



April 2022 Climate Summary

Kansas Winter Wheat Field, Photo Courtesy of Gannon Rush

Drought in the Southern Plains and Blizzards in the North

April was the ‘tale of two cities’ in the High Plains. Grand Forks, North Dakota was among the wettest and coldest on record, while Colorado Springs, Colorado was among the warmest and driest on record. The northern states experienced well below normal temperatures and multiple blizzards, while the southern states remained dry and dealt with wildfires.

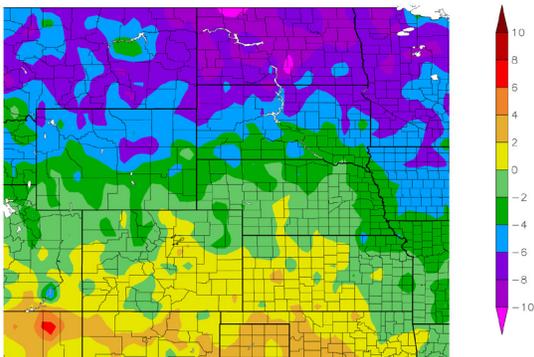
Several blizzards tracked through North Dakota during the month, including the historic blizzard from April 12th to 14th. The heavy snowfall combined with gusts up to 60 mph (96.56 km/h) led to drifts up to 8 feet tall. Among the highest snowfall amounts was a report of 36.0 inches (91.44 cm) outside of Minot. The highest verified amount was 29.5 inches (74.93 cm) outside Dunn Center. With such high winds, it is hard to accurately measure snowfall. Another blizzard struck the same areas late in the month, with snowfall up to 18.0 inches (45.72 cm).

Wildfires were an issue in the southern portion of the region, particularly in Nebraska. Two large fires broke out during the month, which led to two deaths and several towns to be evacuated. The first fire broke out near Arapahoe, with nearly 35,000 acres burned over several days. Later in the month, another fire broke out nearby which burned over 44,000 acres. Several other fires occurred in Colorado during the month, particularly in areas that were extremely dry this month.

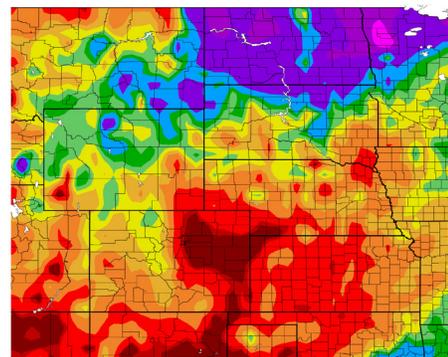
Another interesting impact of the ongoing drought was the reduction of hunting permits available for pronghorn and mule deer in Wyoming. Due to the dryness, food sources of these animals are impacted. As a result, permits were reduced to conserve populations this year. Animal populations were already low from the previous year, with the mule deer population only 61 percent of the statewide goal.

Temperature and Precipitation Overview

Departure from Normal Temperature (F)
4/1/2022 – 4/30/2022



Percent of Normal Precipitation (%)
4/1/2022 – 4/30/2022



Above: Departure from 1991-2020 normal temperature (left) and percent of normal precipitation (right) for April 2022 in the High Plains region. Maps produced by the High Plains Regional Climate Center and are available at: <http://hprcc.unl.edu/maps/current>.

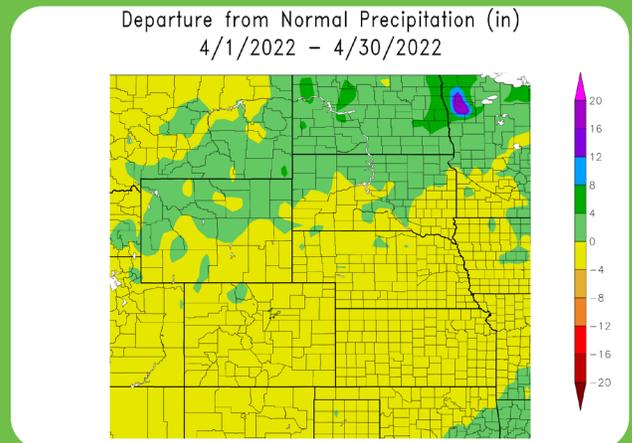
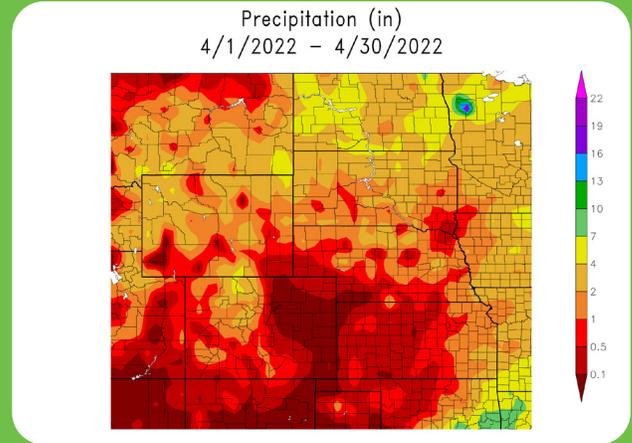
Precipitation

Precipitation for the High Plains in March was sharply divided. The northern part of the region was above to well above-normal, while the southern parts were below-normal. Several locations in North Dakota were among the wettest on record, in contrast to multiple places in the southern portions ranking among the driest. The above-normal precipitation in North Dakota helped improve drought conditions, while the dryness in the south only exacerbated drought conditions.

Several blizzards in North Dakota led both Fargo and Grand Forks to rank as their second wettest April on record. Both locations observed over 5 inches (12.70 cm) of precipitation for the month. Bismarck recorded their snowiest April on record with 21.9 inches (55.63 cm) of snow falling while also ranking 10th wettest. Along the front range of the Rockies, conditions were dry. In Colorado, Akron and Colorado Springs both observed their driest month on record with minimal precipitation falling. Several locations with eastern Wyoming, western Kansas, and western Nebraska also ranked among the driest Aprils on record.

It was an active month for severe weather across the region, with multiple days of severe weather. Most notably on the 29th, several storms impacted Kansas and Nebraska. Both Kansas and Nebraska reported 4-inch (10.16 cm) hailstones, while an impressive 91 mph (146.45 km/h) wind gust was recorded outside Davenport, Nebraska. On the same day, a high-end EF-3 tornado tracked through Andover, Kansas causing significant damage and leading to 3 injuries.

Regional Precipitation



Above: Total precipitation in inches (top) and departure from normal precipitation in inches (bottom) for April 2022. These maps are produced by HPRCC and can be found on the Current Climate Summary Maps page at: <http://hprcc.unl.edu/maps/current>.

Snowpack Update

Snowpack at the end of April was above normal for the Upper Missouri River Basin mountains. According to the U.S. Army Corps of Engineers, as of April 24, Snow Water Equivalent (SWE) above Fort Peck Reservoir is currently at 14.2 inches (36.07 cm) which is 92% of the average (1981-2010). The reach between Fort Peck and Garrison Reservoirs is currently 13.3 inches (33.78 cm) which is 95% of the average (1981-2010). SWE was near or above median in most Wyoming basins. In Colorado, SWE was well below normal in the southwestern basins.

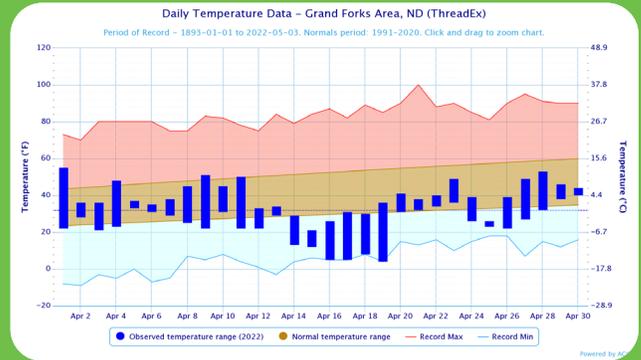
Temperatures

Cooler temperatures were present throughout much of the region this month, with well below normal temperatures in the northern states. Multiple locations in the north ranked among the coldest months on record.

In addition to the heavy snowfall across North Dakota, temperatures were also well below normal for the state. Grand Forks ranked 2nd coldest month on record, with an average temperature of 31.8 degrees F (-0.1 degrees C) which is below freezing. Dickinson, North Dakota, and Sisseton, South Dakota also both recorded their 3rd coldest April on record. A number of locations in North Dakota, South Dakota, and Wyoming observed a top 10 coldest months on record.

Opposite of the cooler temperatures to the north, the southern part of the region experienced above-normal temperatures. Temperatures skyrocketed on the 22nd and 23rd, with areas in Colorado, Kansas, and Nebraska exceeding 90 degrees F (32.2 degrees C). The highest temperature of 101 degrees F (38.3 degrees C) was recorded southwest of North Platte, Nebraska on April 23rd. High winds were once again present during these two days, which led to fire issues. The Storm Prediction Center issued several extremely critical fire days during the month during these hot and windy periods.

Station Spotlight: Grand Forks, ND

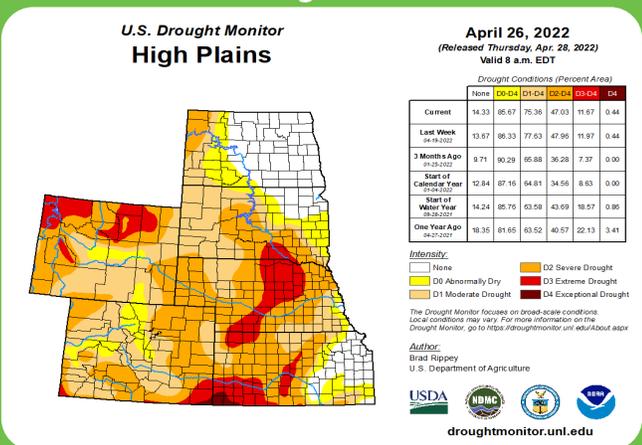


Above: Daily temperatures for April 2022, along with extremes and normals values in Grand Forks, North Dakota.

Drought Conditions

Dryness continues in the southern parts of the region, while the northern parts received normal to above-normal precipitation. Drought conditions improved significantly in North Dakota and parts of South Dakota after the recent snowstorms, while Kansas and Nebraska remained dry.

U.S. Drought Monitor



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/>.

The dryness across the western parts of both Nebraska and Kansas led to widespread expansion of extreme drought (D3). Nearly 20 percent of both states are in D3 at the end of April. Some precipitation fell in the drought-stricken areas towards the end of the month, which should improve conditions. Severe drought (D2) also greatly expanded across eastern Colorado towards the end of the month, with many areas receiving well below 25 percent of their normal precipitation. Contrary to the dryness, the northern parts of the region have observed above-normal precipitation. Drought conditions improved one to two classes across the western Dakotas and northern Wyoming. Elsewhere in the region, other improvements and degradation were observed. According to the Climate Prediction Center's U.S. Monthly Drought Outlook for May, improvements in drought conditions are likely across South Dakota, Nebraska, Kansas, and northeastern Wyoming.

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Climate Outlooks

According to the Climate Prediction Center, La Niña conditions are likely to continue into the summer. A La Niña advisory is currently in effect. For more information, visit 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 through July indicates a high chance of minor flooding across eastern South Dakota and the lower basin in May. This will decrease over the next three months. There is a high risk of Major Flooding in northeastern South Dakota and central North Dakota. According to the National Interagency Fire Center (NIFC), fire potential will be limited in May and June but expand across the entire region by July.

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

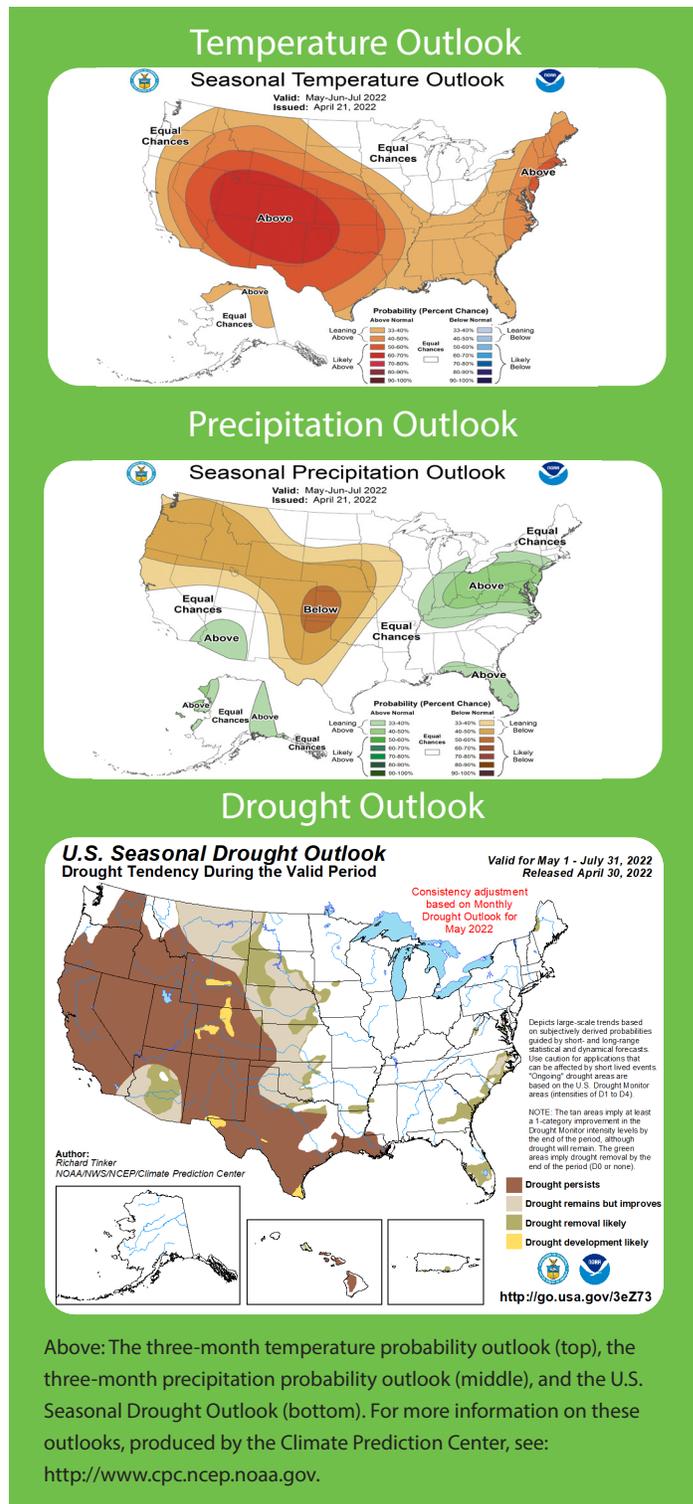
The three-month temperature outlook shows an increased chance of above-normal temperatures across the majority of the United States. In the High Plains, North Dakota and northeastern South Dakota have equal chances of above-, below-, and near-normal temperatures. Meanwhile, the rest of the region has increased chances of above-normal temperatures with Colorado heavily favored.

Precipitation

The outlook for the next three months indicates below-normal precipitation across the majority of the western United States. Across the High Plains there are equal chances of above-, below-, and near-normal precipitation in North Dakota and northern South Dakota. The rest of the region has increased chances of below-normal precipitation.

Drought

The U.S. Seasonal Drought Outlook released on April 30th indicates drought conditions are expected to remain but conditions improve across the Dakotas, Nebraska, and Kansas. Conditions are expected to persist across Colorado and Wyoming with development likely in the central parts of the states.



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	62.4	31.4	46.9	-0.3	89	04/22	6	04/13	0.03	-1.40	2
Alamosa San Luis Airport	63.0	23.0	43.0	0.4	74	04/22+	6	04/14	0.44	-0.13	77
Colorado Springs Municipal Airport	67.5	35.6	51.6	4.1	87	04/22	21	04/14	0.01	-1.44	1
Denver International Airport	64.7	31.8	4.82	0.4	89	04/22	10	4/13	0.06	-1.62	4
Grand Junction Walker Field Airport	67.6	36.8	52.2	0.3	83	04/21	23	04/13	0.20	-0.78	20
Pueblo Memorial Airport	71.2	34.7	52.9	1.6	92	04/22	17	04/14	0.51	-1.06	33

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	68.5	40.8	54.7	1.6	92	04/12	24	04/09	0.88	-1.65	35
Dodge City Regional Airport	71.3	39.6	55.5	1.2	90	04/12	22	04/14	0.55	-1.44	28
Goodland Renner Field	67.1	31.1	49.1	-0.2	92	04/22	14	04/14	0.04	-1.65	2
Topeka Municipal Airport	67.8	42.9	55.4	-0.1	88	04/12	26	04/09	1.10	-2.71	29
Wichita Mid-Continent Airport	70.4	45.0	57.7	1.2	88	04/29	26	04/09	0.78	-2.32	25

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Chadron Municipal Airport	58.1	28.1	43.1	-2.7	83	04/19	14	04/14+	2.14	0.18	109
Grand Island Airport	65.0	35.9	50.5	-0.5	92	04/12	21	04/12	1.60	-0.92	64
Lincoln Municipal Airport	64.3	35.9	50.1	-1.9	91	04/12	18	04/01	3.05	0.36	113
Norfolk Karl Stefan Airfield	62.7	33.4	48.1	-0.8	90	04/22+	19	04/01	1.07	-1.66	39
North Platte Regional Airport	66.1	32.3	49.2	1.0	97	04/22	14	04/13	1.43	-0.86	63
Omaha Eppley Airport	62.7	37.7	50.2	-2.4	91	04/12	22	04/01	1.72	-1.45	54
Valentine Miller Field	61.4	31.1	46.3	-0.9	97	04/22	13	04/16	1.99	-0.49	80

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismarck Municipal Airport	58.1	28.1	43.1	-2.7	83	04/19	14	04/14+	2.14	0.18	109
Fargo International Airport	42.2	27.7	34.9	-8.1	74	04/23	13	04/15	5.45	3.91	354
Grand Forks International Airport	39.3	24.2	31.8	-8.9	55	04/01	4	04/19	5.47	4.26	452
Theodore Roosevelt Airport	43.6	23.7	33.7	-7.9	62	04/04	4	04/16	**	**	**
Williston International Airport	42.4*	25.0*	33.7*	-8.7*	62	04/04	4	04/15	**	**	**

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>.

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South Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Aberdeen Regional Airport	49.5	29.2	39.4	-5.1	74	04/23	16	04/15	3.82	1.91	200
Huron Regional Airport	54.0	29.8	41.9	-3.8	81	04/22	15	04/16	2.52	0	100
Pierre Regional Airport	54.9	30.0	42.5	-3.4	78	04/22	16	04/16	2.71	0.78	140
Rapid City Regional Airport	53.7	25.7	39.7	-4.2	78	04/19	7	04/16	1.58	-0.50	76
Sioux Falls Joe Foss Field Airport	55.8	31.6	43.7	-3.5	83	04/22	18	04/19	2.20	-0.80	73

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	52.2	23.1	37.6	-4.7	76	04/21	7	04/13	1.98	0.57	140
Cheyenne Municipal Airport	56.6	26.8	41.7	-1.1	81	04/22	5	04/13	0.20	-1.59	11
Lander Hunt Field Airport	53.7	26.9	40.3	-2.9	72	04/21+	11	04/14+	1.34	-0.73	65
Laramie Regional Airport	52.5	23.7	38.1	0.2	72	04/21	12	04/25	0.27	-0.77	26
Rawlins Municipal Airport	53.9	24.9	39.4	-1.0	71	04/21+	11	04/13	0.55	-0.71	44
Sheridan County Airport	52.3	26.0	39.1	-4.1	73	04/08	-4.1	04/14	2.51	0.64	134

April 2022 Highlights

Monthly Rankings

Temperature in degrees Fahrenheit, Precipitation in inches

Precipitation	Precipitation / Ranking	Record / Year	Period of Record
Akron, Colorado	0.03 / DRIEST	0.27 / 2020	1937-2022
Colorado Springs, Colorado	0.01 / DRIEST (tied with 1964)		1894-2022
Denver, Colorado	0.06 / 3rd Driest	0.03 / 1963	1872-2022
Cheyenne, Wyoming	0.20 / 3rd Driest	0.17 / 1880	1871-2022
Goodland, Kansas	0.04 / 3rd Driest	Trace / 1963	1895-2022
McCook, Nebraska	0.15 / 4th Driest	0.00 / 1924	1894-2022
Laramie, Wyoming	0.28 / 5th Driest	0.20 / 1966	1948-2022
Fargo, North Dakota	5.45 / 2nd Wettest	5.49 / 1886	1885-2022
Grand Forks, North Dakota	5.47 / 2nd Wettest	5.59 / 1896	1893-2022
Temperature	Temperature / Ranking	Record / Year	Period of Record
Grand Forks, North Dakota	31.8 / 2nd Coldest	29.7 / 1950	1893-2022
Sisseton, South Dakota	38.6 / 3rd Coldest	36.1 / 2018	1931-2022
Dickinson, North Dakota	33.7 / 3rd Coldest	32.0 / 1950	1938-2022
Casper, Wyoming	37.6 / 5th Coldest	34.9 / 1997+	1939-2022
Colorado Springs, Colorado	51.6 / 8th Warmest	53.8 / 1981	1894-2022

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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

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

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

For an archive:
www.hprcc.unl.edu/webinars.php

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