

# Wisconsin Ag Climate Outlook

*Week of September 16, 2024*

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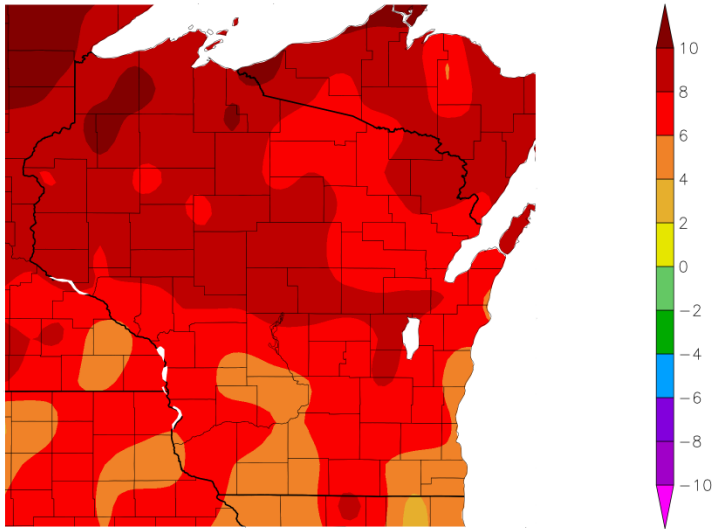
# Key Points

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

- 1) [Late summer heat](#) once again gripped the state, with weekly averages  $>6^{\circ}\text{F}$  above normal for most in WI.
  - 2) A [dry week](#) and [past 30 days](#) has led to an increase in [abnormally dry soils](#) in the state, with large drops in the [percent adequate](#).
  - 3) Higher [rain chances](#) in the western half of the state next week, with September likely to wrap up [warmer than average](#).
- 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](#).

# Summer Hanging On

Departure from Normal Temperature (F)  
9/10/2024 - 9/16/2024



Generated 9/17/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers



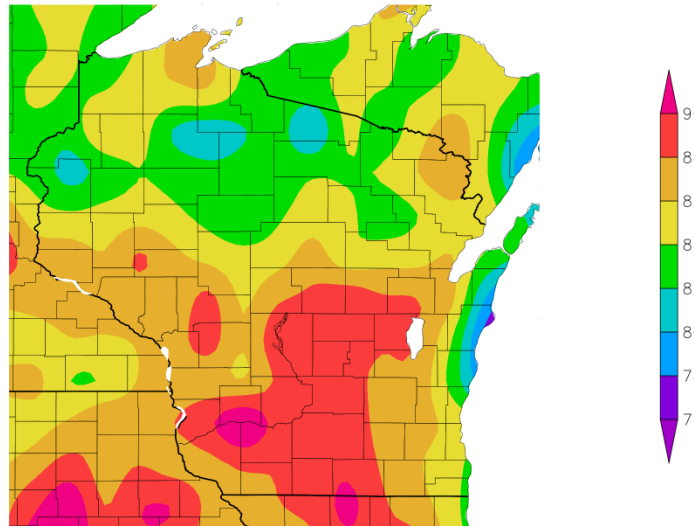
*Weekly average temps **6-10°F** above normal for most; larger departure in the north.*

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

*Weekly maximum highs reaching the **upper 80s and lower 90s** in the south.*



Highest 1-Day Maximum Temperature (F)  
9/10/2024 - 9/16/2024



Generated 9/17/2024 at HPRCC using provisional data.

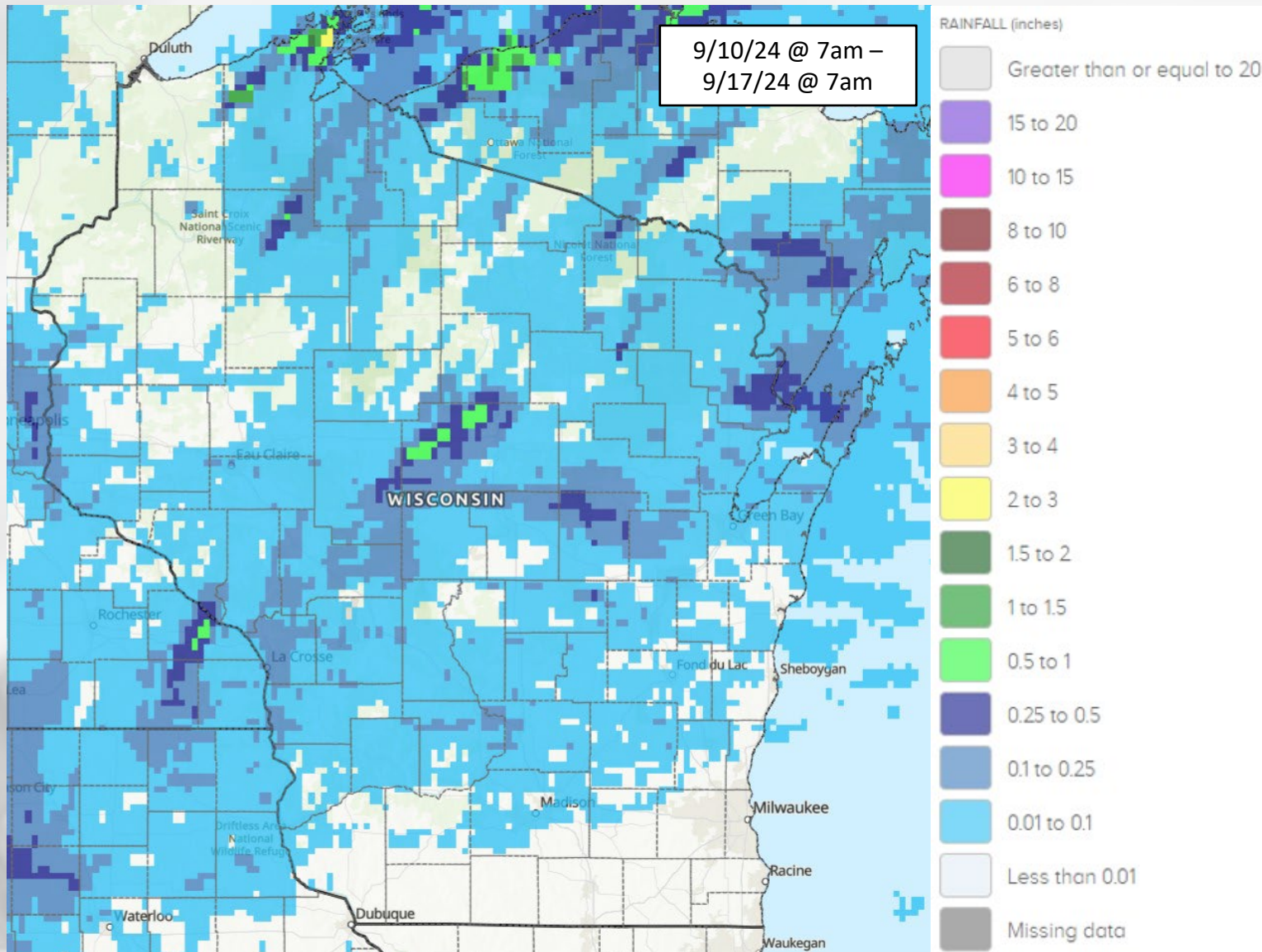
NOAA Regional Climate Centers

Date	Stations Tmax >85F	Stations w/ New Record High
9/10	0	3
9/11	3	9
9/12	20	17
9/13	21	24
9/14	16	26
9/15	59	39*
9/16	95	57

\*New records set at Madison, Wausau, & Lone Rock Airports.

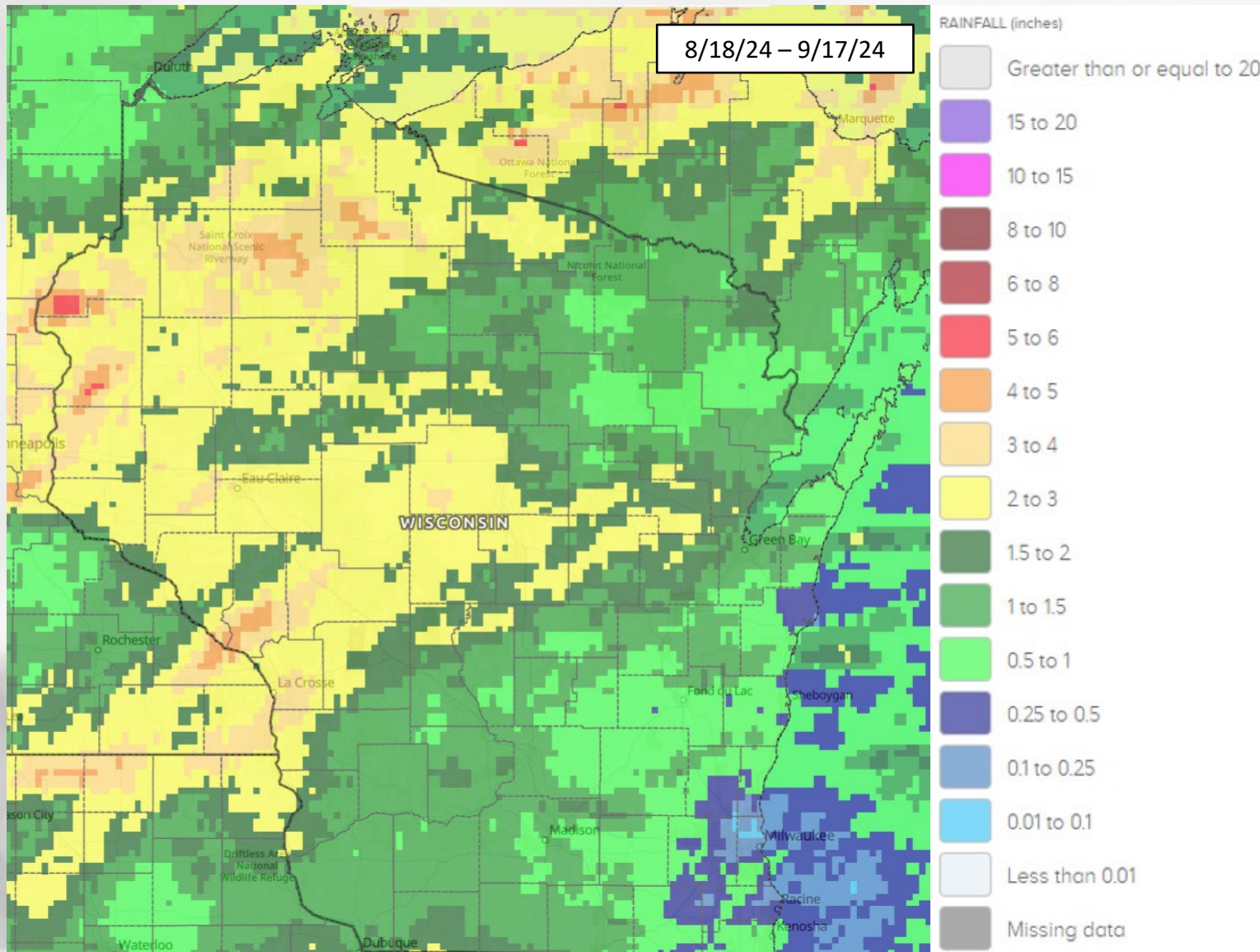
<https://scacis.rcc-acis.org/>

# 7 Day Precip



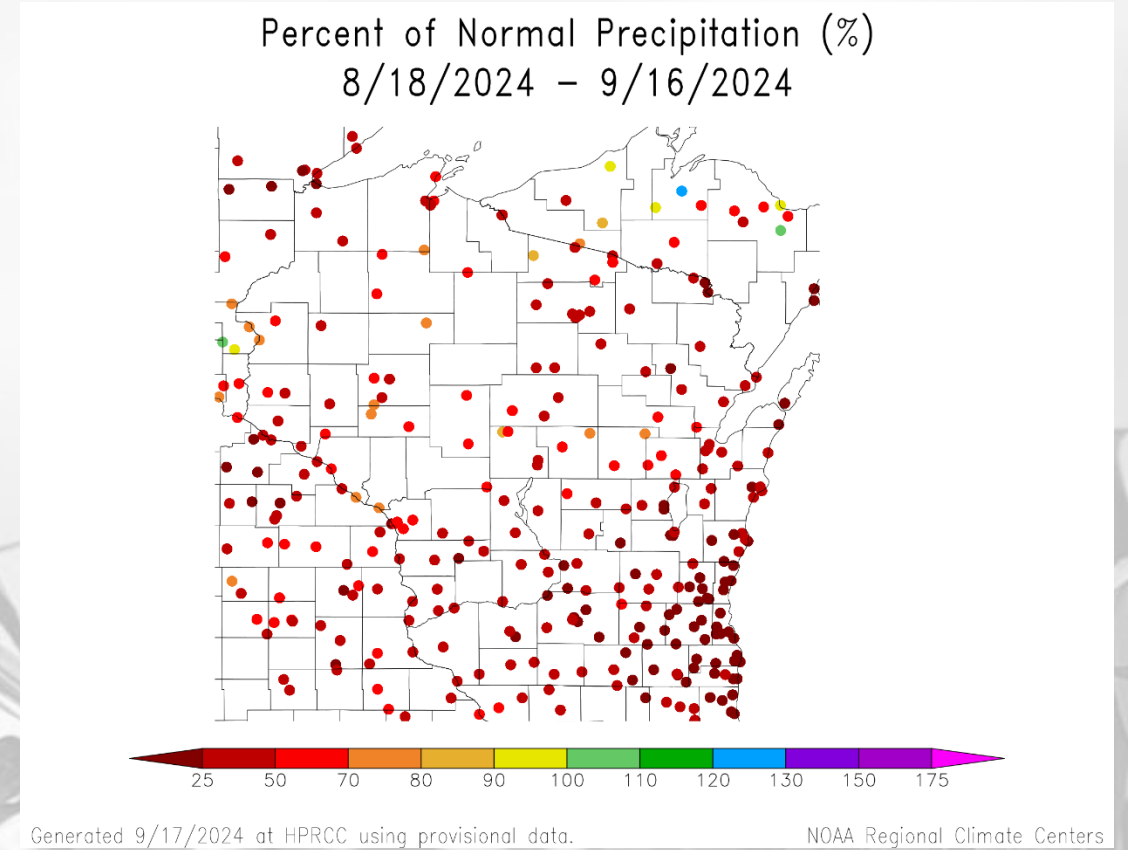
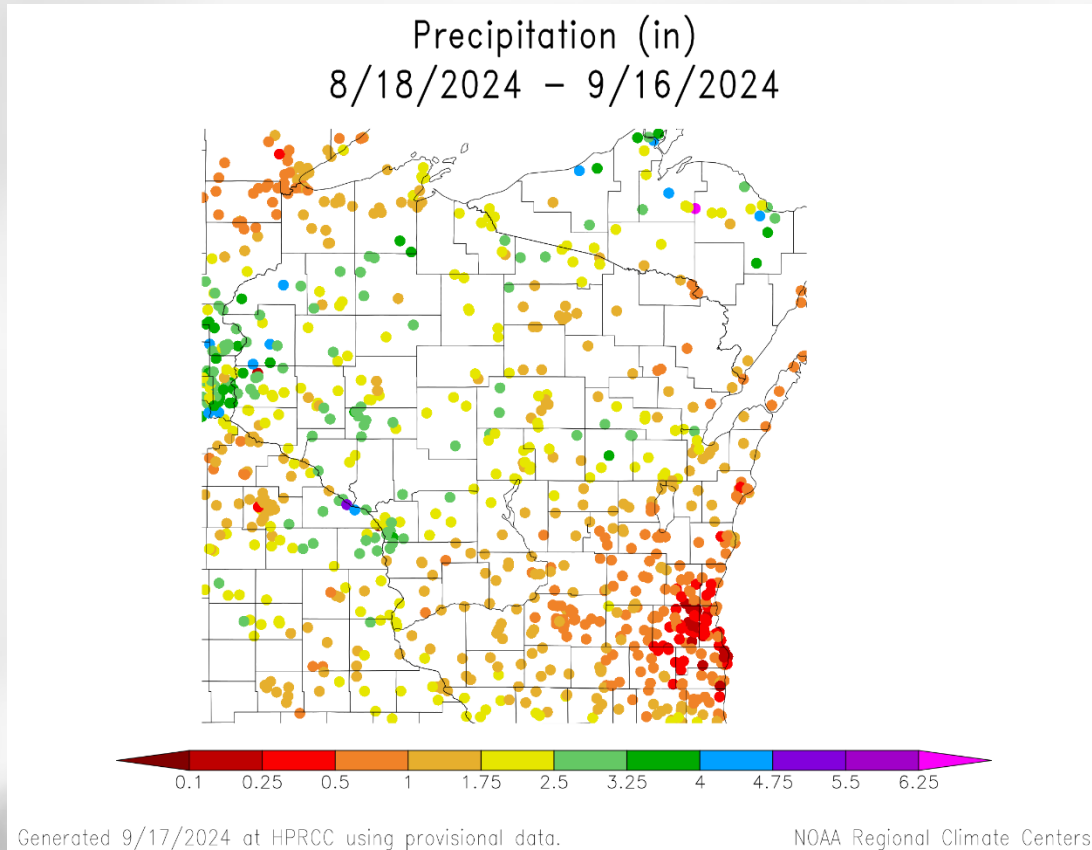
- A **relatively dry week** was observed across the state last week
- Most observed **less than 0.1"**.
- A small belt of **>0.25"** in western Marathon County.
- Some parts of the state saw **no precip last week**, especially in the south and NW.

# 30 Day Precip



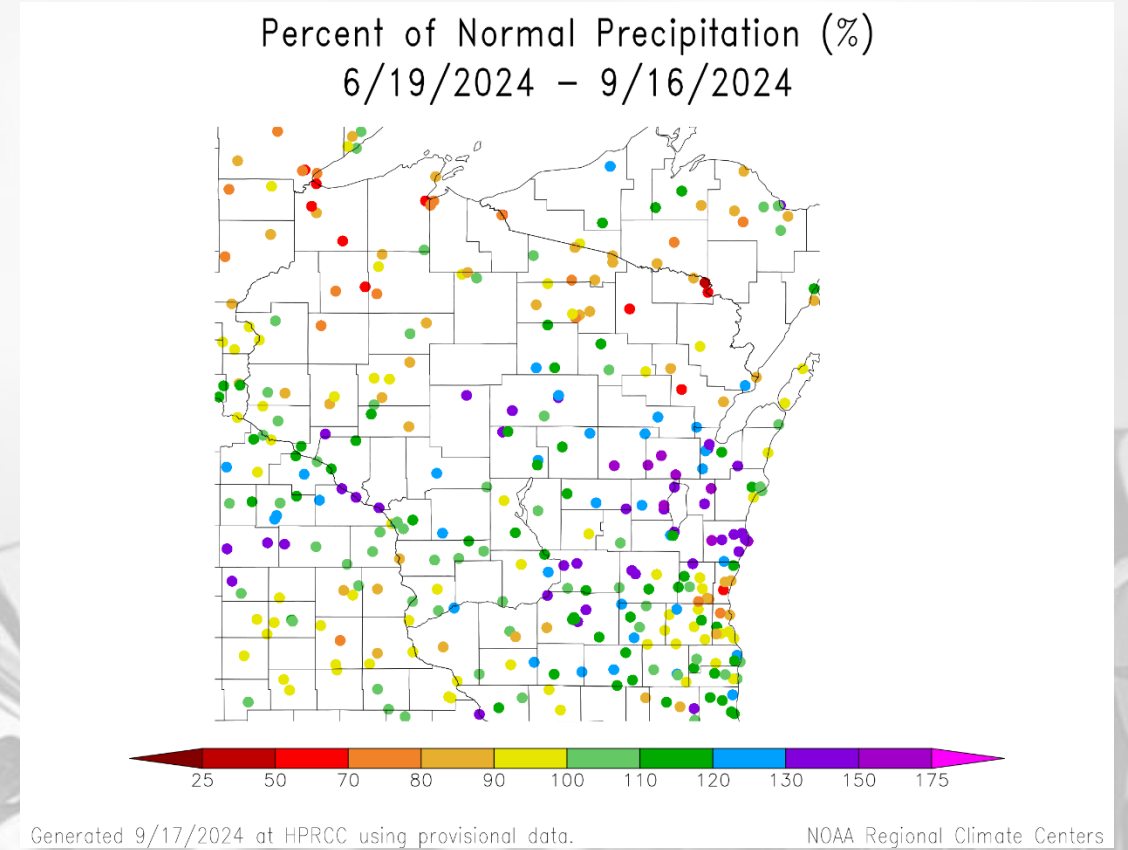
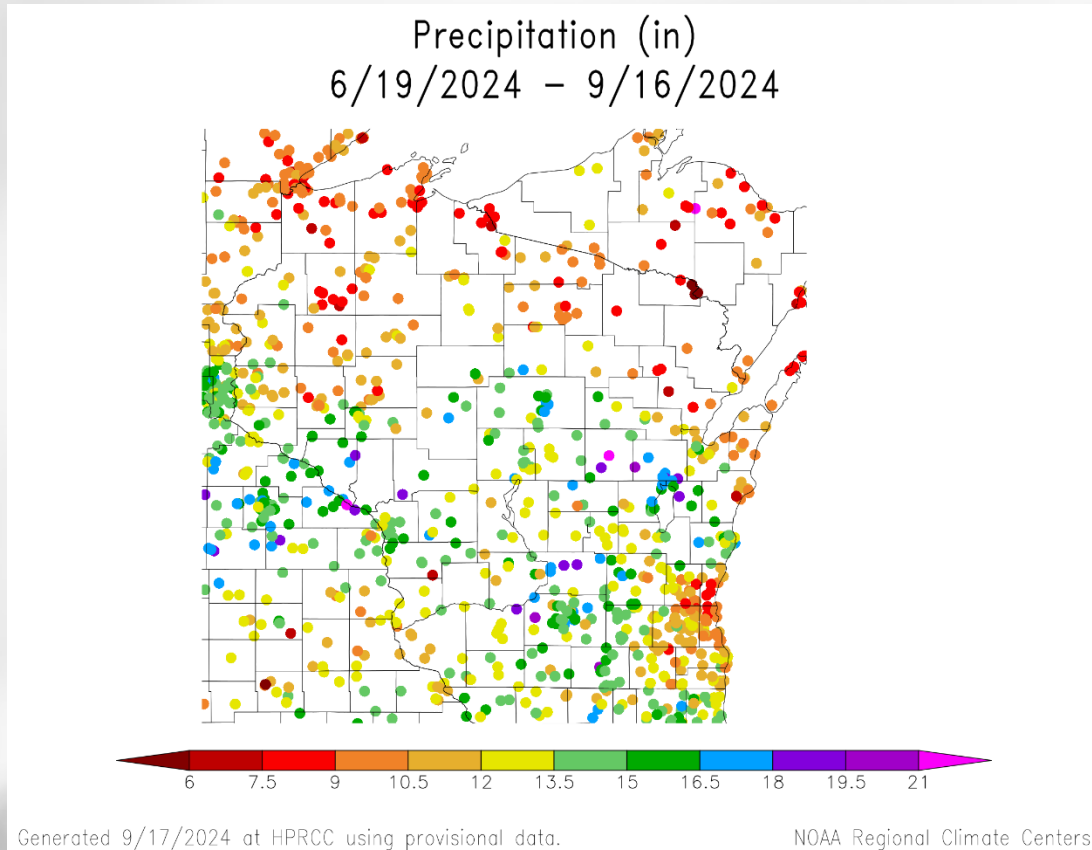
- Higher precip in the northern and western counties → **2" or more** was common.
- **Pockets of 4+"** near La Crosse, west of the Twin Cities, and in the far NW.
- **<1" common** at locations in the E/SE counties.

# 30 Day Precip Total/% Avg.



- The past 30 days have been **very dry** compared to the climatological average (1991-2020).
  - **<50% of normal** 30-day precip was very common across the state, with many stations observing <2”.
  - Highest totals (>3”) at stations in the NW, but even these totals were **below the climatological average**.

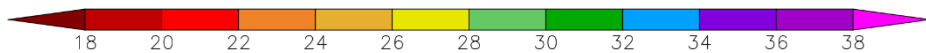
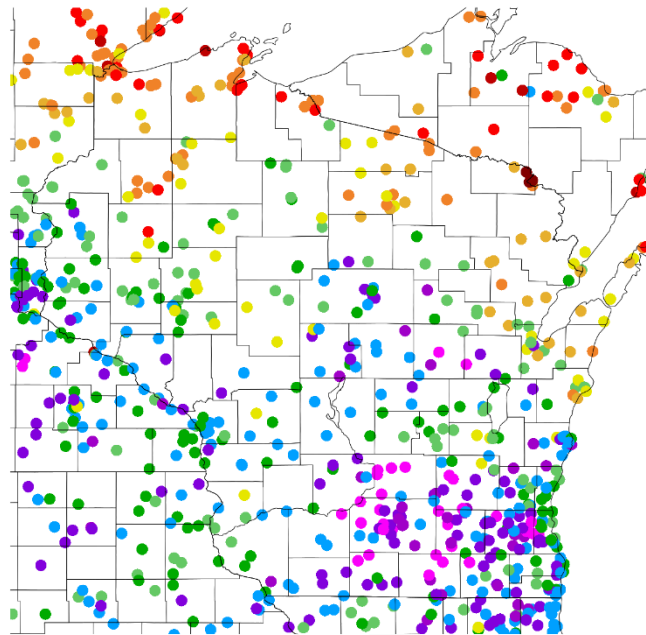
# 90 Day Precip Total/% Avg.



- **16.5” or more** at stations north of Madison, between La Crosse & the TC, & near Appleton/Waupaca.
  - 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)

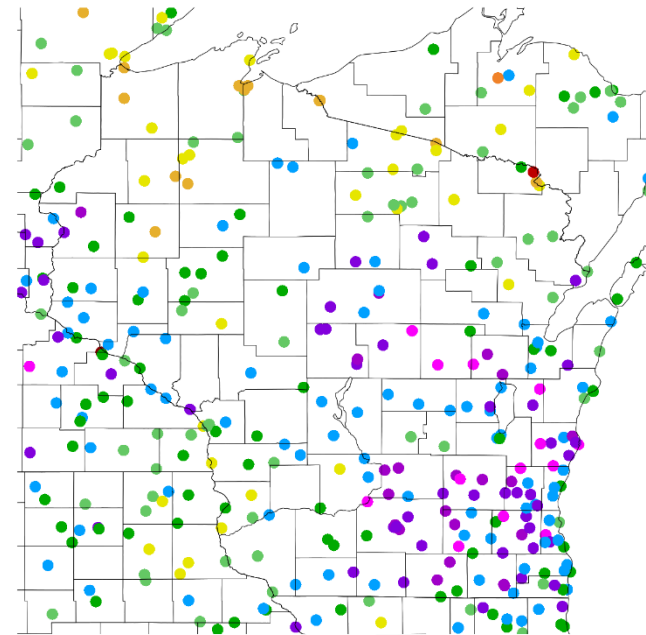
Precipitation (in)  
1/1/2024 - 9/16/2024



Generated 9/17/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)  
1/1/2024 - 9/16/2024



Generated 9/17/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

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



# Soil Moisture Models

- **30<sup>th</sup> percentile or lower** for soil moisture conditions across large swaths of Wisconsin after a very dry September thus far.
- **10<sup>th</sup> percentile or lower** near Milwaukee and in Door County.
- **Closer to normal** (grey shading) for soil moisture in the central/north central counties.

*Model Notes:*

*Red* areas = top 5 driest in 100 years.

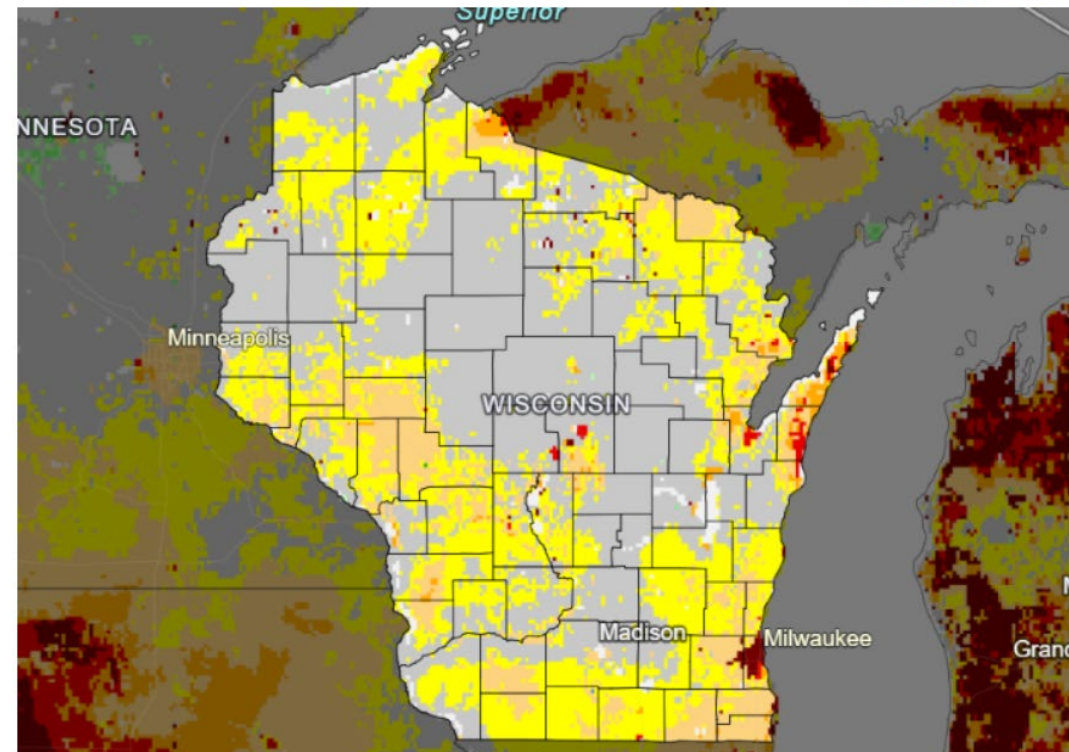
*Dark red* areas = top 2 driest in 100 years.

*Blue* areas = top 2 wettest in 100 years.

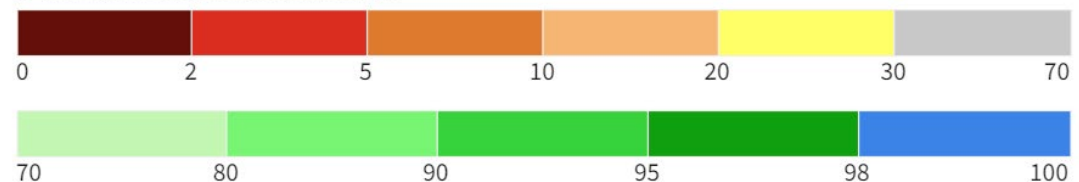
*It's worth noting that each soil moisture model has their own characteristics and input variables, so there tends to be variation between models. Thus, it's worthwhile to look at multiple models opposed to just one.*

[https://weather.msfc.nasa.gov/sport/case\\_studies/lis\\_CONUS.html](https://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

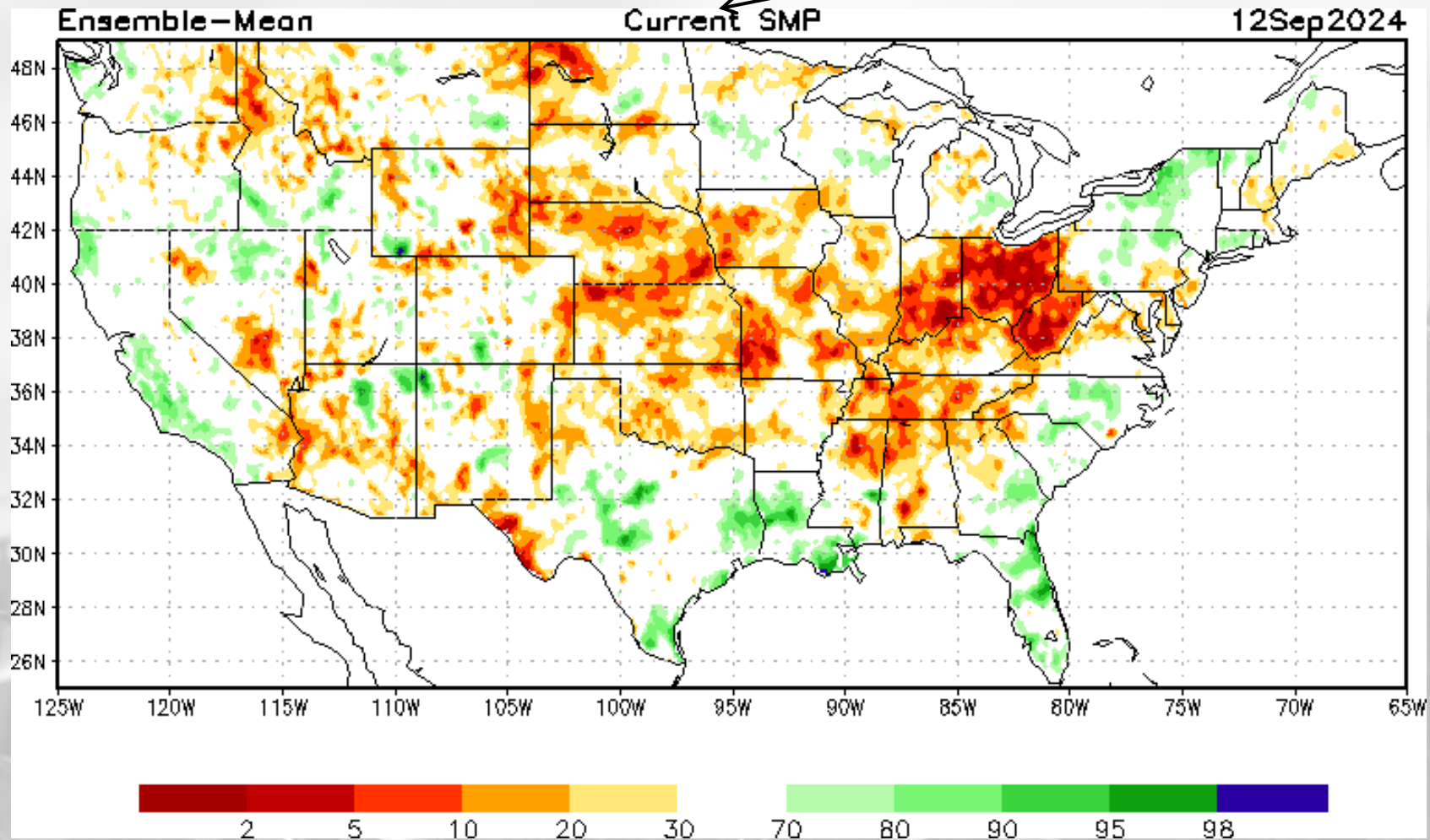


Source(s): NASA  
Data Valid: 09/17/24

**Drought.gov**

# Soil Moisture Models

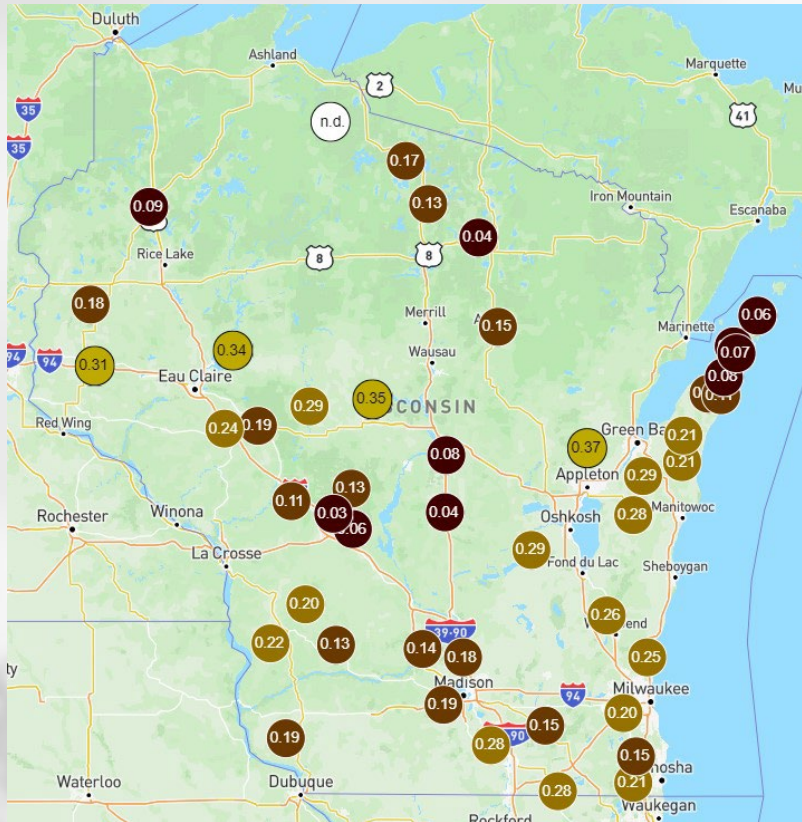
**NOTE:** this map displays the soil moisture percentile for Sept. 12. It was the most recent update on Sept. 17.



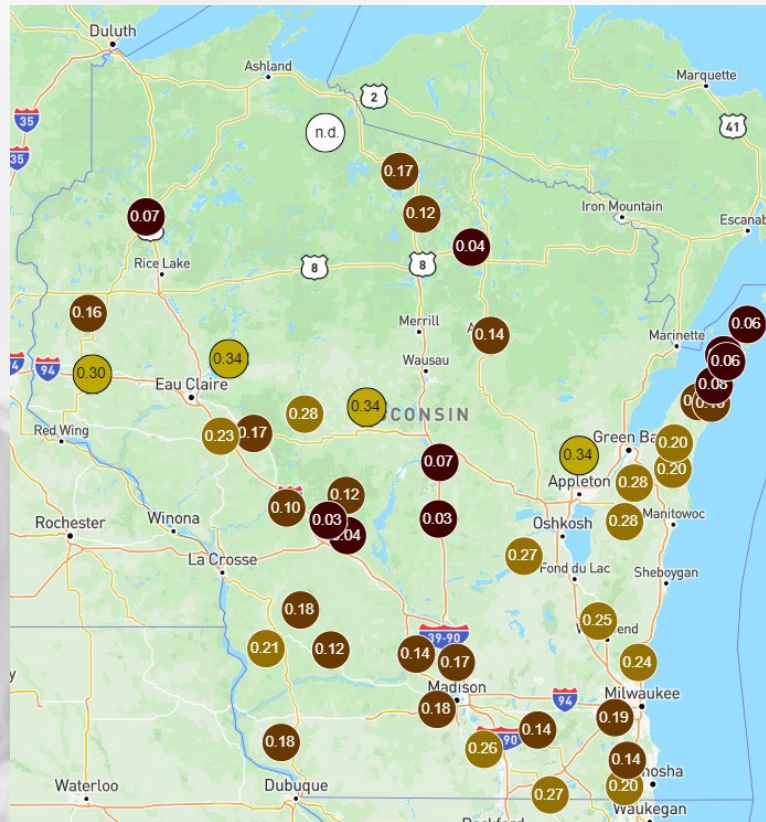
[https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp\\_new.shtml](https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml)

# Wisconet Soil Moisture (4" Depth)

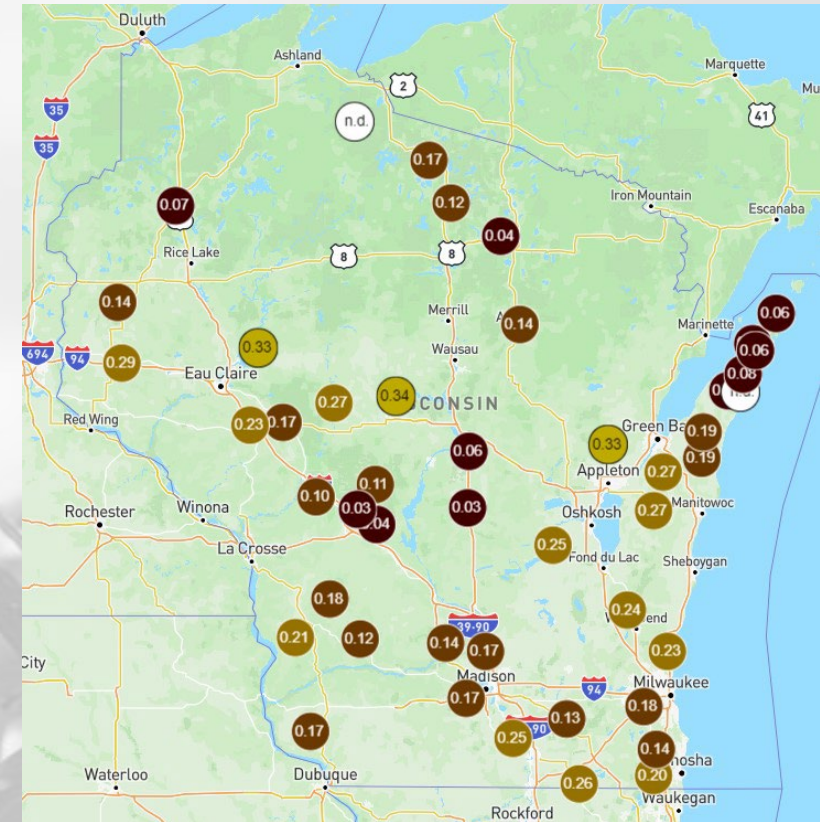
Friday Sept. 13<sup>th</sup> @ Midday



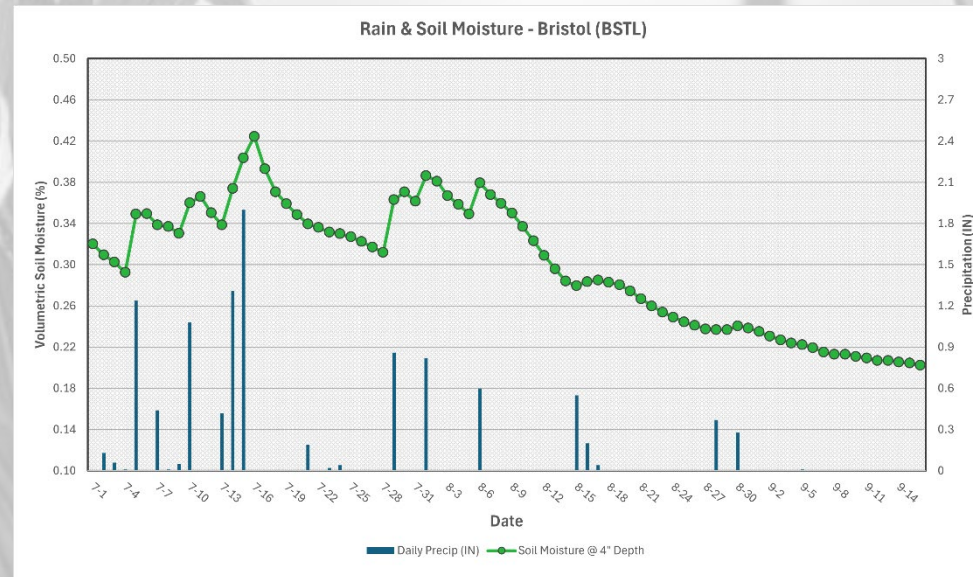
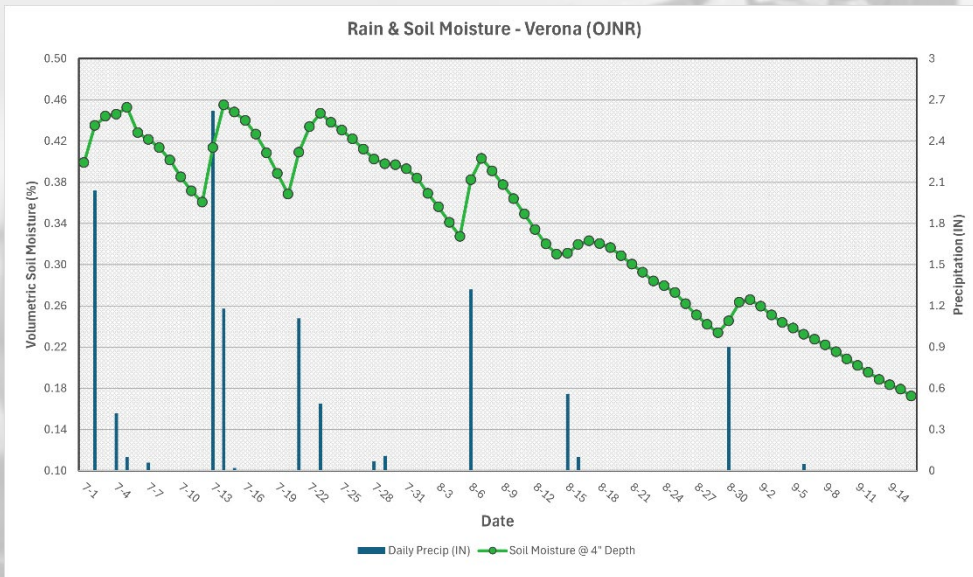
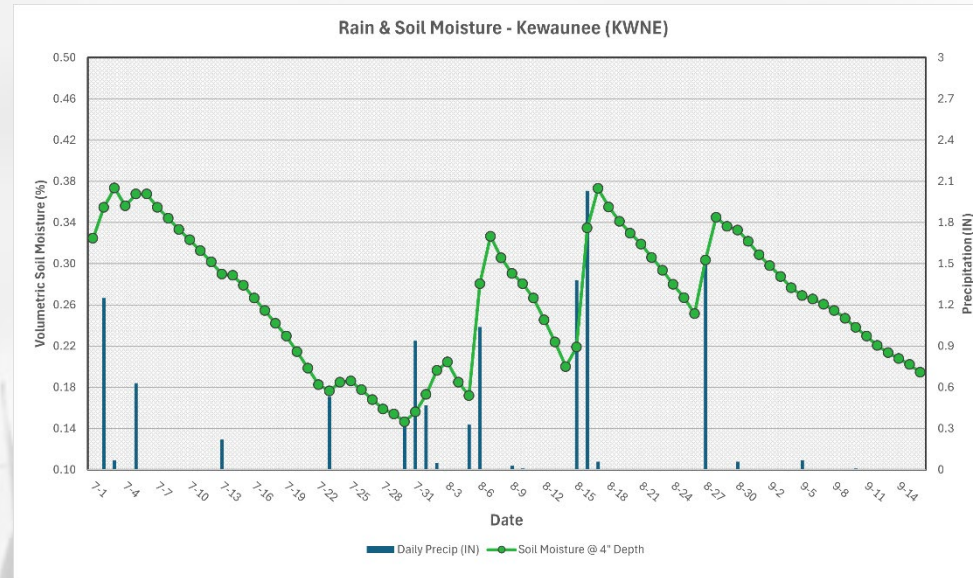
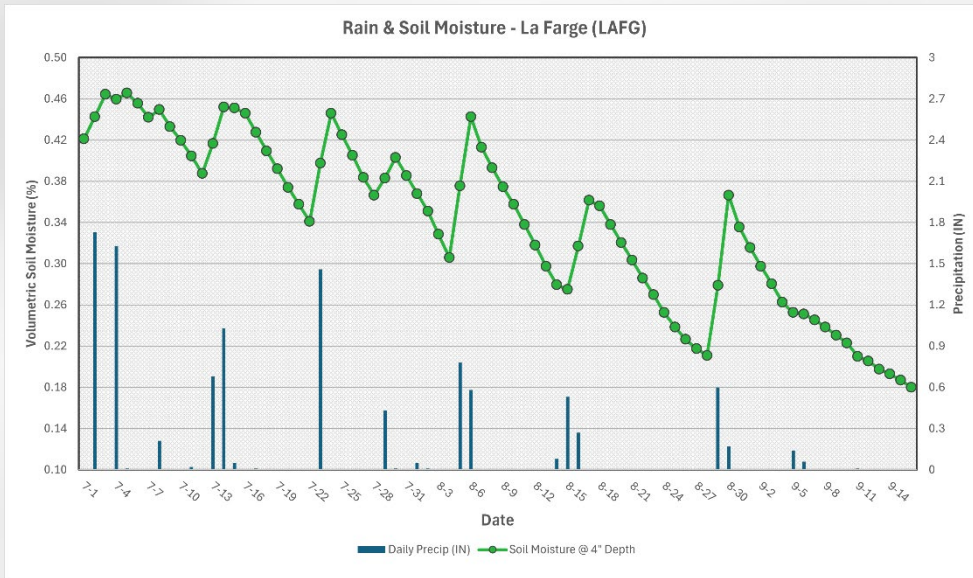
Sunday Sept. 15<sup>th</sup> @ Midday



Tuesday Sept. 17<sup>th</sup> @ Midday



# Wisconet Soil Moisture – 4" Depth



Trend in soil moisture (4") & precip since July 1

Timely rains have come, but the general trend has been towards drier soils @ 4" depth.

# NASS Topsoil & Subsoil Moisture

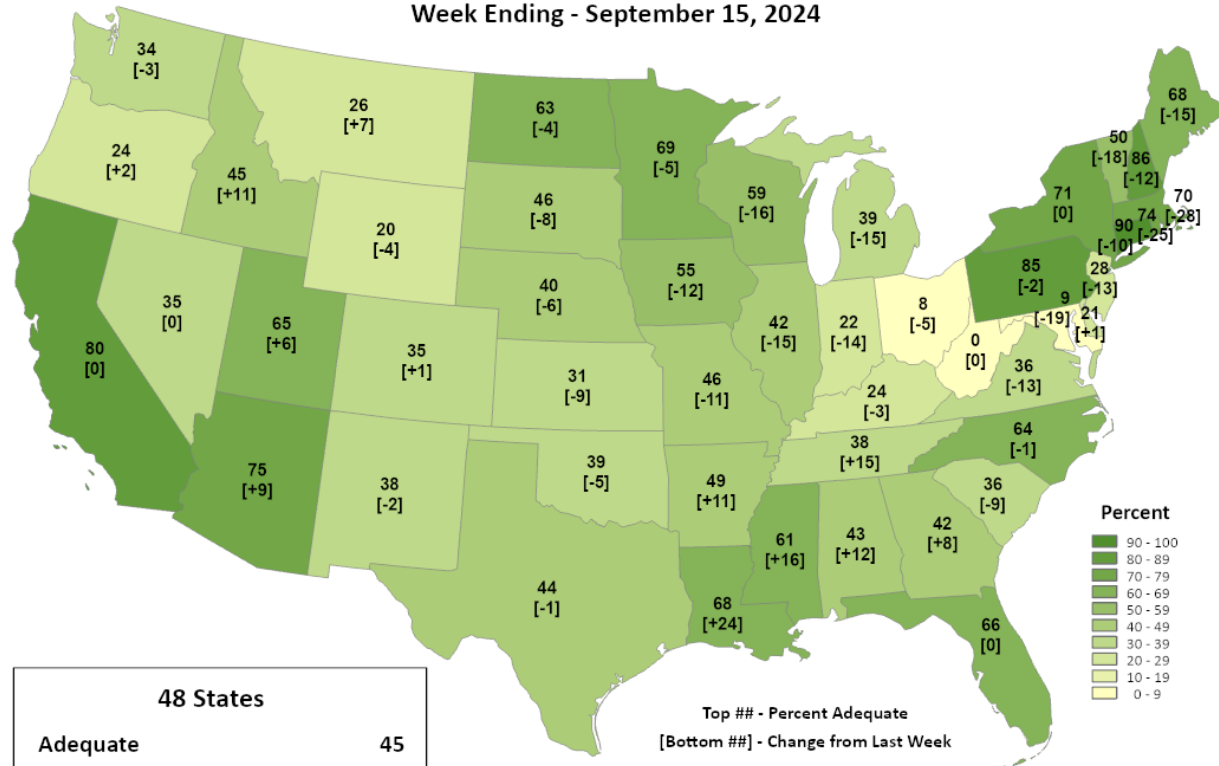


This product was prepared by the  
USDA Office of the Chief Economist (OCE)  
World Agricultural Outlook Board (WAOB)

## Topsoil Moisture

### Percent Adequate

Week Ending - September 15, 2024



<b>48 States</b>	
<b>Adequate</b>	<b>45</b>
<b>Change from Last Week</b>	<b>-4</b>

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

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

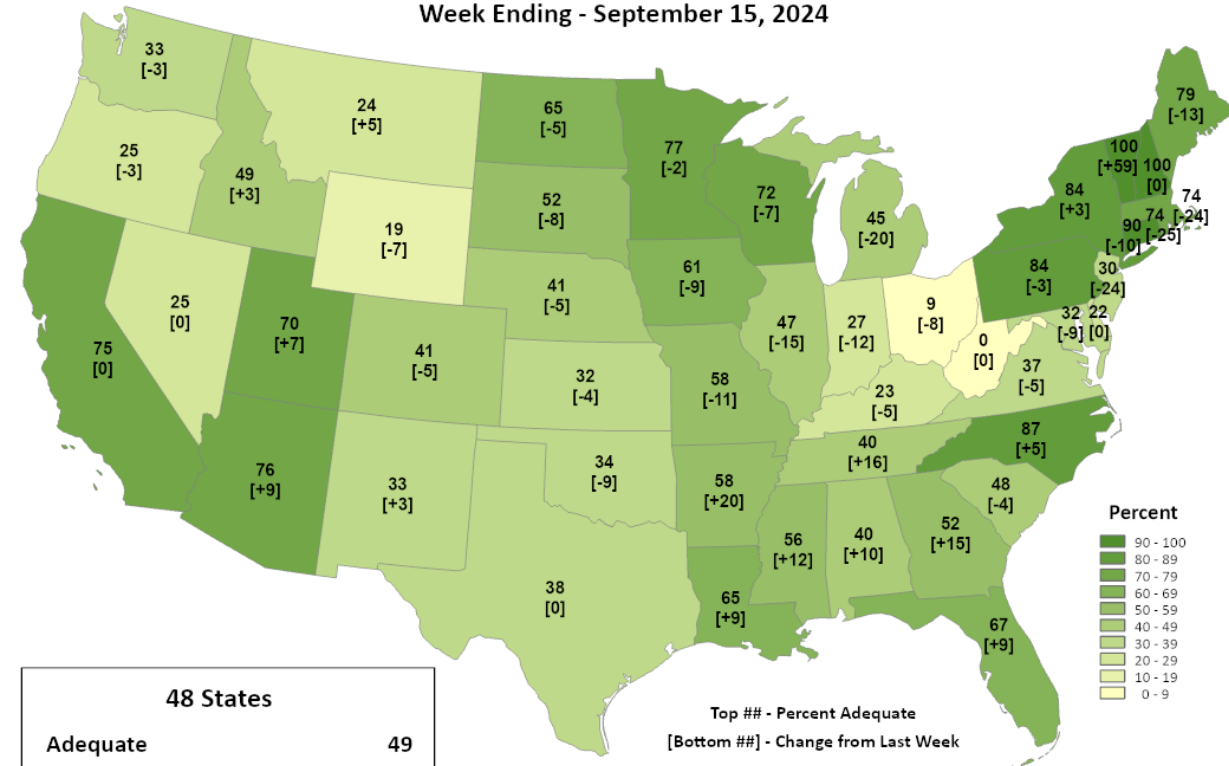


This product was prepared by the  
USDA Office of the Chief Economist (OCE)  
World Agricultural Outlook Board (WAOB)

## Subsoil Moisture

### Percent Adequate

Week Ending - September 15, 2024



<b>48 States</b>	
<b>Adequate</b>	<b>49</b>
<b>Change from Last Week</b>	<b>-3</b>

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

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

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

# US Drought Monitor

## U.S. Drought Monitor Midwest

**September 10, 2024**  
(Released Thursday, Sep. 12, 2024)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	34.42	65.58	22.40	6.02	2.01	0.70
<b>Last Week</b> <i>09-03-2024</i>	55.71	44.29	11.72	2.65	1.84	0.61
<b>3 Months Ago</b> <i>06-11-2024</i>	94.18	5.82	0.00	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>01-02-2024</i>	22.92	77.08	50.25	20.76	4.20	0.00
<b>Start of Water Year</b> <i>09-26-2023</i>	16.82	83.18	54.98	23.81	6.21	0.13
<b>One Year Ago</b> <i>09-12-2023</i>	30.83	69.17	48.04	29.49	10.07	0.44

Intensity:

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

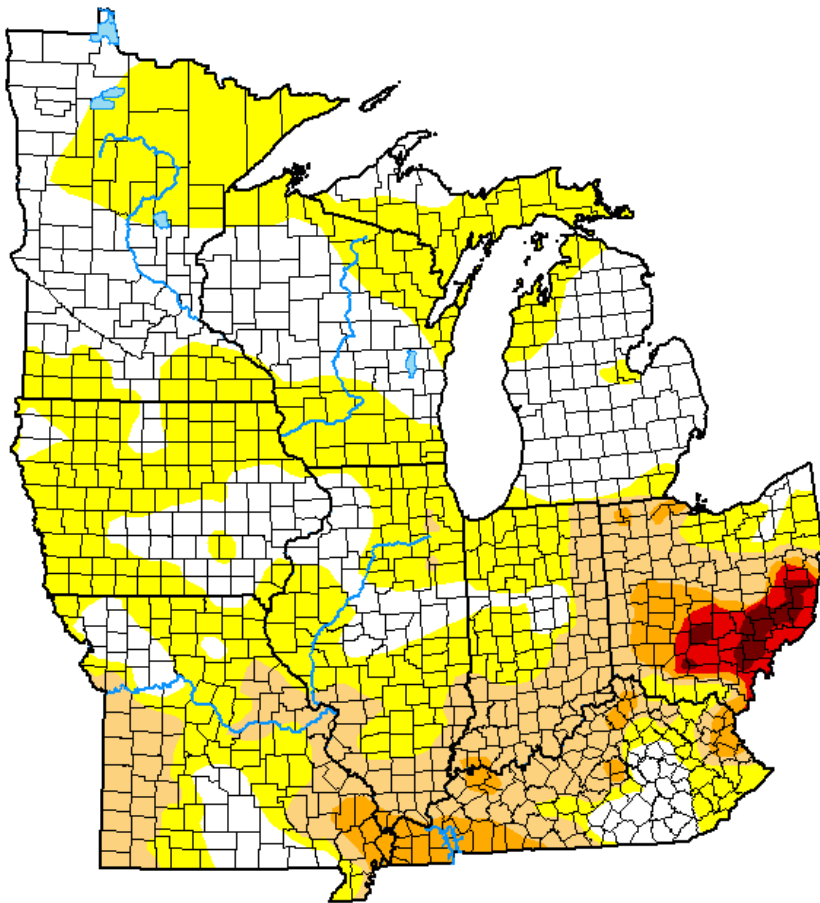
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Lindsay Johnson  
National Drought Mitigation Center



[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)



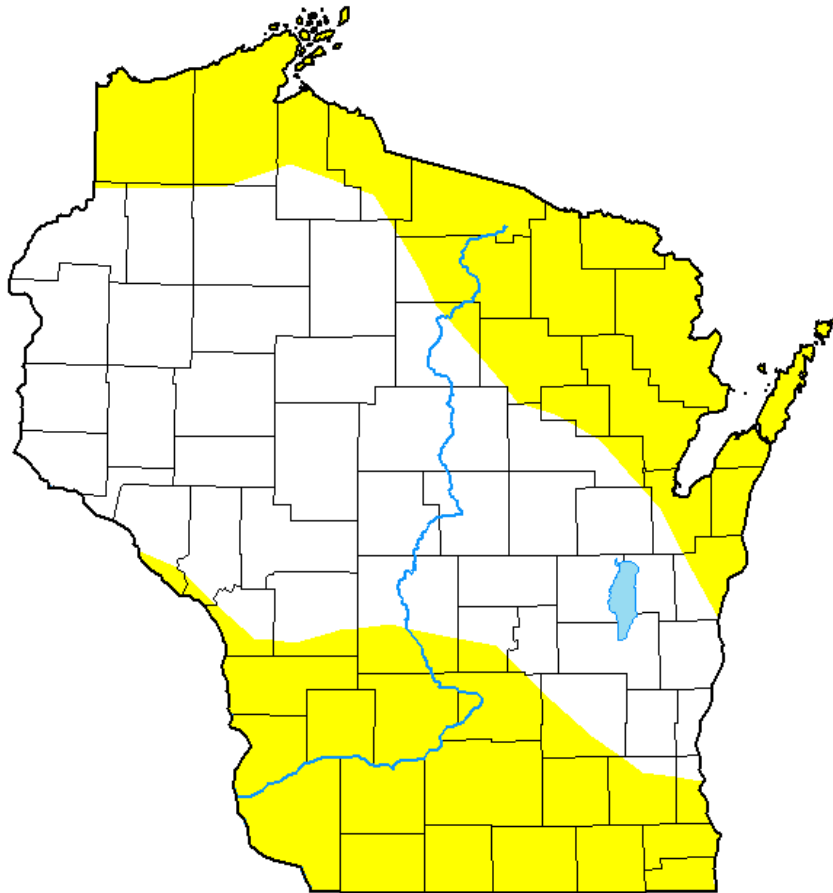
- Compared to last week:
  - Increases in drought/dryness coverage across all categories. 11% jump in D1 coverage.
- **22.4%** of the Midwest is categorized in D1 (moderate) drought, mainly in the S & E.
- **2.0%** is in D3-D4 drought, all in OH.
- **65.6%** of the Midwest is in D0 (abnormally dry) conditions, up by more than **20%** from last week.

*Note: D0 is not considered drought.*

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

# US Drought Monitor

## U.S. Drought Monitor Wisconsin



**September 10, 2024**

(Released Thursday, Sep. 12, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	53.37	46.63	0.00	0.00	0.00	0.00
<b>Last Week</b> 09-03-2024	86.82	13.18	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> 06-11-2024	95.75	4.25	0.00	0.00	0.00	0.00
<b>Start of Calendar Year</b> 01-02-2024	33.04	66.96	37.34	16.80	0.26	0.00
<b>Start of Water Year</b> 09-26-2023	2.04	97.96	80.86	37.74	6.77	0.00
<b>One Year Ago</b> 09-12-2023	2.04	97.96	86.69	59.41	21.62	1.77

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:

Lindsay Johnson  
National Drought Mitigation Center



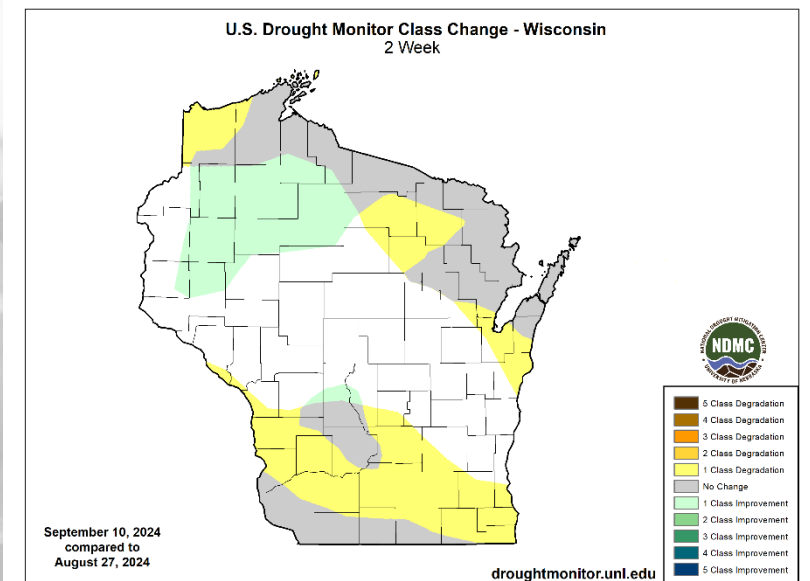
[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

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

Amount of state in:

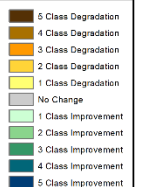
- **D1-D4** – 0.0% --
- **D2-D4** – 0.0% --
- **D3-D4** – 0.0% --
- **D4** – 0.0% --

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

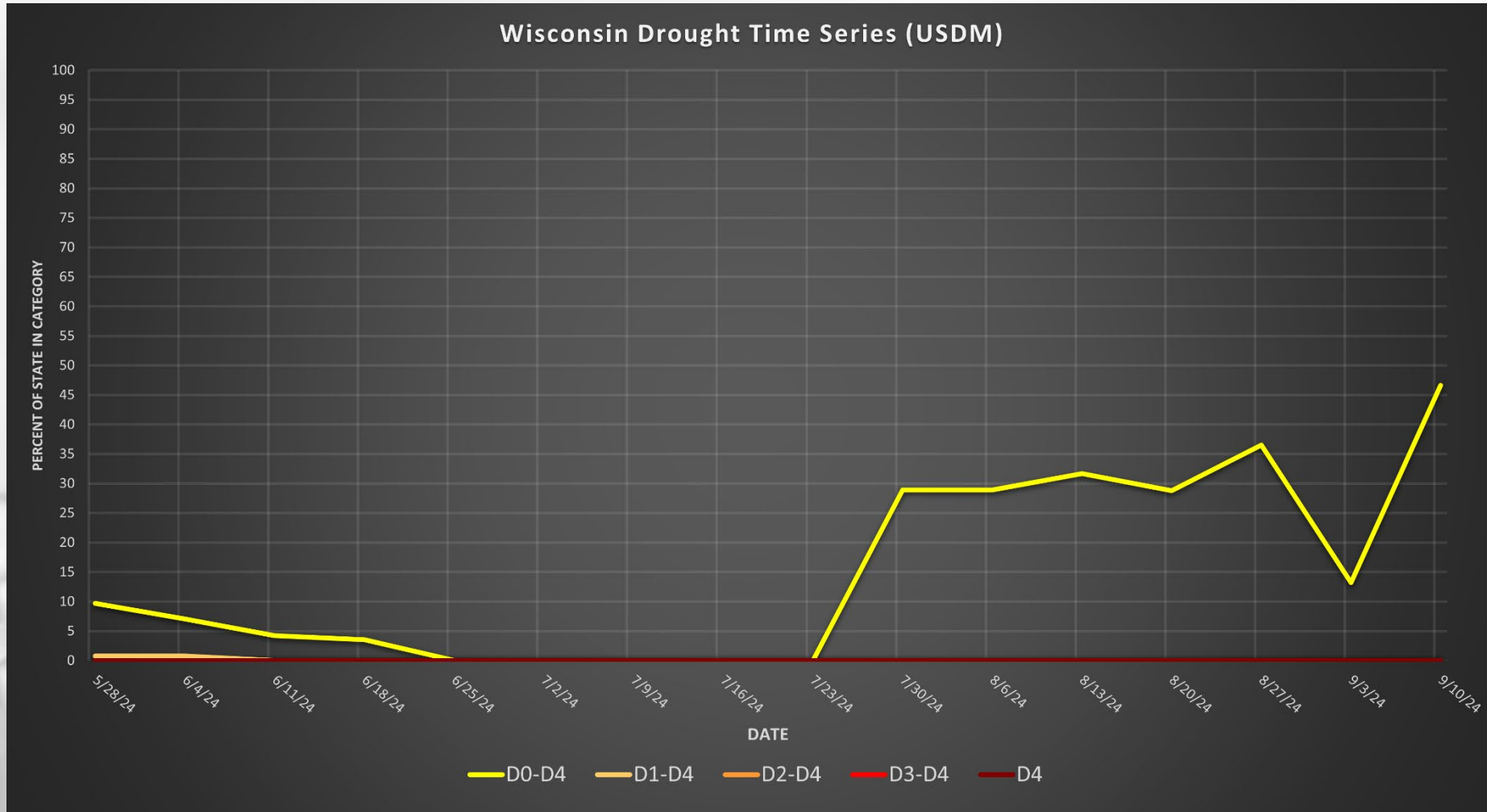


September 10, 2024  
compared to  
August 27, 2024

[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)



# USDM Time Series

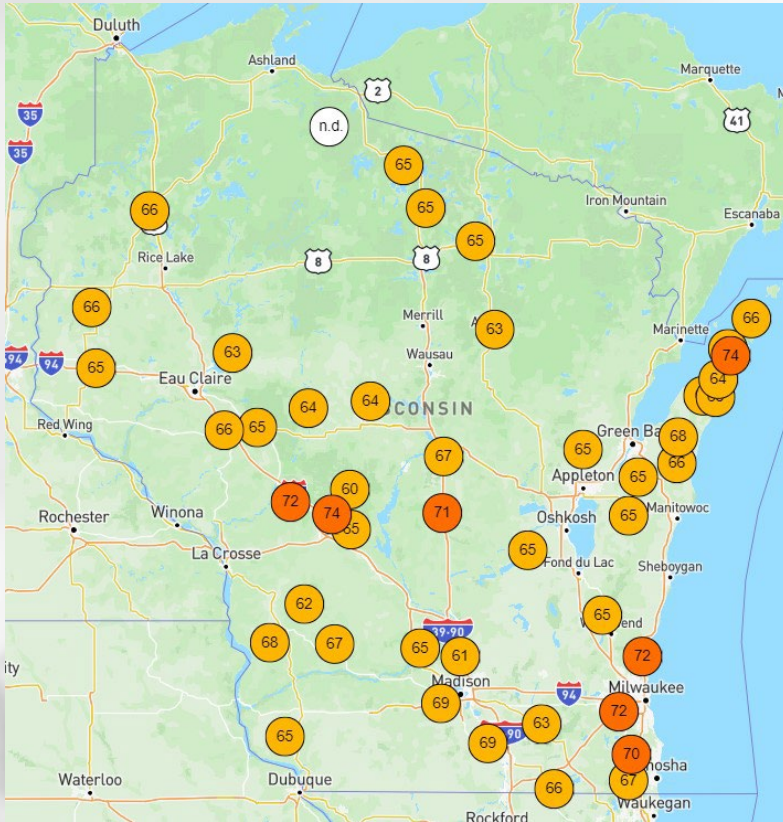


<http://droughtmonitor.unl.edu/>

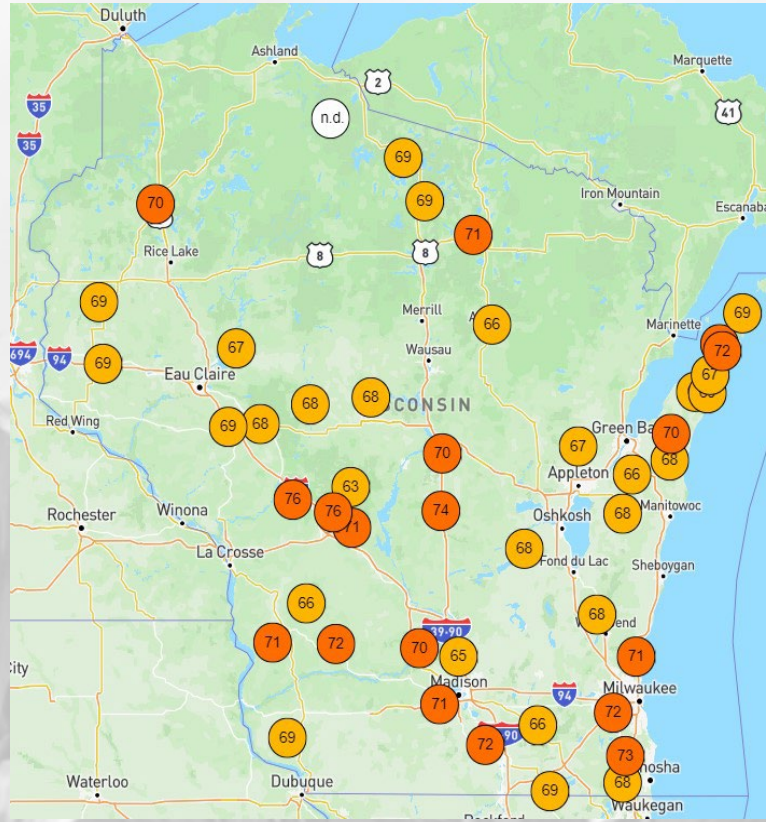


# Wisconet Soil Temp (4" Depth)

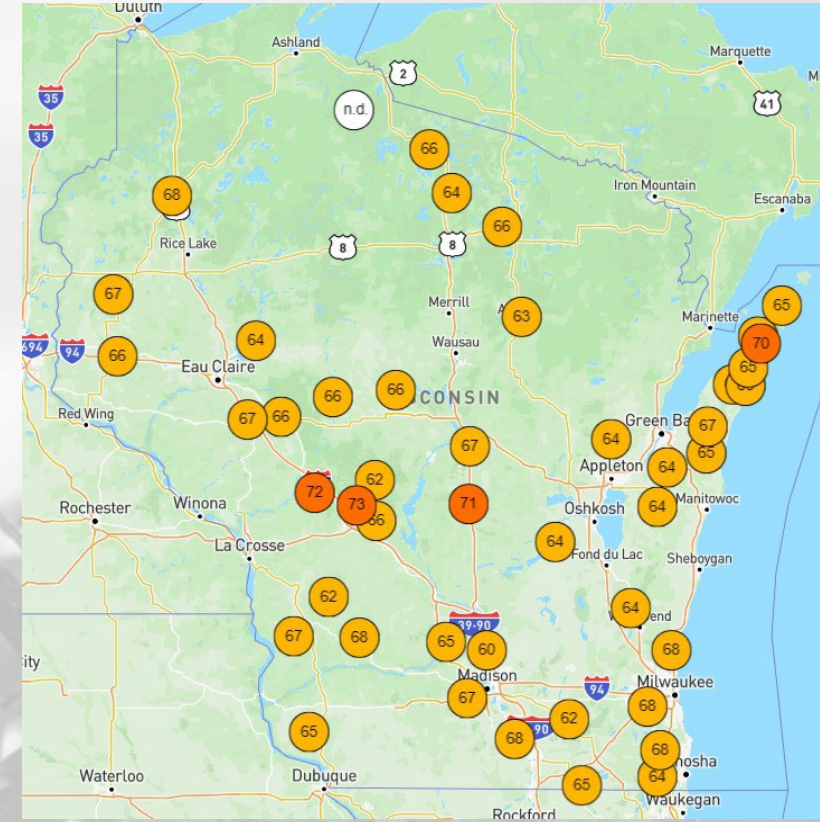
Friday Sept. 13<sup>th</sup> @ Midday



Sunday Sept. 15<sup>th</sup> @ Midday

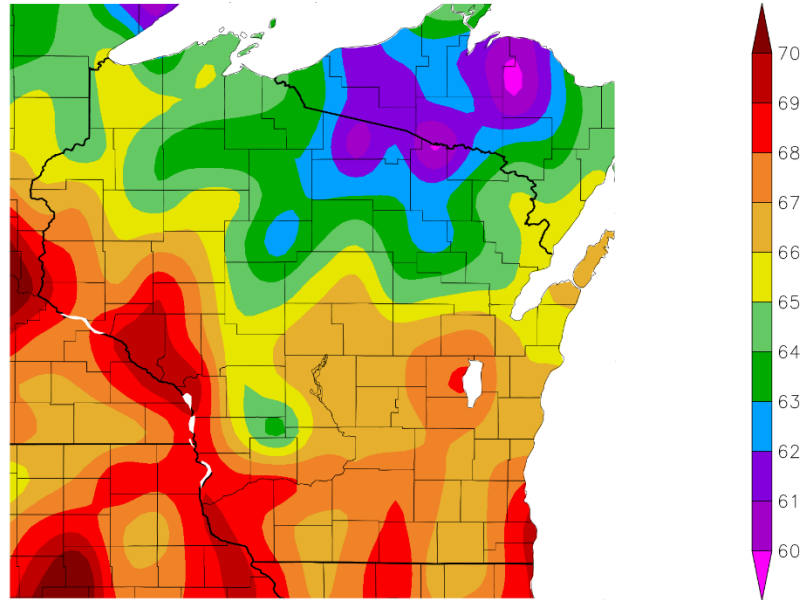


Tuesday Sept. 17<sup>th</sup> @ Midday



# 30 Day Temperatures

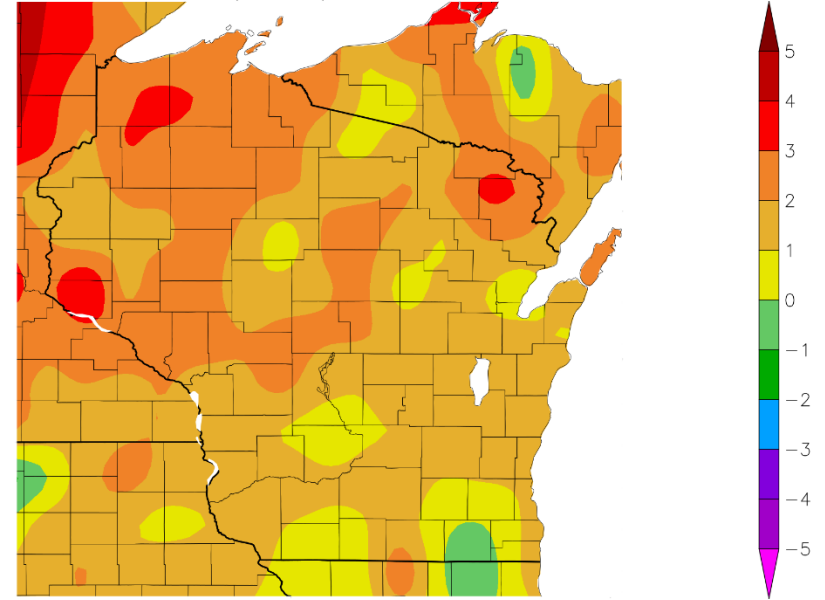
Temperature (F)  
8/18/2024 – 9/16/2024



Generated 9/17/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)  
8/18/2024 – 9/16/2024



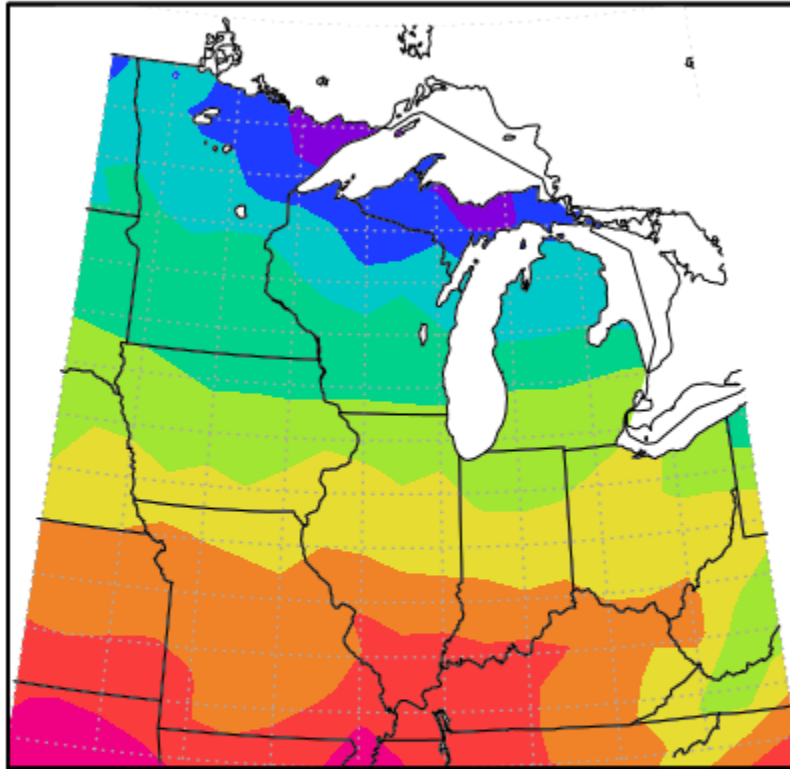
Generated 9/17/2024 at HPRCC using provisional data.

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.
  - **1-3°F above normal** for most of the state compared to climatological (1991-2020) average.
  - Temps more above the climatological average in the north compared to the south.

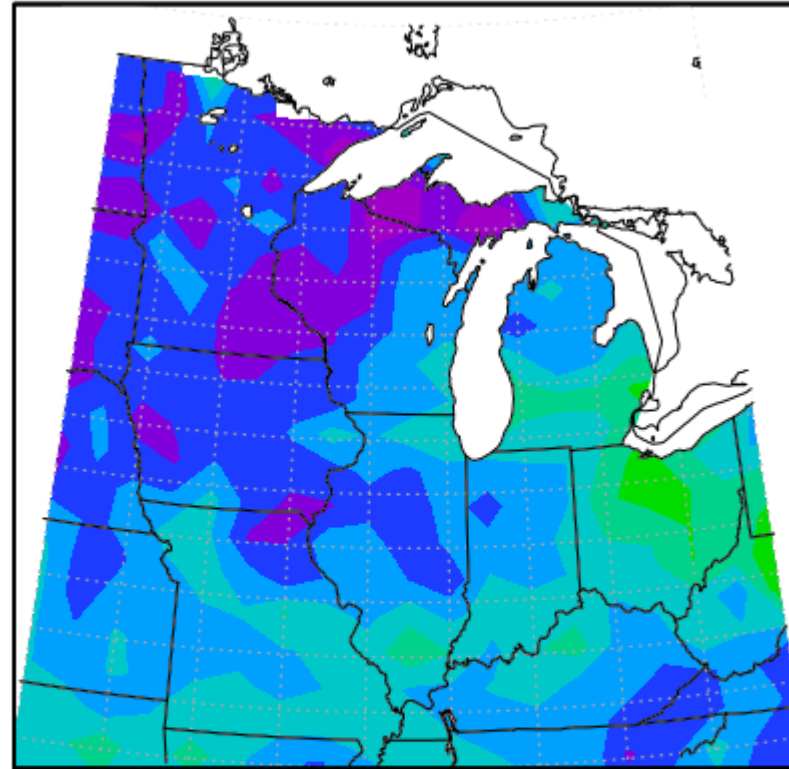
# Growing Degree Days (Base = 50°F; Since April 1)

Total MGDD from 4/1/2024 to 9/16/2024



Midwestern Regional Climate Center  
Purdue University

MGDD Departure, 4/1/2024 to 9/16/2024



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

- **2700-3000** GDD in the S to **1800-2400** GDD in the N.
- The eastern half WI is **100-200** GDD further ahead of the average; **<100** GDD ahead 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](https://mrcc.purdue.edu/climate_watch)

# NASS Crop Progress – Corn

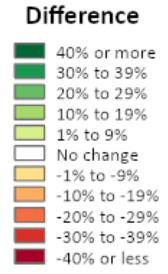
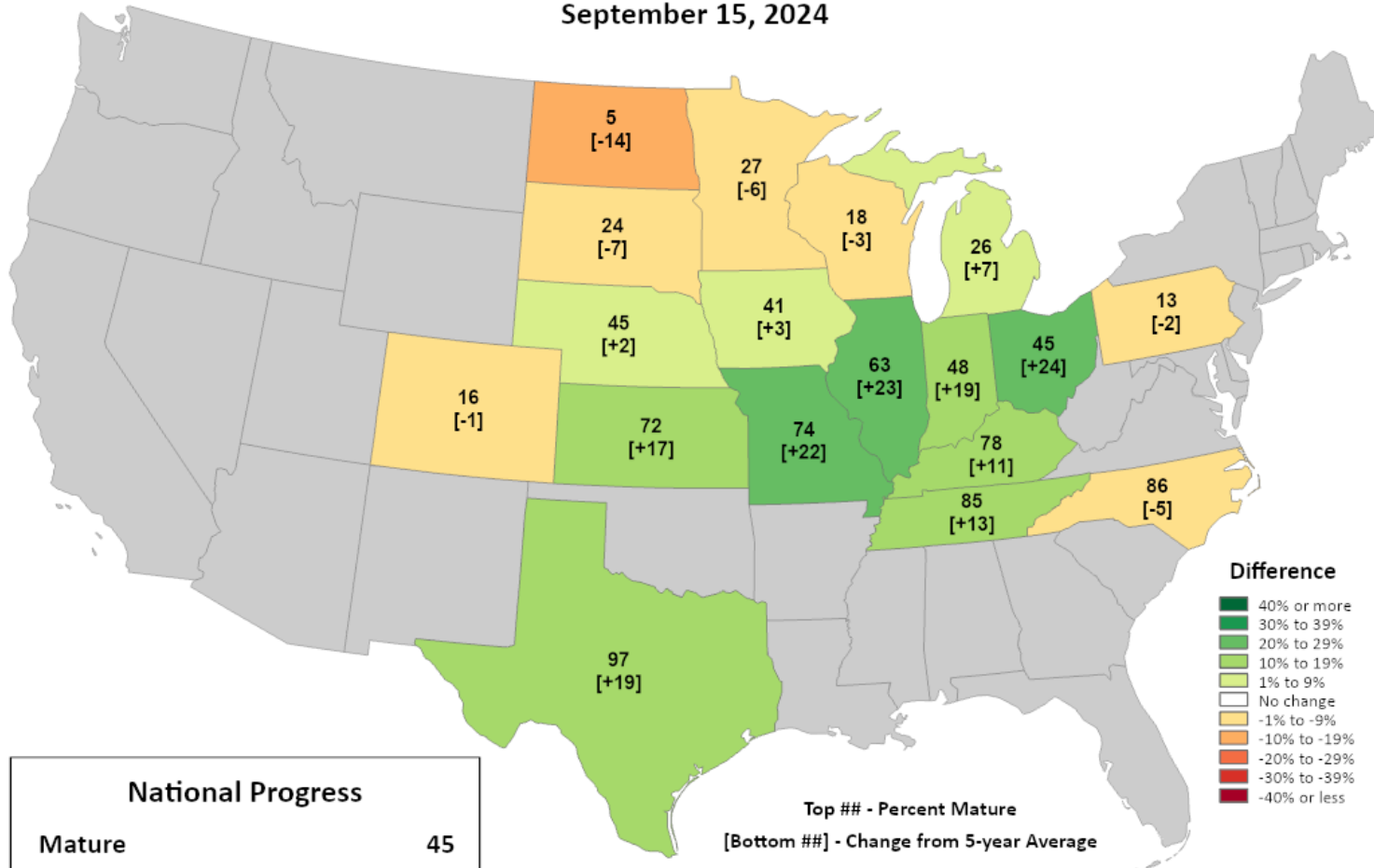


This product was prepared by the  
USDA Office of the Chief Economist (OCE)  
World Agricultural Outlook Board (WAOB)

## Corn Progress

### Percent Mature

September 15, 2024



National Progress	
Mature	45
Change from 5-year Average	+7

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

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

- The corn in WI fields is **reaching or has reached maturity**. Denting is nearing completion. Progress is **behind of normal pace** in WI, a contrast to states to the S/E.
  - In WI, denting is **18% complete**. 3% behind of the 5-year average pace & up **13%** from last week.
  - Denting → **73% complete**
  - Harvested → **Not started**

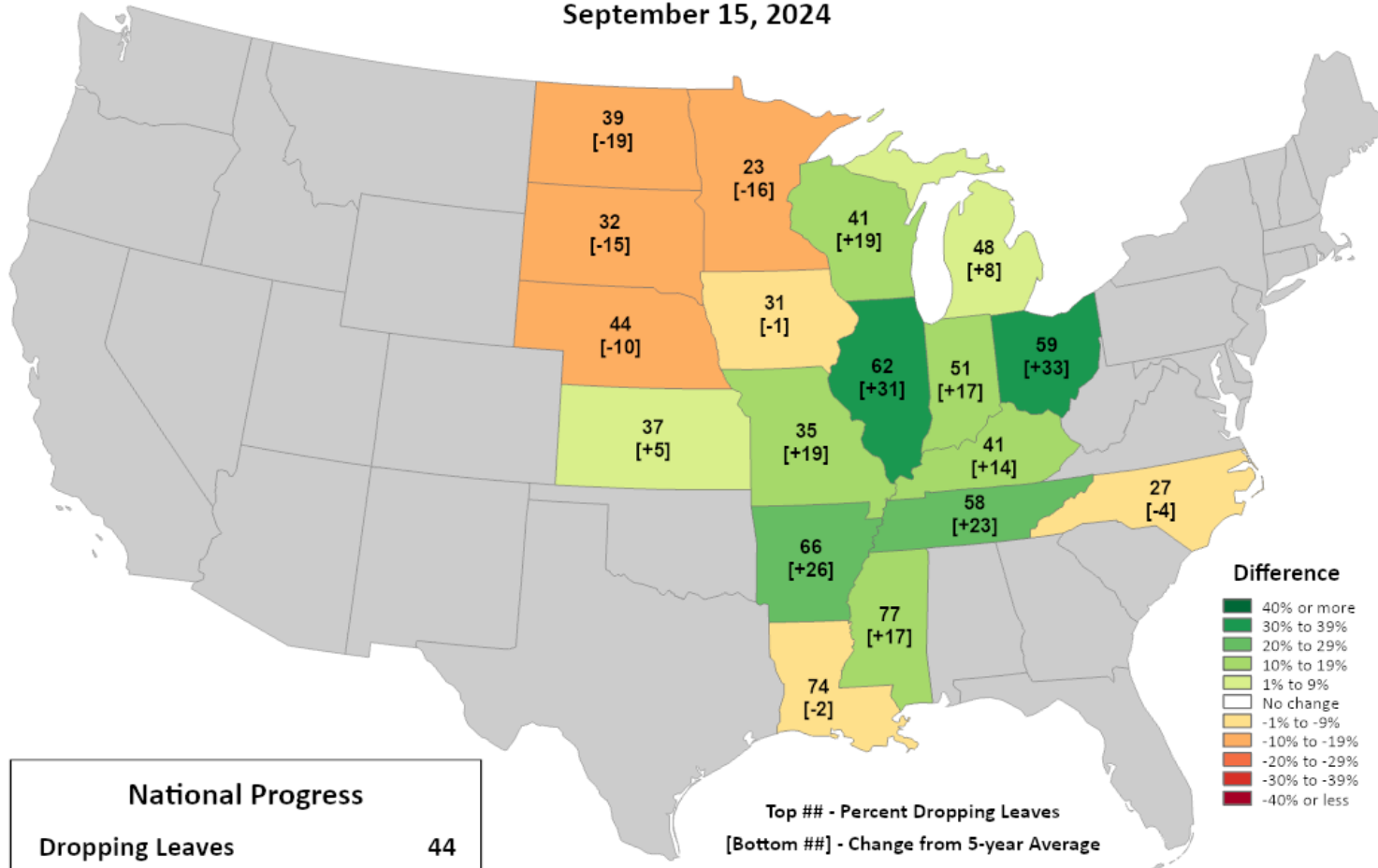
# NASS Crop Progress – Soybean



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USDA Office of the Chief Economist (OCE)  
World Agricultural Outlook Board (WAOB)

## Soybeans Progress Percent Dropping Leaves

September 15, 2024



National Progress	
Dropping Leaves	44
Change from 5-year Average	+7

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 complete** & leaf drop is nearing 50% complete. Things are running **well ahead of normal pace** in WI and points to the S/E.
- In WI, leaf dropping is **41% complete**. 19% ahead of the 5-year average pace & up **31%** from last week.
- Harvested → **1% complete**

# NASS Crop Condition

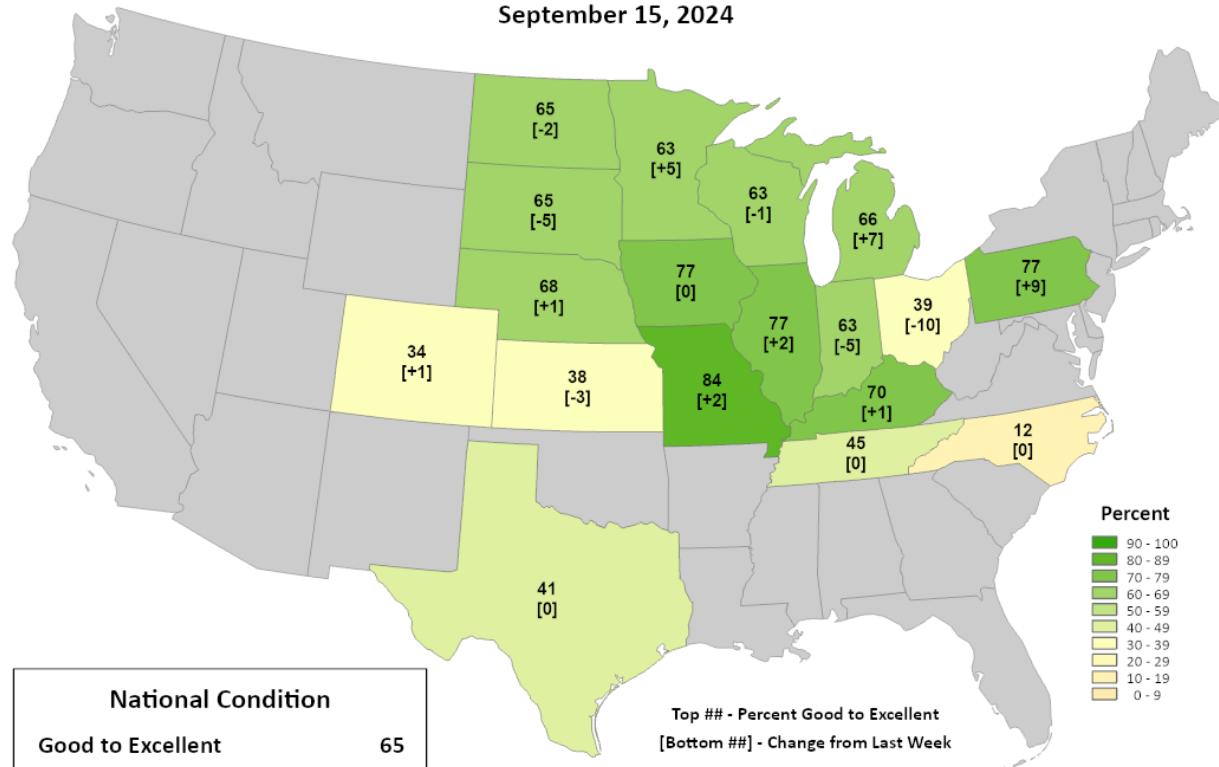


This product was prepared by the  
USDA Office of the Chief Economist (OCE)  
World Agricultural Outlook Board (WAOB)

## Corn Conditions

### Percent Good to Excellent

September 15, 2024



National Condition	
Good to Excellent	65
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.

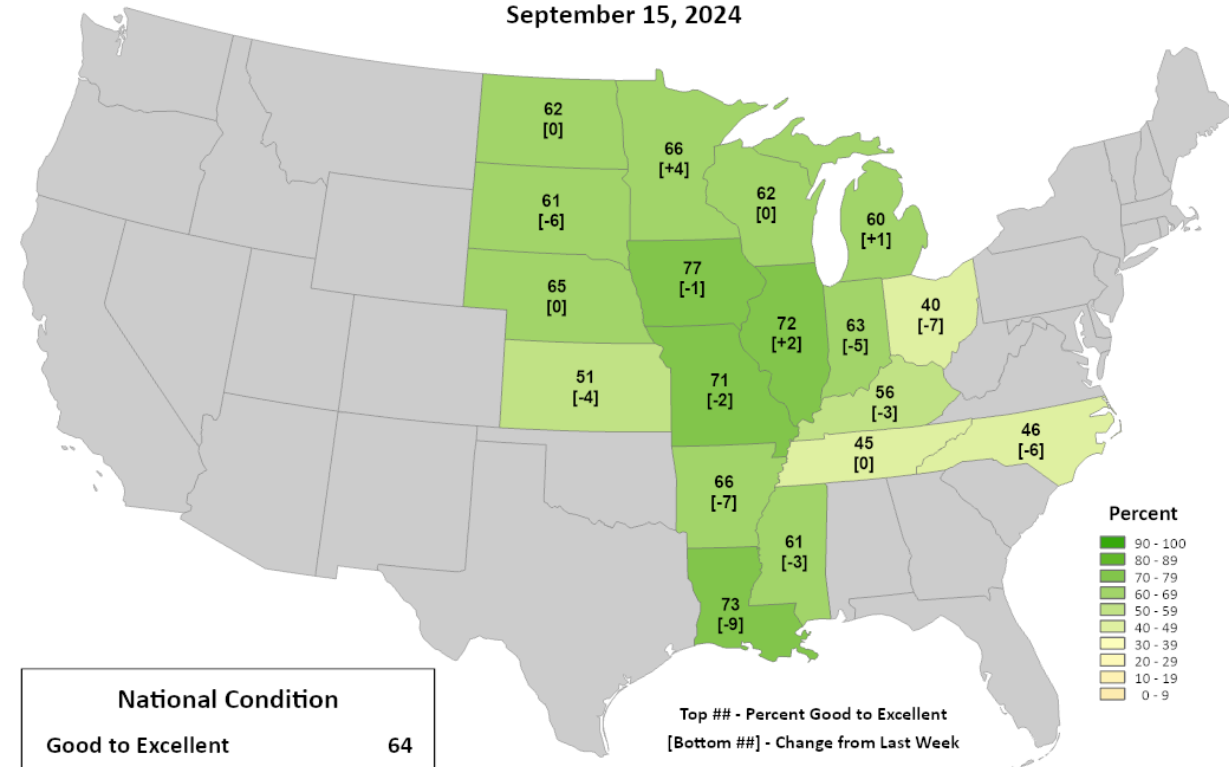


This product was prepared by the  
USDA Office of the Chief Economist (OCE)  
World Agricultural Outlook Board (WAOB)

## Soybean Conditions

### Percent Good to Excellent

September 15, 2024



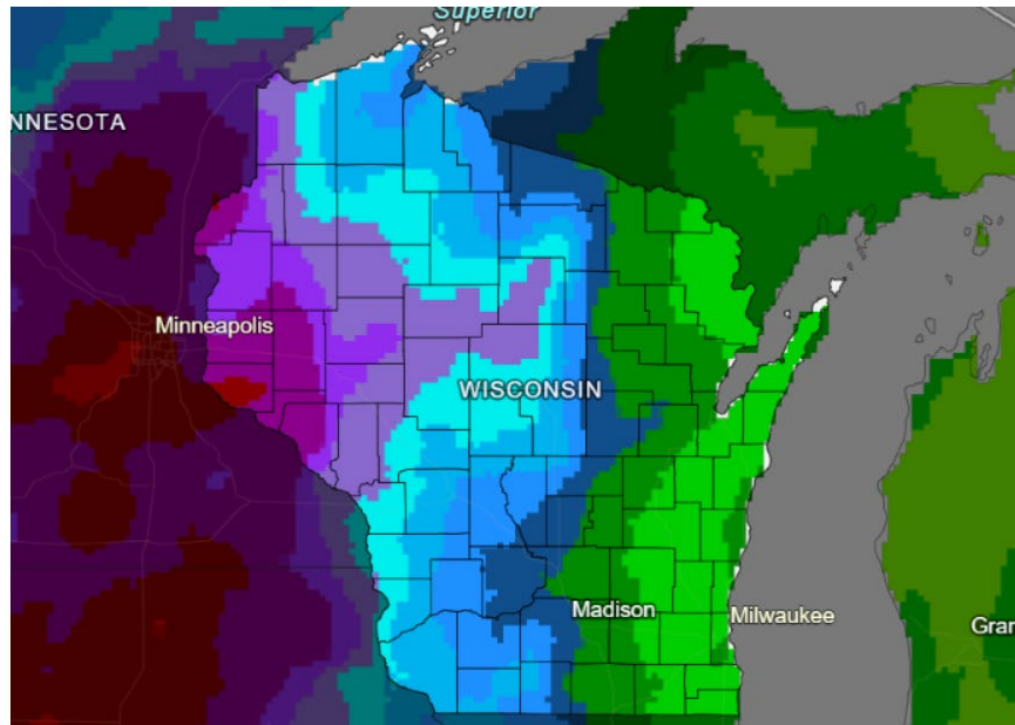
National Condition	
Good to Excellent	64
Change from Last Week	-1

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

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

# 7 Day Precip Forecast

7-Day Quantitative Precipitation Forecast for  
September 16–23, 2024



Predicted Inches of Precipitation



Source(s): National Weather Service Weather Prediction Center  
Last Updated: 09/17/24

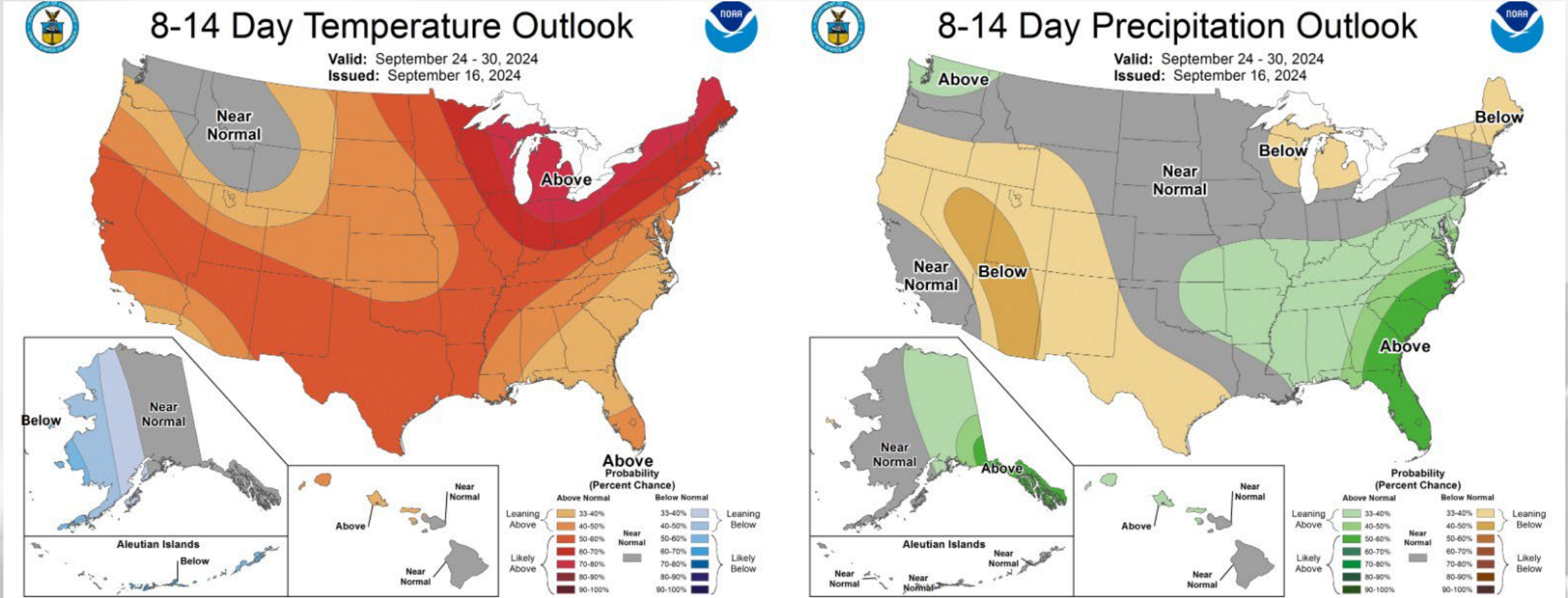
Drought.gov

- Chances for precip over the next week **highest in W/NW WI.**
  - Best chances for rain **between Eau Claire & the Twin Cities.**
  - Chances for **>1"** in the west, **>2"** in the NW.
  - **Multiple rain chances** between Thursday & Monday.

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

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

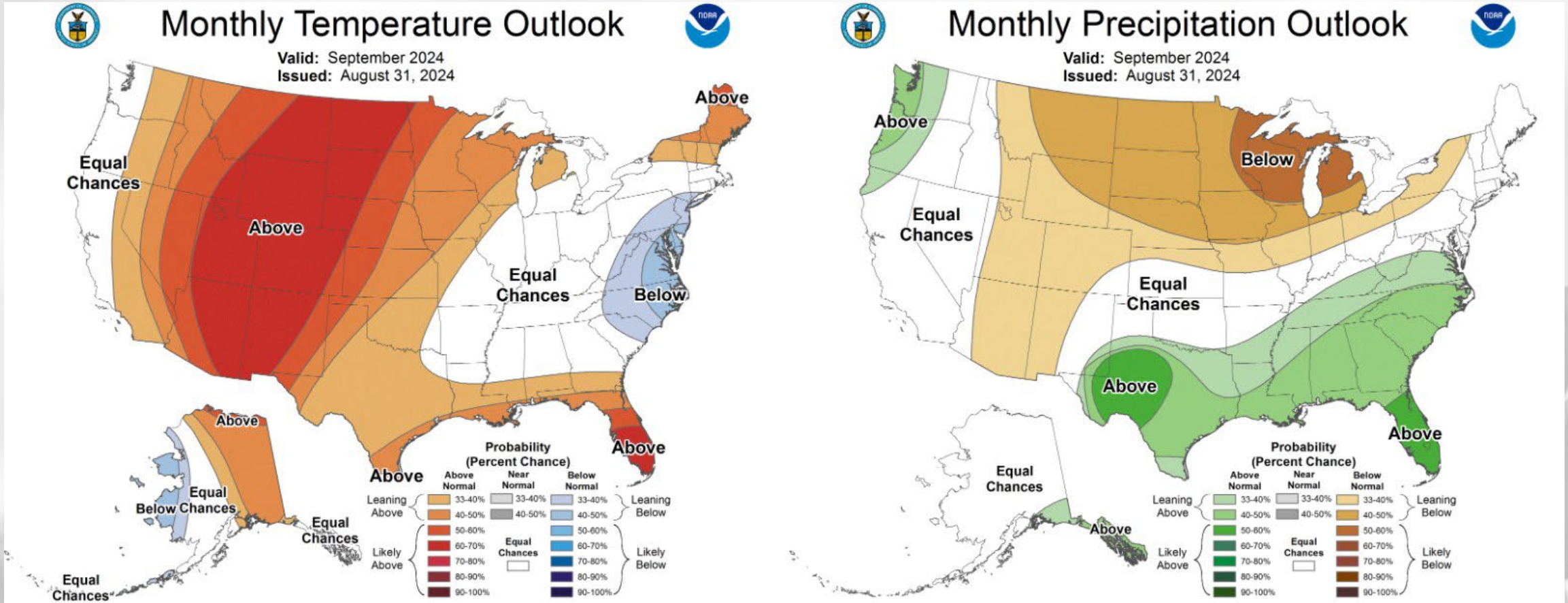
# 8-14 Day Temp & Precip Outlook



**End of September:** Temperatures likely to be above normal, with higher probability in the E. Precipitation leaning near to below normal.

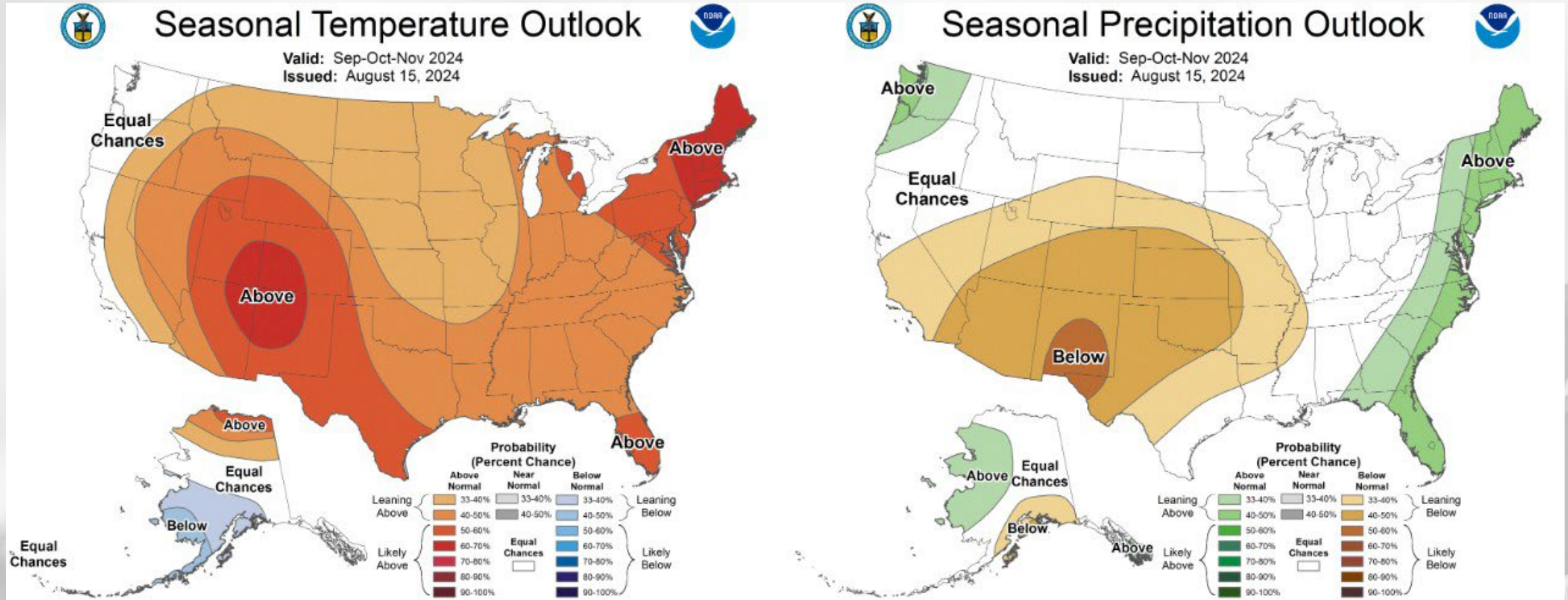


# 30 Day Temp & Precip Outlook



**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:

- After setting record lows last week, temps rebounded in a big way with very **summer-like conditions** taking over in the state. Highs got into the **upper 80s and low 90s** for some.
- Precip over the past 30 days has been **<50% of average** for many stations, with some receiving **no precip last week**.

## Impact:

- Dry soil moisture percentiles are becoming **more common** in the state with the lack of rainfall, with D0 coverage on the USDM map **increasing by >30%** from last week.
  - **Corn** denting is running **nearing completion**, with maturity reported as **18% complete**.
  - **Soybean** pod setting is **complete**, with leaf drop jumping up to **41% complete**. Some soybean harvest is **underway**.
- GDDs are approaching **3000 (2400) units** in the southern (northern) counties.

## Outlook:

- Highest likelihood for precip this next week in the west and northwest counties.
- Late September has a higher probability to be **warmer than normal**, with precip chances leaning **below to near normal**.
- 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

- Be aware of what is going on in corn silage fields, especially related to some tar spot & other disease issues. Even later planted fields seem to be drying down quickly.
- 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. Tools available here for [cover crop selection](#) and their [use in a forage rotation](#).

## 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](mailto: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>

# Contact Info

Photo Credit: USDA



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