



# November 2023 Climate Summary



Snowfall in Western Kansas, Photo Courtesy of Gannon Rush

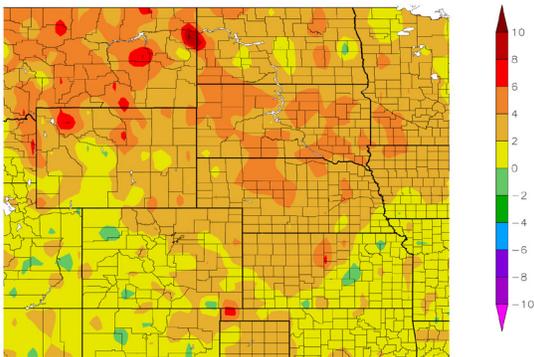
## Regional Breakdown

In a similar pattern to October, warmer temperatures dominated until a late-month shot of cool air and snow on Thanksgiving weekend led to serious impacts. Outside of the heavy snowfall in some places associated with this system, the region was extremely dry.

The Thanksgiving weekend storm impacted at the worst possible time during the peak of traveling. Hundreds of wrecks occurred, with over 400 reported in the state of Kansas alone. Cities like Manhattan, Topeka, and Wichita all received more snowfall in one storm than the entirety of last year. The last time Wichita received this much snow in a single November storm was over 100 years ago in 1906. In Nebraska, three people died in separate crashes in the central part of the state, and over 100 wrecks were reported in the city of Lincoln alone. Further west, Wyoming experienced numerous wrecks after over 20 inches (50.8 cm) of snow fell in some places. Denver International Airport was significantly impacted once again, with over 1,500 flights delayed during a weekend where nearly 700,000 people were traveling through the airport.

## Temperature and Precipitation Overview

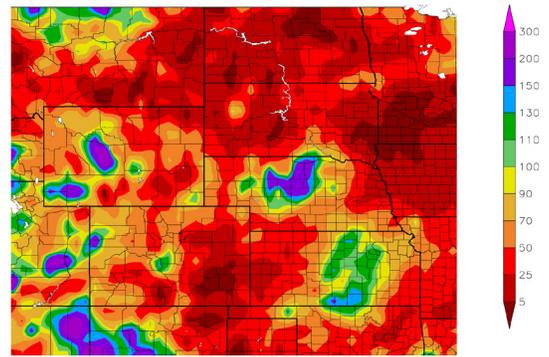
Departure from Normal Temperature (F)  
11/1/2023 – 11/30/2023



Generated 12/10/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Percent of Normal Precipitation (%)  
11/1/2023 – 11/30/2023



Generated 12/10/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Above: Departure from 1991-2020 normal temperature (left) and percent of normal precipitation (right) for November 2023 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

Besides the thanksgiving weekend storm, precipitation was hard to come by this month, with only isolated areas receiving above-normal amounts. Much of the region was below 25 percent of their average, with pockets of below 5 percent present. The dryness resulted in multiple places ranking in the top 5 driest, with some recording their driest November.

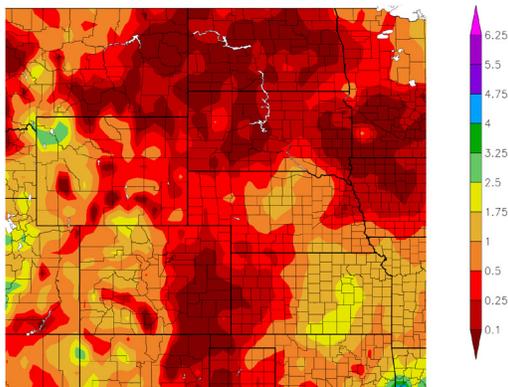
Bone-dry conditions have plagued much of Colorado and western Kansas this entire fall. Record wetness towards the end of spring has given way to drier conditions since then. Goodland, Kansas only received 0.66 inches (16.76 mm) of precipitation this fall to rank 4th driest. Just across the state line, no precipitation was recorded in some parts of Yuma County. Further south in Colorado, Alamosa only received trace amounts to tie for 3rd place.

Precipitation also flipped drastically in the Dakotas this month. Sioux Falls, South Dakota received 3.05 inches (7.75 cm) in September and October, only to observe 0.01 inches (0.254 mm) in November to rank 4th driest. The highest amount recorded in both states was just over one inch (2.54 cm), a far cry from nearly 7 inches (17.78 cm) for parts of South Dakota in October.

The Thanksgiving weekend storm wreaked havoc and brought large quantities of snow, particularly in Kansas. A large band of over 9 inches (22.86 cm) of snow fell from Pratt to Junction City, with 14.1 inches (35.81 cm) observed in Marion. Outside of Kansas, Wyoming experienced isolated areas of extremely heavy snowfall. The city of Lander in the west-central part of the state recorded 22.9 inches (58.17 cm) of snow that weekend, which also led the city to record its snowiest month.

### Regional Precipitation

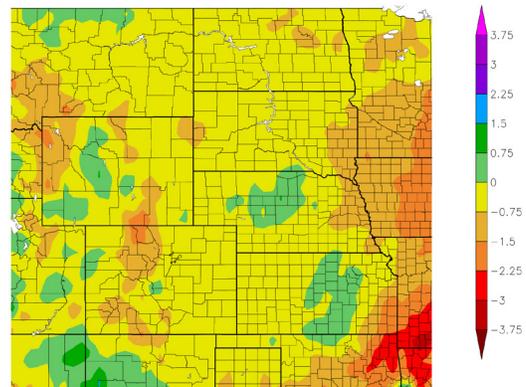
Precipitation (in)  
11/1/2023 – 11/30/2023



Generated 12/10/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)  
11/1/2023 – 11/30/2023



Generated 12/10/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Above: Total precipitation in inches (left) and departure from normal precipitation in inches (right) for November 2023. 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

Outside of the Thanksgiving weekend cooldown, November was the conclusion of a very warm fall for the High Plains. Nearly the entire region was warmer than normal, with some locations over 6 degrees F (3.3 degrees C) above their normal temperature for both the month and the entire fall season.

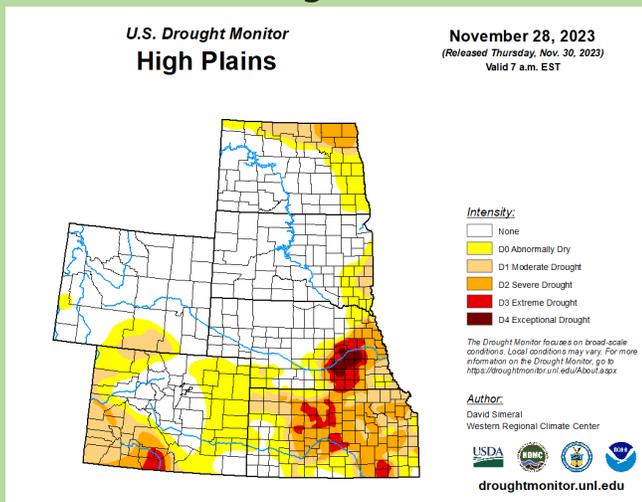
Until the 22nd, much of the lower part of the region was on track to rank in the top five warmest Novembers until a brutally cold front pushed through. Temperatures reached up to 93 degrees F (33.9 degrees C) outside of Tribune, Kansas on the 8th, which tied for the 4th warmest temperature in November for Kansas. While temperatures did cool off from these record highs, they remained well above normal. Similar to October, a late month shot of cold air shocked the region. Temperatures plummeted across the High Plains, with the thermometer bottoming out at -20 degrees F (-28.9 degrees C) in Creede, Colorado on the 27th.

## Drought Conditions

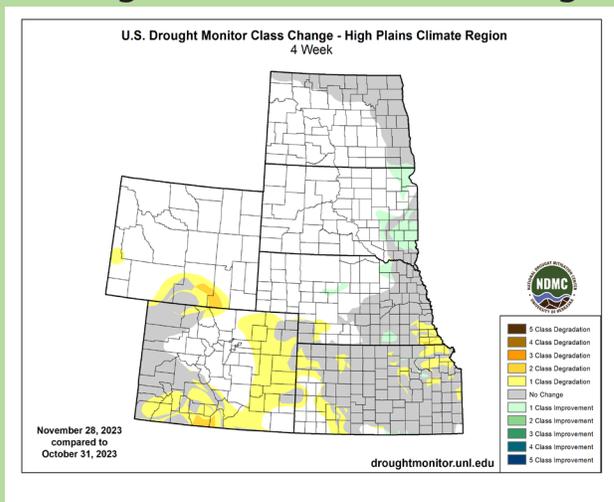
The dryness this month took its toll, with a sizeable increase in drought conditions in the southern High Plains. Snowfall late in the month in eastern Kansas was too late to improve conditions in November. Overall, abnormally dry to exceptional drought (D0-D4) conditions were increased by over 6 percent.

Colorado was the driest in the region and, as a result, experienced a 21 percent increase in D0-D4. Extreme drought (D3) was also reintroduced in the state for the first time since May of this year. Conditions also continued to deteriorate in Kansas, with close to 90 percent of the state in D0-D4. Soil conditions in the state are less than ideal, especially heading into the winter months.

### 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/>.

# November 2023 Climate Summary

## Climate Outlooks

According to the Climate Prediction Center, an El Niño Advisory has been issued and is likely to be a moderate to strong event. 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 low chances of flooding through February. According to the National Interagency Fire Center (NIFC), fire potential will be normal across the region through March.

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

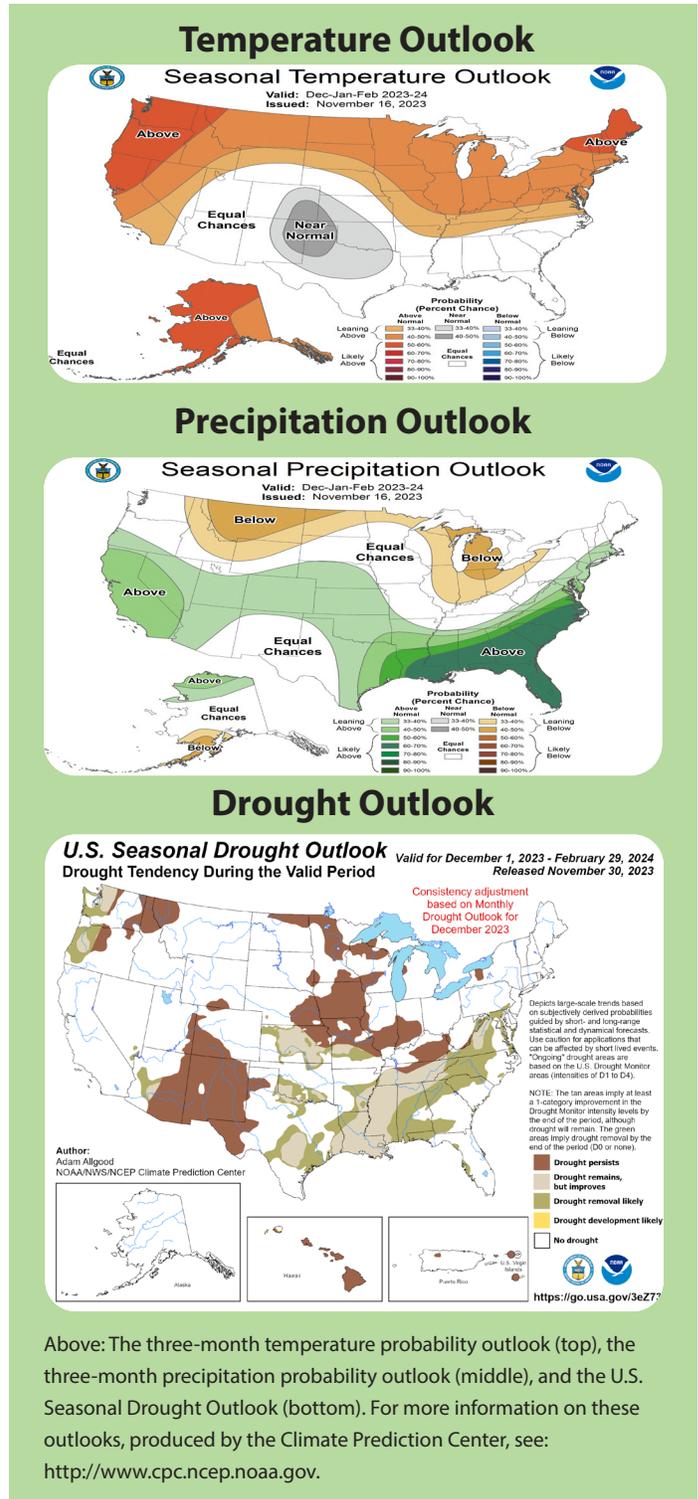
The three-month temperature outlook shows an increased chance of above-normal temperatures across the northern United States. Increased chances of above-normal temperatures are present in the Dakotas, Nebraska, Wyoming, and eastern Kansas.

### Precipitation

The outlook for the next three months indicates below-normal precipitation in the northern part of the country and the Great Lakes, while above-normal precipitation is favored for the southeastern United States. Increased chances of below-normal precipitation are present in parts of the Dakotas and Wyoming, while above-normal precipitation is favored for Colorado, Kansas, and Nebraska. Equal chances of above-, below-, or normal precipitation are present in the rest of the region.

### Drought

The U.S Seasonal Drought Outlook released on November 30th indicates drought conditions will likely improve in Kansas but persist for the rest of the region.



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	55.8	28.0	41.9	3.6	75	11/05	7	11/25	0.04	-0.38	10
Alamosa San Luis Airport	52.9	10.7	31.8	1.5	70	11/06	-7	11/27	T	-	-
Colorado Springs Municipal Airport	56.8	28.7	42.8	3.3	76	11/05	12	11/27	0.09	-0.28	24
Denver International Airport	57.6	28.9	43.2	3.8	78	11/05	10	11/27	0.18	-0.46	28
Grand Junction Walker Field Airport	53.7	28.6	41.2	1.6	73	11/06	12	11/26	0.71	0.10	116
Pueblo Memorial Airport	61.5	24.8	43.1	2.6	82	11/07	10	11/26	0.06	-0.41	13

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	59.8	34.7	47.3	5.2	75	11/07	18	11/26	1.33	0.17	115
Dodge City Regional Airport	61.5	32.4	47.0	3.3	84	11/07	15	11/26	0.48	-0.32	60
Goodland Renner Field	59.2	26.5	42.8	3.2	87	11/07	15	11/25	0.28	-0.26	52
Topeka Municipal Airport	58.4	32.4	45.4	1.2	79	11/07	14	11/26	1.56	-0.22	88
Wichita Mid-Continent Airport	58.4	34.8	46.6	0.8	76	11/07	13	11/27	2.90	1.54	213

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Chadron Municipal Airport	54.6	21.3	37.9	2.5	77	11/05	3	11/24	0.20	-0.20	50
Grand Island Airport	57.1	29.6	43.3	3.7	74	11/07	17	11/27	0.79	-0.31	72
Lincoln Municipal Airport	57.5	27.8	42.7	2.9	72	11/15	15	11/27	0.56	-0.74	43
Norfolk Karl Stefan Airfield	55.2	27.9	41.6	4.8	71	11/06	13	11/28	0.53	-0.69	43
North Platte Regional Airport	57.7	23.3	40.5	3.5	72	11/16	8	11/27	0.56	0.07	114
Omaha Eppley Airport	54.6	29.5	42.1	1.9	70	11/14	15	11/27	0.42	-1.03	29
Valentine Miller Field	55.6	23.1	39.3	3.1	80	11/05	9	11/25	0.27	-0.30	47

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismarck Municipal Airport	44.3	22.0	33.2	3.3	63	11/15	5	11/24	0.12	-0.57	17
Fargo International Airport	44.0	23.8	33.9	4.4	60	11/14	1	11/27	0.20	-0.77	21
Grand Forks International Airport	40.2	21.4	30.8	4.1	58	11/14	0	11/27	0.10	-0.82	11
Theodore Roosevelt Airport	46.3	21.5	33.9	3.6	64	11/15	0	11/24	T	-	-
Williston International Airport	41.0	22.2	31.6	3.8	55	11/15	2	11/24	0.14	-0.53	21

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>.



# 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). The video player interface includes a play button, a progress bar at 0:00 / 54:51, and a YouTube logo.

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)

## Author Information

For questions, comments, or suggestions, please contact:  
Gannon Rush  
711 Hardin Hall, 3310 Holdrege Street  
Lincoln, NE 68583-0997  
402-472-8968  
<https://hprcc.unl.edu/contact.php>

