

Wisconsin Ag Climate Outlook

Week of September 9, 2024

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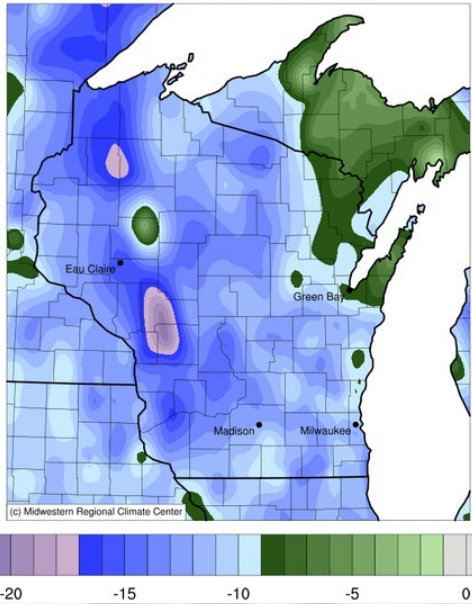
Key Points

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

- 1) Temps were [unseasonably cool](#) last week, with some overnight [record lows](#) being set over the weekend.
 - 2) Pockets of [abnormally dry soils](#) are showing up in regions that have received [minimal precip](#) recently. Parts of the NW have gotten [some relief](#) from rains.
 - 3) Mid-September is shaping up to be [warmer-than-normal](#) in the state, a trend that could continue for the [rest of fall](#).
- *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](#).*

A Taste of Fall

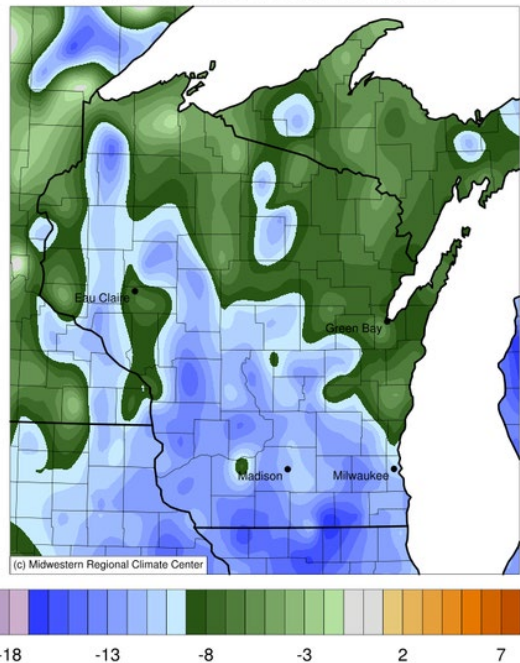
Average Minimum Temperature (°F): Departure from 1991-2020 Normals
September 07, 2024 to September 07, 2024



*Lowest minimum temps
from the weekend
(& a new record set)*

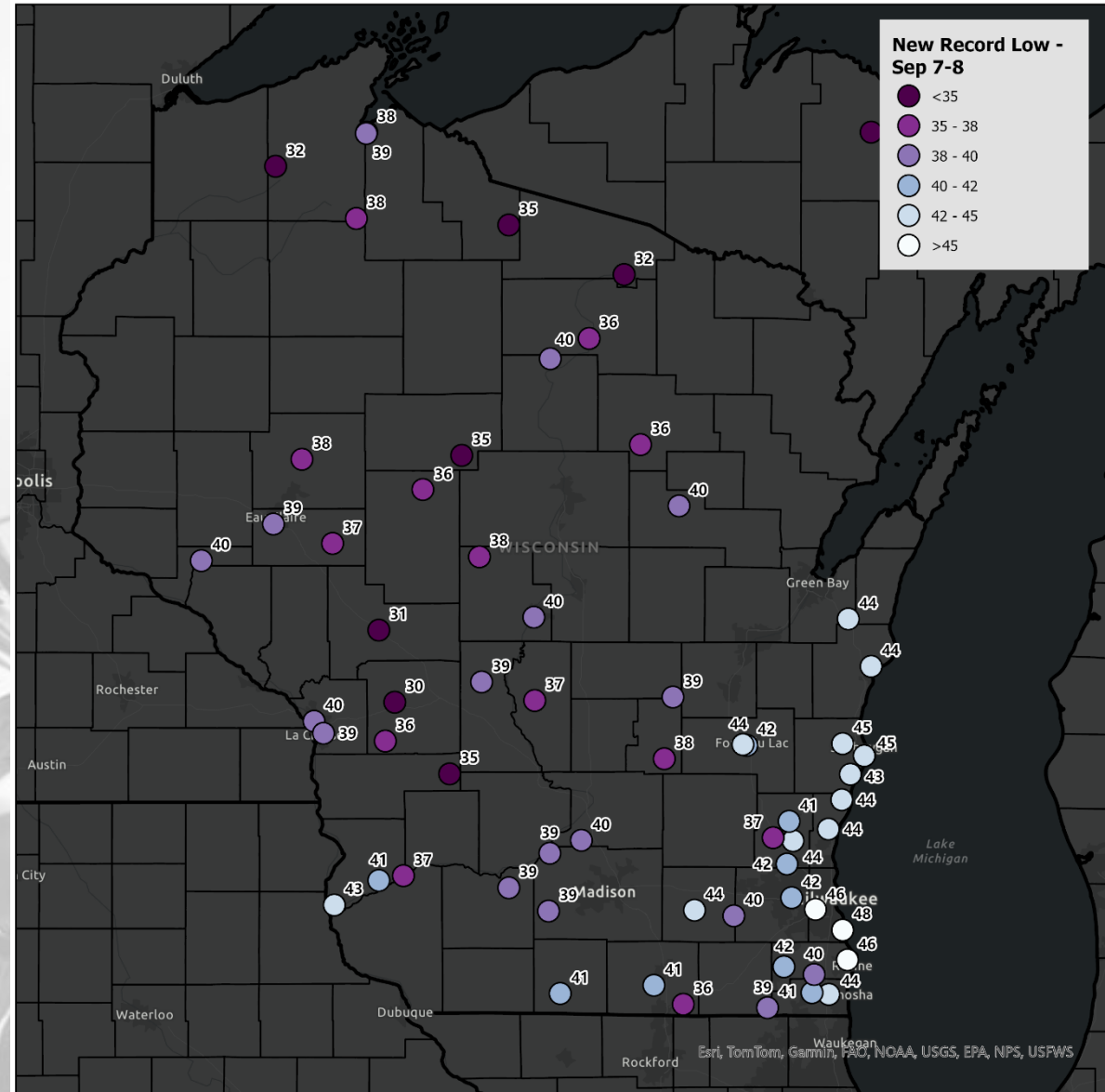


Average Minimum Temperature (°F): Departure from 1991-2020 Normals
September 08, 2024 to September 08, 2024

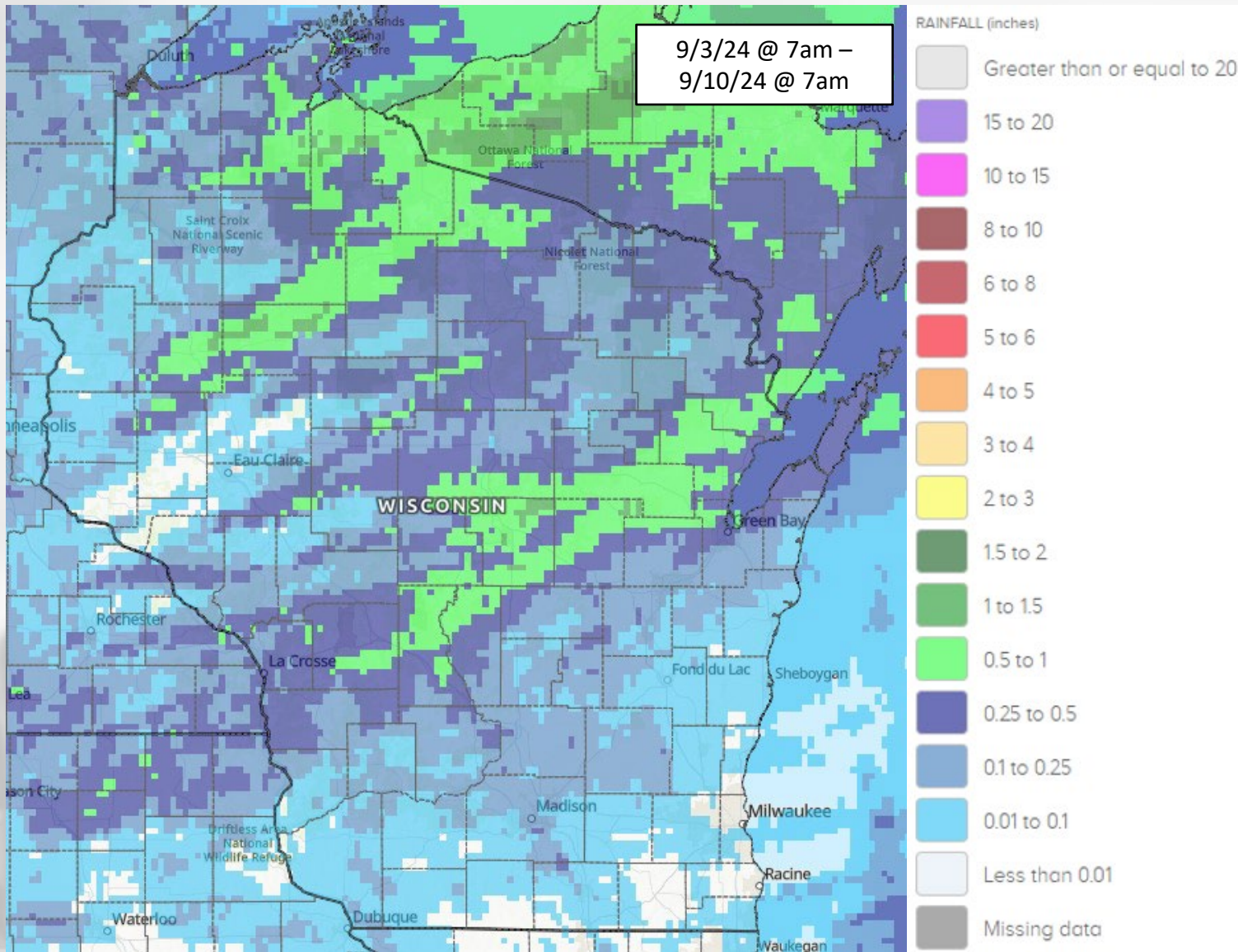


<https://mrcc.purdue.edu/CLIMATE>

Freeze Date Climatology by
County → [LINK](#)

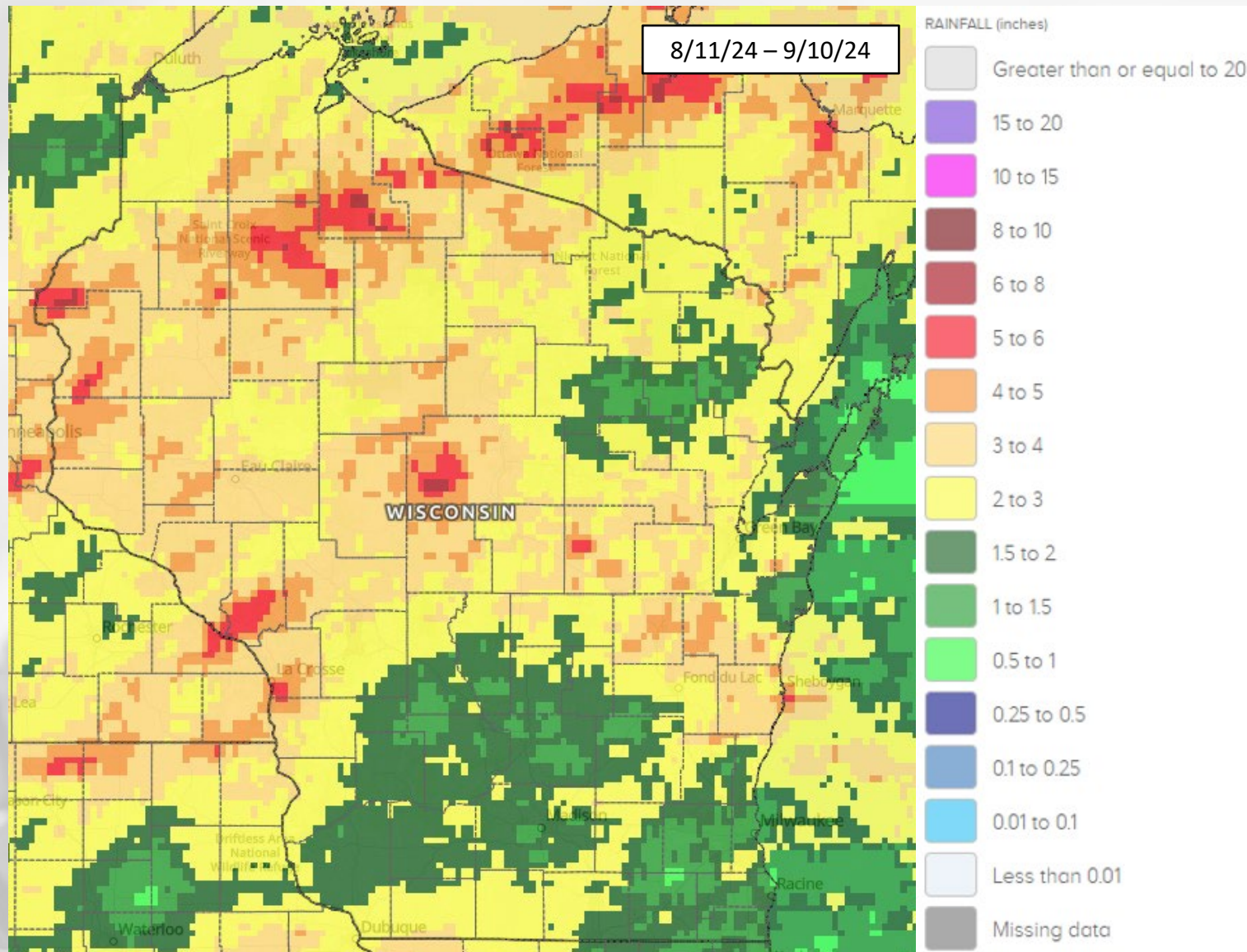


7 Day Precip



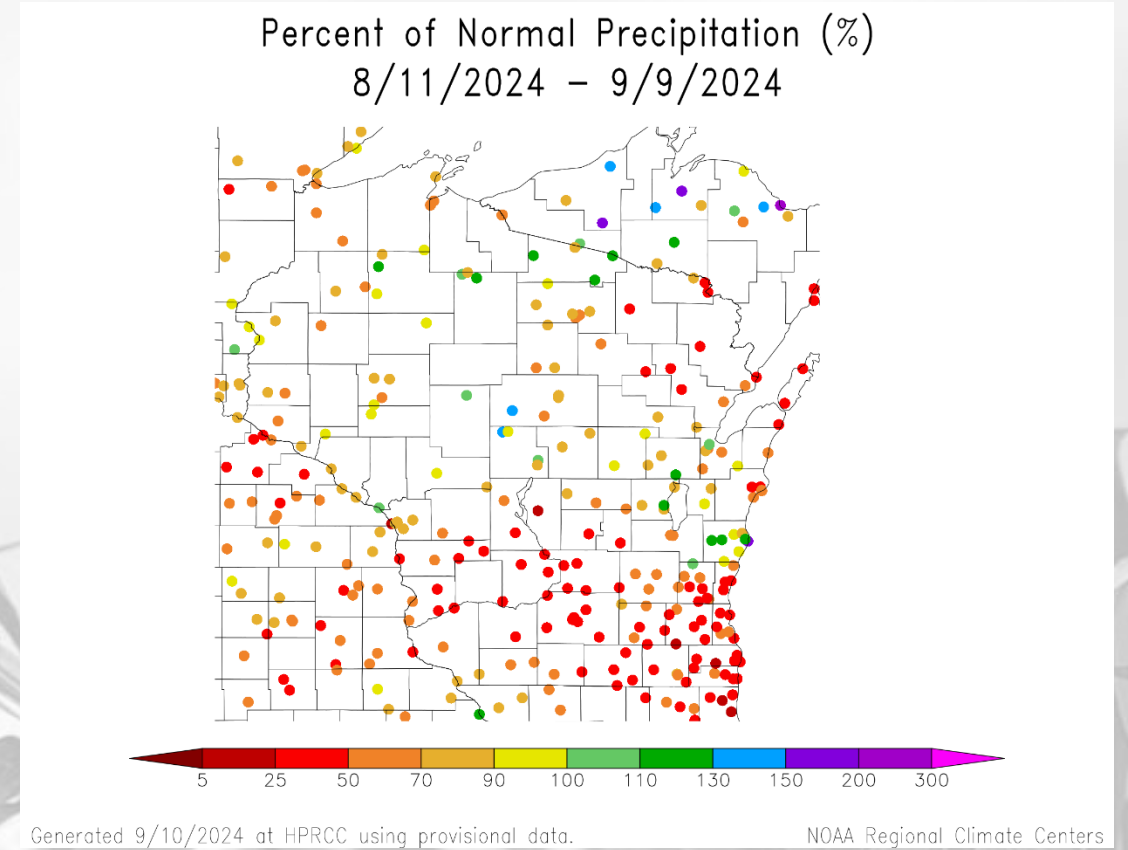
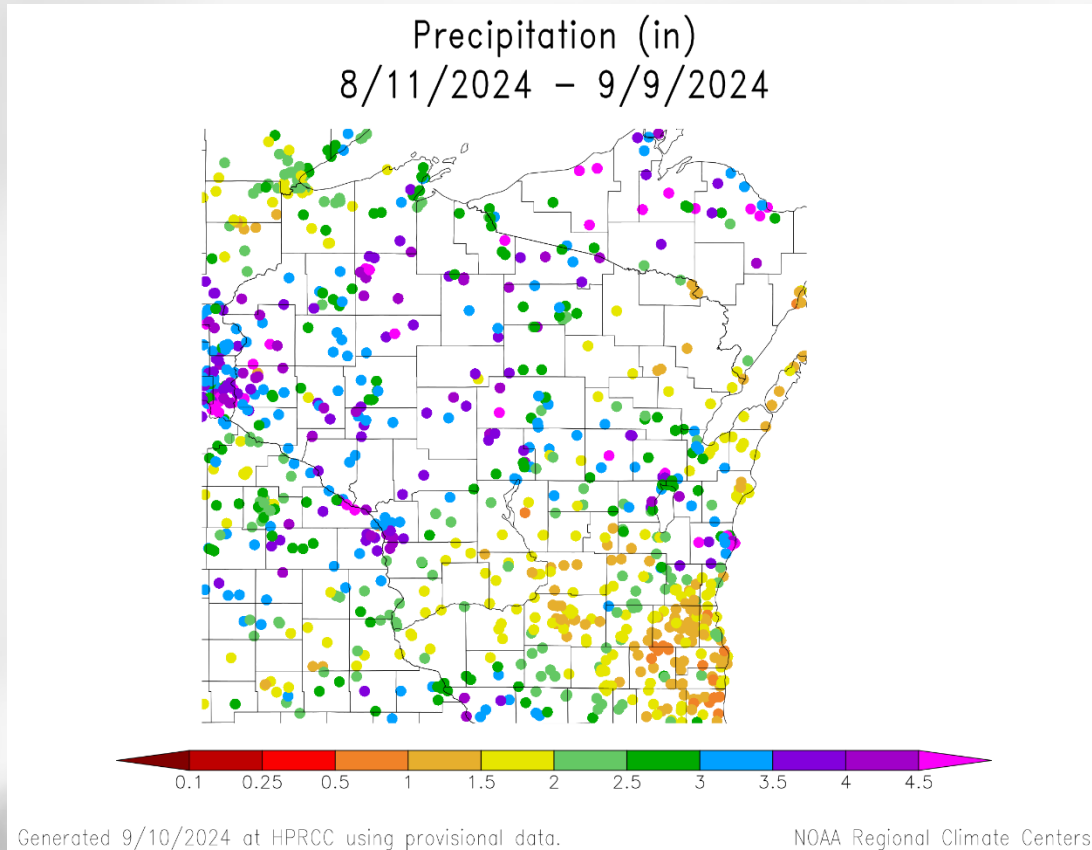
- A relatively dry week was observed across the state last week
- **1" or less** statewide, with most observing **less than 0.5"**.
- Highest totals across the central belt and in the NW.
- Lowest totals (**no precip for some**) in the SE/far SC and near Eau Claire.

30 Day Precip



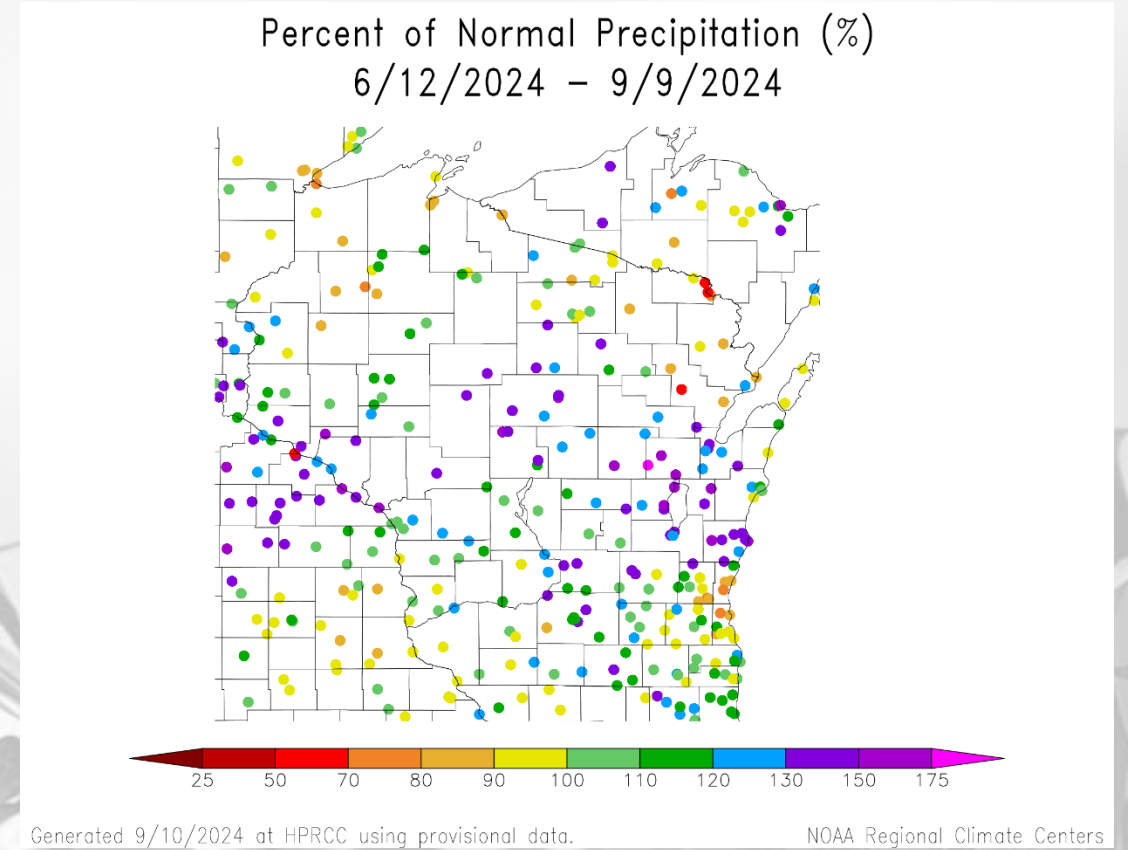
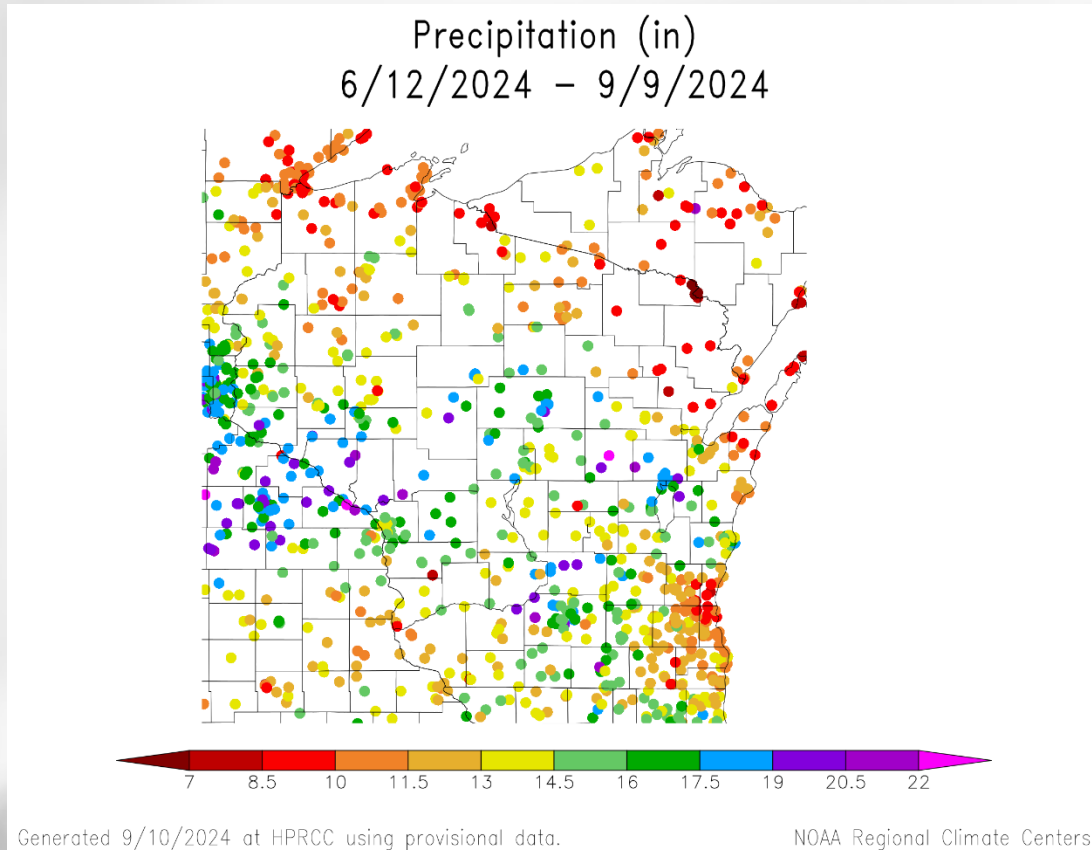
- Higher precip in the northern and central counties → **3" or more** was common.
- **Pockets of 5+"** near La Crosse, Marshfield, and in the far NW.
- **<2" common** at locations in the southern tier of counties and in the NE.

30 Day Precip Total/% Avg.



- Noticeable differences in monthly precip between the northern and southern parts of the state
 - **3" or more** was common in the NC and NW counties → **slightly below** the climatological average
 - **<2"** across many stations in southern counties → **<50%** of climatological average

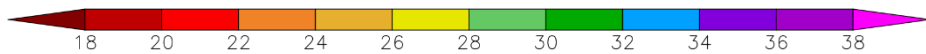
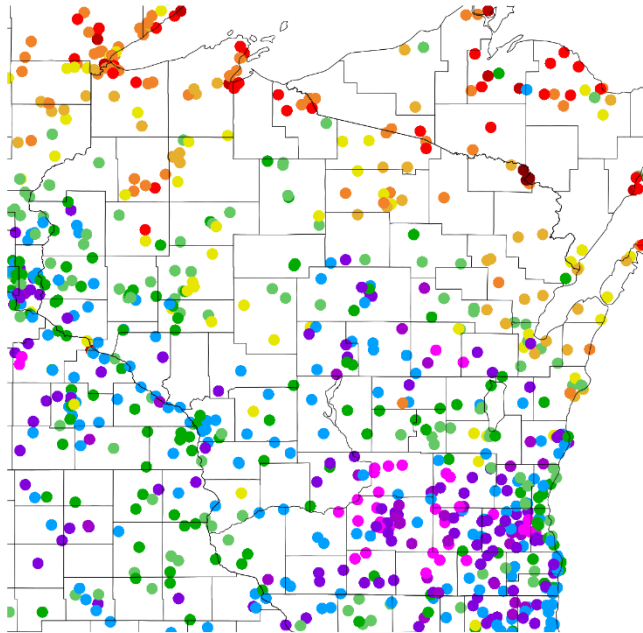
90 Day Precip Total/% Avg.



- **17.5" or more** at stations north of Madison, between La Crosse & the TC, & near Appleton.
 - These regions are sitting at **130% or more** above the climatological average.
- Lowest totals around Milwaukee & in the north → **<10"** common; **90% or less** of the climatological average.

2024 Precipitation (so far)

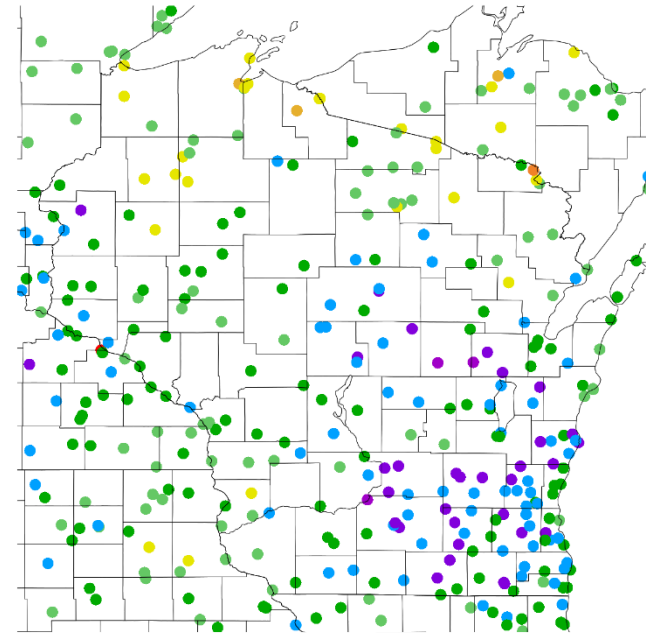
Precipitation (in)
1/1/2024 - 9/9/2024



Generated 9/10/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)
1/1/2024 - 9/9/2024



Generated 9/10/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Soil Moisture Models

- **30th percentile or lower** for soil moisture conditions across parts of W, S, and E Wisconsin after a dry week in those areas.
- **Closer to normal** soil moisture for the majority of the state (grey shading).
- **Wetter percentiles** in the Central Sands.

Model Notes:

Red areas = top 5 driest in 100 years.

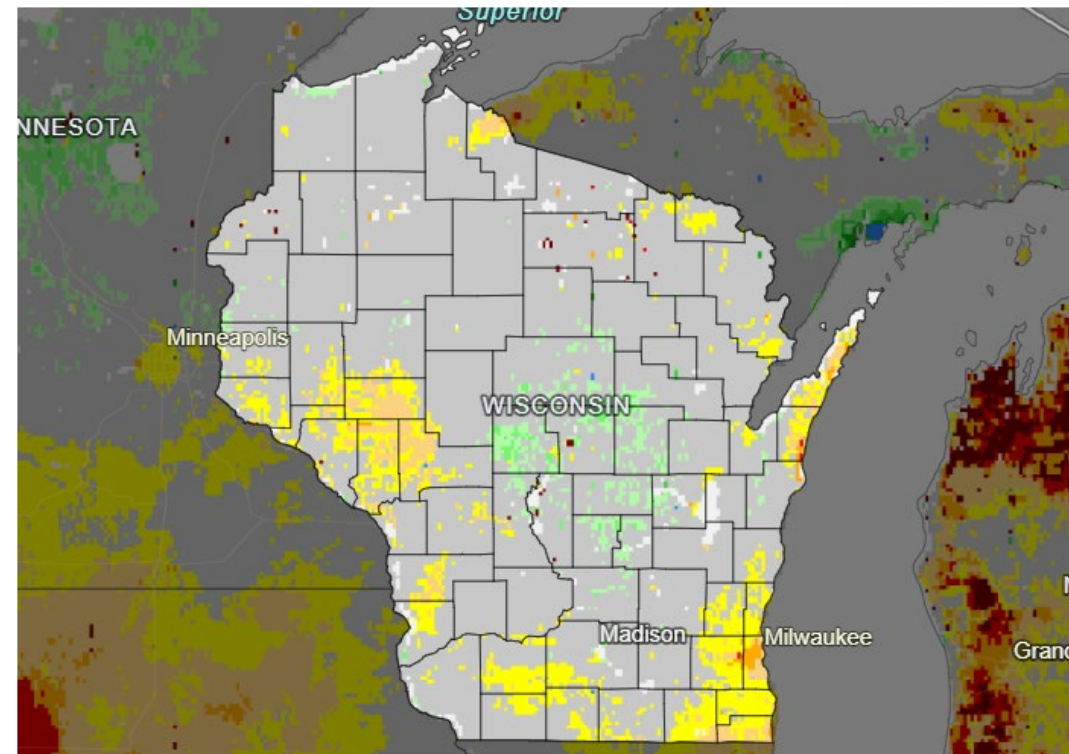
Dark red areas = top 2 driest in 100 years.

Blue areas = top 2 wettest in 100 years.

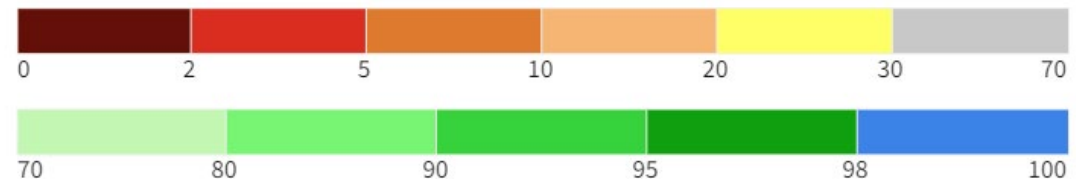
It's worth noting that each soil moisture model has their own characteristics and input variables, so there tends to be variation between models. Thus, it's worthwhile to look at multiple models opposed to just one.

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

0-100 cm Soil Moisture Percentile



0-100 cm Soil Moisture Percentile

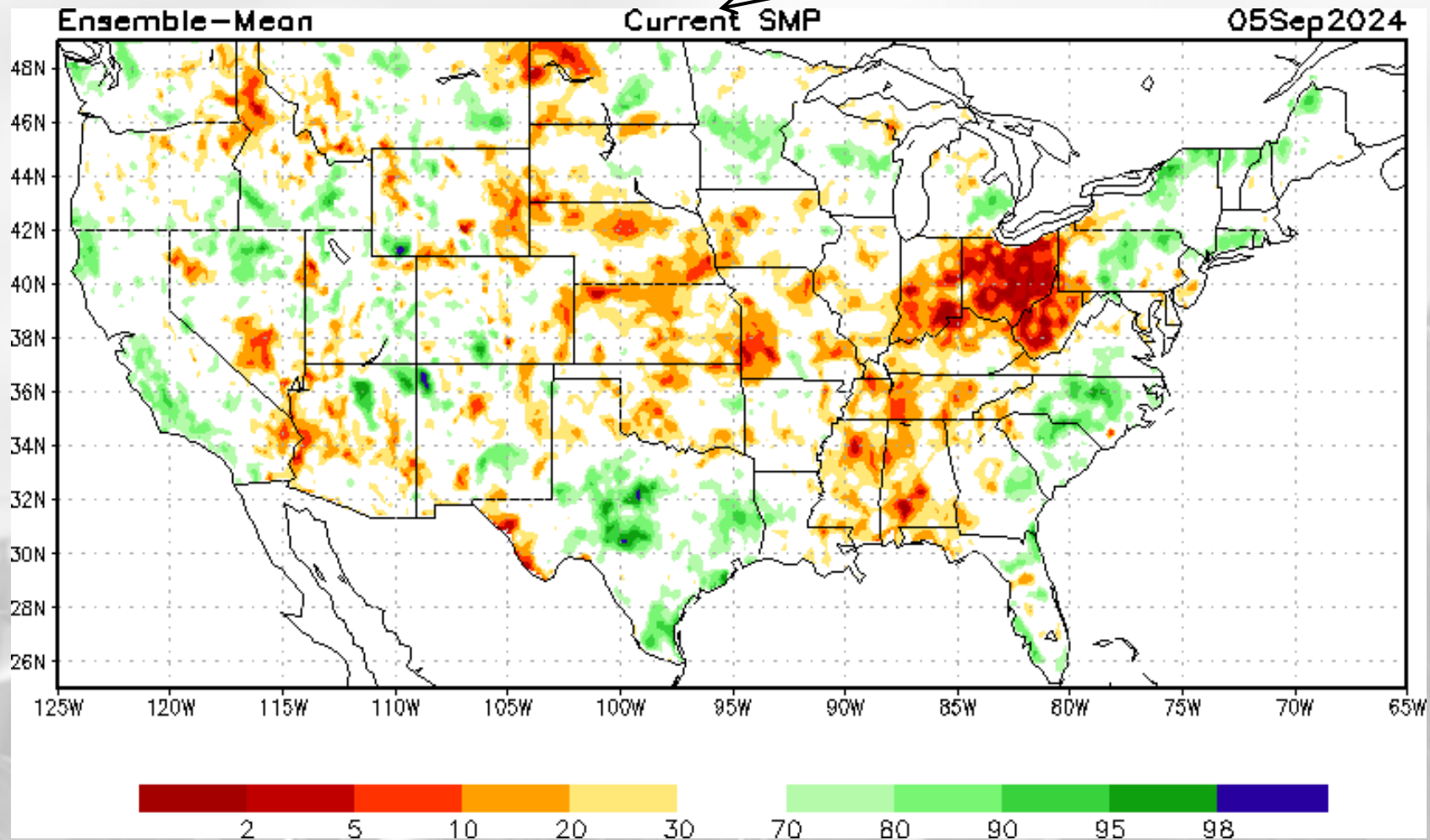


Source(s): NASA
Data Valid: 09/10/24

Drought.gov

Soil Moisture Models

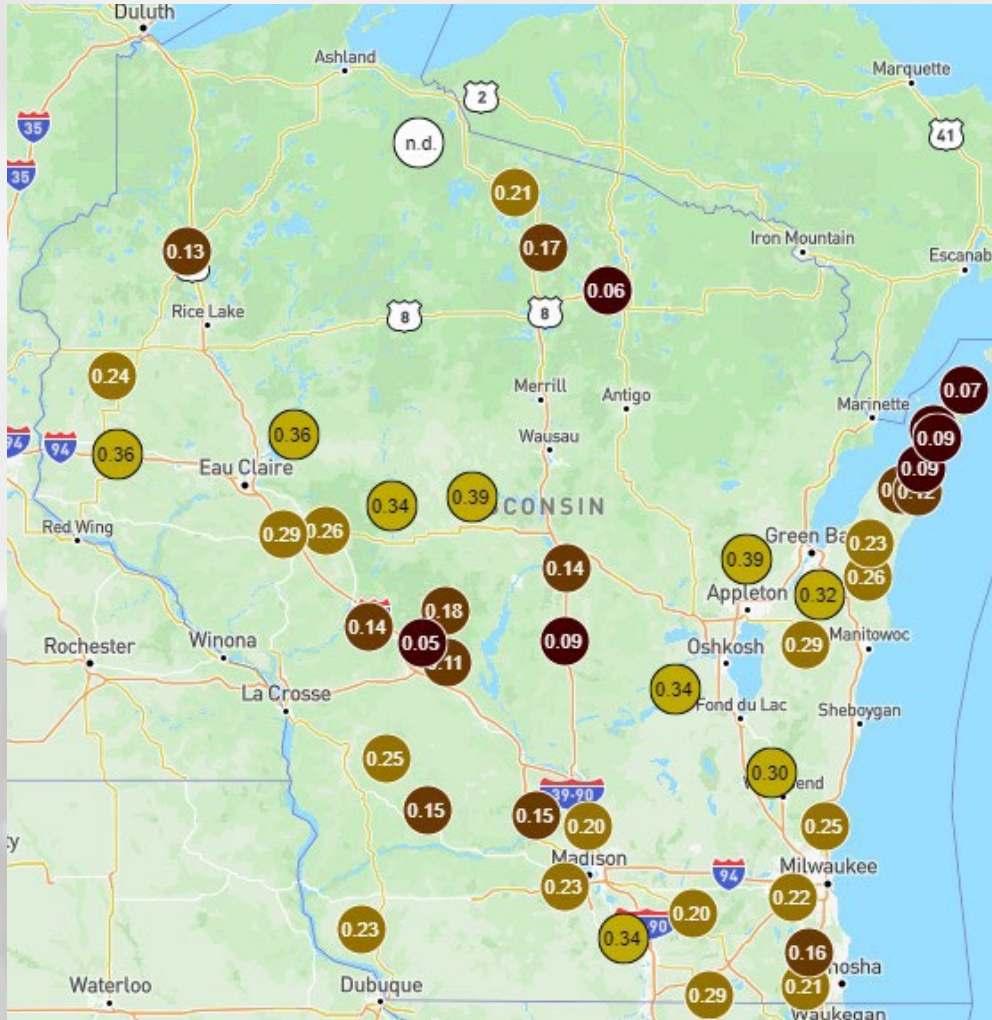
NOTE: this map displays the soil moisture percentile for Sept. 5. It was the most recent update on Sept. 10.



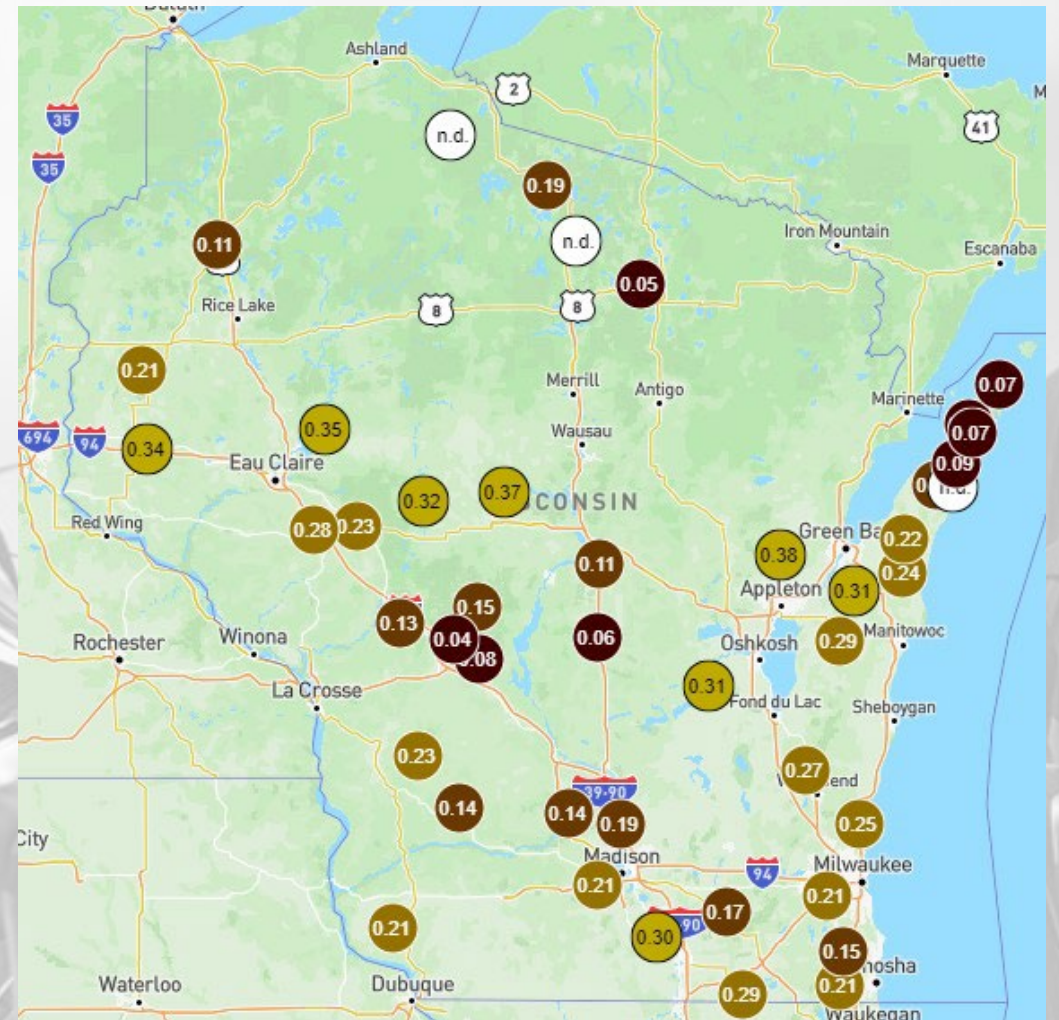
https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml

Wisconet Soil Moisture (4" Depth)

Saturday, Sept. 7th @ MIDDAY



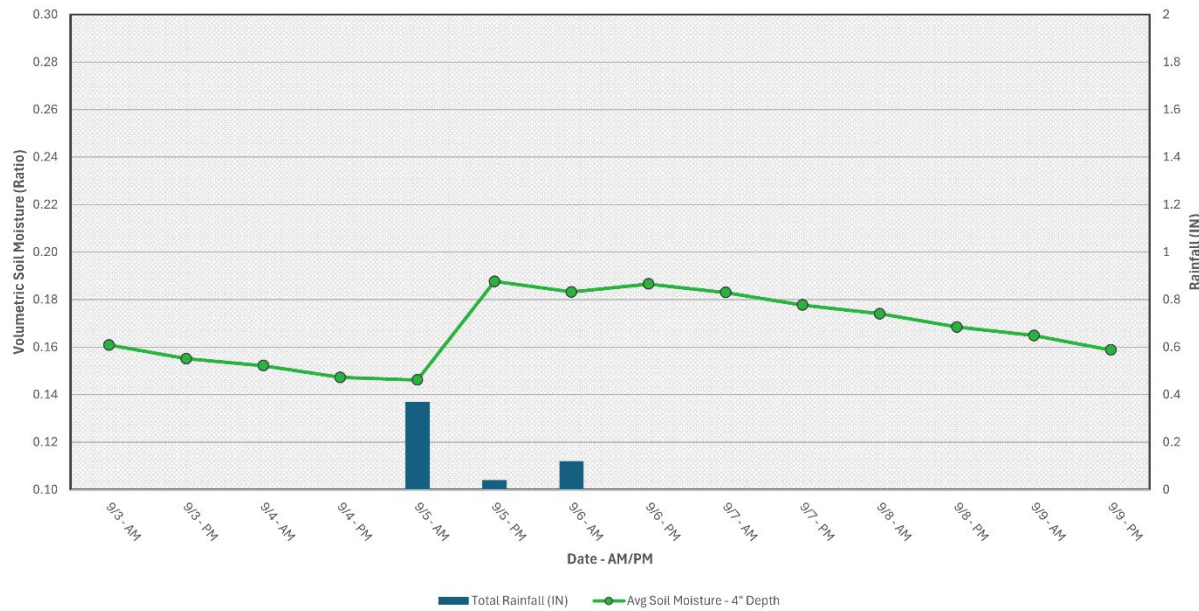
Tuesday, Sept. 10th @ Mid-morning



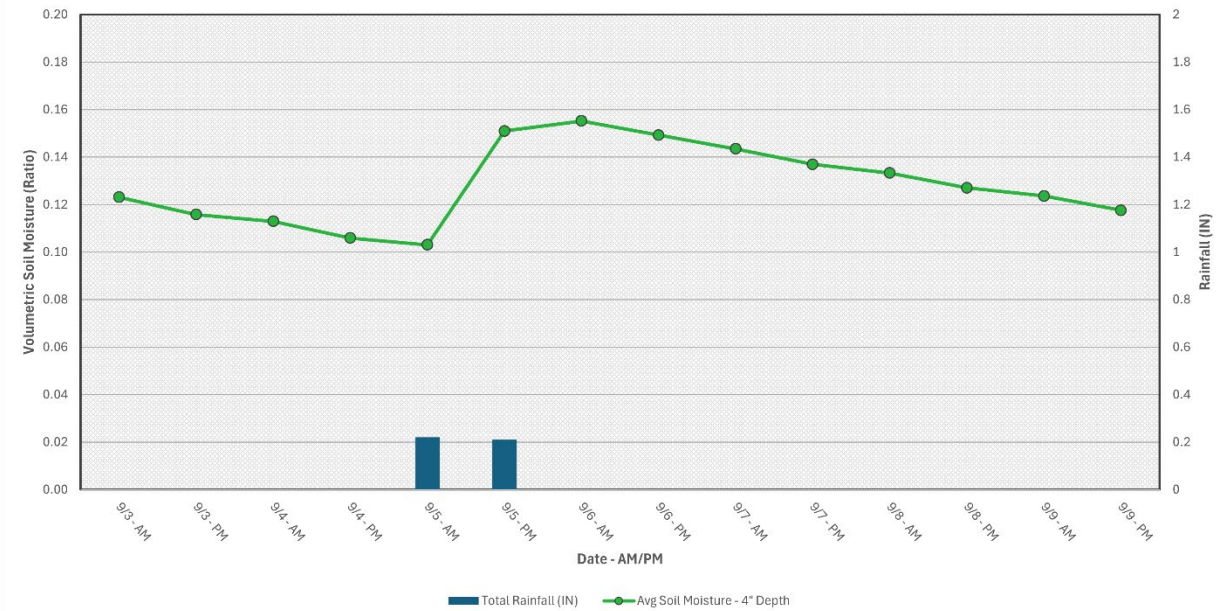
Wisconet Soil Moisture – 4" Depth

Soil moisture time series at select Wisconet stations

Rain & Soil Moisture - Babcock (Wood Co.) - BBCK



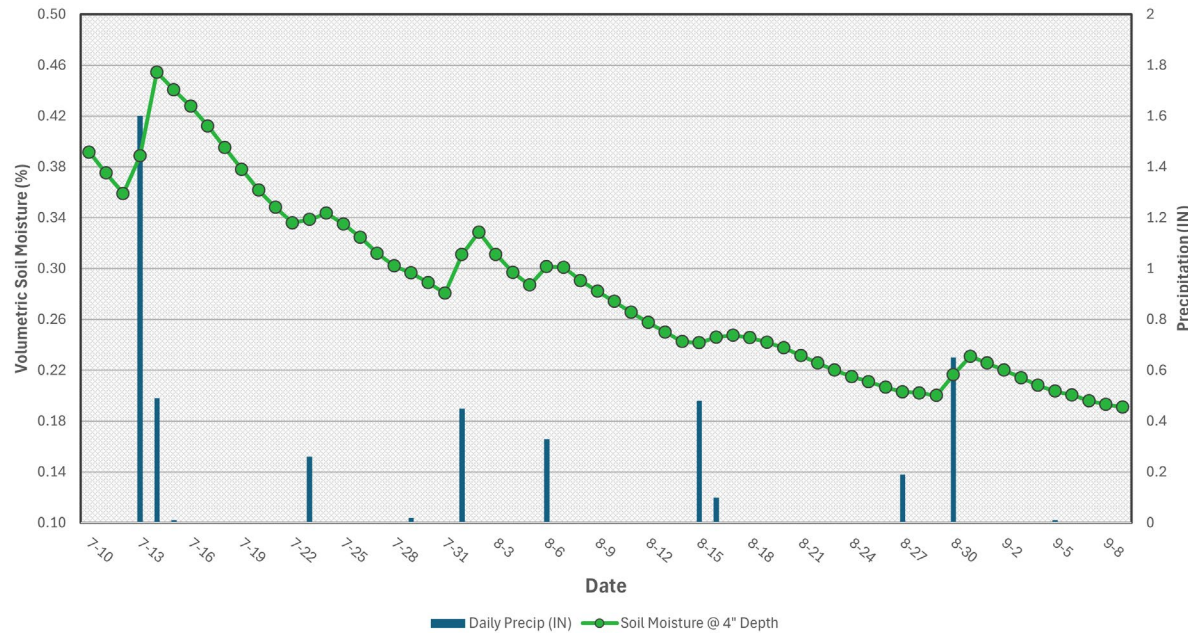
Rain & Soil Moisture - Plover (Portage Co.) - FFEC



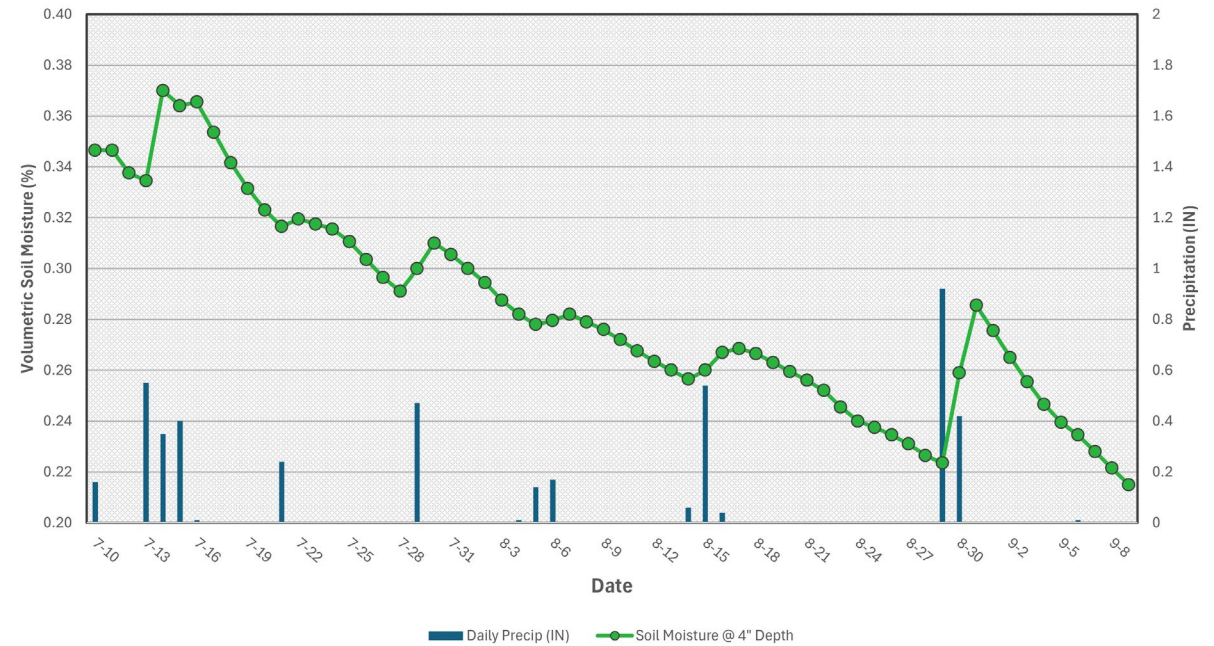
Wisconet Soil Moisture – 4” Depth

2-month trend in soil moisture (4”) at UW Research Stations – Southern WI

Rain & Soil Moisture - Arlington Research Farm (ALTN)



Rain & Soil Moisture - Lancaster Research Farm (LNCT)



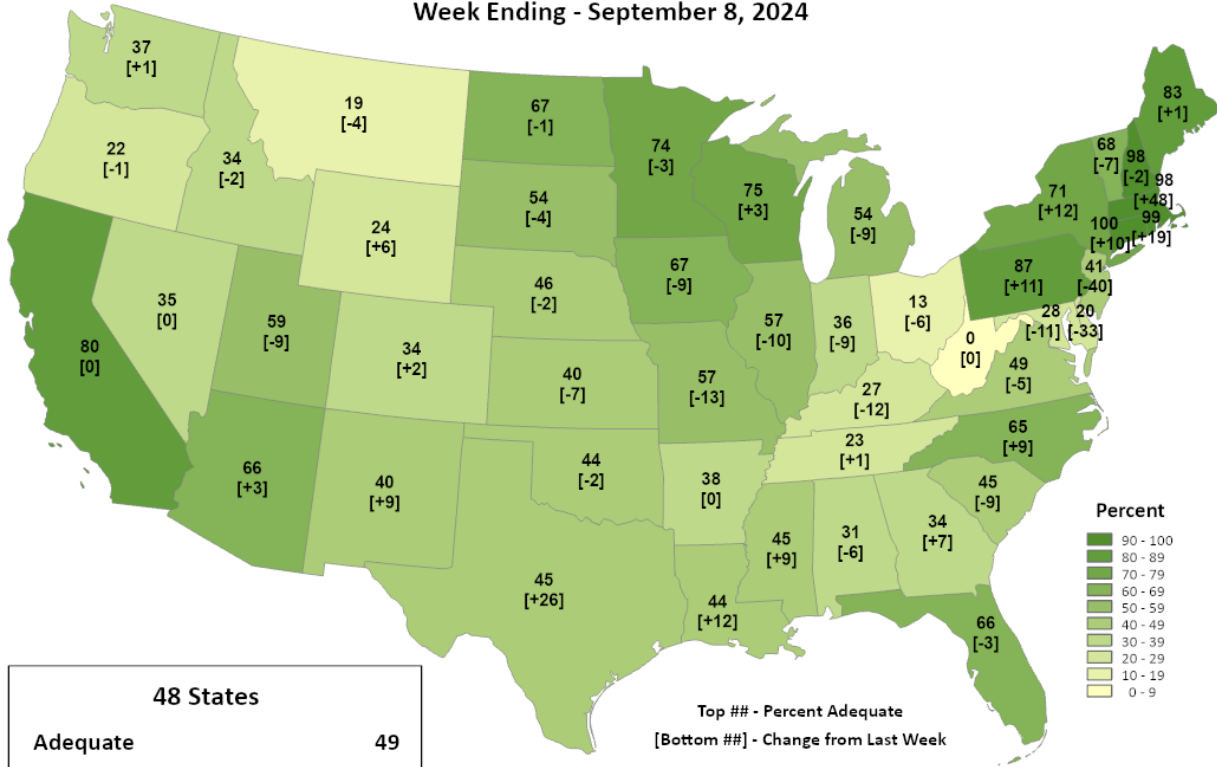
NASS Topsoil & Subsoil Moisture



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

Topsoil Moisture Percent Adequate

Week Ending - September 8, 2024



| | |
|-----------------------|----|
| 48 States | |
| Adequate | 49 |
| Change from Last Week | -1 |

Top ## - Percent Adequate
[Bottom ##] - Change from Last Week

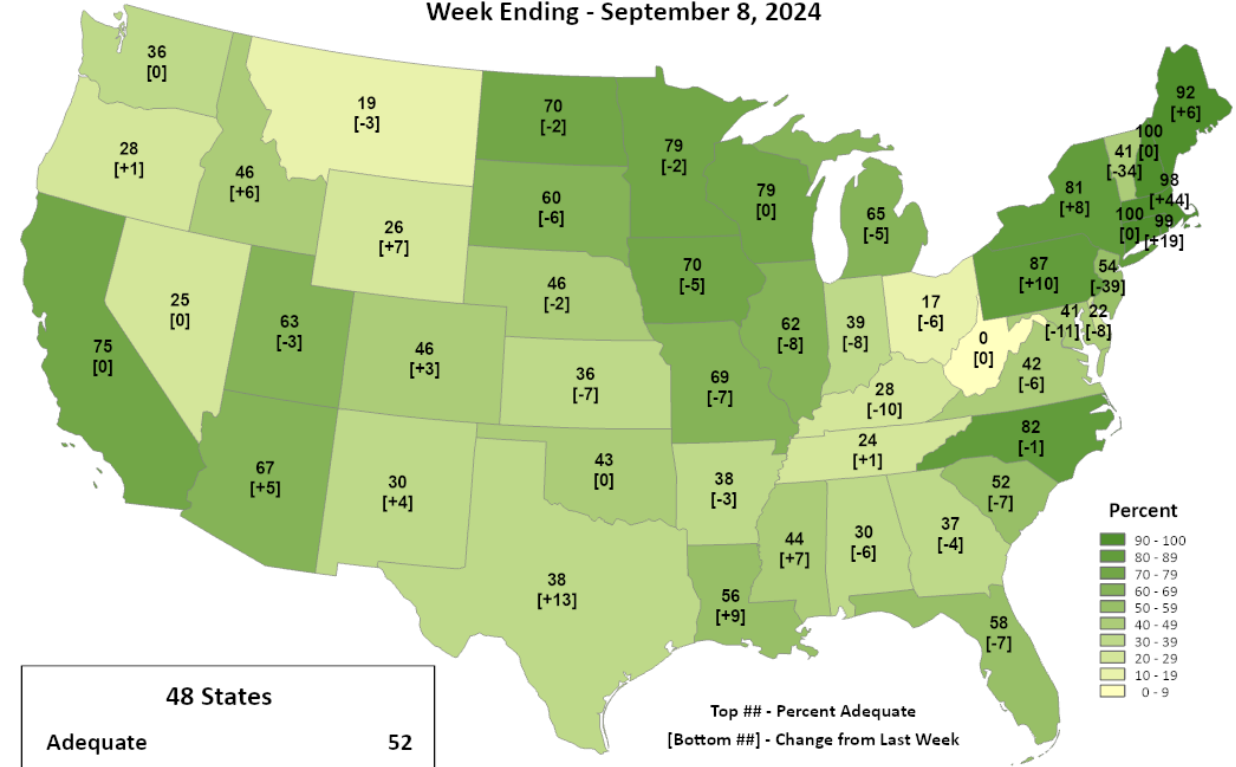
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.



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

Subsoil Moisture Percent Adequate

Week Ending - September 8, 2024



| | |
|-----------------------|----|
| 48 States | |
| Adequate | 52 |
| Change from Last Week | -1 |

Top ## - Percent Adequate
[Bottom ##] - Change from Last Week

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

US Drought Monitor

U.S. Drought Monitor Midwest

September 3, 2024

(Released Thursday, Sep. 5, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|-------|-------|-------|-------|-------|------|
| Current | 55.71 | 44.29 | 11.72 | 2.65 | 1.84 | 0.61 |
| Last Week 08-27-2024 | 62.98 | 37.02 | 5.49 | 2.08 | 1.35 | 0.11 |
| 3 Months Ago 06-04-2024 | 93.32 | 6.68 | 0.43 | 0.00 | 0.00 | 0.00 |
| Start of Calendar Year 01-02-2024 | 22.92 | 77.08 | 50.25 | 20.76 | 4.20 | 0.00 |
| Start of Water Year 09-26-2023 | 16.82 | 83.18 | 54.98 | 23.81 | 6.21 | 0.13 |
| One Year Ago 09-05-2023 | 34.62 | 65.38 | 44.43 | 25.90 | 9.45 | 0.51 |

Intensity:

| | |
|---------------------|------------------------|
| None | D2 Severe Drought |
| D0 Abnormally Dry | D3 Extreme Drought |
| D1 Moderate Drought | D4 Exceptional Drought |

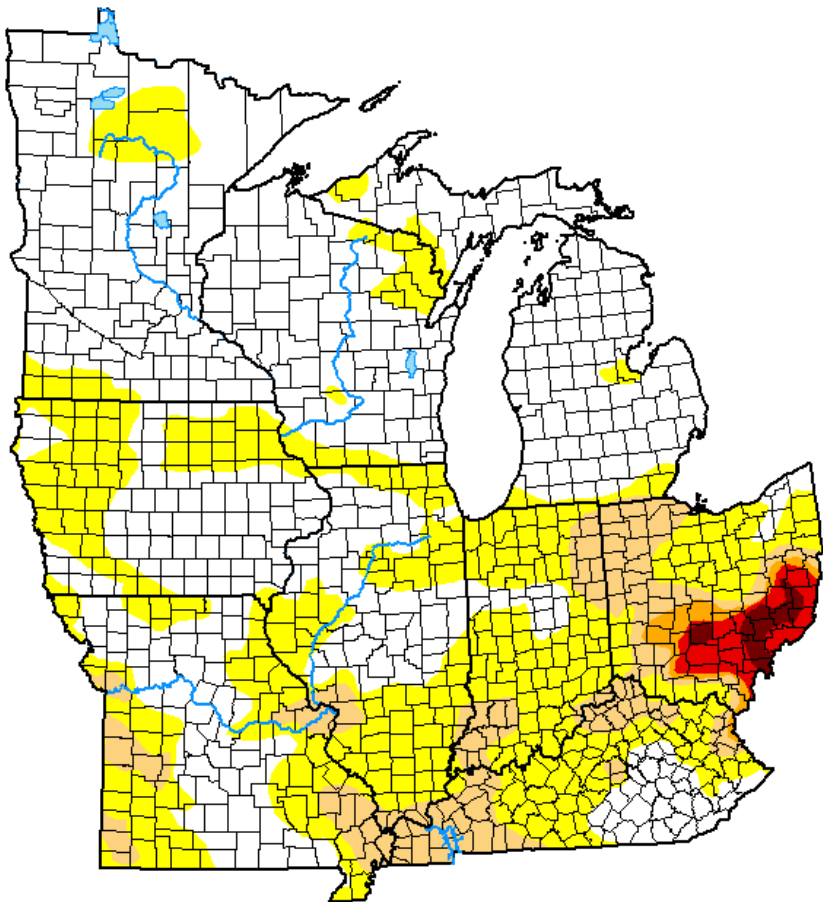
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Lindsay Johnson
National Drought Mitigation Center



droughtmonitor.unl.edu



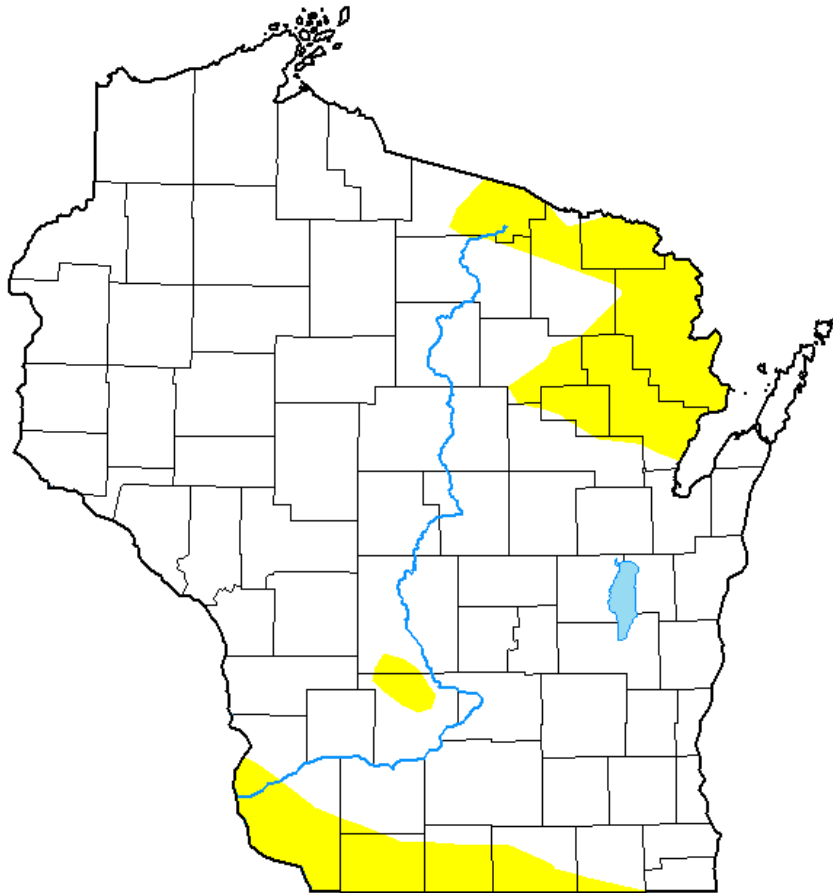
- Compared to last week:
 - Increases in drought/dryness coverage across all categories. Largest jump in D1 coverage.
- **11.7%** of the Midwest is categorized in D1 (moderate) drought.
- **2.7%** is in D2-D4 drought, all in OH.
- **44.3%** of the Midwest is in D0 (abnormally dry) conditions, up from **37.0%** last week.

Note: D0 is not considered drought.

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

US Drought Monitor

U.S. Drought Monitor Wisconsin



September 3, 2024
(Released Thursday, Sep. 5, 2024)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|-------|-------|-------|-------|-------|------|
| Current | 86.82 | 13.18 | 0.00 | 0.00 | 0.00 | 0.00 |
| Last Week 08-27-2024 | 63.49 | 36.51 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 Months Ago 06-04-2024 | 92.96 | 7.04 | 0.77 | 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 09-26-2023 | 2.04 | 97.96 | 80.86 | 37.74 | 6.77 | 0.00 |
| One Year Ago 09-05-2023 | 3.34 | 96.66 | 84.46 | 58.26 | 24.39 | 2.44 |

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>

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National Drought Mitigation Center



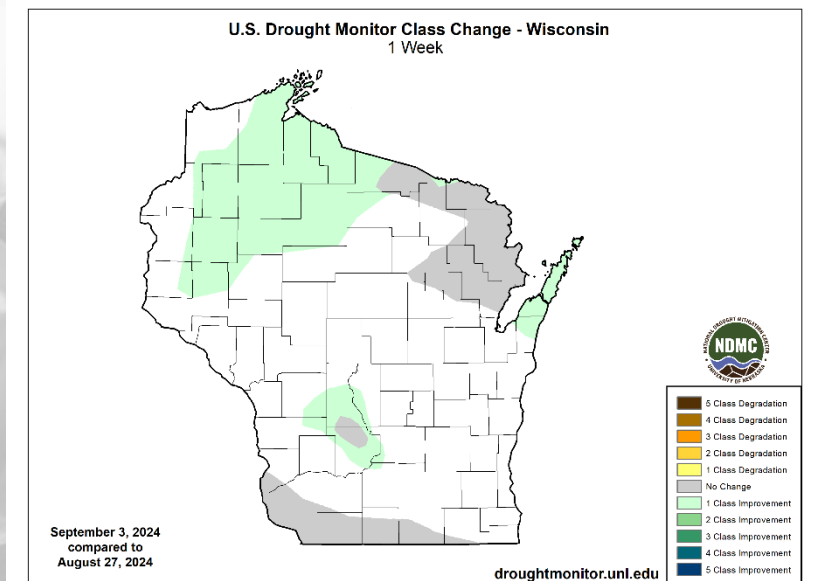
droughtmonitor.unl.edu

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

Amount of state in:

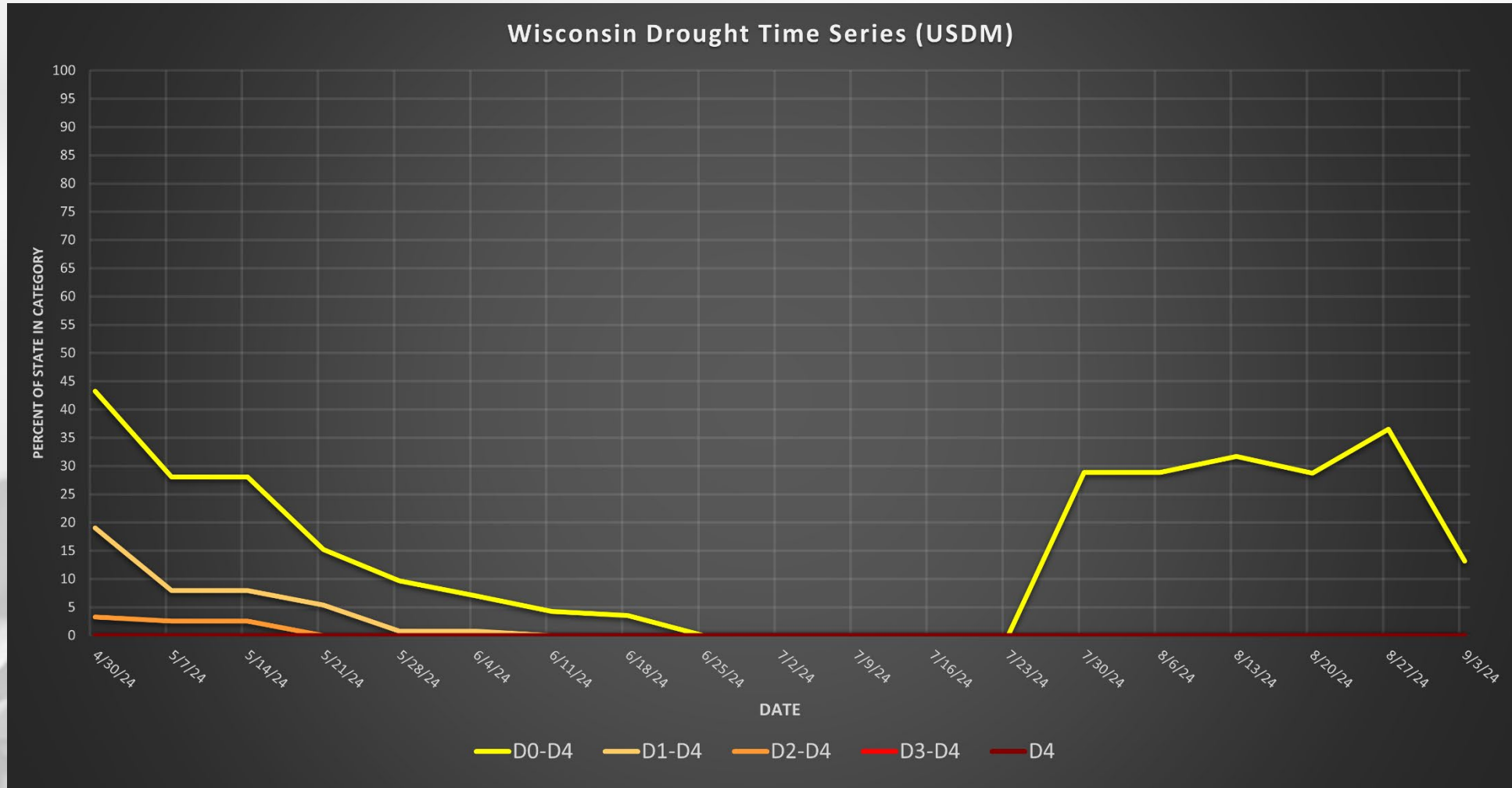
- D1-D4 – 0.0% --
- D2-D4 – 0.0% --
- D3-D4 – 0.0% --
- D4 – 0.0% --

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



| |
|---------------------|
| 6 Class Degradation |
| 4 Class Degradation |
| 3 Class Degradation |
| 2 Class Degradation |
| 1 Class Degradation |
| No Change |
| 1 Class Improvement |
| 2 Class Improvement |
| 3 Class Improvement |
| 4 Class Improvement |
| 5 Class Improvement |

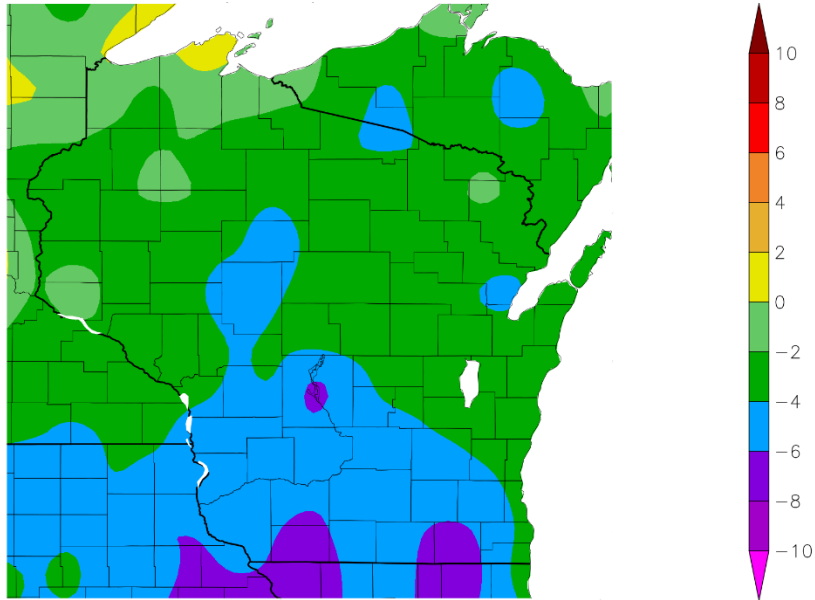
USDM Time Series



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

7 Day Temperatures

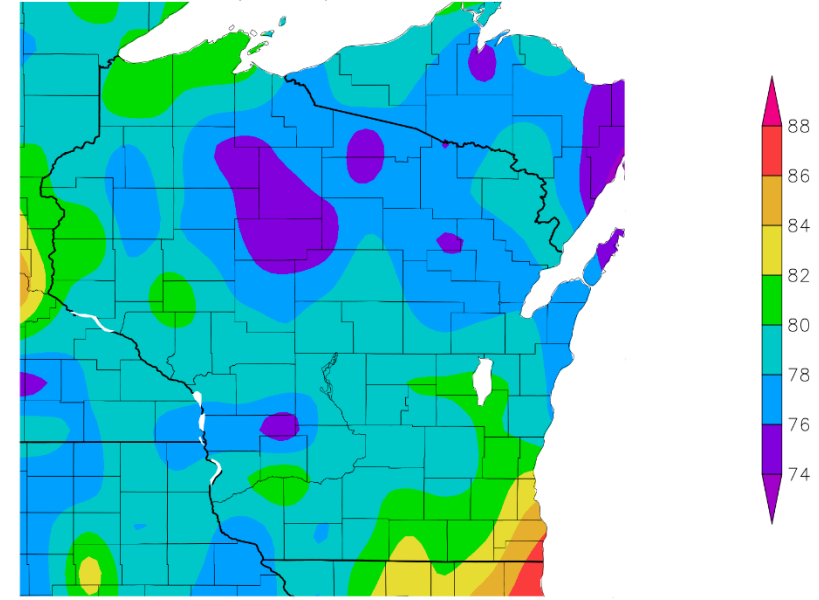
Departure from Normal Temperature (F)
9/3/2024 – 9/9/2024



Generated 9/10/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highest 1-Day Maximum Temperature (F)
9/3/2024 – 9/9/2024



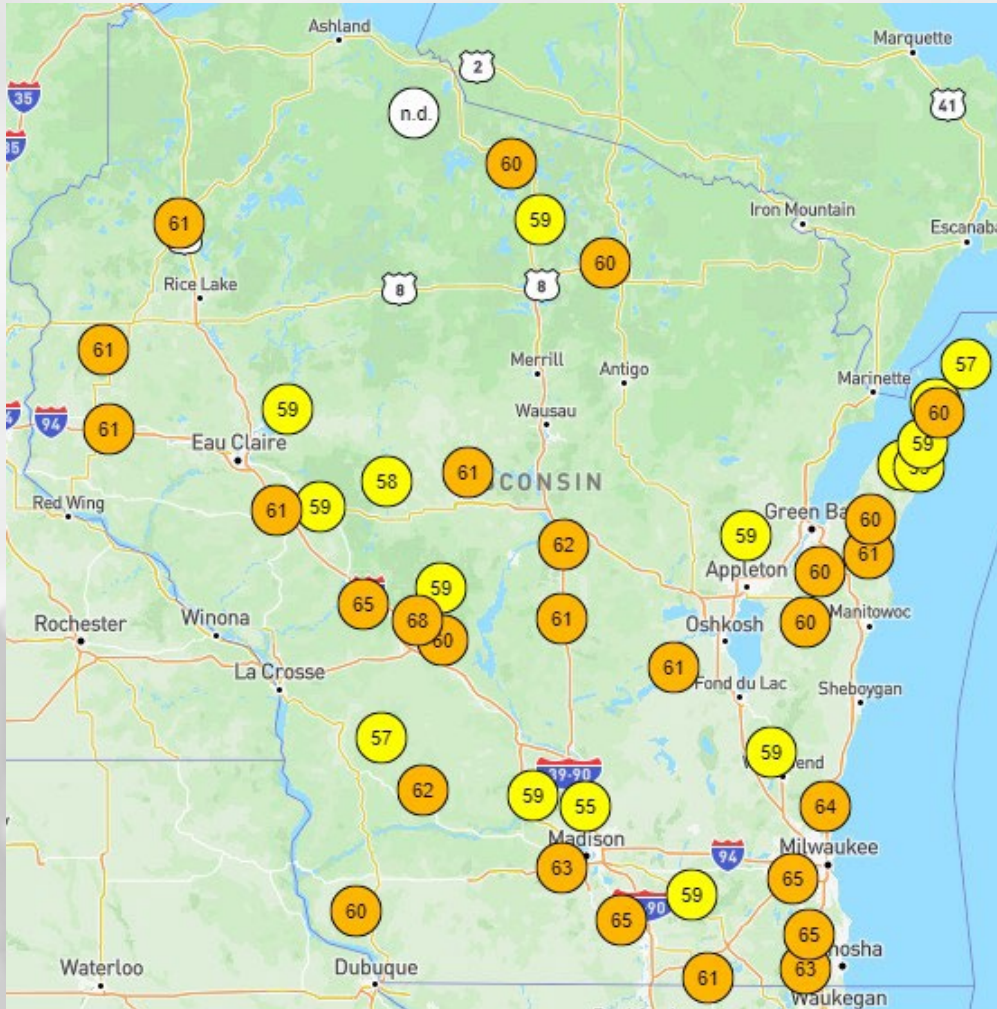
Generated 9/10/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

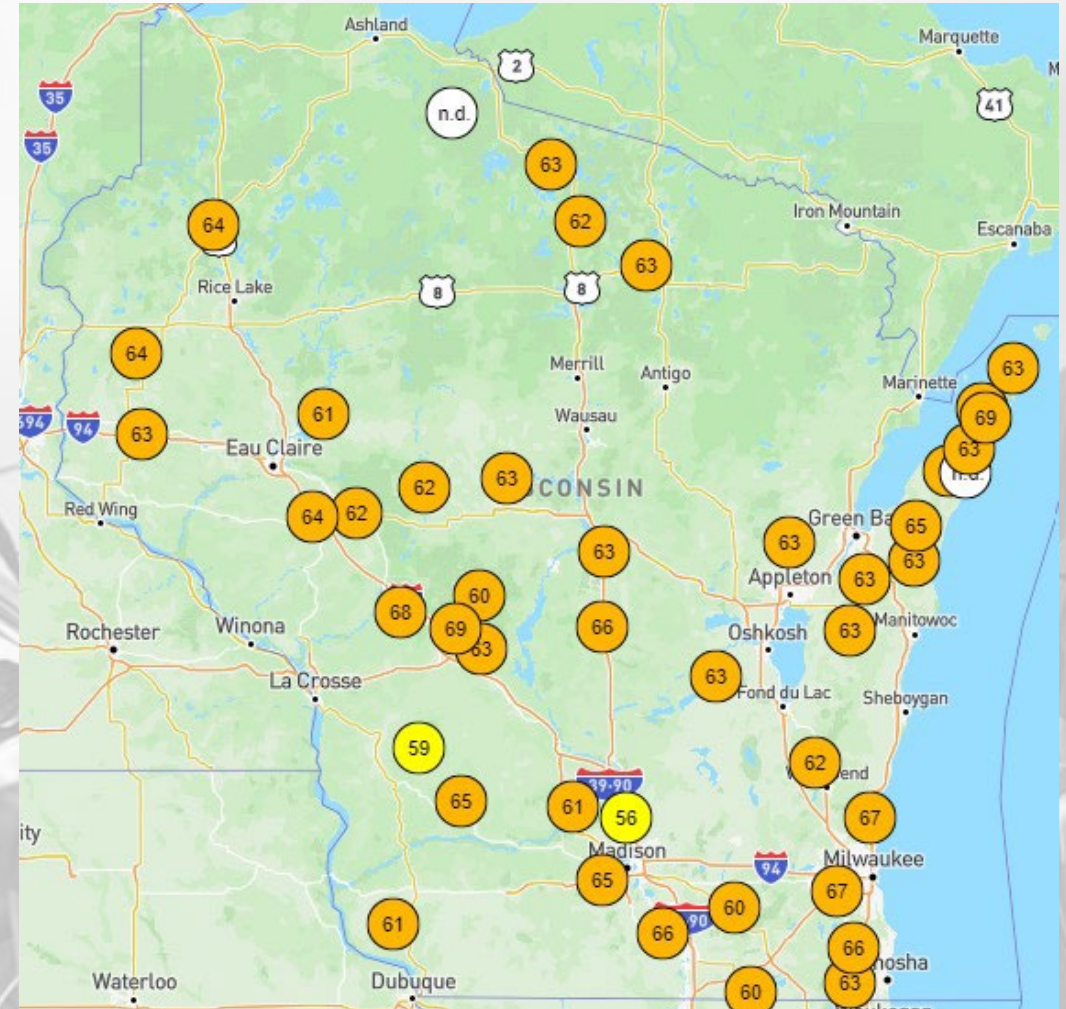
- It was a **cooler week** across the state last week; a **big shift** following the late-summer heat in late August.
- **4-8°F below** climatological average in southern WI, and **2-4°F below normal** for most of the north/east.
- Weekly maximums **did not top 80°F** for most of the state, except for the far SE and NW.

Wisconet Soil Temp (4" Depth)

Saturday, Sept. 7th @ Midday

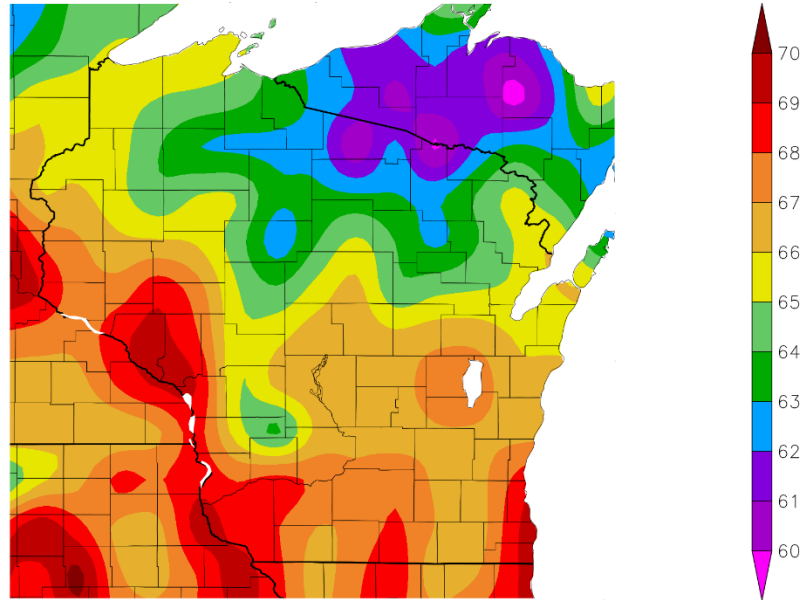


Tuesday, Sept. 10th @ Mid-morning



30 Day Temperatures

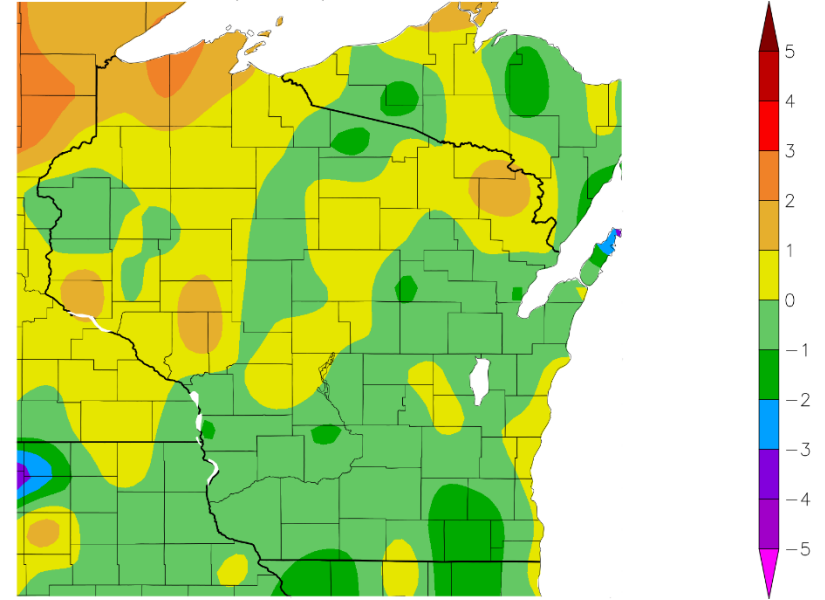
Temperature (F)
8/11/2024 - 9/9/2024



Generated 9/10/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
8/11/2024 - 9/9/2024



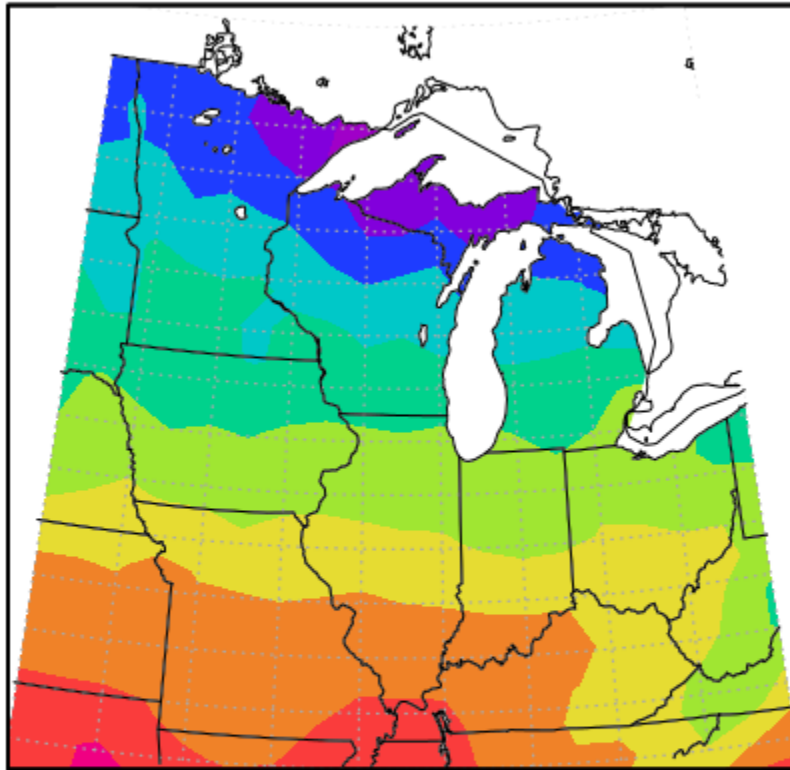
Generated 9/10/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Temperatures for the past month ranged from **67-70°F** in the S & W to **60-63°F** in the far NC.
 - **Within $\pm 1^\circ\text{F}$** for most compared to climatological (1991-2020) average.
 - Cooler-than-normal in the south, warmer-than normal in the NW.

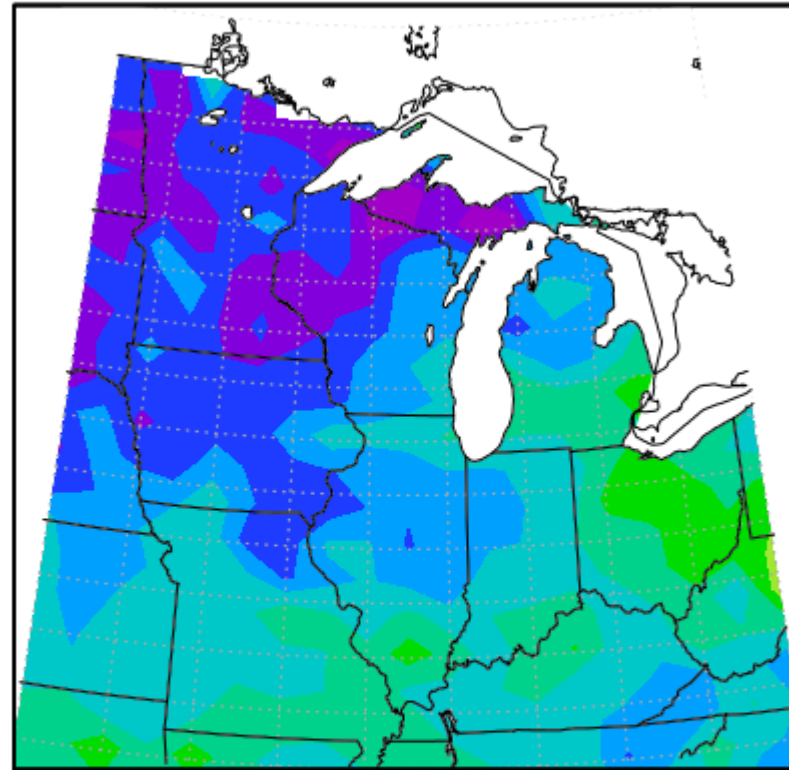
Growing Degree Days (Base = 50°F; Since April 1)

Total MGDD from 4/1/2024 to 9/9/2024



Midwestern Regional Climate Center
Purdue University

MGDD Departure, 4/1/2024 to 9/9/2024



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

- **2400-2700** GDD in the S to **1800-2100** GDD in the N.
- The eastern half WI is **50-150** GDD further ahead of the average; **within -/+50** of average in the western half.

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

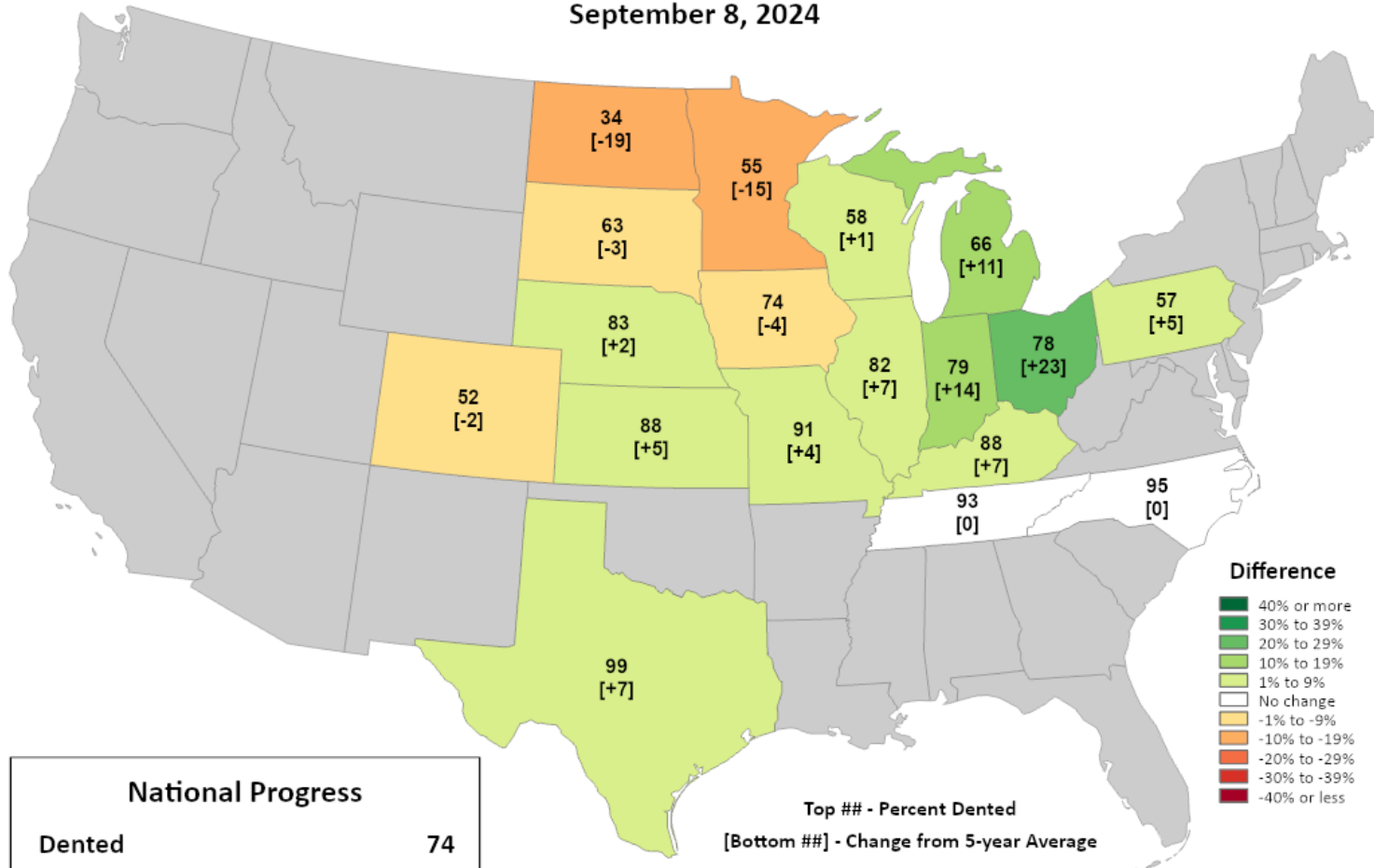


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World Agricultural Outlook Board (WAOB)

Corn Progress

Percent Dented

September 8, 2024



| National Progress | |
|----------------------------|----|
| Dented | 74 |
| Change from 5-year Average | +1 |

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

- Denting is **>50% complete** in WI corn fields. Some corn is reported as **mature**. Progress is **ahead of normal pace** in WI & points to the S/E.
 - In WI, denting is **58% complete**. 1% ahead of the 5-year average pace & up **15%** from last week.
 - Doughing → **90% complete**
 - Mature → **5% complete**

NASS Crop Progress – Soybean

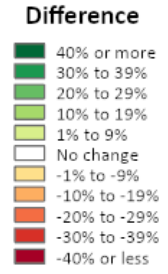
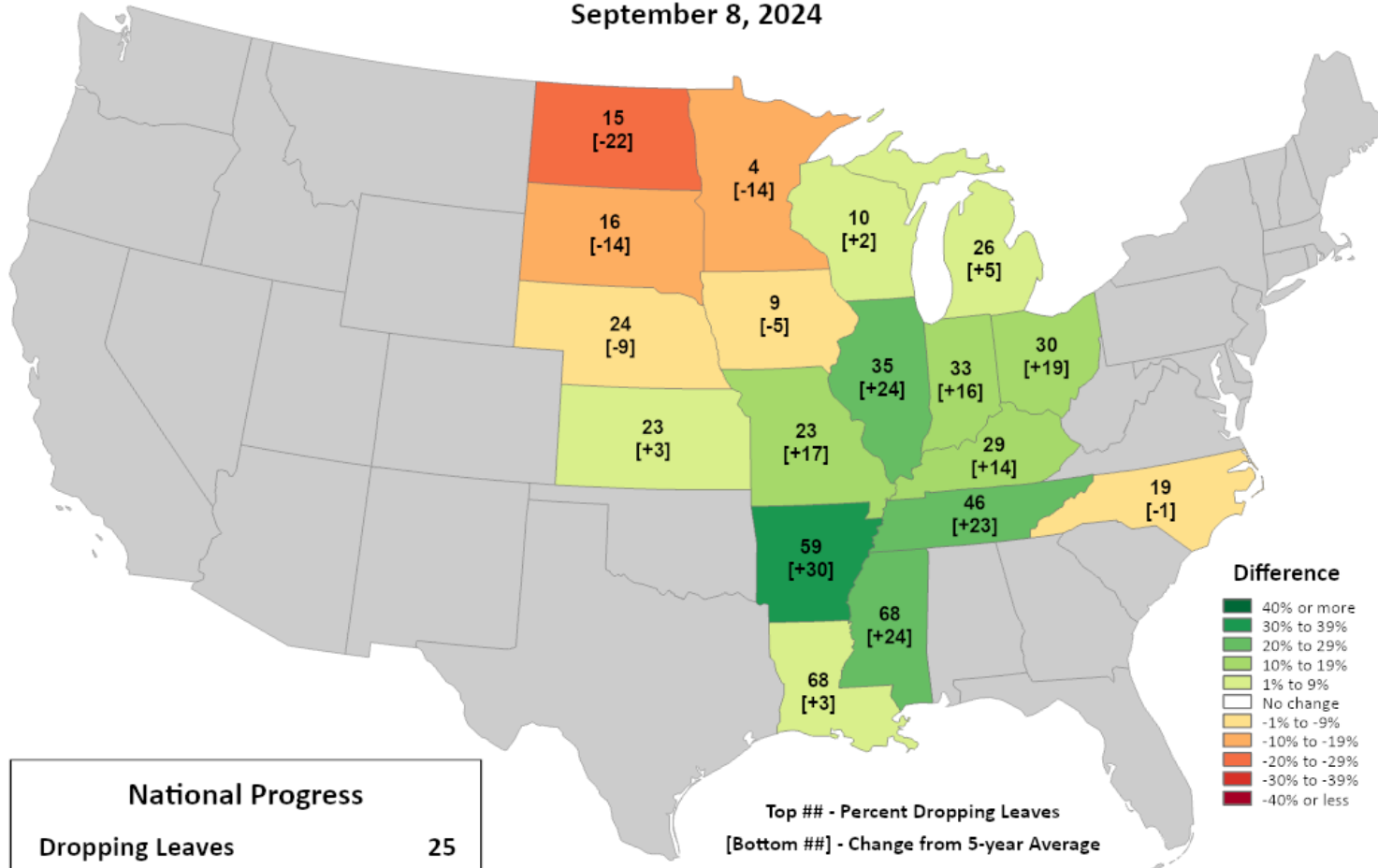


This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)

Soybeans Progress

Percent Dropping Leaves

September 8, 2024



| National Progress | |
|----------------------------|----|
| Dropping Leaves | 25 |
| Change from 5-year Average | +4 |

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

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

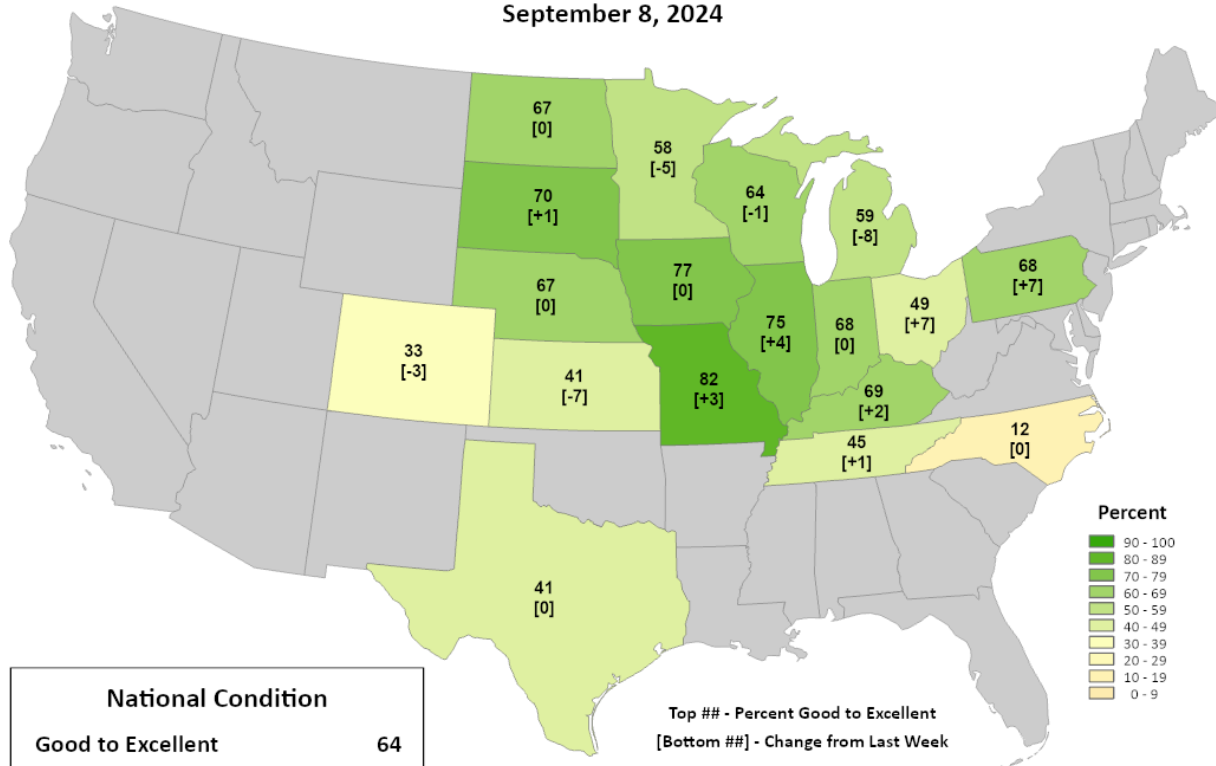
- Soybean pod setting is **nearly complete** & leaf drop is underway. Things are running **ahead of normal pace** in WI and points to the S/E.
 - In WI, leaf dropping is **10% complete**. 2% ahead of the 5-year average pace & up **6%** from last week.
 - Pod setting → **98% complete**

NASS Crop Condition



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

Corn Conditions Percent Good to Excellent September 8, 2024



| National Condition | |
|-----------------------|----|
| Good to Excellent | 64 |
| Change from Last Week | -1 |

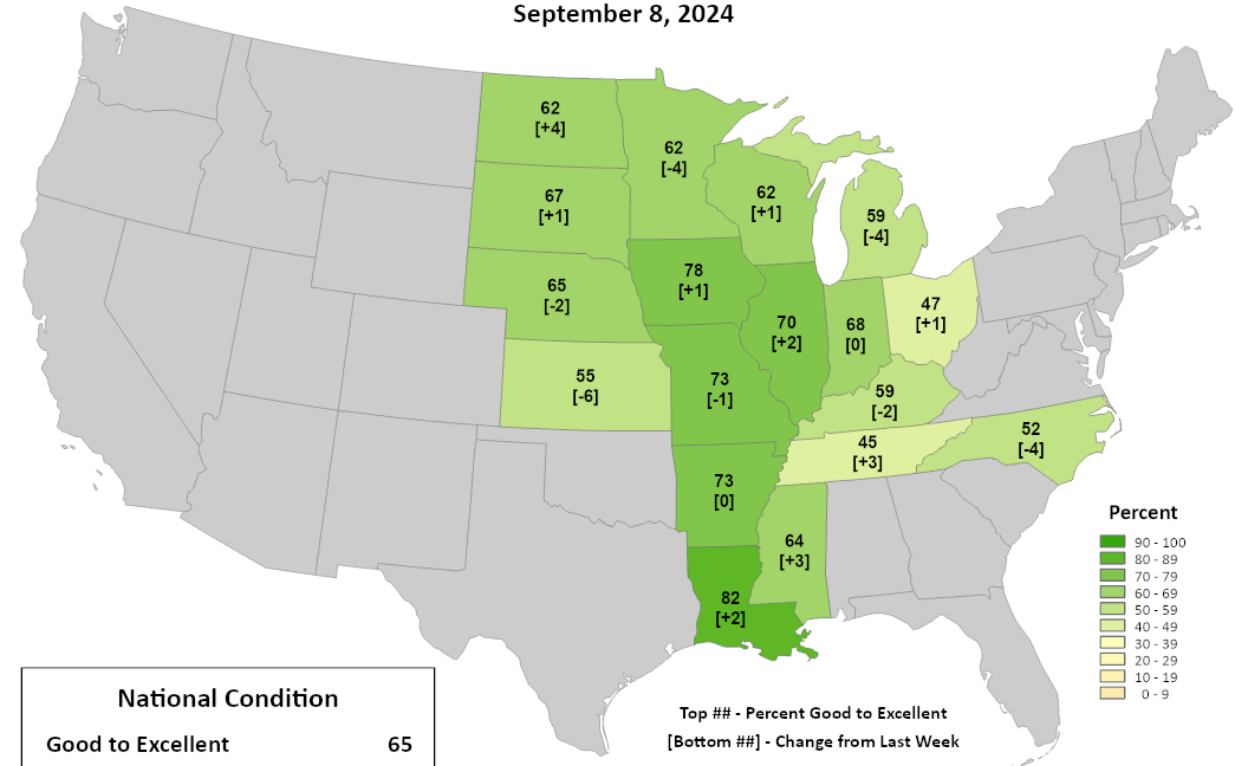
Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week

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



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

Soybean Conditions Percent Good to Excellent September 8, 2024



| National Condition | |
|-----------------------|----|
| Good to Excellent | 65 |
| Change from Last Week | 0 |

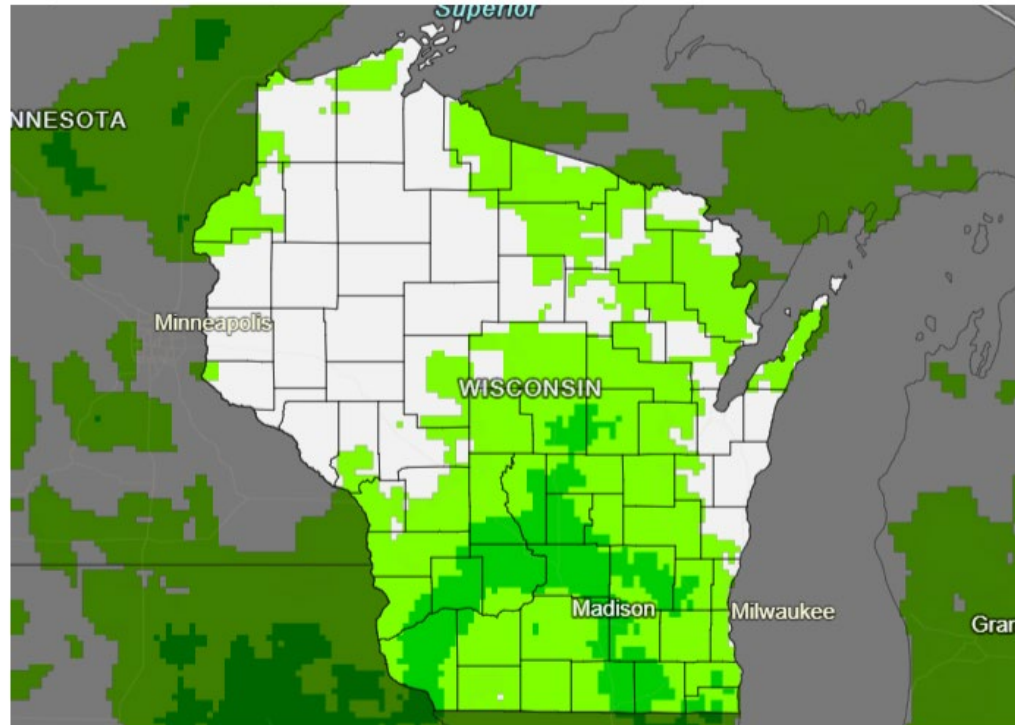
Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Week

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

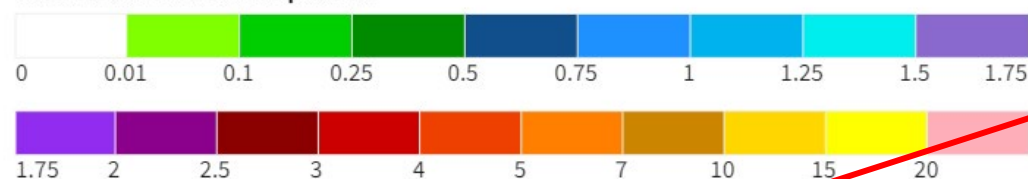
<https://agindrought.unl.edu/Other.aspx>

7 Day Precip Forecast

7-Day Quantitative Precipitation Forecast for
September 10-17, 2024



Predicted Inches of Precipitation



Source(s): National Weather Service Weather Prediction Center
Last Updated: 09/10/24

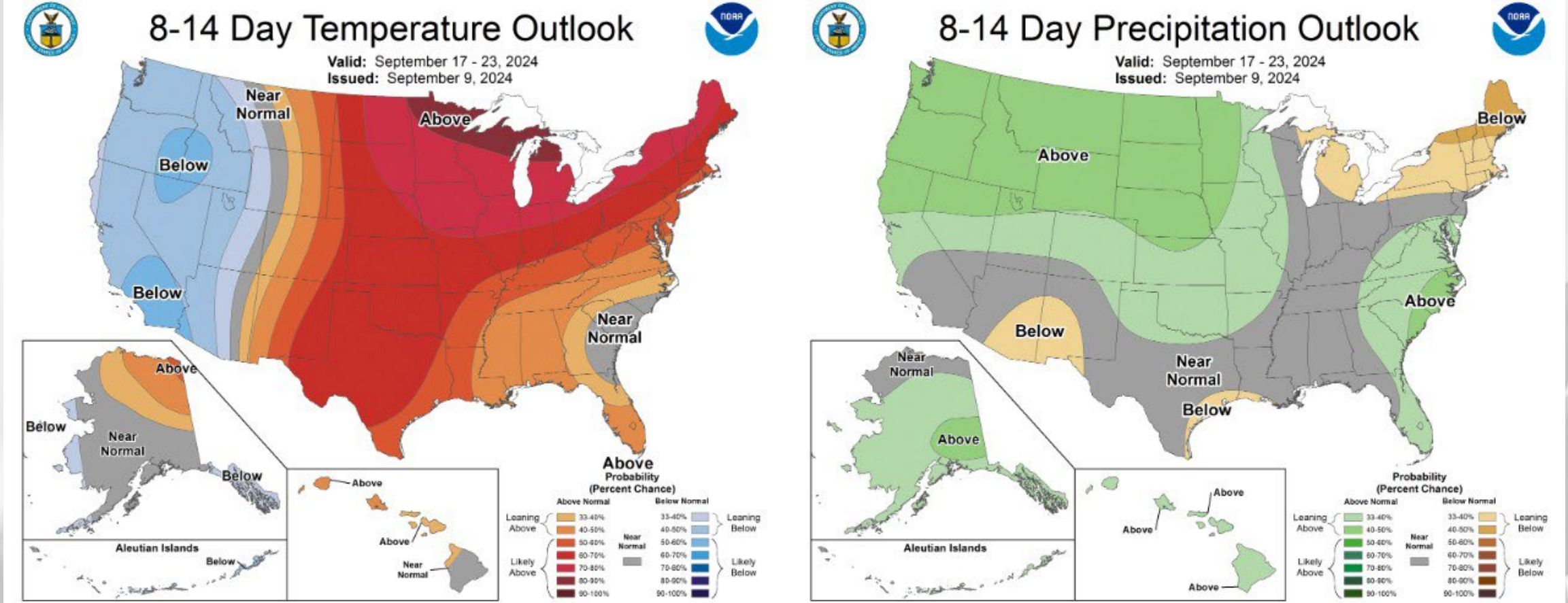
Drought.gov

- Chances for precip over the next week **highest in southern WI.**
 - Best chances for rain from the **Central Sands to the WI/IL state line.**
 - Totals forecasted to be **on the lower side.**
 - **Sunday** looks like the most likely day for rain.

Forecast for 9/10/24 thru 9/17/24
(Begins at 7am CDT)

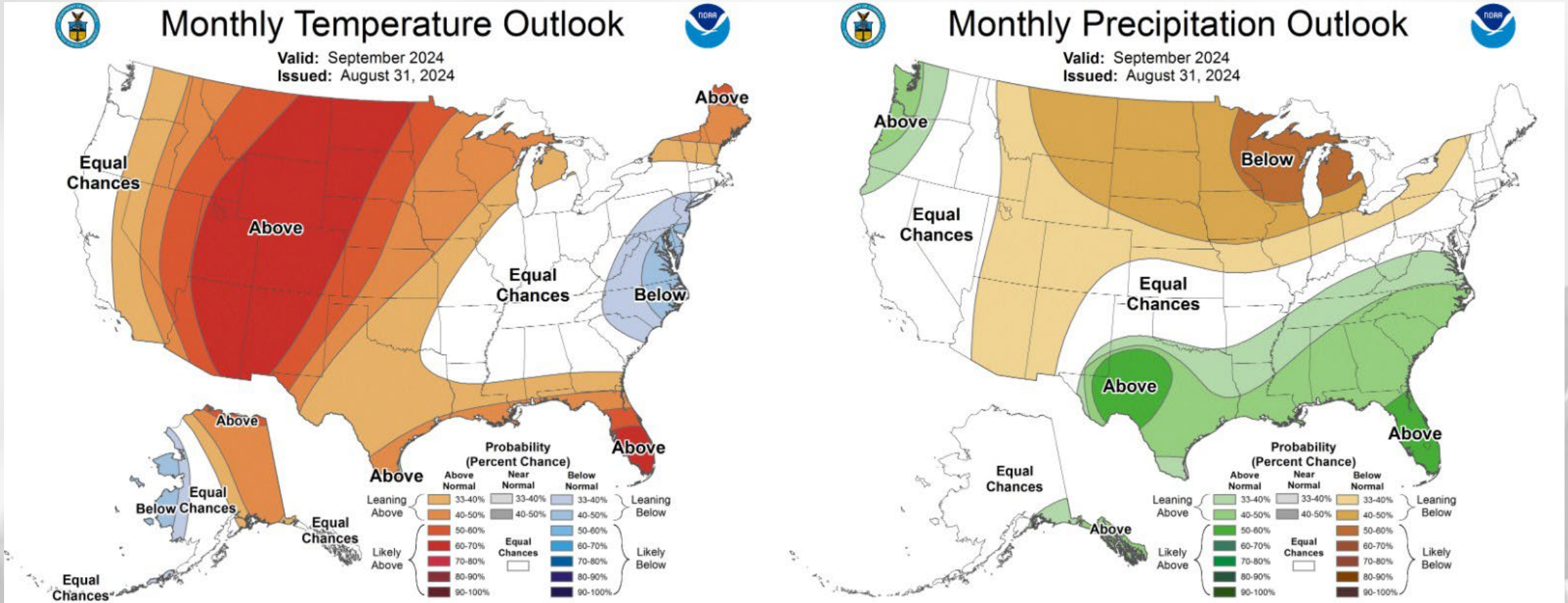
<https://www.wpc.ncep.noaa.gov/qpf/p168i.gif>
<https://www.drought.gov/states/wisconsin>

8-14 Day Temp & Precip Outlook



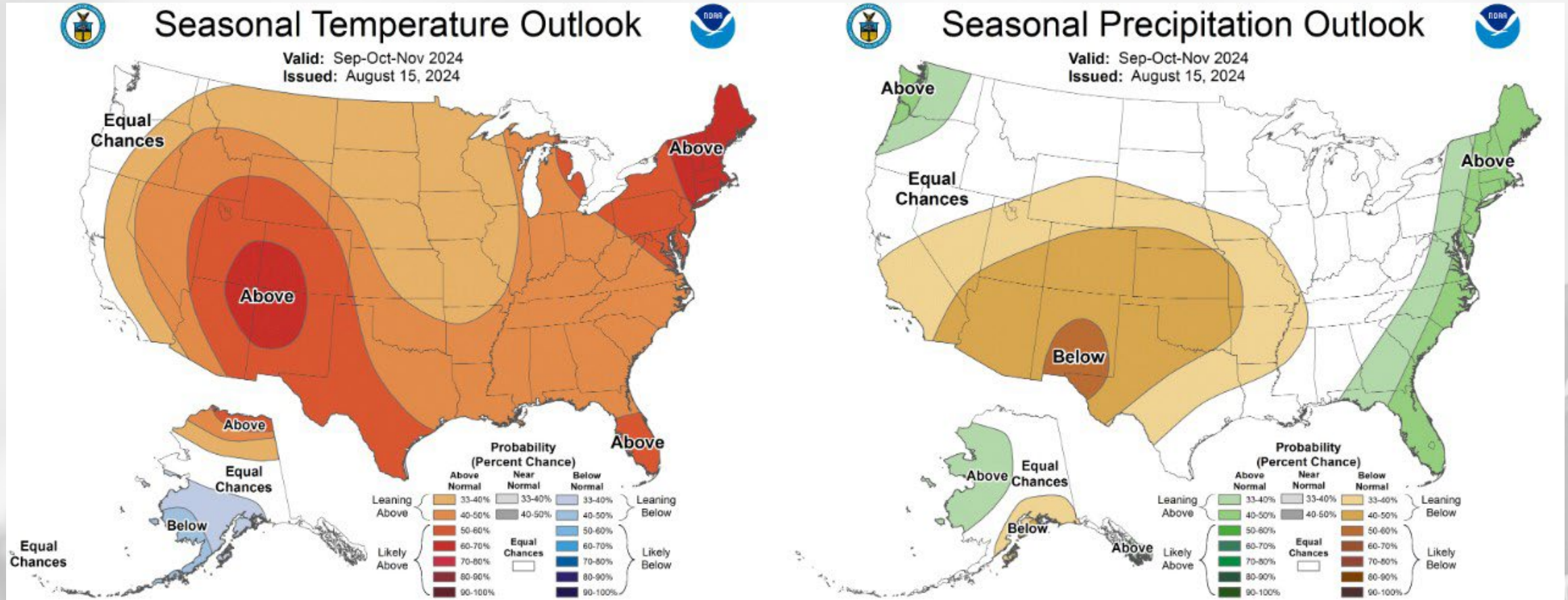
Third week of September: Temperatures likely to be above normal, with higher probability in the N. Precipitation leaning above (near) normal in the W(E).

30 Day Temp & Precip Outlook



Month of September: Temperatures leaning above normal. Precipitation likely to be below normal.

90 Day Temp & Precip Outlook



Fall 2024: Temperatures leaning towards above normal. Precipitation uncertainty with equal chances.

Take-Home Points

Current Conditions:

- Temperatures **cooled off** last week after a late August heat wave, with overnight lows this past weekend getting **into the 30s for some** (*new records set*).
- Weekly precip totals of a **half inch or less** were very common, with many southern WI stations now at **<50% of climatological average** over the past 30 days.

Impact:

- Soil moisture percentiles are in the **middle range for most**, with pockets of dry percentiles; **abnormal dryness** was removed for large portions of the NW that received more rainfall last week.
 - **Corn** denting is running **1%** ahead of normal pace, with **64%** of the crop reported in good to excellent condition.
 - **Soybean** pod setting is **95% complete**, with leaf drop underway. **62%** of the crop reported in good to excellent condition.
- GDDs are approaching **2700 (2100) units** in the southern (northern) counties.

Outlook:

- Relatively low **precip chances** forecasted this next week, with a higher likelihood in the **C. Sands & points S.**
- Mid-September has a higher probability to be **warmer than normal month**, according to CPC outlooks. Precip chances are mixed.
- The warmer-than-normal conditions have a higher probability to **continue** into the fall with a La Niña pattern taking shape. Currently, we are in a **neutral phase**.

Agronomic Considerations

Crop Development

- Scouting for crop stage and development of issues is very important this year as the wet spring means that there is a lot of variability in fields and across farms.
- As silage and other early crops come off, consider diverse cover crop mixes to help mitigate any compaction that may have occurred this spring and protect soil heading into fall.

Manure Applications

- Low runoff risk in the next week. Check the DATCP runoff risk advisory forecast [here](#).
- As silage comes off, consider the relationship between manure and cover crops, learn more [here](#).

Pest Management

- Fall armyworm flights are underway. Sign up to receive text alerts when pests are in your region [here](#).
- Conditions have been right in many places for tar spot and white mold, information available [here](#).
- Scout for corn rootworm beetle to determine pressure on next year's continuous corn.
- Southern rust of corn was found in Wisconsin in August, see more info [here](#).
- Late blight was found on tomato in Wisconsin in August, see more info [here](#).

Forage Management

- Look out for herbicide carryover, volunteers in late summer seeding of alfalfa into wheat. [Read more](#).
- **Corn Silage Harvest** - look for local opportunities for stalk chopping to gauge moisture content, scout fields to understand which may be ready first. For varying planting dates, plan for a segregated, longer season harvest to optimize forage quality. More info [here](#).
- Fall alfalfa cutting can affect persistence, [read more](#) and use our [new tool](#) to make informed decisions.

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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