



Drought Information Statement for NE Minnesota & NW Wisconsin

Valid September 21, 2023

Issued By: NWS Duluth

Contact Information:

- This product will be updated 10/5/2023 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/DLH/DroughtInformationStatement> for previous statements.



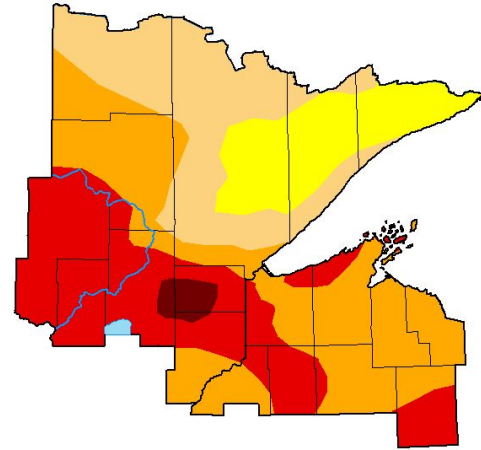


U.S. Drought Monitor

Link to the [latest U.S. Drought Monitor](#) for NE Minnesota and NW Wisconsin

- **Drought conditions persist**
- Drought intensity and Extent
 - D4 (Exceptional Drought): East Aitkin, much of Carlton, and far northwest Pine counties
 - D3 (Extreme Drought): Most of east-central Minnesota into parts of northwest Wisconsin
 - D2 (Severe Drought): Areas of northeast Minnesota and northwest Wisconsin
 - D1 (Moderate Drought): Parts of northeast Minnesota
 - D0 (Abnormally Dry): Minnesota Arrowhead and eastern Iron Range

U.S. Drought Monitor Duluth, 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	86.41	63.53	30.12	1.75
Last Week 09-12-2023	0.00	100.00	96.66	64.75	29.42	1.75
3 Months Ago 06-20-2023	0.00	100.00	63.09	4.28	0.00	0.00
Start of Calendar Year 01-01-2023	64.70	35.30	0.99	0.00	0.00	0.00
Start of Water Year 09-27-2022	71.95	28.05	11.27	2.57	0.00	0.00
One Year Ago 09-20-2022	78.15	21.85	9.81	1.05	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

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NCEI/NOAA



droughtmonitor.unl.edu

Image Caption: U.S. Drought Monitor valid 8am EDT April 18th.





Recent Change in Drought Intensity

Link to the latest [4-week change map](#) for NE Minnesota and NW Wisconsin

- Four Week Drought Monitor Class Change.
 - Drought Worsened: Much of east-central Minnesota and the International border. Also Price County in Wisconsin.
 - No Change: Parts of the region
 - Drought Improved: Bayfield Peninsula and parts of the Arrowhead of Minnesota

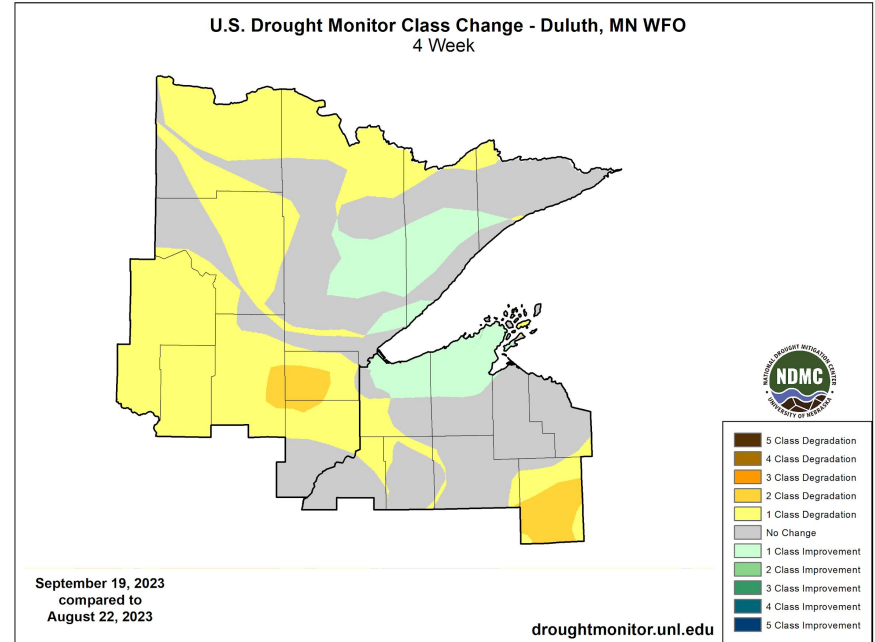


Image Caption: U.S. Drought Monitor 4-week change map valid 8am EDT September 19th.

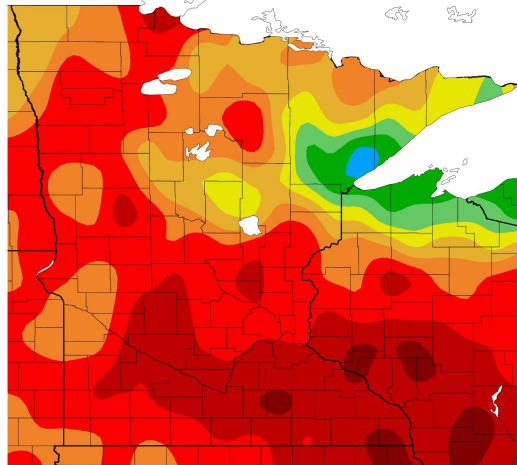




Precipitation (Past 30 Days)

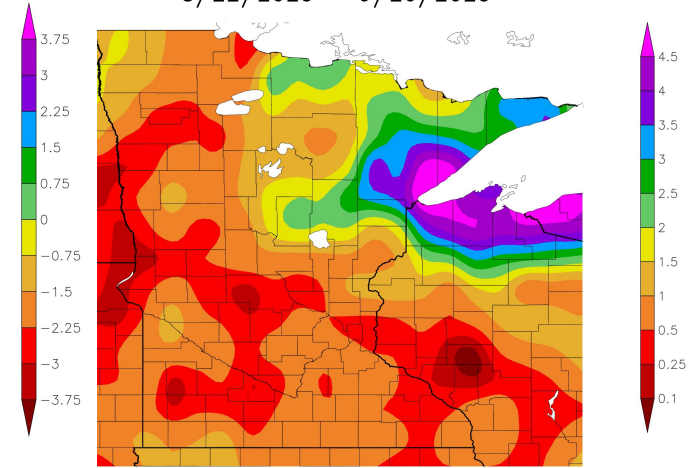
- There has been some significant rainfall and subsequent improvement in drought conditions along and around the western shores of Lake Superior.
- Below normal rain fell further inland, including areas around the International Border to north-central Minnesota and northwest Wisconsin away from Lake Superior

Departure from Normal Precipitation (in)
8/22/2023 - 9/20/2023



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

Precipitation (in)
8/22/2023 - 9/20/2023



NOAA Regional Climate Centers

Image Captions:

Left - Departure from Normal Precipitation for northeast Minnesota and northwest Wisconsin

Right - Precipitation Amount for northeast Minnesota and northwest Wisconsin

Data Courtesy High Plains Regional Climate Center.

Data over the past 30 days ending September 20, 2023

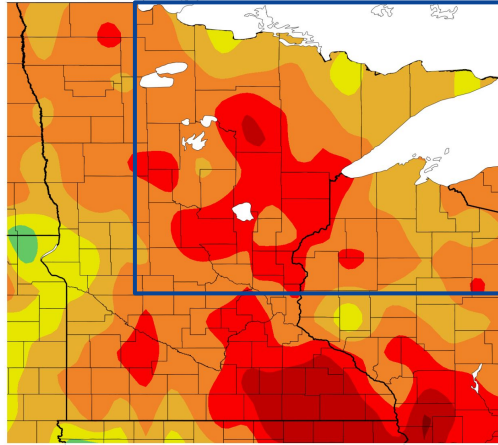




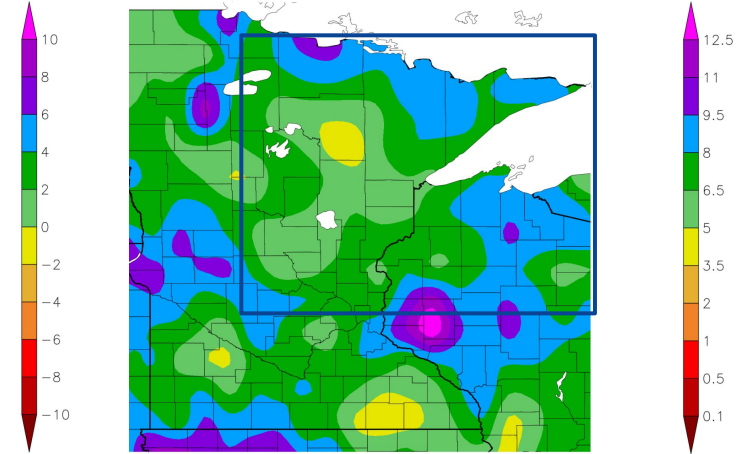
Precipitation (Past 120 Days)

- Note that rainfall has been below average throughout the summer as a whole, which is why widespread drought conditions continue despite some recent improvement

Departure from Normal Precipitation (in)
6/1/2023 – 8/31/2023



Precipitation (in)
6/1/2023 – 8/31/2023



Generated 9/20/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Image Captions:

Left - Departure from Normal Precipitation for northeast Minnesota and northwest Wisconsin

Right - Precipitation Amount for northeast Minnesota and northwest Wisconsin

Data Courtesy High Plains Regional Climate Center.

Data over the past 3 months ending August 31, 2023

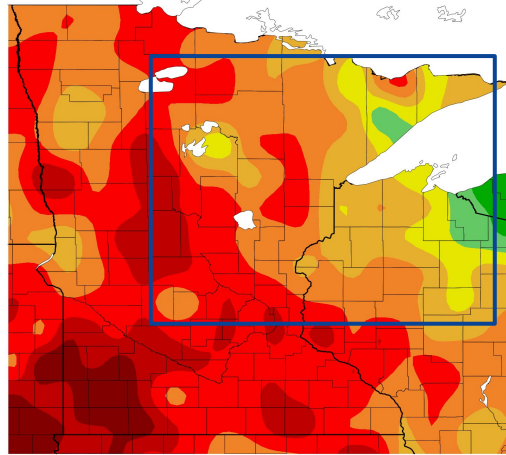




Temperature

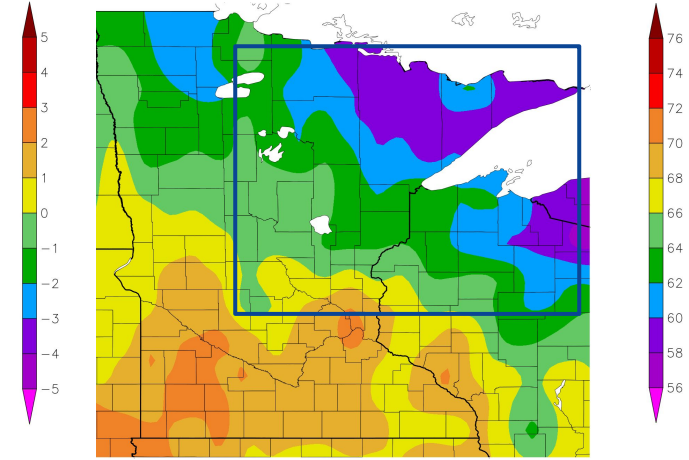
- Temperatures have been mostly above average for the past month
- Warm weather has likely contributed to the ongoing drought conditions

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



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

Temperature (F)
8/22/2023 - 9/20/2023



NOAA Regional Climate Centers

Image Captions:

Left - Departure from Normal Temperature

Right - Average Temperature

Data Courtesy High Plains Regional Climate Center.
Data over the past 30 days ending September 6, 2023





Summary of Impacts

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

Hydrologic Impacts

- Streamflow remains below normal for most of northeast Minnesota and around normal to below normal across northwest Wisconsin

Agricultural Impacts

- There are continued reports of very dry conditions across the region

Fire Hazard Impacts

- There are pockets of moderate fire danger with some burning restrictions for parts of northeast Minnesota. Fire danger is low across northwest Wisconsin. Wildland fire potential remains high across the area.

Other Impacts

- There are no known impacts at this time

Mitigation Actions

- Residents of Duluth and surrounding areas along the western Lake Superior watershed have been asked to conserve water

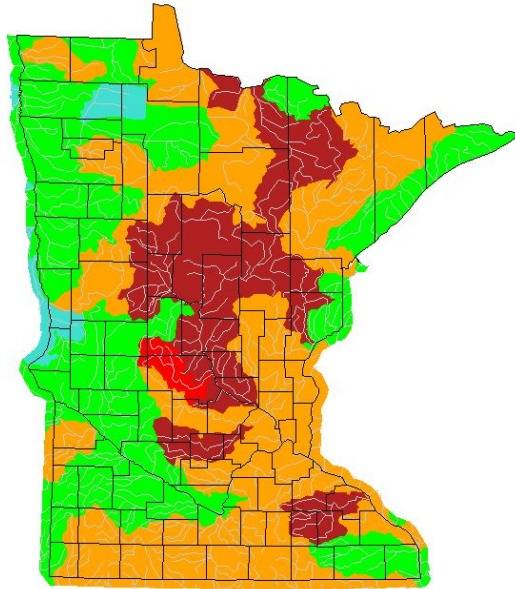




Hydrologic Conditions and Impacts

- Streamflow remains around normal to below normal across the region.

Wednesday, September 20, 2023

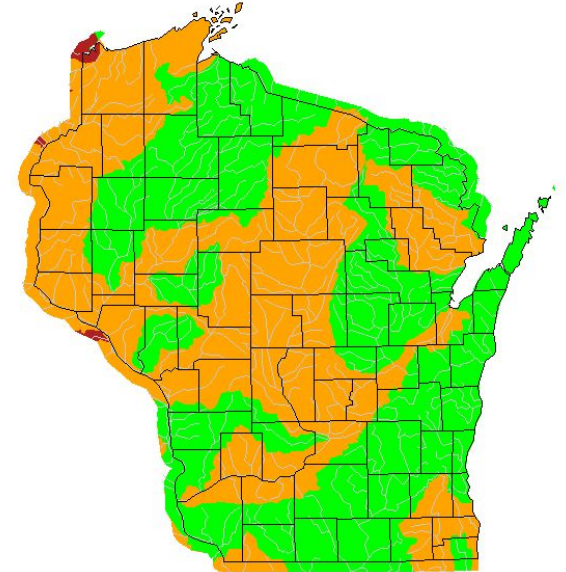


USGS

Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

USGS 7 day average streamflow HUC maps valid September 20, 2023

Wednesday, September 06, 2023





Agricultural Impacts

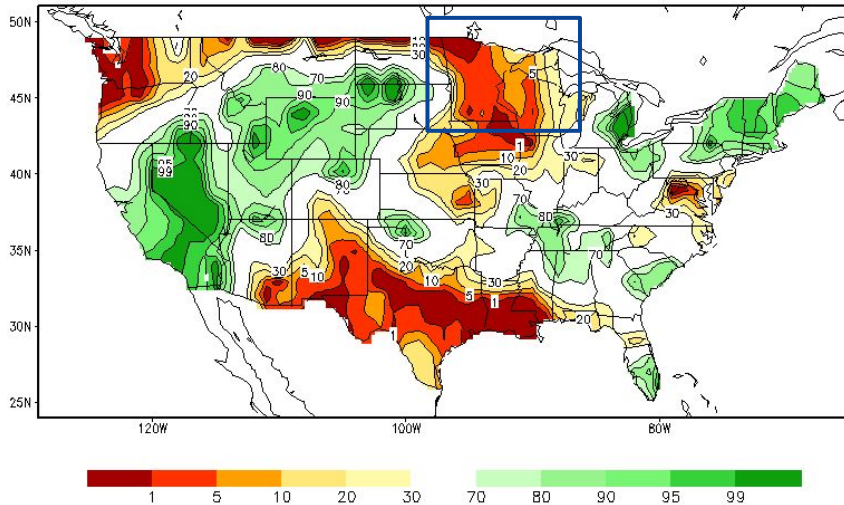
- There are continued regional reports of abnormally to severely dry conditions across the region

Image Captions:

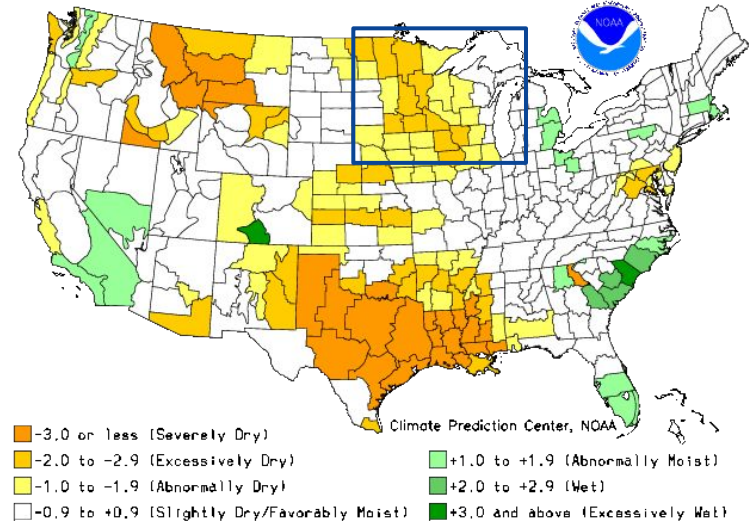
Left: CPC Calculated [Soil Moisture Ranking Percentile](#) valid September 6, 2023

Right: [Crop Moisture Index by Division](#). Weekly value for period ending September 2, 2023

Calculated Soil Moisture Ranking Percentile
SEP 06, 2023



Crop Moisture Index by Division
Weekly Value for Period Ending SEP 2, 2023
Short Term Need vs. Available Water in a Shallow Soil Profile





Fire Hazard Impacts

Link to [Wildfire Potential Outlooks from the National Interagency Coordination Center](#).

- Above normal chances for significant wildland fire potential across the region

Latest MN burn ban and fire danger information available [here](#).

Latest WI burn ban and fire danger information available [here](#).

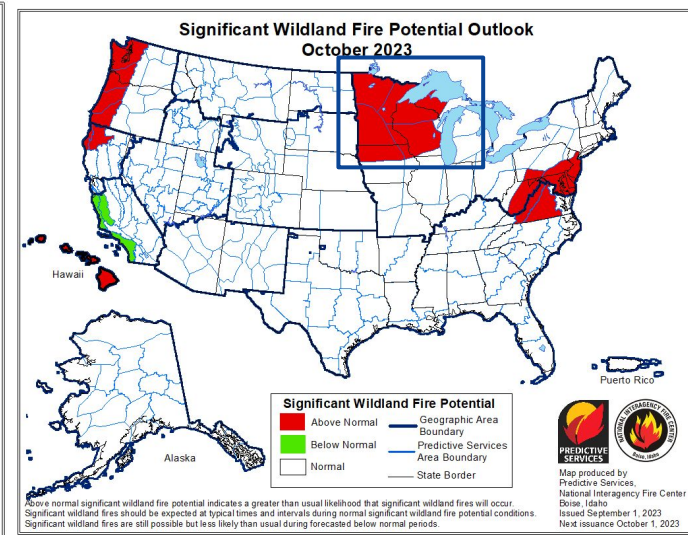
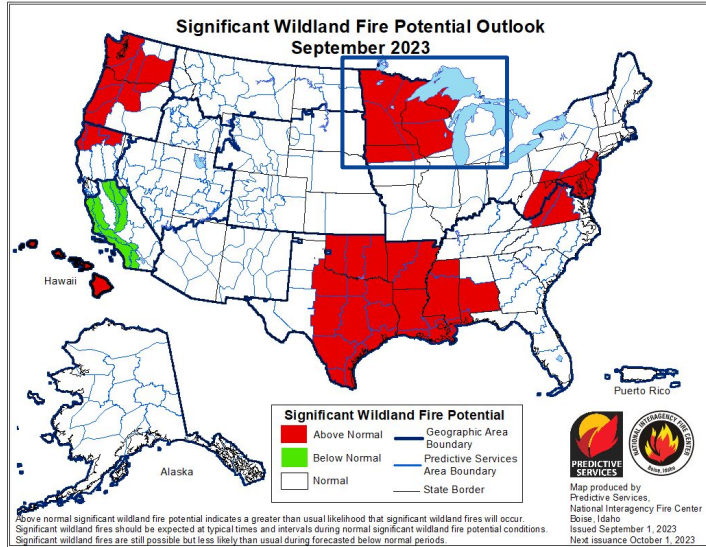


Image Caption: [Significant Wildland Fire Potential Monthly Outlook](#) for September and October 2023





Seven Day Precipitation Forecast

- There are chances for accumulating rainfall in the next week, especially for portions of east-central Minnesota. This may lead to some modest improvement in drought conditions.

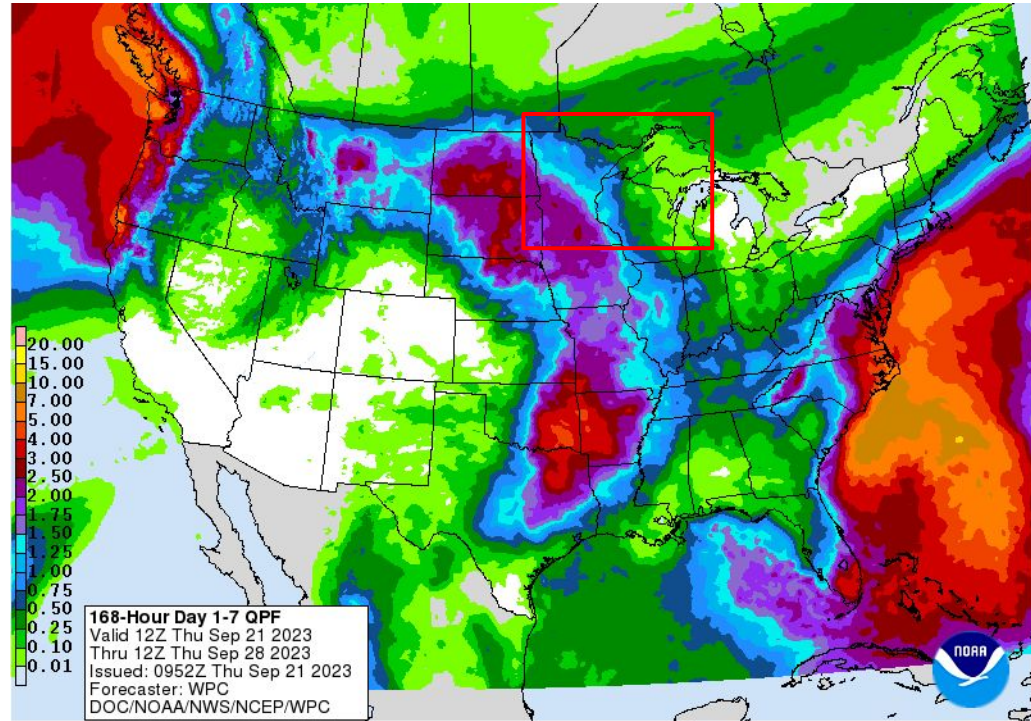


Image Caption: Weather Prediction Center [7-day precipitation forecast](#) valid Friday September 21 to September 28





Long-Range Outlooks

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

- CPC outlooks favor equal to below normal probabilities for temperatures and equal chances for above, below, or around normal precipitation for the October-December 3-month period.

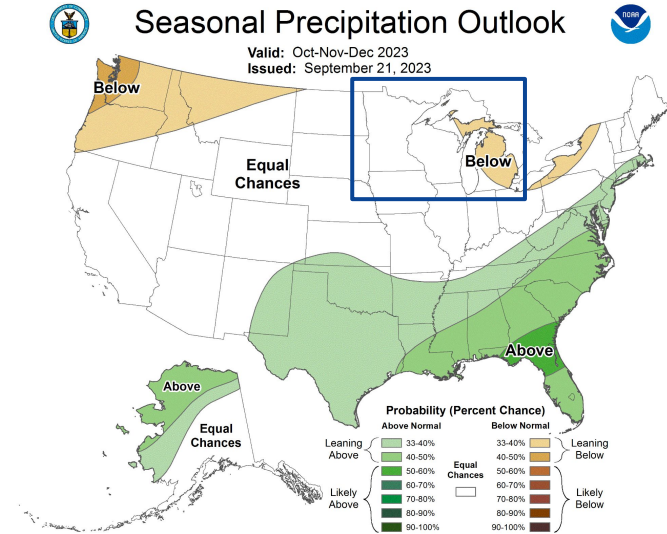
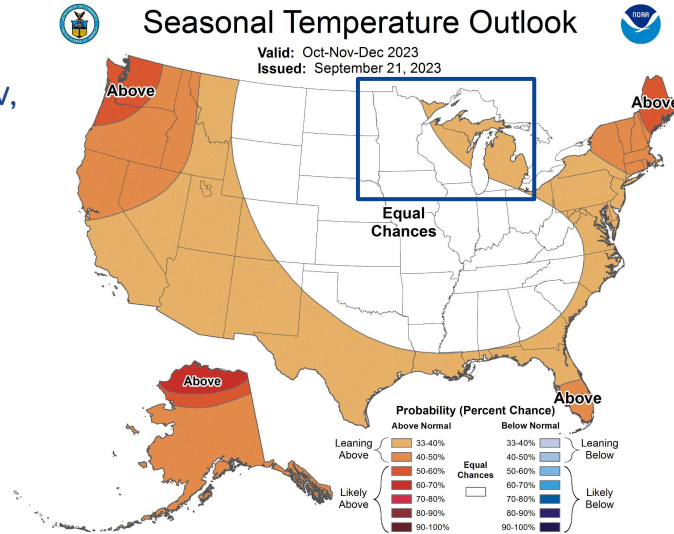


Image Captions:

Left - [Climate Prediction Center Monthly Temperature Outlook](#),

Right - [Climate Prediction Center Monthly Precipitation Outlook](#).

Valid 09/2023





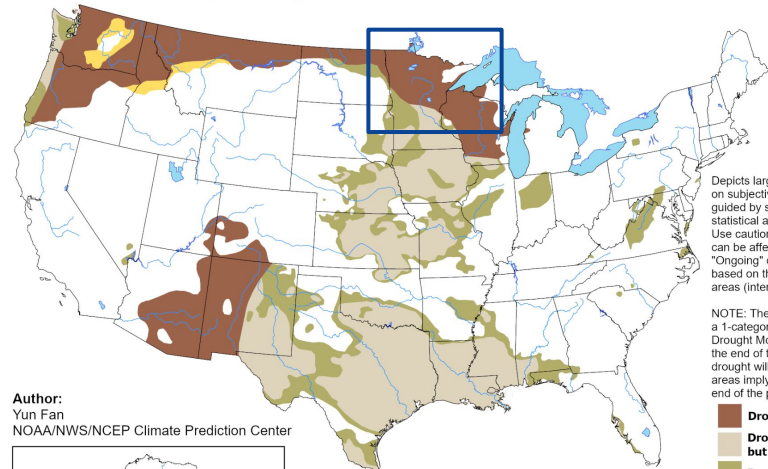
Drought Outlook

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

- Drought is expected to persist for most places except possibly parts of the Arrowhead of Minnesota

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

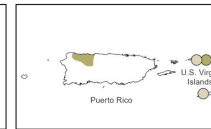
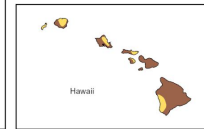
Valid for September 21 - December 31, 2023
Released September 21, 2023



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:
Yun Fan
NOAA/NWS/NCEP Climate Prediction Center



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



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

Image Caption:

Climate Prediction Center 3-Month Drought Outlook Released
09/21/2023 valid for 09/21/2023 through 12/31/2023

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
Duluth, MN