

Wisconsin Ag Climate Outlook

Week of October 28, 2024

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Key Points

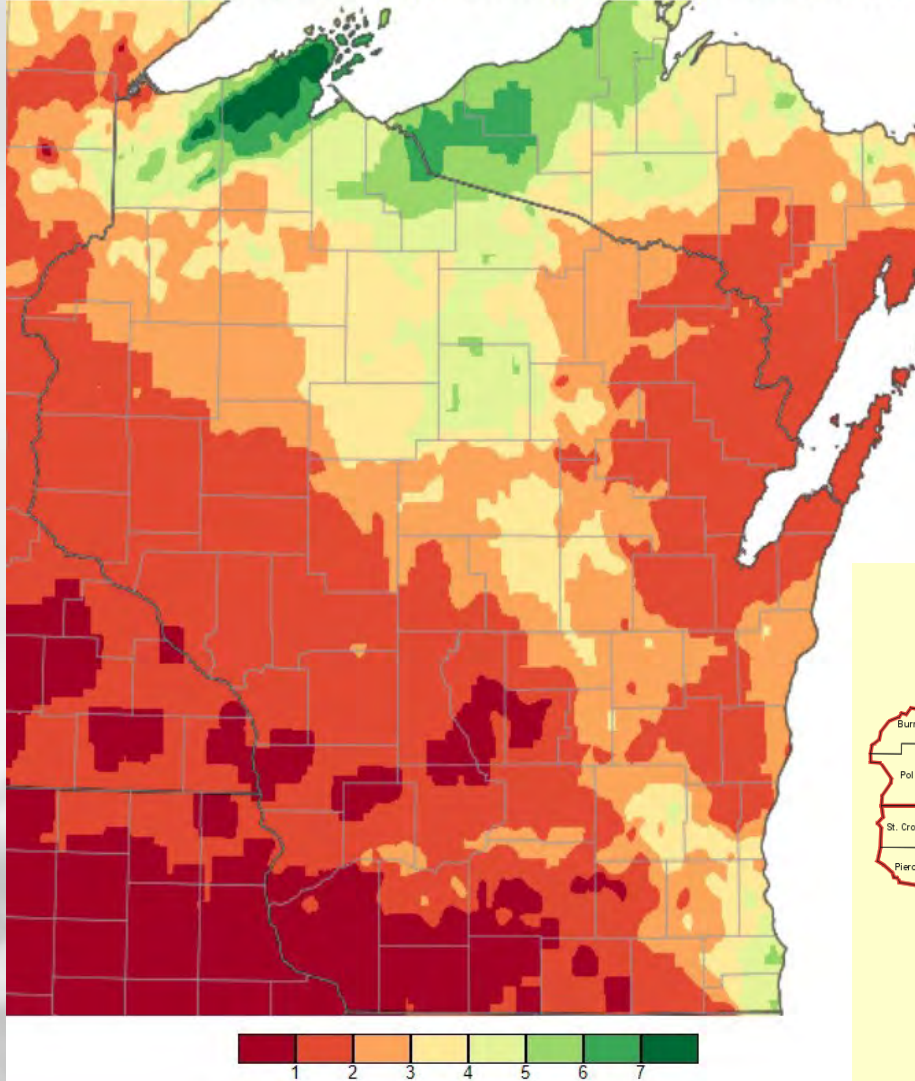
Navigate to select slides by clicking on the [links](#) below.

- 1) [Precip](#) that fell across WI last week provided little to no relief for the [dry soils](#) resulting from the [dry fall](#) that we've had.
- 2) October is wrapping up [warmer than normal](#) statewide, with [corn](#) and [soybean](#) harvest running well ahead of normal pace.
- 3) Forecasts indicate [multiple precip chances](#) next week, which could bring some much-needed [dryness](#) relief!

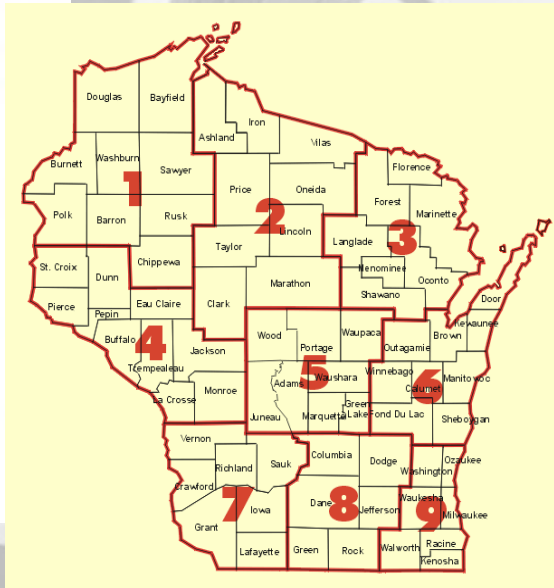
- For this week's agronomic recommendations from UW Extension, click [here](#).
- For the latest GDD accumulation maps, click [here](#).
- For NASS crop progress & condition maps, click [here](#).

Settling some dust

Number of Days Precipitation ≥ 0.1 - October 1, 2024 through October 28, 2024



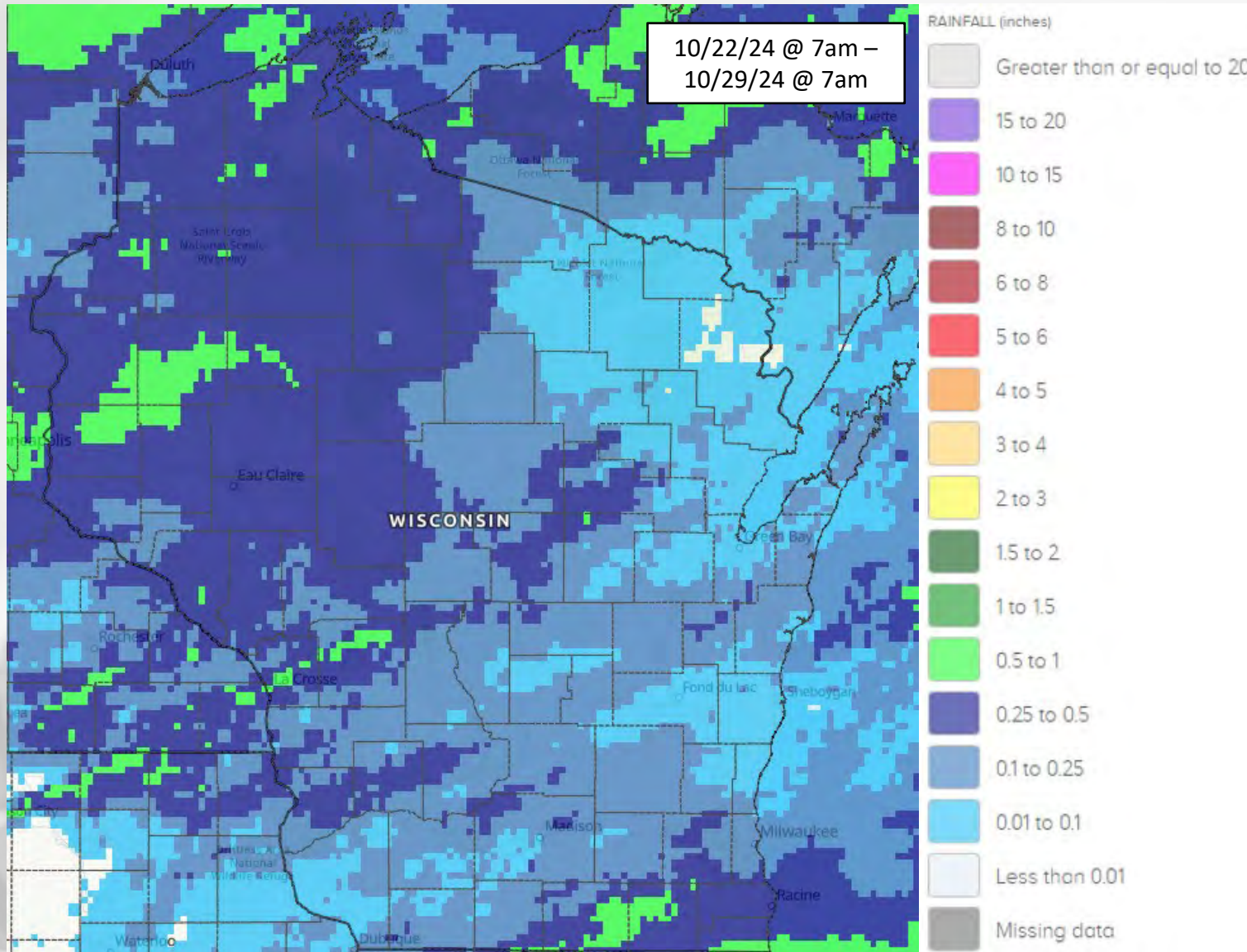
Days with rainfall of 0.1" or more between October 1-28



Climate Division	Stations w/ precip <0.1 " (10/1 – 10/21)	Stations w/ precip <0.1 " (10/1 – 10/28)
WI01	8	1
WI02	2	1
WI03	1	0
WI04	59	0
WI05	3	0
WI06	0	0
WI07	33	8
WI08	18	4
WI09	5	0

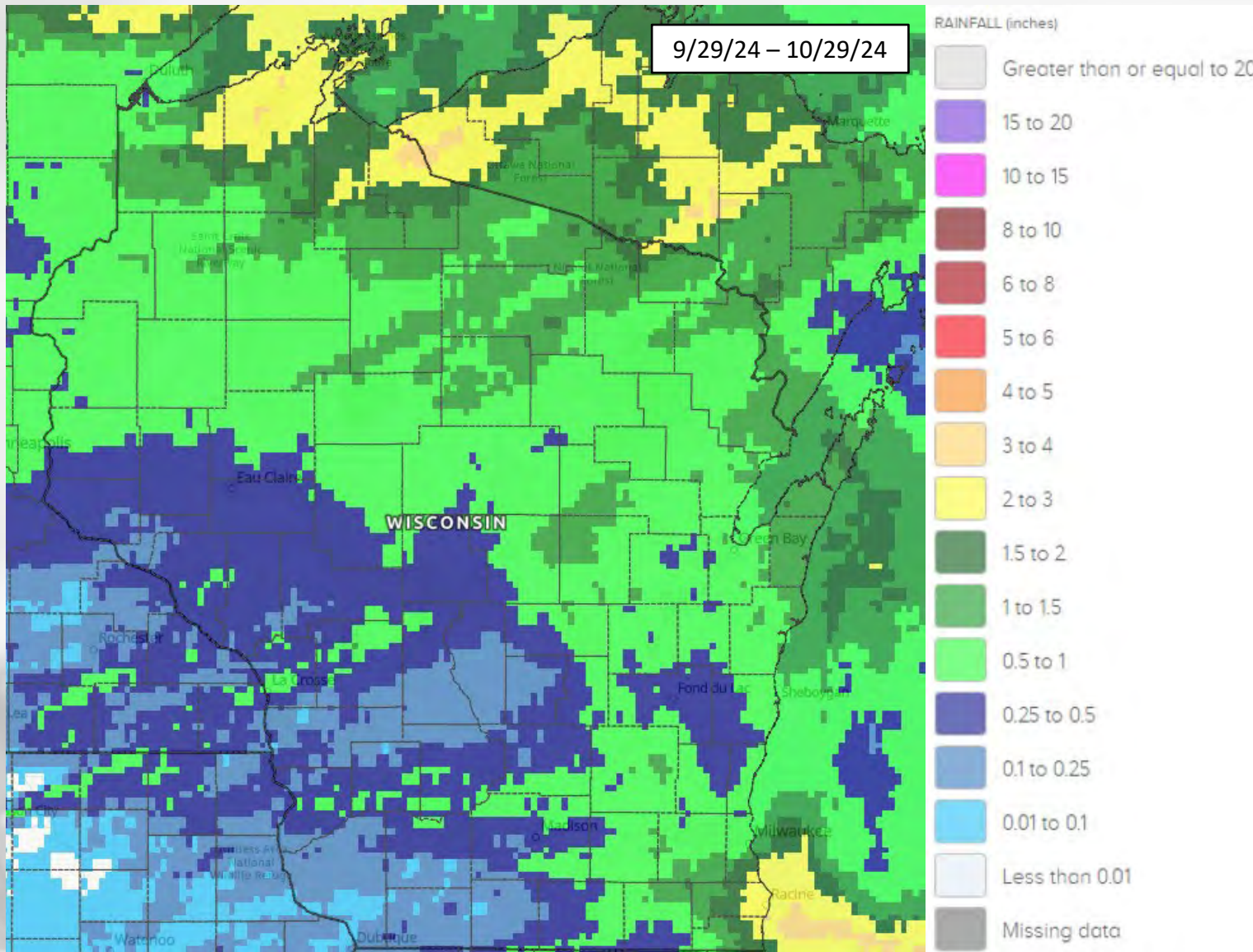
Data in the table represents the change in the number of measuring stations with minimal (<0.1 ") precipitation between October 1-21 and October 1-28, 2024. (Source: ACIS)

7 Day Precip



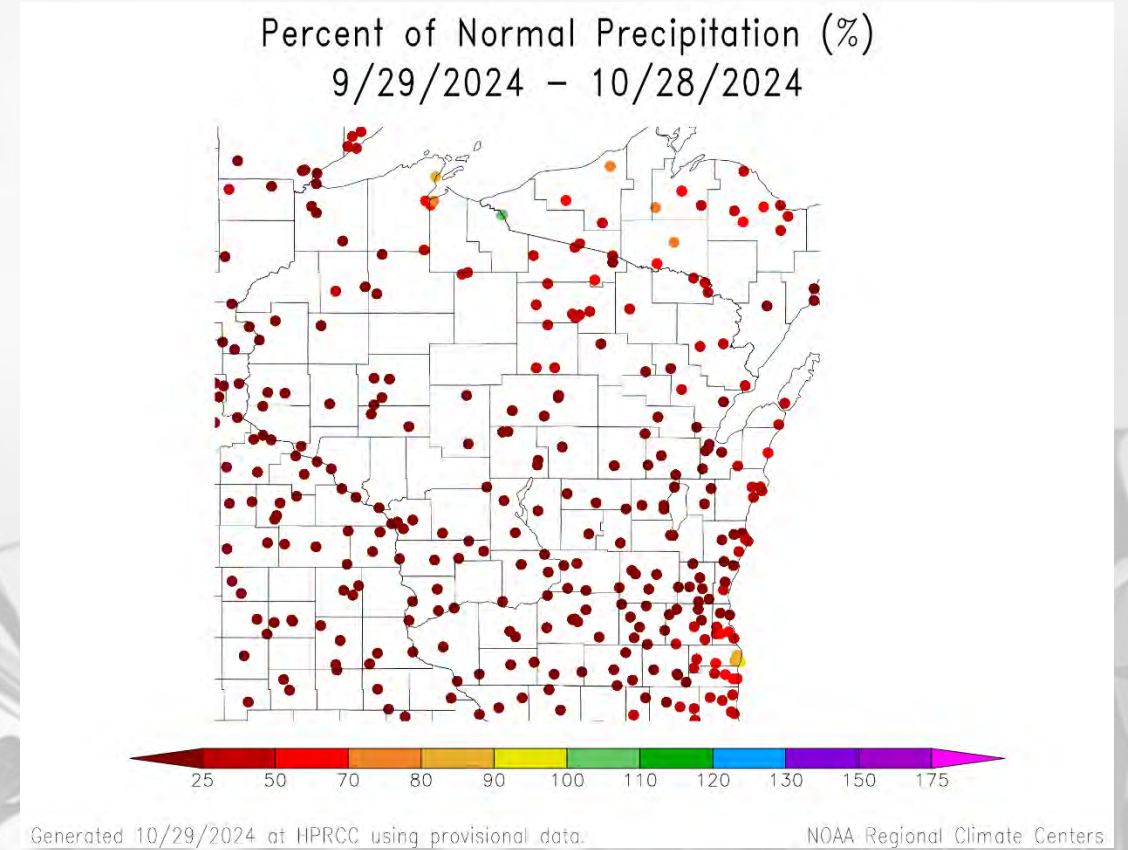
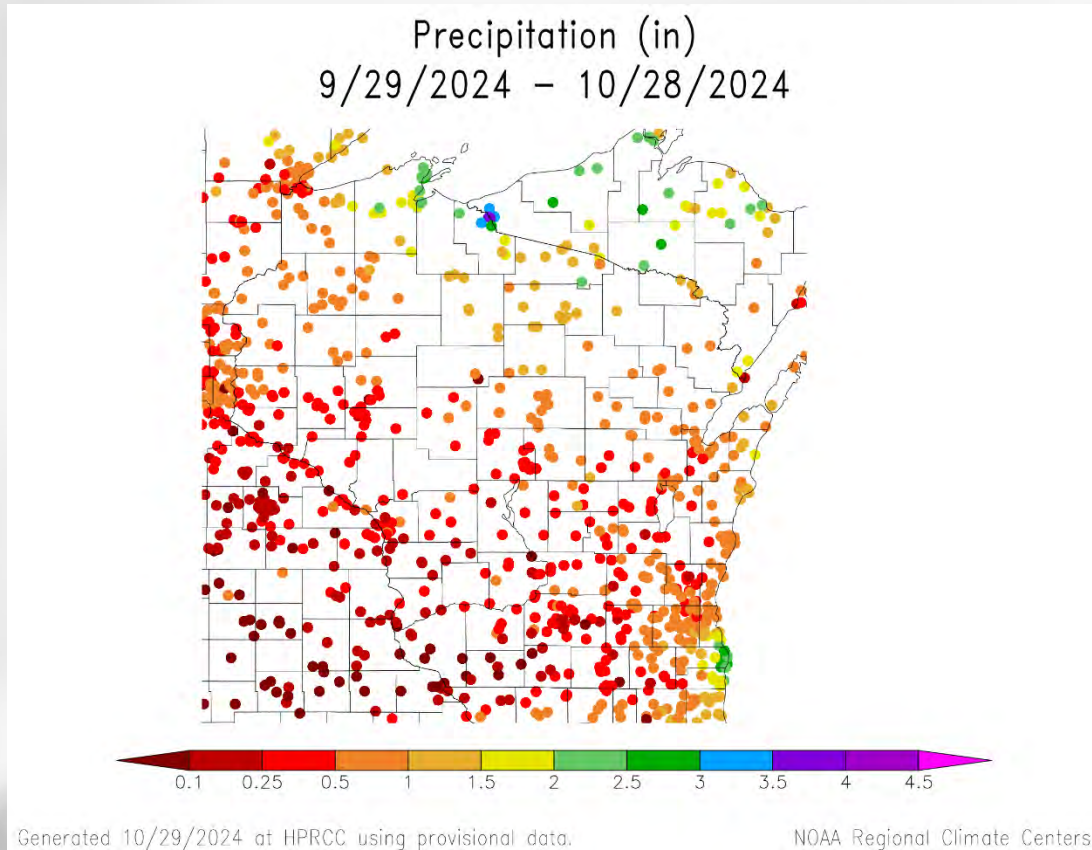
- Virtually all of WI saw some **light precip (0.1-0.5")** over the last week.
- A **quarter to half inch** fell across the far SE and most of the NW/WC counties.
 - These totals are **below normal** for the week of Oct. 22-28.
- **Pockets of >0.5"** in the regions mentioned above, with lowest totals in the NE (**<0.1"**).

30 Day Precip



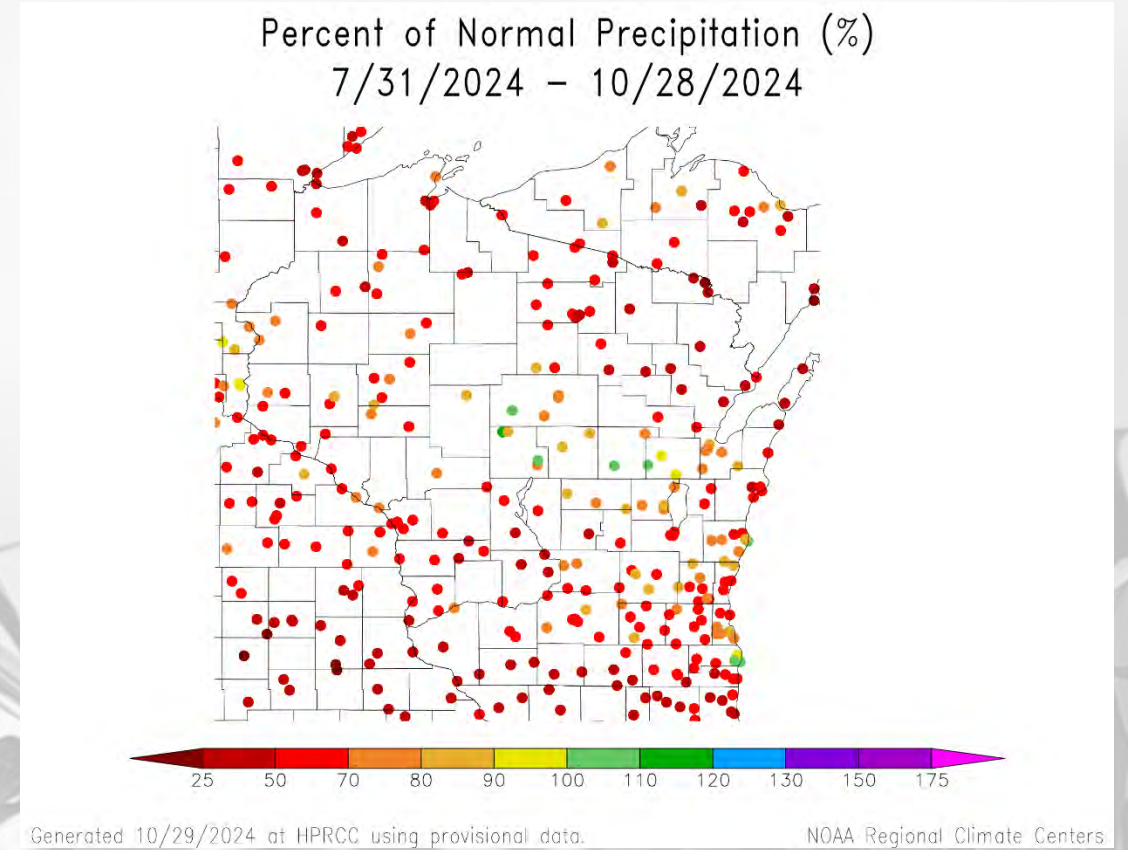
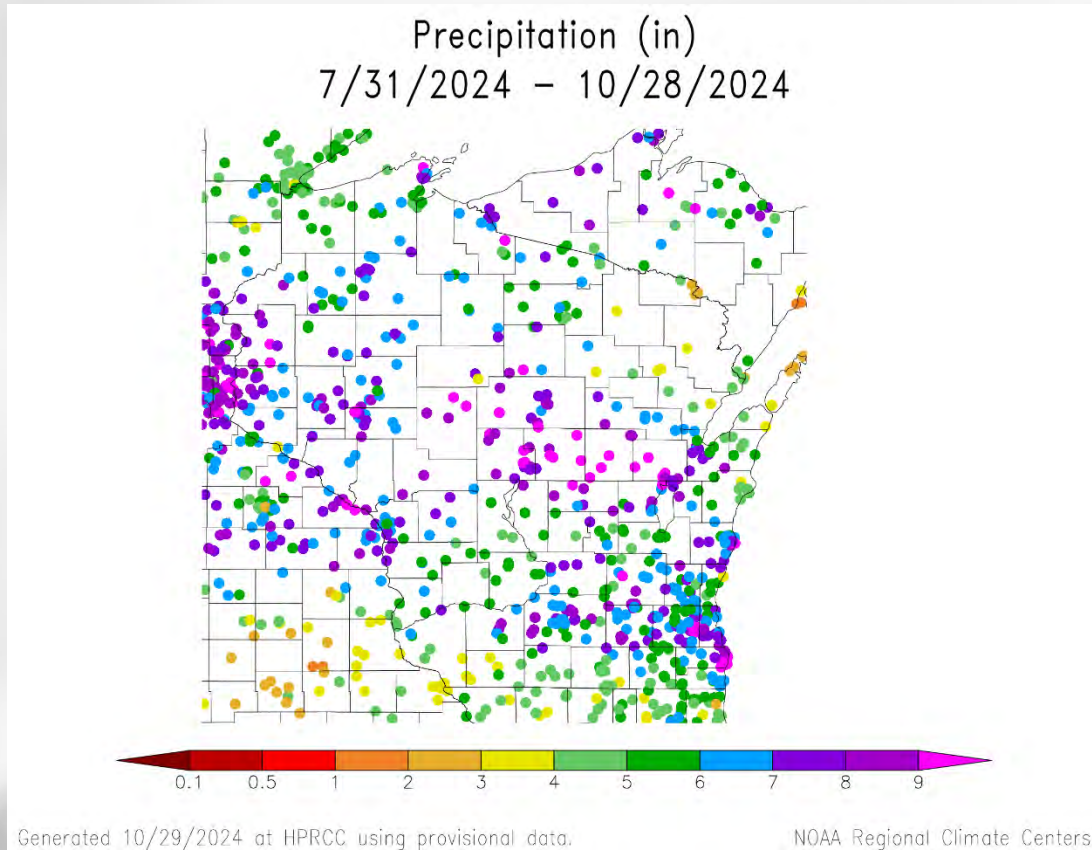
- In the WC/SW region, precip totals have been **0.5" or less**, with isolated pockets of **0.1" or less** in the SW.
- **0.5" or greater** in the eastern & northern counties, with **>1"** common in the far N and along Lake Michigan.
- Highest amounts in the **far SE** and **along Lake Superior → 2-4"**.

30 Day Precip Total/% Avg.



- Late September rainfall **no longer showing up** in the Madison area.
- Majority of the state has experienced **50% or less of normal precip totals** → **1.5" or less**, with **<0.5" common** in the west.
- **2" or more** in the far SE & NW at **only a few stations**.

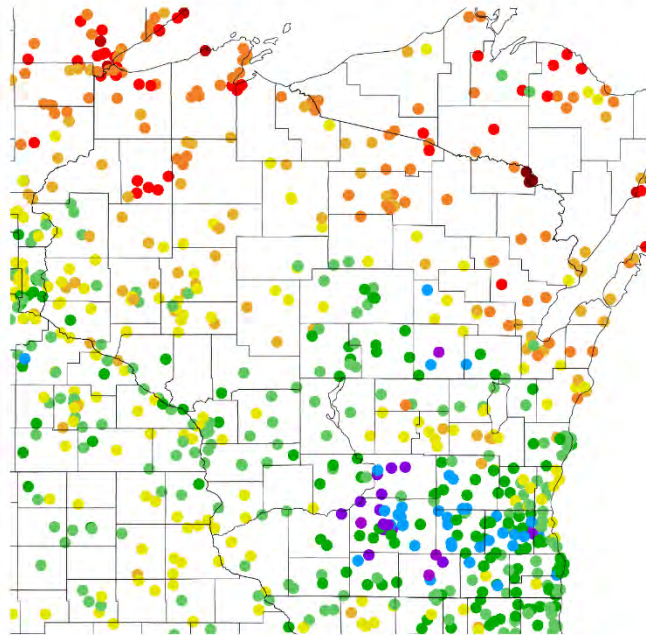
90 Day Precip Total/% Avg.



- **6-9"** of precip common across stations from the TC to Lake Winnebago, and between Madison & Milwaukee.
 - However, most of these stations are still **below the climatological average**.
- **25-70% of normal** across most stations in the SW, IL border region, and in the north.

2024 Precipitation (so far)

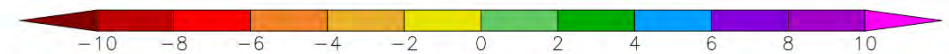
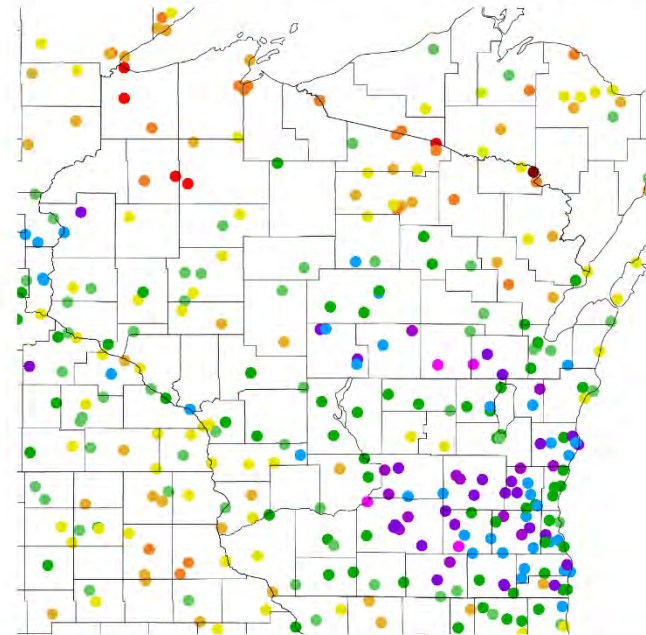
Precipitation (in)
1/1/2024 - 10/28/2024



Generated 10/29/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)
1/1/2024 - 10/28/2024



Generated 10/29/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Soil Moisture Models

- **20th percentile or lower** for soil moisture conditions covering most of the state.
- **5th percentile or lower** conditions expanded in the west and north.
- **Near-average conditions** are not to be found anywhere on this map.

Model Notes:

Red areas = top 5 driest in 100 years.

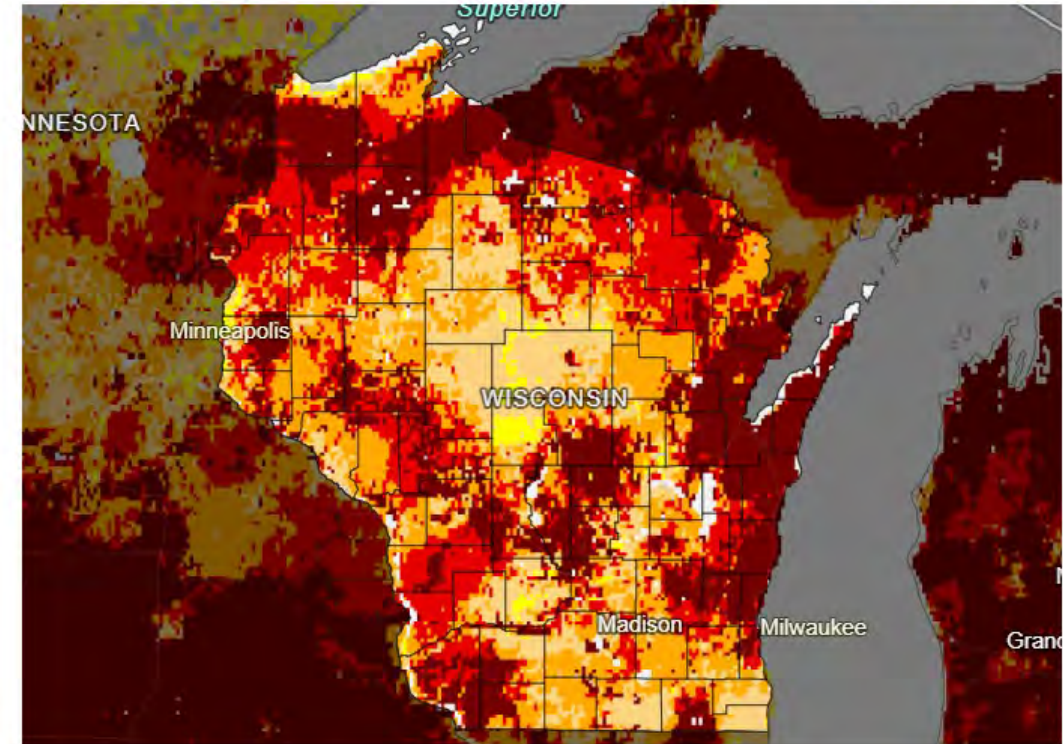
Dark red areas = top 2 driest in 100 years.

Blue areas = top 2 wettest in 100 years.

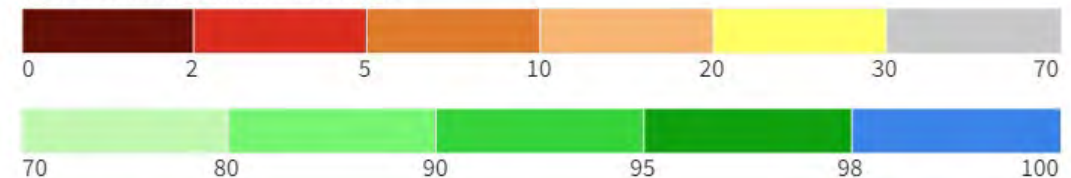
It's worth noting that each soil moisture model has their own characteristics and input variables, so there tends to be variation between models. Thus, it's worthwhile to look at multiple models opposed to just one.

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

NASA SPoRT-LIS 0-100 cm Soil Moisture Percentile



0-100 cm Soil Moisture Percentile

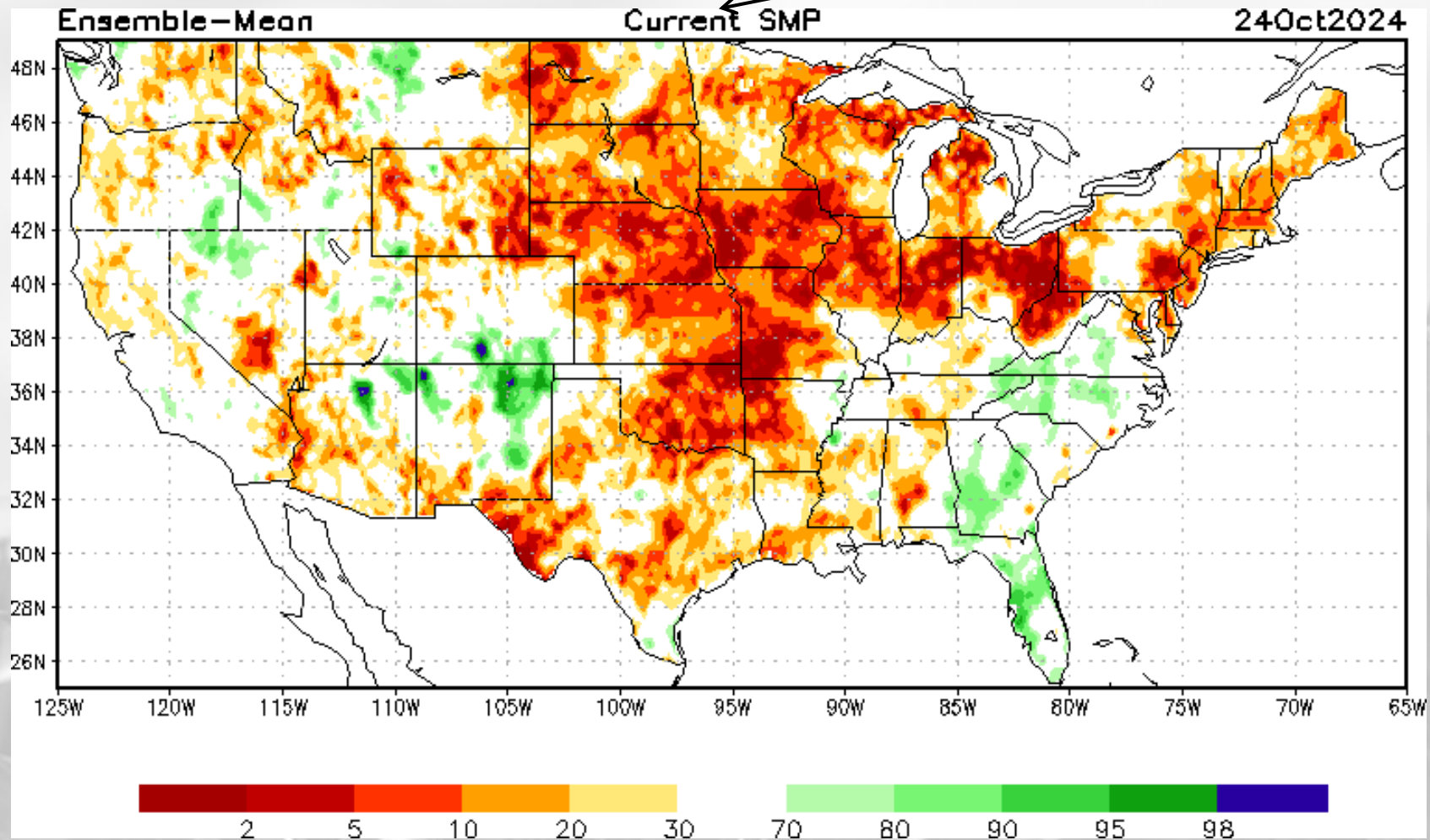


Source(s): NASA
Data Valid: 10/29/24

Drought.gov

Soil Moisture Models

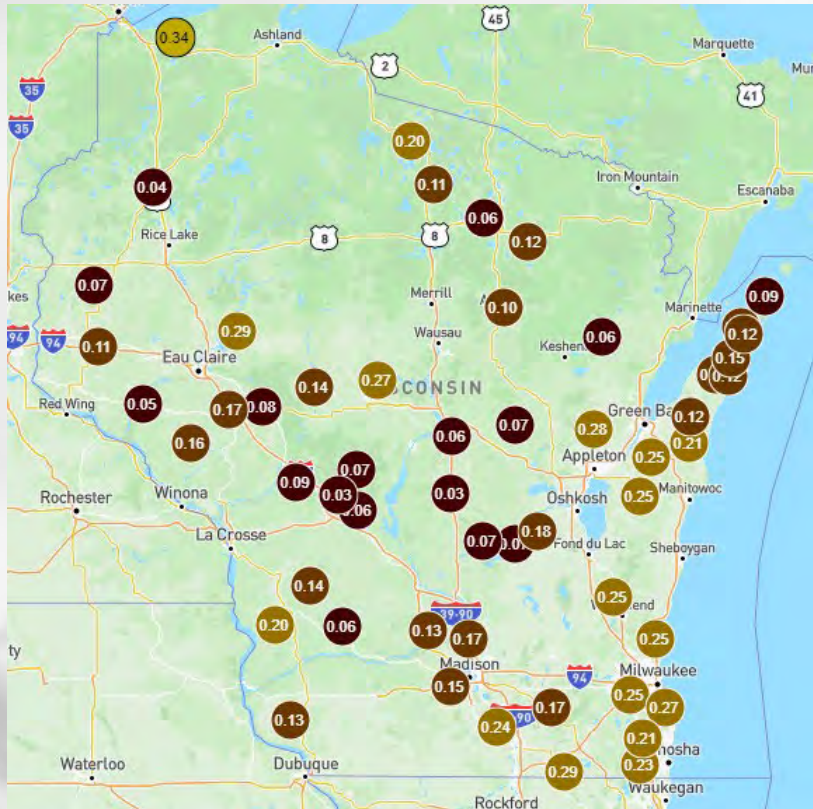
NOTE: this map displays the soil moisture percentile for Oct. 24. It was the most recent update on Oct. 29.



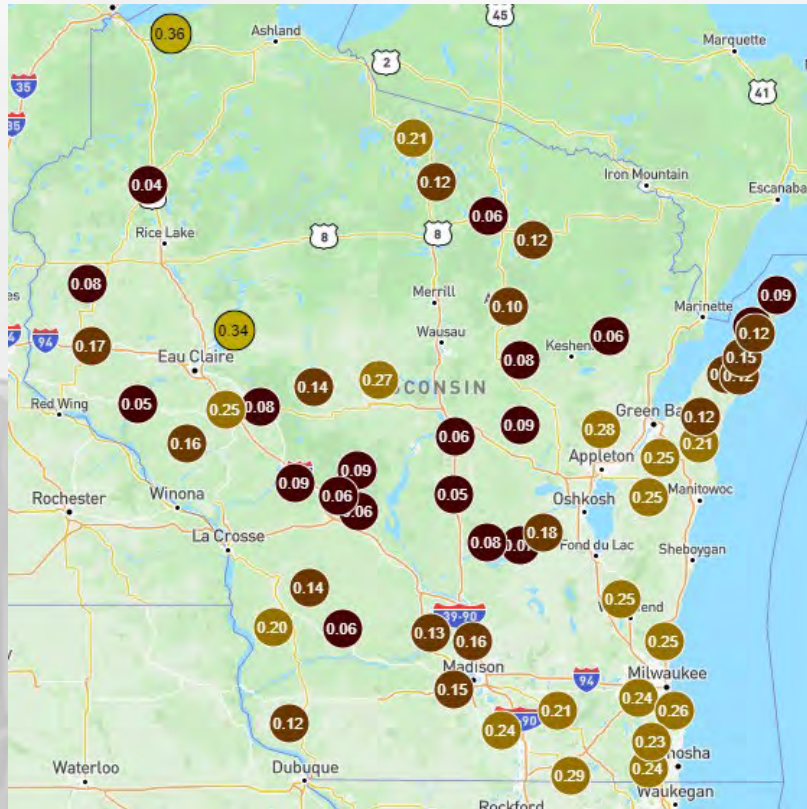
https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml

Wisconet Soil Moisture (4" Depth)

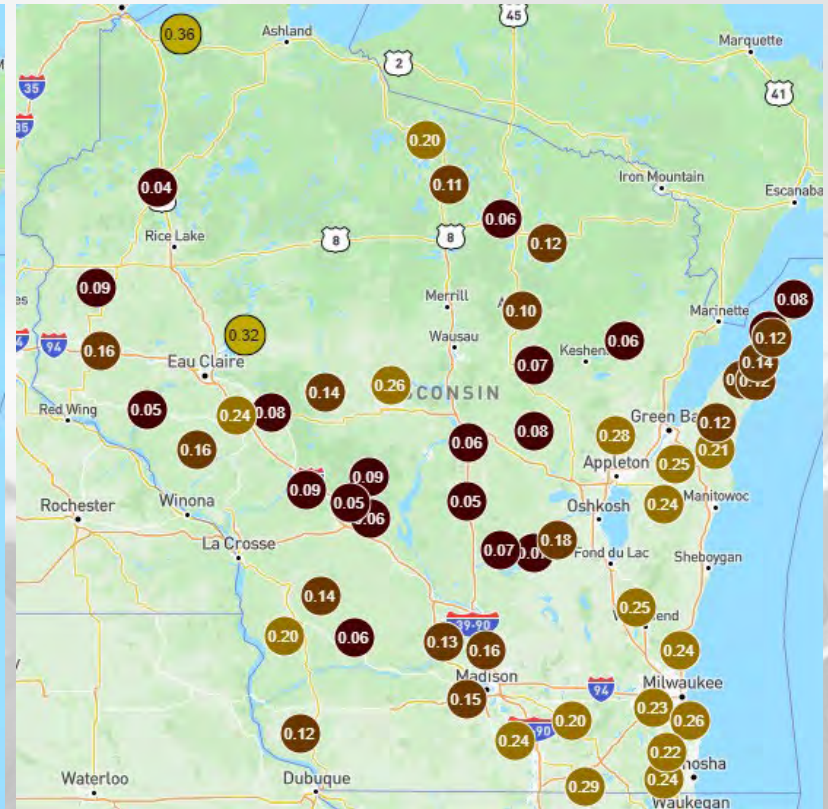
Thursday Oct. 24th @ Midday



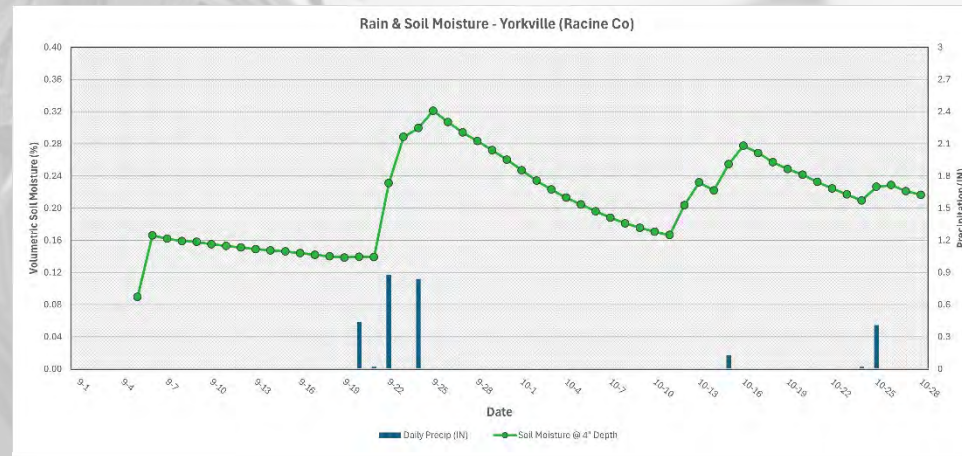
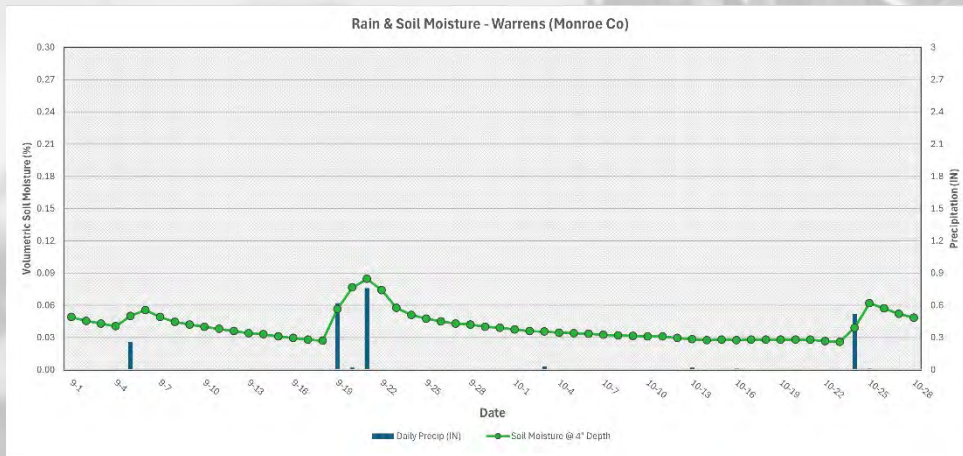
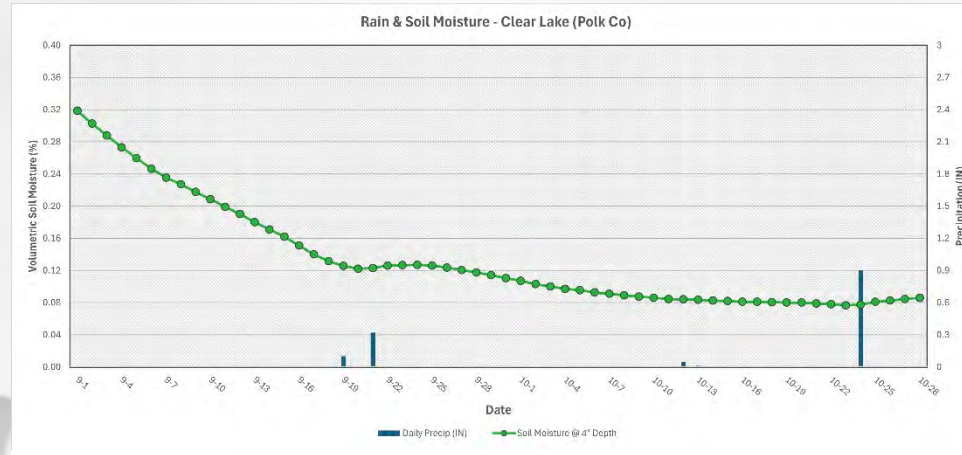
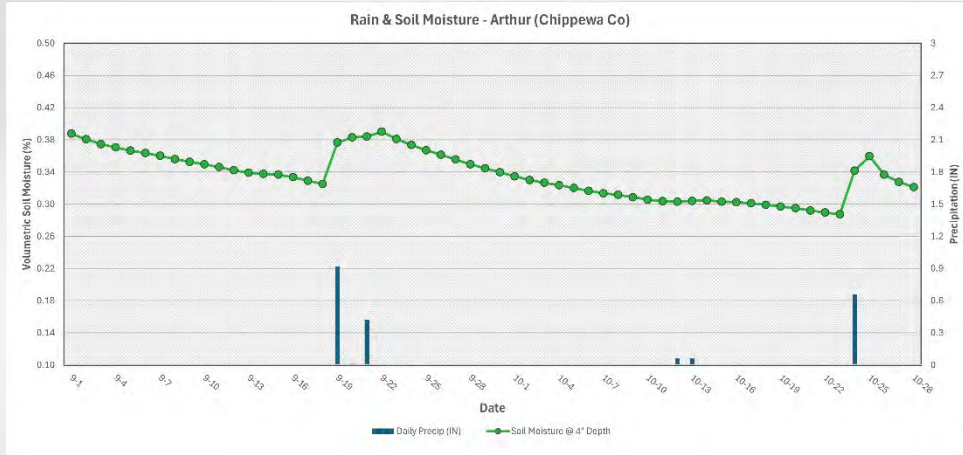
Saturday Oct. 26th @ Midday



Monday Oct. 28th @ Midday



Wisconet Soil Moisture – 4" Depth



3-month trend in soil moisture (4") & precip at UW research stations

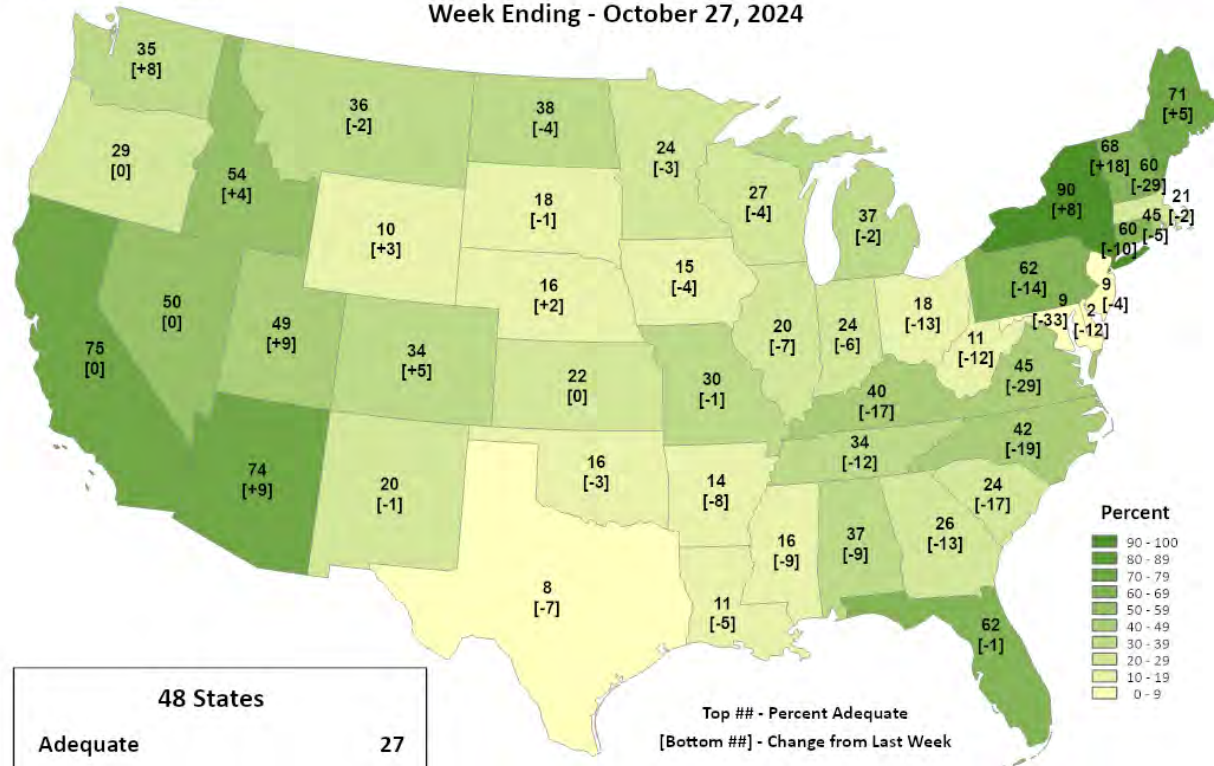
Minor bumps in soil moisture after last week's rainfall.

NASS Topsoil & Subsoil Moisture



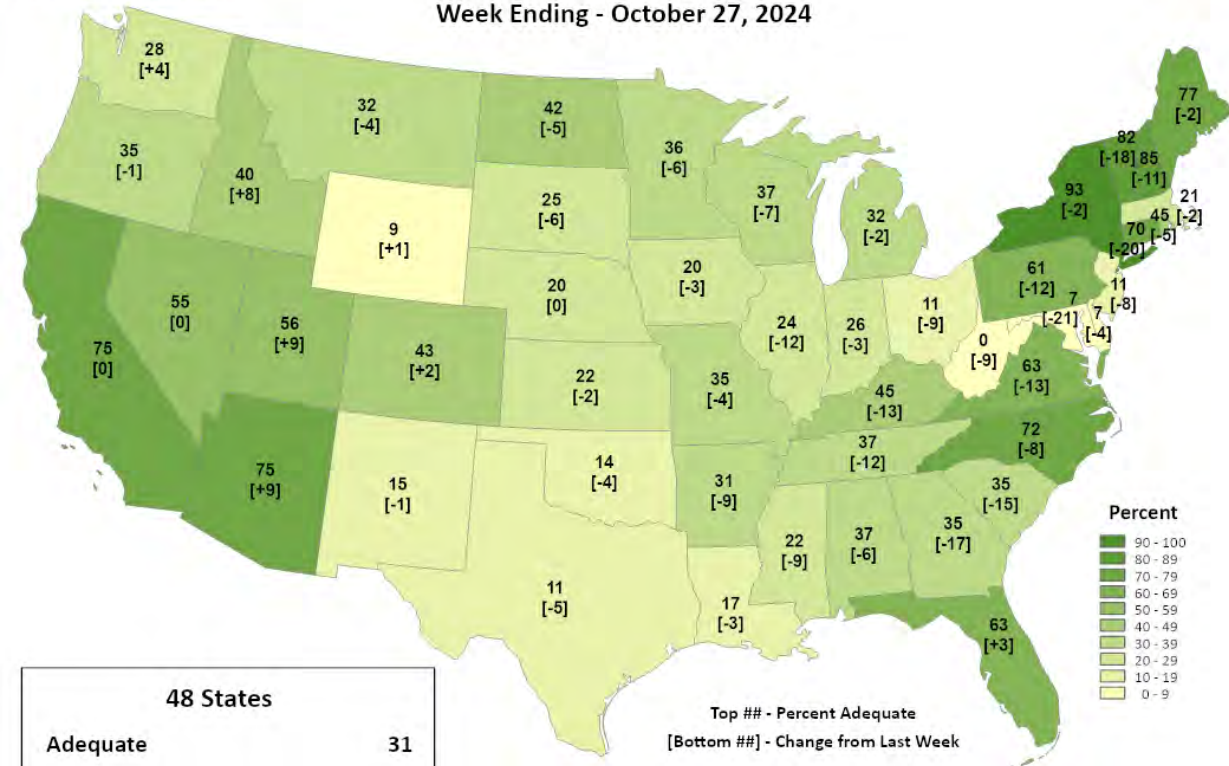
This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Topsoil Moisture Percent Adequate Week Ending - October 27, 2024



This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Subsoil Moisture Percent Adequate Week Ending - October 27, 2024



US Drought Monitor

U.S. Drought Monitor Midwest

October 22, 2024

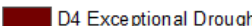
(Released Thursday, Oct. 24, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.85	88.15	65.96	24.06	2.45	0.66
Last Week <small>10-15-2024</small>	17.18	82.82	52.79	17.96	2.27	0.66
3 Months Ago <small>07-23-2024</small>	88.99	11.01	3.85	0.82	0.00	0.00
Start of Calendar Year <small>01-02-2024</small>	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year <small>10-01-2024</small>	21.78	78.22	28.15	6.40	1.46	0.66
One Year Ago <small>10-24-2023</small>	21.03	78.97	46.94	17.81	4.66	0.00

Intensity:

 None	 D2 Severe Drought
 D0 Abnormally Dry	 D3 Extreme Drought
 D1 Moderate 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:

Rocky Bilotta
NCEI/NOAA



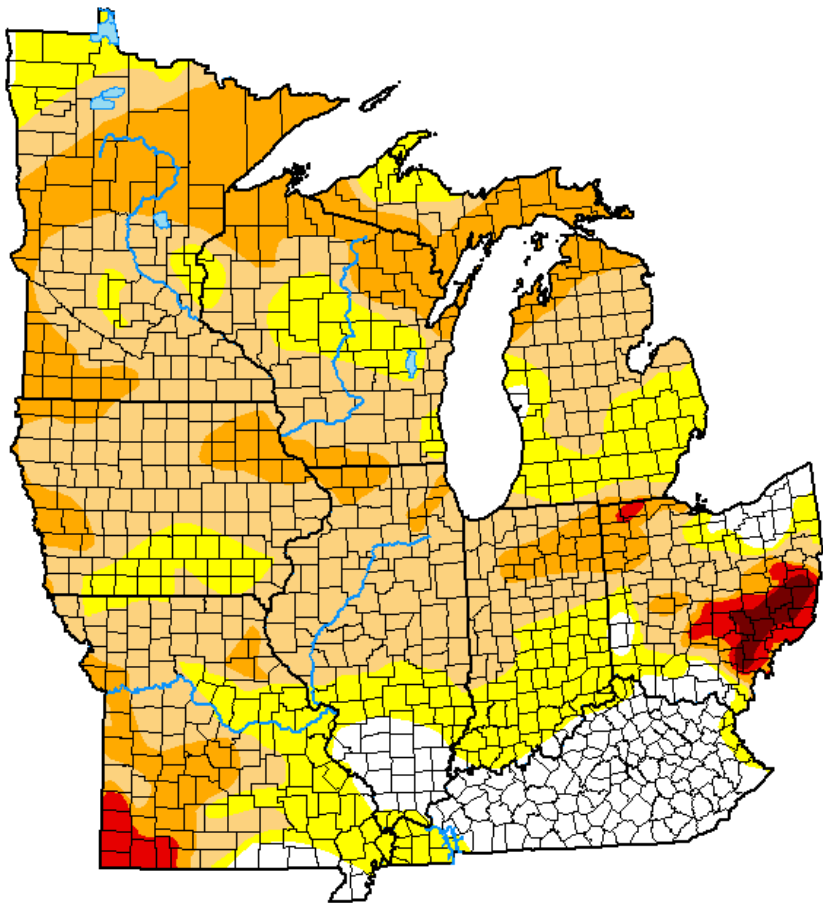
droughtmonitor.unl.edu

- Compared to last week:

- **Increases in D1** drought coverage region-wide (**up 13%**) from last week. **D1 expansion** in southern & western WI.
- **Increase in D2** in parts of WI in the far north & SW. Regionally, D2 is **up 6%** from last week.
- **Extreme to exceptional drought (D3-D4)** remains in place over SE Ohio and in SW Missouri.

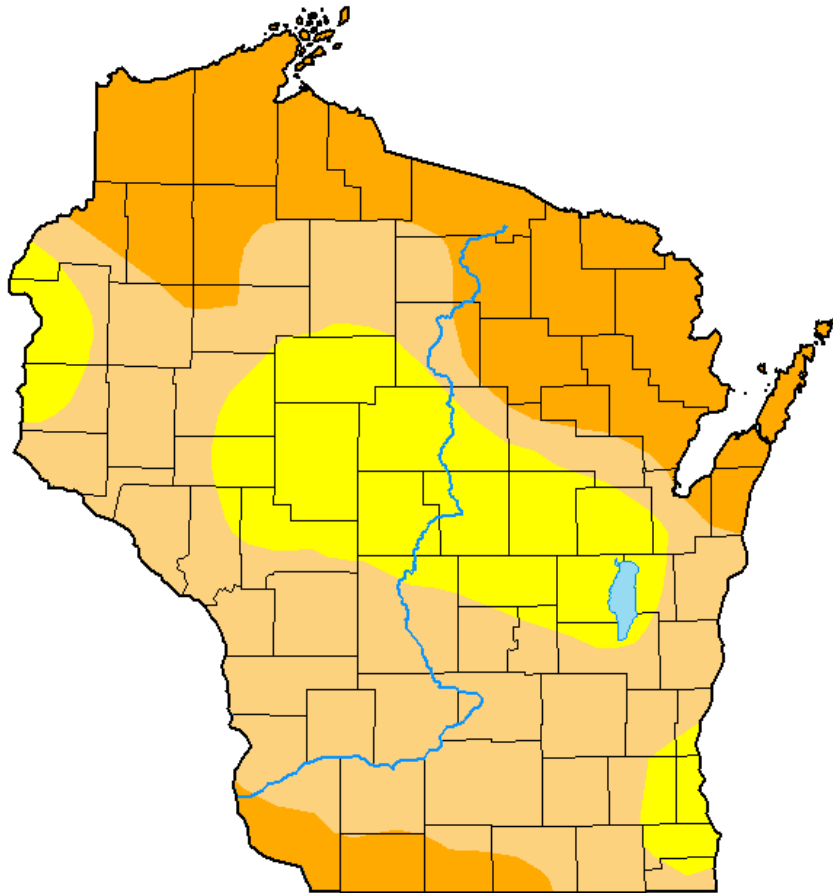
Note: D0 is not considered drought.

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



US Drought Monitor

U.S. Drought Monitor Wisconsin



October 22, 2024

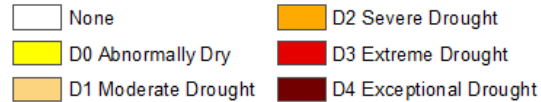
(Released Thursday, Oct. 24, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	77.11	30.39	0.00	0.00
Last Week 10-15-2024	0.00	100.00	63.85	20.81	0.00	0.00
3 Months Ago 07-23-2024	100.00	0.00	0.00	0.00	0.00	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 10-01-2024	18.68	81.32	29.83	8.45	0.00	0.00
One Year Ago 10-24-2023	6.49	93.51	51.81	21.60	3.04	0.00

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>

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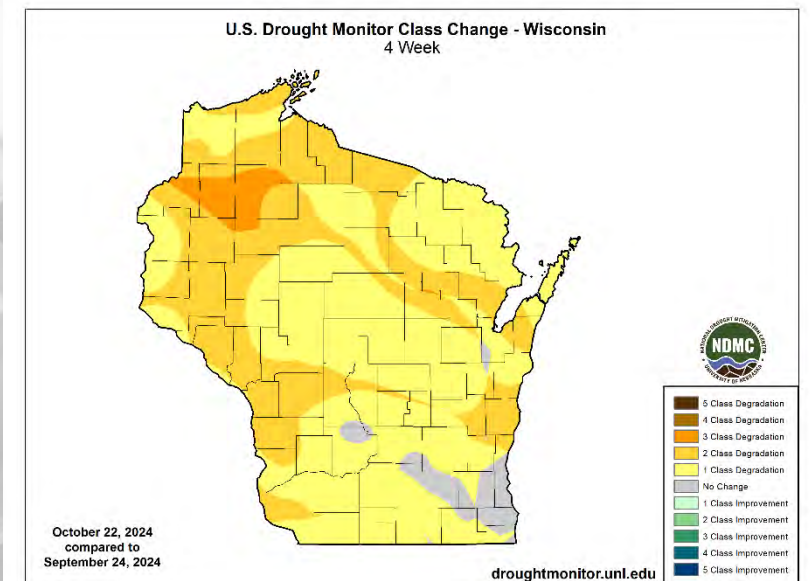
droughtmonitor.unl.edu

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

Amount of state in:

- **D1-D4** – 77.1% ↑
- **D2-D4** – 30.4% ↑
- **D3-D4** – 0.0% --
- **D4** – 0.0% --

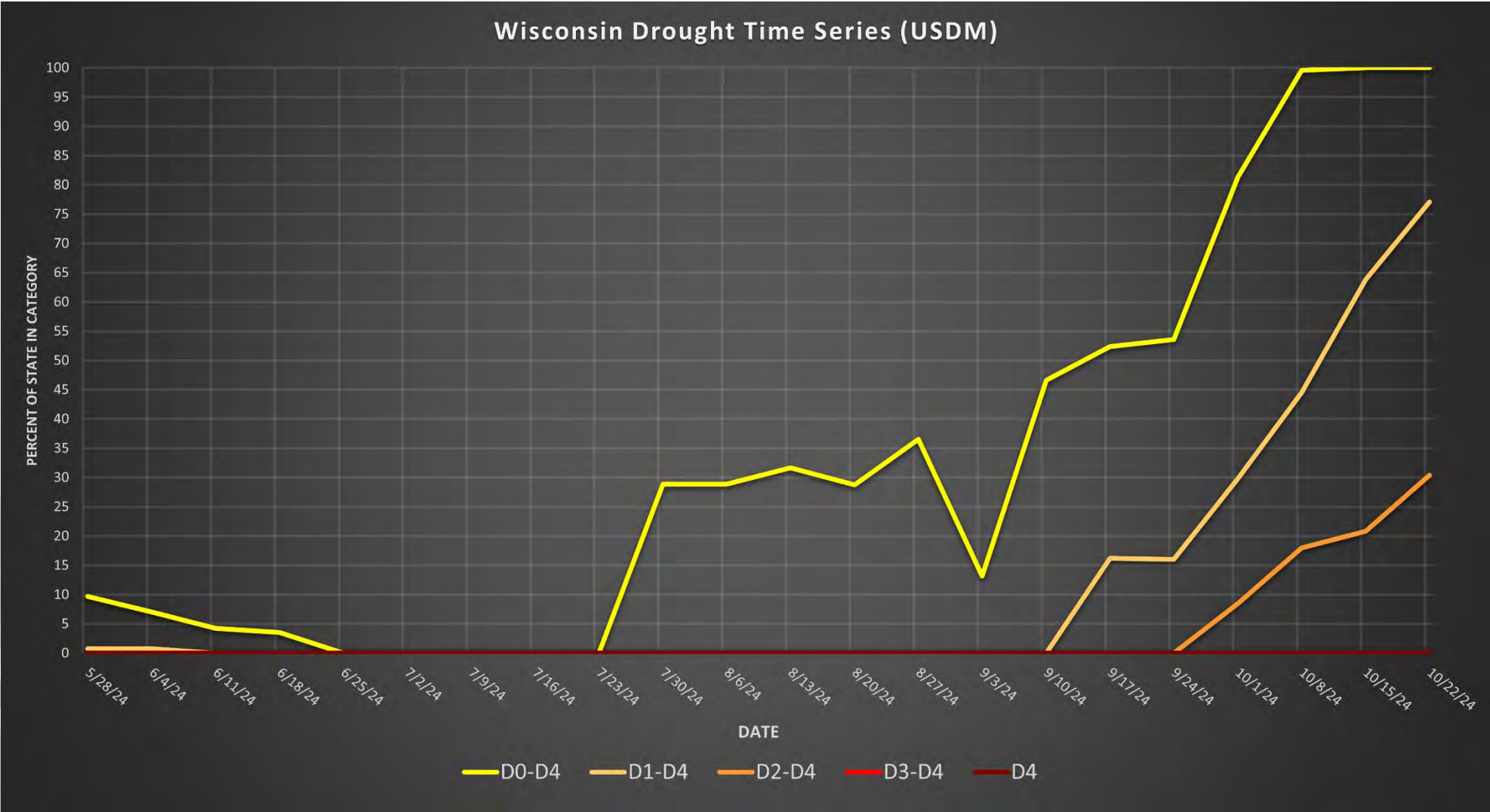
Note: ↑↓ indicate change from last week. Red up arrows indicate increase in drought area; vice-versa for green arrows.



October 22, 2024
compared to
September 24, 2024

droughtmonitor.unl.edu

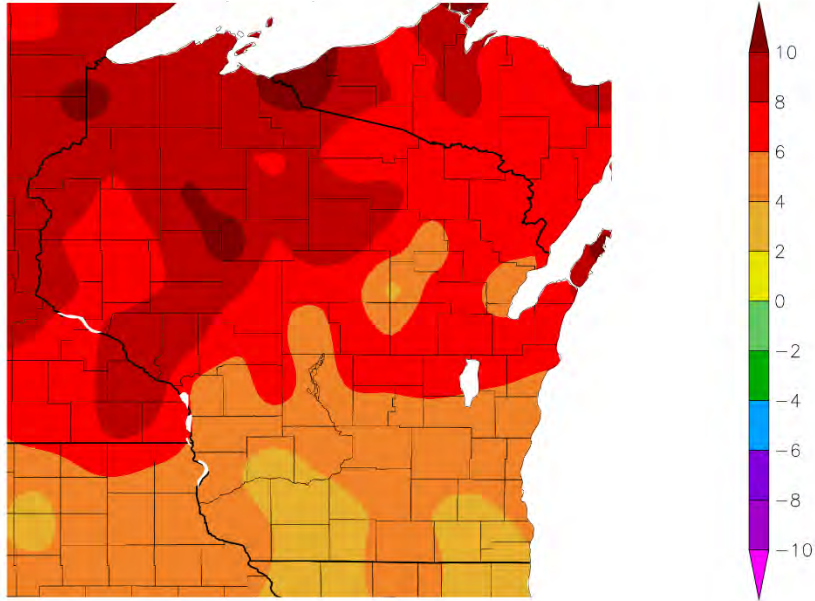
USDM Time Series



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

7 Day Temperatures

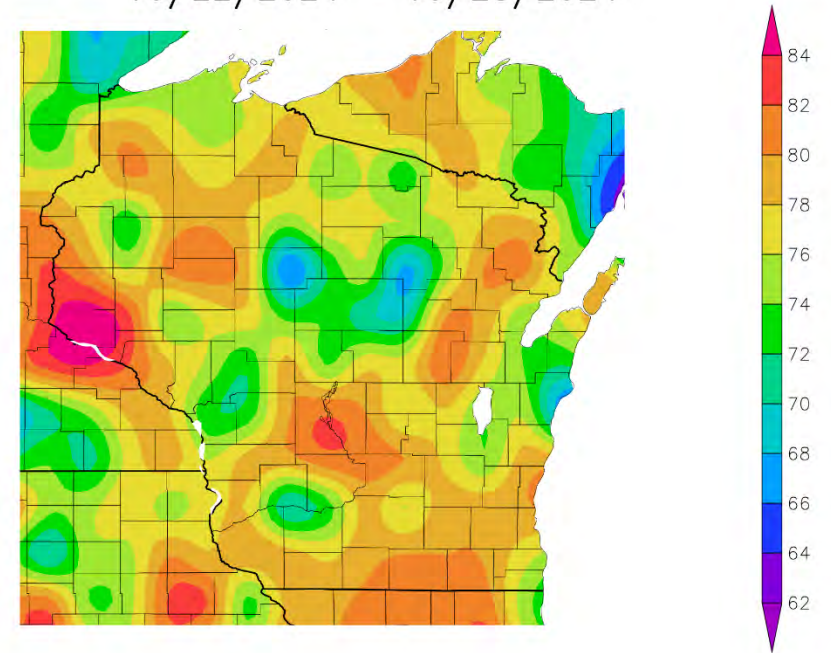
Departure from Normal Temperature (F)
10/22/2024 – 10/28/2024



Generated 10/29/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highest 1-Day Maximum Temperature (F)
10/22/2024 – 10/28/2024



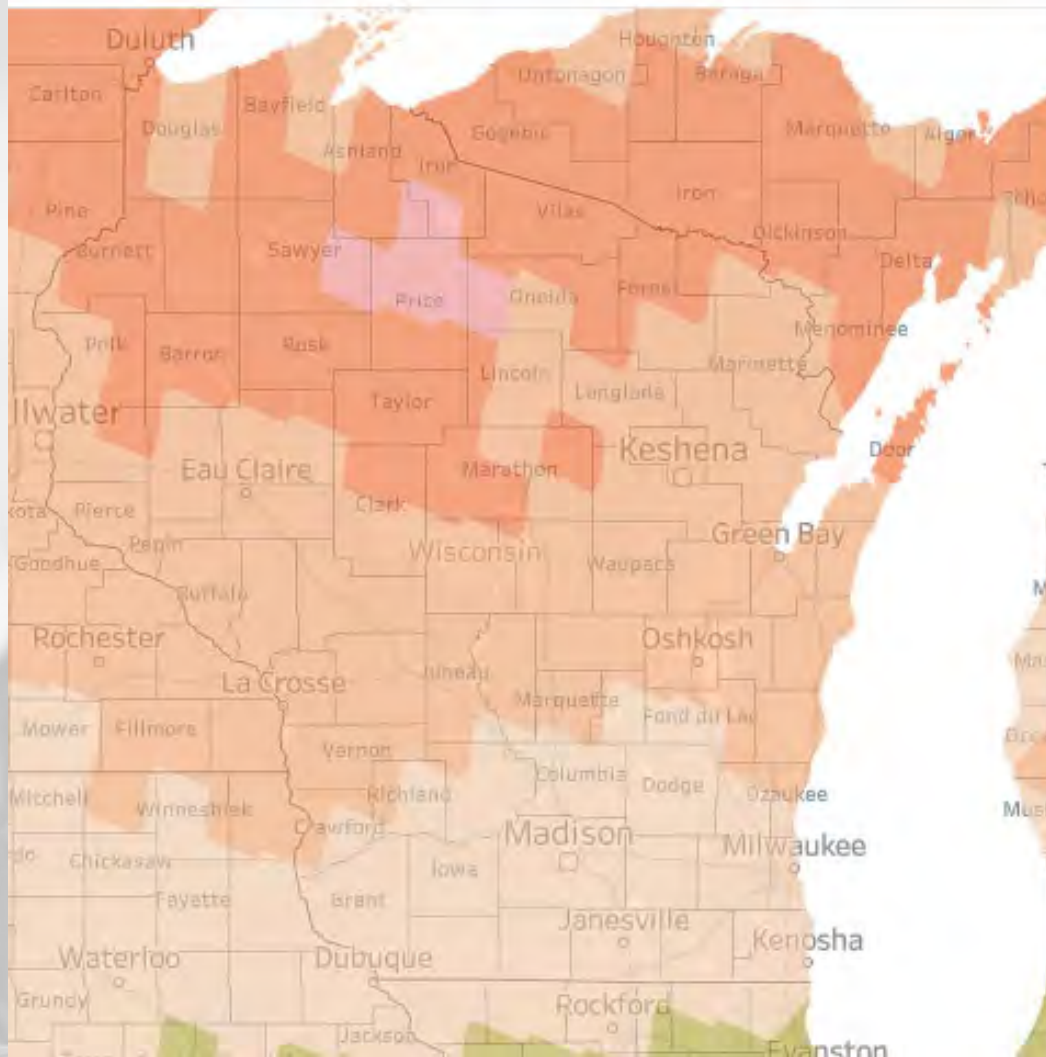
Generated 10/29/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- The south was **2-6°F above** climatological normal, and the north was **>6°F above** normal for most.
- Isolated pockets **>10°F above** normal in the NW.
- Weekly maximums were **approaching/topping 80°F** in parts of the state last week.

Soil Temp Climatology (4" Depth)

Date When 4" Soil Temperature Cools Below 50°F



Select Threshold (°F)

50

Average Date

- | | |
|-------------------|-------------------|
| ■ Sep 9 or Before | ■ Dec 1-9 |
| ■ Sep 10-19 | ■ Dec 10-19 |
| ■ Sep 20-30 | ■ Dec 20-31 |
| ■ Oct 1-9 | ■ Jan 1-9 |
| ■ Oct 10-19 | ■ Jan 10-19 |
| ■ Oct 20-31 | ■ Jan 20-31 |
| ■ Nov 1-9 | ■ Feb 1-9 |
| ■ Nov 10-19 | ■ Feb 10-19 |
| ■ Nov 20-30 | ■ Feb 20 or Later |

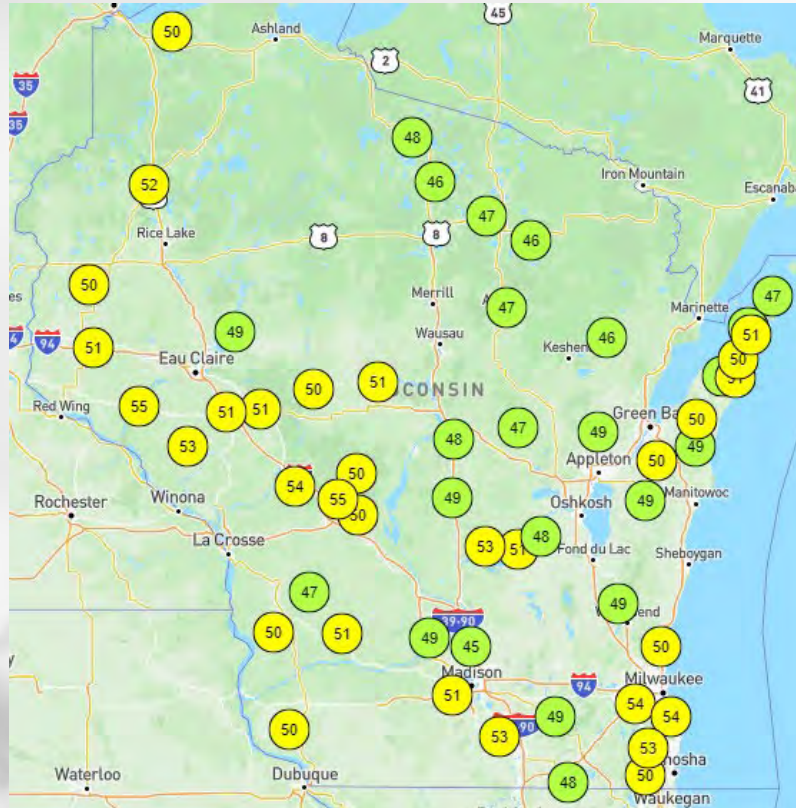
Climatology is based on 1991-2020 values at 4" depth. Map shows seven-day running average values. See About page for more information.

We are getting to the time of year where soil temps at 4", on average, **get to and stay below 50°F.**

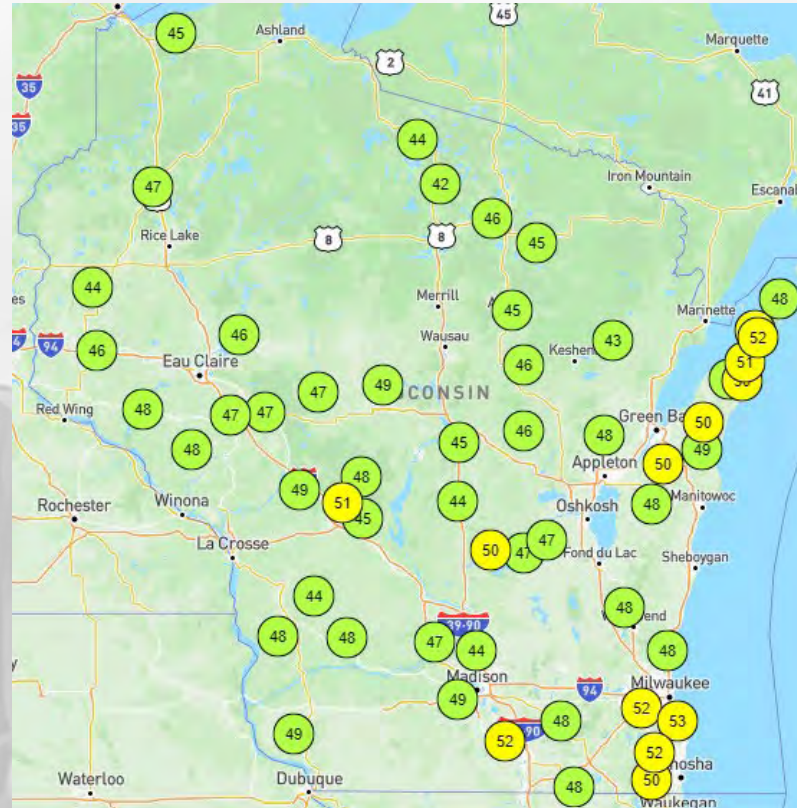
However, ***be sure to check Wisconet to determine real-time soil temps*** when make fall fertilizer decisions.

Wisconet Soil Temp (4" Depth)

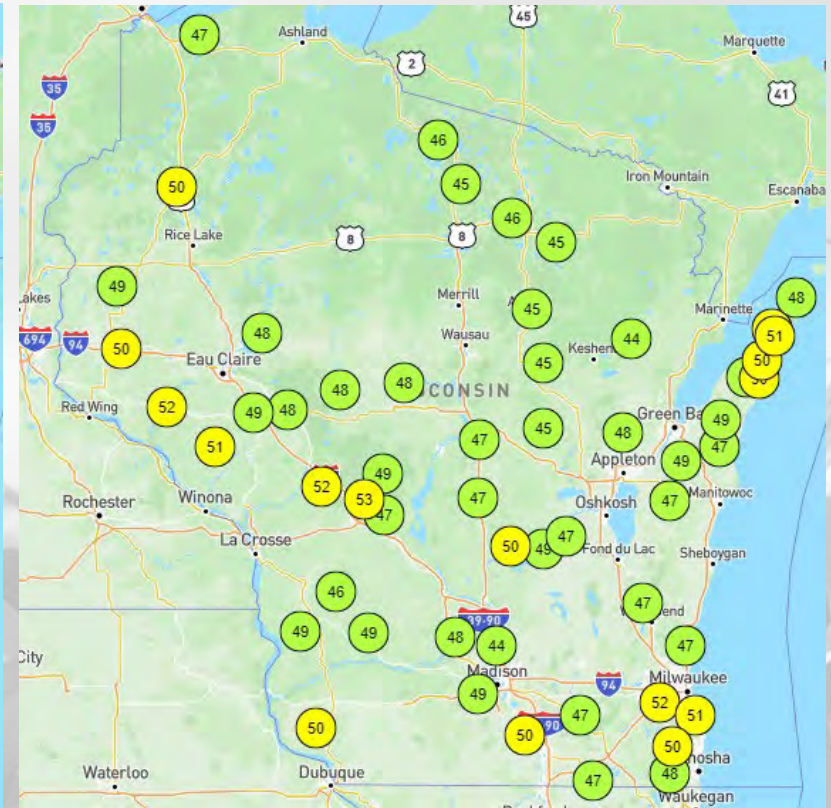
Thursday Oct. 24th @ Midday



Saturday Oct. 26th @ Midday

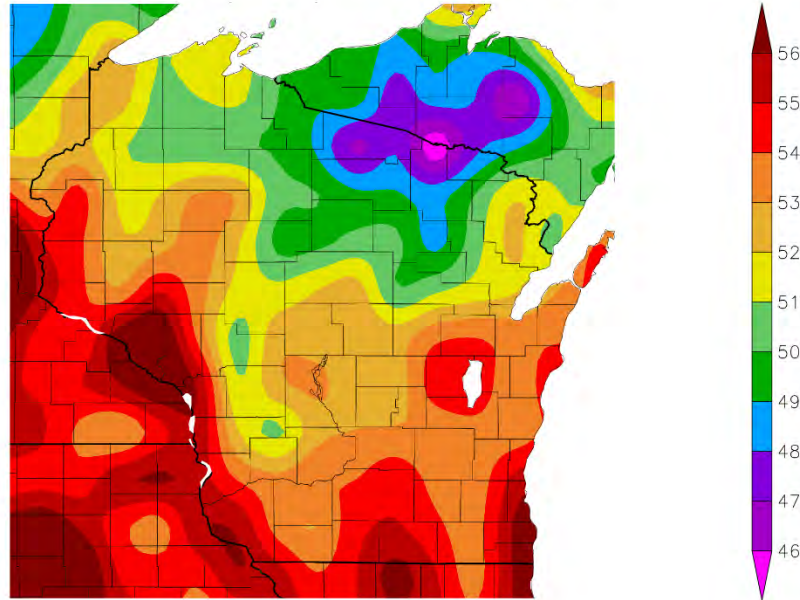


Monday Oct. 28th @ Midday



30 Day Temperatures

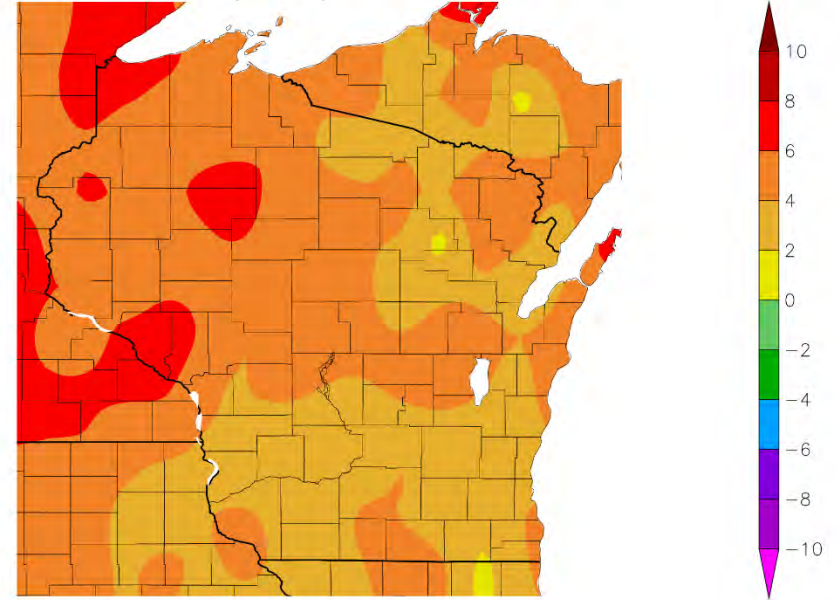
Temperature (F)
9/29/2024 - 10/28/2024



Generated 10/29/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
9/29/2024 - 10/28/2024



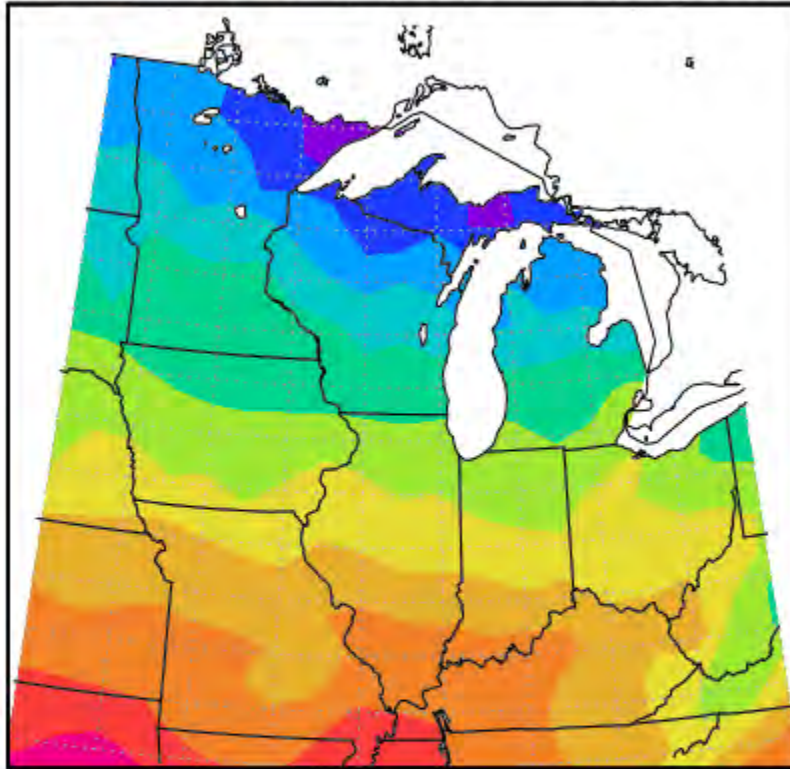
Generated 10/29/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Temperatures for the past month ranged from **53-56°F** in the S & W to **47-50°F** in the far NC.
 - **2-6°F above normal** for most of the state compared to climatological (1991-2020) average.
 - Temps more above the climatological average in the NW compared to the south and east.

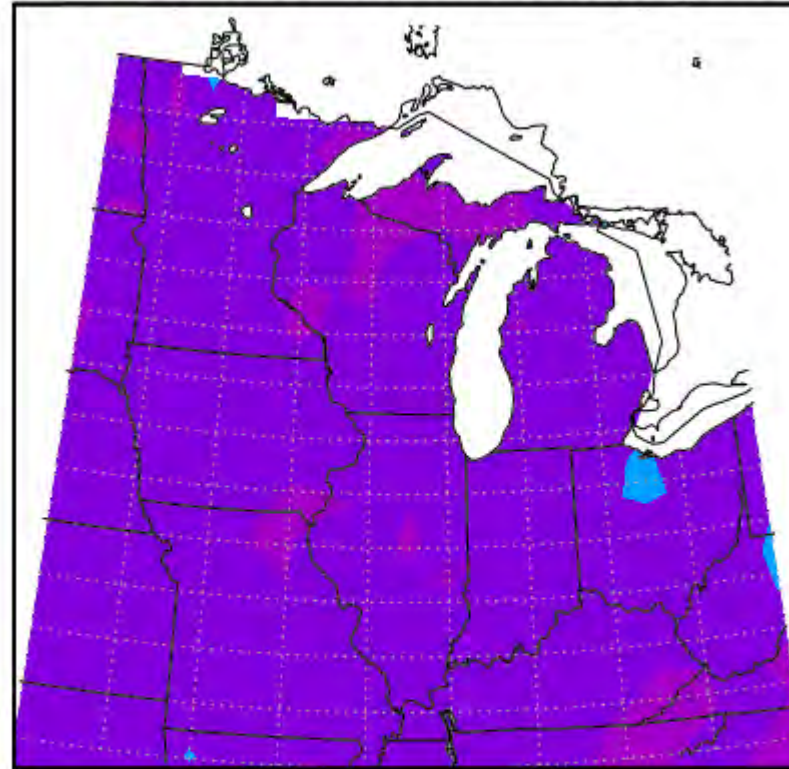
Growing Degree Days (Base = 50°F; Since April 1)

Total MGDD from 4/1/2024 to 10/28/2024



Midwestern Regional Climate Center
Purdue University

MGDD Departure, 4/1/2024 to 10/28/2024



Midwestern Regional Climate Center
Purdue University
Normals Period, 1991–2020

- **3000-3300** GDD in the far S to **2100-2700** GDD in the N.
- With the warm fall that we've had, GDD accumulation is running **≥200 GDD ahead of normal pace.**

To calculate GDD for your corn variety and planting date, use this [tool](#).

To see specific degree models for pests in your location, use the [Vegetable Disease & Insect Forecasting Network](#).

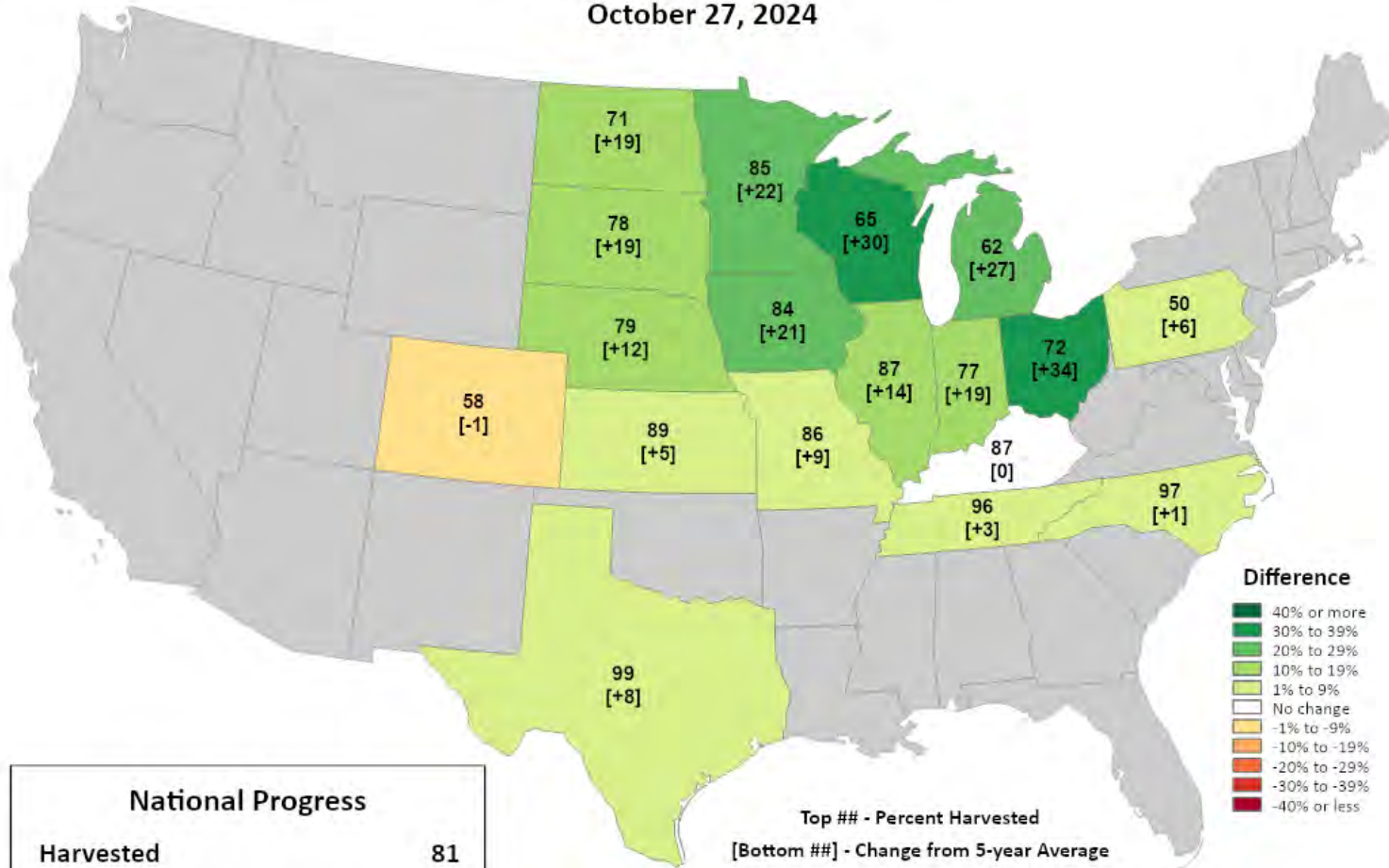
https://mrcc.purdue.edu/climate_watch

NASS Crop Progress – Corn



This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Corn Progress Percent Harvested October 27, 2024



National Progress	
Harvested	81
Change from 5-year Average	+17

Top ## - Percent Harvested
[Bottom ##] - Change from 5-year Average

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

From the October 28 Wisconsin Crop Progress & Condition [Report](#):

- The corn crop is **97% mature**.
- Corn for grain was **65% harvested**, 15 days ahead of last year and **15 days ahead of the 5-year average**.

NASS Crop Progress – Soybean

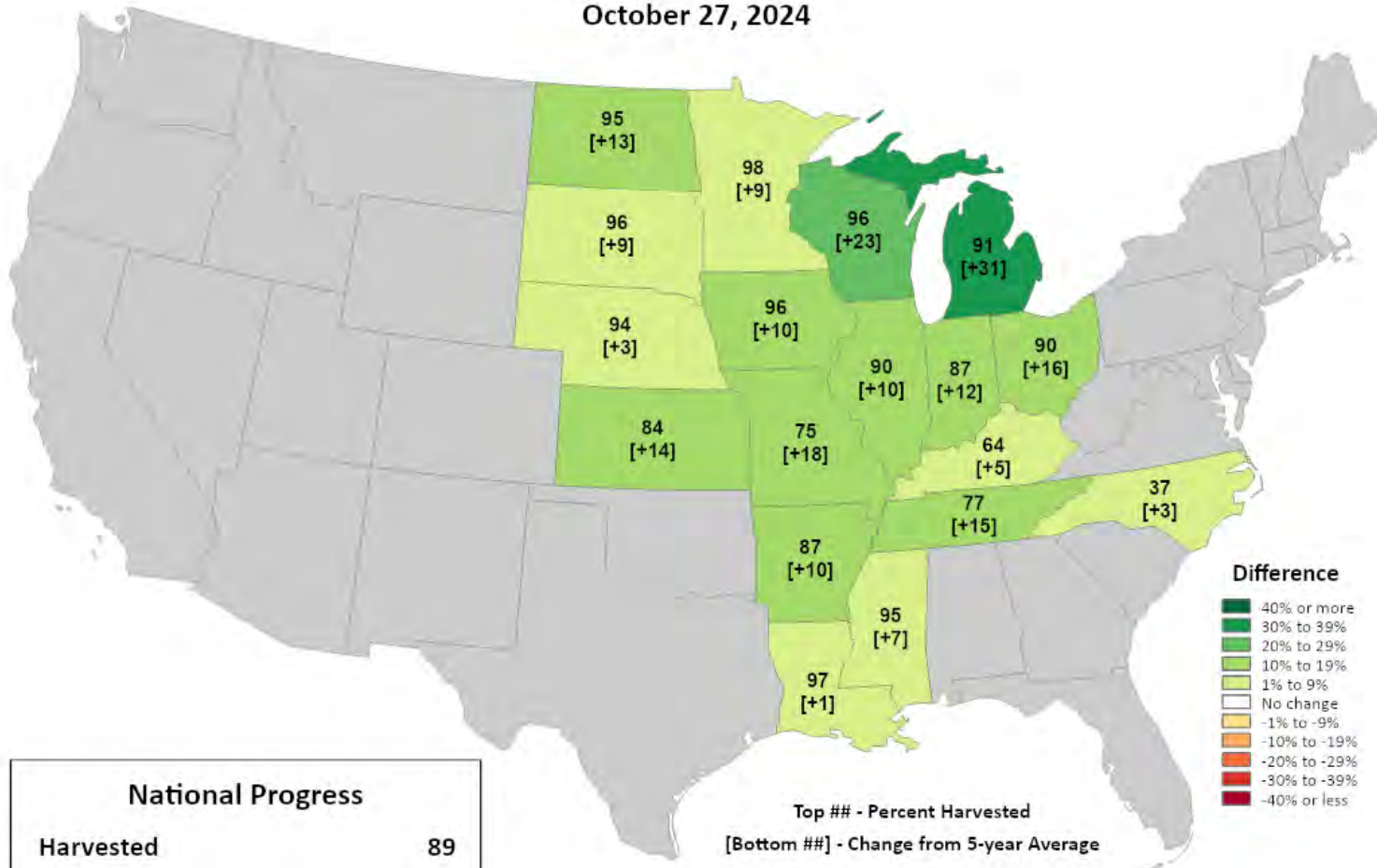


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Soybeans Progress

Percent Harvested

October 27, 2024



National Progress	
Harvested	89
Change from 5-year Average	+11

Top ## - Percent Harvested
[Bottom ##] - Change from 5-year Average

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

From the October 28 Wisconsin Crop Progress & Condition [Report](#):

- Soybean harvest was **96% complete**, nearly **4 weeks ahead** of last year and average.

NASS Crop Progress – Wheat

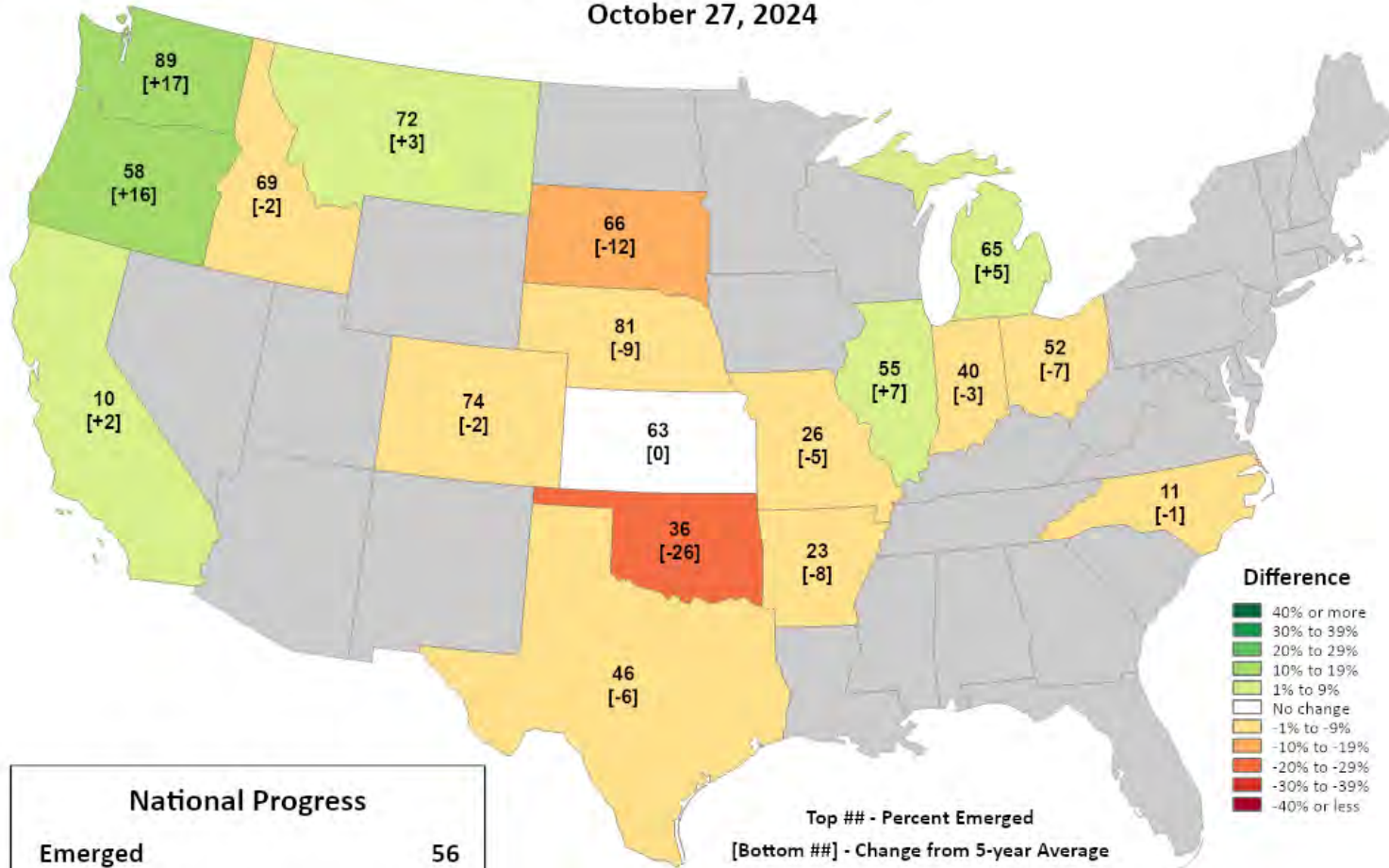


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Winter Wheat Progress

Percent Emerged

October 27, 2024



National Progress	
Emerged	56
Change from 5-year Average	-5



Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

From the October 28 Wisconsin Crop Progress & Condition [Report](#):

- Winter wheat planting was **96% complete**.
- The winter wheat crop is **74%** emerged, 3 days ahead of last year and **5 days** ahead of average.
- Winter wheat condition was rated **66% good to excellent**, a decrease of 9 percentage points from last week.

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

NASS Pasture & Range Conditions

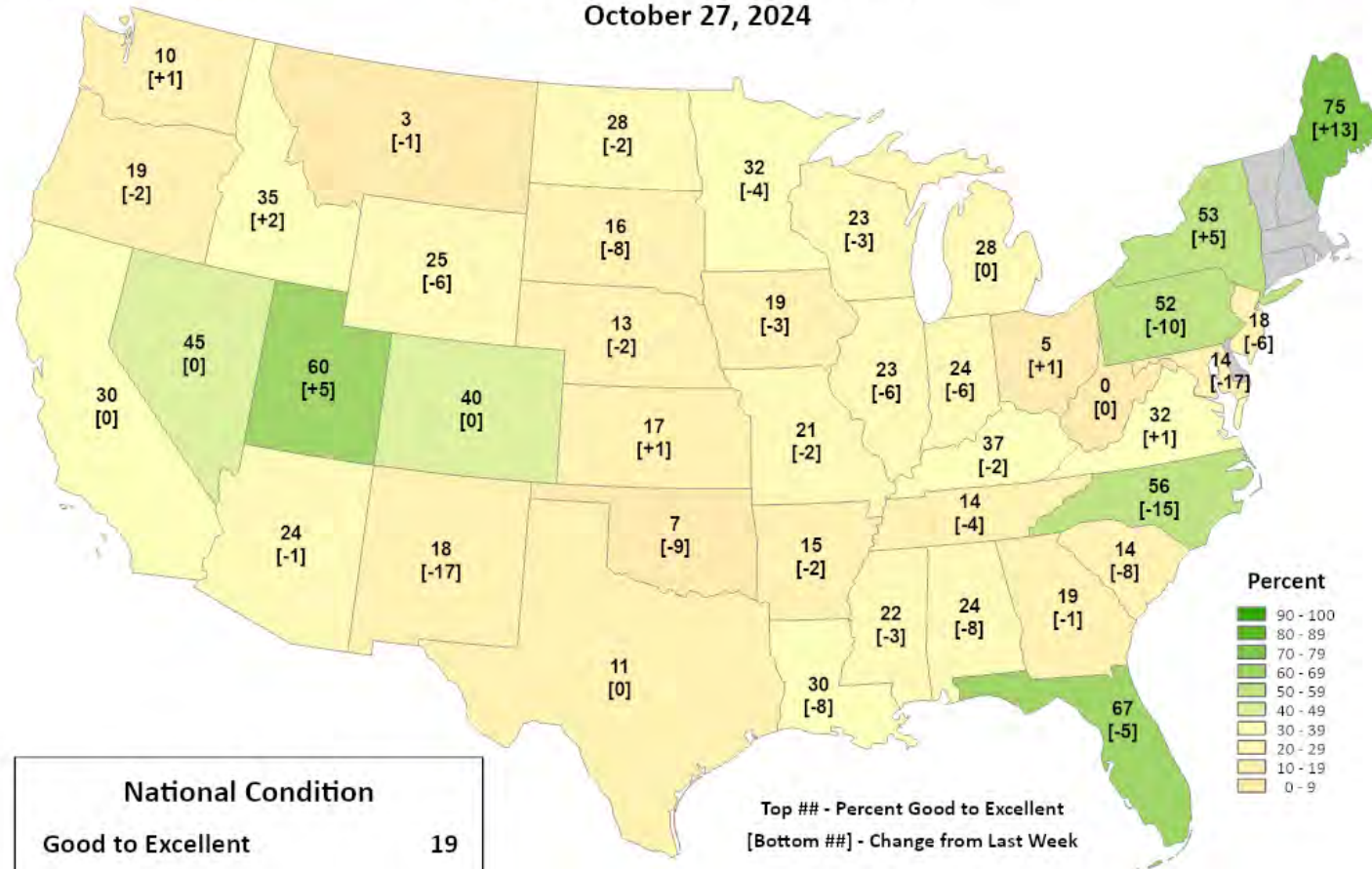


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Pasture and Range Conditions

Percent Good to Excellent

October 27, 2024



National Condition	
Good to Excellent	19
Change from Last Week	-4

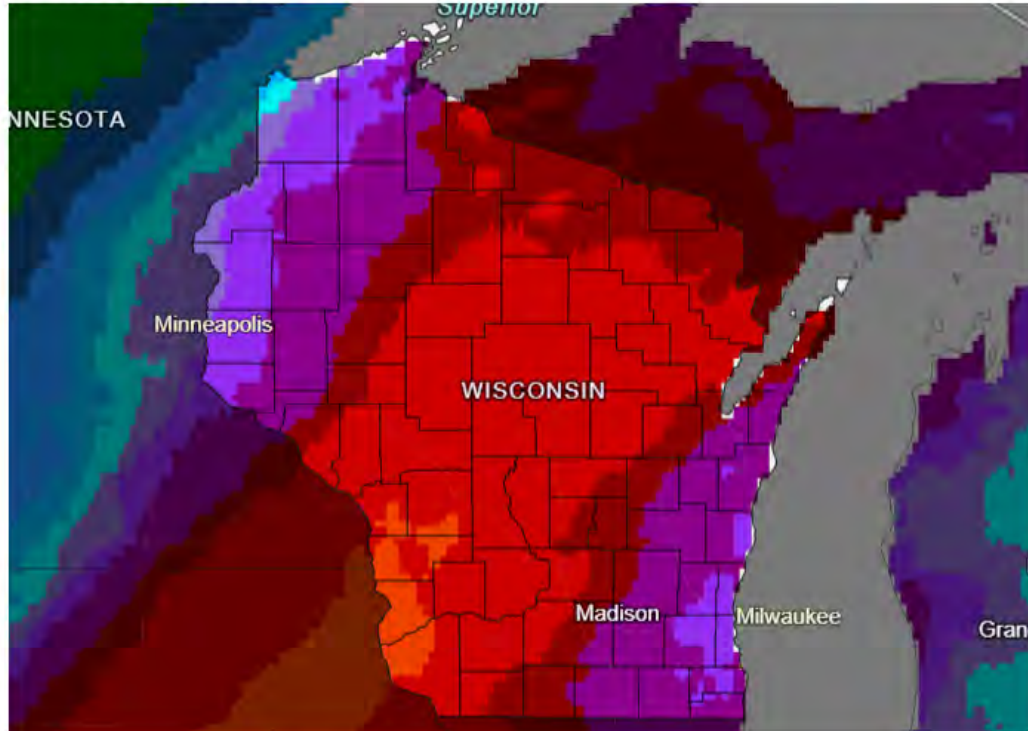
Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

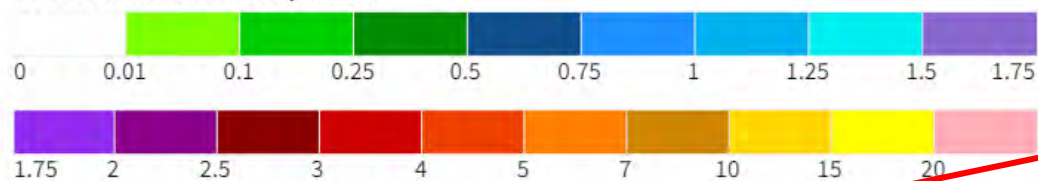
<https://agindrought.unl.edu/Other.aspx>

7 Day Precip Forecast

7-Day Quantitative Precipitation Forecast for October
29–November 5, 2024



Predicted Inches of Precipitation



Source(s): National Weather Service Weather Prediction Center
Last Updated: 10/29/24

Drought.gov

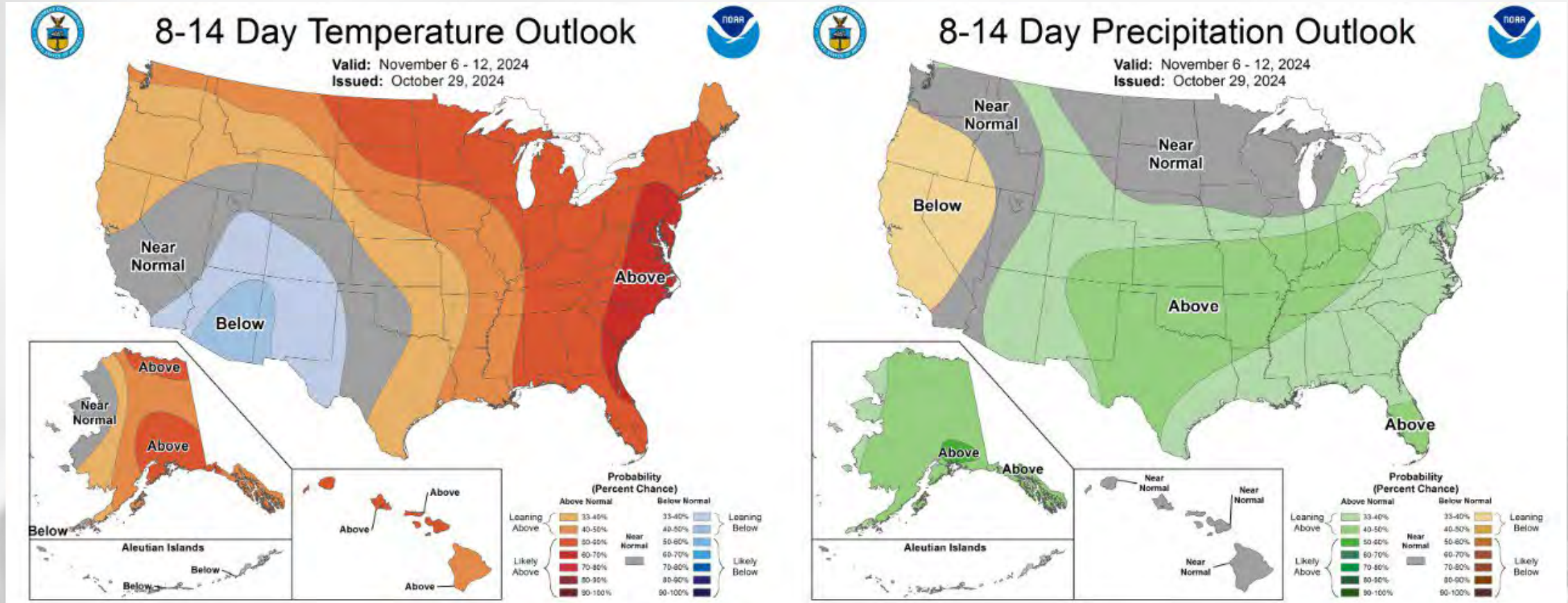
- **Statewide chances** for some above-normal precip during the next 7 days.

- Location: Best chances in the **SW**, extending **NE up through the state** to the UP.
- Timing: **Multiple rounds**, beginning on Wed night thru Tue morning next week. Some could fall as **snow in the far N**.

Forecast for 10/29/24 thru 11/5/24
(Begins at 7pm CDT)

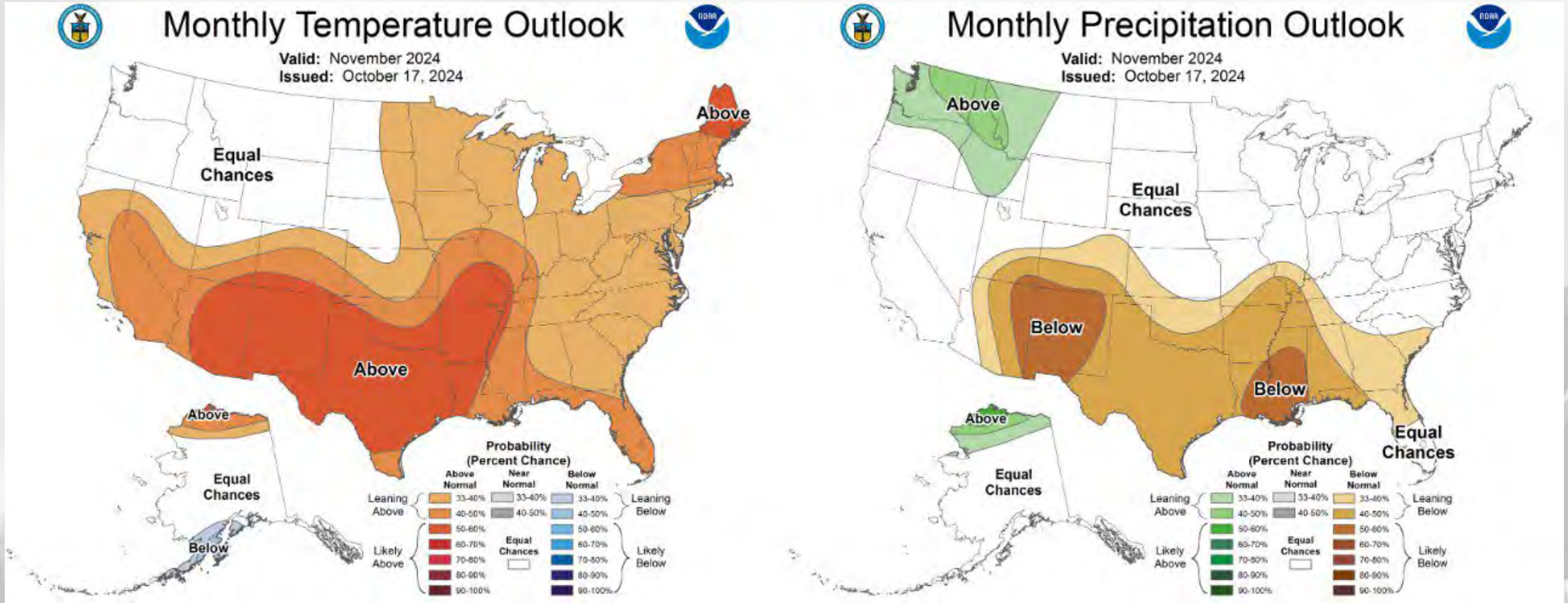
<https://www.wpc.ncep.noaa.gov/qpf/p168i.gif>
<https://www.drought.gov/states/wisconsin>

8-14 Day Temp & Precip Outlook



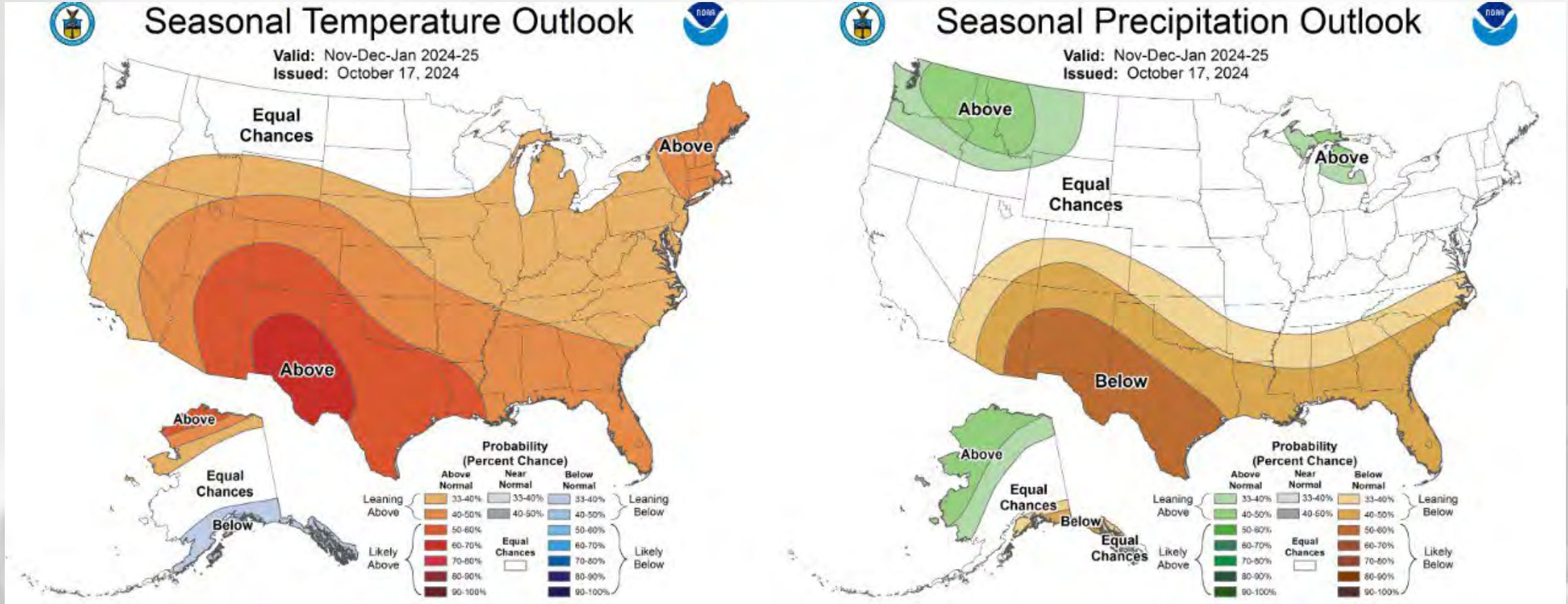
Early-to-Middle November: Temperatures likely to remain above normal, with precipitation leaning towards being near normal.

30 Day Temp & Precip Outlook



Month of November: Temperatures leaning towards above normal, with precipitation uncertain (equal chances).

90 Day Temp & Precip Outlook



Late Fall into Winter: Temperatures showing equal chances in the north and leaning above normal in the south. Precipitation uncertainty with equal chances.

Take-Home Points

Current Conditions:

- Most in the state received some precip last week, but totals remained low for this time of year (**0.1-0.5” for most**). This is a dry end to what has been a **very dry October** for most in the state.
- Temps were once again **above normal last week**, with many stations reaching into the **upper 70’s and low 80’s** for weekly maximum temps.

Impact:

- The area of WI in **very dry soil moisture percentiles** has **increased from last week**, following minimal precip.
 - USDM drought coverage area **expanded** in both D1 & D2 drought category.
- **Corn & soybean harvest** are running **well ahead of normal pace** with the dry conditions. Corn harvest is **nearly done**.
- Winter wheat planting is nearly complete, with **74%** of the crop emerged in WI fields.

Outlook:

- **Statewide chances** for precip **well above the climatological normal** predicted next week.
- The warmth looks to continue with early to Mid-November has a higher probability to be **warmer than normal**, with a lean toward **near normal precip**.
- Late fall into early 2025 is more **uncertain** for temperatures and precip.
 - **La Niña** is favored to be in place by September-November (according to the CPC); **less of a chance** for having a colder-than-normal winter.

Agronomic Considerations

Crop Development

- Evaluate soil temperatures and moisture for the opportunity for cover crops after crops come off.
- Be aware that nitrogen is still mobile as soil temperatures are still above 50F in most places.
- Tools available here for [cover crop selection](#) and their [use in a forage rotation](#).

Manure Applications

- Runoff risk is **moderate to severe** throughout the state in the next week. Be mindful of the possibility of runoff and plan manure applications accordingly. Check the DATCP runoff risk advisory forecast [here](#).
- Consider the relationship between manure and cover crops, learn more [here](#).

Forage Management

- Look out for herbicide carryover, volunteers in late summer seeding of alfalfa into wheat. [Read more.](#)
- Fall alfalfa cutting can affect persistence, [read more](#) and use our [new tool](#) to make informed decisions.
- Be mindful of prussic acid concerns in fields with standing sorghums.

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>

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Photo Credit: USDA



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