



Nelson Institute for Environmental Studies

Midwest Climate Hub

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# Wisconsin Ag Climate Weekly Outlook

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### **Key Points**

- 1) Drought conditions remain mostly unchanged this week.
- 2) Corn and soybean harvest are nearing completion in the state.
- 3) Very little precipitation is expected during the upcoming week and into early December.

### Last Week Precip

#### November 21, 2023 7-Day Observed Precipitation

Created on: November 21, 2023 - 15:28 UTC Valid on: November 21, 2023 12:00 UTC



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

- Highest totals in the SE/SC (0.5" 1")
- Lowest totals in the Central and N (0" 0.1")

### 30 Day Precip

#### November 21, 2023 30-Day Observed Precipitation Created on: November 21, 2023 - 15:29 UTC

Valid on: November 21, 2023 12:00 UTC



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

<u>Note</u>: most of the precip shown in Central WI fell during <u>late October</u>, and thus will soon be outside of the 30-day range.

This map is created using both measured precipitation at ground sites and radar estimates of total precipitation.

## 30 Day Precip Total/% Avg.



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

- Totals ranged from <1" in the SC/SW to >5" across Central WI.
- Monthly totals of <50% of average were common in the south.
- Central WI had the most precip, receiving 150+% of normal precip.





Generated 11/21/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

## 90 Day Precip Total/% Avg.



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

- Totals >5" are common statewide, with the highest totals in the SE, Central, and NW regions (stations >9.5").
- Percentages are a mixed bag:
  - Most of the state was below normal.
  - >70% of normal in NE, SC, and SW.
  - >120% in Central and NW WI.

Percent of Normal Precipitation (%) 8/23/2023 - 11/20/2023



Generated 11/21/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

### **Modeled Soil Moisture**



SPoRT-LIS 0-100 cm Soil Moisture percentile valid 21 Nov 2023

<u>https://weather.msfc.nasa.gov/sport/case\_studies/lis\_CONUS.html</u> <u>https://www.cpc.ncep.noaa.gov/products/Soilmst\_Monitoring/US/Soilmst/Soilmst.shtml</u> <u>https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp\_new.shtml#</u>

- Little to no change in WI from last week due to relatively low rainfall last week.
- Model indicates higher level of dryness in the E and SE.

Model Notes:

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

### Modeled Soil Moisture

Alternate product from GMU and partners.

- Minimal change in dryness/wetness in WI compared to last week.
- Most dry in the SC region.
- Increased dryness to the S and W of WI compared to last week.

Model Notes:

Model compares to time of year – suggests that soils are drier/wetter than is typical for this time of the season.



https://nassgeo.csiss.gmu.edu/CropCASMA/

### **US Drought Monitor**

#### U.S. Drought Monitor North Central States



	None	D0-D4	D1-D4	D2-D4	D3-D4	D4			
Current	40.52	59.48	33.62	16.51	4.07	0.47			
Last Week 11-07-2023	43.93	56.07	31.77	15.76	3.79	0.47			
3 Month s Ago 08-15-2023	33.30	66.70	42.75	19.55	5.09	0.32			
Start of Calendar Year 01-03-2023	23.51	76.49	51.22	24.39	11.79	5.25			
Start of Water Year 09-26-2023	25.87	74.13	49.98	25.16	7.67	0.73			
One Year Ago 11-15-2022	16.87	83.13	61.91	28.47	14.95	5.50			

November 14, 2023

(Released Thursday, Nov. 16, 2023)

Valid 7 a.m. EST

Drought Conditions (Percent Area)



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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U.S. Department of Agriculture



#### droughtmonitor.unl.edu

- Minimal change in regional drought intensity.
  - See current percent area compared to previous periods.
- Small area of D3 remains near Prairie du Chien.
- Parts of Central & SE WI no longer in drought or abnormal dryness.

<u>Note</u>: D0 is not considered drought.

### **US Drought Monitor**

#### U.S. Drought Monitor Wisconsin



#### November 14, 2023 (Released Thursday, Nov. 16, 2023) Valid 7 a.m. EST

Drought Conditions (Percent Area)

None		5.5.	52 5 .	20.21	
33.59	66.41	37.07	16.02	0.26	0.00
33.59	66.41	36.22	16.02	0.26	0.00
3.31	96.69	78.35	42.85	11.29	0.66
67.99	32.01	5.71	1.84	0.00	0.00
2.04	97.96	80.86	37.74	6.77	0.00
68.37	31.63	12.01	1.84	0.00	0.00
	33.59 33.59 3.31 67.99 2.04	33.59 66.41   33.59 66.41   3.31 96.69   67.99 32.01   2.04 97.96	33.59 66.41 37.07   33.59 66.41 36.22   3.31 96.69 78.35   67.99 32.01 5.71   2.04 97.96 80.86	33.59 66.41 37.07 16.02   33.59 66.41 36.22 16.02   3.31 96.69 78.35 42.85   67.99 32.01 5.71 1.84   2.04 97.96 80.86 37.74	33.59 66.41 37.07 16.02 0.26   33.59 66.41 36.22 16.02 0.26   3.31 96.69 78.35 42.85 11.29   67.99 32.01 5.71 1.84 0.00   2.04 97.96 80.86 37.74 6.77



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#### Amount of state in:

- D1-D4 37.1% **↑**
- D2-D4 16.0% --
- <mark>D3-D4</mark> 0.3% --
- D4 0.0% --

<u>Note</u>: ↑↓ indicate change from the previous week. Red up arrows indicate increase in drought area; vice-versa for green arrows.

### Drought in WI – Last 6 months



http://droughtmonitor.unl.edu/

### 30 Day Temperatures



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

- Highest average T along the Mississippi River, SC, and the far SE (44-48°F).
- Lowest averages in NC WI (≤38°F).
- Monthly averages across the state were mostly higher-than-normal by 2-4°F.

Departure from Normal Temperature (F) 10/22/2023 - 11/20/2023



Generated 11/21/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

### Last Week's Warmth



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

### Soil Temperature 4"



#### <u>7-Day Avg. Data (11/14 -11/20)</u>

- Most stations are sitting in the low to mid 40s.
- Woodruff & Rhinelander are the coldest stations at 38°F.
- Weekly average 4" soil temps of <50°F reported statewide.</li>

<u>Note</u>: consider using this data when making fall management decisions, such as fall fertilizer applications.

<u>http://wisconet.wisc.edu/</u>  $\rightarrow$  More stations to come soon!

## Corn Progress (NASS)



#### **Corn Harvested (NASS):**

- Wisconsin: 78% (+1%)
- National: 93% (+2%)

Corn harvest running slightly ahead of the 5-year average in WI. Progress increased by **12%** from last week.

Trending behind average to the E.

Nearing completion to the S and W. A few states are reporting harvest is **>95%** complete.

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

## Soil Moisture Conditions (NASS)



#### Soil moisture S-VS (NASS):

- Wisconsin: 19% (+2%)
- National: 46% (+3%)

Conditions worsen slightly in WI with a week of low rainfall.

Compared to neighboring states, WI has a much lower S-VS percentage.

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

### 7 Day Forecast Precip



- Expect a dry week this week.
  - Chances for precipitation for the S, E, & far NW, but totals are expected to be minimal (<0.5").
- Areas in the N half of WI may see no precip this week.

Forecast for 11/21/23 thru 11/28/23

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

### 8-14 Day Temp & Precip Outlook



Late Nov – Early Dec: Temperatures leaning towards <u>near normal</u>. Precipitation is leaning <u>below normal</u>.

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

### 30 Day Temp & Precip Outlook



**The month of December:** Temperatures have the potential to be <u>above normal</u>. No strong indicators for precipitation for this period ("equal chances").

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

## 90 Day Temp & Precip Outlook



**December – February:** Temperatures leaning towards <u>above average</u>. Precipitation is leaning <u>below average</u> in the E half of WI. *El Nino is a major driver of these conditions.* 

### Take Home

- Current conditions:
  - Drought conditions & soil moisture conditions remain mostly unchanged after a dry week for most.
  - A warm week in the state that included some daily highs >60°F.
  - Weekly average 4" soil temperatures are below 50°F statewide.
- Impact:
  - Without rain to keep farmers out of the fields, corn harvest continues to near completion (12% jump to 78%).
  - Soybean harvest is very close to completion (94%), running near the 5-year average.
  - Nearly all winter wheat in the state has emerged (94%).
- Outlook:
  - December has a higher probability for <u>warmer-than-average</u> temperatures in WI.
  - Precipitation totals are once again forecasted to be low this upcoming week, with the potential for lower-than-average precip into early December.

### For More Information



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