

# **Drought Information Statement for** South Central NE and North Central KS

Valid May 9, 2024

Issued By: NWS Hastings, NE

Contact Information: <a href="mailto:nws.hastings@noaa.gov">nws.hastings@noaa.gov</a>

- This product will be updated sometime in June 2024 or sooner if drought conditions change significantly.
- Please see all currently available products at <a href="https://drought.gov/drought-information-statements">https://drought.gov/drought-information-statements</a>.
- Please visit <a href="https://www.weather.gov/gid/DroughtInformationStatement">https://www.weather.gov/gid/DroughtInformationStatement</a> for previous statements.
- Please visit <a href="https://www.drought.gov/drought-status-updates">https://www.drought.gov/drought-status-updates</a> for regional drought status updates.
- The entire NWS Hastings coverage area is now void of Severe Drought (D2) for the first time since February 2022!
- However, due to mainly longer-term dryness, roughly 27% of our 30-county area is still in Moderate Drought (D1), with an additional roughly 32% of our area indicated as Abnormally Dry (D0)









Link to the <u>latest U.S. Drought Monitor</u> for High Plains Region

### **Drought Intensity and Extent**

### D1 (Moderate Drought): Includes all or part of the following counties:

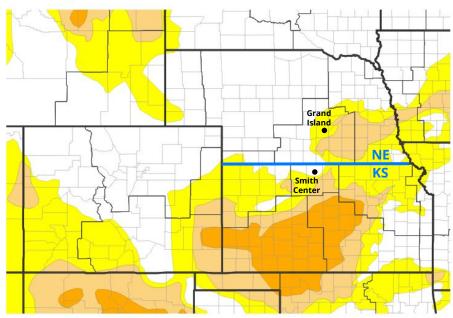
Merrick, Polk, Hall, Hamilton, York, Kearney, Adams, Clay, Fillmore, Webster, Nuckolls, Thayer, Smith, Jewell, Rooks, Osborne, Mitchell

### On: (Abnormally Dry):

# Includes all or part of the following counties:

Greeley, Nance, Sherman, Howard, Merrick, Buffalo, Hall, Hamilton, Kearney, Adams, Franklin, Webster, Nuckolls, Thayer, Phillips, Smith, Jewell, Rooks, Osborne, Mitchell

#### U.S. Drought Monitor



#### U.S. Drought Monitor







# **Common Drought Impacts By Category**

Link to the Common Drought Impacts By Category

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





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

Link to the <u>latest U.S. Drought Monitor</u> for High Plains Region

### - Recap of U.S. Drought Monitor "data week" May 1-7:

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

The May 1-7 "Drought Monitor Week" featured widespread, beneficial rainfall across our entire coverage area!

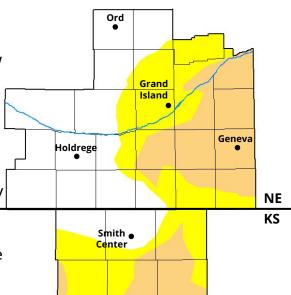
Over the course of a few rounds of showers/thunderstorms, nearly our entire area received between 1-3". There were very few exceptions on either side of this range, with only a few localized pockets exceeding 3", while conversely, very little of our area fell short of 1".

#### - Looking ahead May 10-16:

Although the May 10-16 time frame does not look overly-wet, chances for somewhat-widespread rain and thunderstorm activity are mainly centered on Sunday-Sunday night (May 12-13) and again around Wednesday-Thursday (May 15-16).

The latest official WPC precipitation forecast, along with ensemble forecast model data, calls for widespread amounts of generally 0.25-0.75" across our area...generally lowest north of I-80 and highest in north central KS.

# U.S. Drought Monitor Hastings, NE WFO



#### May 7, 2024

(Released Thursday, May. 9, 2024) Valid 8 a.m. EDT

#### Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	40.79	59.21	27.44	0.00	0.00	0.00
Last Week 04-30-2024	40.76	59.24	41.10	14.40	0.00	0.00
3 Month's Ago 02-06-2024	29.28	70.72	50.44	32.19	0.72	0.00
Start of Calendar Year 01-02-2024	16.14	83.86	62.04	46.34	25.12	0.00
Start of Water Year 09-26-2023	5.23	94.77	78.86	63.84	36.89	15.81
One Year Ago 05-09-2023	0.00	100.00	100.00	99.06	44.92	6.39

Intensity:
None

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: Curtis Riganti

National Drought Mitigation Center









droughtmonitor.unl.edu





### Latest Regional Drought Monitor Map + April 2024 Precip Extremes For NWS Hastings Area

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

#### U.S. Drought Monitor

### High Plains Climate Region

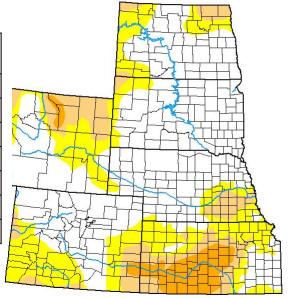
May 7, 2024 (Released Thursday, May. 9, 2024) Valid 8 a.m. EDT

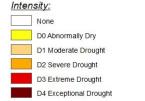
Most of Our Area Totaled Between 1.00-4.75" (40-190%) of normal), BUT Highly-Variable and Overall-Wettest North of a Beaver City-Hastings-York Line

**April 2024 Local Precipitation Extremes:** 

APRIL 2024 <u>Highest</u> Precip Some of our WETTEST stations (NWS/CoCoR		APRIL 2024 Lowest Precipitation Some of our DRIEST stations (NWS/CoCoRaHS/NeRAIN)		
Aurora NE (NeRAIN):	5.78"	Webster Dam KS (NWS observer):	0.39"	
2NW Elwood NE (NeRAIN):	5.72"	<b>6E Phillipsburg KS</b> (CoCoRaHS):	0.44"	
3SW Boelus NE (NeRAIN):	5.42"	10WNW Stockton KS (CoCoRaHS):	0.56"	
Riverdale NE (NeRAIN):	5.42"	Cawker City KS (NWS observer):	0.65"	
6N Elwood NE (NeRAIN):	5.37"	7NNE Natoma KS (CoCoRaHS):	0.70"	
2NW Rockville NE (NeRAIN):	5.20"	Natoma KS (NWS observer):	0.78"	
2NNE Stromsburg NE (NeRAIN):	5.19"	Cowles NE (NeRAIN):	0.79"	

FOR REFERENCE: "normal" April precipitation across MOST of our coverage area ranges from 2.25-2.80" (generally lowest west/highest east)





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#### Author:

Curtis Riganti National Drought Mitigation Center











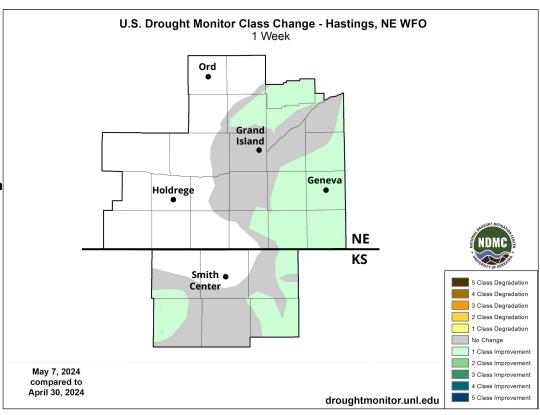


# Recent Change in Drought Intensity - 1 Week Change

NWS Hastings 1-Week Drought Class Change... May 7 vs. April 30

### One Week Drought Monitor Class Change:

- Drought Worsened:
  - NO drought class degradation occurred
- O No Change:
  - There was NO CHANGE in drought classification within the gray-shaded areas
- Drought Improved:
  - Widespread 1-class improvement occurred within many counties!
  - This included the removal of all remaining Severe Drought (D2) from the area

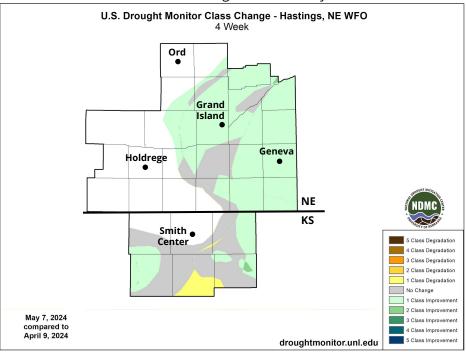




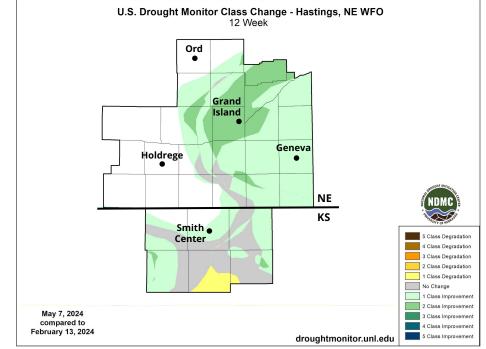
### Recent Change in Drought Intensity - 4 and 12 Week Change

NWS Hastings 4-week & 12-week Drought Class Changes...vs. current May 7 maps

**4-WEEK CHANGE MAIN TAKEAWAYS:** *widespread* 1-class improvement in several counties...limited 1-class degradation mainly in Osborne/Mitchell



**12-WEEK CHANGE MAIN TAKEAWAYS:** widespread 1-2 class improvement in several counties...limited 1-class degradation mainly in Osborne/Mitchell





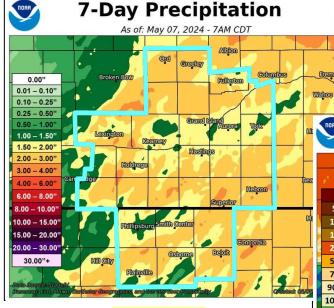
### Precipitation (Last 7-Day Drought Monitor Period)

7-Day Precipitation/Percent-of-Normal (May 1-7)...Map Links HERE

### **Main Takeaways:**

The May 1-7 "Drought Monitor Week" featured widespread, beneficial rainfall across our entire coverage area!

Over the course of a few rounds of showers/thunderstorms, nearly our entire area received between 1-3". There were very few exceptions on either side of this range, with only a few localized pockets exceeding 3", while conversely, very little of our area fell short of 1".



#### PLEASE NOTE:

Any precipitation that fell AFTER 7am Tuesday, May 7 is not reflected here as it fell after the weekly Drought Monitor "data cutoff". NWS Hastings area outlined in light blue (24 NE counties, 6 KS counties)



As of: May 07, 2024 - 7AM CDT



Osborne

Hill City

Plainville

> 400%





# Precipitation (Last 30-Day Drought Monitor Period)

30-Day Precipitation/Percent-of-Normal (April 8 - May 7)...Map Links HERE

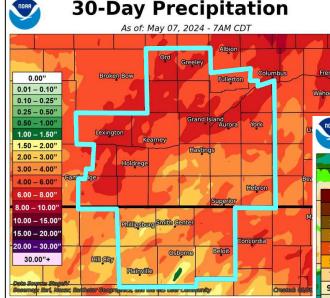
### **Main Takeaways:**

The vast majority of our coverage area had **ABOVE NORMAL** precipitation over the last 30 days.

The majority of our area measured between 2.50-6.00"...or roughly 90-200% of normal.

The greatest concentration of amounts at least 3-6" focused primarily north of a line from Beaver City-Hastings-York.

In contrast, the greatest concentration of amounts 2.50" or less were found within portions of various counties south of that same line, including (but not limited to): Webster, Phillips, Rooks and Osborne.



#### PLEASE NOTE:

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

NWS Hastings area outlined in light blue (24 NE counties, 6 KS counties) 30-Day Precip Percent As of: May 07, 2024 - 7AM CDT Broken Bow 1-5% Fullerton 5-10% 10-15% Grand Island Aurora 15-25% 25-50% 50-75% 75-90% Holdrege 90-100% 100-110% 110-1259 125-150% 150-200% 200-300% Concordia 300-400% > 400%



# Precipitation (Last 90-Day Drought Monitor Period)

90-Day Precipitation/Percent-of-Normal (Feb. 8 - May 7)...Map Links HERE

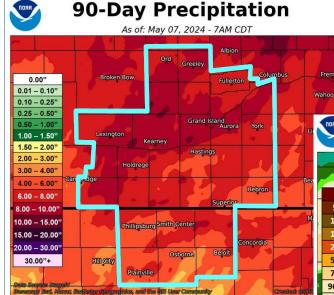
### **Main Takeaways:**

Roughly two-thirds of our coverage area had **ABOVE NORMAL** precipitation over the last 90 days.

The majority of our area measured somewhere between 4-8"...or roughly 75-150% of normal.

The greatest concentration of above normal amounts at least 6-8" focused primarily north of a line from Beaver City-Hastings-York.

In contrast, the greatest concentration of at least slightly below normal amounts no more than 3-5" were found within portions of various counties south of that same line, particularly: Thayer, Phillips, Osborne and Mitchell.

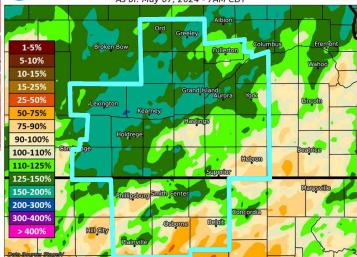


#### **PLEASE NOTE:**

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As of: May 07, 2024 - 7AM CDT





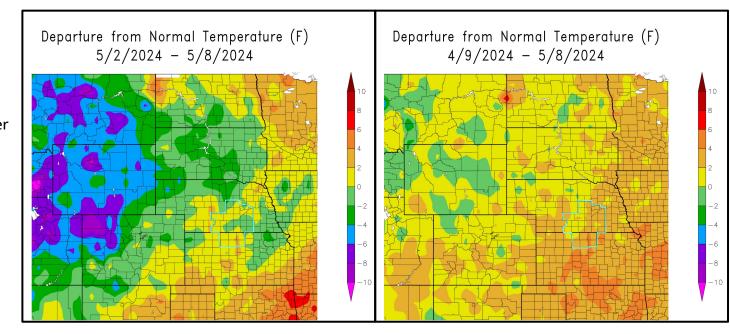


### Temperature Trends (Last 7 and 30 Days)

High Plains Regional Climate Center 7-Day & 30-Day Temperature Departures From Normal

# Main Takeaways (Last 7 Days):

The first week of May actually featured <u>VERY-NEAR-NORMAL</u> temperatures across our area, with most places within 1° either side of normal.



NWS Hastings area outlined in light blue

NWS Hastings area outlined in light blue



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

### **Hydrologic Impacts:**

There are no known impacts at this time

### **Agricultural Impacts:**

- USDA Nebraska Crop Progress and Condition Reports can be found <a href="here">here</a>
- USDA Kansas Crop Progress and Condition Reports can be found here

### **Fire Hazard Impacts:**

• There are no known significant impacts/threats at this time. In fact, vegetation fuel status has recently been deemed unfavorable for widespread fire growth across the NWS Hastings area due to seasonal green-up and recent above normal rainfall.

### **Other Impacts:**

• There are no known impacts at this time

### **Mitigation Actions:**

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



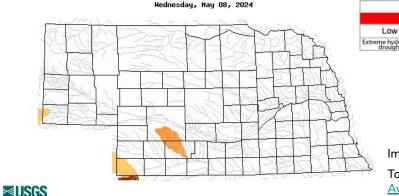


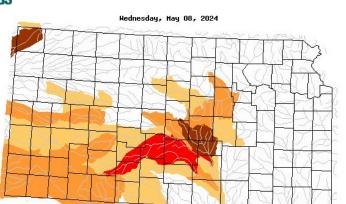
# **Hydrologic Conditions and Impacts**

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

#### **Main Takeaways:**

- Thanks to recent above-normal rainfall across our area, the vast majority of our area is seeing normal to above normal flows on area rivers.
- The main exception in our coverage area involves some of the creeks in southern Osborne/Mitchell counties in KS that feed into the Saline River...where below normal flow is currently indicated.







Explanation - Percentile classes

#### Image Captions:

Top - Nebraska Below Normal 7-Day Average Streamflow Compared To Historical Streamflow For The Day Of The Year, from USGS, valid May 8

Bottom - <u>Kansas Below Normal 7-Day</u> <u>Average Streamflow Compared To</u> <u>Historical Streamflow For The Day Of</u> <u>The Year</u>, from USGS, valid May 8



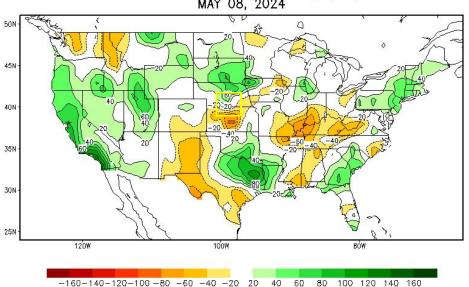


# Agricultural Impacts / Soil Moisture

Climate Prediction Center (CPC) Soil Moisture Status

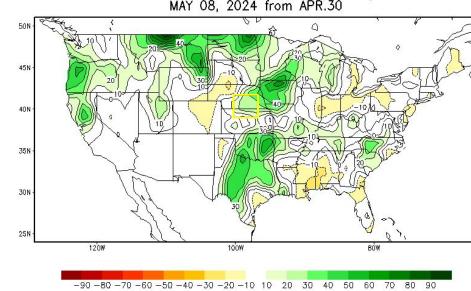
#### **Soil Moisture Departure From Normal (mm)**

Calculated Soil Moisture Anomaly (mm) MAY 08, 2024



#### **Soil Moisture Change Since End Of Previous Month (mm)**

Calculated Soil Moisture Anomaly Change MAY 08, 2024 from APR.30





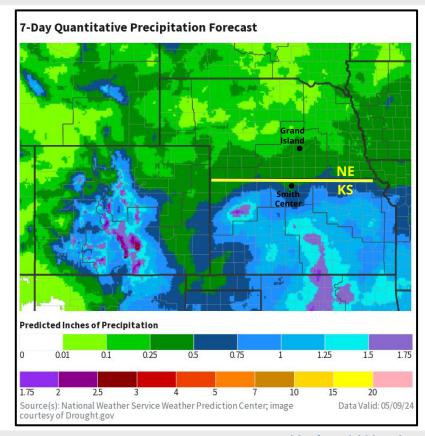
# 7-Day Precipitation Forecast

From Weather Prediction Center (WPC)...Valid May 10-16

#### **Main Takeaways:**

Although the May 10-16 time frame does not look overly-wet, chances for somewhat-widespread rain and thunderstorm activity are mainly centered on Sunday-Sunday night (May 12-13) and again around Wednesday-Thursday (May 15-16).

The latest official WPC precipitation forecast, along with ensemble forecast model data, calls for widespread amounts of generally 0.25-0.75" across our area...generally lowest north of I-80 and highest in north central KS





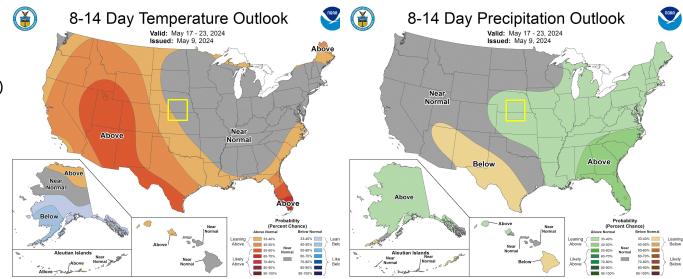
## 8-14 Day Outlooks - Climate Prediction Center (CPC)

CPC Temperature and Precipitation Outlooks...Valid May 17-23

### **Main Takeaways:**

- Temperatures:
   The vast majority of our coverage area is expected to have near-normal temperatures (daily highs mainly in the 70s to around 80)
- Precipitation:

   Our entire coverage area features a slight lean toward above normal precipitation.



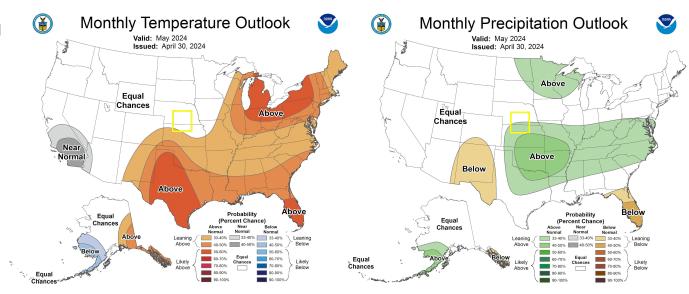


# Monthly Outlooks - Climate Prediction Center (CPC)

CPC Monthly Temperature and Precipitation Outlooks...Valid For MAY 2024

### **Main Takeaways:**

- Temperatures: Nearly our entire coverage area is slated to have "equal chances" of having above, below or near-normal temperatures.
- Precipitation: Our coverage area is on the "dividing line" between a slight lean toward above normal precipitation (mainly in KS) and having "equal chances" of having above, below or near-normal precipitation (most of our Nebraska area).



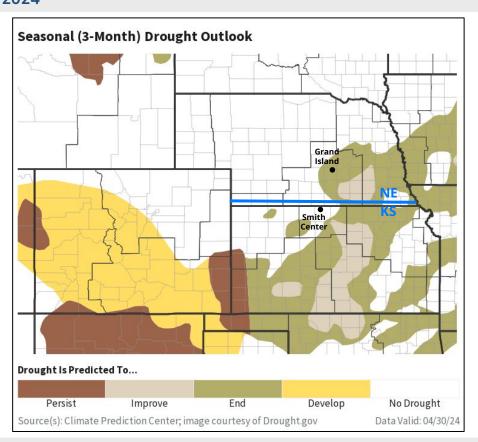
### **Main Takeaways:**

 Between now and the end of July, those portions of our coverage area currently assigned a drought category are currently expected to either observe some degree of improvement or perhaps have drought removed altogether.

#### Links to the latest:

<u>Climate Prediction Center Monthly Drought Outlook</u> Climate Prediction Center Seasonal Drought Outlook







### Contact Information & References

# For feedback, comments, questions specific to THIS INFO PACKET:

### **NWS Hastings**:

- Ryan Pfannkuch
   <u>ryan.pfannkuch@noaa.gov</u>
- Mike Moritz michael.moritz@noaa.gov
- (402) 462-2127

### Other contacts for NE/KS drought input:

- UNL Extension Educator of Agricultural Meteorology and Climate Resilience Eric Hunt, Ph.D.
   ehunt2@unl.edu (402) 617-4190
- Kansas State University
   Assistant State Climatologist
   Matthew Sittel
   msittel@ksu.edu
   (785) 532-1087

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>U.S. Drought Monitor</u>
- National Integrated Drought Information System
- High Plains Regional Climate Center
- <u>USGS River Information</u>
- 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!



National Weather Service Hastings, Nebraska