



Drought Information Statement for South Central Nebraska and Portions of North Central Kansas

Current Status, Impacts, and Outlook

Issued August 17, 2023 by: National Weather Service - Hastings, Nebraska

Contact information: nws.hastings@noaa.gov





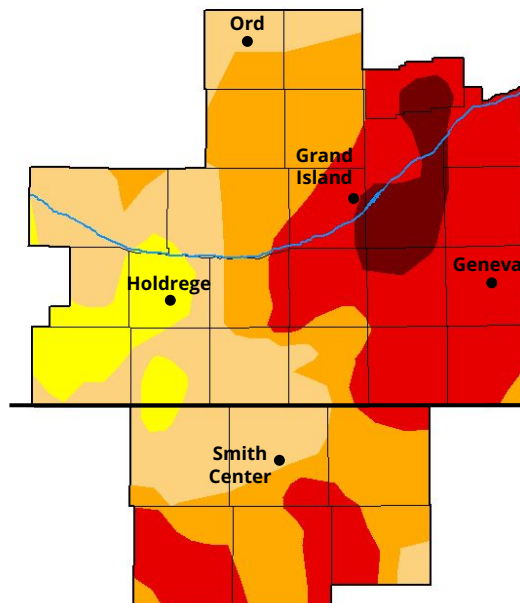
U.S. Drought Monitor

Latest U.S. Drought Monitor Map for NWS Hastings Coverage Area: Issued Aug. 17...valid until next update Aug. 24

• Drought Intensity and Extent:

- **D4 Exceptional Drought:**
Includes all or part of the following counties:
Nance, Merrick, Polk, Hall, Hamilton, York, Adams, Clay
- **D3 Extreme Drought:**
Includes all or part of the following counties:
Nance, Howard, Merrick, Polk, Buffalo, Hall, Hamilton, York, Kearney, Adams, Clay, Fillmore, Franklin, Webster, Nuckolls, Thayer, Smith, Jewell, Rooks, Osborne, Mitchell
- **D2 Severe Drought:**
Includes all or part of the following counties:
Valley, Greeley, Nance, Sherman, Howard, Dawson, Buffalo, Hall, Kearney, Adams, Franklin, Webster, Nuckolls, Thayer, Phillips, Smith, Jewell, Rooks, Osborne, Mitchell
- **D1 Moderate Drought:**
Includes all or part of the following counties:
Valley, Greeley, Sherman, Dawson, Buffalo, Gosper, Phelps, Kearney, Furnas, Harlan, Franklin, Webster, Phillips, Smith, Mitchell
- **D0 Abnormally Dry:**
Includes all or part of the following counties:
Dawson, Buffalo, Gosper, Phelps, Furnas, Harlan, Phillips

U.S. Drought Monitor Hastings, NE WFO



August 15, 2023

(Released Thursday, Aug. 17, 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	92.38	66.42	38.73	5.24
Last Week 08-08-2023	0.00	100.00	92.40	66.50	40.37	5.24
3 Months Ago 05-16-2023	0.00	100.00	99.86	98.92	39.89	6.04
Start of Calendar Year 01-03-2023	0.00	100.00	95.33	63.60	9.55	0.00
Start of Water Year 09-27-2022	1.80	98.20	85.74	46.49	3.11	0.00
One Year Ago 08-16-2022	14.02	85.98	61.19	19.51	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:

Lindsay Johnson
National Drought Mitigation Center



droughtmonitor.unl.edu

Image Caption: [U.S. Drought Monitor](https://droughtmonitor.unl.edu) - Valid August 15



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Common Drought Impacts By Category

D0	Abnormally Dry	<u>Going Into Drought:</u> <ul style="list-style-type: none">• Short-term dryness slowing planting, growth of crops and pastures	<u>Coming Out Of Drought:</u> <ul style="list-style-type: none">• Some lingering water deficits• Crops and pastures not fully recovered
D1	Moderate Drought	<ul style="list-style-type: none">• Some damage to crops and pastures• Streams, reservoirs, wells low - some water shortages developing or imminent	
D2	Severe Drought	<ul style="list-style-type: none">• Crop or pasture losses likely• Water shortages common• Water restrictions can be imposed	
D3	Extreme Drought	<ul style="list-style-type: none">• Major crop and pasture losses• Widespread water shortages or restrictions possible	
D4	Exceptional Drought	<ul style="list-style-type: none">• Exceptional and widespread crop and pasture losses• Water shortages in reservoirs, streams, and wells can create water emergencies	

Image Caption: [Common Drought Impacts By Category](#), from National Integrated Drought Information System (NIDIS)





Key Drought Messages Of the Week For NWS Hastings Area

OVER LAST 4 WEEKS: Various pockets of 1-category IMPROVEMENT mainly in several north/west/southwest counties

Key Drought Messages Of The Week:

- Recap of the Aug. 8-15 "data week":

(NOTE: any rain that fell since 7am TUESDAY "didn't count" for this week's Drought Monitor)

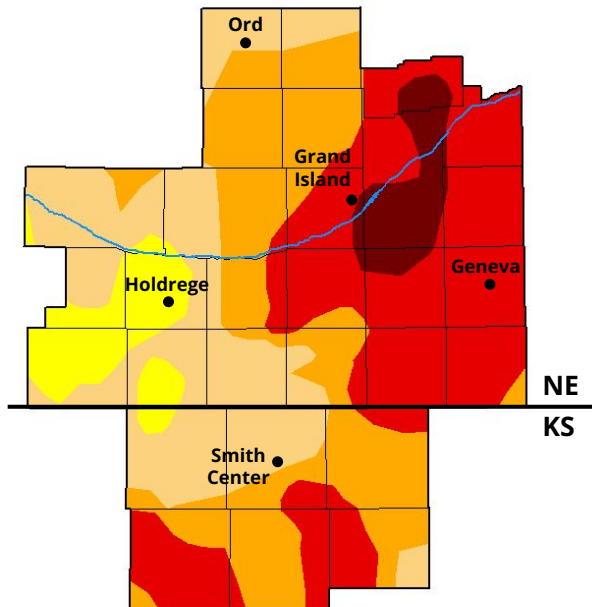
The latest 7-day Drought Monitor period again featured **HIGHLY VARIABLE** rain due to variable coverage of thunderstorm activity. The MAJORITY of our coverage area received somewhere between 0.10-1.00". The overall-driest locations (including many that were almost totally dry) focused mainly within Nebraska counties south of I-80 and west of Hwy 281. On the more fortunate side of things, parts of especially counties such as Greeley, Nance, York, Osborne, Mitchell picked up at least 1.50".

Unfortunately, a couple of narrow stripes within our area endured damaging hail from a few supercell storms on Thurs., Aug. 10th.

- Looking ahead August 17-23:

There is **HIGH CONFIDENCE** that Aug. 17-24 will be very dry and hot overall, as an upper level high pressure ridge becomes the dominant feature in our weather pattern. Officially, cumulative precipitation for Aug. 17-24 is forecast to be **ALMOST NOTHING** across our entire coverage area, with any hope for even minimal measurable rain likely not arriving until around or just beyond the 24th.

U.S. Drought Monitor Hastings, NE WFO



August 15, 2023

(Released Thursday, Aug. 17, 2023)

Valid 8 a.m. EDT

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	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
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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>

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U.S. Drought Monitor

Latest High Plains Climate Region Drought Monitor Map + “Interesting Precipitation Stats” For NWS Hastings Area

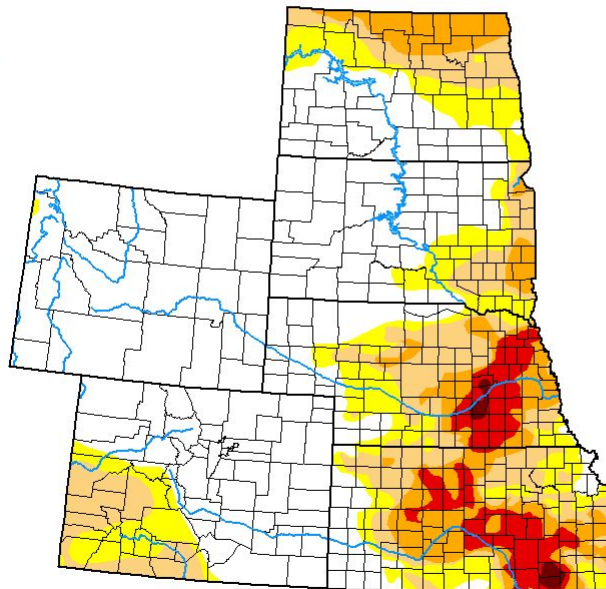
JULY 2023 Local Precipitation Extremes:
Another Month of HIGHLY-VARIABLE Rain!

U.S. Drought Monitor High Plains Climate Region

August 15, 2023
(Released Thursday, Aug. 17, 2023)
Valid 8 a.m. EDT

JULY 2023 Precipitation		JULY 2023 Precipitation	
Some of our WETTEST stations (NWS/CoCoRaHS/NeRAIN)		Some of our DRIEST stations (NWS/CoCoRaHS/NeRAIN)	
6E Waco (NeRAIN):	9.14"	4E Red Cloud (NeRAIN):	1.15"
North Loup (NWS observer):	8.27"	3W Nelson (NeRAIN):	1.36"
1ENE McCool Junction (NeRAIN):	8.20"	8NW Superior (NeRAIN):	1.41"
2W Elba (NeRAIN):	7.52"	Kenesaw (NeRAIN):	1.42"
Ord (NeRAIN):	7.48"	Hastings Airport (NWS ASOS):	1.54"
7SE Stromsburg (NeRAIN):	7.42"	Minden (NWS observer):	1.62"
Fairmont (NeRAIN):	7.34"	5SSE Hildreth (NeRAIN):	1.72"

FOR REFERENCE: “normal” July precipitation across MOST of our coverage area ranges from 3.20-4.50”, with the higher end of this range favoring KS counties



Intensity:

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

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Image Caption: [U.S. Drought Monitor](https://droughtmonitor.unl.edu) - Valid August 15

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Recent Change in Drought Intensity

NWS Hastings 1-Week Drought Class Change...Aug. 15 vs. Aug. 8

- **One Week Class Change:**

- **Drought Worsened:**
NO AREAS of degradation this week
- **No Change:**
The VAST MAJORITY of the NWS Hastings coverage area featured NO CHANGE this week
- **Drought Improved:**
1-category improvement included at least parts of the following counties:
- Osborne and Rooks (D3 > D2)

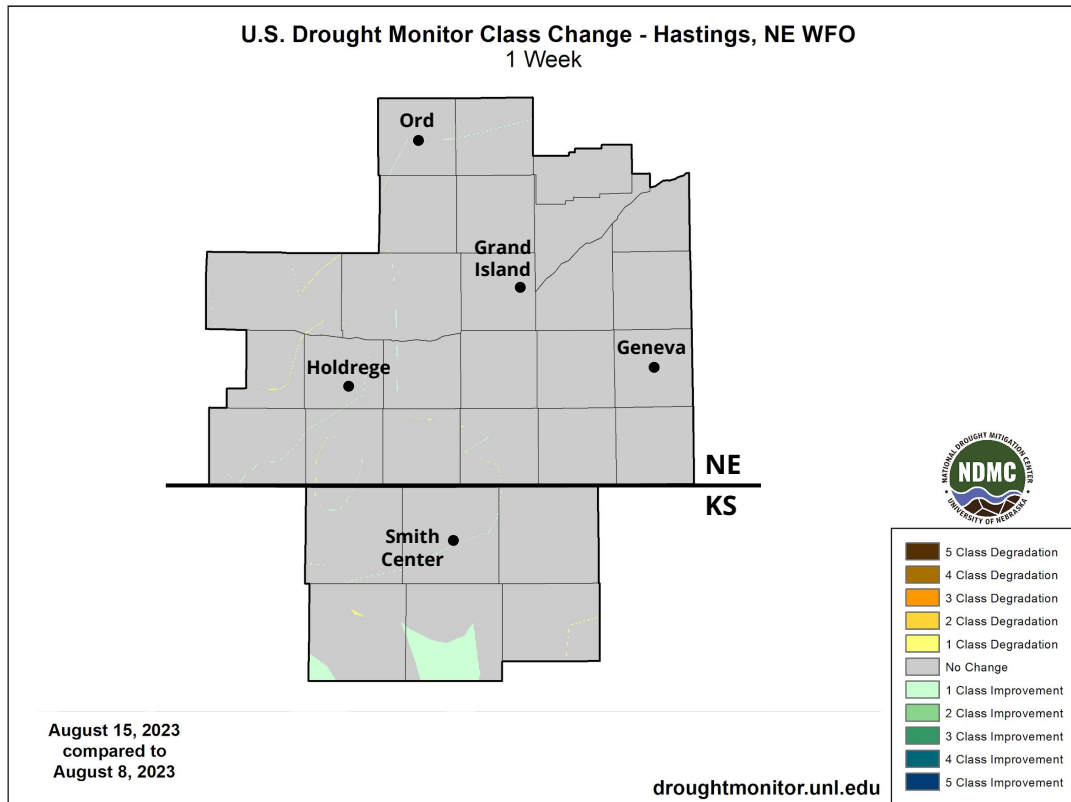


Image Caption: [U.S. Drought Monitor 1-Week Change Map](#) - Valid August 15



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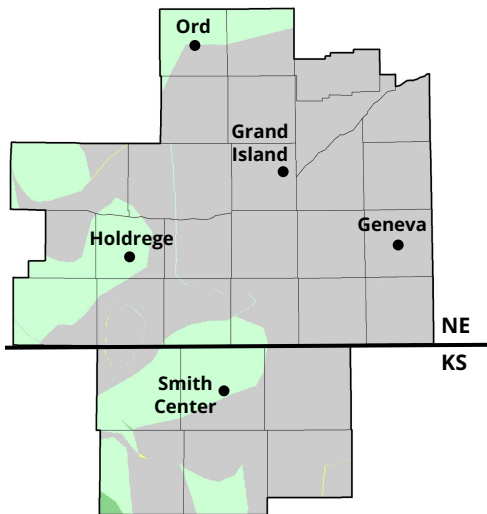
Recent Change in Drought Intensity

NWS Hastings 4-Week & 12-Week Drought Class Changes...vs. Current Aug. 15 map

4-WEEK CHANGE MAIN TAKEAWAYS: 1-category improvement common within several northern/western/southern counties

12-WEEK CHANGE MAIN TAKEAWAYS: 1-2 category improvement in many areas (especially west/southwest)...limited 1-category degradation east

U.S. Drought Monitor Class Change - Hastings, NE WFO
4 Week



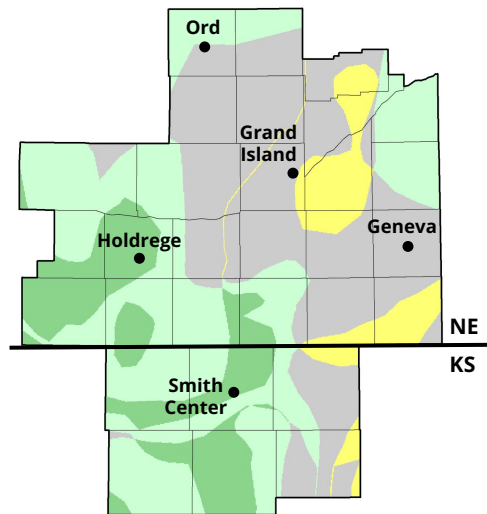
August 15, 2023
compared to
July 18, 2023

droughtmonitor.unl.edu



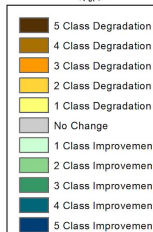
Left Image Caption: [U.S. Drought Monitor 4-Week Change Map](#)
Valid August 15

U.S. Drought Monitor Class Change - Hastings, NE WFO
12 Week



August 15, 2023
compared to
May 23, 2023

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Right Image Caption: [U.S. Drought Monitor 12-Week Change Map](#)
Valid August 15





Last 7-Days Precipitation

7-Day OBSERVED Precipitation/Percent-of-Normal For Latest Drought Monitor Period (August 8-15)

Main Takeaways:

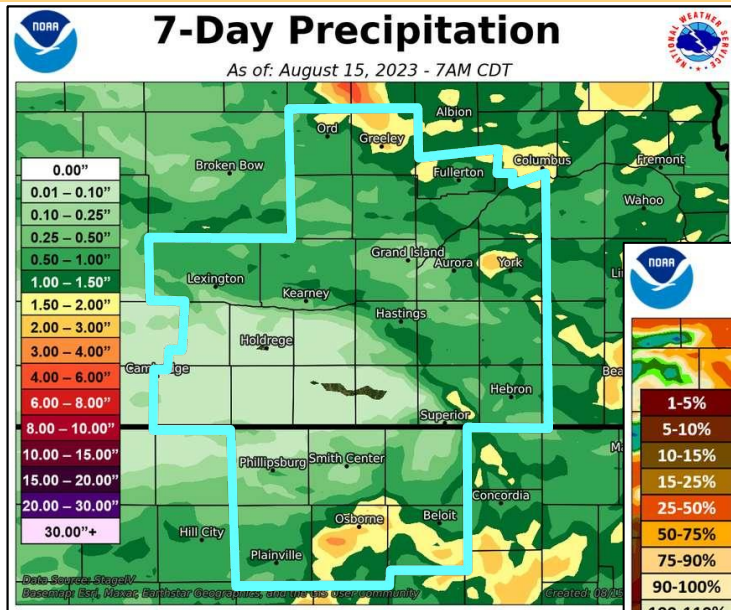
The latest 7-day Drought Monitor period again featured **HIGHLY VARIABLE** rain due to variable coverage of thunderstorm activity.

The MAJORITY of our coverage area received somewhere between 0.10-1.00".

The overall-driest locations (including many that were almost totally dry) focused mainly within Nebraska counties south of I-80 and west of Hwy 281.

On the more fortunate side of things, parts of especially counties such as Greeley, Nance, York, Osborne, Mitchell picked up at least 1.50".

Unfortunately, a couple of narrow stripes within our area endured damaging hail from severe supercell storms on Thursday, Aug. 10th.



PLEASE NOTE:

Any rain that fell AFTER 7am Tuesday, Aug. 15 is not reflected here as it fell after the weekly Drought Monitor "data cutoff".

OFFICIAL MEASURED NWS precipitation totals in our coverage area can be found [HERE](#).

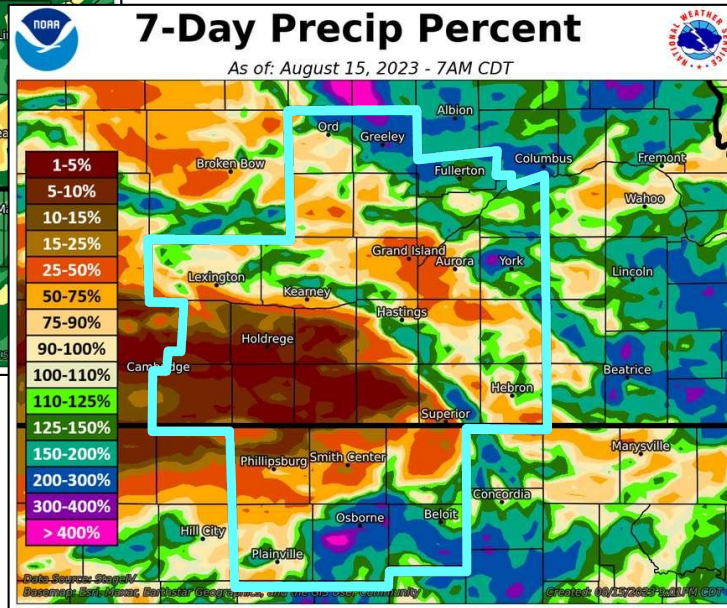
Image Captions:

Left: [7-Day Precipitation Amount](#), valid Aug. 15

Below: [7-Day Percent of Normal](#), valid Aug. 15

NWS Hastings area outlined in light blue (24 NE counties, 6 KS counties)

Additional precipitation maps available [HERE](#)



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Last 30-Days Precipitation

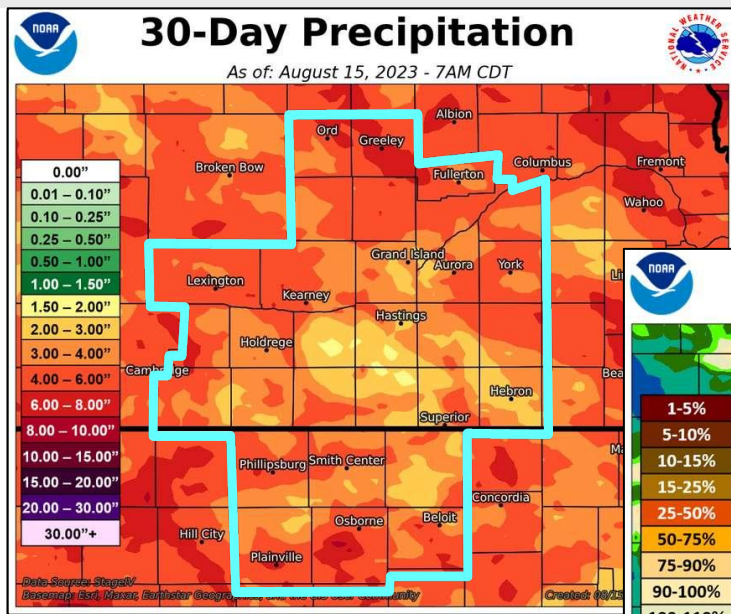
30-Day OBSERVED Precipitation/Percent-of-Normal For Latest Drought Monitor Period (July 17-Aug. 15)

Main Takeaways:

The latest 30-day Drought Monitor period featured **HIGHLY VARIABLE** rainfall across our coverage area. The **MAJORITY** of our area received somewhere between 2.25-5.00" (generally 65-145% of normal) .

On the fortunate/wetter side of things, at least portions of several counties mainly along the outer periphery of our area (on nearly all sides!) received near-to-above normal amounts of at least 3.50-6.00", with parts of especially Valley, Greeley, Howard and Osborne counties being overall-wettest.

In sharp contrast, the overall-driest counties were centered mainly in the heart of our area, where particularly much of Kearney, Adams, Webster, Nuckolls and Thayer counties measured no more than 1.60-2.75".



PLEASE NOTE:

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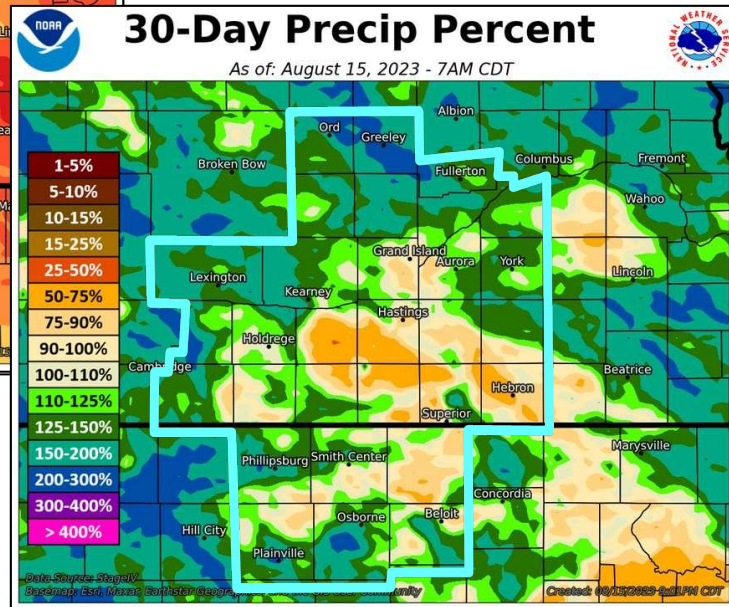
Image Captions:

Left: [30-Day Precipitation](#), valid Aug. 15

Below: [30-Day Percent of Normal](#), valid Aug. 15

NWS Hastings area outlined in light blue (24 NE counties, 6 KS counties)

Additional precipitation maps available [HERE](#)



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Last 90-Days Precipitation

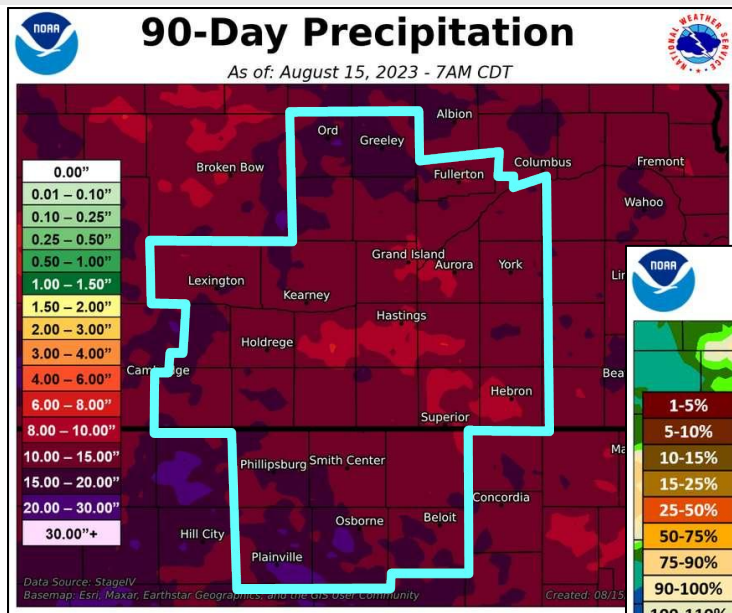
90-Day OBSERVED Precipitation/Percent-of-Normal For Latest Drought Monitor Period (May 18-Aug. 15)

Main Takeaways:

The latest 90-day Drought Monitor period featured **HIGHLY VARIABLE** rainfall across our coverage area. The **MAJORITY** of our area received somewhere between 7.50-13.00" (generally 70-120% of normal) .

On the fortunate/wetter side of things, at least portions of nearly all counties mainly along the outer periphery of our area (on nearly all sides!) saw near-to-above normal amounts of at least 10-14", with some of the overall-wettest counties including: Valley, Greeley, Gosper, Furnas, Harlan, Phillips, Rooks, Osborne.

In contrast, the overall-driest areas focused in central/southeast counties, where amounts of no more than 7-9" were most common in counties such as: Hall, Hamilton, Kearney, Adams, Clay, Nuckolls, Thayer.



PLEASE NOTE:

Any rain that fell **AFTER** 7am Tuesday, Aug. 15 is not reflected here as it fell after the weekly Drought Monitor "data cutoff"

OFFICIAL MEASURED NWS precipitation totals in our coverage area can be found [HERE](#).

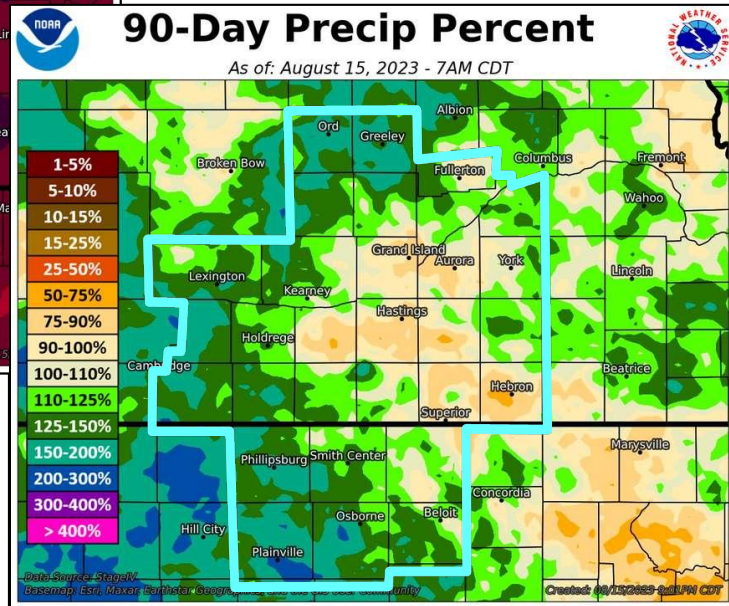
Image Captions:

Left: [90-Day Precipitation](#), valid Aug. 15

Below: [90-Day Percent of Normal](#), valid Aug. 15

NWS Hastings area outlined in light blue (24 NE counties, 6 KS counties)

Additional precipitation maps available [HERE](#)



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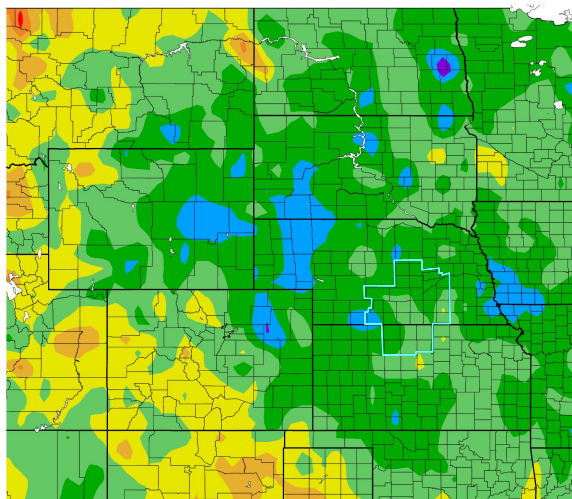
Temperature Information

Regional 7 & 30-Day Departure From Normal Temperature

Main Takeaways (Last 7 Days):

Temperatures over the 7-day period Aug. 9-15 averaged out as solidly BELOW-NORMAL across the vast majority of our coverage area, with most places between 2-4° below normal. The only exception was in/near extreme southeast counties, where the week actually averaged near to perhaps very slightly *above-normal* (due in part to a particularly hot day on the 11th).

Departure from Normal Temperature (F)
8/10/2023 – 8/16/2023

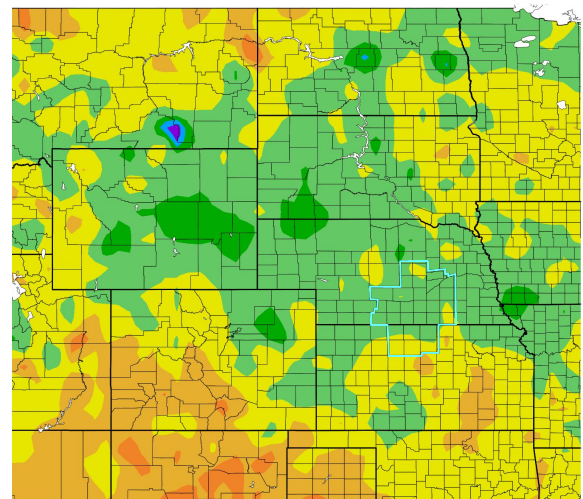


Left Image Caption:

[7-Day Departure From Normal Temperature.](#)

Data from High Plains Regional Climate Center, valid Aug. 16
NWS Hastings area outlined in light blue

Departure from Normal Temperature (F)
7/18/2023 – 8/16/2023



Right Image Caption

[30-Day Departure From Normal Temperature](#)

Data from High Plains Regional Climate Center, valid Aug. 16
NWS Hastings area outlined in light blue





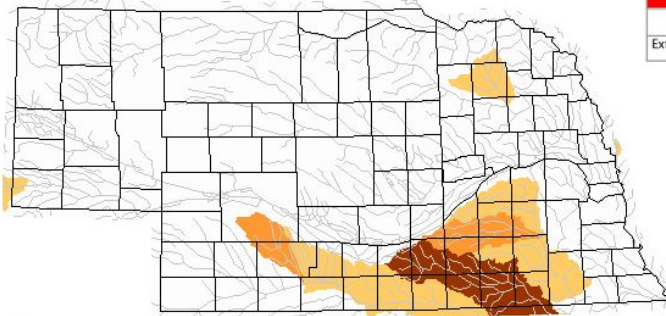
Hydrologic Conditions

USGS Streamflow Information...Maps Shaded Only For Areas With BELOW NORMAL Flows

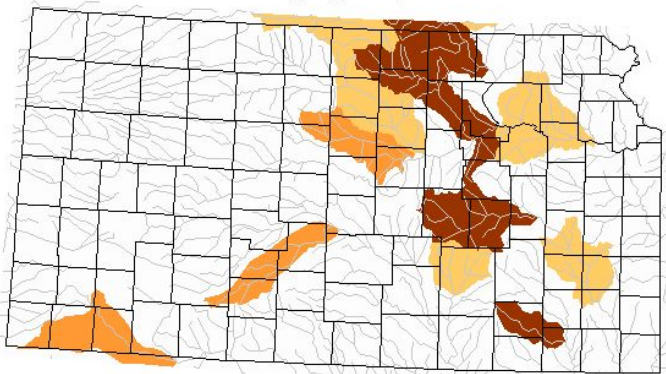
Main Takeaways:

- Of all river basins in our coverage area, the Little Blue River basin in south central/southeast portions of our Nebraska coverage area currently exhibits the lowest streamflow (versus normal) and is considered to be in severe hydrologic drought.

Hednesday, August 16, 2023



Hednesday, August 16, 2023



Explanation - Percentile classes

Low	<=5	6-9	10-24
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal

Image Captions:

Top - [Nebraska Below Normal 7-Day Average Streamflow Compared To Historical Streamflow For The Day Of The Year](#) , from USGS, valid Aug. 16

Bottom - [Kansas Below Normal 7-Day Average Streamflow Compared To Historical Streamflow For The Day Of The Year](#) , from USGS, valid Aug. 16

More information about streamflow and interactive maps can be found [HERE](#)



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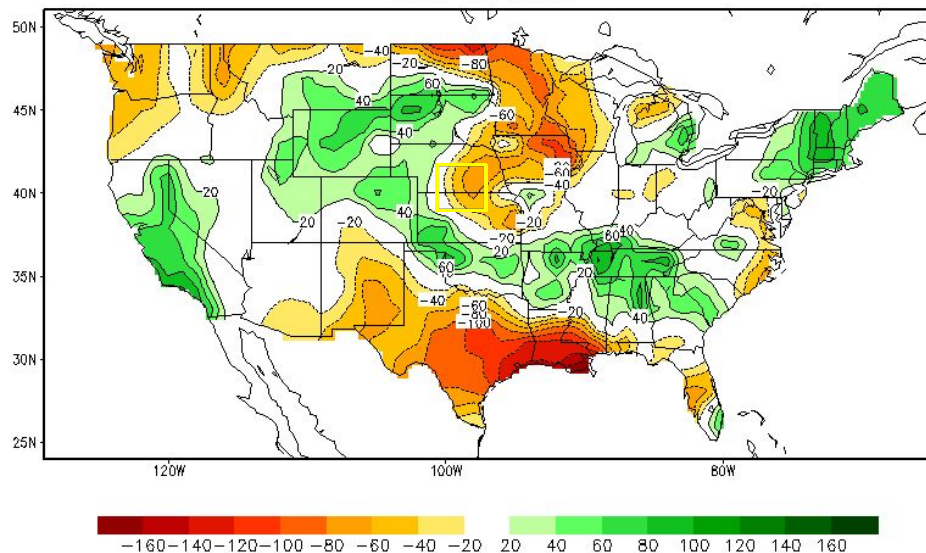


Climate Prediction Center (CPC) Soil Moisture Status

Main Takeaway: Soil Moisture Continues to be in Overall-Worst Shape In Our Central/Eastern Coverage Area

Soil Moisture Departure From Normal (mm)

Calculated Soil Moisture Anomaly (mm)
AUG 15, 2023

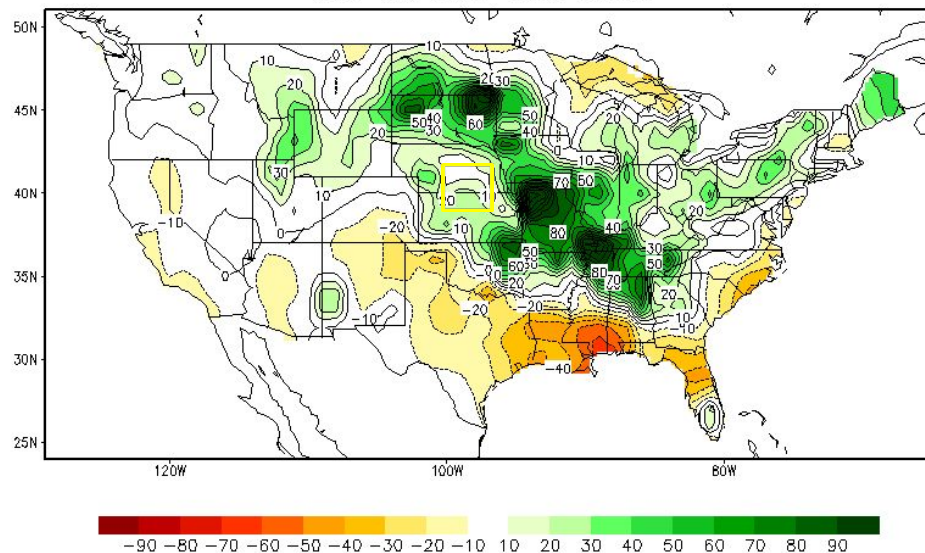


Left Image Caption:

[CPC Soil Moisture Departure From Normal](#) - Valid Aug. 15

Soil Moisture Change Since End Of Previous Month (mm)

Calculated Soil Moisture Anomaly Change
AUG 15, 2023 from JUL.31



Right Image Caption:

[CPC Soil Moisture Change Since End Of Previous Month](#) - Valid Aug. 15





7-Day Precipitation Forecast

From Weather Prediction Center (WPC)...Valid August 17-24

Main Takeaways:

There is **HIGH CONFIDENCE** that Aug. 17-24 will be very dry and hot overall, as an upper level high pressure ridge becomes the dominant feature in our weather pattern.

Officially, cumulative precipitation for Aug. 17-24 is forecast to be **ALMOST NOTHING** across our entire coverage area, with any hope for even minimal measurable rain likely not arriving until around or just beyond the 24th.

NOTE: rain amounts can vary considerably over short distances depending on the **EXACT** tracks of thunderstorms/thunderstorm complexes.

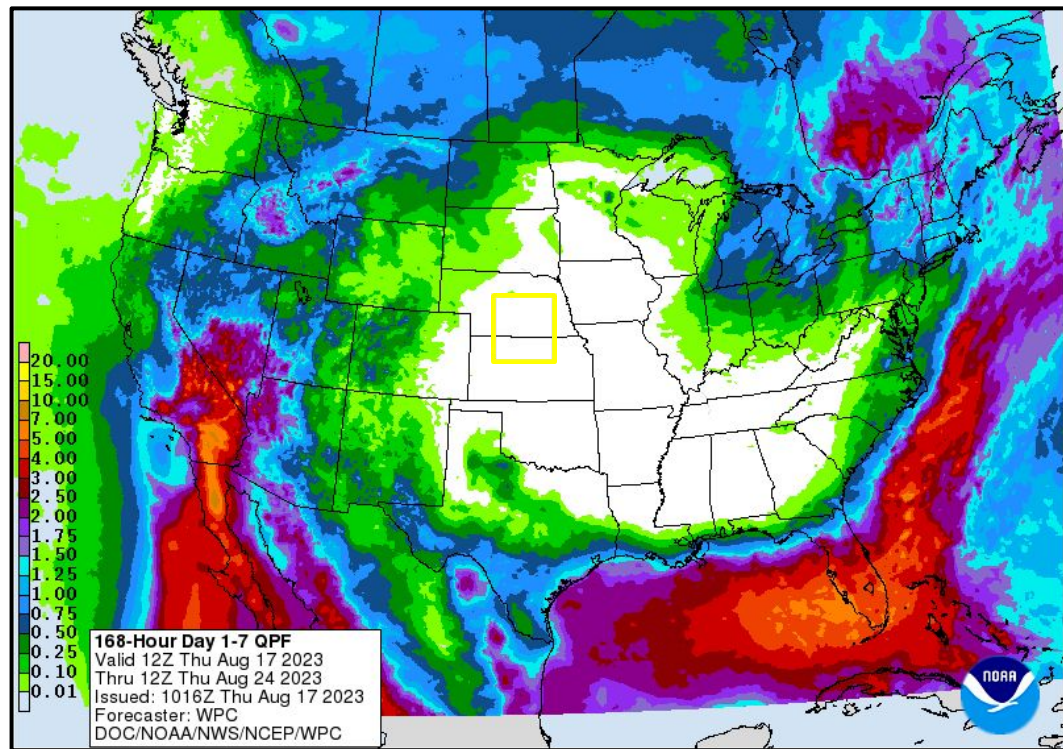


Image Caption: Weather Prediction Center [7-Day Precipitation Forecast](#)
Valid Thursday AM, Aug. 17 - Thursday AM, Aug. 24



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Climate Prediction Center (CPC) 6-10 Day Outlooks

Temperature and Precipitation Outlooks...Valid August 22-26

Main Takeaways:

- **Temperatures:** Although there are signs that especially the latter part of this time frame could feature the beginning stages of a slight cool-down, our entire area is highly-likely to endure above-normal heat for Aug. 22-26 as a whole.
- **Precipitation:** Most of our coverage area features a slight lean toward below-normal rainfall during this time, with any hope for possible meaningful rain really not entering the picture until perhaps the latter portion of this time frame.

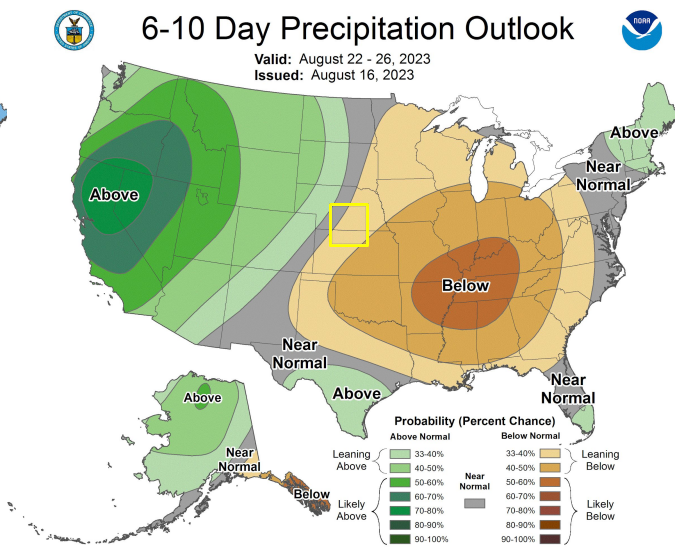
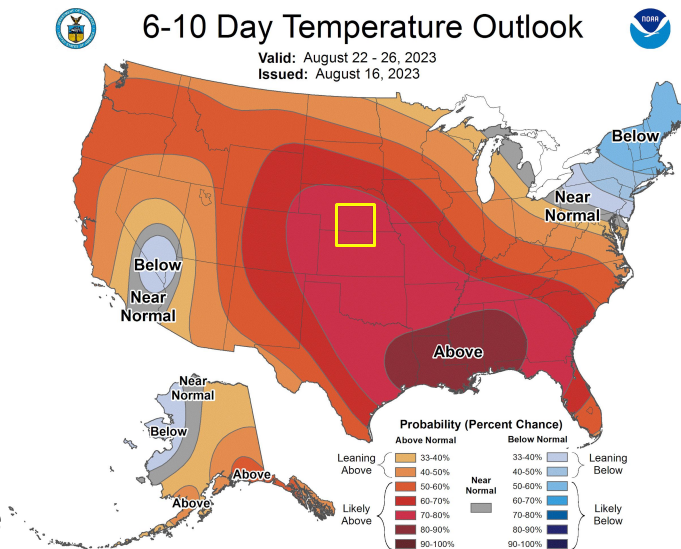


Image Captions:

Left - [Climate Prediction Center 6-10 Day Temperature Outlook.](#)

Right - [Climate Prediction Center 6-10 Day Precipitation Outlook.](#)

Valid Aug. 22-26, 2023.



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Climate Prediction Center (CPC) 8-14 Day Outlooks

Temperature and Precipitation Outlooks...Valid August 24-30

Main Takeaways:

- **Temperatures:** Although there are signs of a return to at least slightly cooler conditions for the last part of August, our entire area is still considered “likely” to experience overall above-normal temperatures
- **Precipitation:** Most of our area is favored to receive “near-normal” rainfall, as we reside within a transition zone between areas to our west that slightly lean toward wetter-than-normal, and areas to our east that slightly lean toward drier-than-normal.

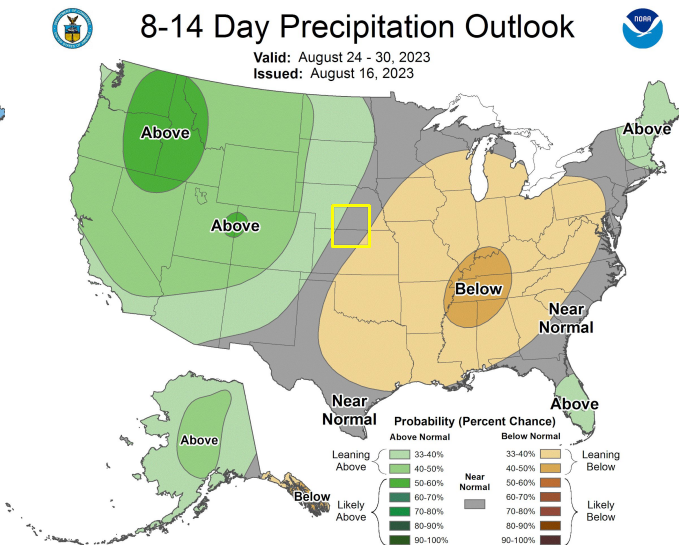
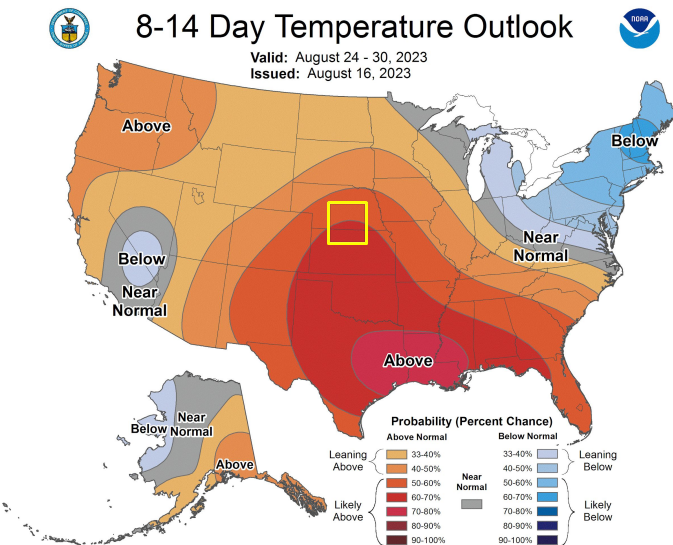


Image Captions:

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

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

Valid Aug. 24-30, 2023



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Climate Prediction Center (CPC) Monthly Outlooks

Monthly Temperature and Precipitation Outlooks...Valid For SEPTEMBER 2023 *(just released)*

Main Takeaways

- **Temperatures:** Our entire area has a slight lean toward above normal temperatures
- **Precipitation:** Our entire area is indicated to have "equal chances" of having above, below or near-normal precipitation

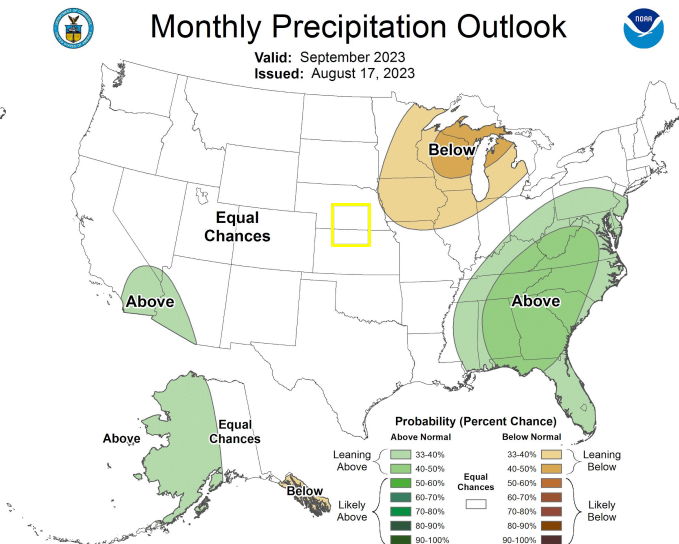
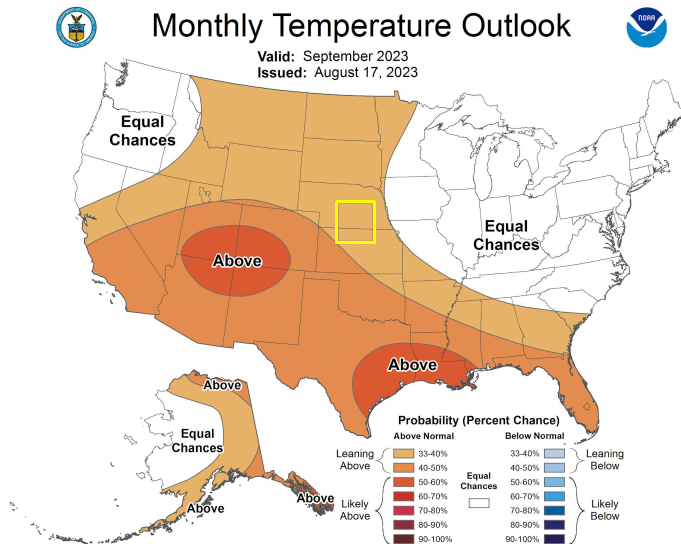


Image Captions:

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

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

Valid for September 2023



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Climate Prediction Center (CPC) 3-Month Outlooks

3-Month Temperature and Precipitation Outlook...Valid For SEPTEMBER-OCTOBER-NOVEMBER *(just released)*

Main Takeaways

- **Temperatures:** Our entire area is indicated to have "equal chances" of having above, below or near-normal temperatures
- **Precipitation:** Our entire area is indicated to have "equal chances" of having above, below or near-normal temperatures

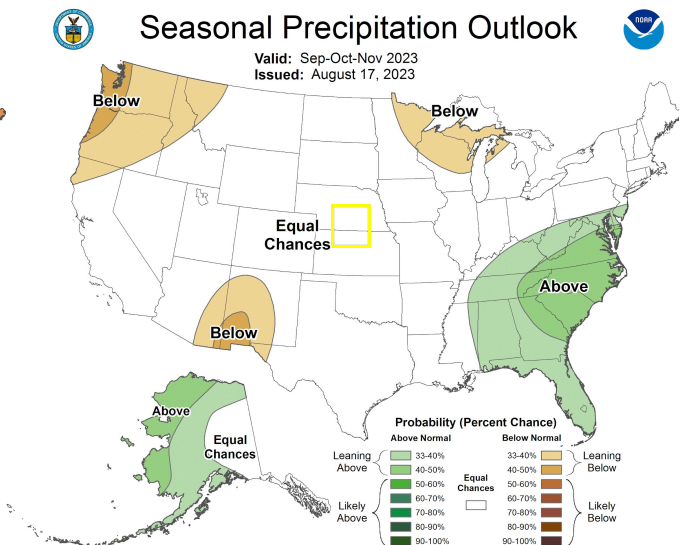
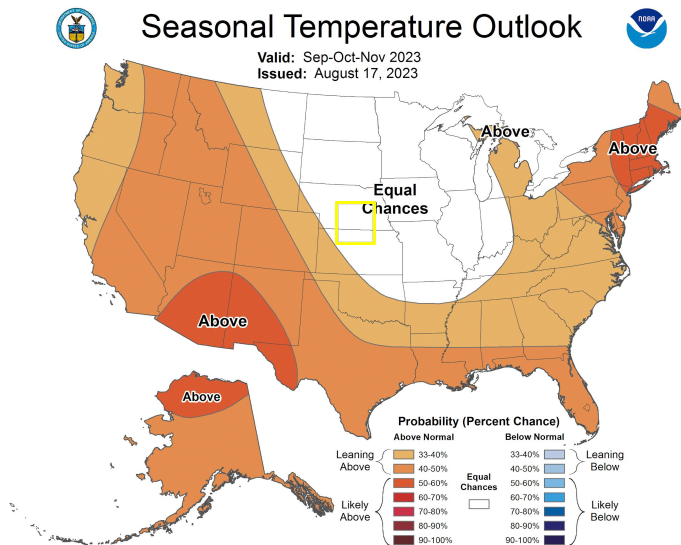


Image Captions:

Left - [Climate Prediction Center Seasonal Temperature Outlook](#).
Right - [Climate Prediction Center Seasonal Precipitation Outlook](#).

Valid for September to November 2023



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Climate Prediction Center (CPC) Drought Outlooks

Monthly and Seasonal Drought Outlooks...Valid for Aug. 2023 and Aug. 17-Nov. 30, 2023

Main Takeaways:

- Based on current longer-range forecasts, unfortunately drought is expected to largely persist at/near current levels through November.

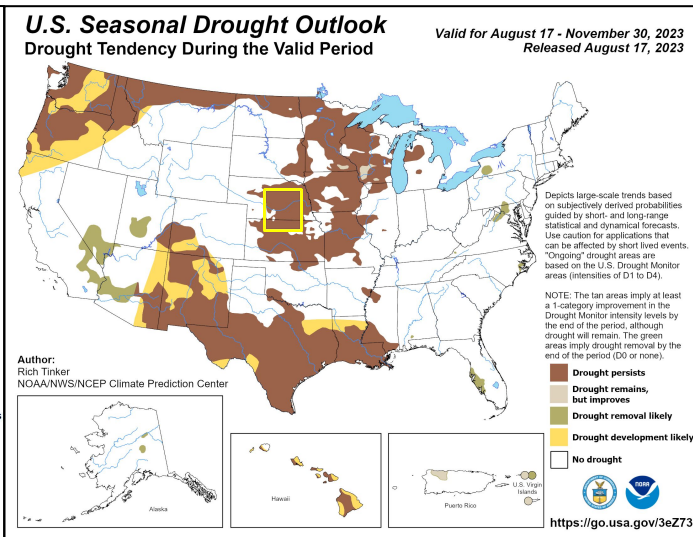
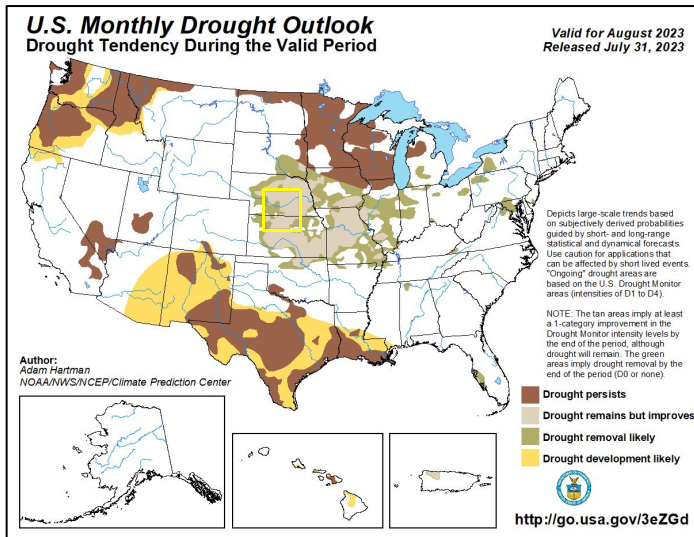


Image Captions:

Left - [Climate Prediction Center Monthly Drought Outlook](#) - Valid for Aug. 2023

Right - [Climate Prediction Center Seasonal Drought Outlook](#) - Valid for Aug. 17 through Nov. 30, 2023



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National Weather Service
Hastings, Nebraska



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The U.S. Drought Monitor is produced through a partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture and the National Oceanic and Atmospheric Administration.

Additional Information Sources:

- [U.S. Drought Monitor](#)
- [National Integrated Drought Information System](#)
- [High Plains Regional Climate Center](#)
- [USGS River Information](#)
- [NWS River Stages & Forecasts](#)
- [NWS Hastings LOCAL Temperature & Precipitation Data](#)

Monitor our webpage for forecast information out to 7 days [HERE](#)



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