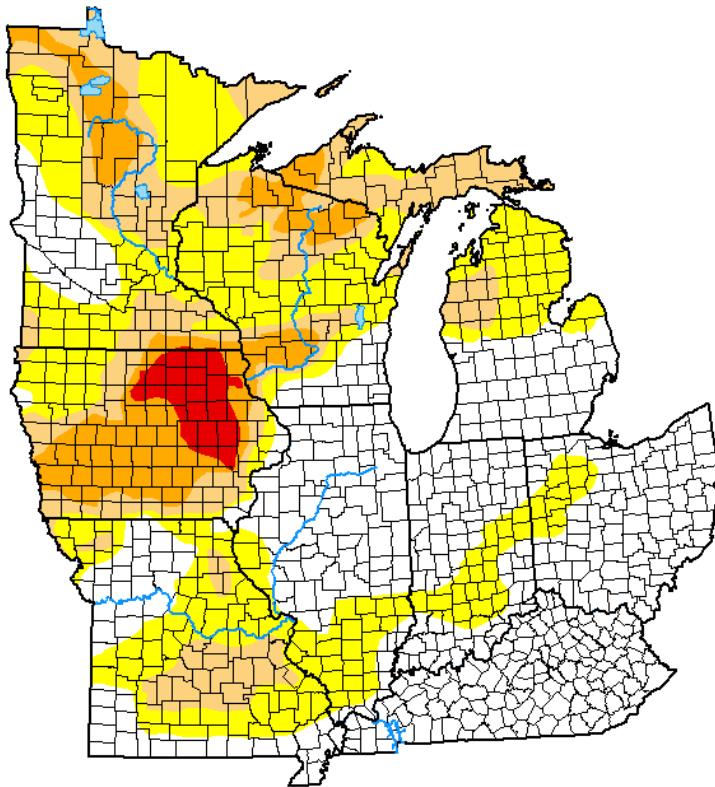
https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html

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#

US Drought Monitor

U.S. Drought Monitor Midwest



February 20, 2024

(Released Thursday, Feb. 22, 2024)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	43.41	56.59	26.89	10.76	2.14	0.00
Last Week <i>02-13-2024</i>	48.07	51.93	23.14	10.28	2.14	0.00
3 Months Ago <i>11-21-2023</i>	26.61	73.39	39.52	16.61	3.30	0.00
Start of Calendar Year <i>01-02-2024</i>	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year <i>09-26-2023</i>	16.82	83.18	54.98	23.81	6.21	0.13
One Year Ago <i>02-21-2023</i>	70.76	29.24	13.80	3.35	0.18	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:

Richard Heim
NCEI/NOAA



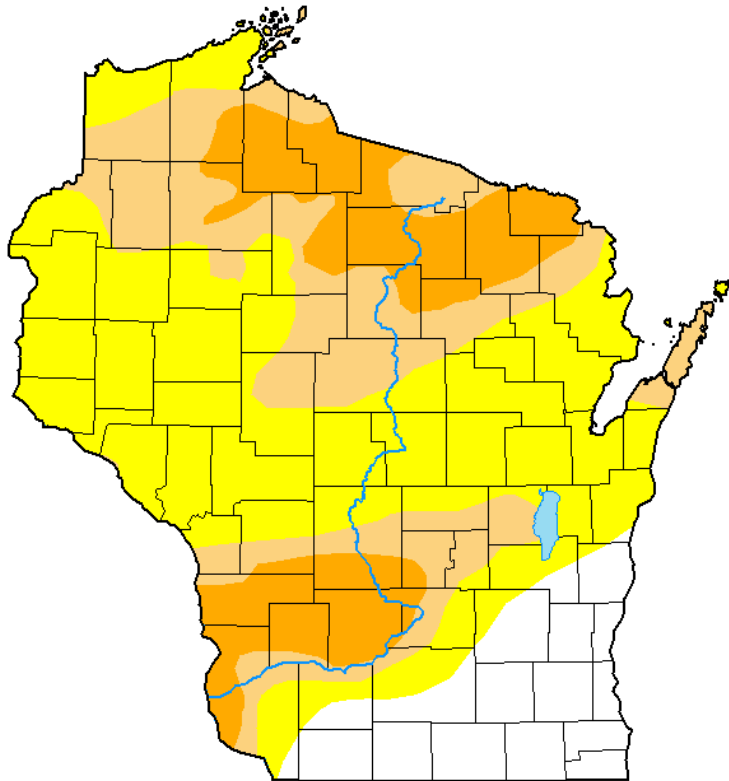
droughtmonitor.unl.edu

- Decreases in all drought severity categories across the region.
- Just over **26%** of the region is in D1+ drought.
- Majority of D3 is eastern IA.

Note: D0 is not considered drought.

US Drought Monitor

U.S. Drought Monitor Wisconsin



February 20, 2024
(Released Thursday, Feb. 22, 2024)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	13.51	86.49	40.91	17.07	0.00	0.00
Last Week <small>02-13-2024</small>	31.06	68.94	35.69	14.93	0.00	0.00
3 Months Ago <small>11-21-2023</small>	33.04	66.96	37.07	16.80	0.26	0.00
Start of Calendar Year <small>01-02-2024</small>	33.04	66.96	37.34	16.80	0.26	0.00
Start of Water Year <small>09-26-2023</small>	2.04	97.96	80.86	37.74	6.77	0.00
One Year Ago <small>02-21-2023</small>	96.98	3.02	0.55	0.00	0.00	0.00

Intensity:



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droughtmonitor.unl.edu

Amount of state in:

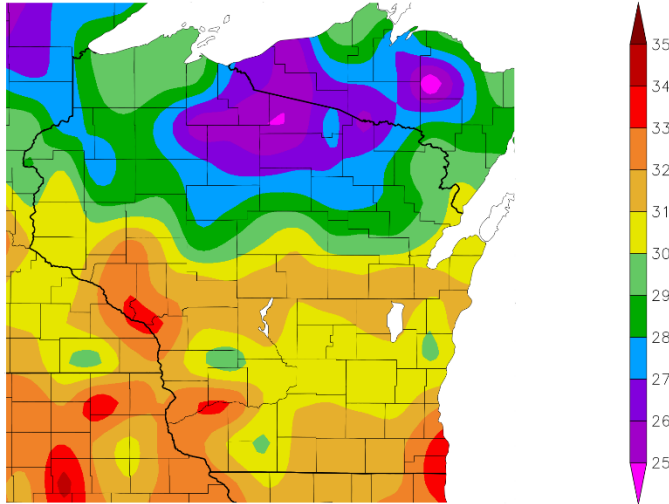
- **D1-D4** – 40.9% ↑
- **D2-D4** – 17% ↑
- **D3-D4** – 0.0% --
- **D4** – 0.0% --

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

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

30 Day Temperatures

Temperature (F)
1/21/2024 – 2/19/2024

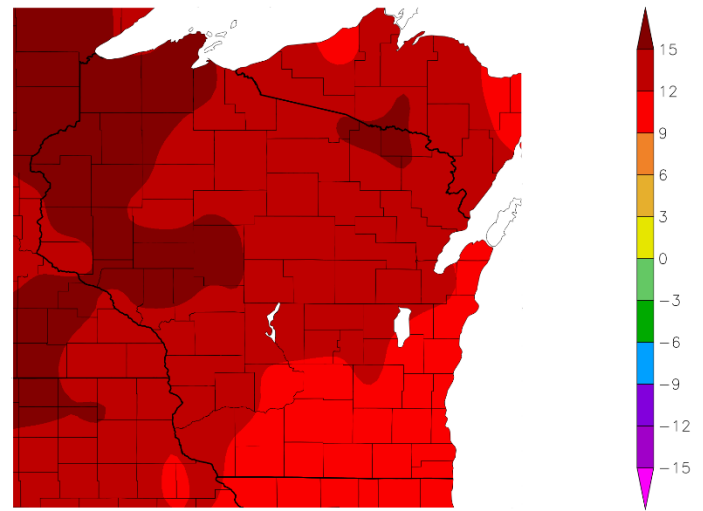


Generated 2/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Ranging from mid-20s in the NC to mid-30s in the W/SW and far SE.
- Averages $\geq 32^{\circ}\text{F}$ around Racine/Kenosha, Boscobel, & Winona, MN.
- Monthly averages across the state were $9^{\circ}\text{F}+$ above normal for all.

Departure from Normal Temperature (F)
1/21/2024 – 2/19/2024



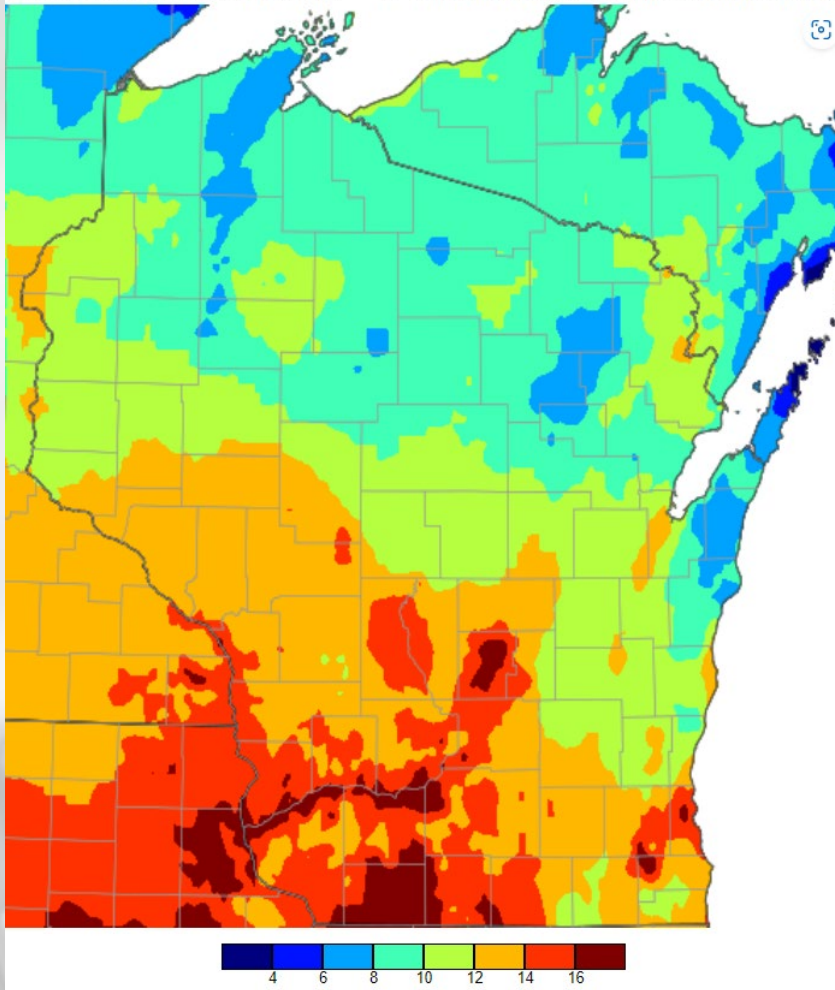
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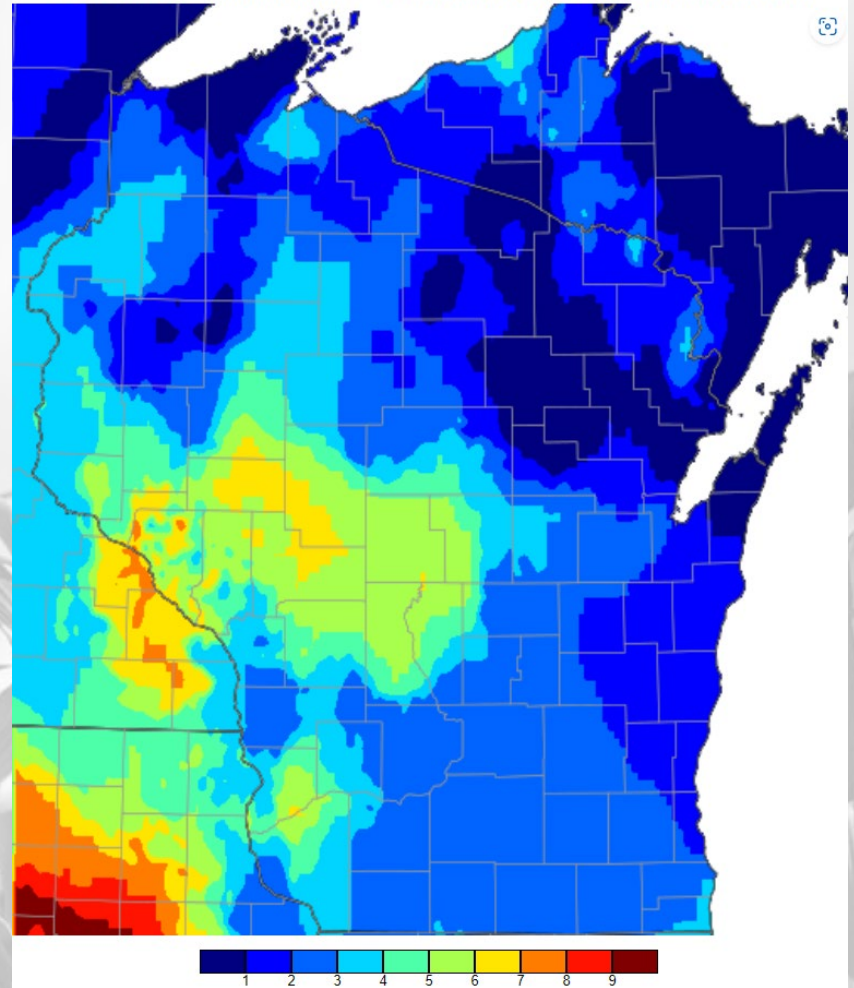
<https://hprcc.unl.edu/maps.php?map=ACISClimateMaps>

February Warmth

Number of Days Max Temperature ≥ 40 - January 23, 2024 through February 21, 2024

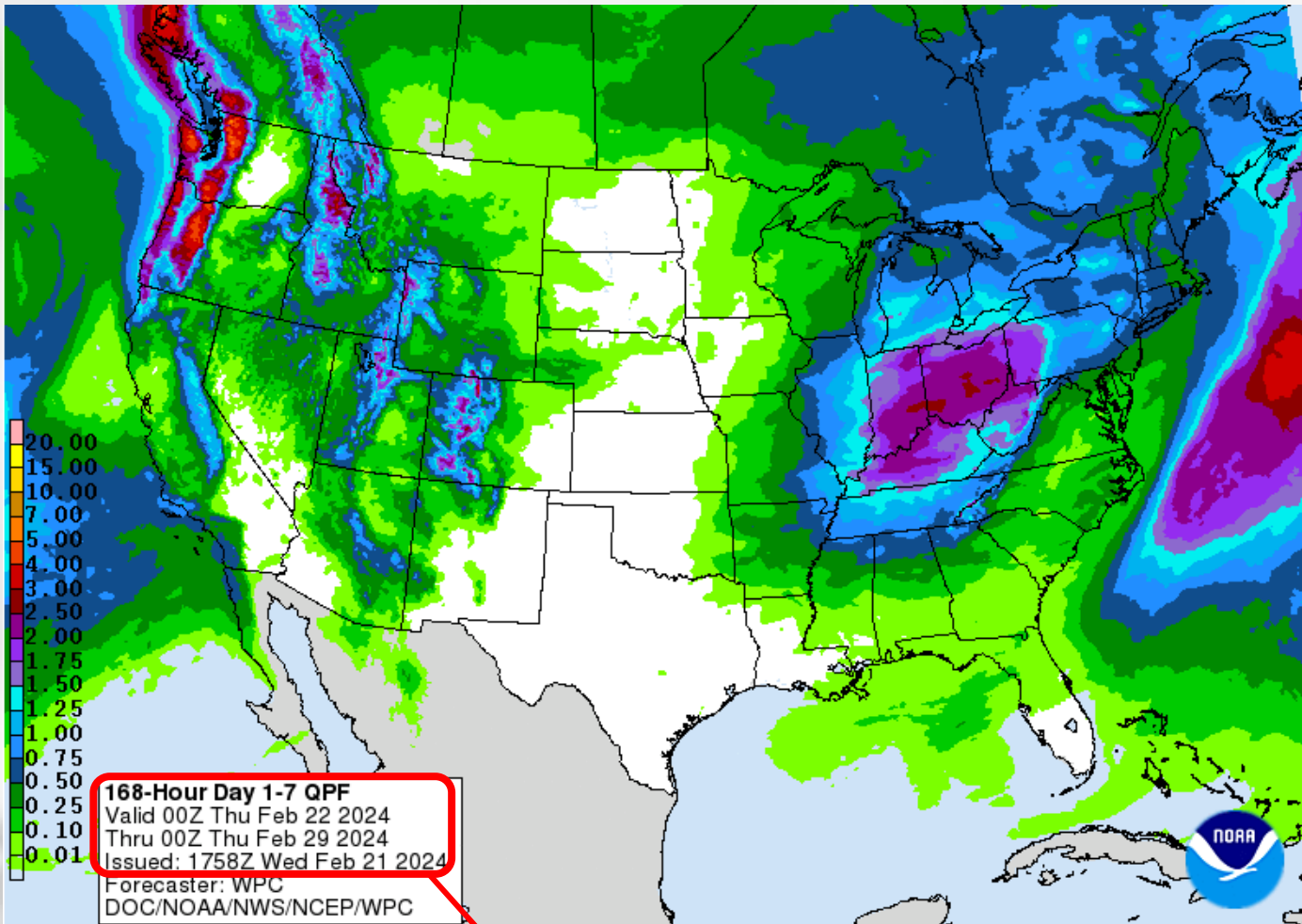


Number of Days Max Temperature ≥ 50 - January 23, 2024 through February 21, 2024



7 Day Forecast Precip

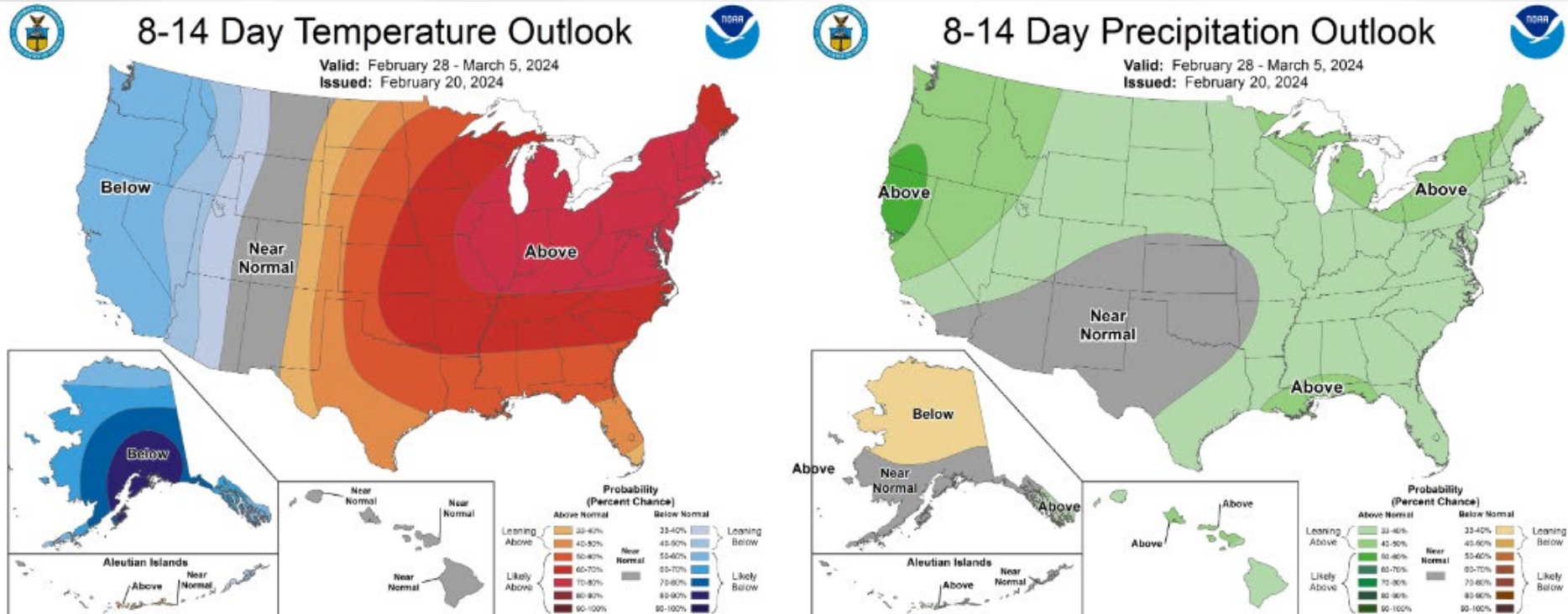
- Minimal chances of precip over the next week.
- Precip could fall as snow or rain depending on temperatures.



Forecast for 2/22/24 thru 2/28/24

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

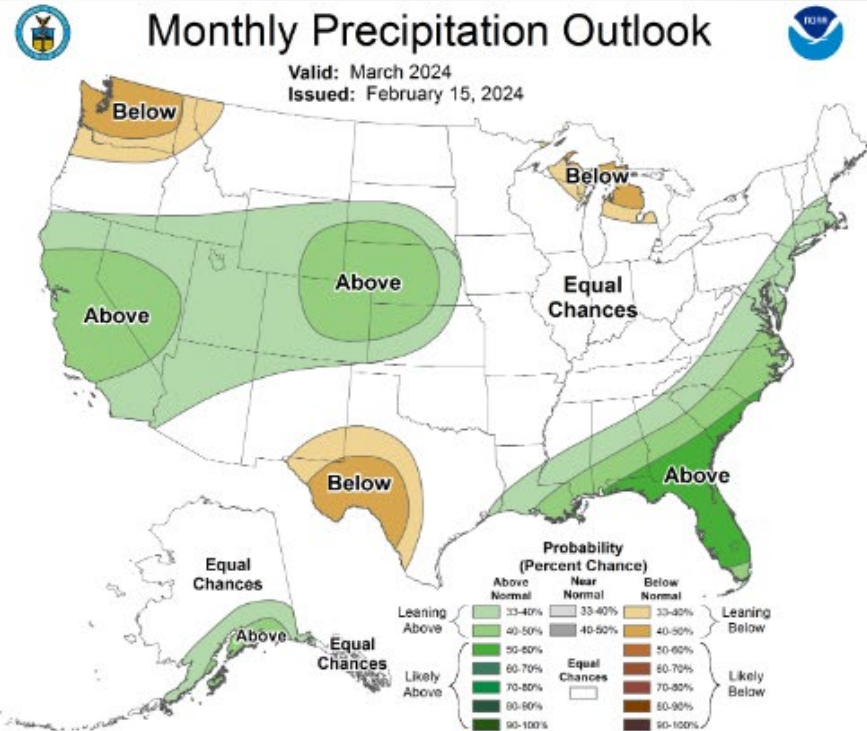
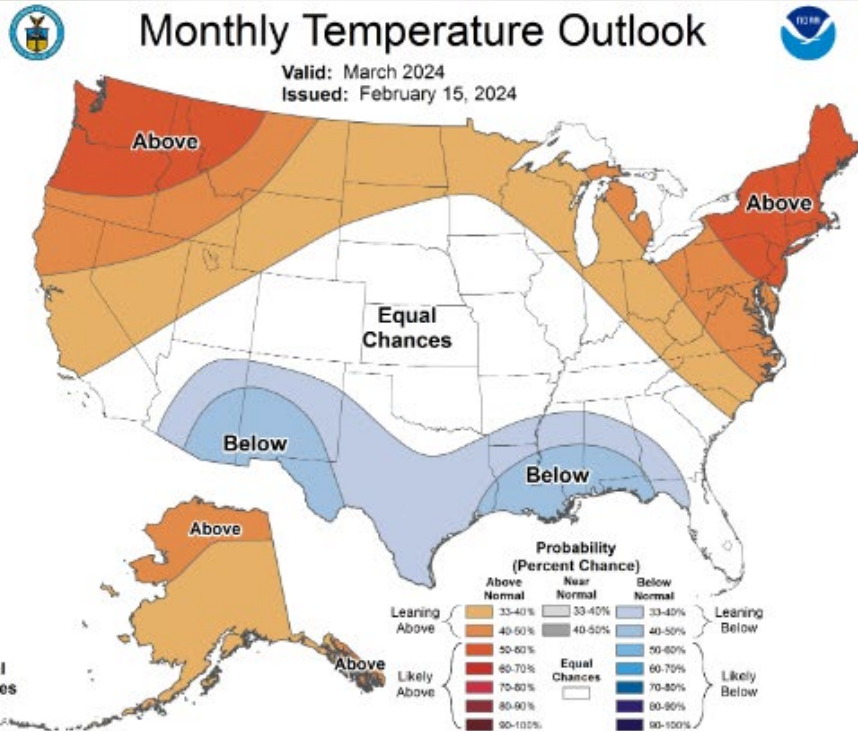
8-14 Day Temp & Precip Outlook



Late Feb. – Early Mar.: Temperatures likely to be above normal. Precipitation is leaning above normal.

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

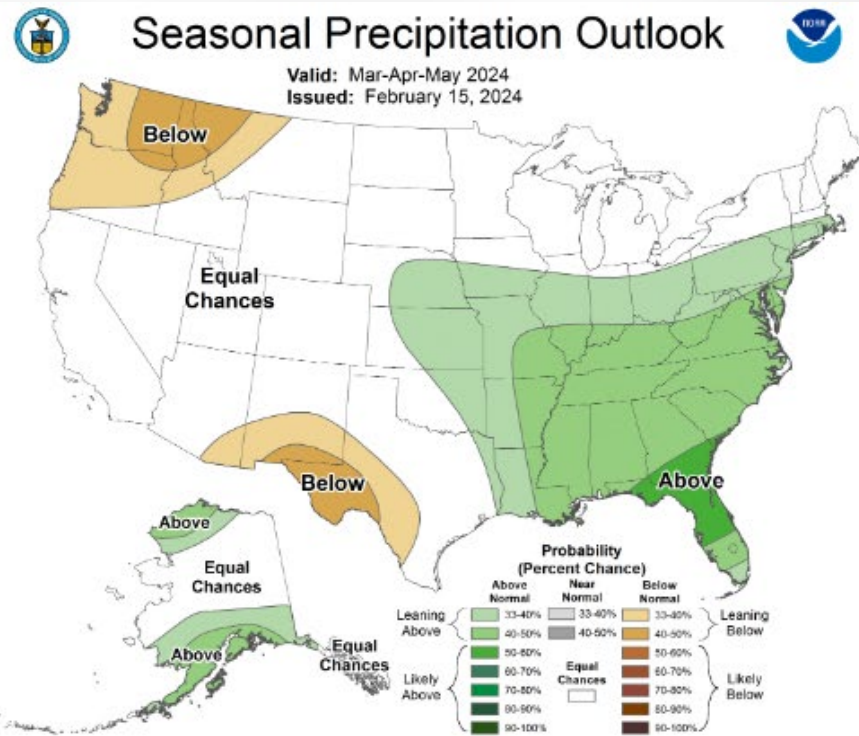
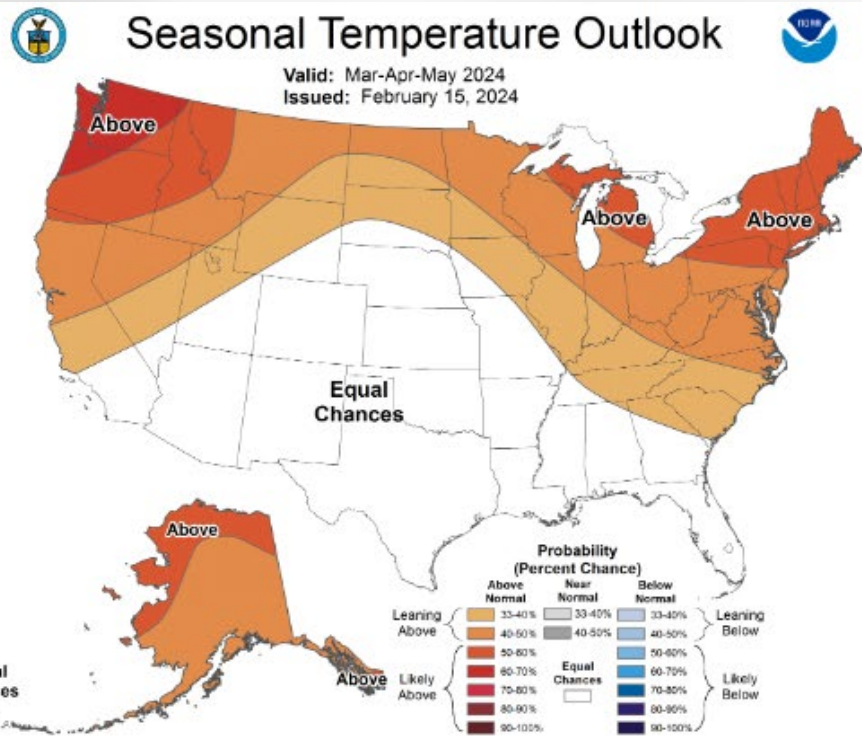
30 Day Temp & Precip Outlook



The month of **March**: Temperatures are leaning above normal. Precipitation has equal chances (except for far NE).

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

90 Day Temp & Precip Outlook



March – May: Temperatures leaning towards above average. Precipitation is showing equal chances.

El Nino is a major driver of these conditions. However, a switch to La Nina is forecasted by June.

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

Take Home

- Current conditions:

- Late January – February has been much drier than usual, due in part to a lack of snowfall.
- The dryness was accompanied by temperatures that were much warmer than average.

- Impact:

- Soil moisture conditions remain drier than normal, although with some improvement in the S/SE.
- Drought conditions have increased since late January.
- Chilling hour accumulation in WI range from 1200-1700 hours (higher to the S and E), adequate for most apples.

- Outlook:

- The trend of warmer than average temps look to continue into the first week of March.
- The warmer-than-normal conditions have a higher probability to persist into spring due in part to El Nino.
 - However, a transition to La Nina is expected by June.

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

For More Information

Photo Credit: USDA



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