

# Wisconsin Ag Climate Outlook

*Week of October 14, 2024*

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# Key Points

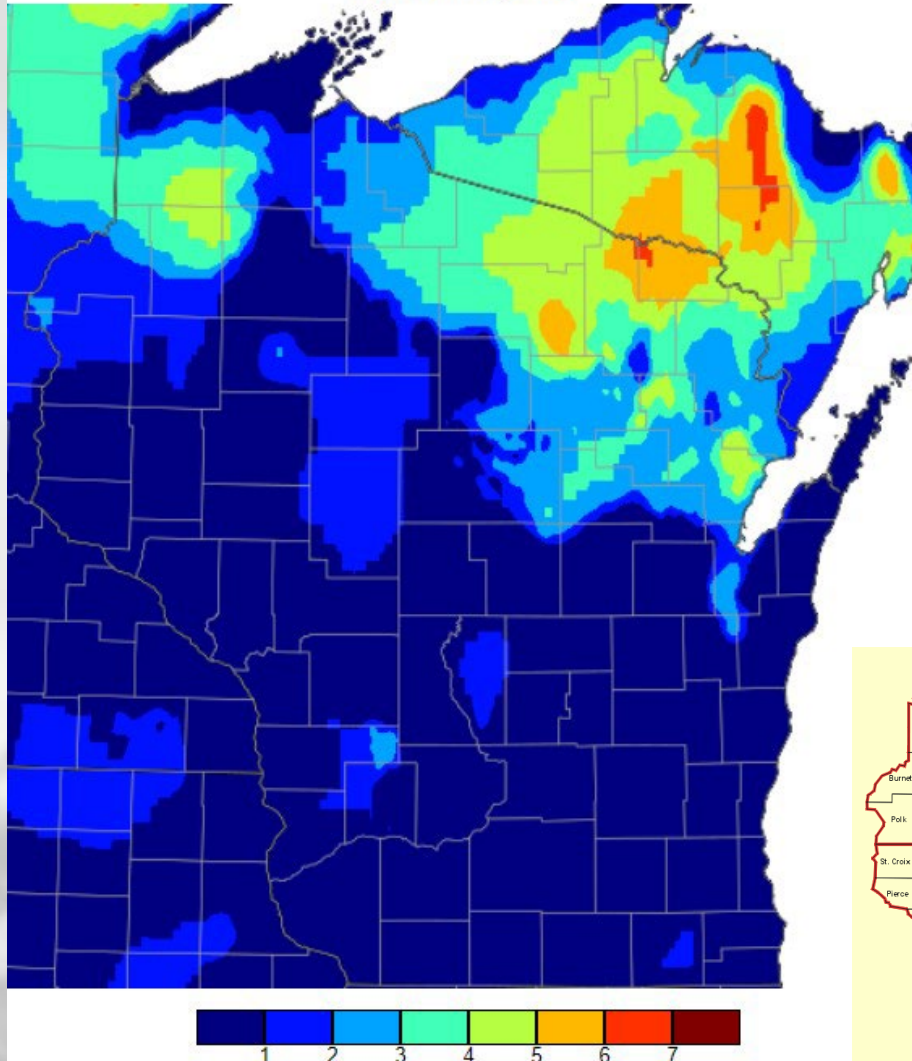
Navigate to select slides by clicking on the [links](#) below.

- 1) Despite conditions being [warmer than normal](#) on average, many in the state [experienced a freeze](#) last week.
  - 2) The east received some [rain last week](#), but [soil moisture](#) conditions continue to get drier with reductions in [adequate moisture](#). [Drought coverage](#) has expanded.
  - 3) The second half of October is looking to remain [warmer than normal](#), with a lean towards [above normal precip](#).
- 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](#).

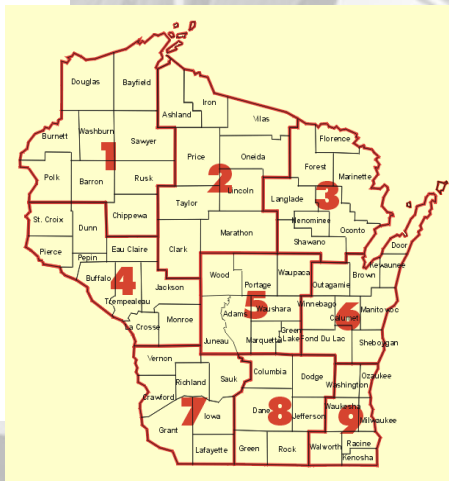


# Chilly Fall Nights

Number of Days Min Temperature <= 32 - October 8, 2024 through October 14, 2024

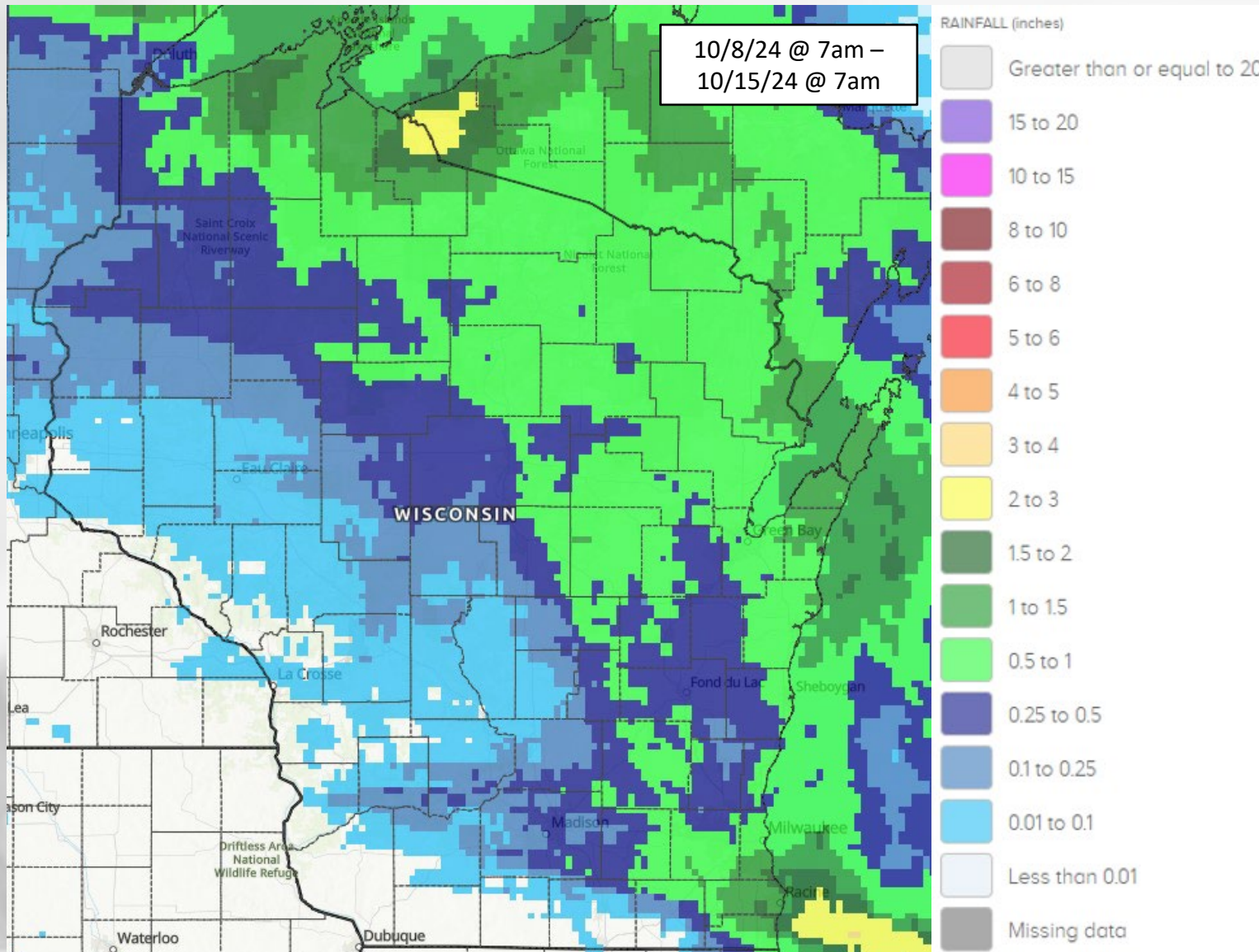


Number of nights with minimum temp at or below freezing – Oct. 8-14



| Climate Division | Coldest Station (10/8 – 10/14) | Minimum Temp & Date |
|------------------|--------------------------------|---------------------|
| WI01             | Couderay (Sawyer)              | 25°F, 10/8          |
| WI02             | Minocqua (Oneida)              | 26°F, 10/10         |
| WI03             | Florence (Florence)            | 26°F, 10/10         |
| WI04             | Ft. McCoy (Monroe)             | 28°F, 10/8          |
| WI05             | Friendship (Adams)             | 30°F, 10/8          |
| WI06             | Brillion (Calumet)             | 30°F, 10/10         |
| WI07             | Hillsboro (Vernon)             | 28°F, 10/8          |
| WI08             | Horicon (Dodge)                | 30°F, 10/8          |
| WI09             | Slinger (Washington)           | 31°F, 10/8          |

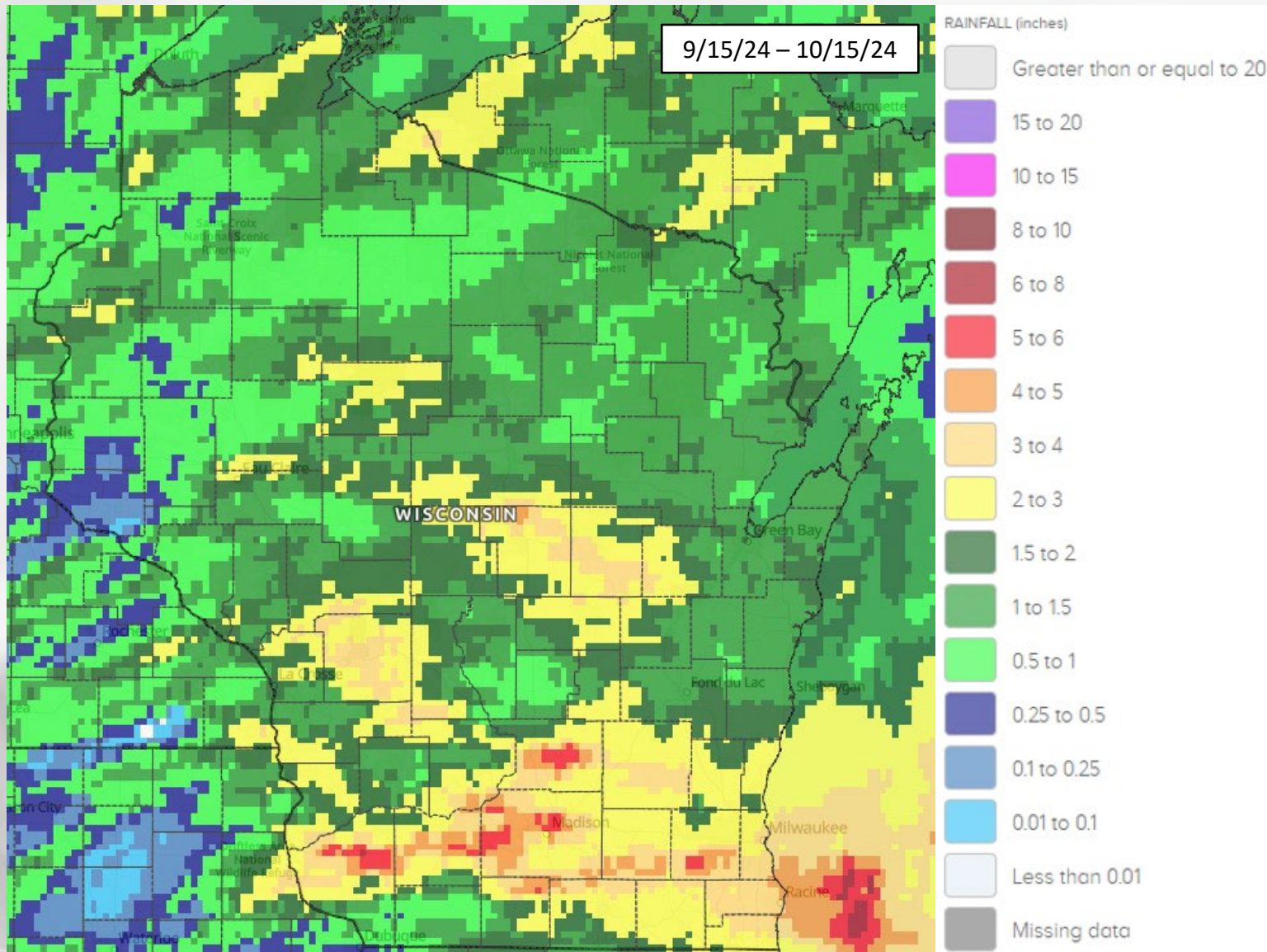
# 7 Day Precip



- Precip was **concentrated in the eastern half of the state** last week.
- Most of the north and east saw at least **0.5"** of rainfall, with **1+"** in Door County & Racine/Kenosha vicinities.
- **Little to no precip** in the SW & WC counties.

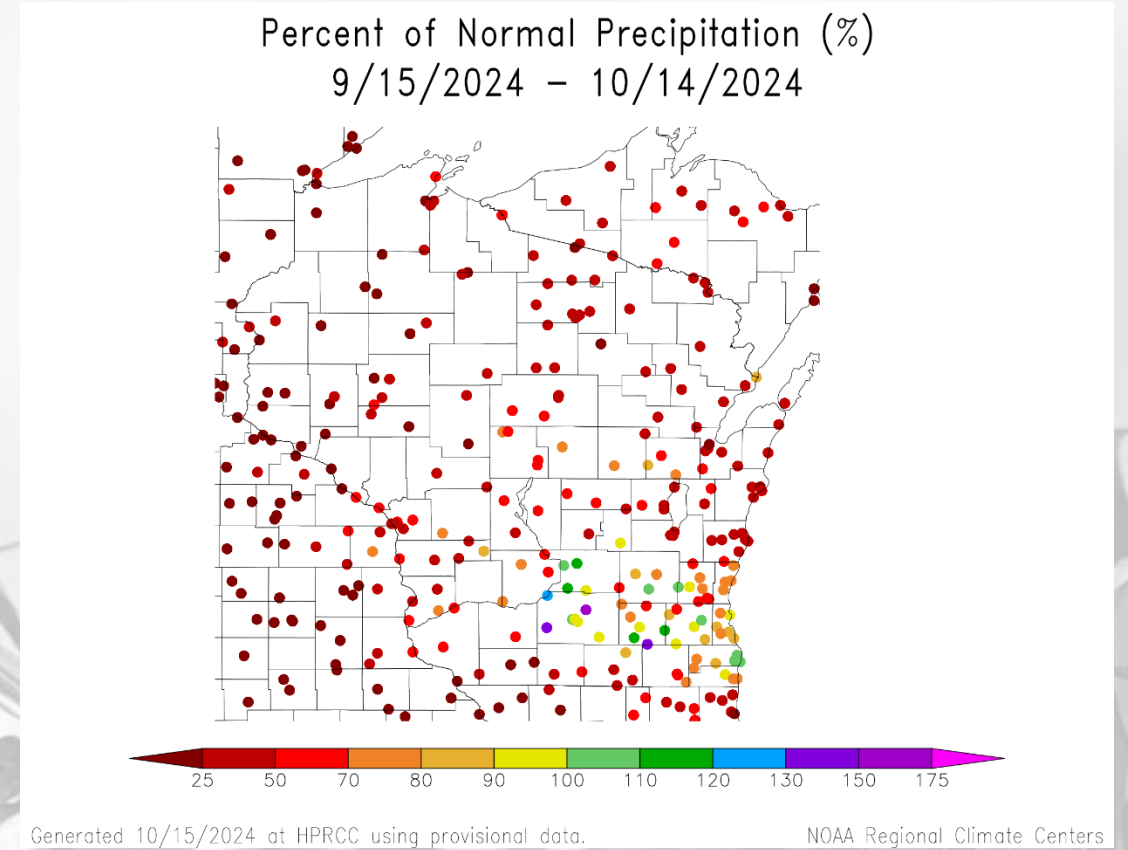
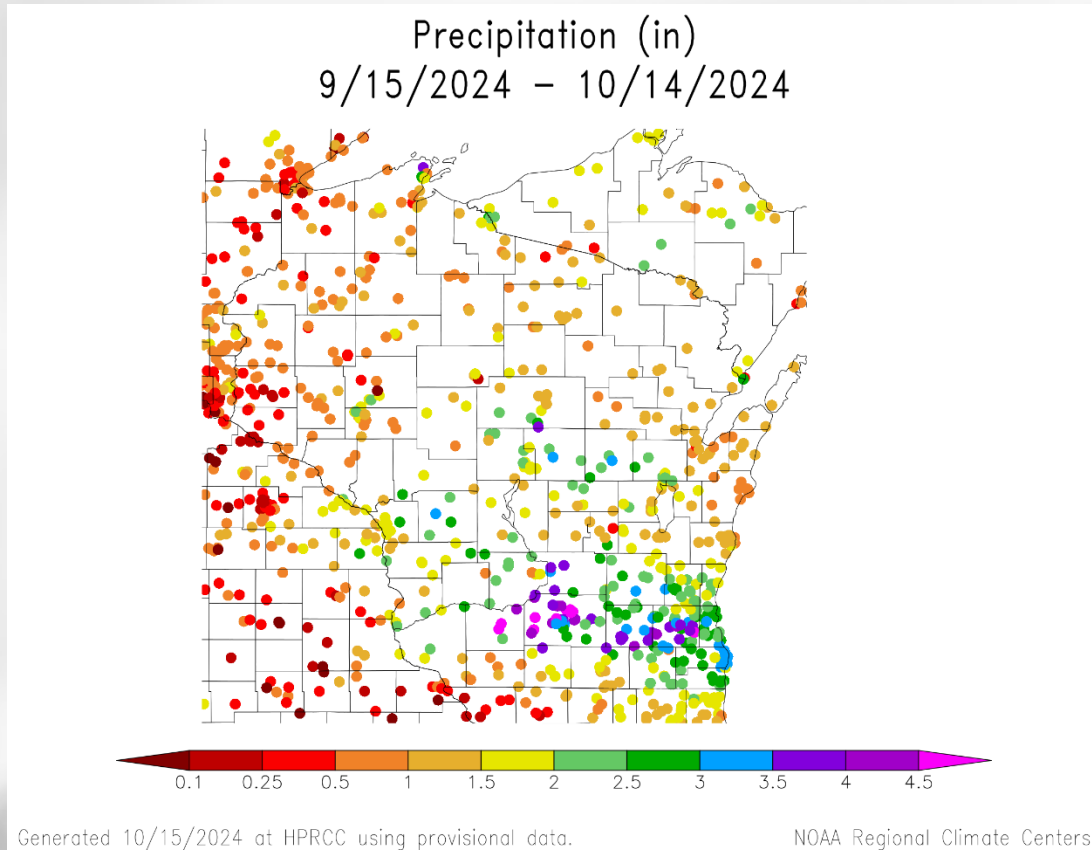


# 30 Day Precip



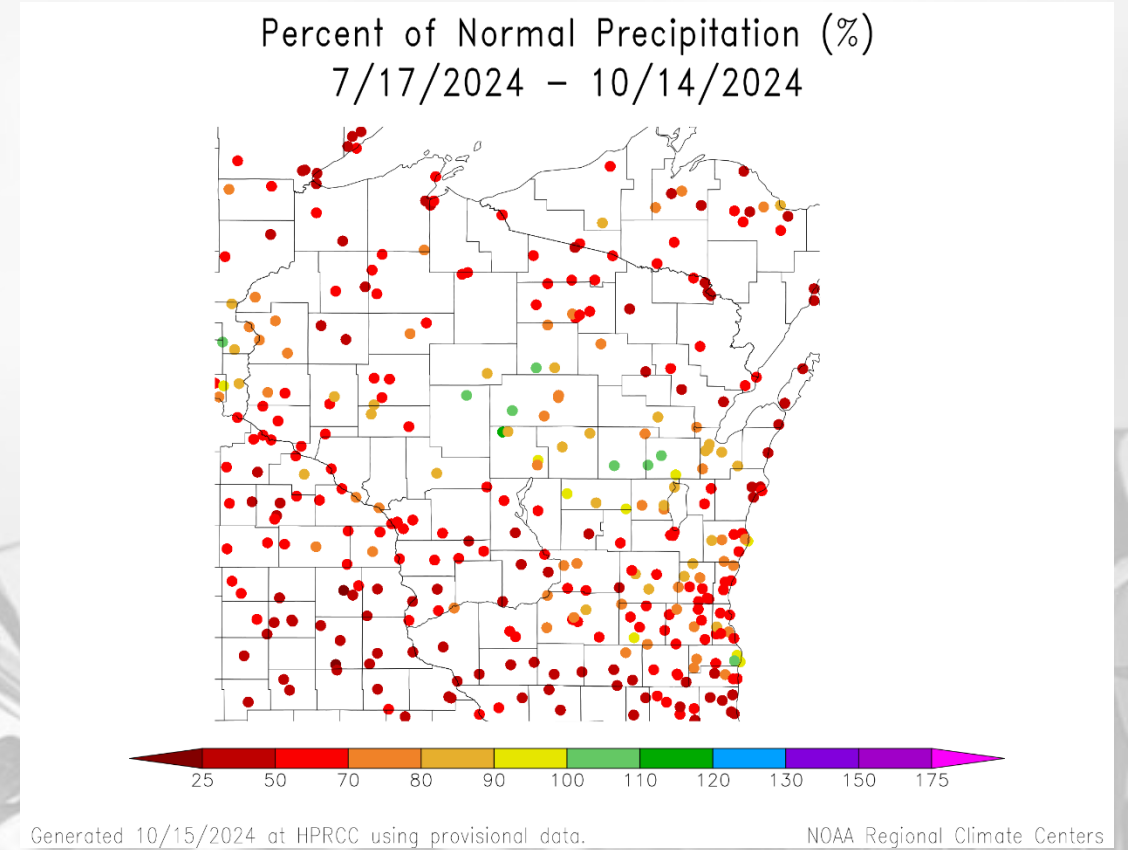
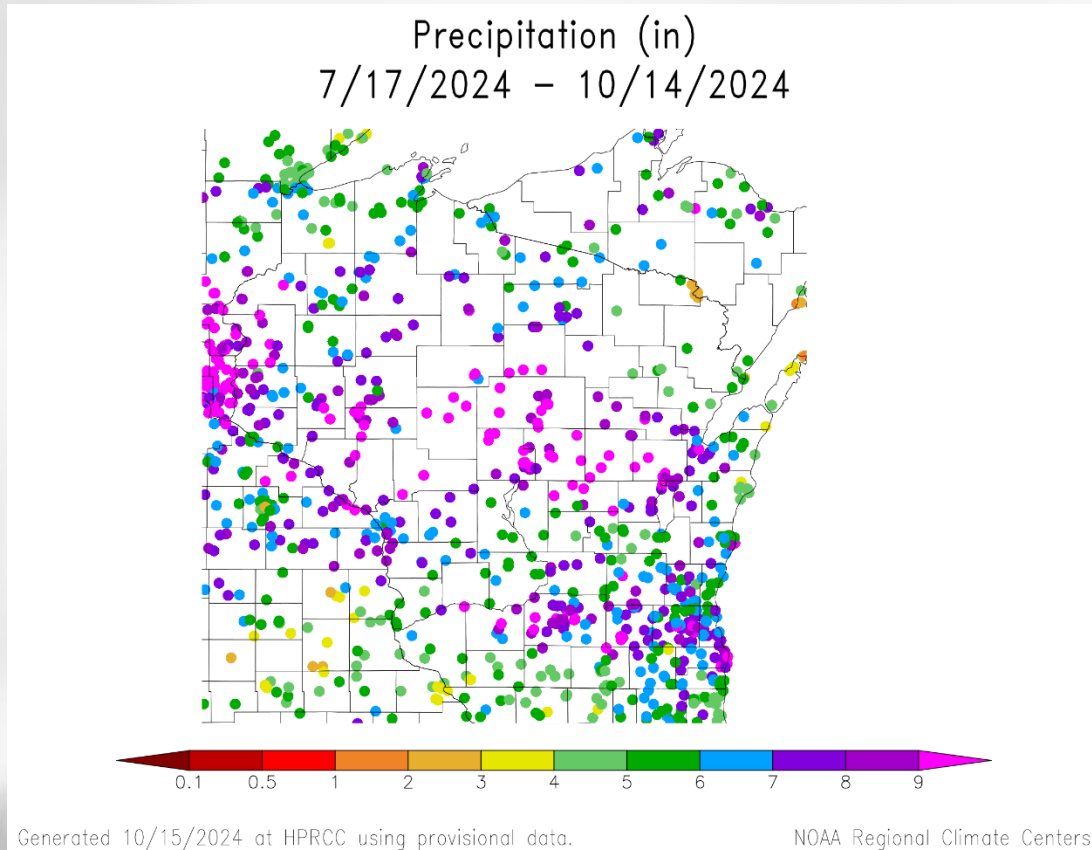
- The majority of the state saw **<2"** of precip since **Sept. 15**. Lowest totals in the NW.
- **2-4"** common east of La Crosse, in the Central Sands, and in the south.
- Estimates of 3+'' in the south, which was **received between Sept. 19-22**.

# 30 Day Precip Total/% Avg.



- Rainfall totals across most of the state has been **2" or less** → **70% or less** of climatological average (1991-2020).
- **2-3"** across stations in the Driftless, Central Sands, and SC/SE → **70% or greater** of climatological average.
- Highest between Madison & Milwaukee → **3+"**, which is **near or above** climatological average.

# 90 Day Precip Total/% Avg.

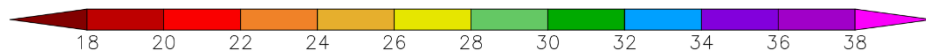
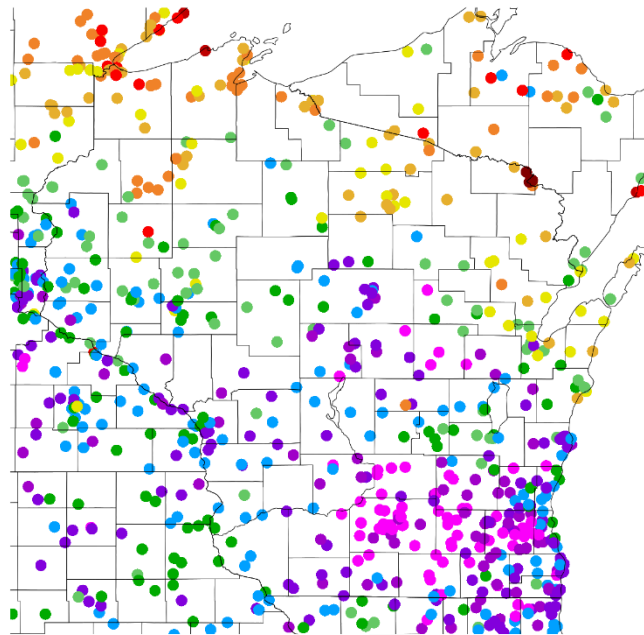


- **6-9"** of precip common across stations from the TC to Green Bay, and between Madison & Milwaukee
  - Most of these stations are **below the climatological average**; some in the NC counties are above normal
- **70% or less** of normal across most stations not in the central region.



# 2024 Precipitation (so far)

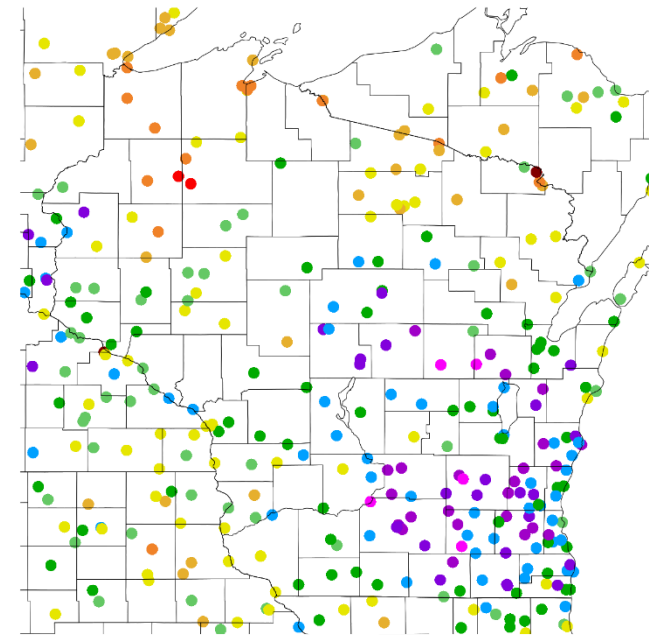
Precipitation (in)  
1/1/2024 - 10/14/2024



Generated 10/15/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)  
1/1/2024 - 10/14/2024



Generated 10/15/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

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



# Soil Moisture Models

- **20<sup>th</sup> percentile or lower** for soil moisture conditions covering most of the state.
- **5<sup>th</sup> percentile or lower** along Lake Michigan and along the western border.
- **Wettest conditions** in the central sands, but even this area is showing dry conditions (20-30<sup>th</sup> percentile).

*Model Notes:*

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

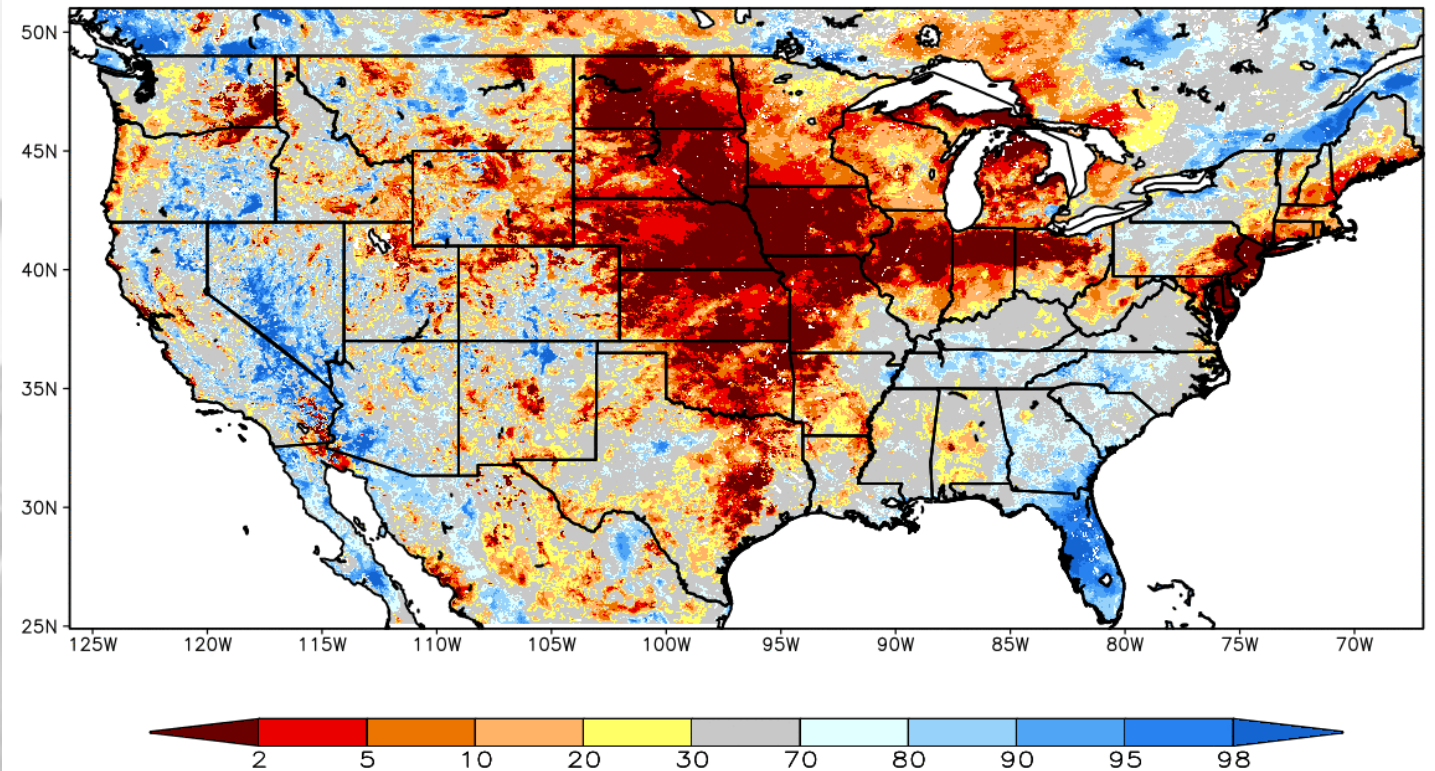
*Dark red areas = top 2 driest in 100 years.*

*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>

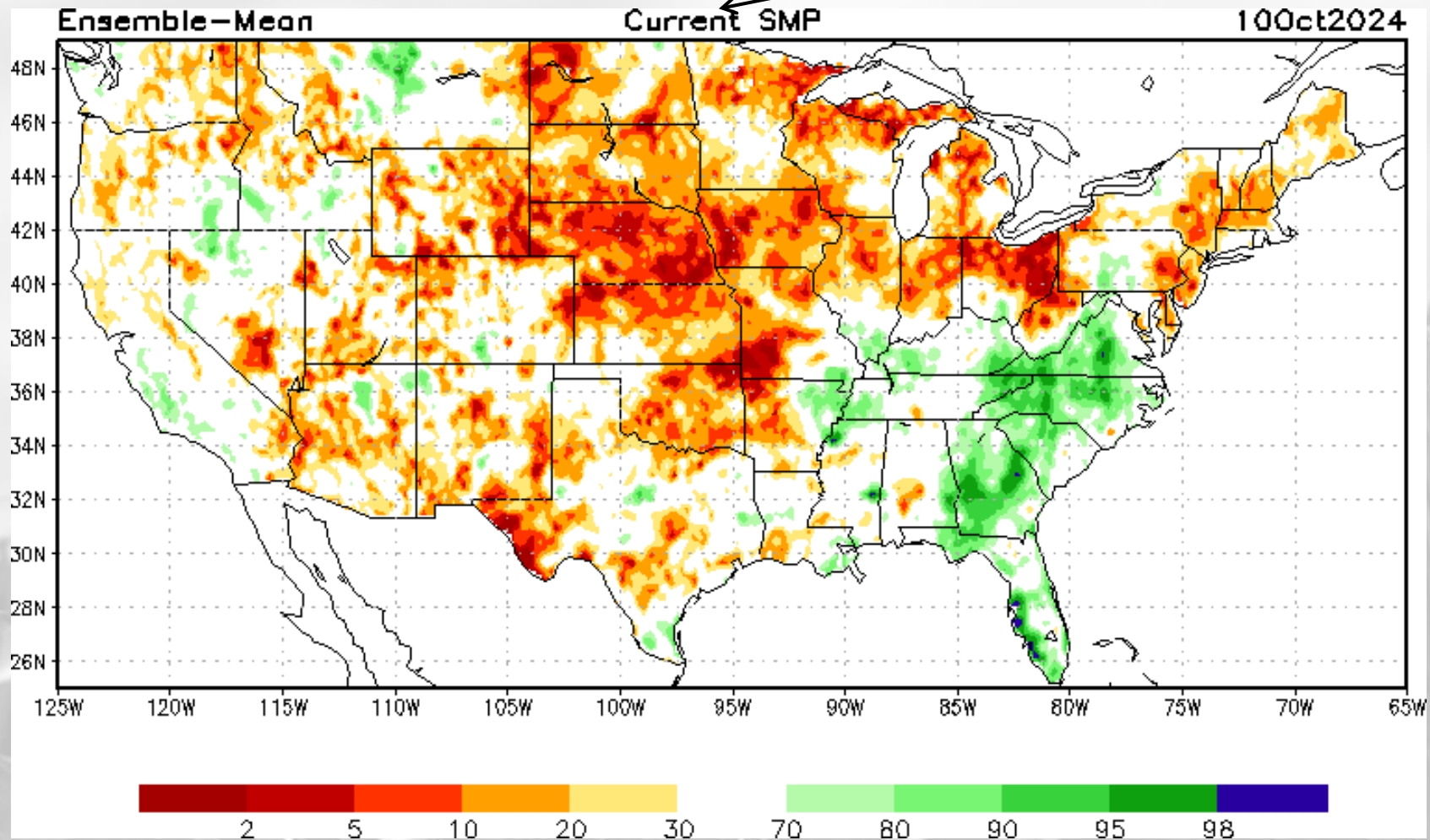
SPoRT-LIS 0-100 cm Soil Moisture percentile valid 15 Oct 2024



**\*\*NOTE\*\***  
**\*\*Experimental\*\***

# Soil Moisture Models

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

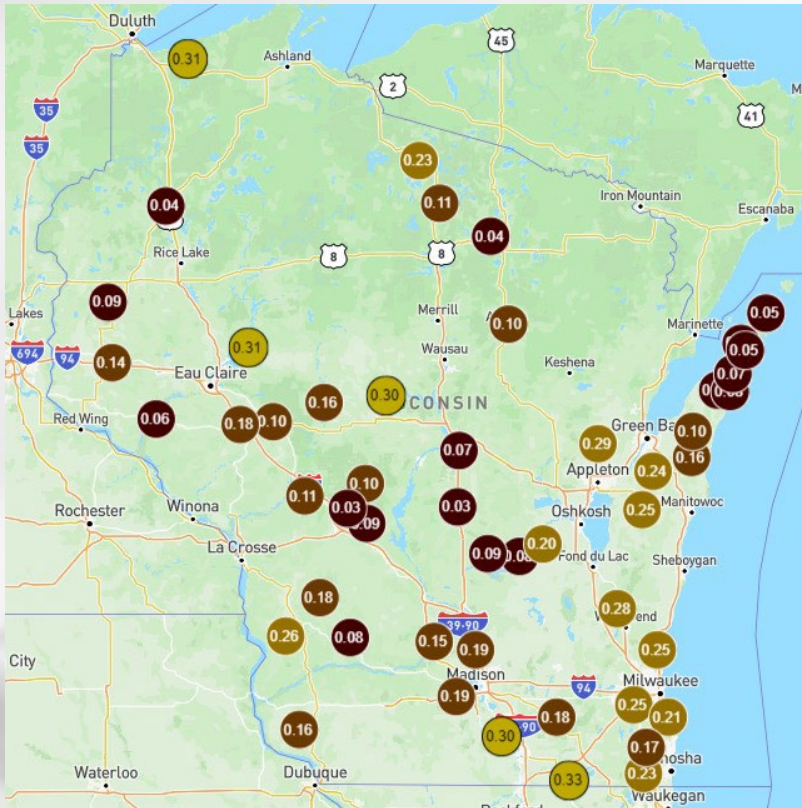


[https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp\\_new.shtml](https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp_new.shtml)

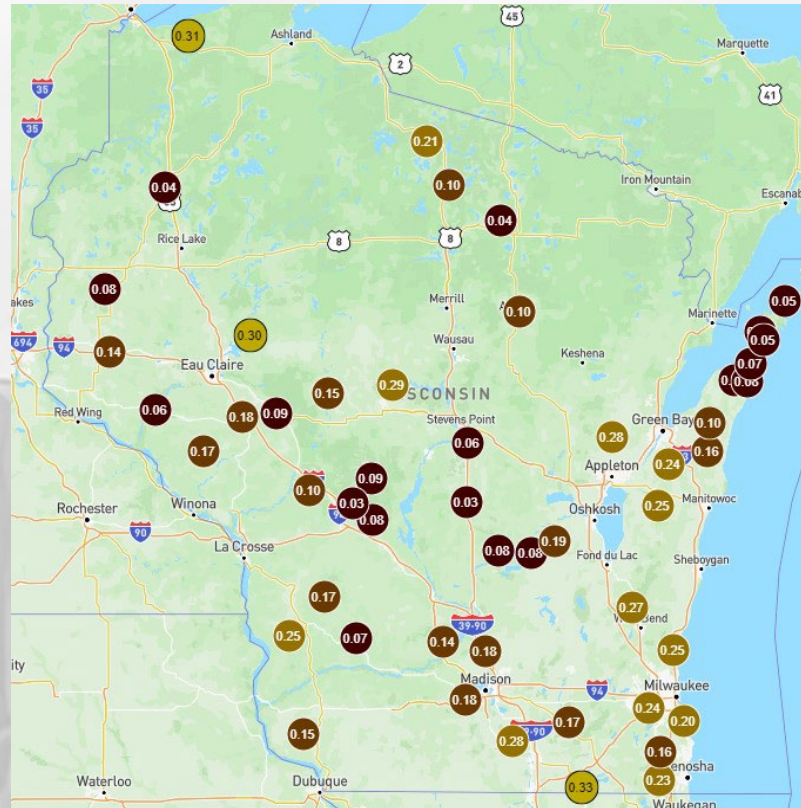


# Wisconet Soil Moisture (4" Depth)

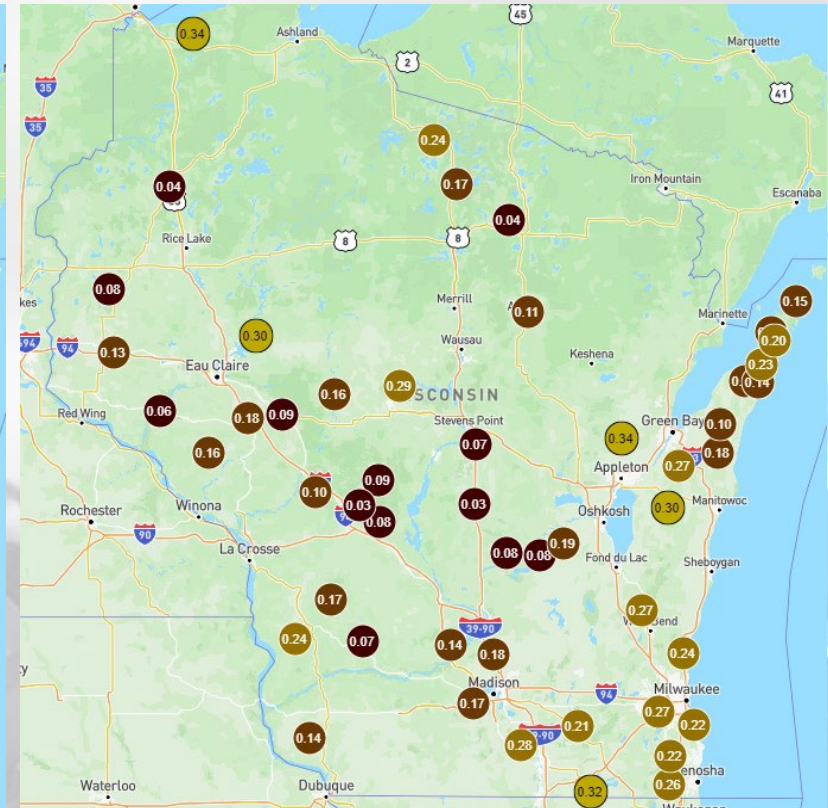
Thursday Oct. 10<sup>th</sup> @ Midday



Saturday Oct. 12<sup>th</sup> @ Midday

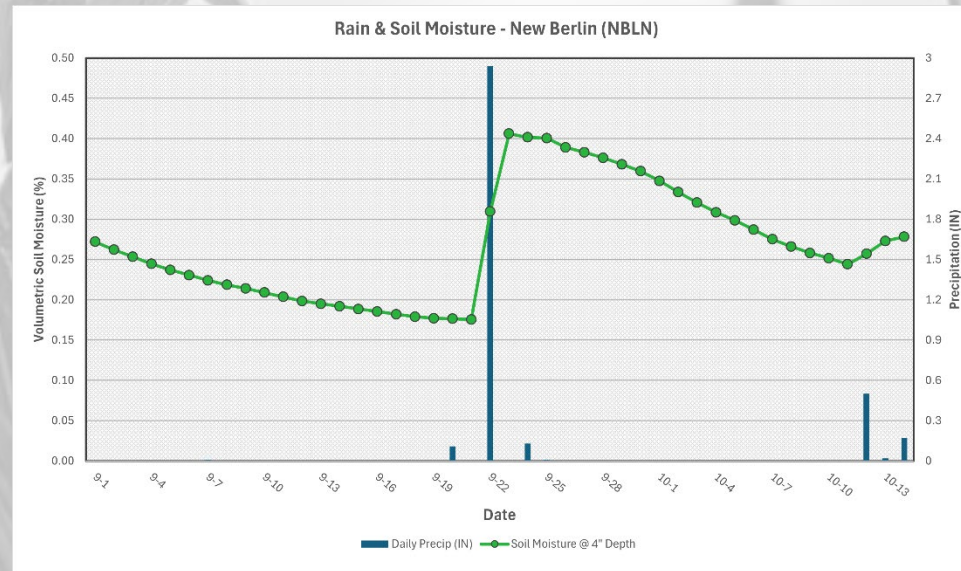
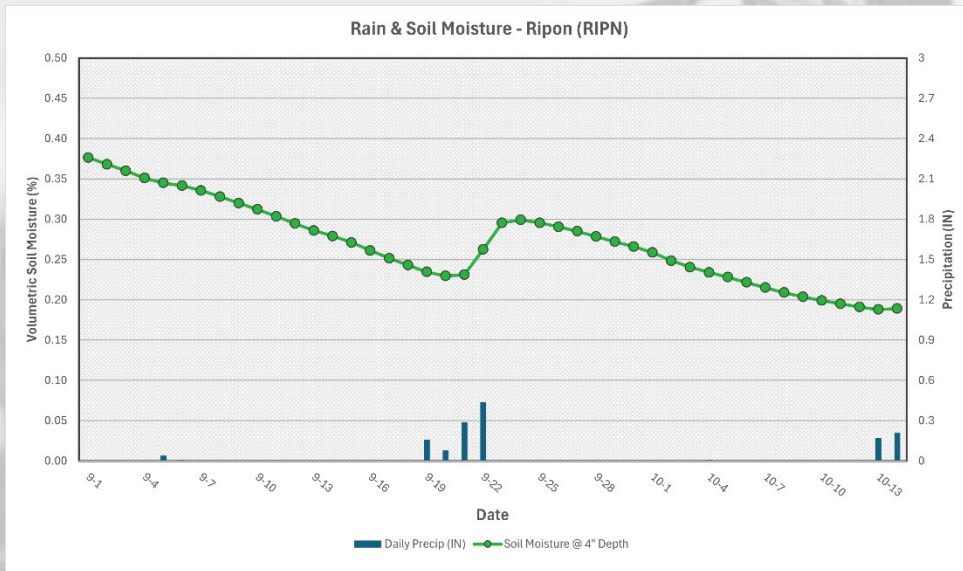
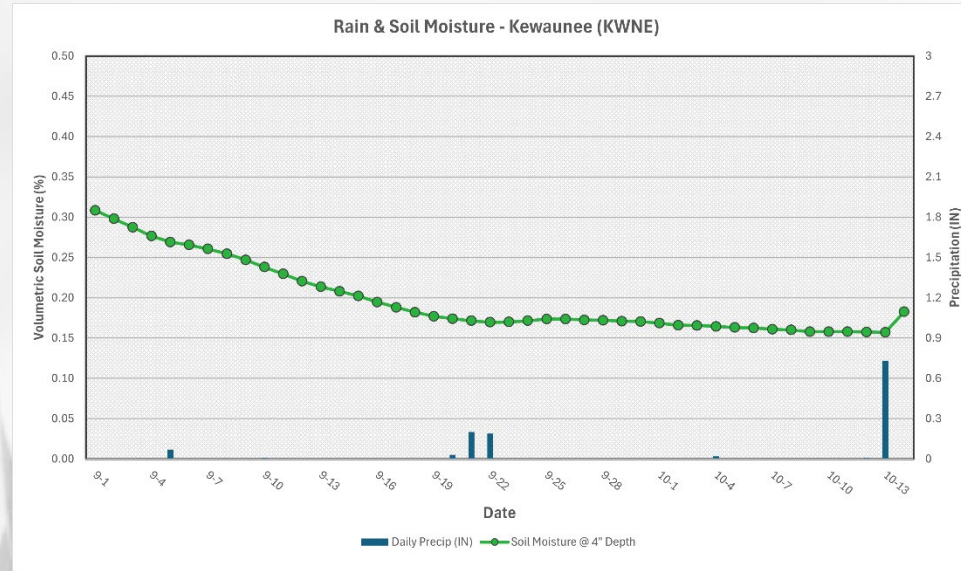
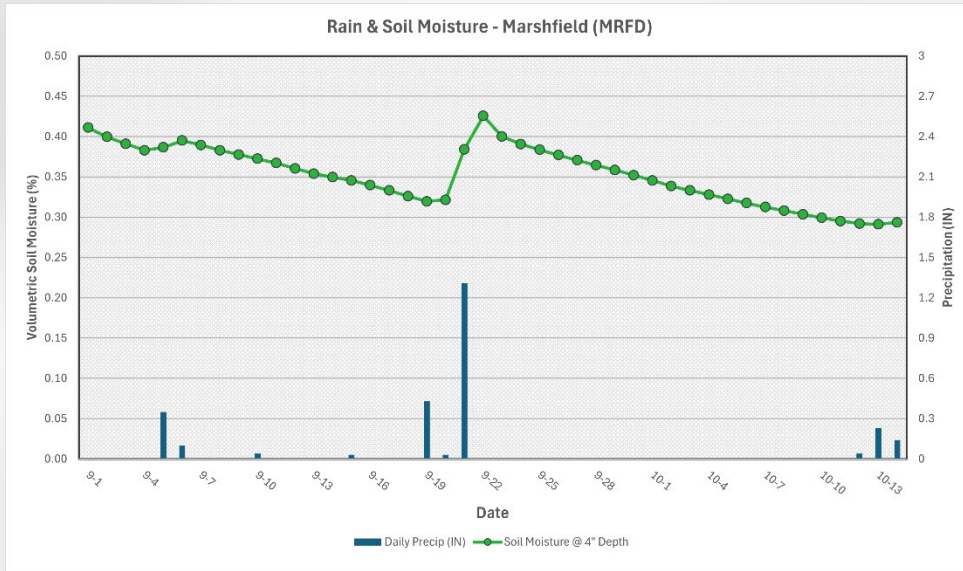


Monday Oct. 14<sup>th</sup> @ Midday





# Wisconet Soil Moisture – 4" Depth



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

Soil moisture showed a minor response to rainfall last week, which was <1" for most.

# NASS Topsoil & Subsoil Moisture

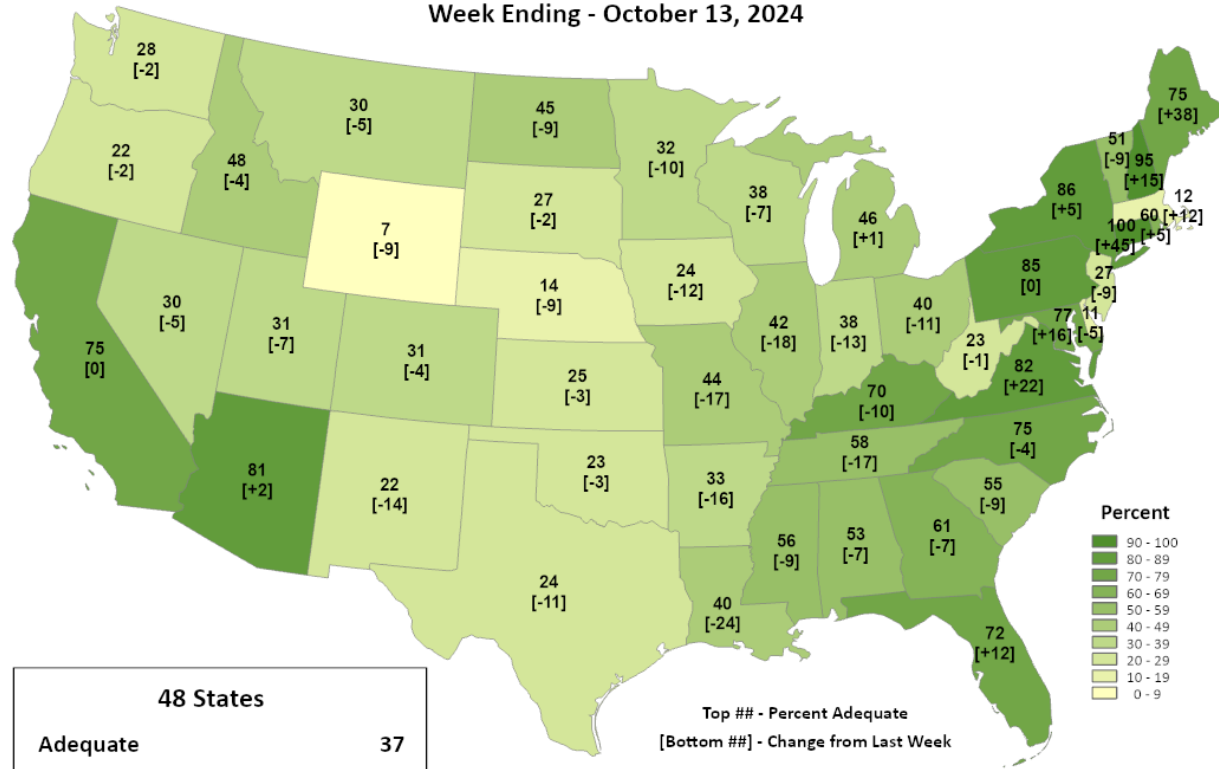


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World Agricultural Outlook Board (WAOB)

## Topsoil Moisture

### Percent Adequate

Week Ending - October 13, 2024



|                       |    |
|-----------------------|----|
| 48 States             |    |
| Adequate              | 37 |
| Change from Last Week | -8 |

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

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

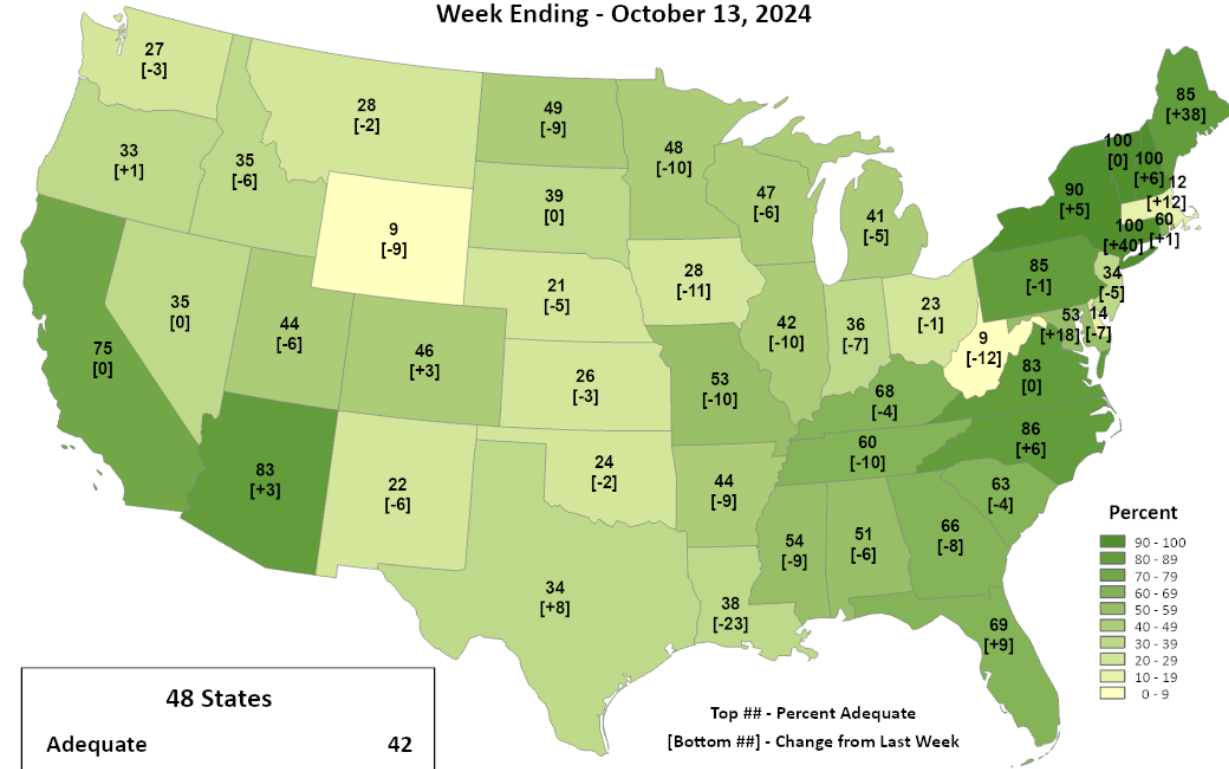


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USDA Office of the Chief Economist (OCE)  
World Agricultural Outlook Board (WAOB)

## Subsoil Moisture

### Percent Adequate

Week Ending - October 13, 2024



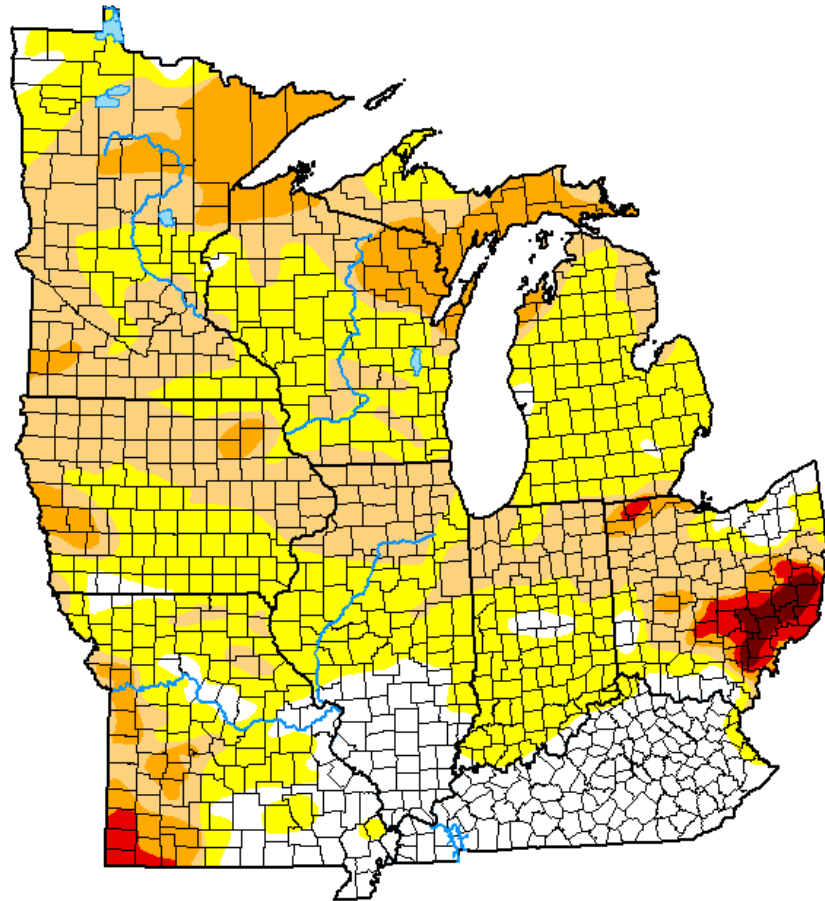
|                       |    |
|-----------------------|----|
| 48 States             |    |
| Adequate              | 42 |
| Change from Last Week | -4 |

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



**October 8, 2024**

(Released Thursday, Oct. 10, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

|  | None  | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|--|-------|-------|-------|-------|-------|------|
| <b>Current</b>                                     | 18.38 | 81.62 | 41.55 | 12.60 | 2.12  | 0.66 |
| <b>Last Week</b><br><i>10-01-2024</i>              | 21.78 | 78.22 | 28.15 | 6.40  | 1.46  | 0.66 |
| <b>3 Months Ago</b><br><i>07-09-2024</i>           | 80.70 | 19.30 | 4.50  | 0.00  | 0.00  | 0.00 |
| <b>Start of Calendar Year</b><br><i>01-02-2024</i> | 22.92 | 77.08 | 50.25 | 20.76 | 4.20  | 0.00 |
| <b>Start of Water Year</b><br><i>09-26-2023</i>    | 16.82 | 83.18 | 54.98 | 23.81 | 6.21  | 0.13 |
| <b>One Year Ago</b><br><i>10-10-2023</i>           | 16.15 | 83.85 | 55.51 | 21.95 | 6.14  | 0.35 |

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 Tinker  
CPC/NOAA/NWS/NCEP



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

- Compared to last week:

- **Increases in D1 drought coverage** across MN, northern IA, and parts of WI after another dry week.
- **Improvements** in Kentucky; no drought coverage in KY or southern IL/IN.
- Overall, **increases in all drought categories** compared to last week. **42%** of the region in at least D1 severity.

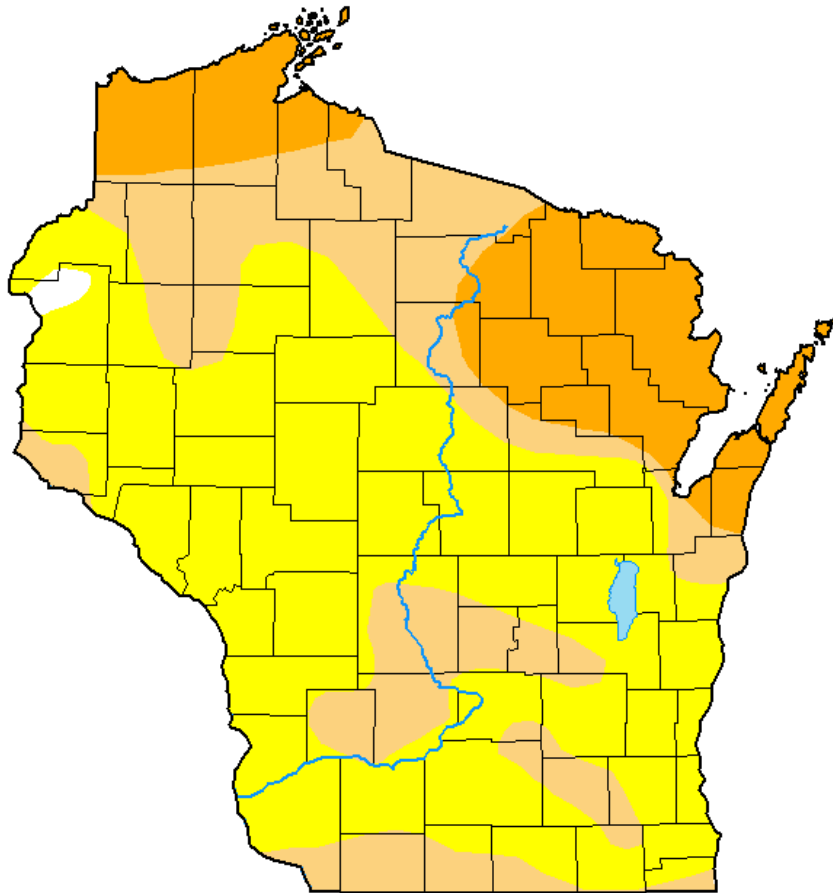
*Note: D0 is not considered drought.*

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



# US Drought Monitor

## U.S. Drought Monitor Wisconsin



**October 8, 2024**

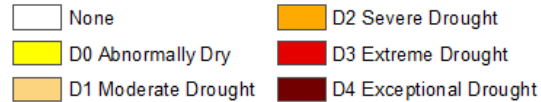
(Released Thursday, Oct. 10, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

|  | None   | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|--|--------|-------|-------|-------|-------|------|
| <b>Current</b>                                     | 0.43   | 99.57 | 44.54 | 18.00 | 0.00  | 0.00 |
| <b>Last Week</b><br><i>10-01-2024</i>              | 18.68  | 81.32 | 29.83 | 8.45  | 0.00  | 0.00 |
| <b>3 Months Ago</b><br><i>07-09-2024</i>           | 100.00 | 0.00  | 0.00  | 0.00  | 0.00  | 0.00 |
| <b>Start of Calendar Year</b><br><i>01-02-2024</i> | 33.04  | 66.96 | 37.34 | 16.80 | 0.26  | 0.00 |
| <b>Start of Water Year</b><br><i>09-26-2023</i>    | 2.04   | 97.96 | 80.86 | 37.74 | 6.77  | 0.00 |
| <b>One Year Ago</b><br><i>10-10-2023</i>           | 0.01   | 99.99 | 74.40 | 30.44 | 6.77  | 0.00 |

Intensity:



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Author:

Richard Tinker  
CPC/NOAA/NWS/NCEP



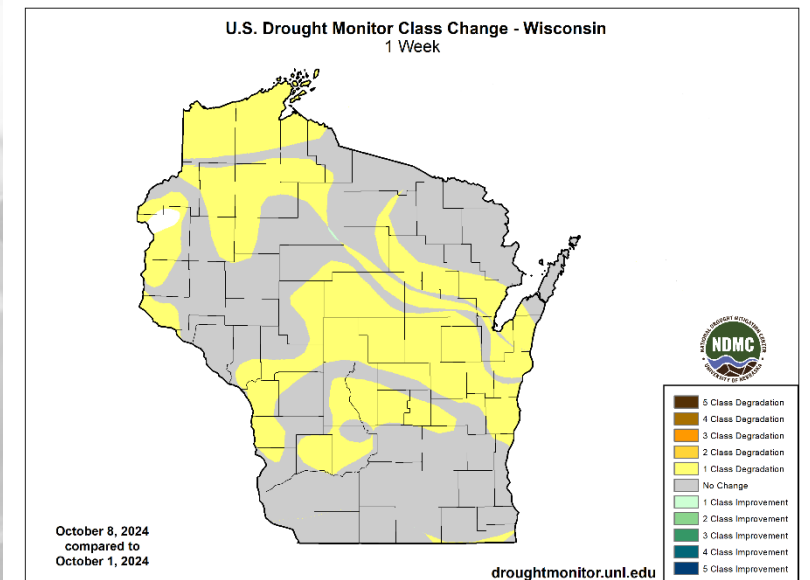
[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

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

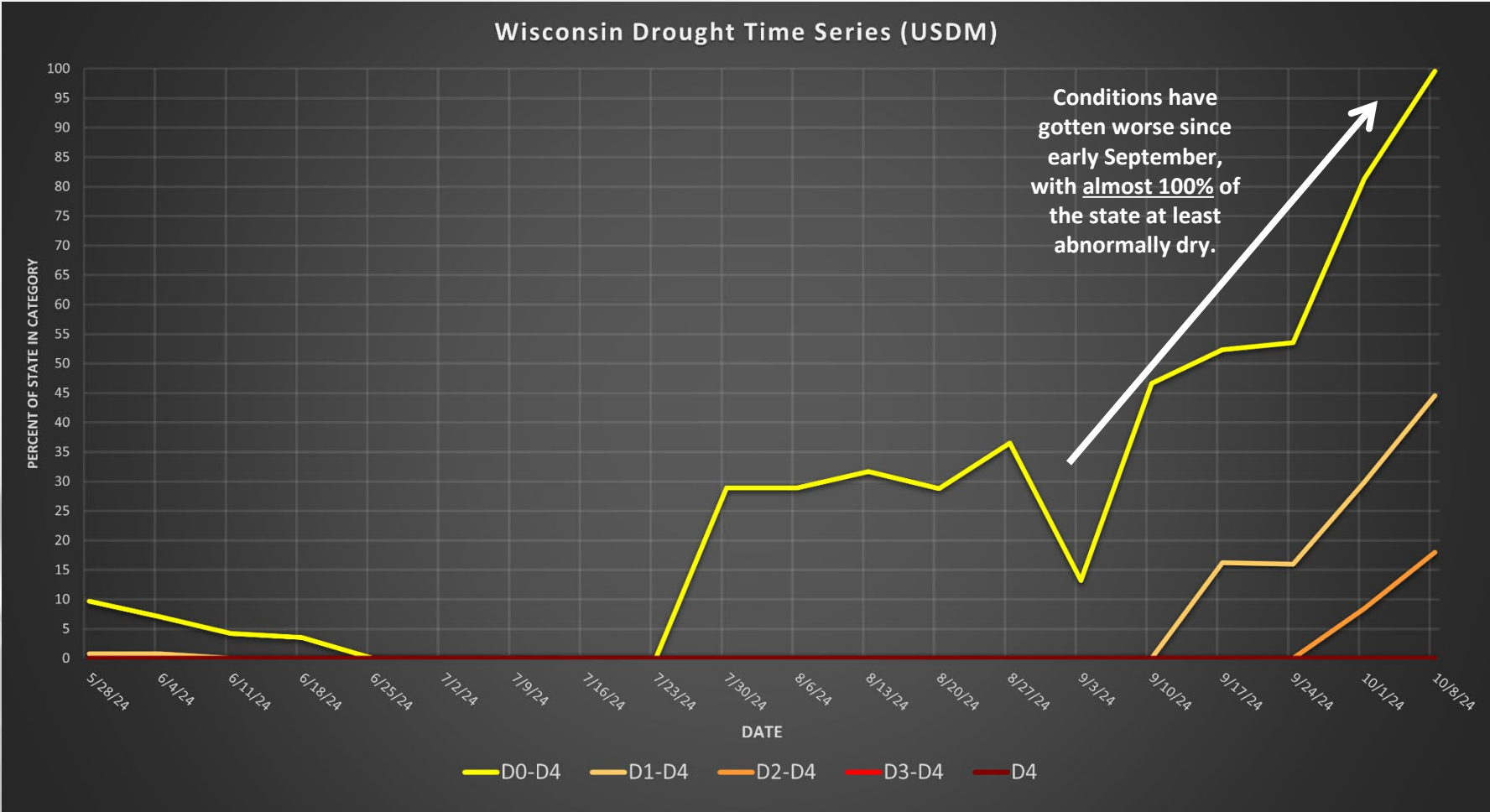
Amount of state in:

- **D1-D4** – 44.5% ↑
- **D2-D4** – 18.0% ↑
- **D3-D4** – 0.0% --
- **D4** – 0.0% --

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

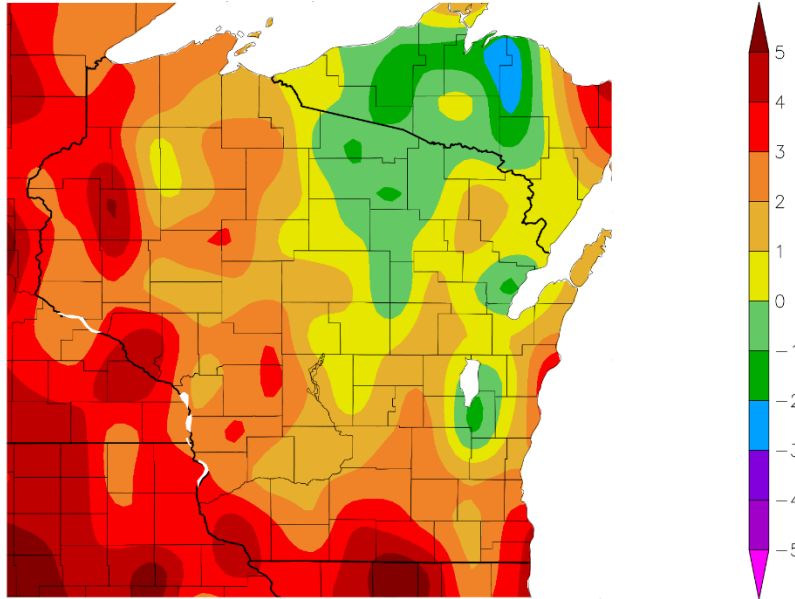


# USDM Time Series



# 7 Day Temperatures

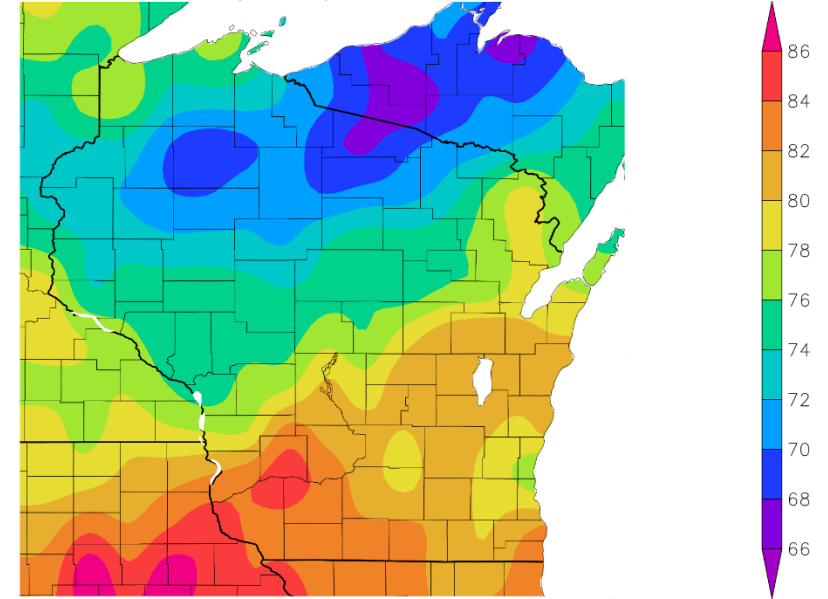
Departure from Normal Temperature (F)  
10/8/2024 - 10/14/2024



Generated 10/15/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highest 1-Day Maximum Temperature (F)  
10/8/2024 - 10/14/2024



Generated 10/15/2024 at HPRCC using provisional data.

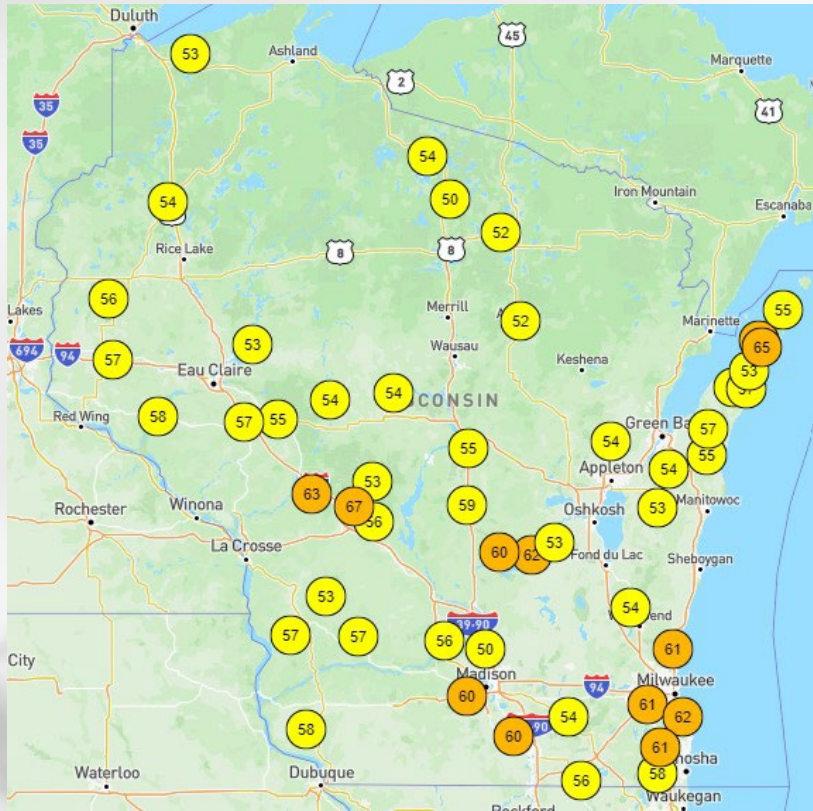
NOAA Regional Climate Centers

- It was a **warm week** for many last week; with most **1-3°F above climatological normal**.
  - **>4°F above** climatological average in pockets across S & W. **Closer to normal** in the NE/NC.
- Weekly maximums in the **upper 70s to low 80s** in the S; **70-76°F** in the north.

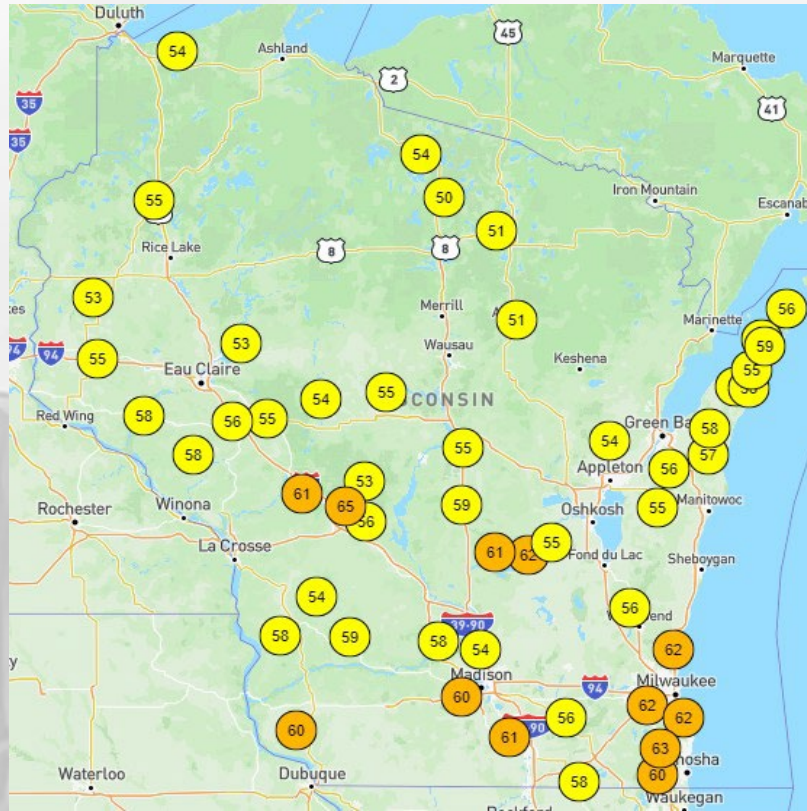


# Wisconet Soil Temp (4" Depth)

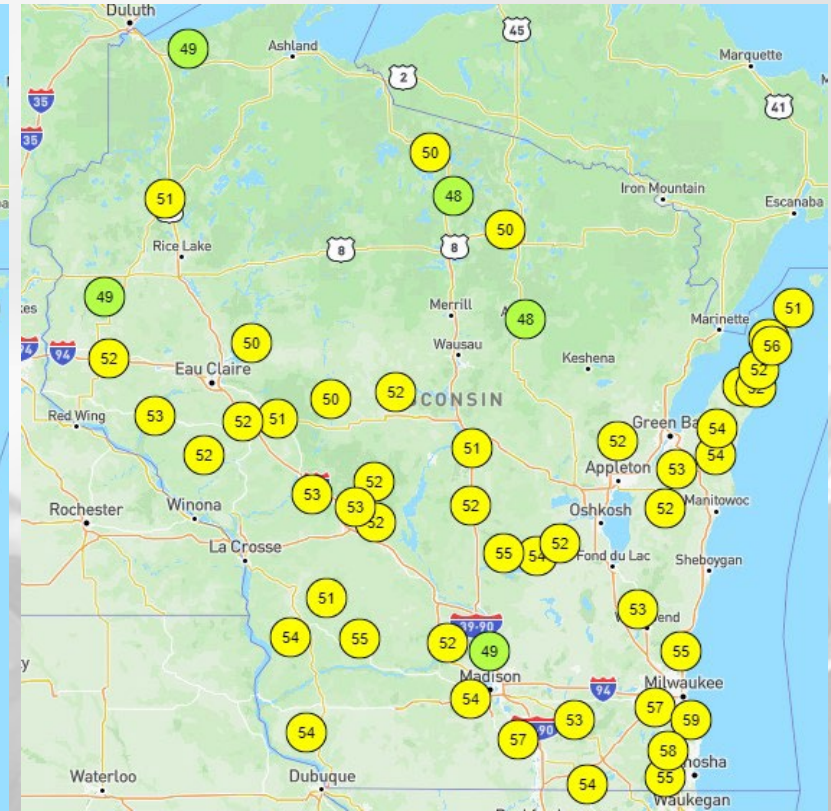
Thursday Oct. 10<sup>th</sup> @ Midday



Saturday Oct. 12<sup>th</sup> @ Midday

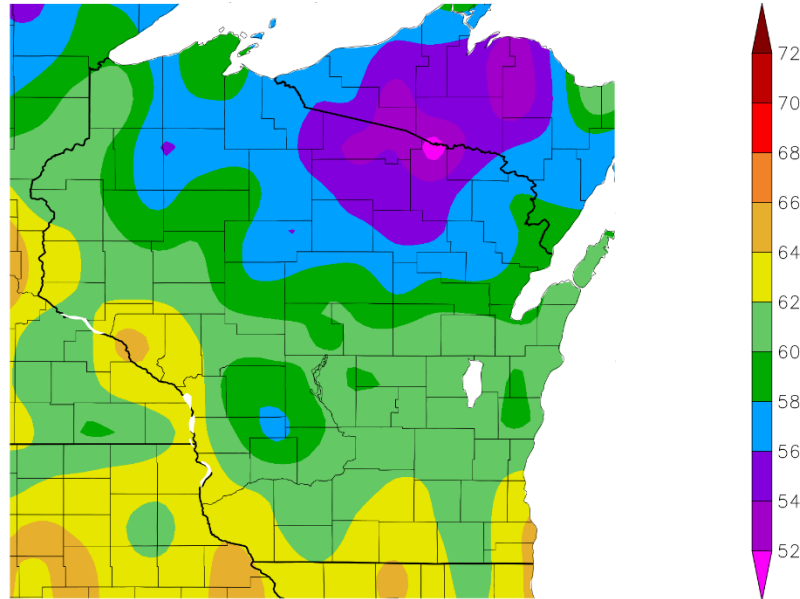


Monday Oct. 14<sup>th</sup> @ Midday



# 30 Day Temperatures

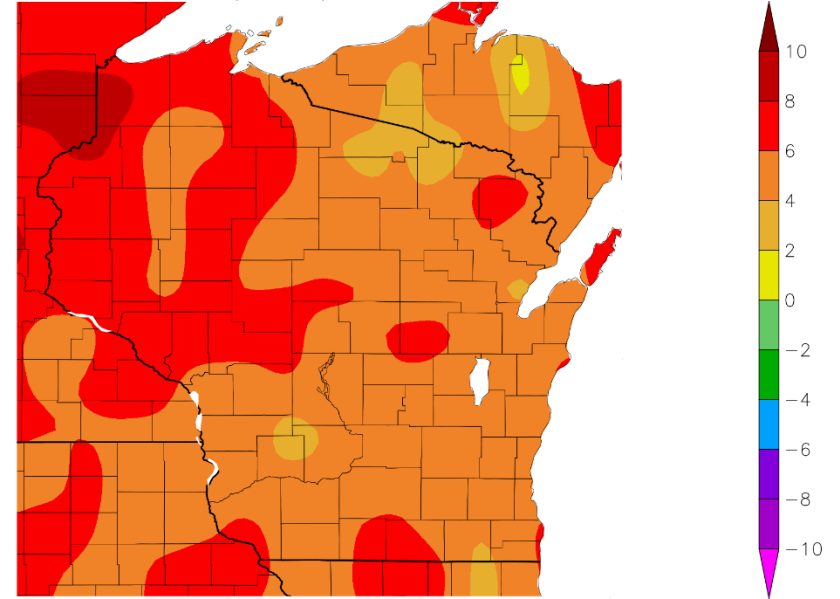
Temperature (F)  
9/15/2024 - 10/14/2024



Generated 10/15/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)  
9/15/2024 - 10/14/2024



Generated 10/15/2024 at HPRCC using provisional data.

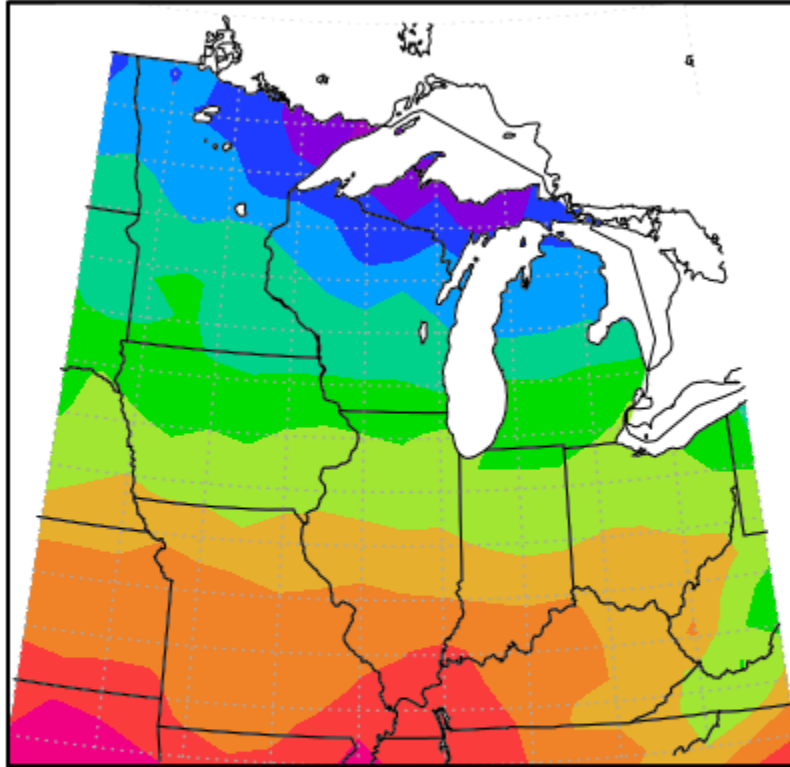
NOAA Regional Climate Centers

- Temperatures for the past month ranged from **60-64°F** in the S & W to **54-58°F** in the far NC.
  - **4-8°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.



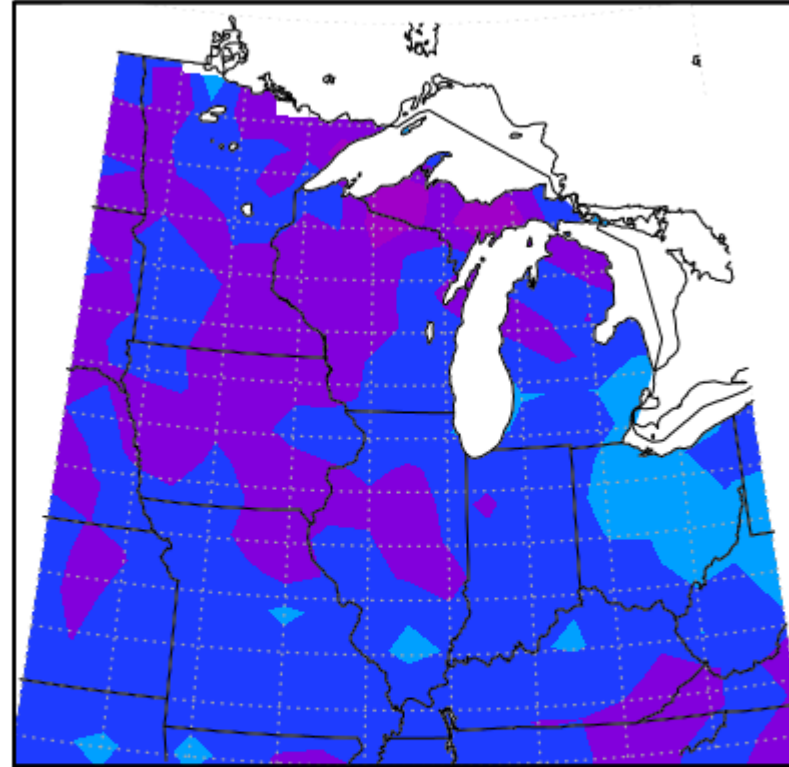
# Growing Degree Days (Base = 50°F; Since April 1)

Total MGDD from 4/1/2024 to 10/14/2024



Midwestern Regional Climate Center  
Purdue University

MGDD Departure, 4/1/2024 to 10/14/2024



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 **≥100 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](https://mrcc.purdue.edu/climate_watch)



# NASS Crop Progress – Corn

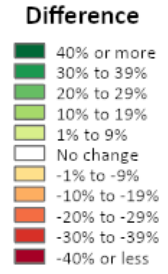
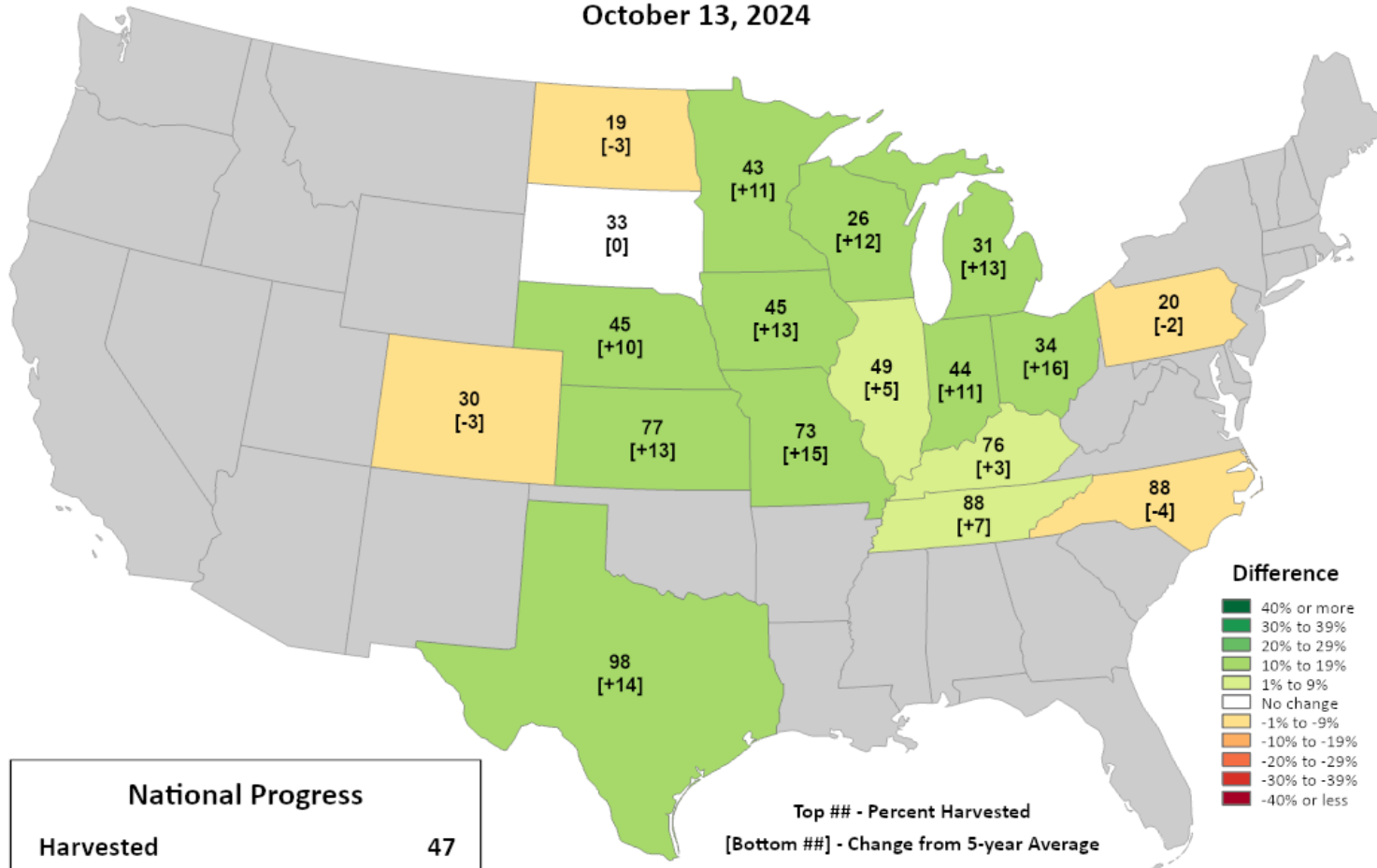


This product was prepared by the  
USDA Office of the Chief Economist (OCE)  
World Agricultural Outlook Board (WAOB)

## Corn Progress

### Percent Harvested

October 13, 2024



| National Progress          |    |
|----------------------------|----|
| Harvested                  | 47 |
| Change from 5-year Average | +8 |

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

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

- The corn in WI fields is **over 25% harvested** and is running **well ahead of average pace**. This is a common theme across the Midwest.
  - In WI, harvest is **26% complete**. 12% ahead of the 5-year average pace & up **16%** from last week.
  - Mature → **85% complete**

# NASS Crop Progress – Soybean

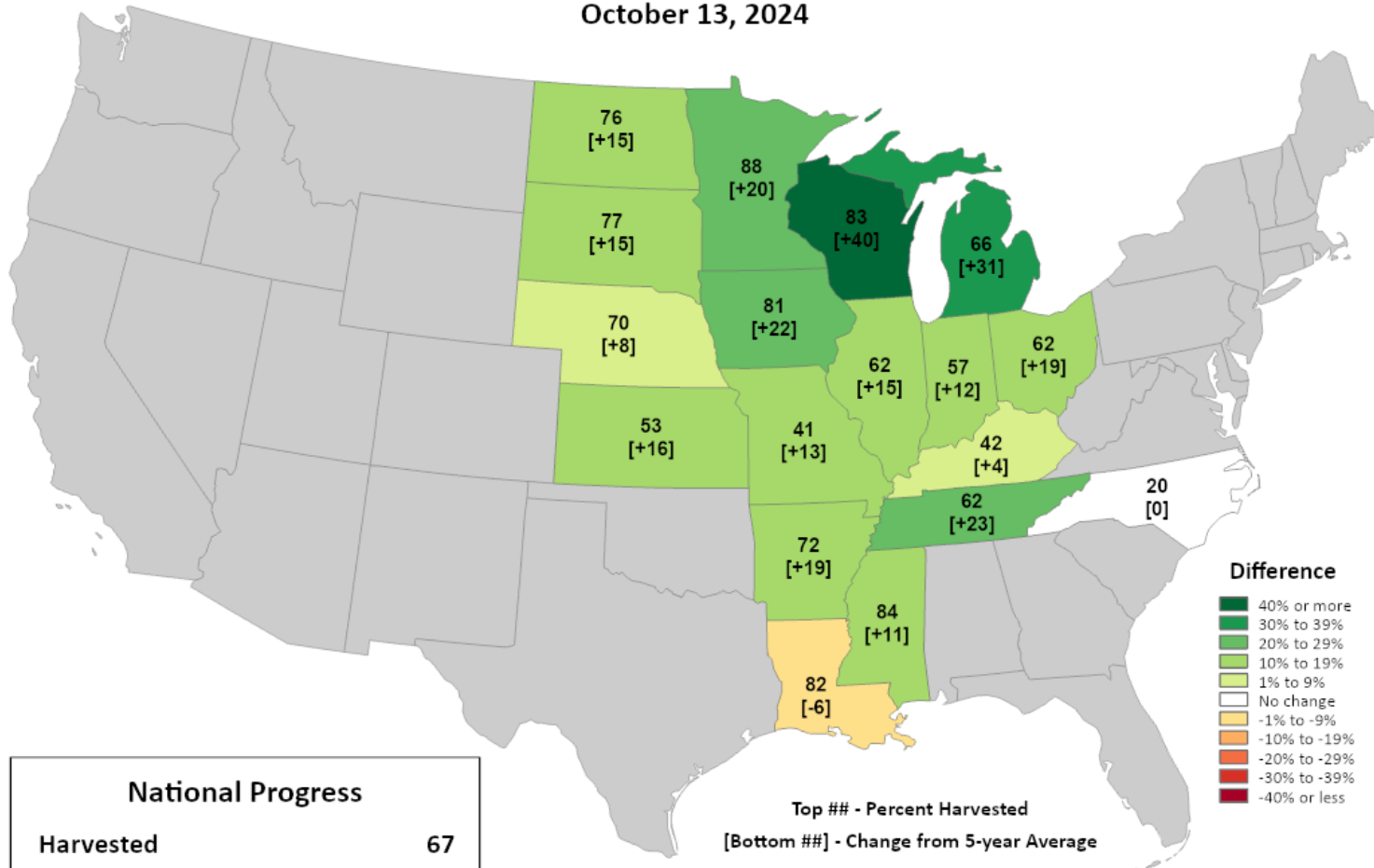


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World Agricultural Outlook Board (WAOB)

## Soybeans Progress

### Percent Harvested

October 13, 2024



| National Progress          |     |
|----------------------------|-----|
| Harvested                  | 67  |
| Change from 5-year Average | +16 |

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

- Soybean harvest is **nearly complete**. Harvest is running **well ahead of normal pace** in WI and in the larger Corn Belt.
  - In WI, harvest is **83% complete**. 40% ahead of the 5-year average pace & up **22%** from last week.
  - Leaf drop → **97% complete**

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

# NASS Crop Condition

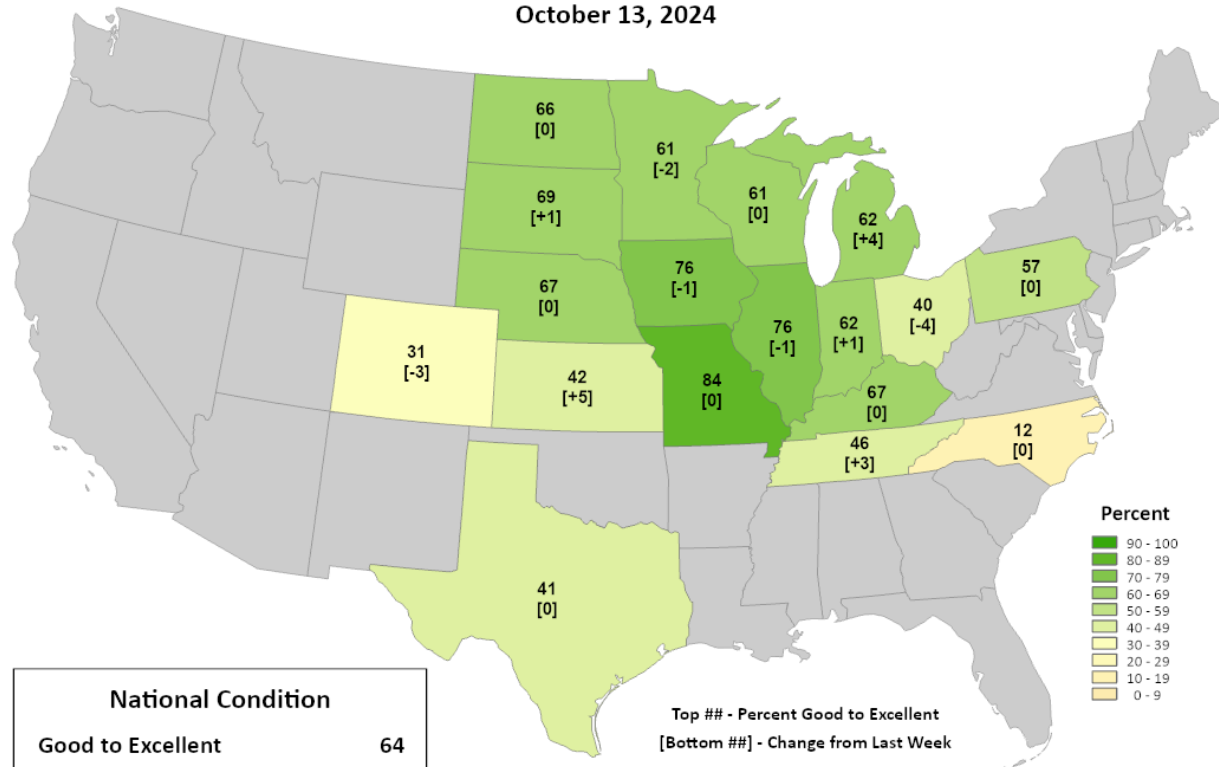


This product was prepared by the  
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World Agricultural Outlook Board (WAOB)

## Corn Conditions

### Percent Good to Excellent

October 13, 2024



| National Condition    |    |
|-----------------------|----|
| Good to Excellent     | 64 |
| 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.

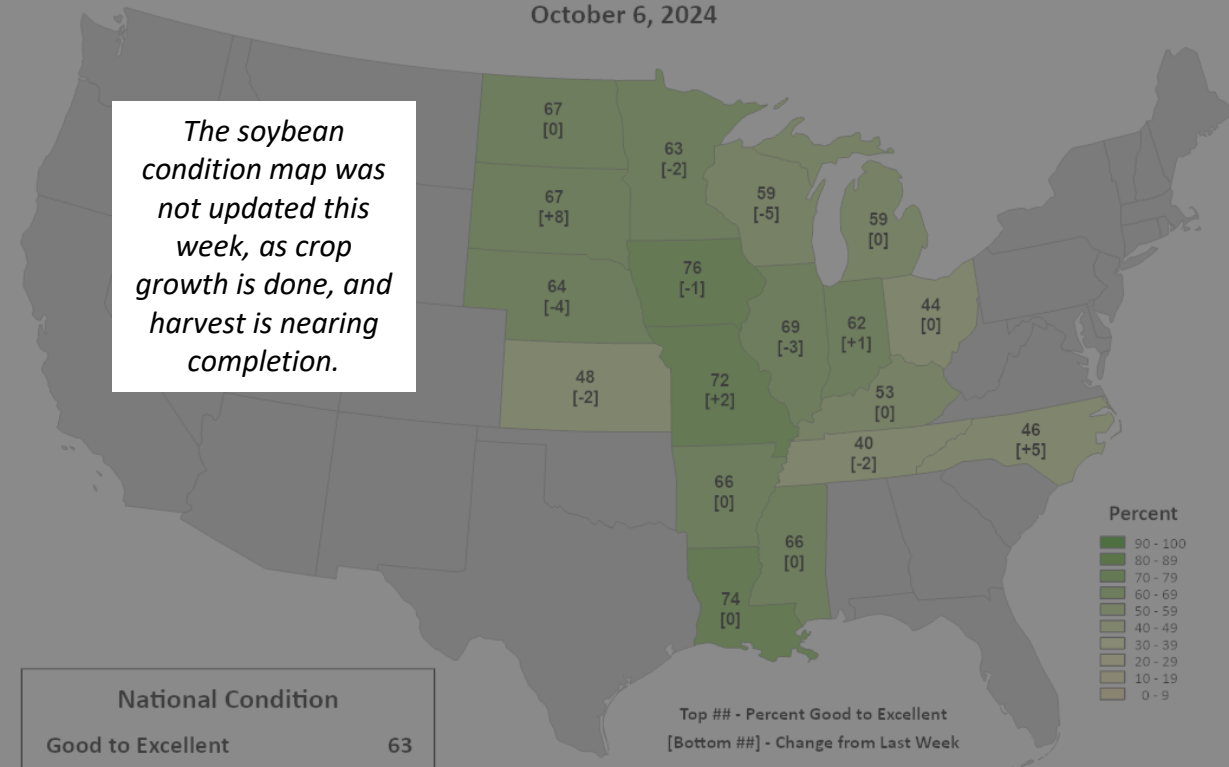


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World Agricultural Outlook Board (WAOB)

## Soybean Conditions

### Percent Good to Excellent

October 6, 2024



The soybean condition map was not updated this week, as crop growth is done, and harvest is nearing completion.

| National Condition    |    |
|-----------------------|----|
| Good to Excellent     | 63 |
| Change from Last Week | -1 |

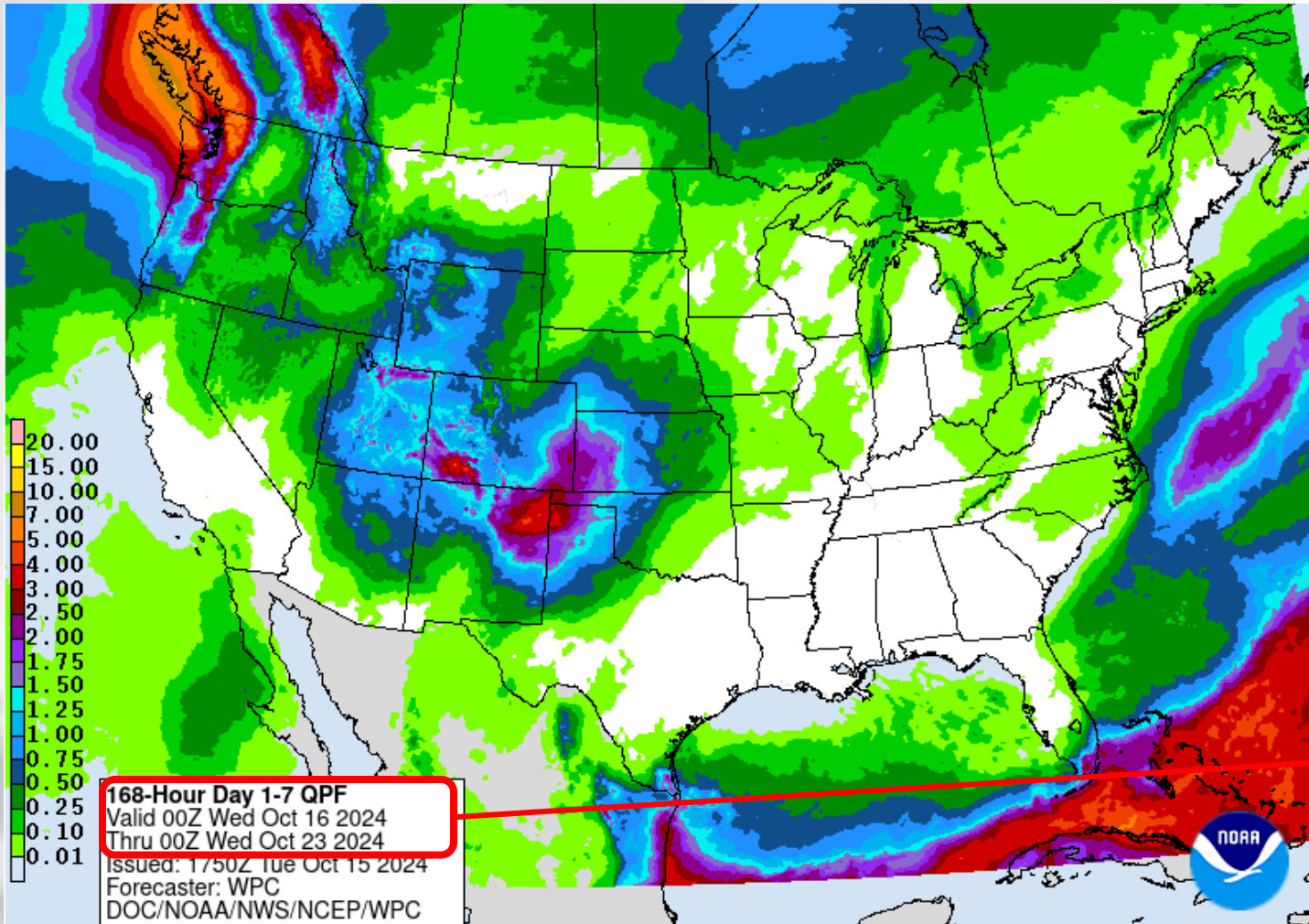
Top ## - Percent Good to Excellent  
[Bottom ##] - Change from Last Week

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

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



# 7 Day Precip Forecast

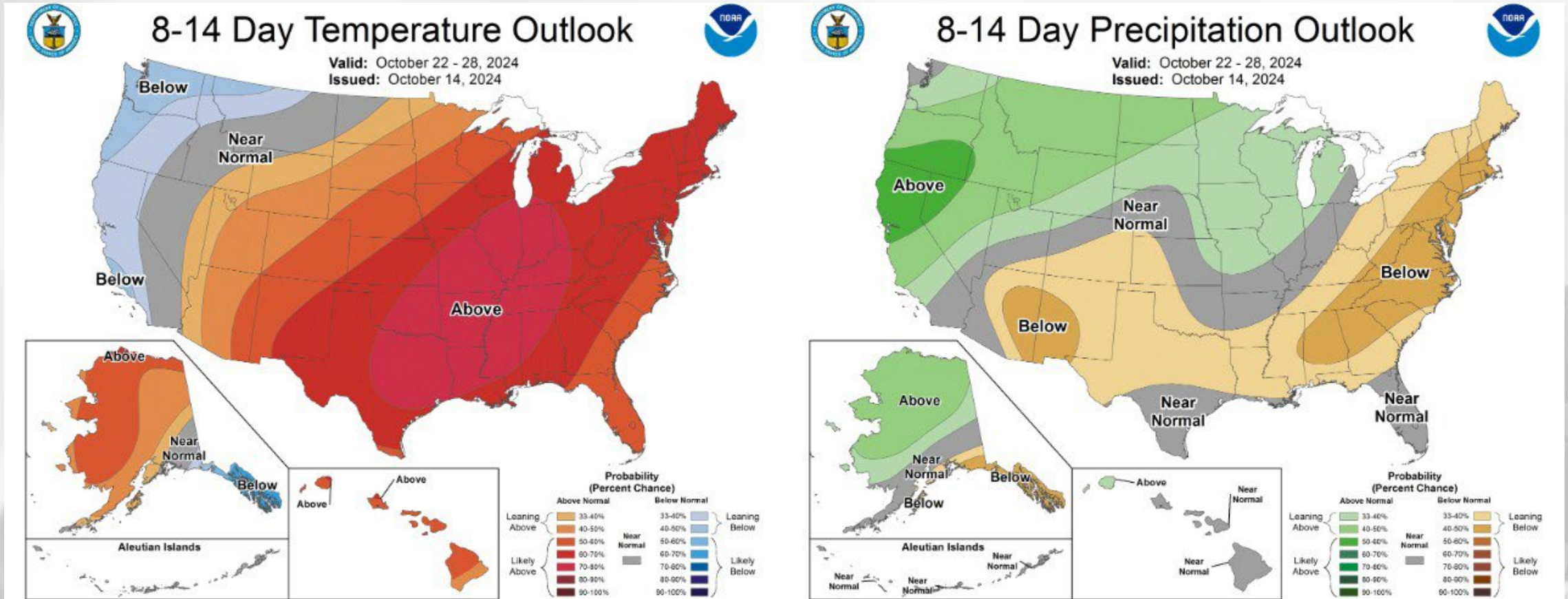


- **Little to no precip** for most in WI during the next 7 days.
  - Location: Best chances in the **NW, NE, and SW**, albeit for minor totals.
  - Timing: Best chances for rain **Monday night into Tuesday**.

Forecast for 10/15/24 thru 10/22/24  
(Begins at 7pm CDT)

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

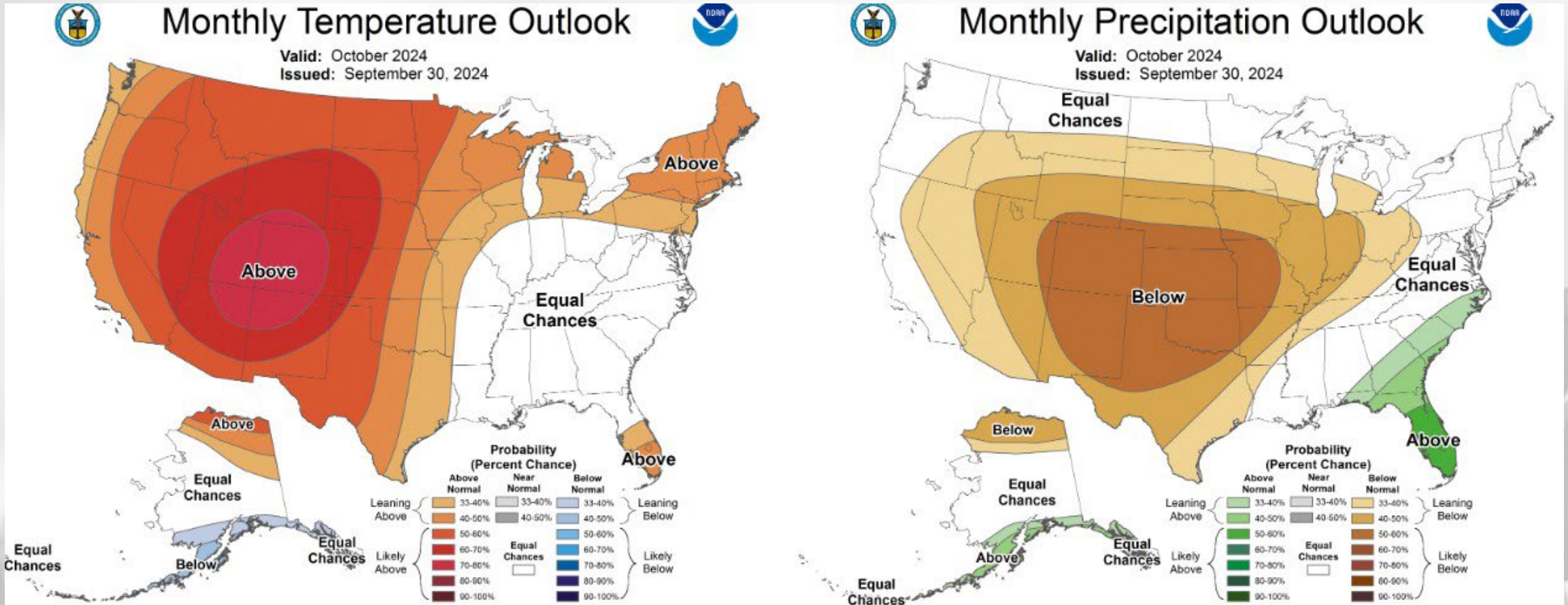
# 8-14 Day Temp & Precip Outlook



**End of October:** Temperatures likely to remain above normal, with precipitation leaning towards being above normal.



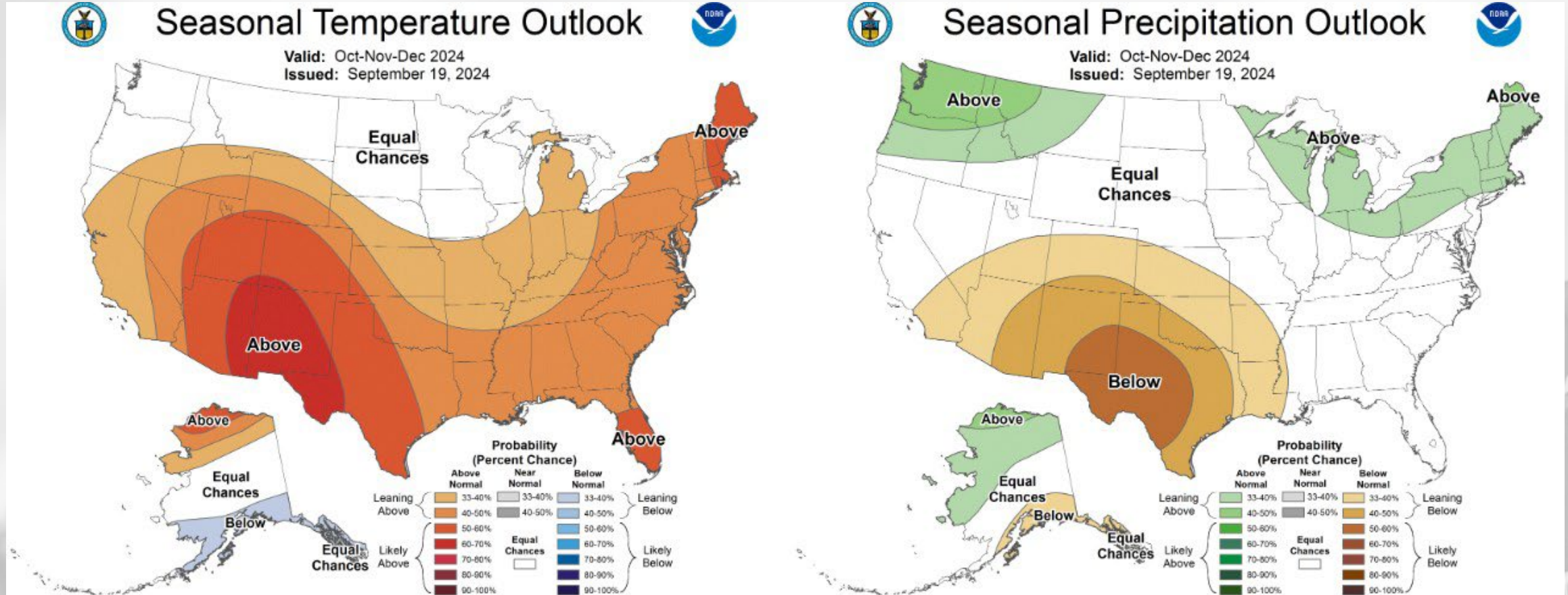
# 30 Day Temp & Precip Outlook



**Month of October:** Temperatures leaning towards above normal, with precipitation leaning towards below normal.



# 90 Day Temp & Precip Outlook



**Fall into Early Winter:** Temperatures showing equal chances. Precipitation uncertainty with equal chances in the west, leaning above normal in the E/N.

# Take-Home Points

## Current Conditions:

- **The dryness continued** for another week for the state. Some in the east received a half inch or more of precip. Most stations in the state received **<70%** of normal precip over the past 30 days, with some at **<25%** of normal.
- Temperatures last week were once again **warmer than normal**, except for the NC/NE region that was **closer to seasonal**.

## Impact:

- Nearly all of WI is now experiencing **dry soil moisture percentiles** and is in at least D0 coverage on the [USDN map](#).
  - D1 drought coverage expanded to **>44% of the state**, with **18%** in D2 severity.
- **Corn** harvest is running **ahead of normal pace** in WI and the larger Midwest, with **85% of fields** reported as mature.
- **Soybean** harvest is nearing completion (**83%**), which is **very far ahead of the normal pace** of harvest progress.
- GDDs are approaching **3300 (2700) units** in the southern (northern) counties.

## Outlook:

- **Very minimal** precip chances next week, with many forecasted to receive **no additional rainfall**.
- Late October has a higher probability to be **warmer and drier than normal** but keep an eye out for some dryness relief with a **lean toward a wetter-than-normal** end to October.
- The remainder of fall is more **uncertain** for temperatures, with some lean towards **above normal** precip totals.
  - **La Niña** is favored to be in place by September-November (according to the CPC).

# Agronomic Considerations

## Crop Development

- Monitor moisture in crops closely as the lack of precipitation and mid-season disease pressure has led to some crops drying out earlier than usual.
- 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.
- As 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

- Runoff risk is low 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](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>



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Photo Credit: USDA



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