



# Drought Information Statement for Central, Southern Minnesota and Western Wisconsin

Valid September, 21, 2023

Issued By: NWS Twin Cities / Chanhassen MN

Contact Information: [nws.twincities@noaa.gov](mailto:nws.twincities@noaa.gov)

- This product will be updated next Thursday, or sooner if drought conditions change significantly.
- Please see all currently available products at <https://drought.gov/drought-information-statements>.
- Please visit <https://www.weather.gov/MPX/DroughtInformationStatement> for previous statements.





# U.S. Drought Monitor - NWS Twin Cities Region

Link to the [latest U.S. Drought Monitor](#)

## Key Messages

- Very little rainfall over the past week.
- Extreme Drought (D3) expanded in both the north and south portions.
- We've seen 2- to even 3- class downgrades in drought designation over the past four weeks.
- A pattern shift to seasonable temperatures and some rainfall will occur this weekend; could at least help reduce drought expansion.

## IMPORTANT UPDATES

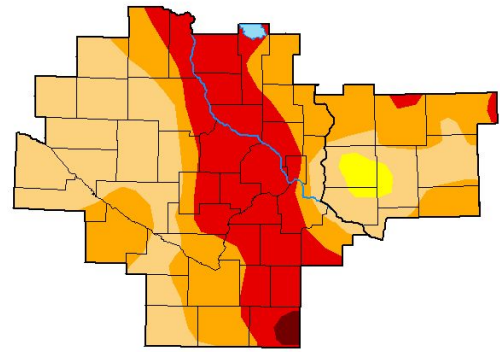
- Drought continues to worsen; Extreme Drought (D3) expands over central third of our area.

## Next Scheduled Update

- Thursday, September 28th, 2023



### U.S. Drought Monitor Twin Cities/ Chanhassen, MN WFO



**September 19, 2023**  
(Released Thursday, Sep. 21, 2023)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	98.20	61.77	28.84	0.76
Last Week 08-12-2023	0.00	100.00	97.83	54.14	11.63	0.76
3 Months Ago 06-20-2023	11.27	88.73	63.52	8.90	0.00	0.00
Start of Calendar Year 01-01-2023	16.54	83.46	67.01	32.37	0.00	0.00
Start of Water Year 09-27-2022	20.14	79.86	33.95	11.27	0.00	0.00
One Year Ago 09-20-2022	28.15	71.85	28.35	11.27	0.00	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:  
Richard Heim  
NCEI/NOAA



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

Image Caption: U.S. Drought Monitor - NWS Twin Cities Region valid at 7am CDT September 19, 2023



# Recent Change in Drought Intensity

Link to the latest [1-week change map](#) and [4-week change map](#) for the NWS Twin Cities Region

- Over the last month, drought conditions have been expanding across the NWS Twin Cities region

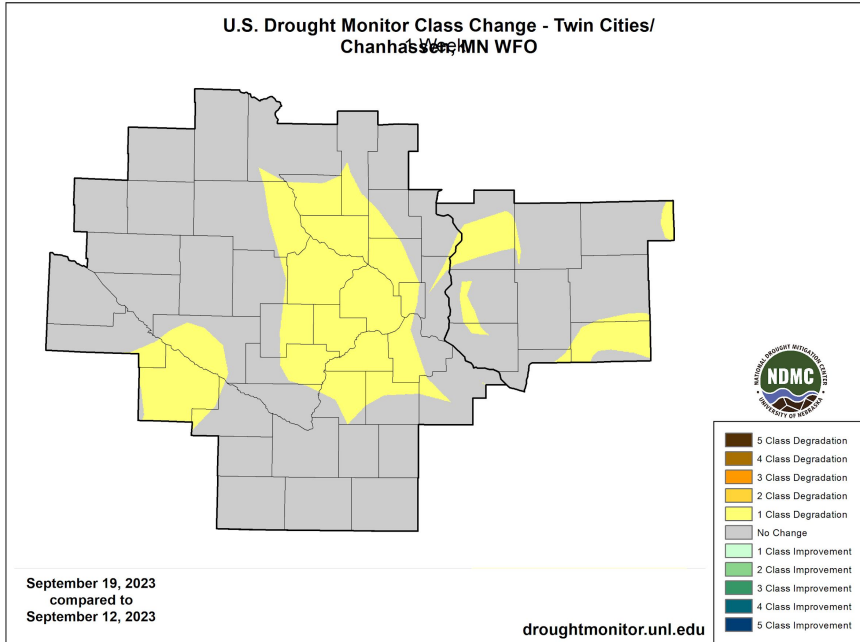


Image Caption: U.S. Drought Monitor 1-week change map valid 7am CDT September 19, 2023.

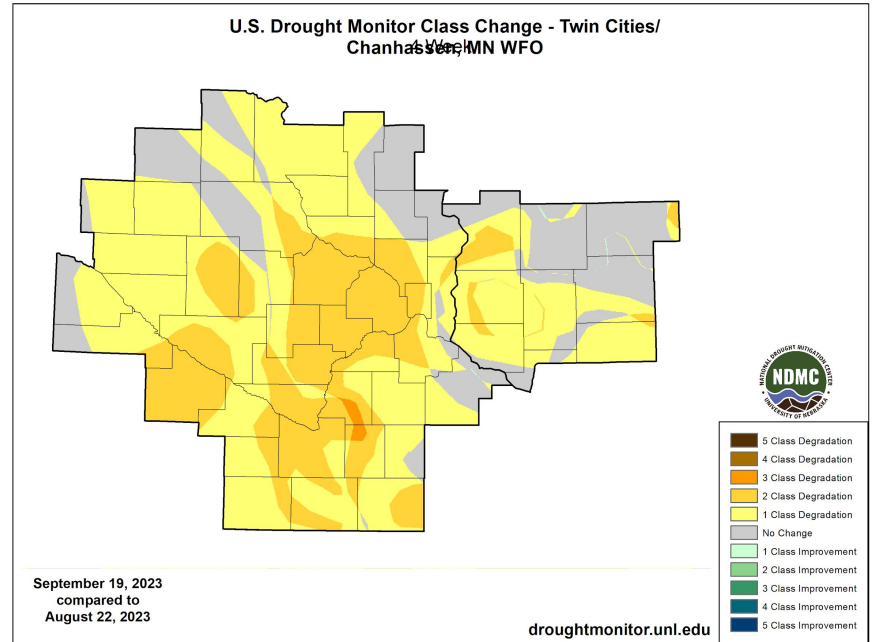


Image Caption: U.S. Drought Monitor 4-week change map valid 7am CDT September 19, 2023.



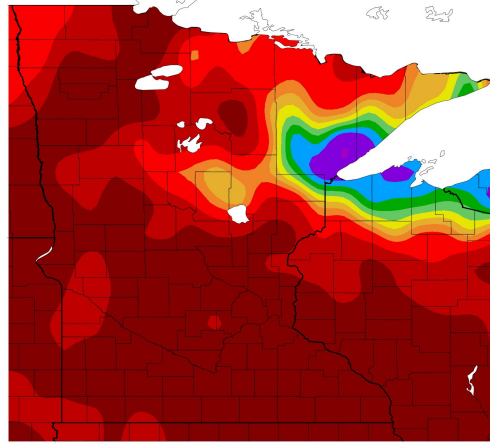


# Precipitation Departures

## 1-month and 3-month percent of normal precipitation

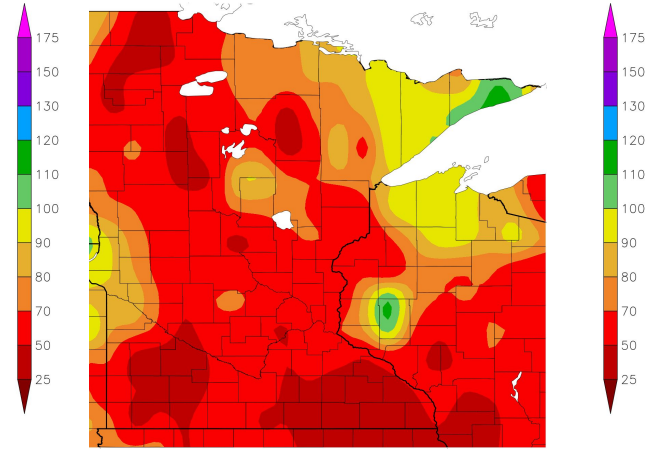
- Very little precipitation has been observed over the last 30 days across central and southern MN and western WI, with much of the area seeing less than 25% of normal rainfall.
- These dry conditions extend back through the summer and into mid-May.
- For example, much of the D3 drought area has a precipitation deficit of 8 to 12 inches since April.

Percent of Normal Precipitation (%)  
8/22/2023 – 9/20/2023



Generated 9/21/2023 at HPRCC using provisional data.

Percent of Normal Precipitation (%)  
6/23/2023 – 9/20/2023



NOAA Regional Climate Centers at HPRCC using provisional data.

NOAA Regional Climate Centers

Image Captions:  
 Left - [30-Day Percent of Normal Precipitation for MN and western WI](#)  
 Right - [90-day Percent of Normal Precipitation for MN and western WI](#)

Data Courtesy High Plains Regional Climate Center.  
 Data over the past 30 & 90 days ending on September, 20, 2023



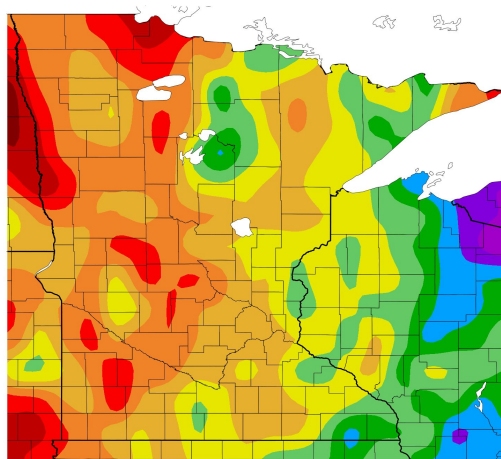


# Temperature Departure

## 1-week and 1-month temperature departure

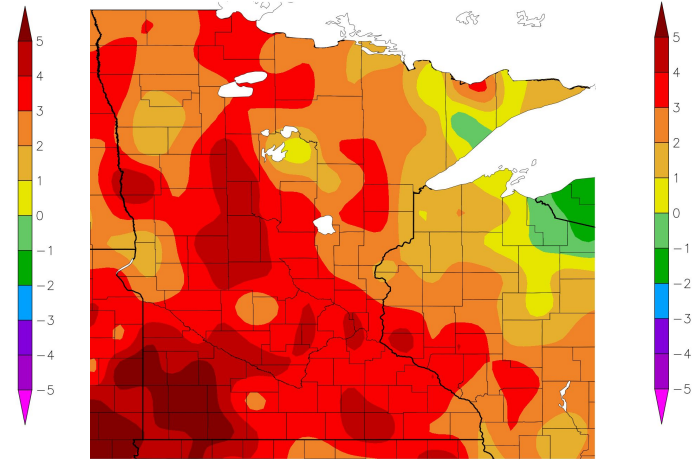
- We had cooler temperatures early last week, but much above normal the last few days.
- In the last 30 days, we saw 2 significant heat waves August 22-25 and again Labor Day weekend that have helped drive the above normal temperatures observed during this period.

Departure from Normal Temperature (F)  
9/14/2023 – 9/20/2023



Generated 9/21/2023 at HPRCC using provisional data.

Departure from Normal Temperature (F)  
8/22/2023 – 9/20/2023



NOAA Regional Climate Centers 023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Image Captions:

- Left - [1 week average temperature departure for MN and western WI](#)
- Right - [1 month average temperature departure for MN and western WI](#)

Data Courtesy High Plains Regional Climate Center.  
Data over the past 7 & 30 days ending September, 21, 2023





# Summary of Impacts

Links: See/submit [Condition Monitoring Observer Reports \(CMOR\)](#) and view the [Drought Impacts Reporter](#)

## Hydrologic Impacts

- The Mississippi River is considered to be in “low flow” for the entire Upper Mississippi region, from Grand Rapids through the Brooklyn Park gage.
- Nearly all basins in the region are reporting below normal flow conditions, except for far western MN.

## Agricultural Impacts

- Sector seeing the biggest impact from the dry conditions have been hay fields, which have seen fewer cuts than usual this growing season in many areas.

## Fire Hazard Impacts

- Wildfire activity has remained low the last few weeks
- However, fuels continue to dry out and all we are is a day with favorable weather conditions away from seeing significant wildland activity in grassy fuels

## Other Impacts

- State drought task forces have been started in both MN and WI.

## Mitigation Actions

- Many communities have implemented odd/even watering bans.





# Hydrologic Conditions and Impacts

Average streamflow for the past 7 days

- The entire Upper Mississippi River is in low flow status from Grand Rapids through the Minneapolis area.
- Conditions are slightly better in Wisconsin than Minnesota, though deteriorating.

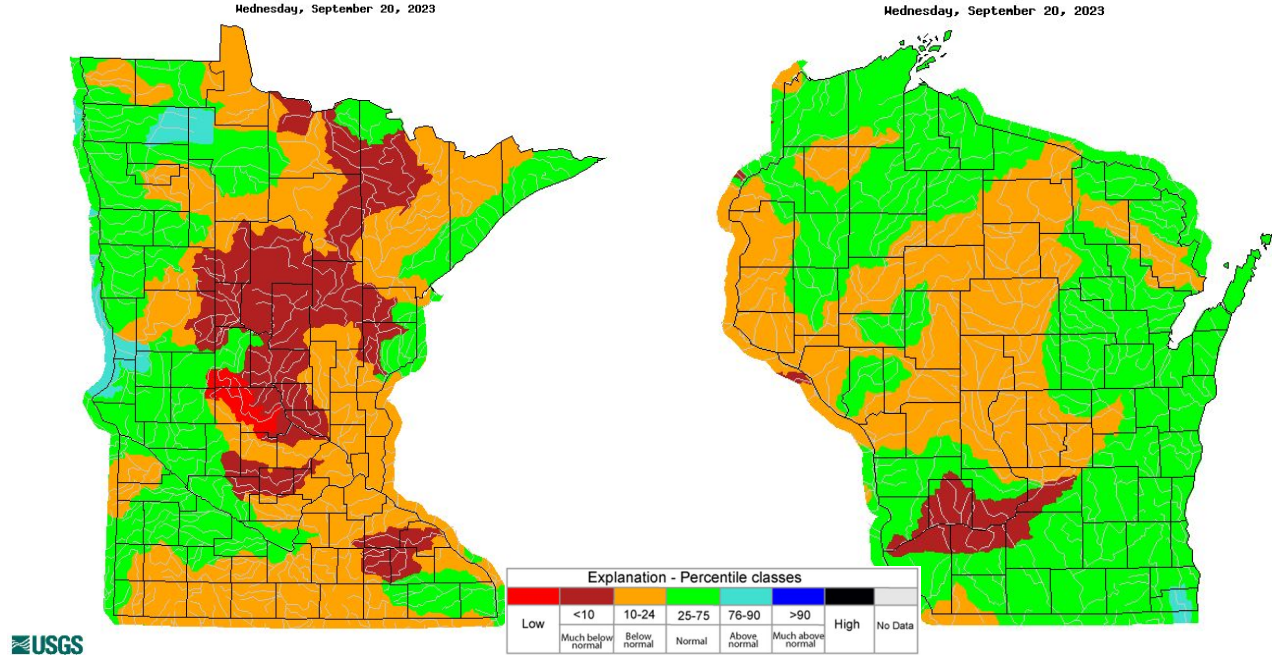


Image Caption: [USGS 7-day Streamflow departure from normal for MN](#). Valid September 20, 2023

Image Caption: [USGS 7-day Streamflow departure from normal for WI](#). Valid September 20, 2023





# Agricultural Impacts

Soil moisture and crop conditions for [MN](#) and [WI](#)

Minnesota (Entire State)	As of Sep 17	Very Short Moisture	Short Moisture	Adequate Moisture	Moisture Surplus
	<b>Topsoil</b>	<b>31%</b>	<b>44%</b>	<b>25%</b>	<b>0%</b>
	<b>Subsoil</b>	<b>26%</b>	<b>50%</b>	<b>24%</b>	<b>0%</b>

Wisconsin (Entire State)	As of Sep 17	Very Short Moisture	Short Moisture	Adequate Moisture	Moisture Surplus
	<b>Topsoil</b>	<b>29%</b>	<b>35%</b>	<b>36%</b>	<b>0%</b>
	<b>Subsoil</b>	<b>31%</b>	<b>37%</b>	<b>32%</b>	<b>0%</b>

## Highlights

Hay fields and pasture and rangeland are the two sectors that have felt the brunt of the impacts from this drought. The lack of recent rains has allowed soils to continue to slowly dry out.

## Crop Condition as of September 17, 2023 MN

Item	Very Poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Corn .....	7	17	35	33	8
Dry edible beans .....	1	9	32	53	5
Pasture and range ...	27	39	26	8	0
Potatoes .....	0	1	14	59	26
Soybeans .....	5	13	36	38	8
Sugarbeets .....	0	2	5	30	63
Sunflowers .....	0	3	37	59	1

## Crop Condition as of September 17, 2023 WI

Item	Very Poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Corn .....	5	14	30	40	11
Pasture and range .	18	27	33	21	1
Soybeans .....	6	14	33	37	10







# Fire Hazard Impacts

Fire Danger ratings valid for the date listed ONLY

- Wildfire activity has remained low due to a lack of favorable fire weather conditions (hot, dry, and windy).
- The dry state of the fuels means we're currently just a hot, dry, and windy day away from having significant wildland fire threats.

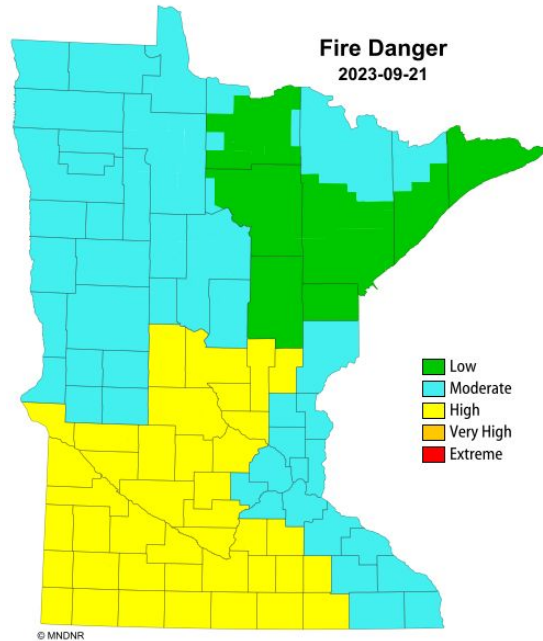


Image Caption: [Wildfire Danger for MN](#). Valid September 21, 2023

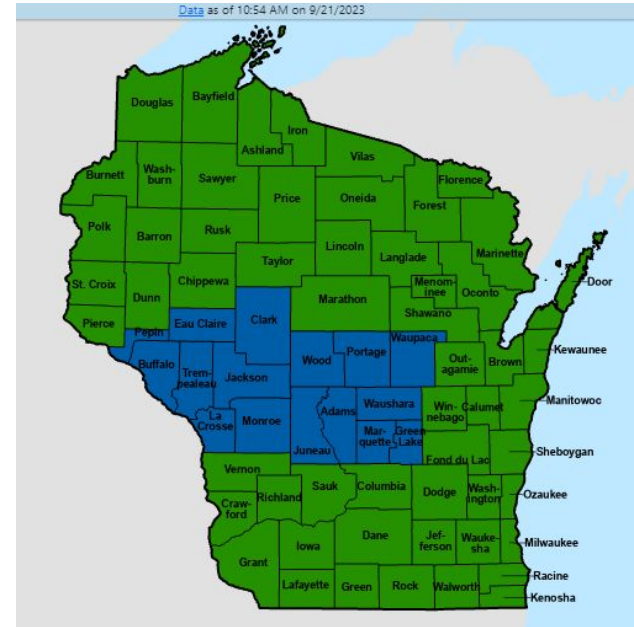


Image Caption: [Wildfire Danger for WI](#). Valid September 21, 2023





# Seven Day Precipitation Forecast

- We're looking at a pattern change to showery rainfall over the next week, especially this weekend.
- Western Minnesota will have the greatest probability of seeing over 2 inches of rain.



## Forecast Precipitation

Valid Ending Thursday September 28th, 2023 at 7 AM CDT

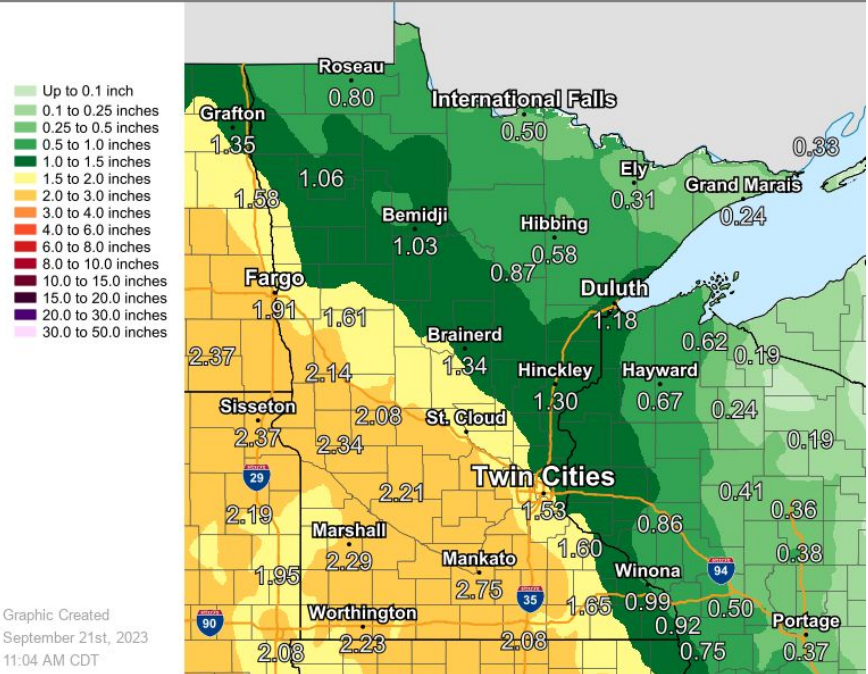


Image Caption: Weather Prediction Center [7-day precipitation forecast](#) valid Thursday September 21 to Thursday September 28





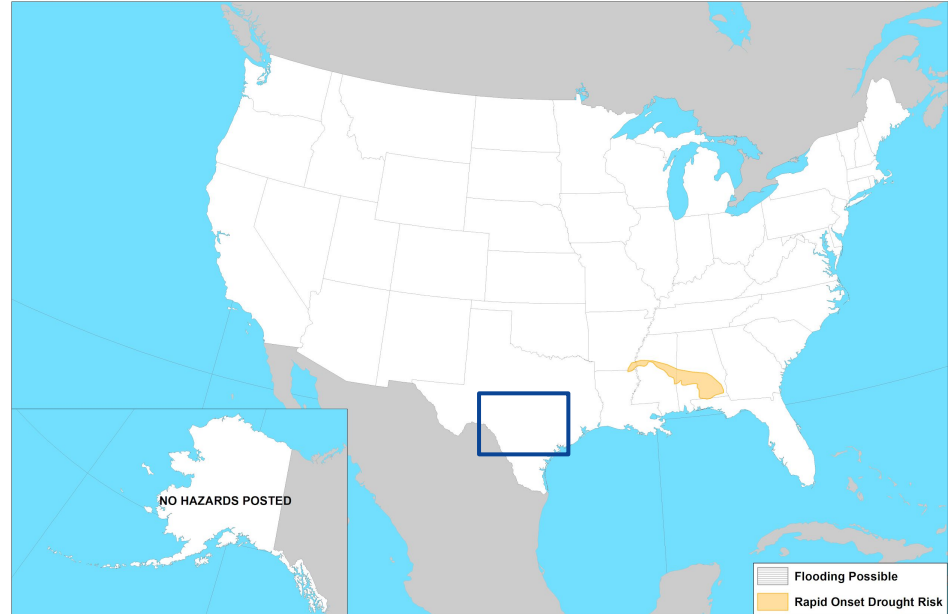
# Rapid Onset Drought Outlook

Links to the latest Climate Prediction Center 8 to 14 day [Temperature Outlook](#) and [Precipitation Outlook](#).

- Summarize conditions and impacts here



Day 8-14 U.S. Hazards Outlook  
Valid: 09/28/2023-10/04/2023



Climate Prediction Center  
Made: 09/20/2023 3PM EDT

Follow us:   
[www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

Image Caption:  
[Days 8 to 14 U.S. Hazards Outlook](#) Valid Month DD to DD.





# 8-14 Day Outlooks

The latest weekly to seasonal outlooks can be found on the [CPC homepage](#)

- Above normal temperatures continued to be favored going into October.
- Also probabilities lean toward wetter than normal conditions into early October.

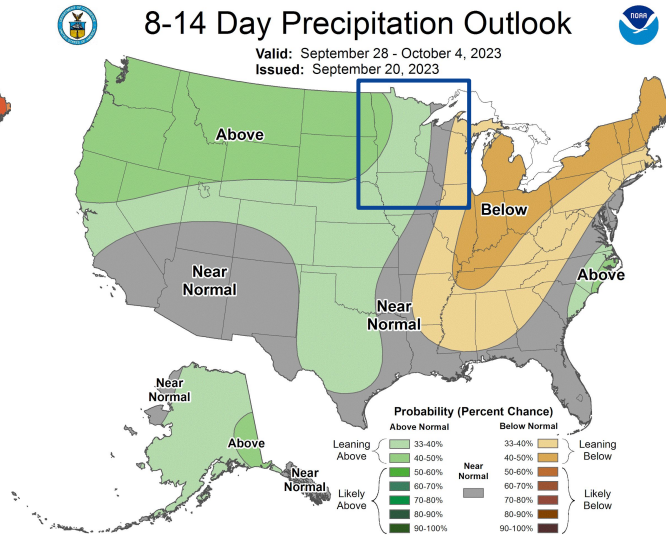
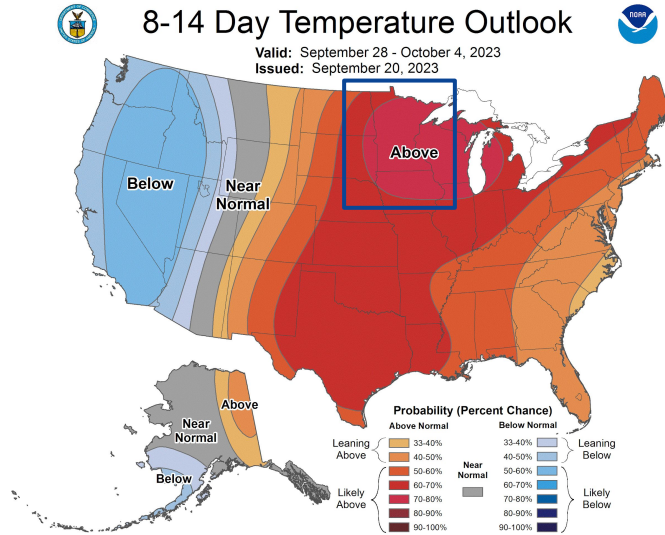


Image Captions:

Left - [Climate Prediction Center 8-14 Day Temperature Outlook](#),

Right - [Climate Prediction Center 8-14 Day Precipitation Outlook](#),

Issued September 20, 2023





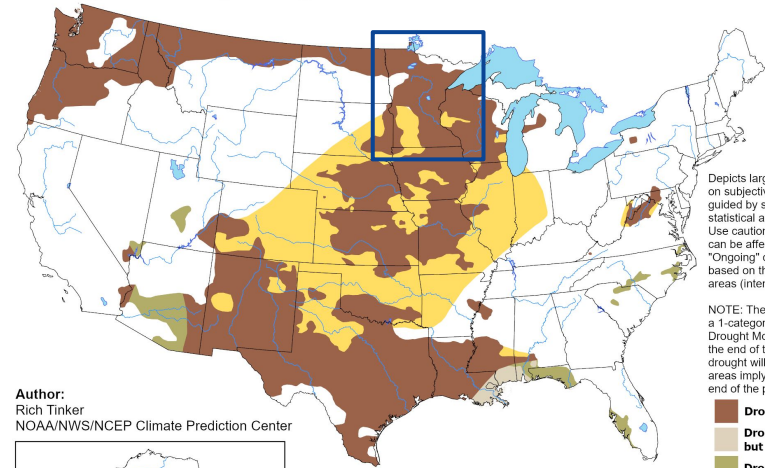
# Drought Outlook

The latest monthly and seasonal outlooks can be found on the [CPC homepage](#)

- Though we see some potential showery weather over the weekend and in week 2, amounts are not expected to be enough to improve drought conditions; we could at least slow down the progression, however.

## U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

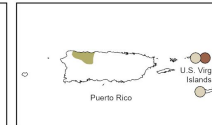
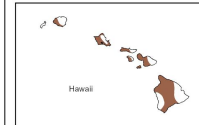
Valid for September 2023  
Released August 31, 2023



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. \*Ongoing\* drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:  
Rich Tinker  
NOAA/NWS/NCEP Climate Prediction Center



- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought



<https://go.usa.gov/3eZGd>

Image Caption: [Climate Prediction Center Monthly Drought Outlook](#)  
Climate Prediction Center Monthly Drought Outlook Released  
August 31, 2023 valid for September 2023

Links to the latest:

- [Climate Prediction Center Monthly Drought Outlook](#)
- [Climate Prediction Center Seasonal Drought Outlook](#)



National Oceanic and Atmospheric Administration  
U.S. Department of Commerce

National Weather Service  
Twin Cities/Chanhasen MN



# Drought Definitions and State Resources

What do those categories mean?

## Drought Category Definitions:

<b>D0</b>	<b>Abnormally Dry</b>	<b>Going into drought:</b> <ul style="list-style-type: none"> <li>Short-term dryness slowing planting, growth of crops or pastures</li> </ul>	<b>Coming out of drought:</b> <ul style="list-style-type: none"> <li>Some lingering water deficits</li> <li>Pastures or crops not fully recovered</li> </ul>
<b>D1</b>	<b>Moderate Drought</b>	<ul style="list-style-type: none"> <li>Some damage to crops, pastures</li> <li>Streams, reservoirs, or wells low, some water shortages developing or imminent</li> <li>Voluntary water-use restrictions requested</li> </ul>	
<b>D2</b>	<b>Severe Drought</b>	<ul style="list-style-type: none"> <li>Crop or pasture losses likely</li> <li>Water shortages common</li> <li>Water restrictions imposed</li> </ul>	
<b>D3</b>	<b>Extreme Drought</b>	<ul style="list-style-type: none"> <li>Major crop/pasture losses</li> <li>Widespread water shortages or restrictions</li> </ul>	
<b>D4</b>	<b>Exceptional Drought</b>	<ul style="list-style-type: none"> <li>Exceptional and widespread crop/pasture losses</li> <li>Shortages of water in reservoirs, streams, and wells creating water emergencies</li> </ul>	

Comprehensive Drought Information for Minnesota: <http://www.drought.gov/state/minnesota>

Comprehensive Drought Information for Wisconsin: <http://www.drought.gov/state/wisconsin>

These sites contain links to resources from each state, to help you dive into drought information in more detail.

