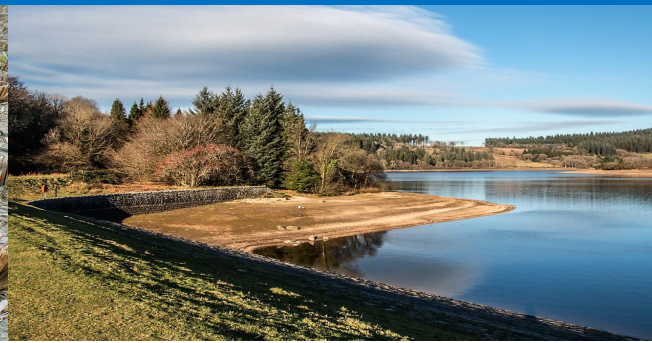
Drought Information Statement for South Central NE and North Central KS

Valid October 12, 2023

Issued By: NWS Hastings, NE

Contact Information: nws.hastings@noaa.gov

- This product will be updated in November, 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/gid/DroughtInformationStatement for previous statements.



U.S. Drought Monitor

Link to the latest U.S. Drought Monitor for High Plains Region

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

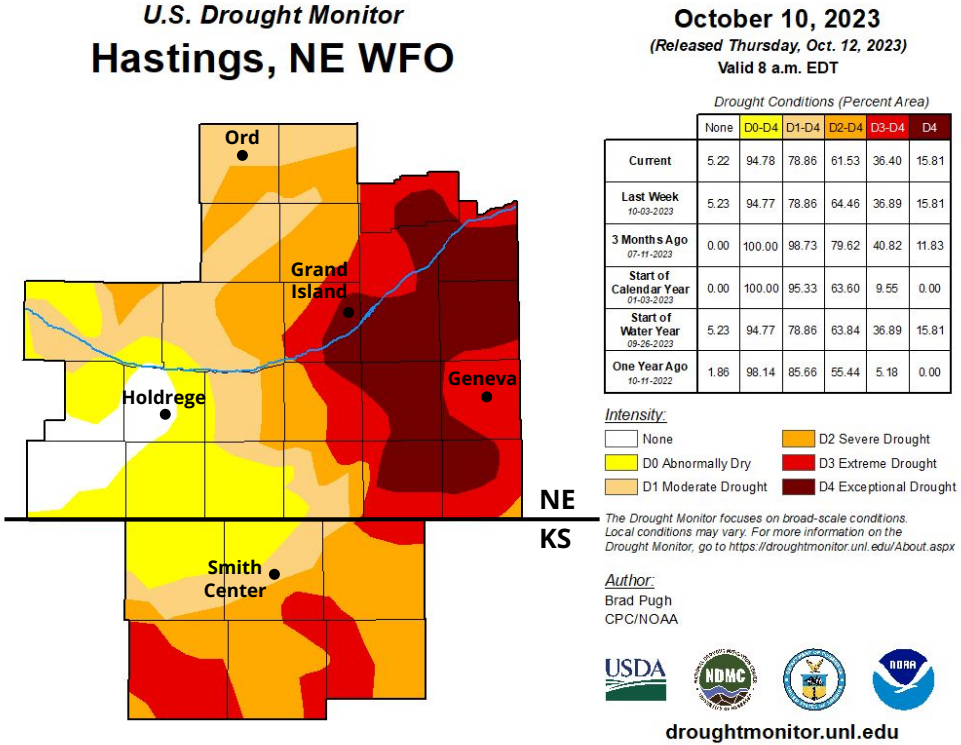


Image Caption: U.S. Drought Monitor - Valid Oct. 10

Common Drought Impacts By Category

D0	**Abnormally Dry**	**Going Into Drought:** • Short-term dryness slowing planting, growth of crops and pastures	**Coming Out Of Drought:** • Some lingering water deficits • Crops and pastures not fully recovered
D1	**Moderate Drought**	• Some damage to crops and pastures • Streams, reservoirs, wells low - some water shortages developing or imminent	
D2	**Severe Drought**	• Crop or pasture losses likely • Water shortages common • Water restrictions can be imposed	
D3	**Extreme Drought**	• Major crop and pasture losses • Widespread water shortages or restrictions possible	
D4	**Exceptional Drought**	• 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)

Short-Term Precipitation Recap (the last week) and Forecast (the next week)

- Recap of the Oct. 3-10 "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 featured HIGHLY VARIABLE rain, mainly due to variable coverage of thunderstorm activity on the 3rd. The MAJORITY of our coverage area received somewhere between 0.25-1.25". The overall-driest locations (including some with less than 0.10") focused within various "stripes" mainly west of Highway 281. The overall-wettest locations picked up as much as 1.50-2.00", including small parts of counties such as: Sherman, Webster, Franklin. Unfortunately, several storms on the 3rd were severe, producing large hail, damaging winds and a few brief tornadoes across various parts of the area.

- Looking ahead October 12-19:

The ***VAST MAJORITY*** of precipitation between Oct. 12-19 will fall right away on the 12th-13th as a powerful low pressure system brings thunderstorms, followed by chilly, wind-driven rain showers. Thereafter, confidence is high in dry weather from at least Oct. 14-17, before the next weather system perhaps brings in another chance of rain around Oct. 18th-19th.

Officially, cumulative precipitation for Oct. 12-19 is forecast to ***VARY*** across our coverage area, ranging from very little (mainly less than 0.10") for most areas near and especially south of the NE/KS border, to as much as generally 0.50-0.75" for some Nebraska counties north of Interstate 80.

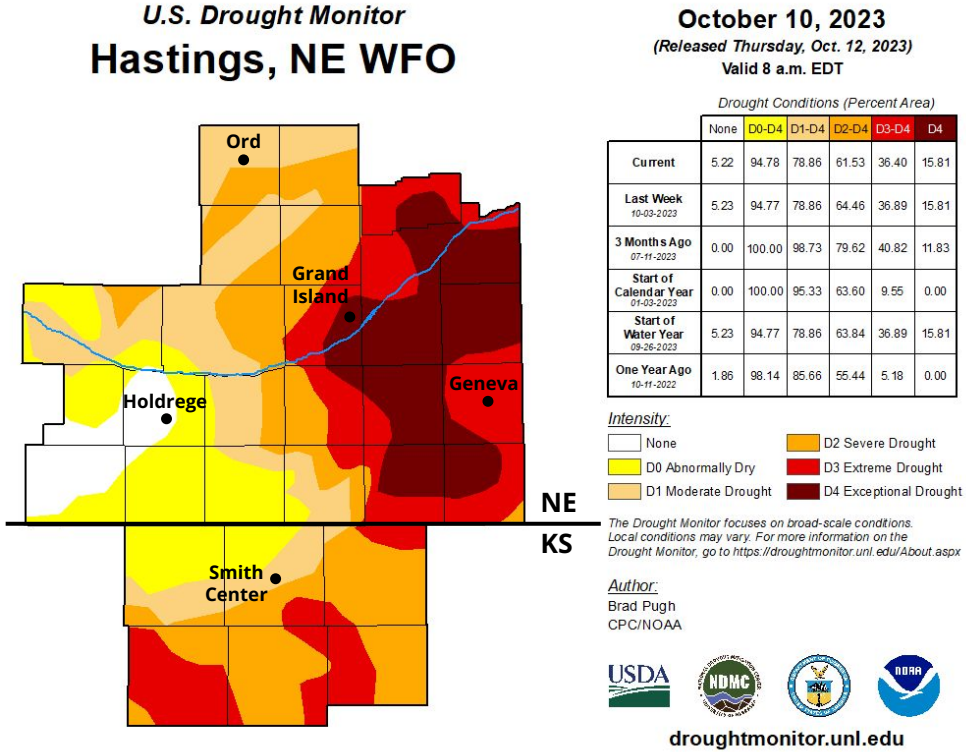


Image Caption: U.S. Drought Monitor - Valid October 10

Latest Regional Drought Monitor Map + September Precip Extremes For NWS Hastings Area

September 2023 Local Precipitation Extremes:
Most Areas Modestly Above/Below Normal...BUT Extremely Dry Especially Parts of KS

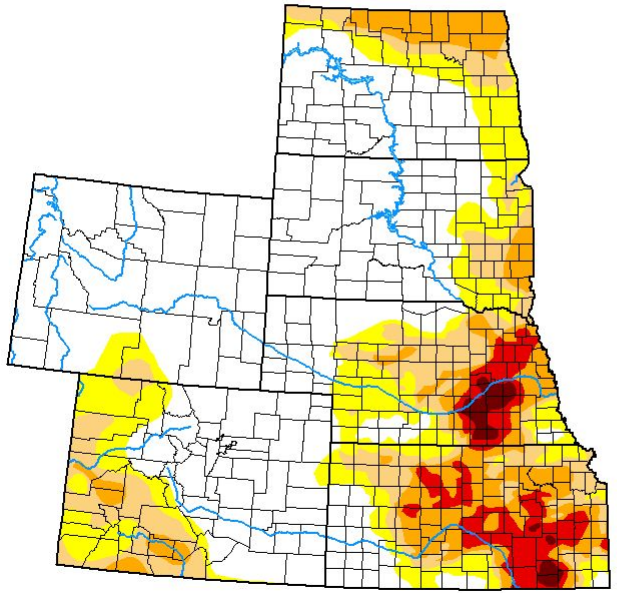
SEPT. 2023 Highest Precipitation *Some* of our WETTEST stations *(NWS/CoCoRaHS/NeRAIN)*		SEPT. 2023 Lowest Precipitation *Some* of our DRIEST stations *(NWS/CoCoRaHS/NeRAIN)*	
2NW Elwood (NeRAIN):	5.29"	**Osborne KS** (KS Mesonet)	0.04"
4S Shickley (NWS observer):	4.79"	**7NNE Natoma KS** (CoCoRaHS)	0.14"
Kearney Airport (NWS observer):	4.73"	**2NNW Hunter KS** (CoCoRaHS):	0.23"
6SSE Lexington (NWS observer):	4.41"	**Natoma KS** (NWS Observer):	0.31"
5SE Axtell (NeRAIN):	4.38"	**4WNW Plainville KS** (CoCoRaHS):	0.63"
Kenesaw (NeRAIN):	4.24"	**4E Waco** (NeRAIN):	0.74"
Blue Hill (NeRAIN):	4.13"	**Cawker City KS** (NWS observer):	0.76"

FOR REFERENCE: "normal" September precipitation across MOST of our coverage area ranges from 1.70-2.50" (generally lowest west/highest east)

U.S. Drought Monitor

High Plains Climate Region

October 10, 2023
(Released Thursday, Oct. 12, 2023)
Valid 8 a.m. EDT



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

droughtmonitor.unl.edu

Image Caption: U.S. Drought Monitor - Valid October 10

Recent Change in Drought Intensity - 1 Week Change

NWS Hastings 1-Week Drought Class Change...Oct. 10 vs. Oct. 3

- **One Week Drought Monitor 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 parts of the following counties:
    - Sherman, Howard, Valley, Greeley, Buffalo (D2 > D1)
    - Webster, Nuckolls, Jewell (mix of D3>D2 and D2>D1)

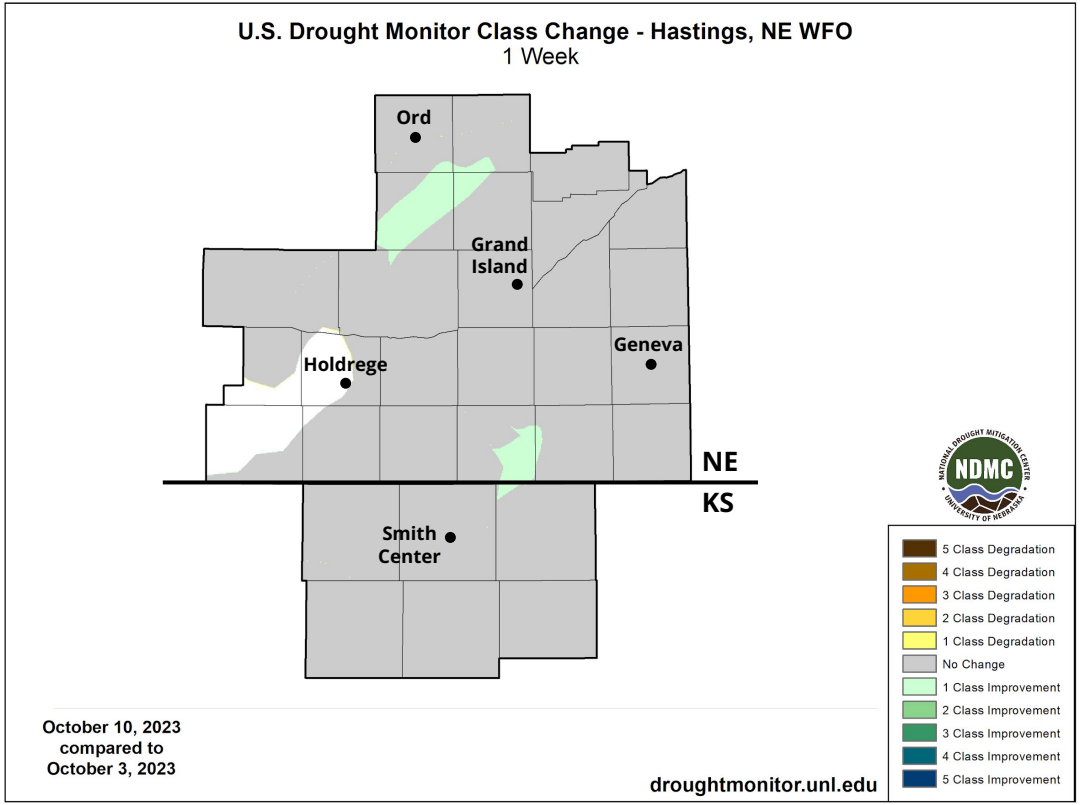
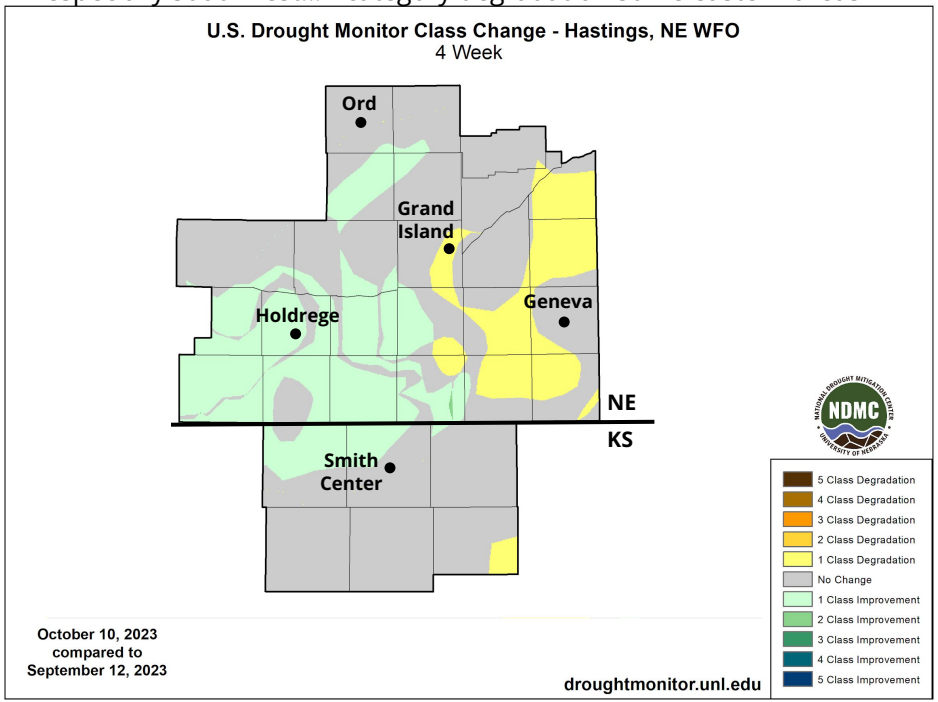


Image Caption: U.S. Drought Monitor 1-Week Change Map - Valid October 10

Recent Change in Drought Intensity - 4 and 12 Week Change

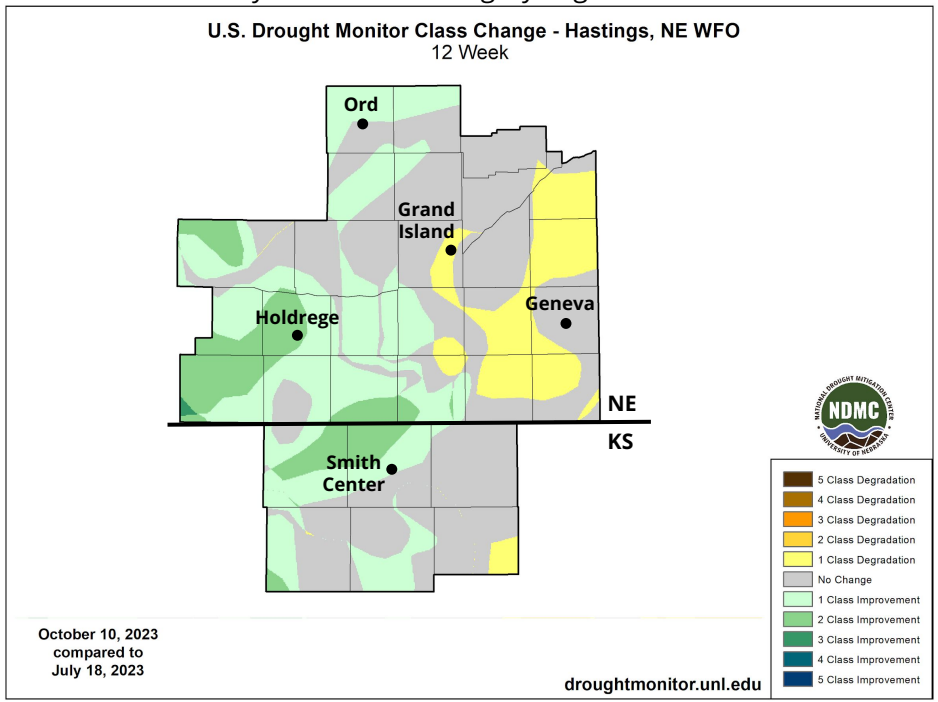
NWS Hastings 4-week & 12-week Drought Class Changes...vs. current Oct. 10 maps

4-WEEK CHANGE MAIN TAKEAWAYS: 1-category improvement common especially southwest...1-category degradation some eastern areas



Left Image Caption: U.S. Drought Monitor 4-Week Change Map
Valid October 10

12-WEEK CHANGE MAIN TAKEAWAYS: 1-2 category improvement in various areas mainly west half...1-category degradation some east areas



Right Image Caption: U.S. Drought Monitor 12-Week Change Map
Valid October 10

Precipitation (Last 7 Days)

7-Day OBSERVED Precipitation/Percent-of-Normal For Latest Drought Monitor Period (October 3-10)

Main Takeaways:

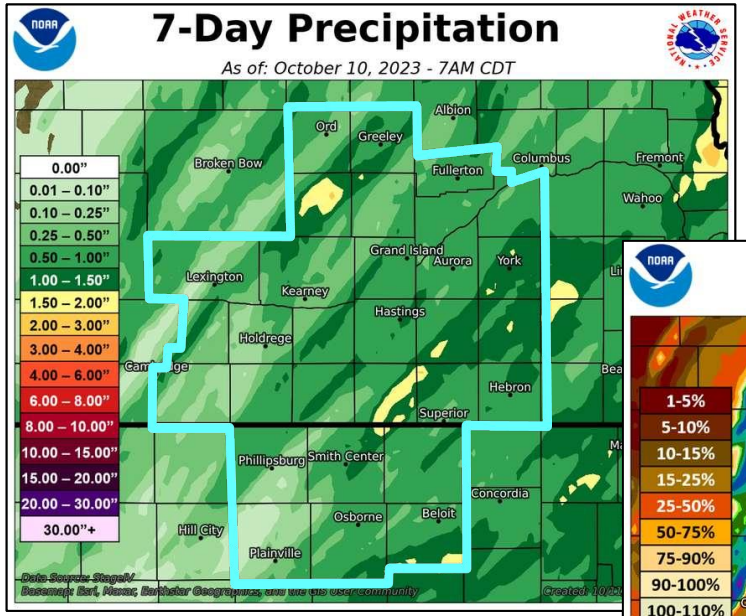
The latest 7-day Drought Monitor period featured HIGHLY VARIABLE rain, mainly due to variable coverage of thunderstorm activity on the 3rd.

The MAJORITY of our coverage area received somewhere between 0.25-1.25".

The overall-driest locations (including some with less than 0.10") focused within various "stripes" mainly west of Highway 281.

The overall-wettest locations picked up as much as 1.50-2.00", including small parts of counties such as: Sherman, Webster, Franklin.

Unfortunately, several storms on the 3rd were severe, producing large hail, damaging winds and a few brief tornadoes across various parts of the area.



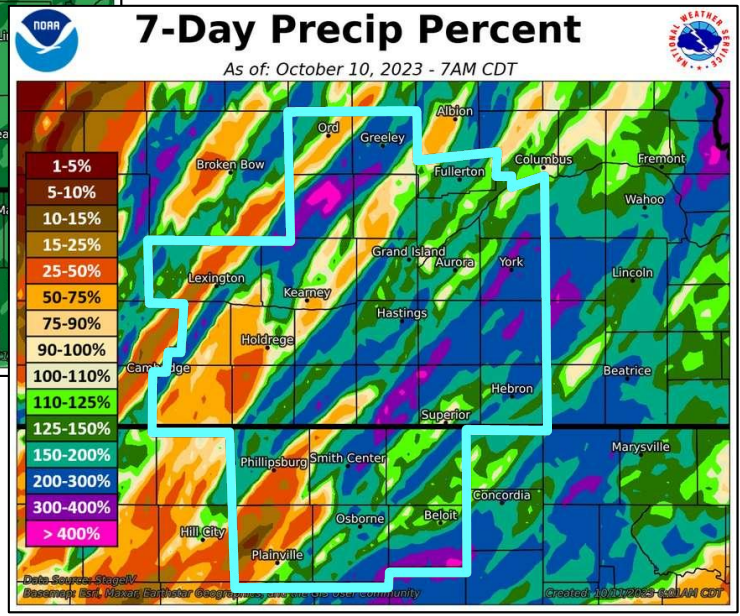


Image Captions:
Left: 7-Day Precipitation Amount, valid Oct. 10
Below: 7-Day Percent of Normal, valid Oct. 10

NWS Hastings area outlined in light blue
(24 NE counties, 6 KS counties)
Additional precipitation maps available HERE

PLEASE NOTE:
Any rain that fell AFTER 7am Tuesday, Oct. 10 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.

Precipitation (Last 30 Days)

30-Day OBSERVED Precipitation/Percent-of-Normal For Latest Drought Monitor Period (Sep. 11-Oct. 10)

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 1.50-4.50" (generally 70-215% of normal) .

On the most fortunate/wetter side of things, the majority of locations especially between roughly Interstate 80 in Nebraska and Highway 36 in Kansas picked up above-normal amounts of generally 3-5" (localized higher).

In sharp contrast, the overall-driest portion of our coverage area was squarely centered over Rooks/Osborne counties in KS, where most places picked up no more than 0.50-1.00".

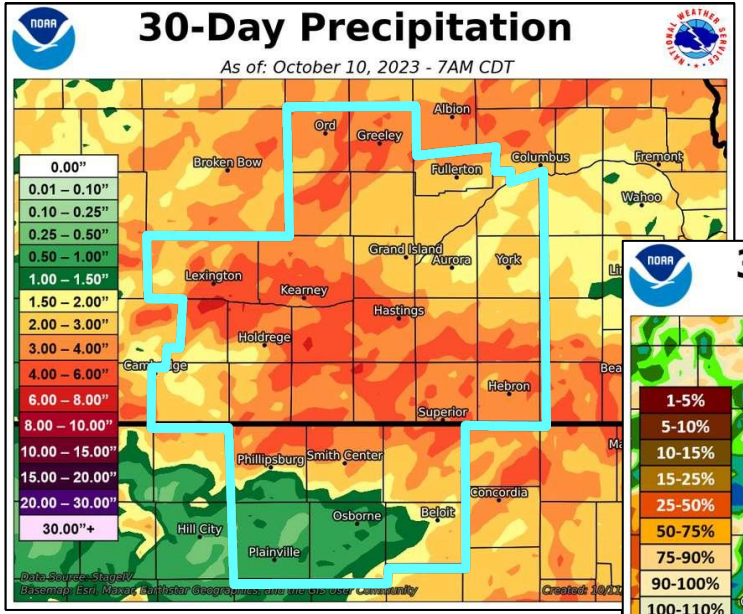
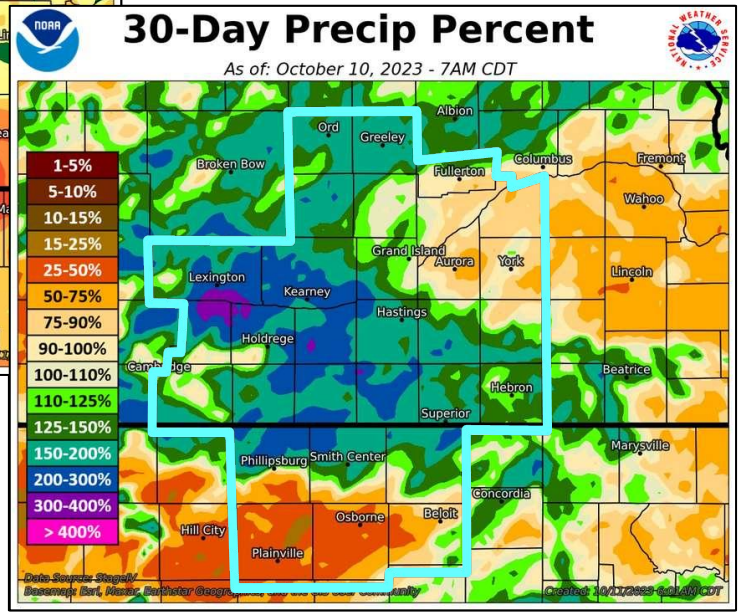


Image Captions:
Left: 30-Day Precipitation, valid Oct. 10
Below: 30-Day Percent of Normal, valid Oct. 10

NWS Hastings area outlined in light blue
(24 NE counties, 6 KS counties)
Additional precipitation maps available HERE



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OFFICIAL MEASURED NWS precipitation totals in our coverage area can be found HERE.

Precipitation (Last 90 Days)

90-Day OBSERVED Precipitation/Percent-of-Normal For Latest Drought Monitor Period (July 13-Oct. 10)

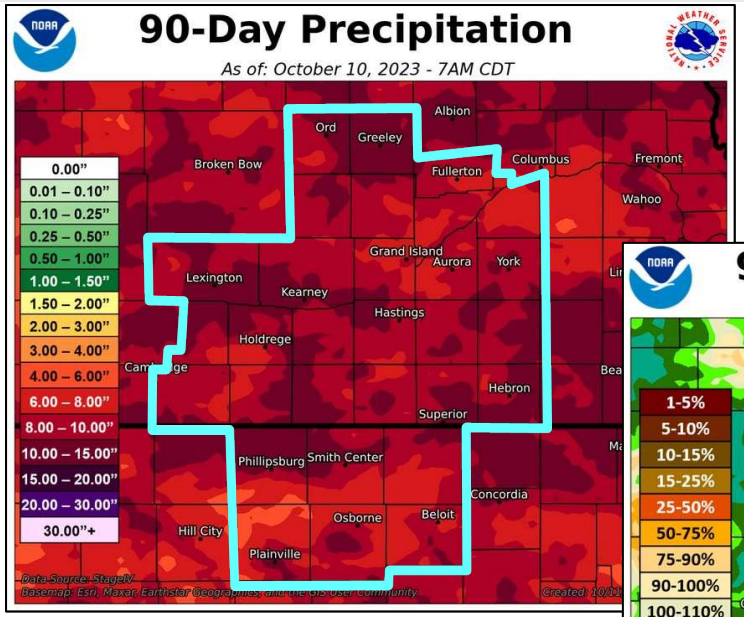
Main Takeaways:

The latest 90-day Drought Monitor period featured ***MODERATELY VARIABLE*** rainfall across our coverage area. The MAJORITY of our area received somewhere between 6.00-10.50" (generally 66-115% of normal)

On the fortunate/wetter side of things (at least compared to normal), the overall highest totals were mainly concentrated within varied pockets of several counties along/west of Highway 281.

In contrast, the overall-driest areas (totals generally no more than 5-7") were primarily concentrated in two zones:
1) parts of our KS area (particularly northern Rooks/southern Phillips counties

2) the northeast quadrant of our Nebraska coverage area, including the majority of counties such as Hall, Hamilton, Merrick and Polk



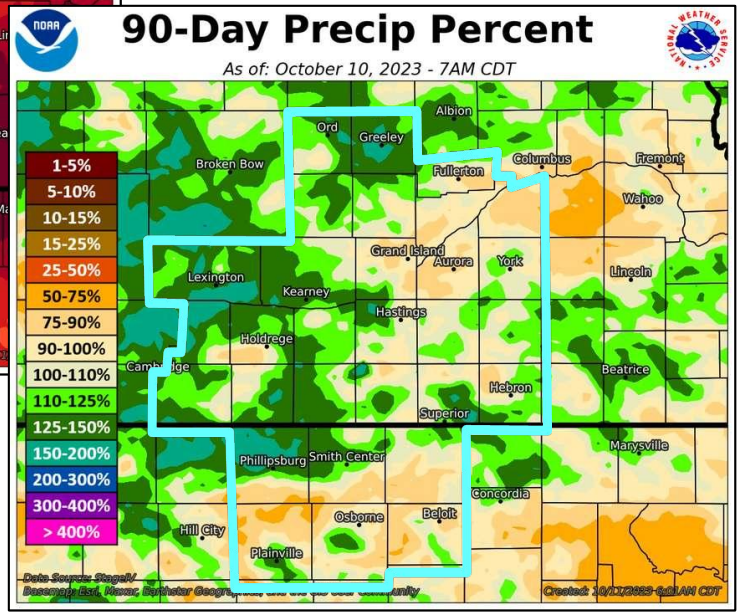


Image Captions:
Left: 90-Day Precipitation, valid Oct. 10
Below: 90-Day Percent of Normal, valid Oct. 10

NWS Hastings area outlined in light blue
(24 NE counties, 6 KS counties)
Additional precipitation maps available HERE

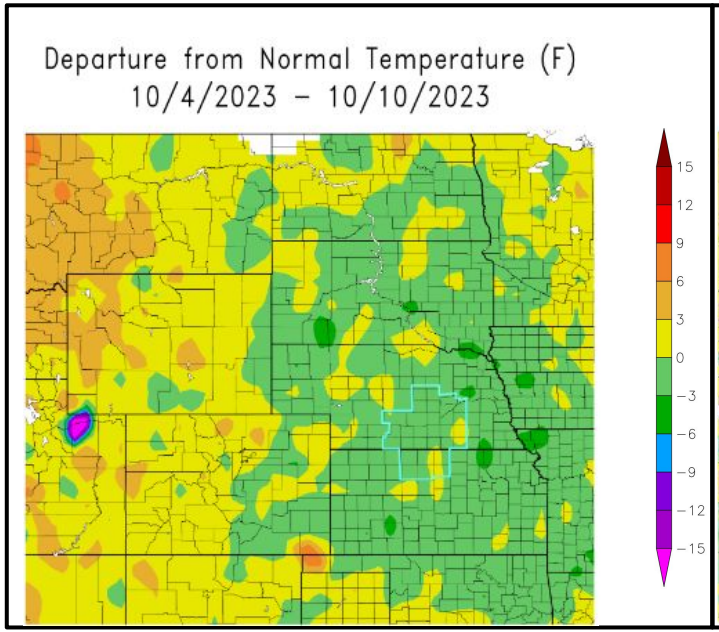
PLEASE NOTE:
Any rain that fell AFTER 7am Tuesday, Oct. 10 is not reflected here as it fell after the weekly Drought Monitor "data cutoff"

OFFICIAL MEASURED NWS precipitation totals in our coverage area can be found HERE.

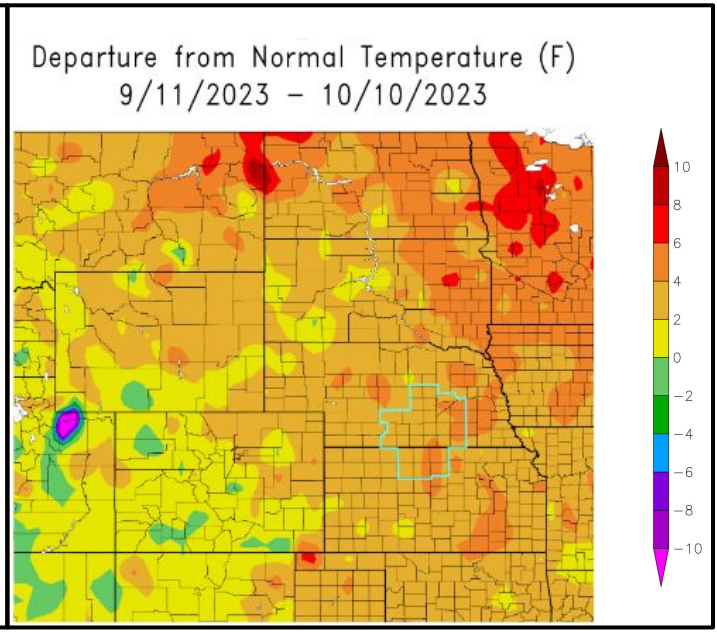
Temperature Trends (Last 7 and 30 Days)

Main Takeaways (Last 7 Days):

Temperatures over the 7-day period Oct. 4-10 averaged out as slightly BELOW-NORMAL across the vast majority of our coverage area, with most places between 1-2° below normal. This below-normal average was largely driven by a particularly cool day on the 6th and seasonably-cold morning lows on the 7th, which also featured the first frost/freeze of the season across much of the area.



Left Image Caption:
7-Day Departure From Normal Temperature.
Data from High Plains Regional Climate Center, valid Oct. 10
NWS Hastings area outlined in light blue



Right Image Caption
30-Day Departure From Normal Temperature
Data from High Plains Regional Climate Center, valid Oct. 10
NWS Hastings area outlined in light blue

Summary of Impacts

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

Hydrologic Impacts:

- Mainly the Little Blue/Big Blue River basins in south central/eastern portions of our Nebraska coverage area currently exhibit the lowest streamflows (versus normal) and are considered to be in moderate to severe hydrologic drought.

Agricultural Impacts:

- Dryland crop yields in parts of our Nebraska coverage area were reported to be worse than in 2012 *(which was a very notable drought year).*

Fire Hazard Impacts:

- There are no known significant impacts at this time, although this could soon change soon as we enter the fall fire weather season and winds pick up/vegetation continues to dry out (*especially in portions of our KS coverage area that have been overall-driest lately*).

Other Impacts:

- There are no known impacts at this time

Mitigation Actions:

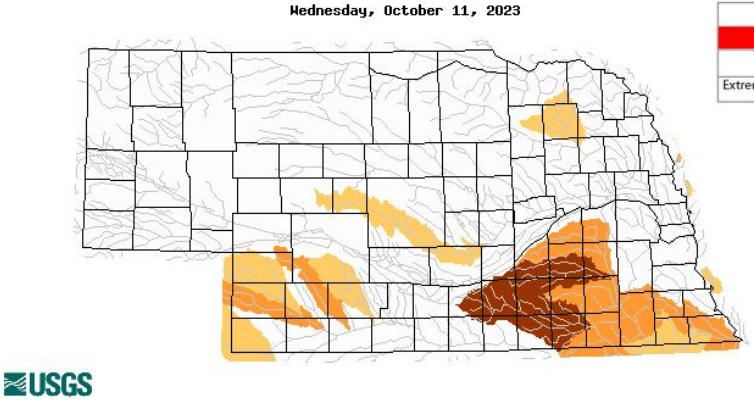
- Please refer to your municipality and/or water provider for mitigation information.

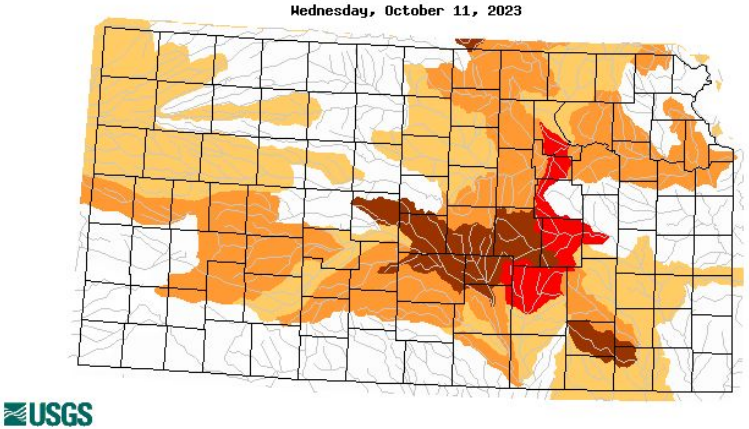
Hydrologic Conditions and Impacts

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 and Big Blue basins in south central/eastern portions of our Nebraska coverage area currently exhibit the lowest streamflows (versus normal) and are considered to be in moderate to severe hydrologic drought.





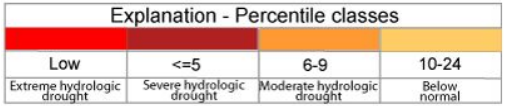


Image Captions:

Top - Nebraska Below Normal 7-Day Average Streamflow Compared To Historical Streamflow For The Day Of The Year , from USGS, valid Oct. 10

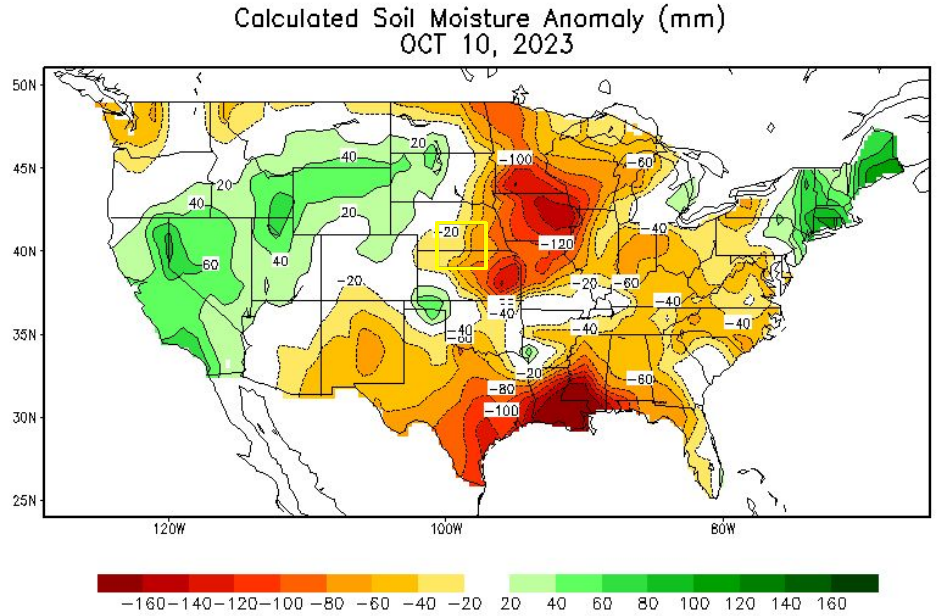
Bottom - Kansas Below Normal 7-Day Average Streamflow Compared To Historical Streamflow For The Day Of The Year , from USGS, valid Oct. 10

More information about streamflow and interactive maps can be found HERE

Agricultural Impacts / Soil Moisture

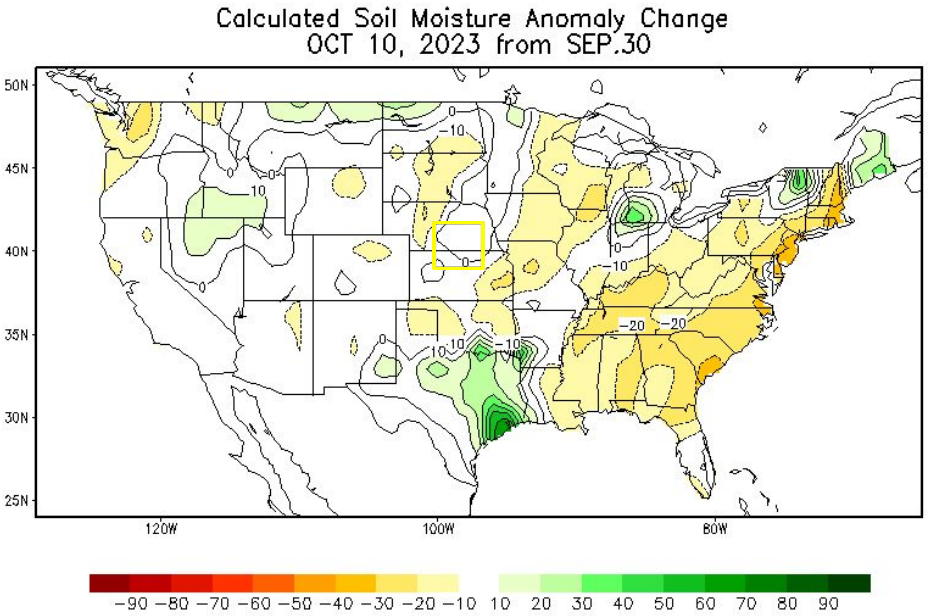
Climate Prediction Center (CPC) Soil Moisture Status

Soil Moisture Departure From Normal (mm)



Left Image Caption:
CPC Soil Moisture Departure From Normal - Valid Oct. 10

Soil Moisture Change Since End Of Previous Month (mm)



Right Image Caption:
CPC Soil Moisture Change Since End Of Previous Month - Valid Oct. 10

7-Day Precipitation Forecast

From Weather Prediction Center (WPC)...Valid Oct. 12-19

Main Takeaways:

The ***VAST MAJORITY*** of precipitation between Oct. 12-19 will fall right away on the 12th-13th as a powerful low pressure system brings thunderstorms, followed by chilly, wind-driven rain showers. Thereafter, confidence is high in dry weather from at least Oct. 14-17, before the next weather system perhaps brings in another chance of rain around Oct. 18th-19th.

Officially, cumulative precipitation for Oct. 12-19 is forecast to ***VARY*** across our coverage area, ranging from very little (mainly less than 0.10") for most areas near and especially south of the NE/KS border, to as much as generally 0.50-0.75" for some Nebraska counties north of Interstate 80.

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

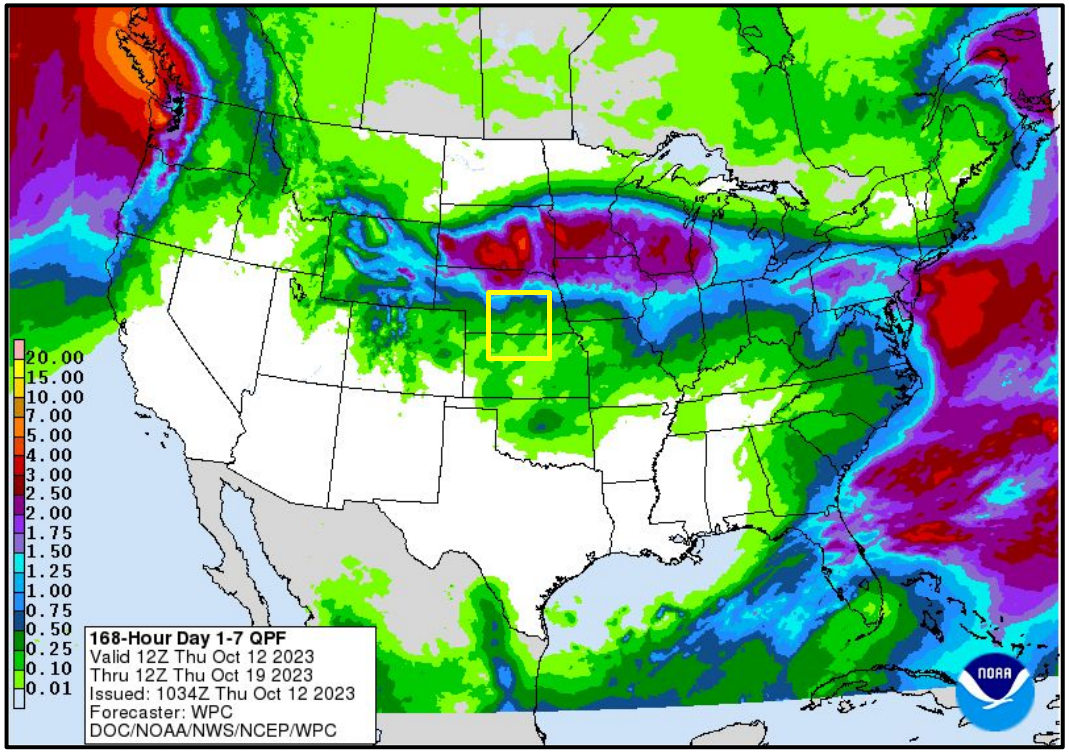


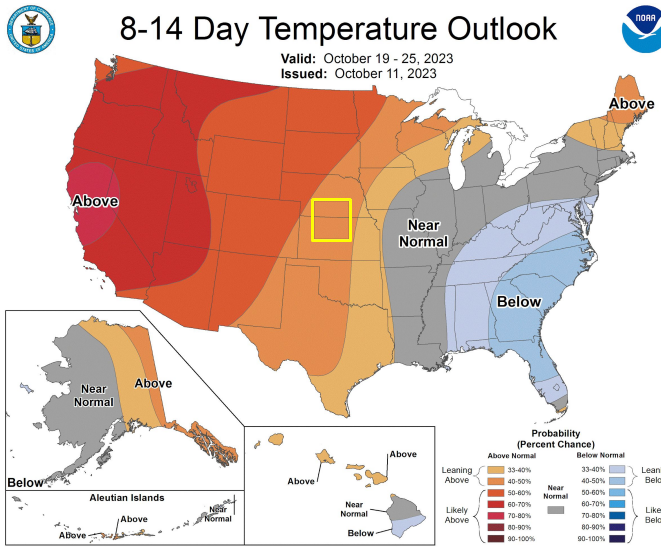
Image Caption: Weather Prediction Center [7-Day Precipitation Forecast](#)
Valid Thursday AM, Oct. 12 - Thursday AM, Oct. 19

8-14 Day Outlooks - Climate Prediction Center (CPC)

Temperature and Precipitation Outlooks...Valid October 19-25

Main Takeaways:

- **Temperatures:** Our entire coverage area features a slight lean toward above normal temperatures *(long-range ensemble model data calls for high temps mainly in the 60s/lows mainly in the 40s)*
- **Precipitation:** Our entire coverage area features a very slight lean toward below normal precipitation.



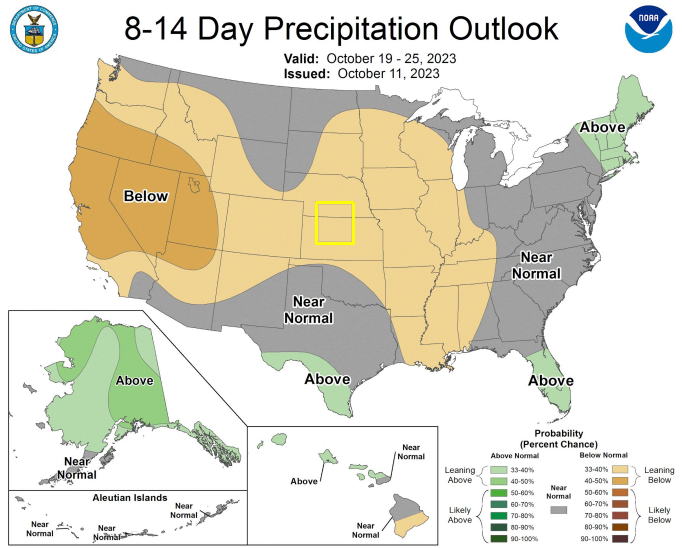


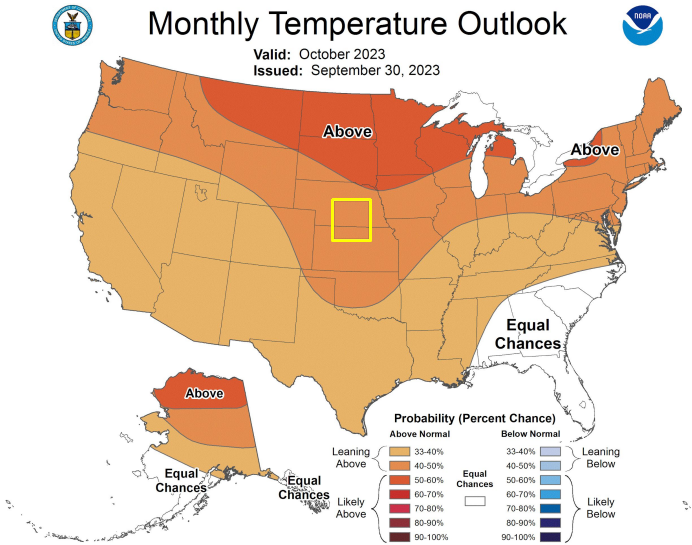
Image Captions:
Left - Climate Prediction Center 8-14 Day Temperature Outlook.
Right - Climate Prediction Center 8-14 Day Precipitation Outlook.
Valid Oct. 19-25, 2023

Monthly Outlooks - Climate Prediction Center (CPC)

Monthly Temperature and Precipitation Outlooks...Valid For OCTOBER 2023

Main Takeaways

- **Temperatures:** Our entire coverage area has a slight lean toward above normal temperatures
- **Precipitation:** Our coverage area is on the "dividing line" between a slight lean toward above normal precipitation (mainly west) and having "equal chances" of having above, below or near-normal precipitation (mainly east).



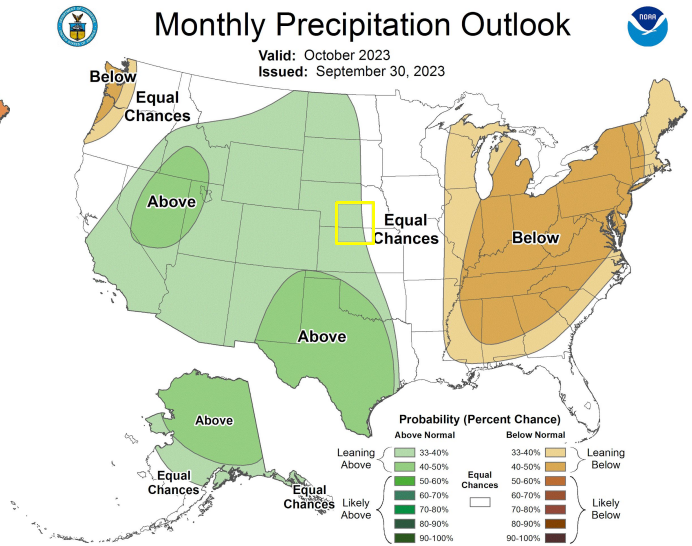


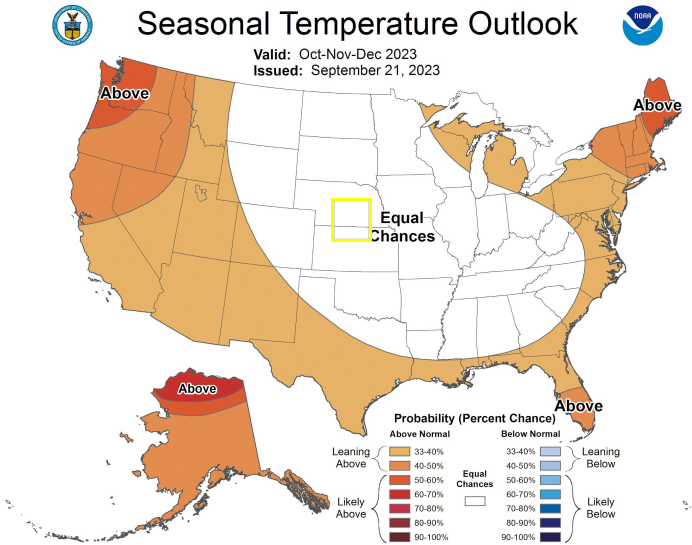
Image Captions:
Left - Climate Prediction Center Monthly Temperature Outlook.
Right - Climate Prediction Center Monthly Precipitation Outlook.
Valid for October 2023

Long-Range (3 Month) Outlooks - CPC

3-Month Temperature and Precipitation Outlook...Valid For OCTOBER-NOVEMBER-DECEMBER

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



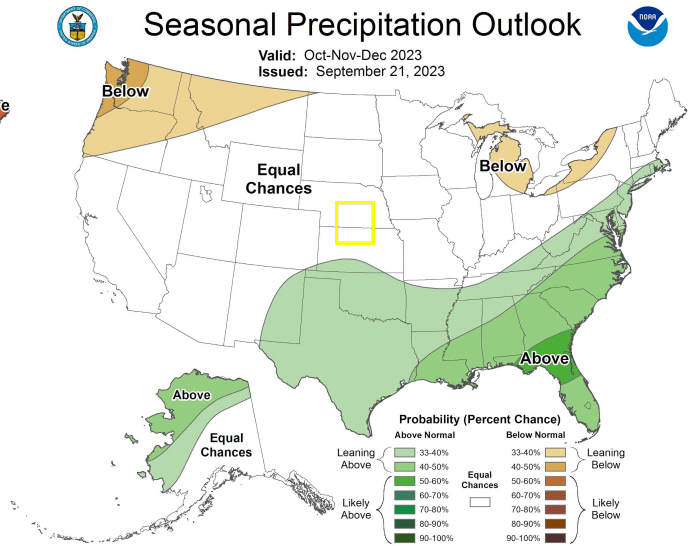


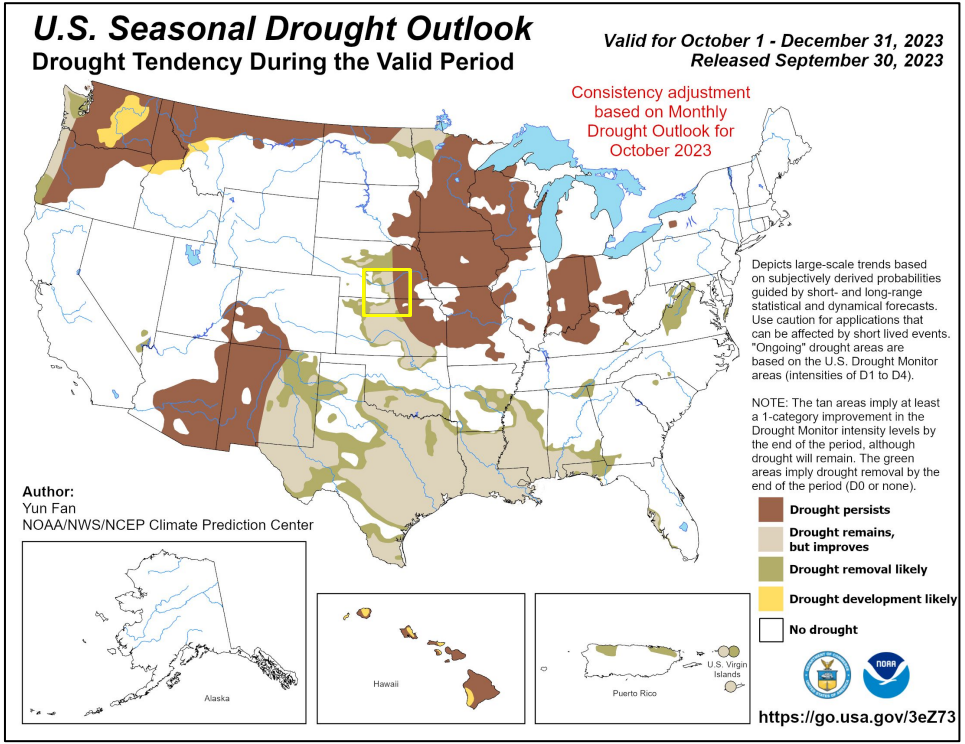
Image Captions:
Left - Climate Prediction Center Seasonal Temperature Outlook.
Right - Climate Prediction Center Seasonal Precipitation Outlook.
Valid for October-December 2023

Drought Outlook (Seasonal)

The latest monthly and seasonal outlooks can be found on the CPC homepage

Main Takeaways:

- Based on current longer-range forecasts, our coverage area resides along a “dividing line” between drought expected to persist through the end of 2023 (mainly east) and existing drought perhaps improving (mainly central/south)



Links to the latest:
Climate Prediction Center Monthly Drought Outlook
Climate Prediction Center Seasonal Drought Outlook

Image Caption:
Climate Prediction Center Seasonal Drought Outlook
Released September 30, 2023…valid for October-December 2023

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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

Social media: Follow us on **Facebook (US National Weather Service Hastings)** and **X (@NWSHastings)** for more information!