



# February 2024 Climate Summary

Sunset in Western Kansas, Photo Courtesy of Gannon Rush

## Regional Breakdown

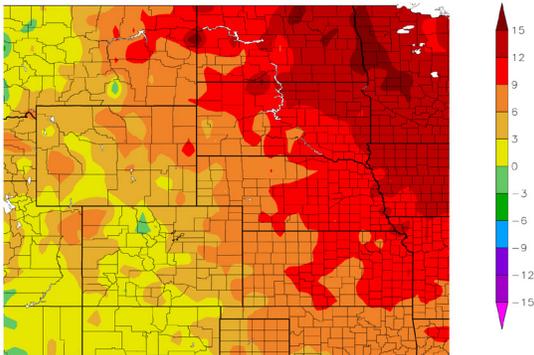
February capped off a very typical El Niño pattern for the High Plains, with warmer temperatures and below normal precipitation across the northern portions of the region. These conditions this winter took a toll, with the impacts rearing their head in late February.

Snow was hard to come by, with the historic snow drought continuing through this month. Snowpack is at or near record lows, with measures being taken to account for the low runoff this year. On the flipside, the low snowpack has reduced the chances of flooding this spring drastically.

Outside of a cold snap in the middle of January, unseasonably warm temperatures have dominated. Plants began blooming weeks earlier than usual across Kansas and parts of Colorado and Nebraska. The dryness and warmer temperatures also led to a rash of wildfires late in the month, with the largest taking place outside North Platte, Nebraska. Wind gusts over 40 mph (64 km/h) rapidly spread the fire, with over 71,000 acres (111 square miles) consumed by the fire. Minimal property damage occurred due to the sparse population of Lincoln County. However, a state disaster declaration was issued.

## Temperature and Precipitation Overview

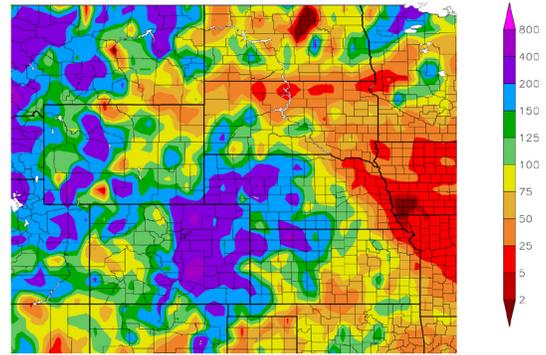
Departure from Normal Temperature (F)  
2/1/2024 - 2/29/2024



Generated 3/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Percent of Normal Precipitation (%)  
2/1/2024 - 2/29/2024



Generated 3/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Above: Departure from 1991-2020 normal temperature (left) and percent of normal precipitation (right) for February 2024 in the High Plains region. Maps produced by the High Plains Regional Climate Center and are available at: <http://hprcc.unl.edu/maps/current>.

## Precipitation

Precipitation this month was finally ample in the west after missing out the previous several months. While it was beneficial and greatly needed, it did not improve the snow drought. In the eastern portions of the region, any form of precipitation was near minimal.

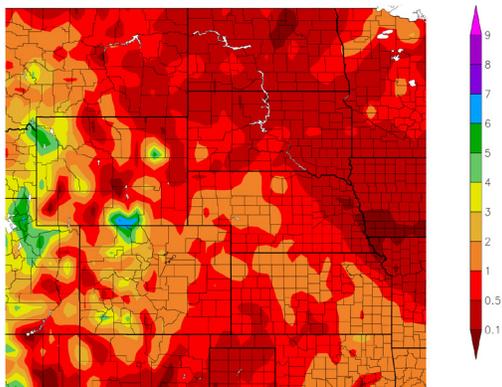
The eastern parts of the High Plains were nearly bone-dry, with no form of precipitation whatsoever. Lincoln, Nebraska, and Mobridge, South Dakota recorded trace amounts of snowfall in February, tying their lowest snowfall for the month. The areas around Omaha, Nebraska, and Sioux Falls, South Dakota received less than 0.10 inches (2.54 mm) of precipitation this month, leading to concerns heading into spring.

In the west, parts of Colorado tallied impressive totals for February. Pueblo recorded its wettest month on record, with 1.48 inches (3.76 cm) of precipitation. This total propelled them to record their wettest winter, with 3.11 inches (7.90 cm). Nearby Denver and Colorado Springs also ranked in the top 5 this month, with Colorado Springs also ranking 6th wettest this winter.

On the opposite end of the spectrum, the snow drought was prevalent across the Dakotas. Warmer temperatures limited snowfall this winter, with many locations ranking in the top 10 lowest. While snowfall amounts were low, that did not necessarily mean low precipitation. Fargo, North Dakota recorded their second wettest winter with 3.83 inches (9.73 cm) of precipitation, while Sisseton, South Dakota ranked 4th with 3.92 inches (9.96 cm).

### Regional Precipitation

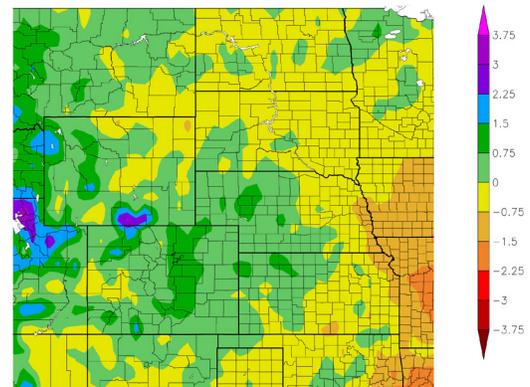
Precipitation (in)  
2/1/2024 – 2/29/2024



Generated 3/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)  
2/1/2024 – 2/29/2024



Generated 3/20/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Above: Total precipitation in inches (left) and departure from normal precipitation in inches (right) for February 2024. These maps are produced by HPRCC and can be found on the Current Climate Summary Maps page at: <http://hprcc.unl.edu/maps/current>.

## Temperatures

Picking up where January left off, February brought record to near-record warmth for the region. Outside of a short but extreme cool down late in the month, temperatures were 9 degrees F (5 degrees C) or more above normal for most of the High Plains.

After sizzling hot temperatures for much of the month, a swift and chilly front pushed through the region on the 27th. Temperatures dropped nearly 60 degrees F (33 degrees C) in 24 hours, with some places swinging from record highs to below-freezing in a mere day. This would be rather brief, as temperatures would quickly rebound by the end of the month.

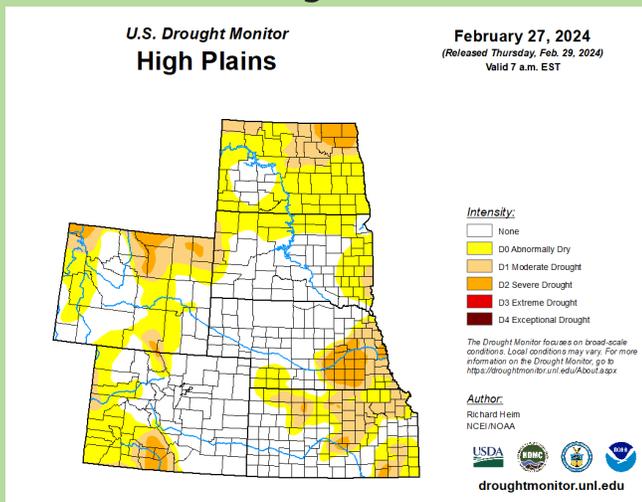
For the month and winter, most major locations ranked in the top 5 warmest. In a typical pattern for El Niño, the warmest temperatures were found in the Dakotas. For North Dakota, Fargo and Grand Forks ranked warmest this month and this winter. The eastern part of South Dakota was also exceptionally warm, with Sioux Falls ranking warmest for February and winter. While El Niño typically brings warmer temperatures, this winter was extraordinarily hot with only a few days being below normal.

## Drought Conditions

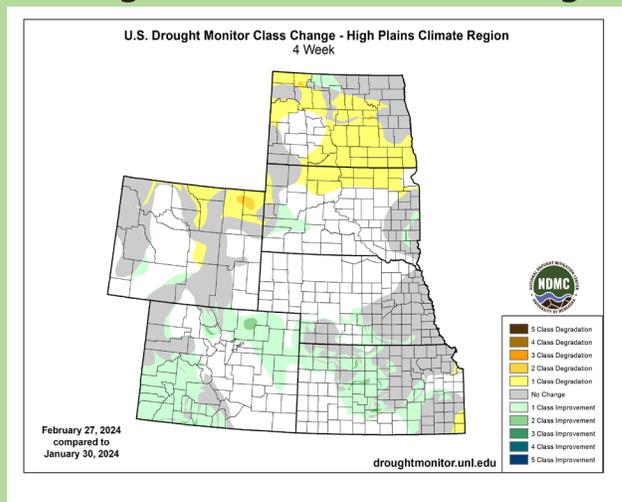
While overall drought conditions did not improve much this month, the intensity was reduced in the region. Precipitation did occur, albeit not desperately needed snow in the northern High Plains. Overall, the region experienced a minor reduction of less than 1 percent of D0 to D4 (abnormally dry to exceptional drought conditions).

Drought began to reemerge across the Dakotas and northern Wyoming due to the snow drought. Parts of North Dakota did receive record precipitation this winter, however, this was predominantly rain or sleet. The lack of snowfall and warm temperatures have led to growing concerns that insect populations will be above normal this year in the state.

### U.S. Drought Monitor



### Drought Monitor 1-Month Change



The U.S. Drought Monitor is produced as a joint effort of the U.S. Department of Agriculture (USDA), National Drought Mitigation Center, U.S. Department of Commerce, and the National Oceanic and Atmospheric Administration (NOAA). For current Drought Monitor information, please see: <http://droughtmonitor.unl.edu/>.

# February 2024 Climate Summary

## Climate Outlooks

According to the Climate Prediction Center, El Niño conditions are likely to continue but transition towards ENSO-neutral in mid to late Spring. An El Niño advisory and La Niña watch is currently in effect. For more information, visit [https://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/lanina/enso\\_evolution-status-fcsts-web.pdf](https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf)

The National Weather Service's long-range flood outlook indicates elevated chances of Minor Flooding in the eastern parts of Kansas and South Dakota through the end of May. According to the National Interagency Fire Center (NIFC), fire potential will be elevated in the Dakotas, eastern Colorado, and western Kansas in March and April.

The seasonal temperature and precipitation outlooks presented below combine the effects of long-term trends, soil moisture, and when applicable, the El Niño Southern Oscillation cycle (ENSO). To learn more about these outlooks, please visit <http://www.cpc.ncep.noaa.gov>.

### Temperature

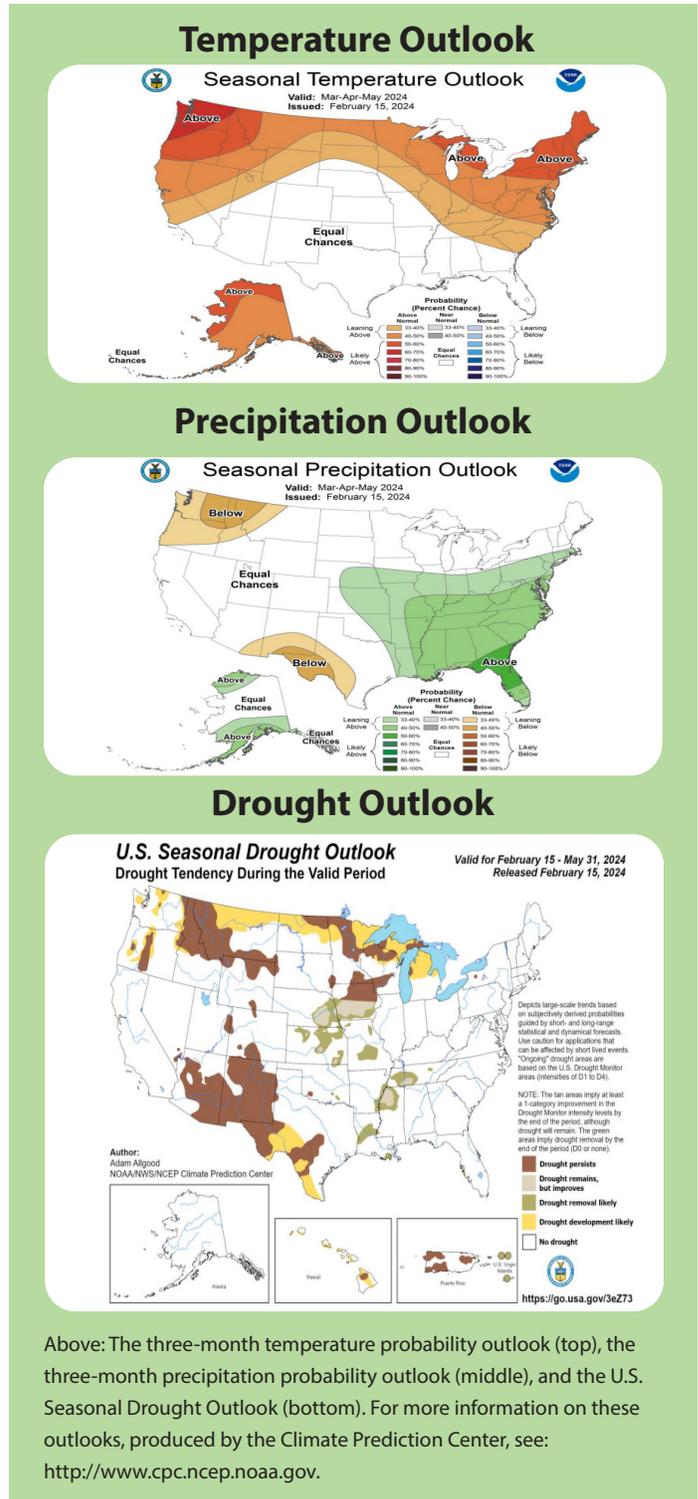
The three-month temperature outlook shows an increased chance of above-normal temperatures across the northern United States. Above-normal temperatures are slightly favored in the Dakotas and Wyoming.

### Precipitation

The outlook for the next three months indicates below-normal precipitation across the Pacific Northwest and the Southwest, while above-normal precipitation is favored for the eastern United States and portions of the Plains. Above-normal precipitation is slightly favored in Kansas and Nebraska.

### Drought

The U.S. Seasonal Drought Outlook released on February 29th indicates that improvements to drought conditions will continue in Kansas and Nebraska but degrade North Dakota.



Above: The three-month temperature probability outlook (top), the three-month precipitation probability outlook (middle), and the U.S. Seasonal Drought Outlook (bottom). For more information on these outlooks, produced by the Climate Prediction Center, see: <http://www.cpc.ncep.noaa.gov>.

## Station Summaries: By the Numbers

Colorado	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Akron Washington County Airport	51.9	24.9	38.4	7.1	68	02/25	2	02/17	0.83	0.63	415
Alamosa San Luis Airport	45.3	12.7	29.0	4.7	58	02/25	-1	02/11	0.46	0.18	164
Colorado Springs Municipal Airport	51.1	26.3	38.7	5.3	67	02/20	13	02/11	1.37	1.05	428
Denver International Airport	50.6	24.6	37.6	4.9	66	02/20	7	02/17	1.46	1.05	356
Grand Junction Walker Field Airport	53.2	28.9	41.0	5.7	66	02/26	17	02/29	0.43	-0.10	81
Pueblo Memorial Airport	55.5	24.3	39.9	4.8	72	02/26	11	02/28	1.48	1.16	463

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	57.1	31.1	44.1	11.3	83	02/26	10	02/17	1.07	0.21	124
Dodge City Regional Airport	58.4	29.7	44.1	7.9	81	02/26	9	02/28	0.69	0.07	111
Goodland Renner Field	53.8	25.4	39.6	7.3	76	02/26	9	02/17	1.41	0.94	300
Topeka Municipal Airport	60.3	29.9	45.1	10.2	83	02/26	11	02/17	0.90	-0.41	69
Wichita Mid-Continent Airport	59.2	31.7	45.5	7.9	80	02/27	15	02/17	0.60	-0.60	50

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Chadron Municipal Airport	48.2	21.1	34.6	6.7	67	02/29	-9	02/16	0.60	0.31	207
Grand Island Airport	53.6	26.4	40.0	10.3	78	02/26	6	02/28	0.86	0.12	116
Lincoln Municipal Airport	55.8	24.9	40.4	10.9	81	02/26	9	02/29	0.51	-0.38	57
Norfolk Karl Stefan Airfield	50.6	26.0	38.3	12.0	76	02/26	5	02/28	0.21	-0.59	26
North Platte Regional Airport	53.2	22.2	37.7	8.3	73	02/26	2	02/28	1.18	0.61	207
Omaha Eppley Airport	52.7	25.8	39.3	10.4	80	02/26	7	02/28	0.10	-0.85	11
Valentine Miller Field	49.0	21.3	35.1	7.5	70	02/26	-9	02/17	1.02	0.41	167

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismarck Municipal Airport	39.7	18.7	29.2	11.7	64	02/26	-13	02/28	0.39	-0.13	75
Fargo International Airport	39.7	22.2	30.9	17.5	61	02/26	-8	02/28	0.68	-0.01	99
Grand Forks International Airport	34.1	18.5	26.3	15.7	56	02/26	-8	02/28	0.23	-0.28	45
Theodore Roosevelt Airport	38.0	18.2	28.1	8.5	59	02/26	-7	02/28	0.40	0.08	125
Williston International Airport	37.2	18.9	28.1	12	57	02/29	-3	02/27	0.29	-0.19	60

All data are preliminary and subject to change. + indicates multiple dates, latest date listed. \* indicates some missing data for the period. \*\* indicates value is under evaluation. Data are retrieved through the Applied Climate Information System (ACIS) and are available online through the CLIMOD system. For more information please contact us: <http://www.hprcc.unl.edu/contact.php>.

## February 2024 Climate Summary

South Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Aberdeen Regional Airport	42.7	20.7	31.7	14.2	68	02/26	-2	02/28	0.18	-0.44	29
Huron Regional Airport	42.7	21.9	32.3	11.8	69	02/26	-3	02/15	0.56	-0.19	75
Pierre Regional Airport	43.2	22.9	33.0	9.8	71	02/26	3	02/28	0.61	-0.13	82
Rapid City Regional Airport	46.4	21.7	34.0	7.9	69	02/26	-9	02/17	0.78	0.28	156
Sioux Falls Joe Foss Field Airport	46.3	25.1	35.7	13.4	70	02/26	3	02/28	0.22	-0.61	27

Wyoming	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Casper Natrona County International AP	42.7	20.6	31.7	5.1	60	02/06	-16	02/16	0.67	0.11	120
Cheyenne Municipal Airport	44.7	22.8	33.7	4.2	58	02/01	-1	02/17	1.08	0.56	208
Lander Hunt Field Airport	38.0	17.8	27.9	2.9	54	02/29	-4	02/17	1.45	0.75	207
Laramie Regional Airport	41.6	18.7	30.1	6.3	53	02/06	-12	02/17	0.64	0.32	200
Rawlins Municipal Airport	37.4	18.8	28.1	3.9	51	02/06	-12	02/17	0.77	0.29	160
Sheridan County Airport	46.2	19.2	32.7	6.7	64	02/26	-7	02/16	0.88	0.23	135

## February 2024 Highlights

### Monthly Rankings

Temperature in degrees Fahrenheit, Precipitation in inches

Temperature	Temperature / Ranking	Record / Year	Period of Record
Sioux Falls, South Dakota	35.7 / Warmest	33.4 / 1954 and 1931	1893-2024
Fargo, North Dakota	30.9 / Warmest	28.0 / 1998	1881-2024
Grand Forks, North Dakota	26.3 / Warmest	25.7 / 1998	1893-2024
Sisseton, South Dakota	31.1 / 2nd Warmest	32.2 / 1954	1931-2024
Norfolk, Nebraska	38.3 / 2nd Warmest	38.8 / 1930	1893-2024
Topeka, Kansas	45.1 / 2nd Warmest	46.7 / 1930	1887-2024
Concordia, Kansas	44.1 / 3rd Warmest	45.2 / 1930	1885-2024
Omaha, Nebraska	39.3 / 3rd Warmest	40.9 / 1930	1871-2024
Lincoln, Nebraska	40.4 / 3rd Warmest	41.6 / 1930	1887-2024
Grand Island, Nebraska	40.0 / 3rd Warmest	44.0 / 1954	1895-2024
Hastings, Nebraska	39.9 / 3rd Warmest	44.0 / 1954	1894-2024
Aberdeen, South Dakota	31.7 / 3rd Warmest	34.1 / 1954	1893-2024
Mobridge, South Dakota	33.0 / 3rd Warmest	36.8 / 1954	1911-2024
Precipitation	Precipitation / Ranking	Record / Year	Period of Record
Pueblo, Colorado	1.48 / Wettest	1.47 / 1897	1888-2024
Denver, Colorado	1.46 / 3rd Wettest	2.01 / 1934	1872-2024
Colorado Springs, Colorado	1.37 / 5th Wettest	2.45 / 1987	1894-2024

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# About the High Plains Regional Climate Center

The High Plains Regional Climate Center (HPRCC) is one of six NOAA Regional Climate Centers (RCCs) that has been providing timely climate data and information to the public for cost effective decision-making since 1987. The HPRCC primarily serves the six-state region of Colorado, Kansas, Nebraska, North Dakota, South Dakota, and Wyoming, but has also served people from all across the country and even throughout the world. HPRCC operates under a three-tiered structure of climate services and works closely with other organizations on the local, regional, and national levels. HPRCC staff engage with a wide range of stakeholders including K-20 education, the public, media, private industry, research, and state/tribal/federal entities, among others.

Much of the data and products found throughout this publication were built on the Applied Climate Information System (ACIS) framework. ACIS was designed to manage the complex flow of information from climate data collectors to the end users of climate data information. The main purpose of ACIS is to alleviate the burden of climate information management for people who use climate information to make management decisions.

HPRCC is involved in the ongoing development and management of ACIS. In the spring of 2014, the RCCs released a new website for ACIS. This new and improved website not only contains descriptions of ACIS and the sources of data found within, but also features real-world examples of how RCCs and external groups are using ACIS for their particular climate data needs. In addition to these examples, there is extensive documentation and tutorials on how ACIS can be used and accessed by external clients using Web Services. For more information see: <http://rcc-acis.org>.



## Additional Summary Information for the High Plains

### Missouri River Basin Quarterly Climate Impacts and Outlook

The screenshot shows the cover page of a report titled "Missouri River Basin Quarterly Climate Impacts and Outlook" for September-October 2014. It features a map of the basin, a table of contents, and several sections of text and graphics. Key sections include "National - Significant Events for September - November 2014", "Regional - Impacts for September - November 2014", "Regional - Climate Overview for September - November 2014", "Drought Co-Occurrence", "3 Month Precipitation and Temperature Outlooks", and "Soil Moisture Conditions".

For more information:  
<https://www.drought.gov/drought/dews/missouri-river-basin/reports-assessments-and-outlooks>

### Midwest and Great Plains Monthly Climate and Drought Webinar

The screenshot shows a video player for a webinar titled "20141120 Monthly Climate and Drought Webinar". The main content is a map titled "Forecast Precipitation Amounts (7 day)" showing precipitation forecasts for the Midwest and Great Plains regions. The map uses a color scale from blue (low) to red (high). A play button is visible in the center of the map.

To sign up for future webinars:  
<https://www.drought.gov/drought/calendar/webinars>

For an archive:  
[www.hprcc.unl.edu/webinars.php](http://www.hprcc.unl.edu/webinars.php)

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