



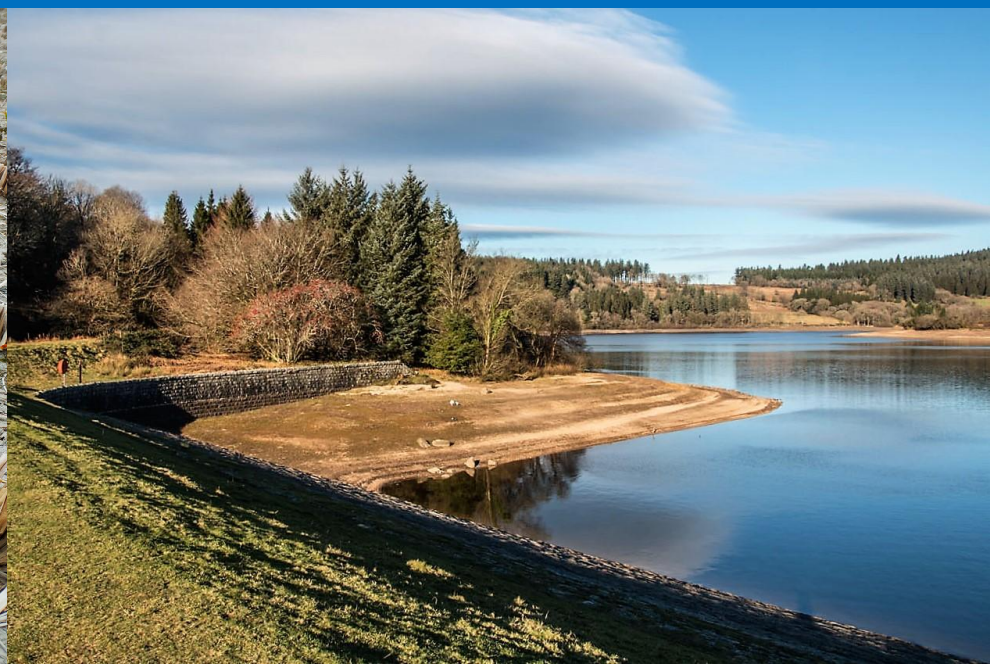
Drought Information Statement for Central/Eastern Minnesota and Western Wisconsin

Valid September 14, 2023

Issued By: NWS Twin Cities / Chanhassen MN

Contact Information: nws.twincities@noaa.gov

- This product will be updated Sept. 21, 2023 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.





NWS Twin Cities Drought Update

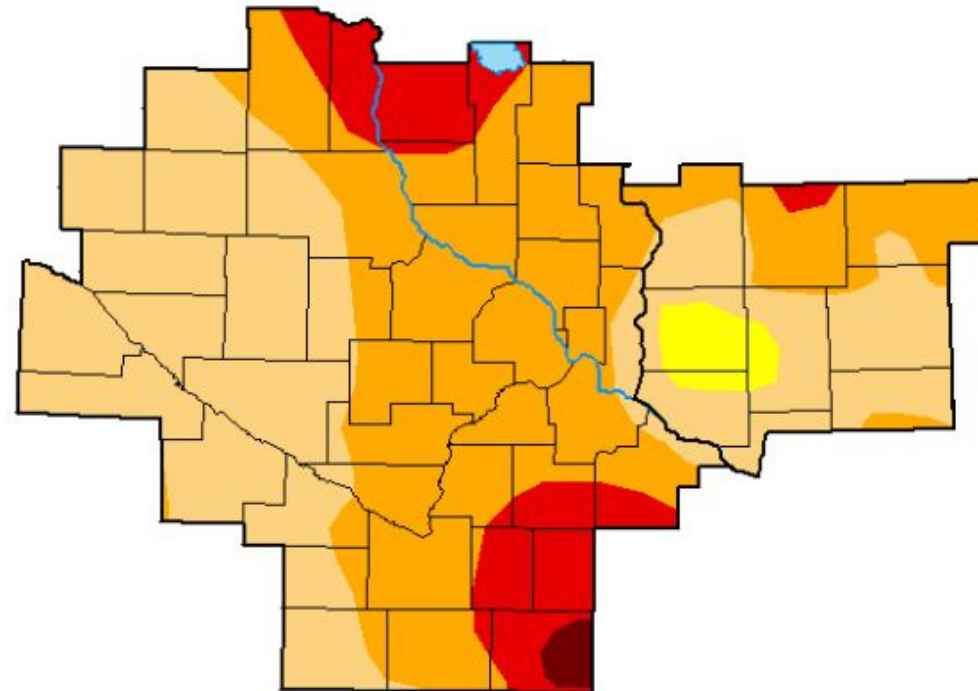
September 14, 2023
2:16 PM

Severe to Exceptional Drought Continues

Key Messages

- Very little rainfall over the past week.
- There has been 1 class degradation in drought conditions across much of the area since last week.
- Extreme Drought (D3) expanded in both the north and south portions.
- Mostly dry weather expected to continue for the next 7 days, but the potential for increasing rain is on the horizon.

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



September 12, 2023

(Released Thursday, Sep. 14, 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	97.83	54.14	11.63	0.76
Last Week 09-05-2023	2.17	97.83	67.35	46.12	3.67	0.76
3 Months Ago 06-13-2023	33.03	66.97	35.03	4.99	0.00	0.00
Start of Calendar Year 01-03-2023	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 09-13-2022	37.29	62.71	23.95	6.04	0.00	0.00

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:

Brad Pugh
CPC/NOAA



droughtmonitor.unl.edu

NEW Important Updates

- One class degradation across much of the region this week.
- Exceptional drought remains in SE & NE MN

Next Scheduled Update

- The next drought packet is scheduled for Thursday September 21st.



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

National Weather Service
Twin Cities, MN

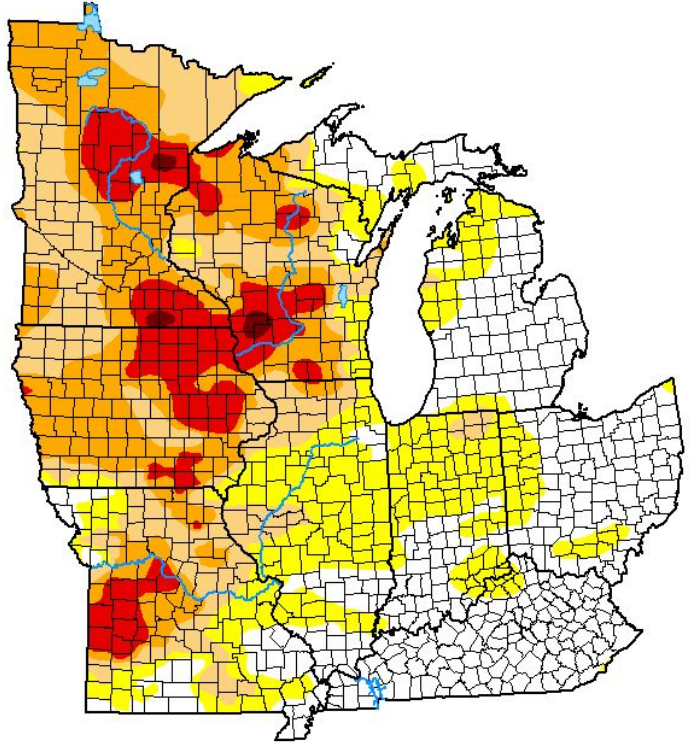


Drought Monitor Change

September 14, 2023
2:16 PM

Latest Trend in the Drought Monitor for the North Central U.S.

U.S. Drought Monitor Midwest



September 12, 2023
(Released Thursday, Sep. 14, 2023)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	30.83	69.17	48.04	29.49	10.07	0.44
Last Week 09-05-2023	34.62	65.38	44.43	25.90	9.45	0.51
3 Months Ago 06-13-2023	10.72	89.28	48.72	7.96	1.21	0.00
Start of Calendar Year 01-03-2023	43.26	56.74	28.01	7.67	1.00	0.06
Start of Water Year 09-27-2022	53.19	46.81	19.89	5.78	1.25	0.27
One Year Ago 09-13-2022	67.44	32.56	10.28	3.85	0.76	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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>

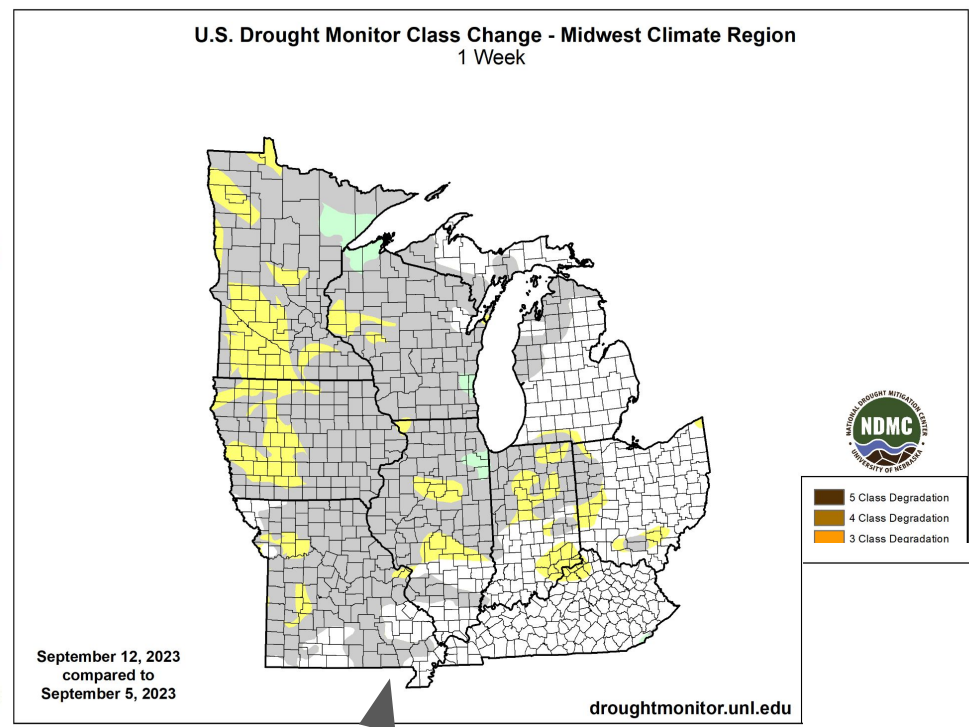
Author:
Brad Pugh
CPC/NOAA



Intensity:

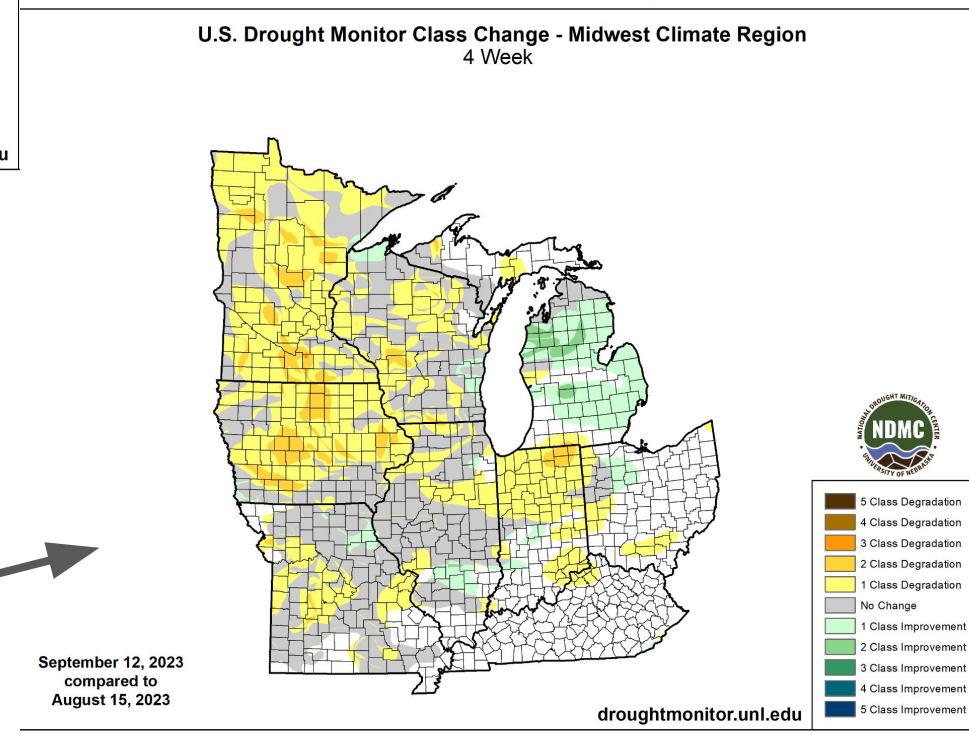
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

U.S. Drought Monitor Class Change - Midwest Climate Region 1 Week



1 Week
Change

U.S. Drought Monitor Class Change - Midwest Climate Region 4 Week



4 Week
Change

- 5 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

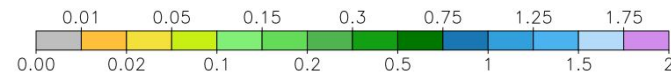
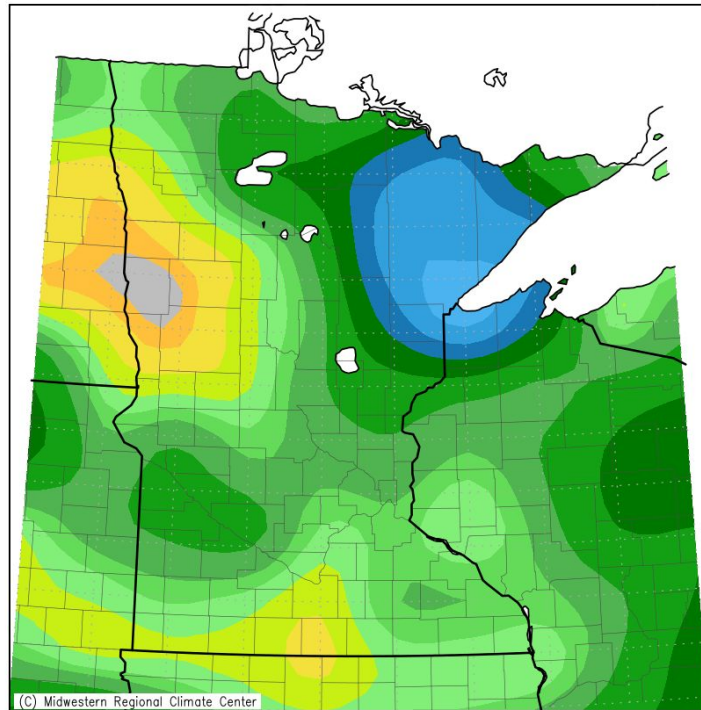


Recent Precipitation and Temperature

September 14, 2023
2:16 PM

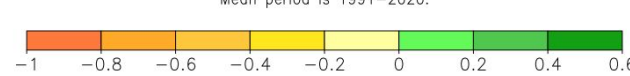
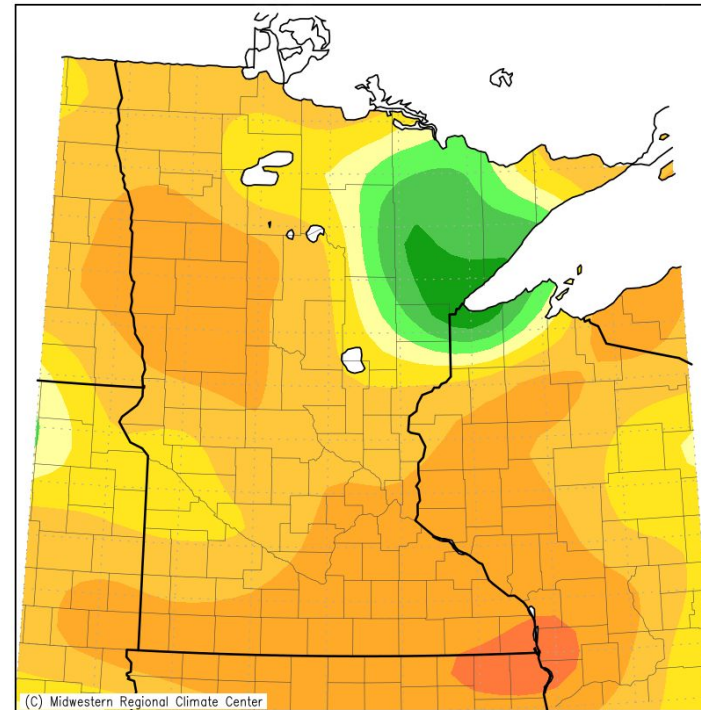
Last Week's Precipitation Totals/Departure

Accumulated Precipitation (in)
September 8, 2023 to September 14, 2023



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 9/14/2023 12:41:06 PM EDT

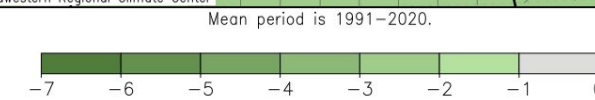
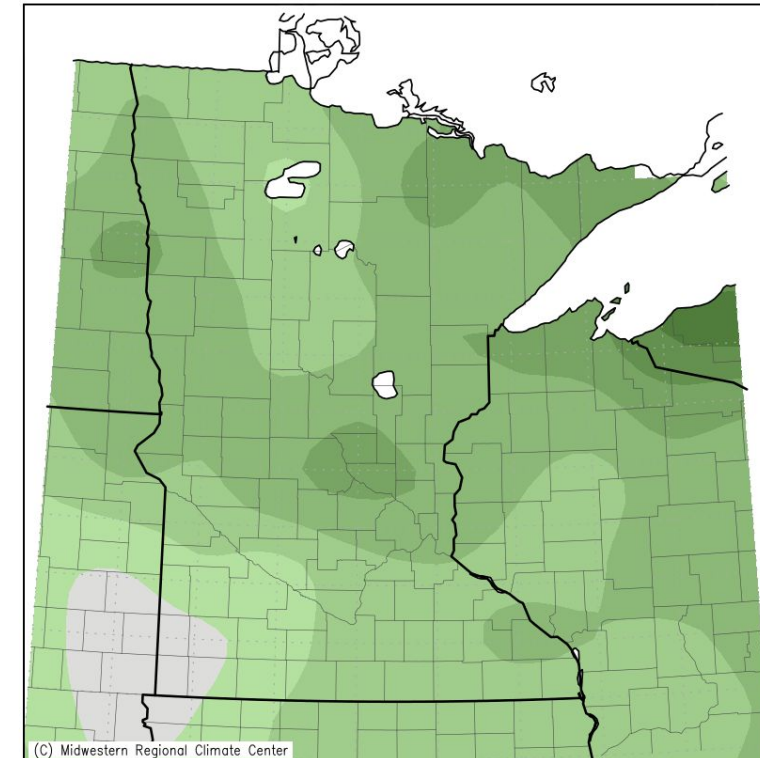
Accumulated Precipitation (in): Departure from Mean
September 8, 2023 to September 14, 2023



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 9/14/2023 12:43:01 PM EDT

Last Week's Temperature Departure

Average Temperature (°F): Departure from Mean
September 8, 2023 to September 13, 2023



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 9/14/2023 12:42:14 PM EDT

- ➔ Much of the region saw little meaningful rainfall in the last week, while temperatures moderated toward a little below normal.
- ➔ With only light rainfall expected this week too, we can expect little improvement in drought conditions next week.



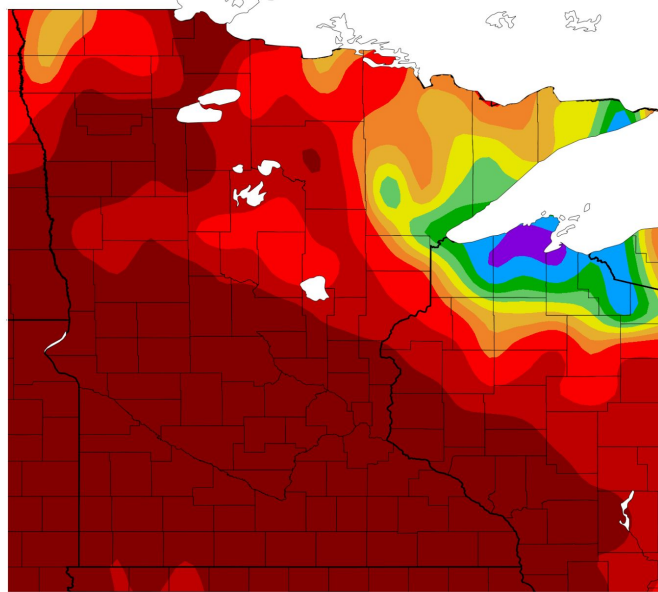


Precipitation Deficits

September 14, 2023
2:16 PM

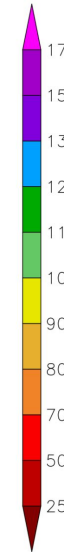
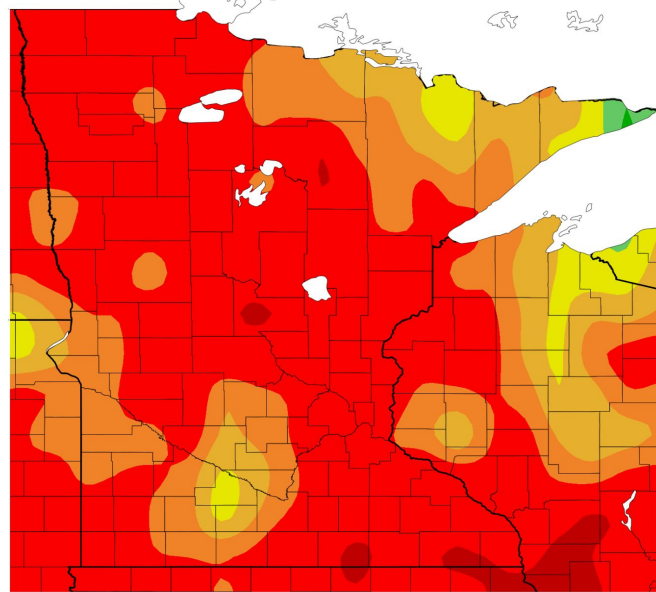
30 Day Percent Normal

Percent of Normal Precipitation (%)
8/15/2023 – 9/13/2023



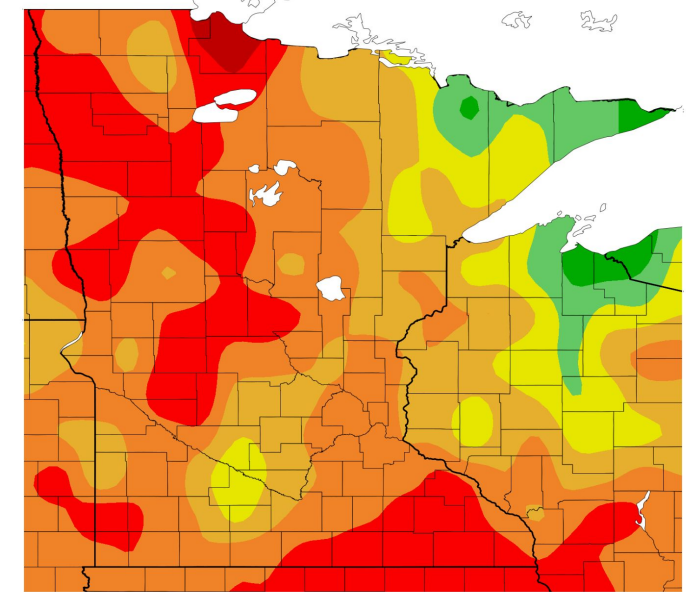
6-Month Percent Normal

Percent of Normal Precipitation (%)
3/14/2023 – 9/13/2023



12-Month Percent Normal

Percent of Normal Precipitation (%)
9/14/2022 – 9/13/2023



Generated 9/14/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Generated 9/14/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Generated 9/14/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highlights

- Less than 25 percent of normal for the last 30 days over the entire MPX area.
- Major precipitation deficits evident through the past 6 and 12 months as well, even including the heavy snowpack last winter.





Summary of Impacts

September 14, 2023
2:16 PM

Hydrologic Impacts

- Many lakes and rivers near or at historic lows, leading to water restrictions. Minnesota DNR has suspended 107 surface water permits this summer.
- Minnesota Drought Task Force activated.
- Upper Mississippi Low Flow Management Plan in effect.

Agricultural Impacts

- Pasture and rangeland most affected so far, with 40 to 70 percent of pasture/rangeland rated poor to very poor.

Other Impacts

- Low lake and river levels are causing increased damage to boats and watercraft.

Mitigation Actions

- Some localities have watering restrictions in place, including the city of St. Paul.





Hydrologic Conditions - MN and WI

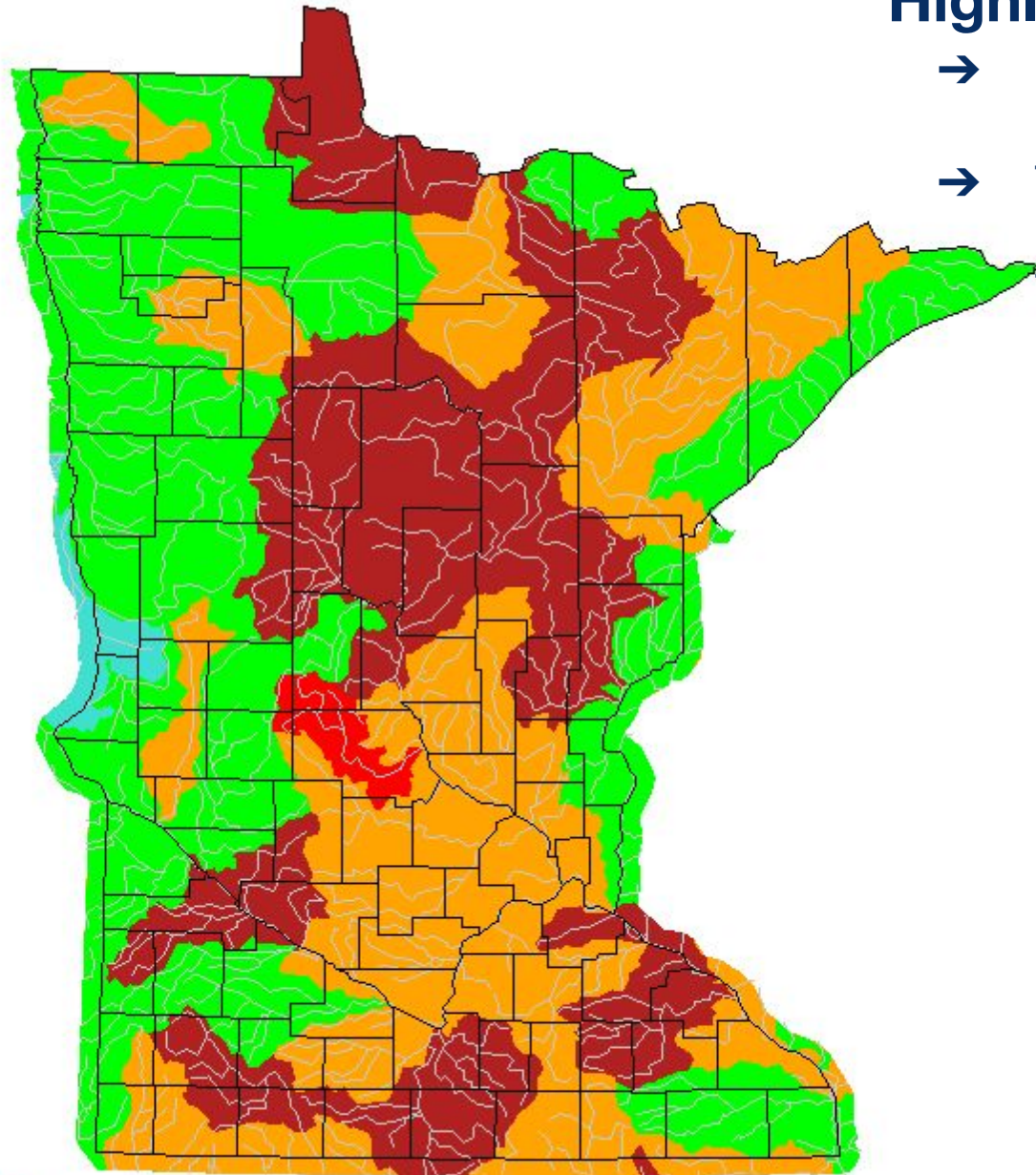
September 14, 2023
2:16 PM

Average streamflow for the past 7 days

Hednesday, September 13, 2023

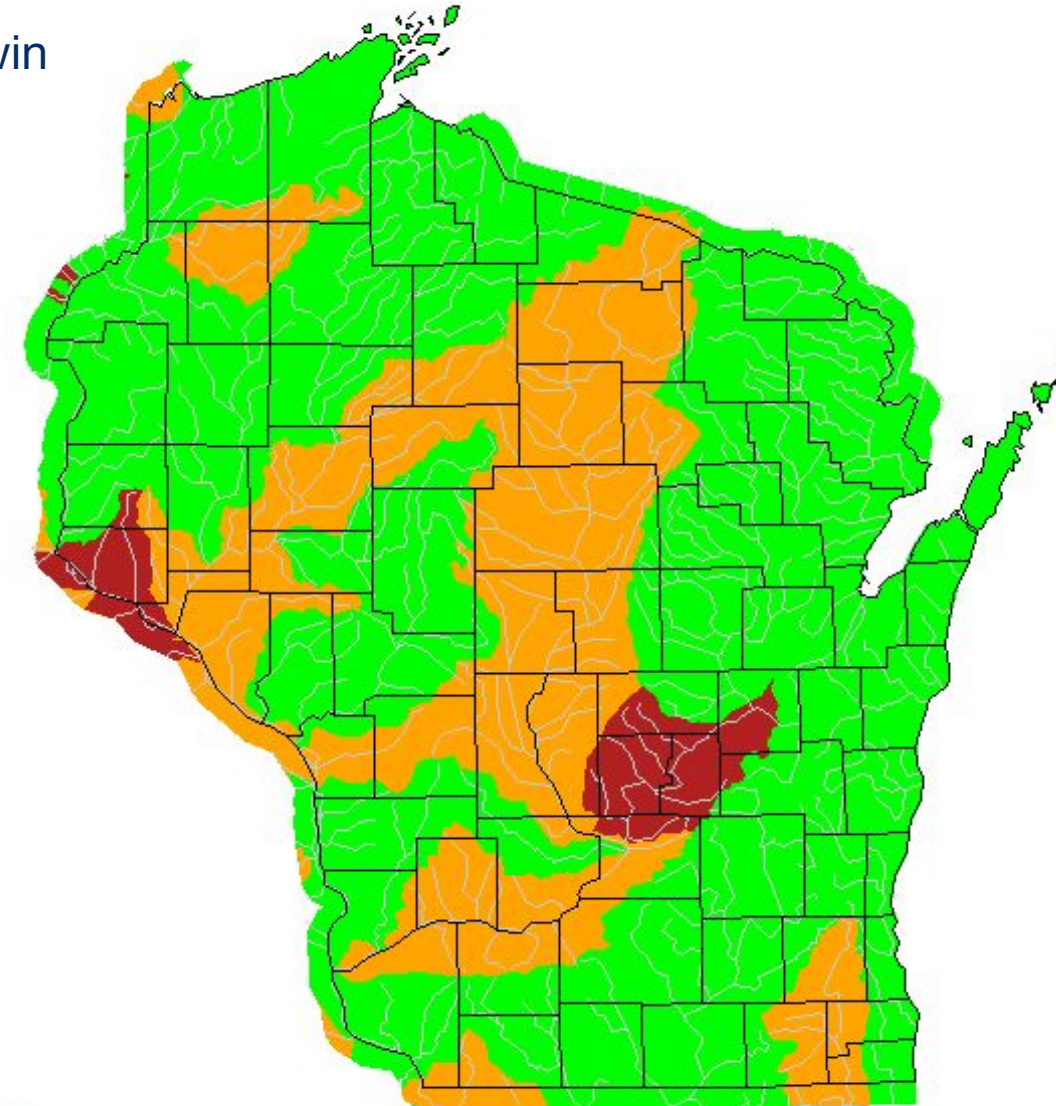
Highlights

- USGS streamflows are mostly below normal for mid September.
- The Upper Mississippi (above the Twin Cities) remains below low water thresholds.



Streamflow: Status	
● Above flood stage	
● All-time high for this day	100 th percentile (maximum)
● Much above normal	>90 th percentile
● Above normal	76 th – 90 th percentile
● Normal	25 th – 75 th percentile
● Below normal	10 th – 24 th percentile
● Much below normal	<10 th percentile
● All-time low for this day	0 th percentile (minimum)
● Not flowing	
● Not ranked	

Hednesday, September 13, 2023



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National Weather Service
Twin Cities, MN



Soil Moisture Conditions

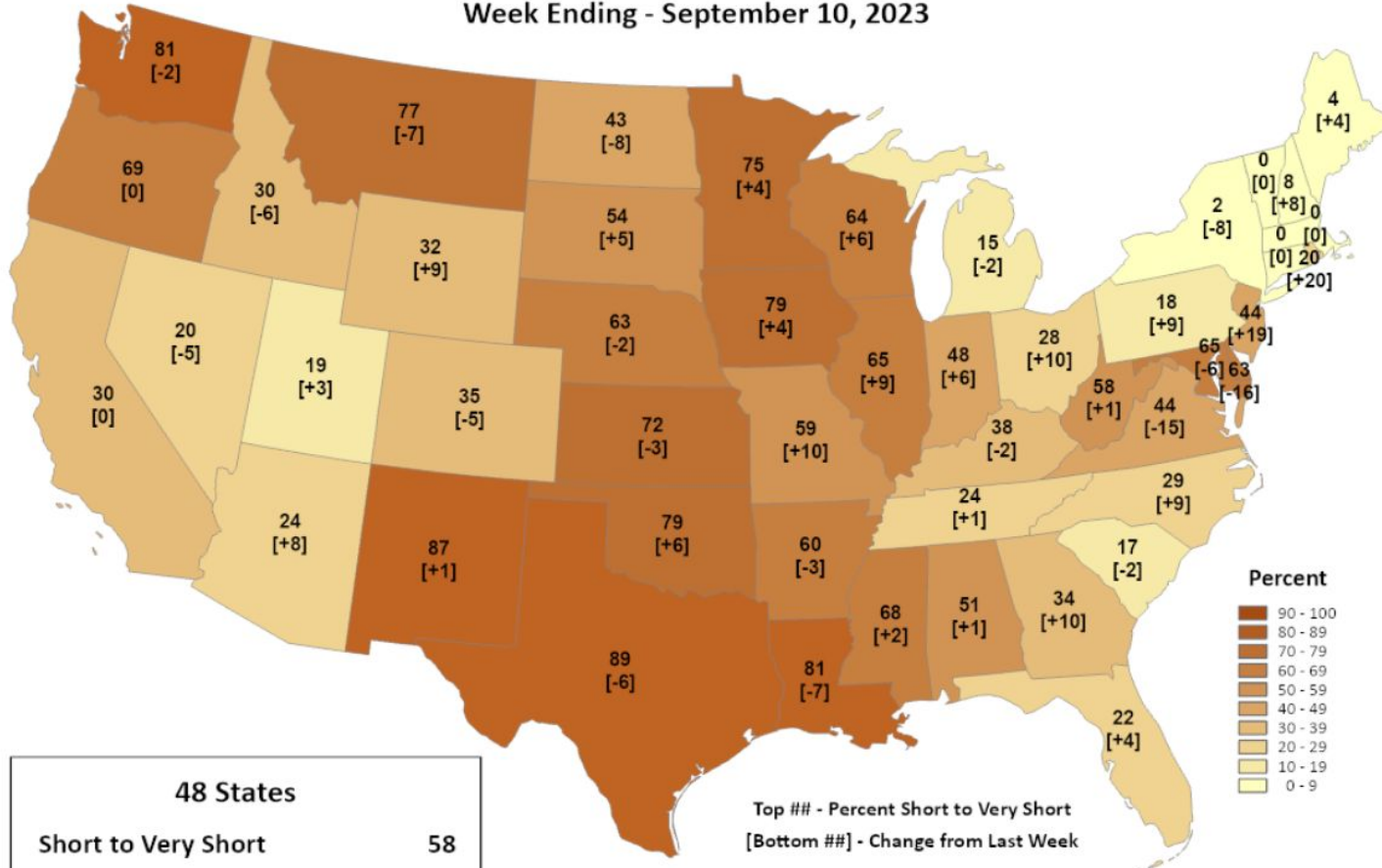
September 14, 2023
2:16 PM



United States
Department of
Agriculture

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

Topsoil Moisture Percent Short to Very Short Week Ending - September 10, 2023



48 States	
Short to Very Short	58
Change from Last Week	0

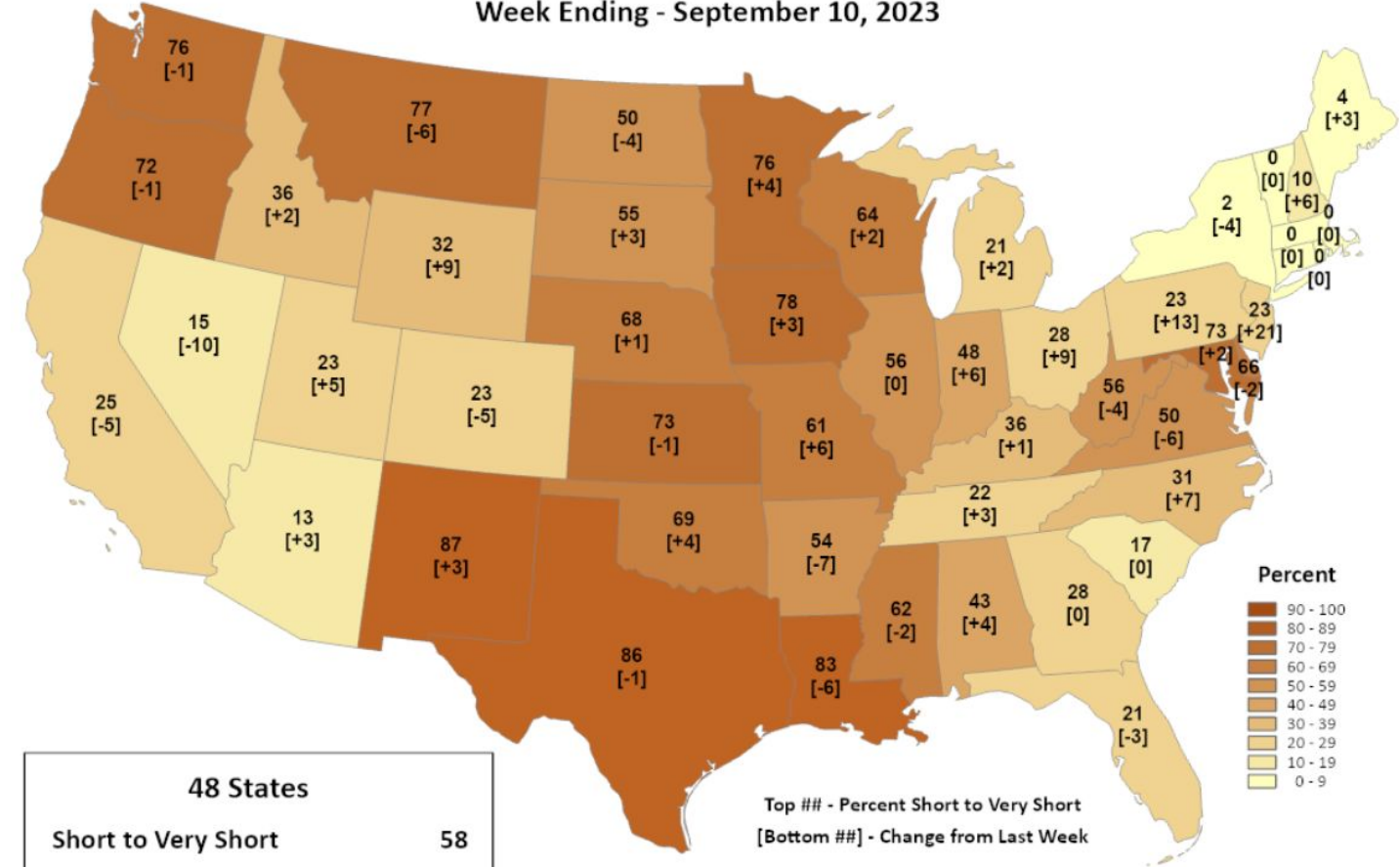
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.



United States
Department of
Agriculture

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

Subsoil Moisture Percent Short to Very Short Week Ending - September 10, 2023



48 States	
Short to Very Short	58
Change from Last Week	+1

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

Highlights

➔ Both Topsoil and Subsoil moisture conditions have decreased across MN/WI due to the recent dry weather this week.



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

National Weather Service
Twin Cities, MN



Soil and Crop Conditions

September 14, 2023
2:16 PM

Soil Conditions and Crop Conditions for September

Soil Moisture Condition

Minnesota (Entire State)	As of Sep 10	Very Short Moisture	Short Moisture	Adequate Moisture	Moisture Surplus
	Topsoil		31%	44%	25%
Subsoil		25%	51%	24%	0%

Wisconsin (Entire State)	As of Sep 10	Very Short Moisture	Short Moisture	Adequate Moisture	Moisture Surplus
	Topsoil		18%	51%	31%
Subsoil		17%	46%	37%	0%

Crop Condition as of September 10, 2023 MN

Item	Very Poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Corn	7	17	37	32	7
Dry edible beans	1	9	32	53	5
Pasture and range ...	26	38	26	9	1
Potatoes	0	1	14	59	26
Soybeans	5	13	37	38	7
Sugarbeets	0	2	5	30	63
Sunflowers	0	4	37	58	1

Crop Condition as of September 10, 2023 WI

Item	Very Poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Corn	4	15	31	38	12
Pasture and range .	14	29	35	21	1
Soybeans	5	15	33	36	11

Highlights

Crop conditions are fair to good, with pasture/hay bearing the worst of it. Corn and beans are in the 15 to 20 percent poor/very poor range.

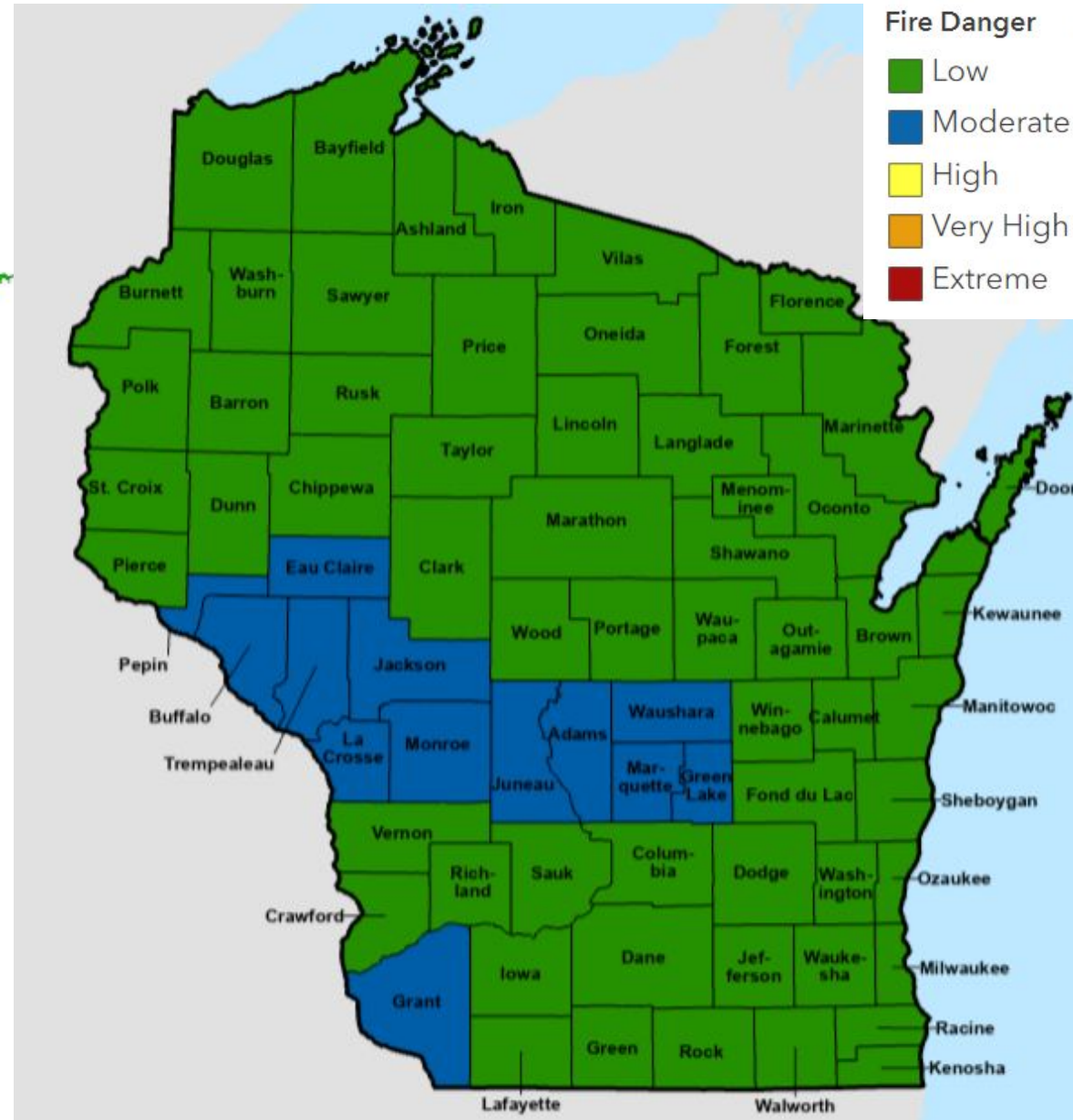
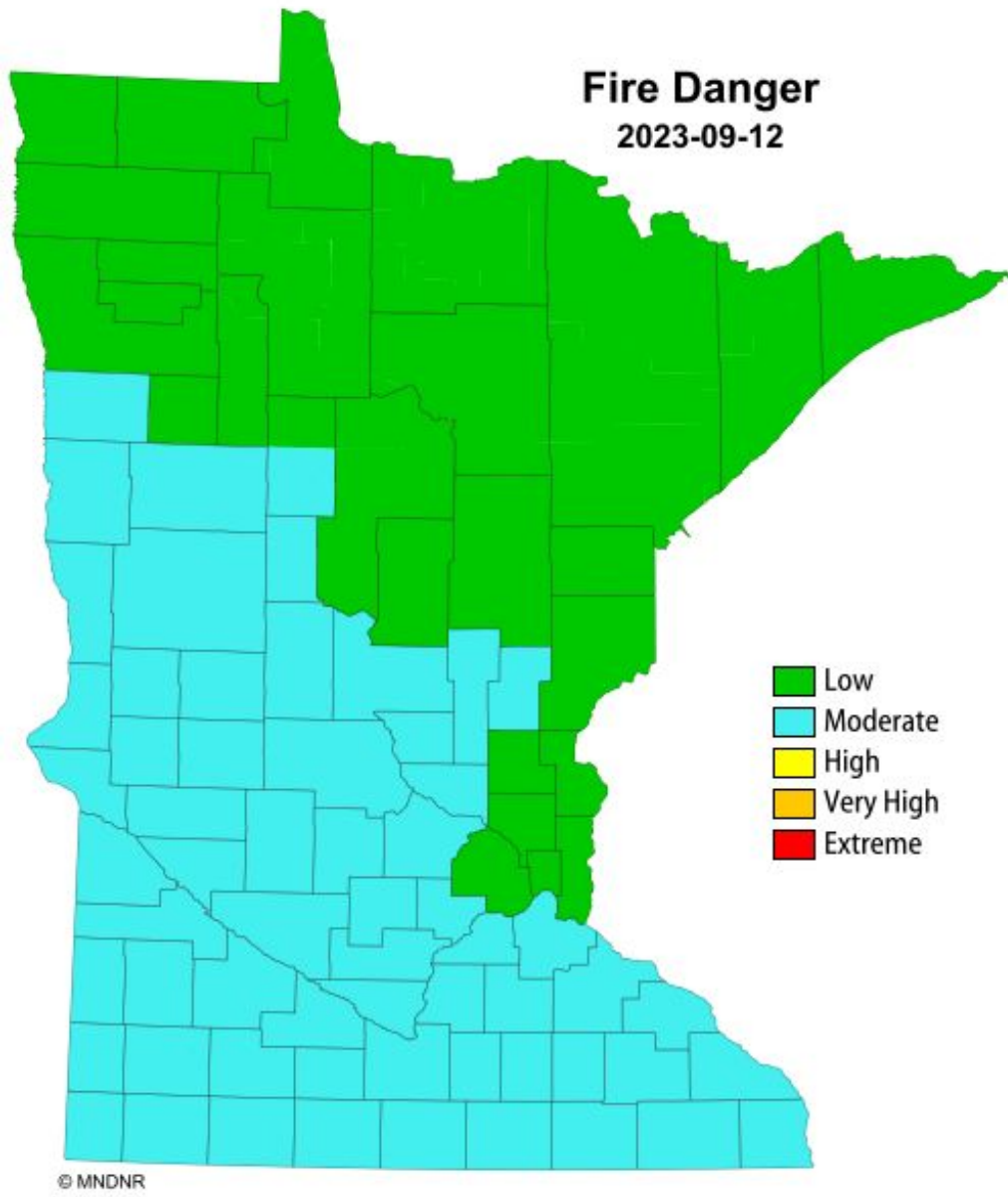




Fire Danger Condition

September 14, 2023
2:16 PM

Fire Danger ratings for date specified ONLY



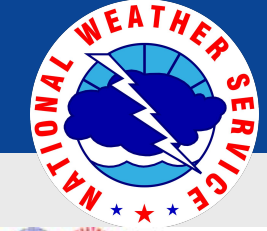
[Current MN Fire Danger](#)

[Current WI Fire Danger](#)

Highlights

- Areas of low to moderate fire danger persist over both states.
- Recent dry weather will not help.





Forecast Precipitation

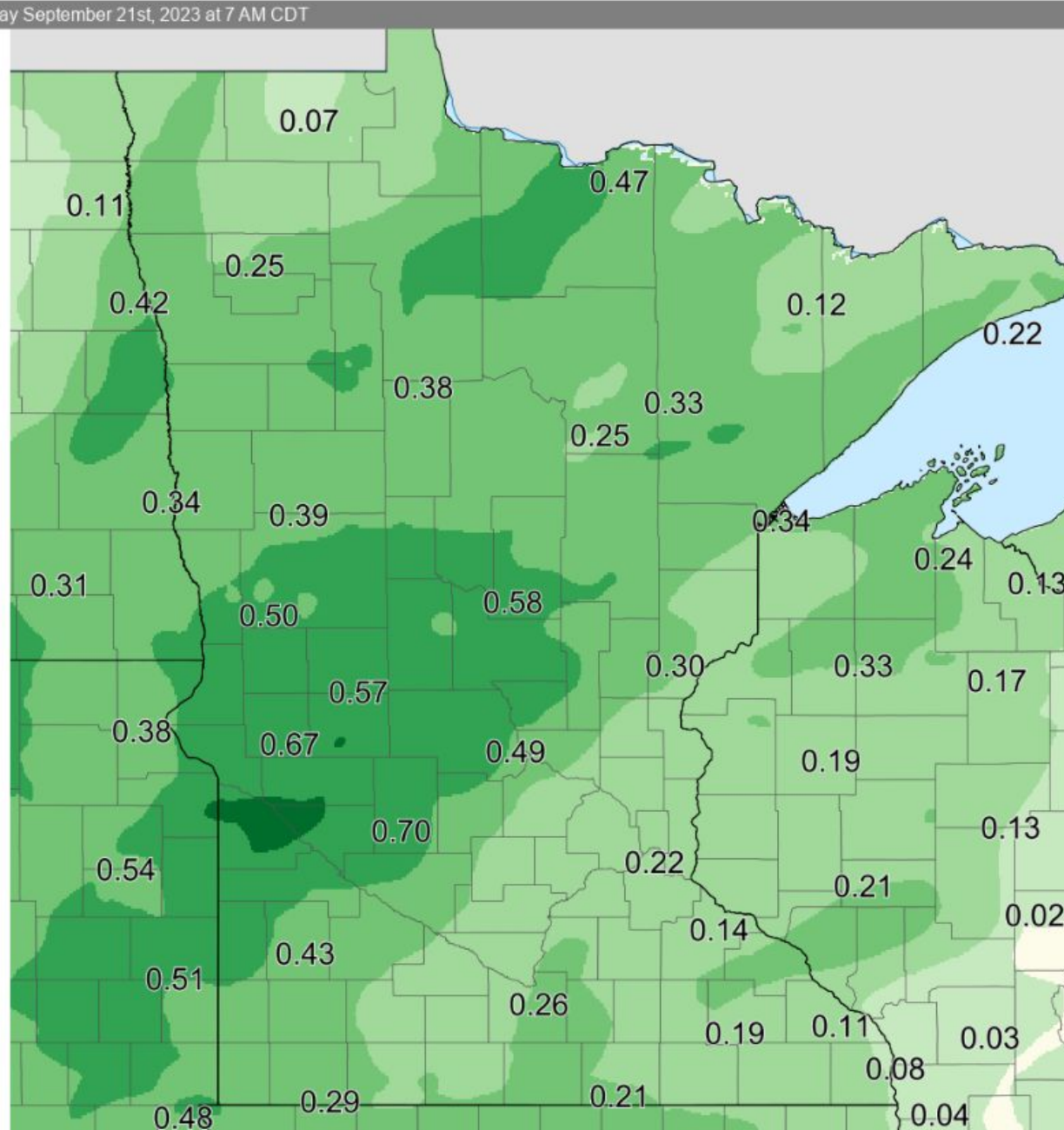
September 14, 2023
2:16 PM

Next 7 Days



Forecast Precipitation

Valid Ending Thursday September 21st, 2023 at 7 AM CDT



Highlights

- Very little rainfall is expected over the next seven days.



National Oceanic and Atmospheric Administration

U.S. Department of Commerce

National Weather Service
Twin Cities, MN



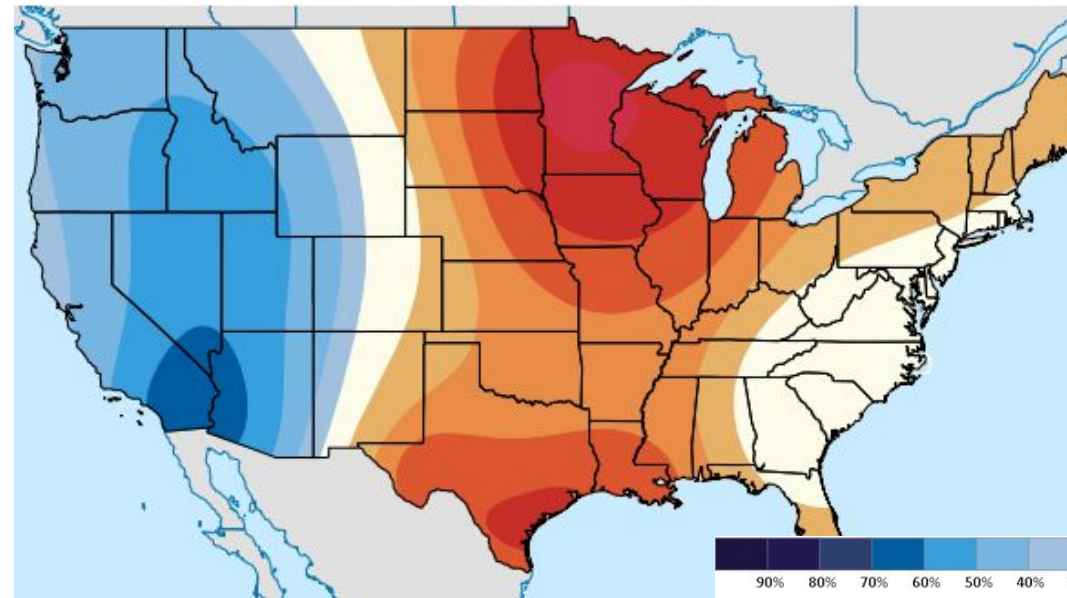
Short Term Climate Outlook

September 14, 2023
2:16 PM

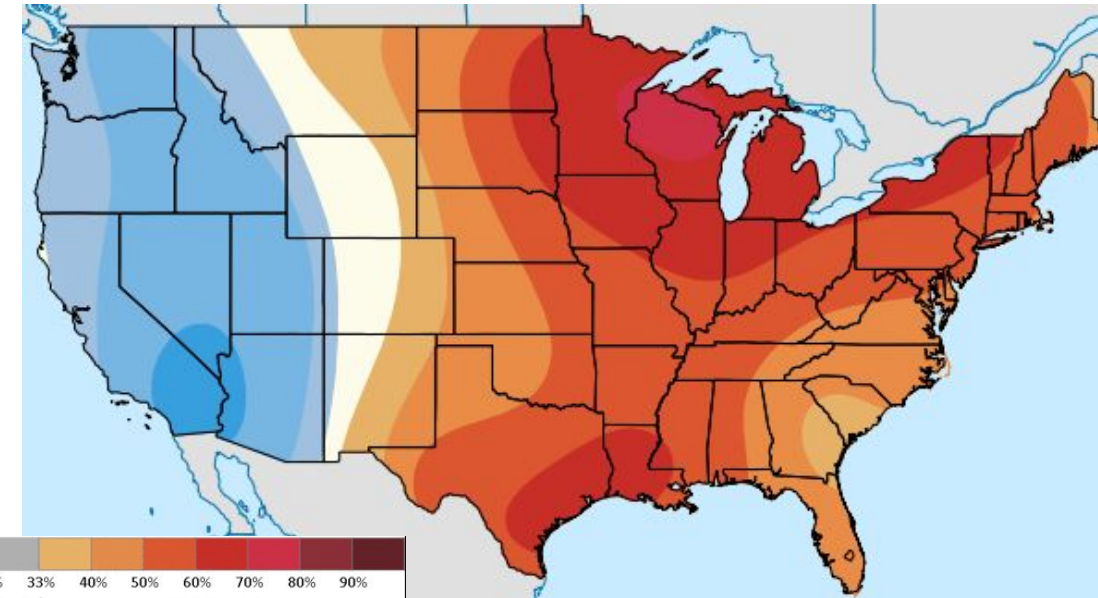
For more information visit: <https://www.cpc.ncep.noaa.gov/>

Highlights

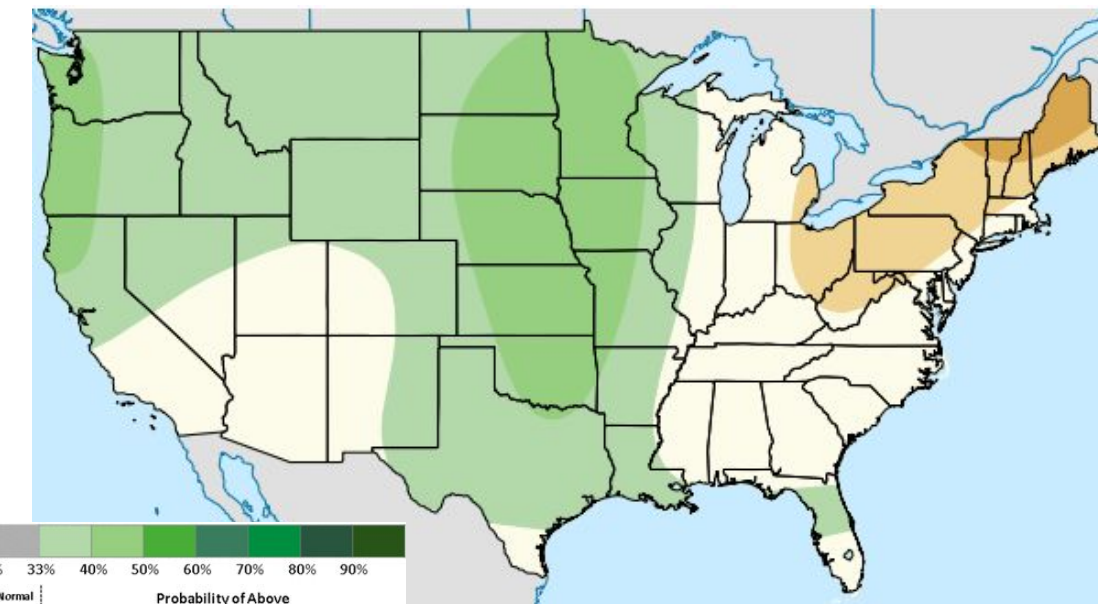
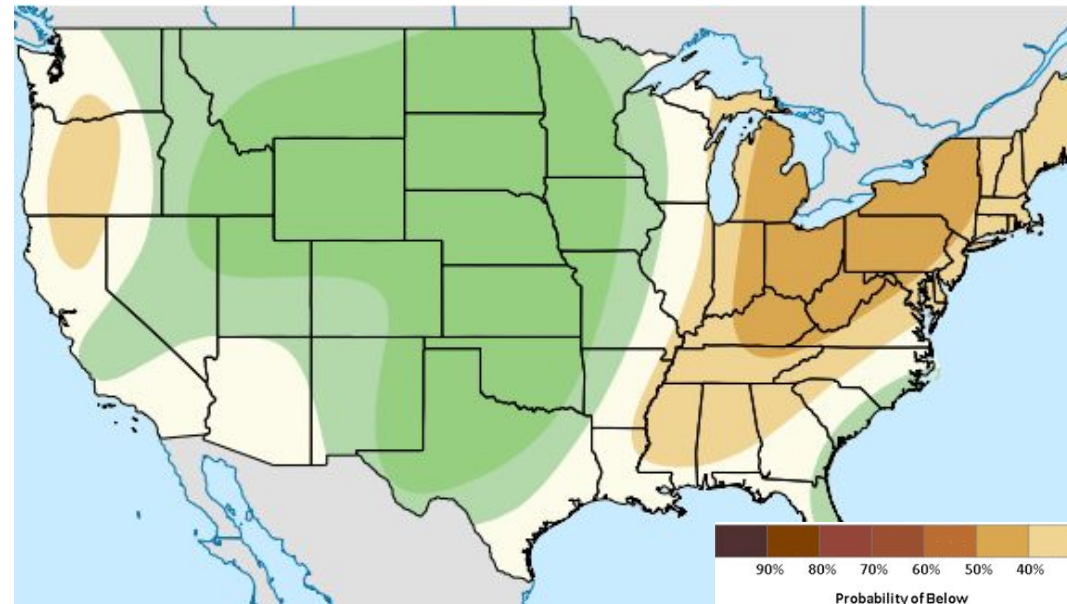
- Temperatures should be above normal for late September, which would mostly mean mild conditions rather than a heat wave.
- There is a potential shift in the pattern leading to probabilities of above normal precipitation in week 2.
- Since this is a fairly dry time of year, this doesn't necessarily mean heavy rainfall, but it could at least provide some respite.



6-10 Day Outlook (Sep 19th-23rd)



8-14 Day Outlook (Sep 21th-27th)





Drought Outlook

September 14, 2023
2:16 PM

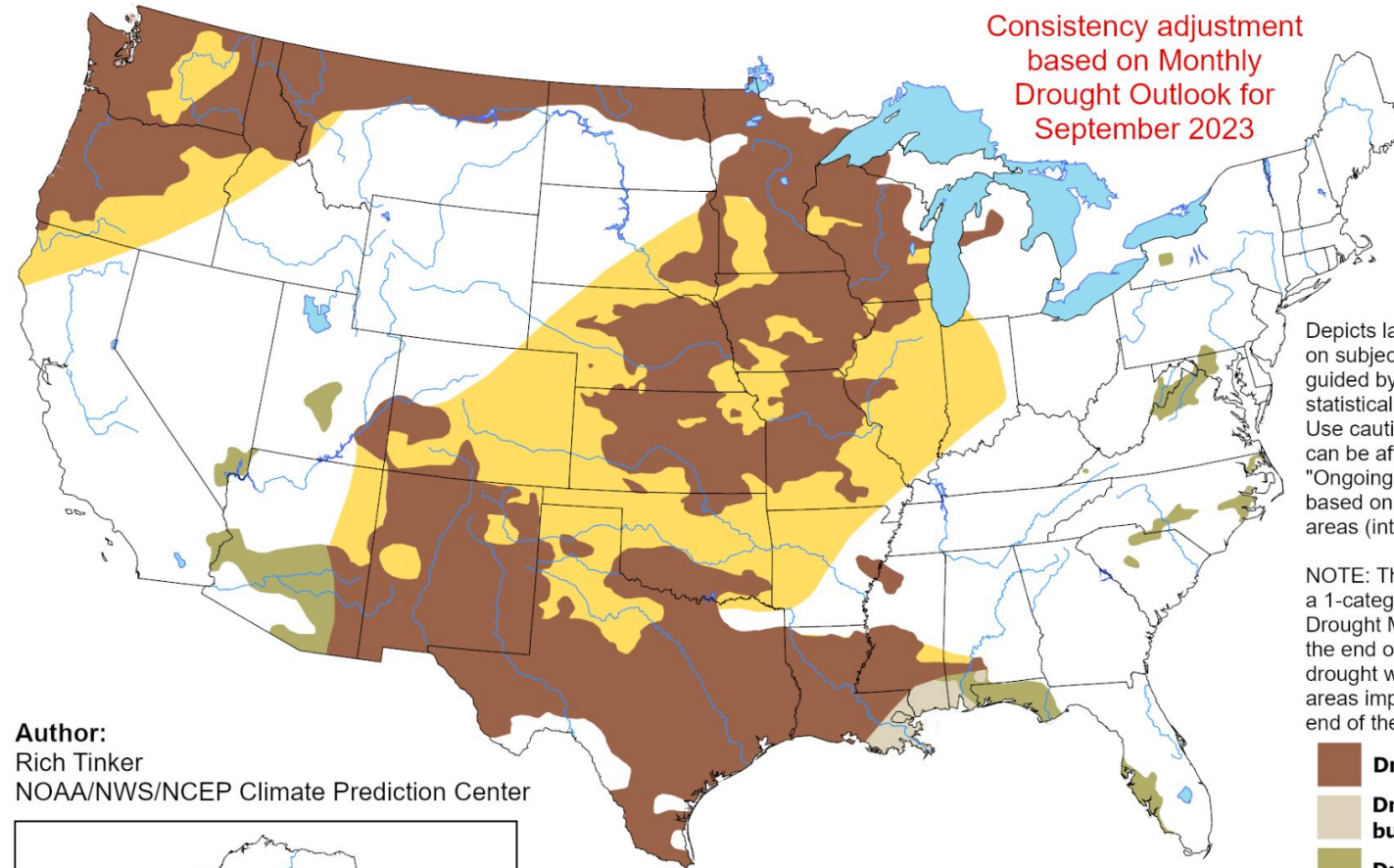
For more information visit: <https://www.cpc.ncep.noaa.gov/>

Highlights

- NOAA's Climate Prediction Center indicates that drought is expected to persist over the area through the autumn months.
- Drought conditions could worsen across western Minnesota and part of western Wisconsin.

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for September 1 - November 30, 2023
Released August 31, 2023



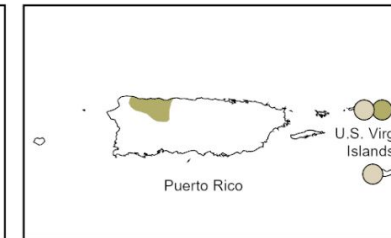
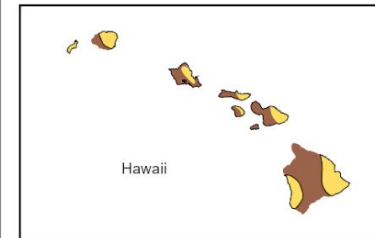
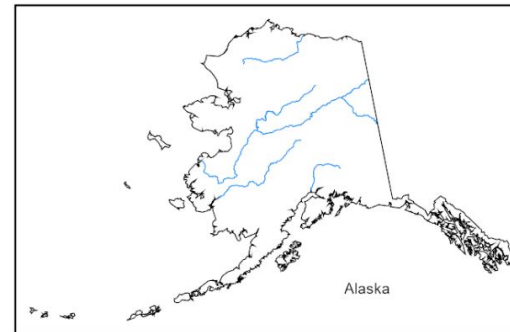
Consistency adjustment
based on Monthly
Drought Outlook for
September 2023

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).

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

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



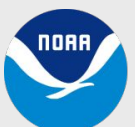
<https://go.usa.gov/3eZ73>

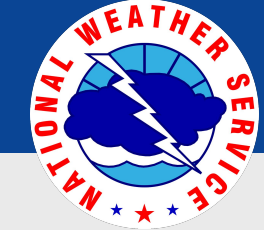


Drought Category Definitions

September 14, 2023
2:16 PM

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





Contact Information

If you have questions or comments about this information, please contact:

NOAA/National Weather Service
Twin Cities/Chanhassen
1733 Lake Drive West
Chanhassen, MN 55317

Phone: 952-361-6670

Email: nws.twincities@noaa.gov

Acknowledgments:

The drought monitor is a multi-agency effort involving NOAA's National Weather Service and National Climatic Data Center, the USDA, state and regional center climatologists and the National Drought Mitigation Center. Information for this statement has been gathered from NWS and FAA observation sites, cooperative and volunteer observations, USDAFS, the USDA and USGS.

Additional Resources

Additional information on current drought conditions may be found at the following web addresses:

U.S. Drought Monitor: www.droughtmonitor.unl.edu

Current MN drought conditions: www.drought.gov/state/minnesota

Current WI drought Conditions: www.drought.gov/state/wisconsin

Climate Prediction Center (CPC): www.cpc.ncep.noaa.gov

Midwestern Regional Climate Center: <https://mrcc.illinois.edu/>

MN Climatology Office: <https://climateapps.dnr.state.mn.us/index.htm>

WI State Climatology Office: www.aos.wisc.edu/~sco

MN DNR Fire Danger:

https://www.dnr.state.mn.us/forestry/fire/firerating_restrictions.html

WI DNR Fire Danger: <https://dnr.wi.gov/topic/forestfire/restrictions.asp>

NWS Precipitation Data: <https://water.weather.gov/precip/>

USGS Hydrologic data: <https://waterwatch.usgs.gov/>

USDA crop reports: <https://www.nass.usda.gov/>

