NWS Twin Cities Drought Update

October 14, 2021

Drought conditions persist across much of Minnesota and portions of Wisconsin

Key Messages

- Minor improvements to drought conditions across western Minnesota due to recent rainfall
- Conditions remain unchanged across the rest of the area

Important Updates

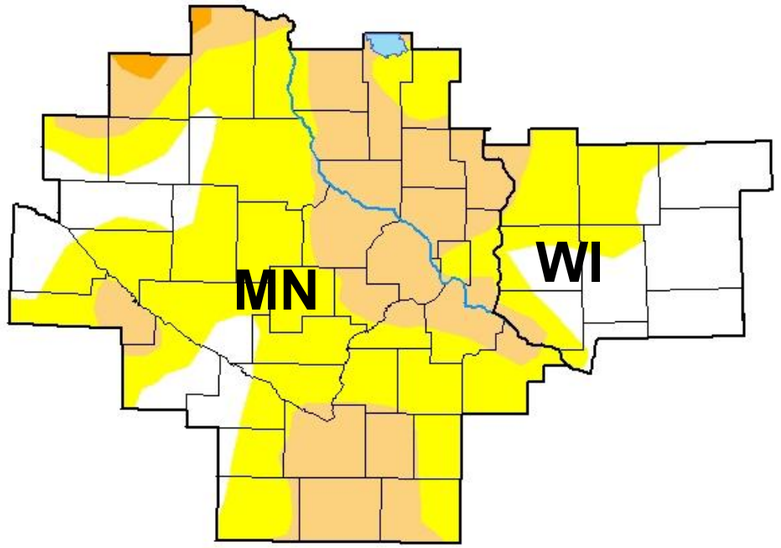
- Above normal temperatures and below normal precipitation is expected during the next two weeks.
- No considerable change in drought conditions is expected in the near term.

Next Scheduled Briefing

- By November 4th

U.S. Drought Monitor

Twin Cities/ Chanhassen, MN WFO



October 12, 2021

(Released Thursday, Oct. 14, 2021)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	21.83	78.17	30.60	0.60	0.00	0.00
Last Week 10-05-2021	17.25	82.75	33.48	1.04	0.00	0.00
3 Months Ago 07-13-2021	1.07	98.93	86.56	50.30	0.86	0.00
Start of Calendar Year 12-29-2020	6.43	93.57	3.49	0.00	0.00	0.00
Start of Water Year 09-28-2021	14.74	85.26	53.53	3.74	0.00	0.00
One Year Ago 10-13-2020	52.92	47.08	5.65	0.00	0.00	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

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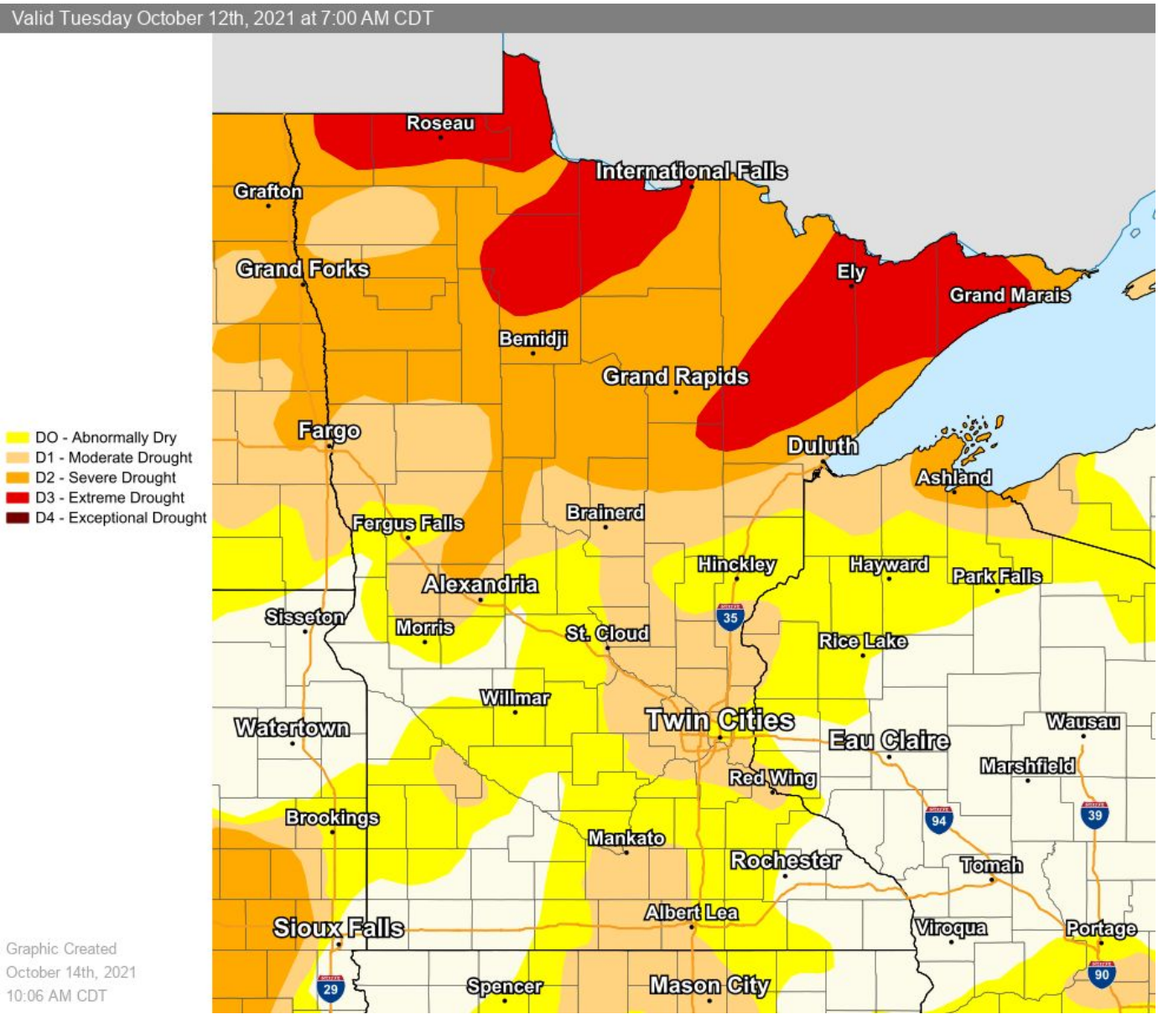
NOAA/NWS/NCEP/CPC

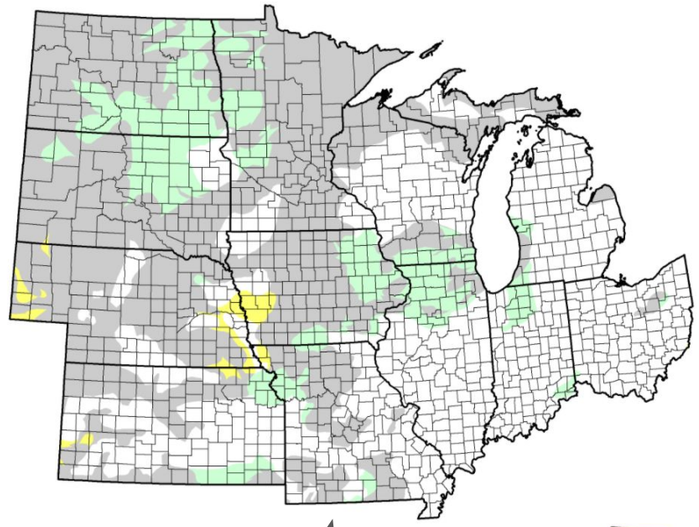
droughtmonitor.unl.edu

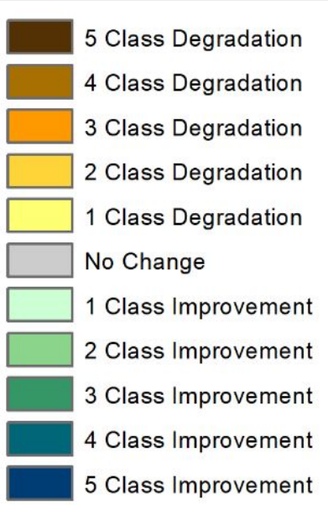
Drought Monitor Change

October 14, 2021

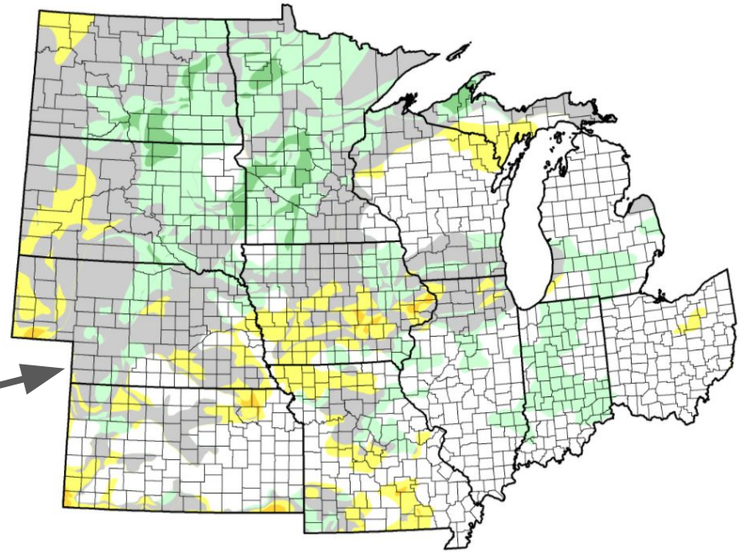
Latest Trend in the Drought Monitor for the North Central U.S.







1 Week Change

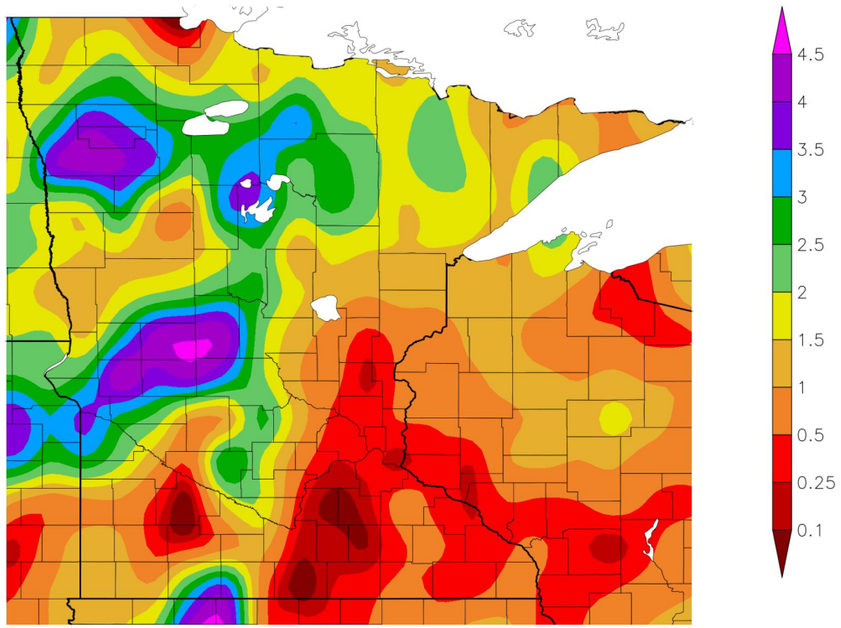


4 Week Change

Recent Precipitation and Temperature

October 14, 2021

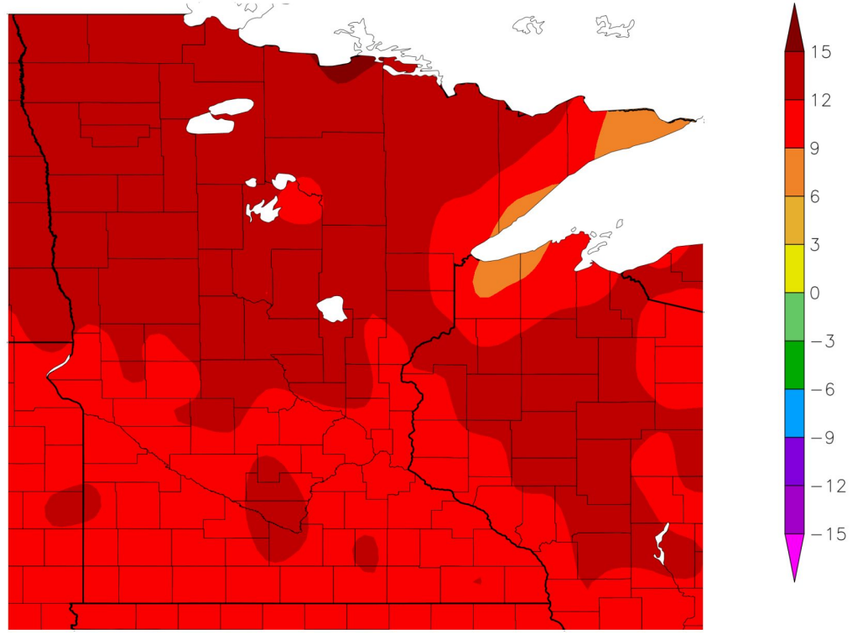
Previous 2 Weeks Precipitation Totals



Generated 10/12/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

Previous 2 Weeks Temperature Departure



Generated 10/12/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

Highlights

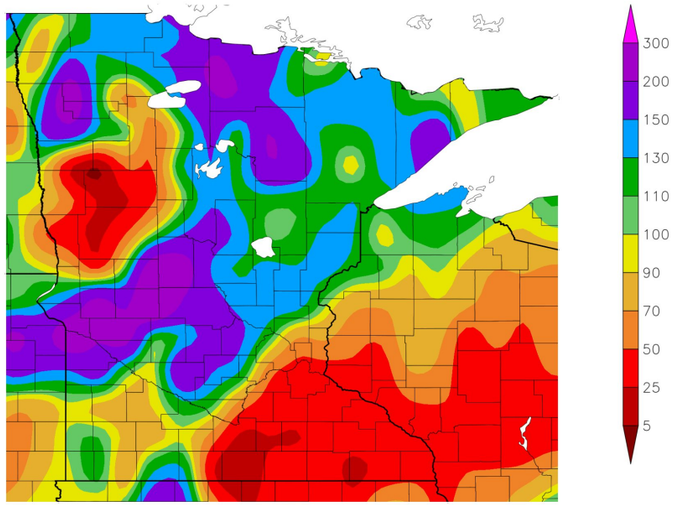
- ➔ Improvements this week are tied to where precipitation over the last 2 weeks has been near or exceeding 2 inches.
- ➔ Temperatures have been well above normal during the last 2 weeks. This is normally when we see our first freeze of the season, and central and southern MN and western WI have yet to experience their first freeze.

Precipitation Deficits

October 14, 2021

30 Day Percent of Normal

Percent of Normal Precipitation (%)
9/12/2021 – 10/11/2021

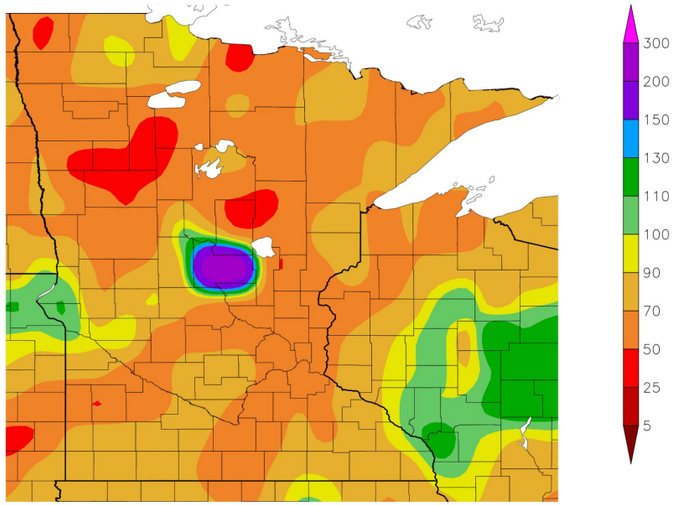


Generated 10/12/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

6-Month Percent of Normal

Percent of Normal Precipitation (%)
4/12/2021 – 10/11/2021

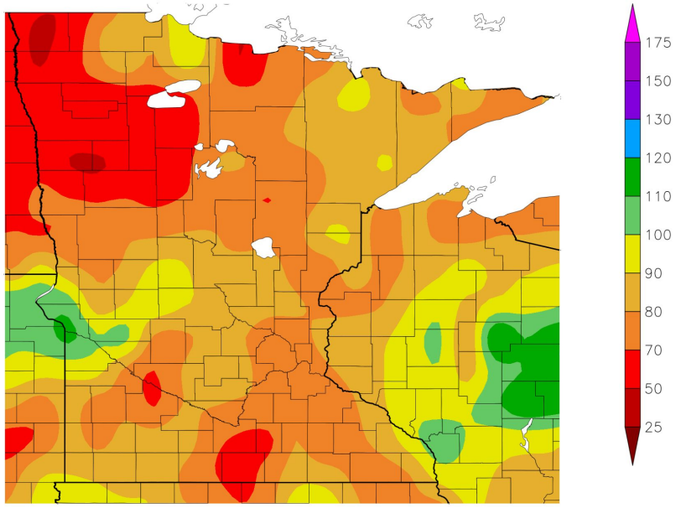


Generated 10/12/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

12-Month Percent of Normal

Percent of Normal Precipitation (%)
10/12/2020 – 10/11/2021



Generated 10/12/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

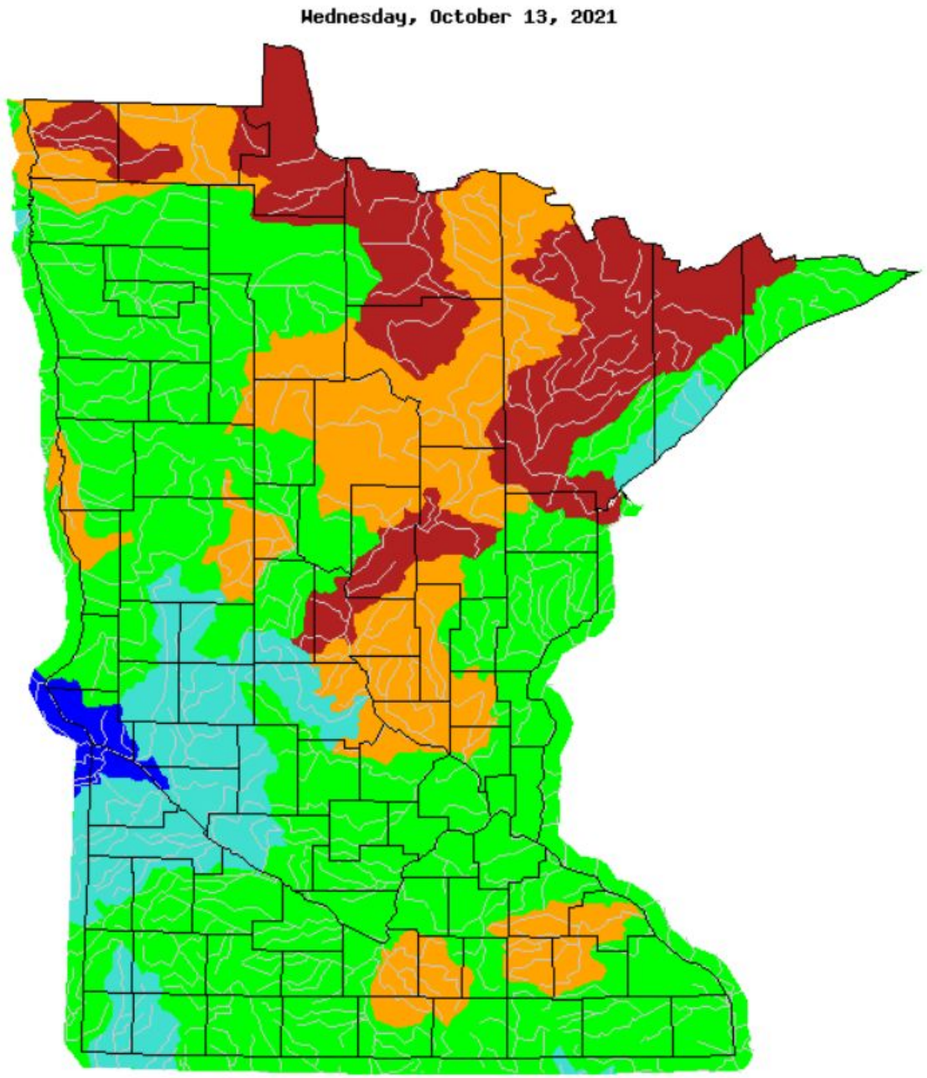
Highlights

- ➔ Above normal rainfall from west central into northeast MN during the last 30 days has helped to significantly improve drought conditions
- ➔ But long-term deficits remain

Hydrologic Conditions - MN and WI

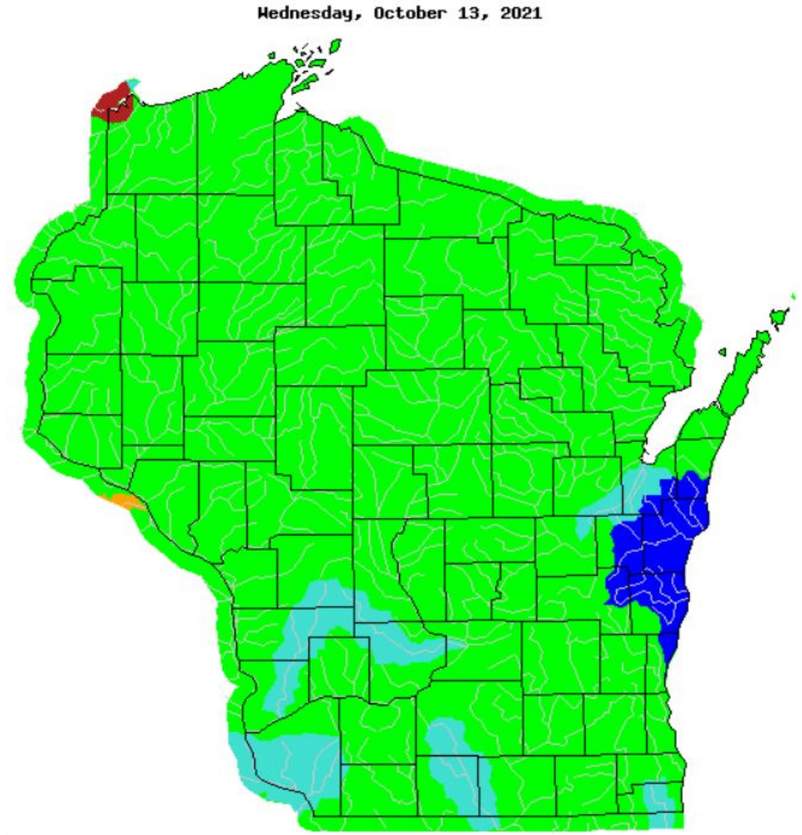
October 14, 2021

Average streamflow for the past 7 days



Highlights

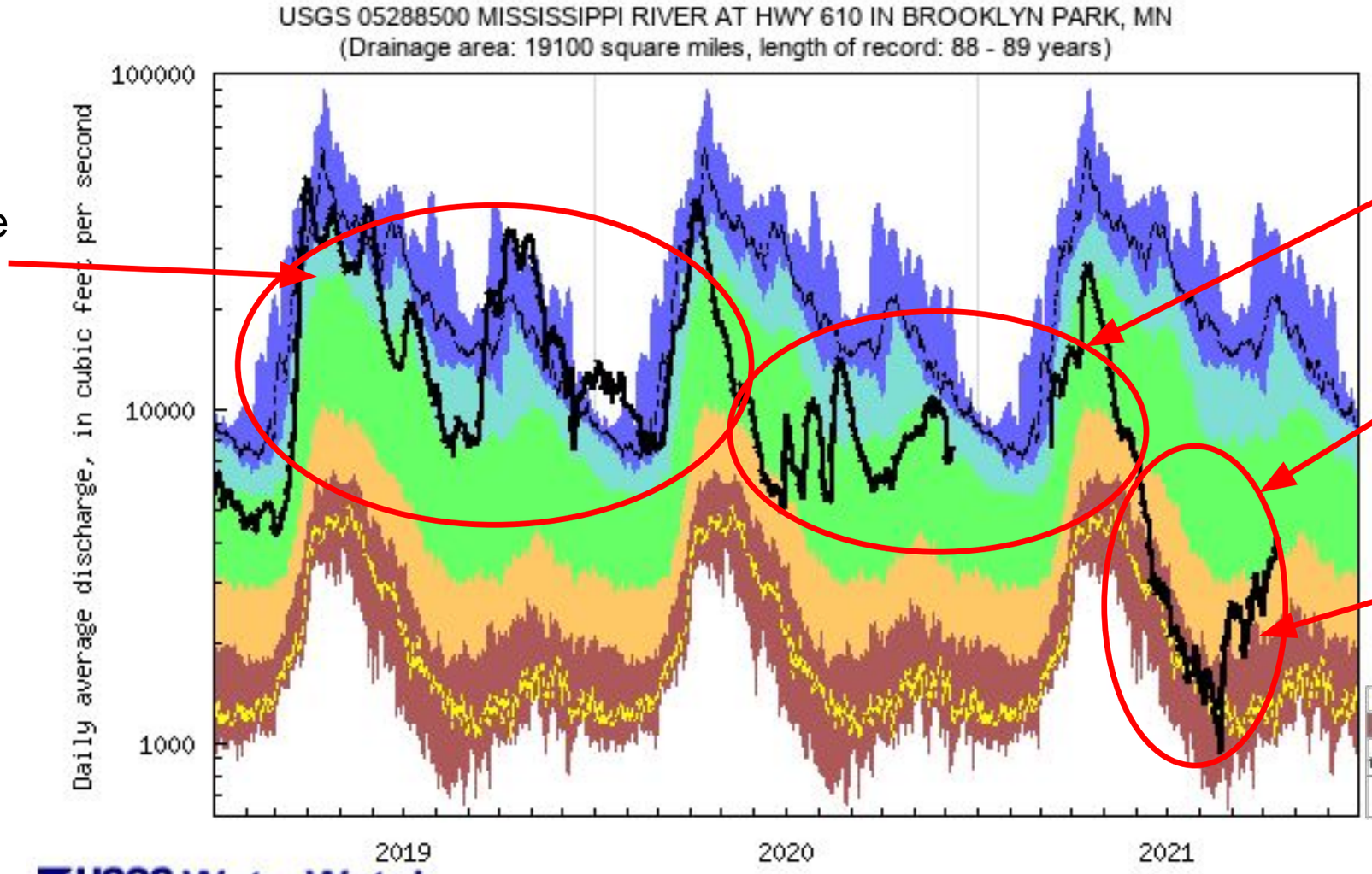
Streamflows are below normal across portions of central and northern Minnesota, and a small portion of southern Minnesota. In contrast, WI streamflow is near normal for all but a very small portion.



Hydrologic Conditions - Three Year Trend

October 14, 2021

Using Mississippi River at Hwy 610 - Brooklyn Park to illustrate the trend



2018-19 -- Much above normal flow

2020 -- Near normal flow

2021 -- Below to much below normal flow.

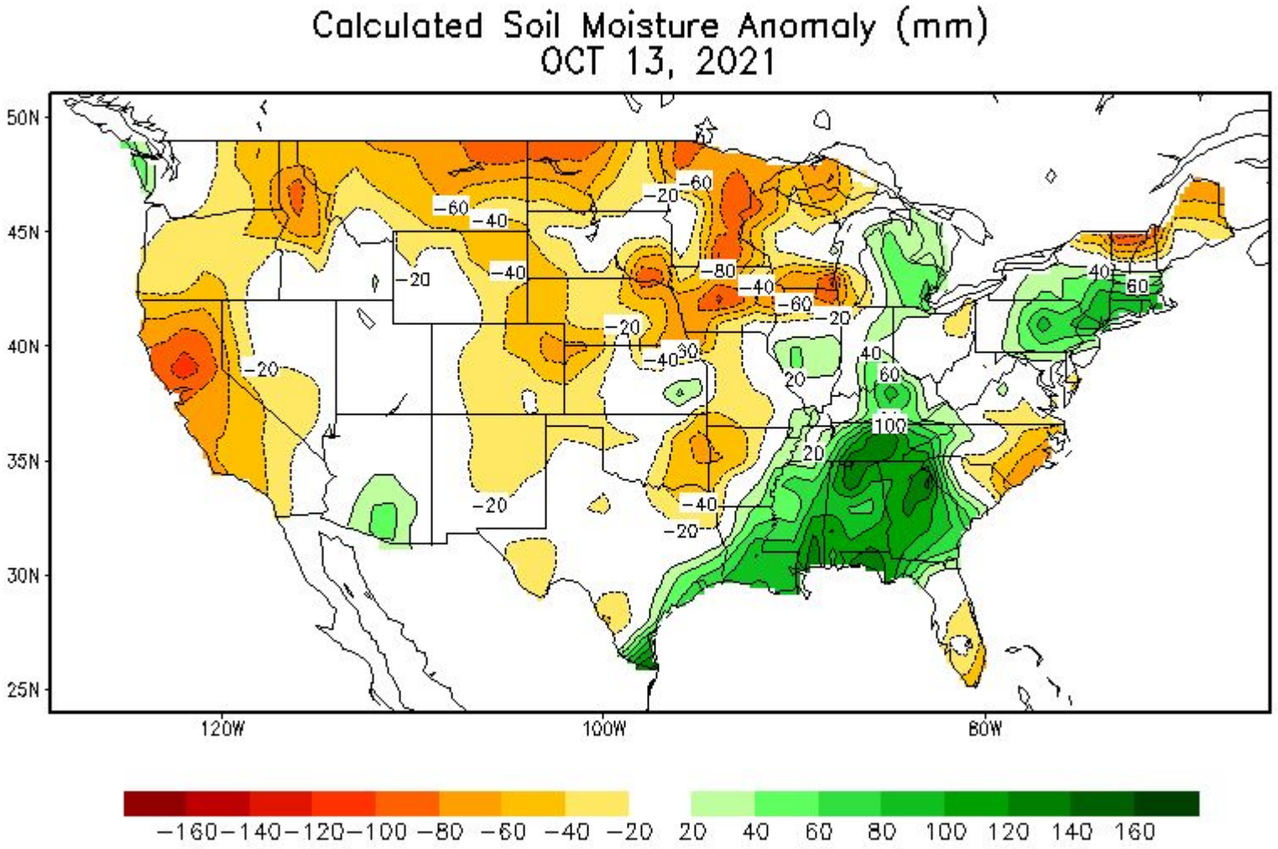
Some improvement since August.

USGS WaterWatch

Last updated: 2021-10-14

Soil Moisture Conditions

October 14, 2021



Minnesota
(Entire State)

As of Oct 12	Very Short Moisture	Short Moisture	Adequate Moisture	Moisture Surplus
Topsoil	**4%**	**21%**	**70%**	**5%**
Subsoil	**11%**	**36%**	**51%**	**2%**

Wisconsin
(Entire State)

As of Oct 12	Very Short Moisture	Short Moisture	Adequate Moisture	Moisture Surplus
Topsoil	**8%**	**11%**	**77%**	**4%**
Subsoil	**10%**	**12%**	**74%**	**4%**

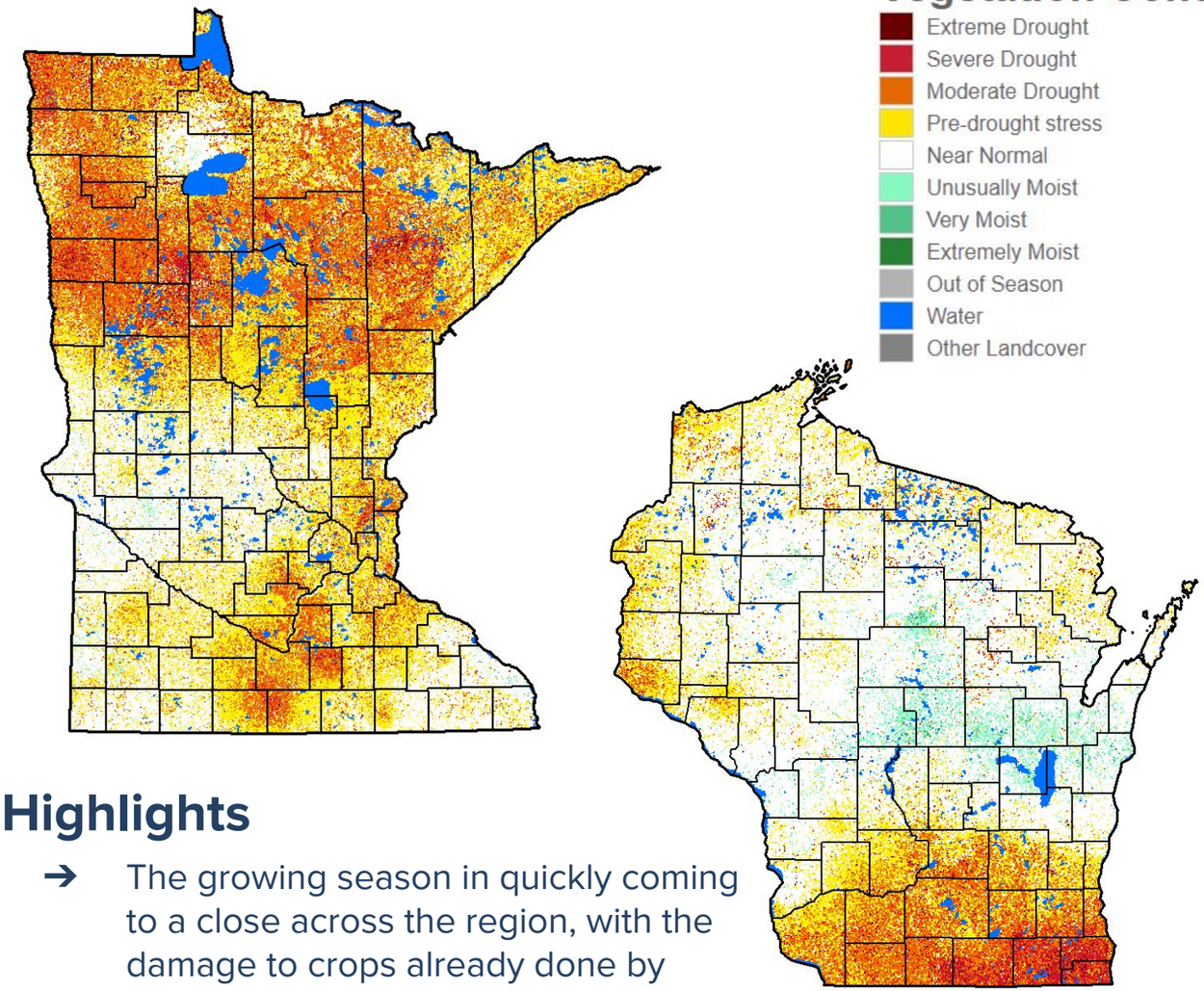
Highlights

Subsoil moisture conditions continue to lag topsoil for soil moisture recovery in MN, but they have been improving over the last month.

2022 Crop Conditions

October 7, 2021

Images are current Vegetation Drought Response Index (VegDRI)



Highlights

- The growing season in quickly coming to a close across the region, with the damage to crops already done by summer dryness

Crop Condition as of October 3, 2021 — **MN**

Item	Very poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Corn	8	17	36	33	6
Pasture and range	22	29	37	12	0
Soybeans	8	18	38	31	5
Sugarbeets	0	4	22	56	18
Sunflowers	8	15	37	37	3

Crop Condition as of October 3, 2021 — **WI**

Item	Very poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Corn	3	6	18	43	30
Pasture and range	10	11	19	40	20
Soybeans	3	6	18	49	24

2021 Growing Season Summary

October 14, 2021

2021 Yield Summaries for major crops

Minnesota
(Entire State)

	Yield per Acre	
As of Oct 12	2020	2021
Corn (bushells)	**191**	**178**
Soybean (bushells)	**50**	**49**
Alfalfa (tons)	**3.6**	**2.3**
Hay (tons)	**1.8**	**1.7**

Wisconsin
(Entire State)

	Yield per Acre	
As of Oct 12	2020	2021
Corn (bushells)	**173**	**172**
Soybean (bushells)	**52**	**54**
Alfalfa (tons)	**3.2**	**2.3**
Hay (tons)	**1.5**	**1.3**

Highlights

- ➔ The summer 2021 drought had its largest impact on corn yields in Minnesota and alfalfa production in both Minnesota and Wisconsin
- ➔ Warm and dry conditions so far this fall has allowed farmers to get an early jump on the harvest

Crop Progress as of October 10, 2021 **MN**

Item	This week	Last Week	Last Year	5-yr Avg
	(percent)	(percent)	(percent)	(percent)
Corn mature	97	90	97	85
Corn harvested for grain	36	20	31	14
Dry ed. beans harvested	92	86	96	88
Potatoes harvested	82	73	94	88
Soybeans harvested	83	62	83	46
Sugarbeets harvested	17	14	81	49
Sunflowers harvested	33	16	39	21

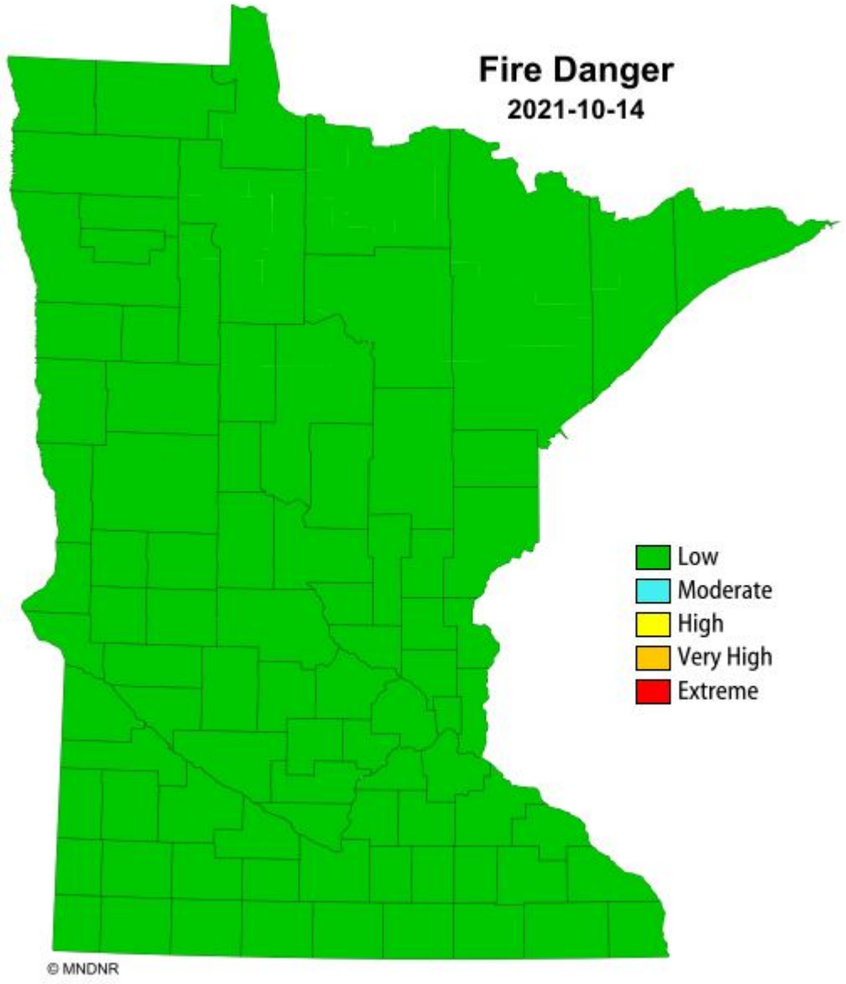
WI

Item	State			
	This week	Last week	Last year	5-year avg
	(percent)	(percent)	(percent)	(percent)
Corn mature	91	80	90	74
Corn harvested for grain	24	12	14	11
Corn harvested for silage	95	91	95	78
Fall tillage	30	19	20	6
Hay, alfalfa, fourth cutting	96	92	93	88
Soybeans dropping leaves	97	94	94	88
Soybeans harvested	47	31	42	26
Wheat, winter, planted	74	59	77	58
Wheat, winter, emerged	47	29	53	37

Fire Danger Conditions

October 14, 2021

Fire Danger ratings for date specified ONLY



[Current MN Fire Danger]

[Current WI Fire Danger]

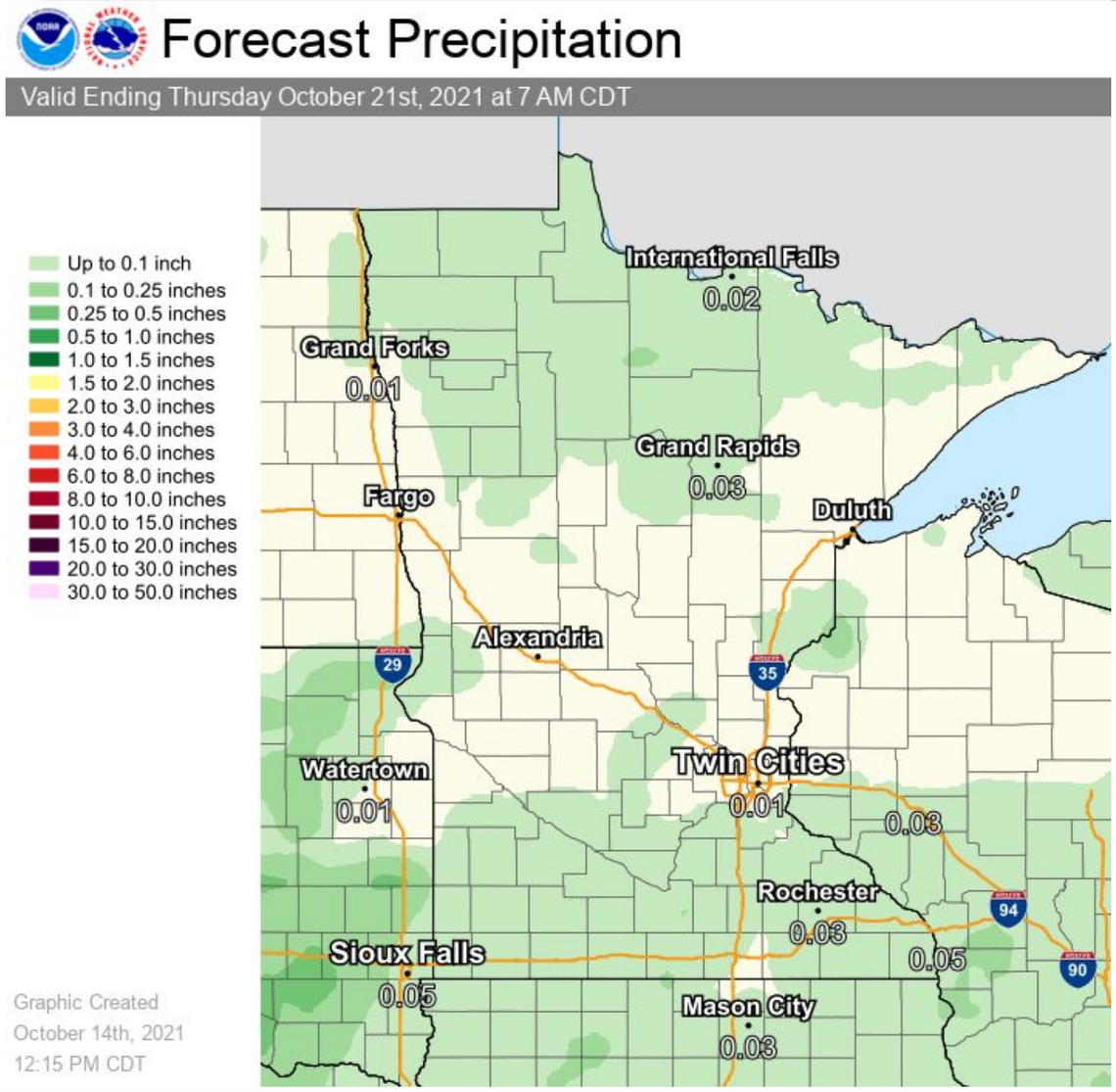
Highlights

➔ Fire danger is now low throughout both MN and WI.

Forecast Precipitation

October 14, 2021

Next 7 Days



Highlights

- ➔ Very little rainfall expected over the next week, with temperatures hovering near or above normal.
- ➔ Normal precipitation for this time of year is around three quarters of an inch per week.

Short Term Climate Outlook

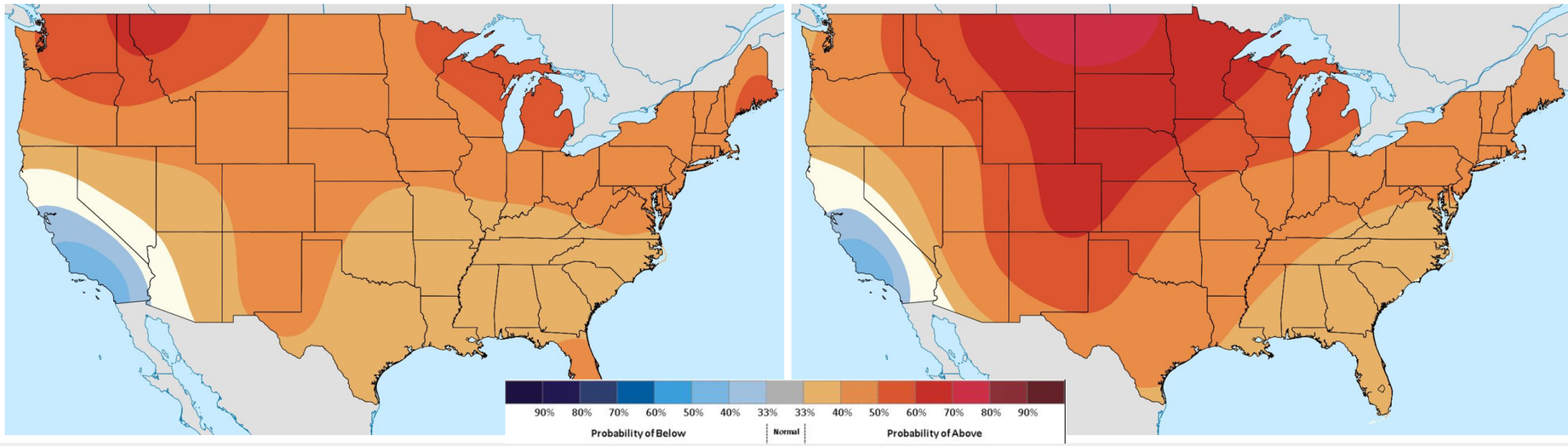
October 14, 2021

For More Information Visit: https://www.cpc.ncep.noaa.gov/

Highlights

- Dry high pressure will dominate the pattern over the upper midwest over the coming couple of weeks.
- This pattern favors warmer and drier than normal conditions in both the 6-10 and 8-14 day periods.
- Given current forecast and outlooks through the next 14 days, little change is expected in drought conditions over the entire area.

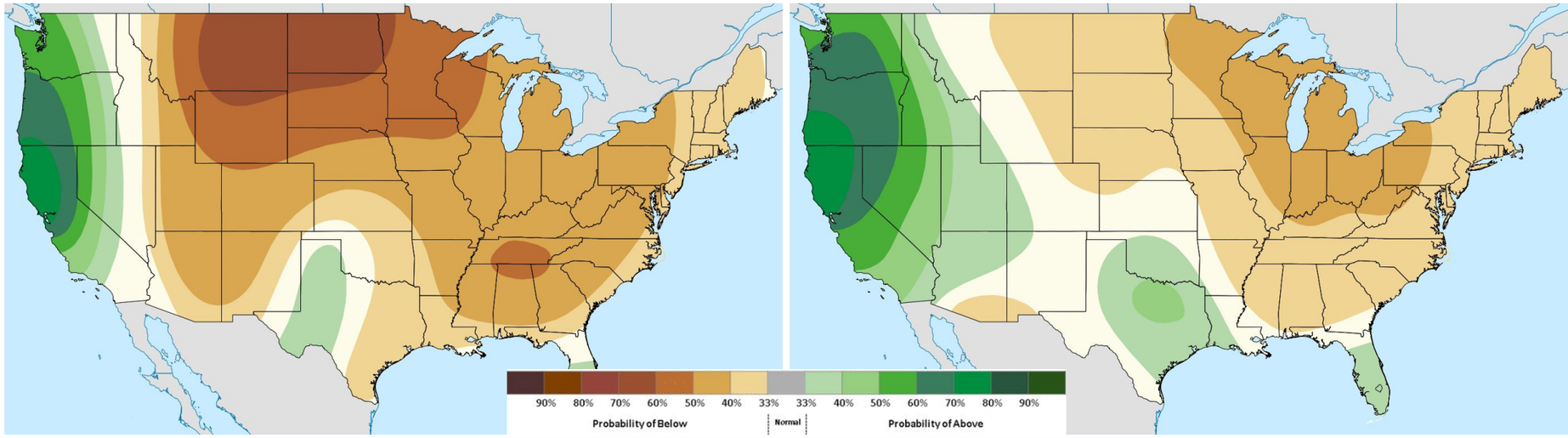
Temperature



6-10 Day Outlook

8-14 Day Outlook

Precipitation



Drought Category Definitions

October 14, 2021

D0	**Abnormally Dry**	**Going into drought:** • Short-term dryness slowing planting, growth of crops or pastures	**Coming out of drought:** • Some lingering water deficits • Pastures or crops not fully recovered
D1	**Moderate Drought**	• Some damage to crops, pastures • Streams, reservoirs, or wells low, some water shortages developing or imminent • Voluntary water-use restrictions requested	
D2	**Severe Drought**	• Crop or pasture losses likely • Water shortages common • Water restrictions imposed	
D3	**Extreme Drought**	• Major crop/pasture losses • Widespread water shortages or restrictions	
D4	**Exceptional Drought**	• Exceptional and widespread crop/pasture losses • Shortages of water in reservoirs, streams, and wells creating water emergencies	

Questions, Comments, and Resources

October 14, 2021

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/