



April 2019 Climate Summary



Spring snowstorm north of Lander, Wyoming. Photo courtesy Crystal Stiles.

<http://hprcc.unl.edu>

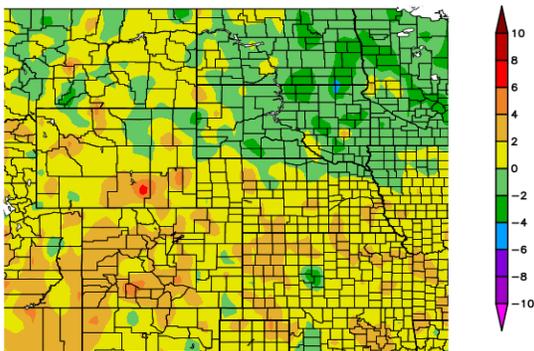
Flooding and Heavy Snow Continue

Flooding and snowstorms continued to impact the High Plains region into April. The devastation of the flooding that took place in March throughout portions of Nebraska and South Dakota is now being realized. Road damage was extensive across these areas, and the cost of pavement and gravel materials for repair will be expensive. A stretch of Interstate 29 through northwestern Missouri and near the Iowa/Nebraska border was still closed and is not expected to reopen until June. Some railroad lines were also closed, hindering transportation of goods across this portion of the country. Many agricultural fields were ruined and will not be planted this year, as the receding floodwaters left behind sand and garbage. A strong spring storm system brought heavy snowfall to areas of South Dakota, and with warming temperatures following the storm, rapid snowmelt exacerbated flooding issues. Moderate to major flooding was ongoing in April along the Big Sioux and James Rivers in eastern South Dakota, as well as Devils Lake and the Red River of the North in eastern North Dakota.

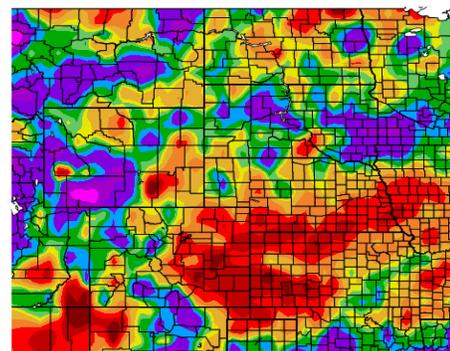
Cold and wet soils have delayed planting this year across the region. Areas faring worst were the Dakotas, where persistent cold and snow, as well as flooding, prevented producers from getting out into the fields. According to the April 30th edition of the USDA Weekly Weather and Crop Bulletin, for the week ending April 28th only seven percent of North Dakota's sugar beet acreage had been planted, which was far behind the five-year average of 39 percent. In South Dakota, only seven percent of the oats acreage had been planted compared to the five-year average of 62 percent, with similar statistics for spring wheat acreage. Farther south in Nebraska and Kansas, warm and dry conditions in April allowed producers to catch up, with the percent of corn acreage planted only slightly behind by the end of the month. Winter wheat was faring well across the region for the most part. It was a particularly good year for the crop in Colorado, as 76 percent of the winter wheat acreage was rated good to excellent.

Temperature and Precipitation Overview

Departure from Normal Temperature (F)
4/1/2019 - 4/30/2019



Percent of Normal Precipitation (%)
4/1/2019 - 4/30/2019



Above: Departure from 1981-2010 normal temperature (left) and percent of normal precipitation (right) for April 2019 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

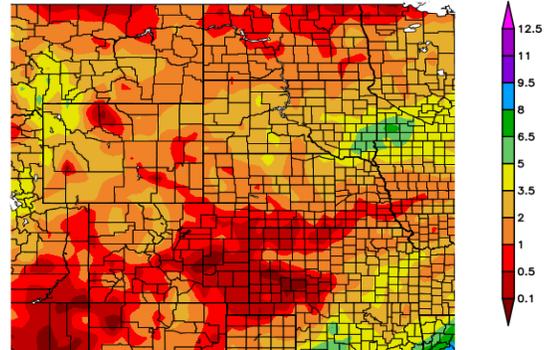
Both wet and dry conditions existed throughout the High Plains during April. Pockets of wetness could be found in western areas of Wyoming and Colorado, as well as across much of South Dakota. Otherwise, dryness was present in an area stretching from eastern Colorado through Nebraska and Kansas. As a result, a few locations ranked among the top 10 for driest April. Pueblo, Colorado and McCook, Nebraska had their 6th driest April on record, while it was the 10th driest for Goodland, Kansas. These areas were excessively wet during March, so dry conditions were beneficial for allowing floodwaters to recede and fields to dry out to prepare for spring planting.

Winter continued well into April for some portions of the region. On April 10th-11th, a powerful storm system traversed the region, producing snow and ice as well as severe weather. Large hail and damaging winds were reported across central and eastern Nebraska and north-central Kansas on the 10th. Meanwhile, snow and ice impacted portions of other states in the High Plains but hit South Dakota particularly hard. Several CoCoRaHS and COOP stations in central and eastern South Dakota reported snowfall totals approaching 30.0 inches (76 cm) from this storm. Huron picked up 18.0 inches (46 cm), which was its highest 2-day total snowfall on record for April (period of record 1888-2019), breaking last year's record of 15.5 inches (39 cm) on April 13th-14th. This storm caused additional livestock losses in an area where conditions have been very difficult for livestock this spring. Melting snow from this system contributed to additional flooding, and ice and wind brought down trees and power lines as well.

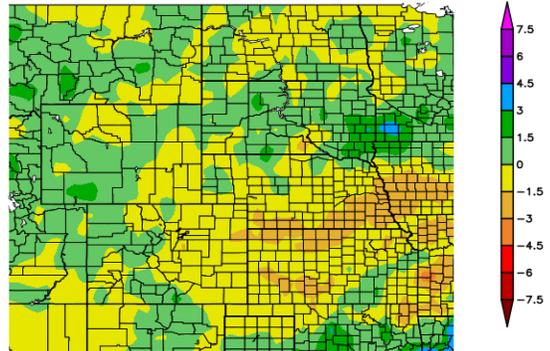
The April snowfall added to what has been an impressive snowfall season throughout portions of the Dakotas and Nebraska. For instance, Mobridge, South Dakota and Lincoln, Nebraska have already had their snowiest seasons on record. As of April 30th, Mobridge had received 86.8 inches (220 cm) of snowfall for the season, crushing the old record of 75.9 inches (193 cm) set in 1997 (period of record 1911-2019). Meanwhile, Lincoln received 55.5 inches (141 cm) of snowfall, narrowly beating the old record of 54.3 inches (138 cm) set in 1960 (period of record 1948-2019). Other locations that ranked among the top 10 of snowiest seasons-to-date include Aberdeen, SD (3rd snowiest), Pierre, SD (4th snowiest), Grand Forks, ND (5th snowiest), Omaha, NE (7th snowiest), and Huron, SD (8th snowiest).

Regional Precipitation

Precipitation (in)
4/1/2019 - 4/30/2019



Departure from Normal Precipitation (in)
4/1/2019 - 4/30/2019



Above: Total precipitation in inches (top) and departure from normal precipitation in inches (bottom) for April 2019. 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

Mountain snowpack continued to be near to above normal throughout much of Colorado and Wyoming during April. As of the beginning of May, Snow Water Equivalent (SWE) was well above normal in all basins in Colorado. In Wyoming, SWE was near to above normal in western and southern basins, while it was below normal in the north-central part of the state. In the Upper Missouri Basin, mountain SWE above Fort Peck Reservoir and between Fort Peck and Garrison Reservoirs increased slightly to 103 percent of average and 99 percent of average, respectively, by the beginning of May. Snowpack peaked during April in both reaches. Above Fort Peck Reservoir, snowpack peaked on April 18th at 105 percent of the normal April 15th peak. Between Fort Peck and Garrison Reservoirs, snowpack peaked on April 17th at 104 percent of the normal April 15th peak.

Temperatures

The temperature pattern changed for much of the region during April, with above-normal temperatures returning to the majority of the High Plains. In southern and western portions of the region, temperatures ranged from near normal to about 4.0 degrees F (2.2 degrees C) above normal, with areas of Colorado and Kansas experiencing the greatest departures. In the Dakotas, however, April temperatures were slightly below normal, with departures of up to 2.0 degrees F (1.1 degrees C) below normal in the eastern portion of both states. Due to the modest temperature departures, April temperatures were not record-breaking. However, April brought temperature extremes to the region.

A big warmup occurred throughout the High Plains around April 20th-21st, when many areas experienced their warmest temperatures for the month. For instance, Dodge City, KS, Pierre, SD, and Valentine, NE all reached and/or surpassed 90.0 degrees F (32.2 degrees C). However, just a week to 10 days before that, most of the region experienced its coldest temperatures of the month, as temperatures dipped down into the 20s and even teens in some areas. Despite these impressive temperature swings, such extremes are common in the Plains, particularly during the spring months.

Due to the cold start to spring this year, freeze damage appears to be unlikely throughout the region. According to the National Phenology Network, leaf-out occurred a couple of weeks later than normal for much of the High Plains, which is an indicator that spring arrived late this year. Due to cold temperatures and snow cover, soils have been slow to warm up, which has delayed spring planting throughout the region but especially across the Dakotas.

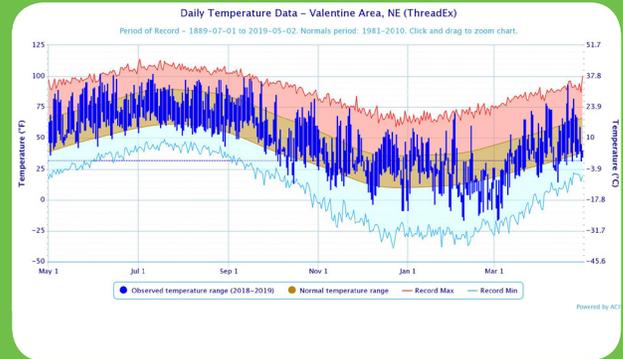
Drought Conditions

Areas of the High Plains experienced both improvements and degradations in drought conditions during April, although the overall coverage decreased. Over the course of the month, the area experiencing abnormal dryness or drought (D0-D4) decreased from approximately 11 percent to 9 percent. The area in drought (D1-D4) decreased from two percent to about a half of a percent.

According to the U.S. Drought Monitor, this is the least amount of drought the High Plains region has experienced since 2017 when the May 16th map indicated only 0.11 percent of the region in D1-D4. In fact, national coverage of drought hit a historic low in April, with the U.S. Drought Monitor indicating the least amount of drought in the contiguous U.S. since its inception in 1999.

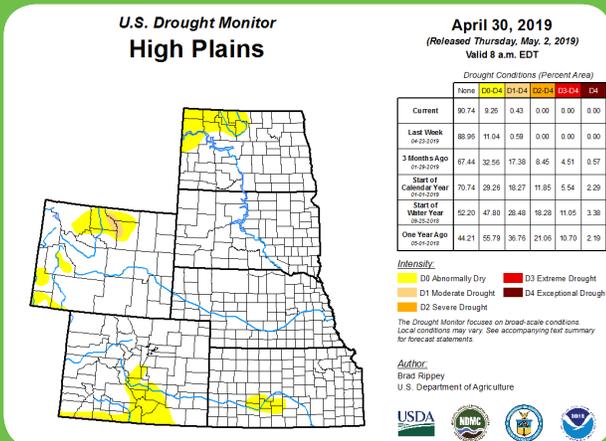
Thanks to a continuation of good snowpack conditions in Colorado, moderate drought (D1) was confined to a small area in the southwestern portion of the state, and abnormally dry conditions (D0) were reduced as well. Above-normal precipitation in April allowed for the elimination of D1 and reduction of D0 in western Wyoming. However, the Bighorn Mountains in north-central Wyoming missed out on precipitation and Snow Water Equivalent was below normal, prompting the introduction of D1 conditions in the area. Other areas of the High Plains that have missed out on precipitation during the past few months include northwestern North Dakota and a small pocket of south-central Kansas, where D0 conditions were introduced during April.

Station Spotlight: Valentine, NE



Above: Daily temperatures along with extremes and normals values since May 1, 2018 in Valentine, NE.

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/>.

Climate Outlooks

According to the Climate Prediction Center, El Niño conditions are present in the Pacific and an El Niño Advisory is in effect. Weak El Niño conditions are expected to continue through summer and possibly fall. For more information about ENSO, check out the ENSO blog here: <https://www.climate.gov/news-features/department/enso-blog>. To learn more about how El Niño may affect the Missouri Basin region, see this El Niño briefing: <https://www.drought.gov/drought/documents/el-nino-impacts-and-outlook-missouri-river-basin-october-2018>.

According to the National Weather Service’s long-range flood outlook, moderate to major flooding is expected to continue in eastern areas of the Missouri River Basin and in the Souris-Red-Rainy water resource region through July. In the High Plains, this includes eastern portions of the Dakotas, Nebraska, and Kansas. Western areas of the Missouri Basin have a reduced risk for flooding this spring and summer.

The seasonal temperature and precipitation outlooks 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 see: <http://www.cpc.ncep.noaa.gov>.

Temperature

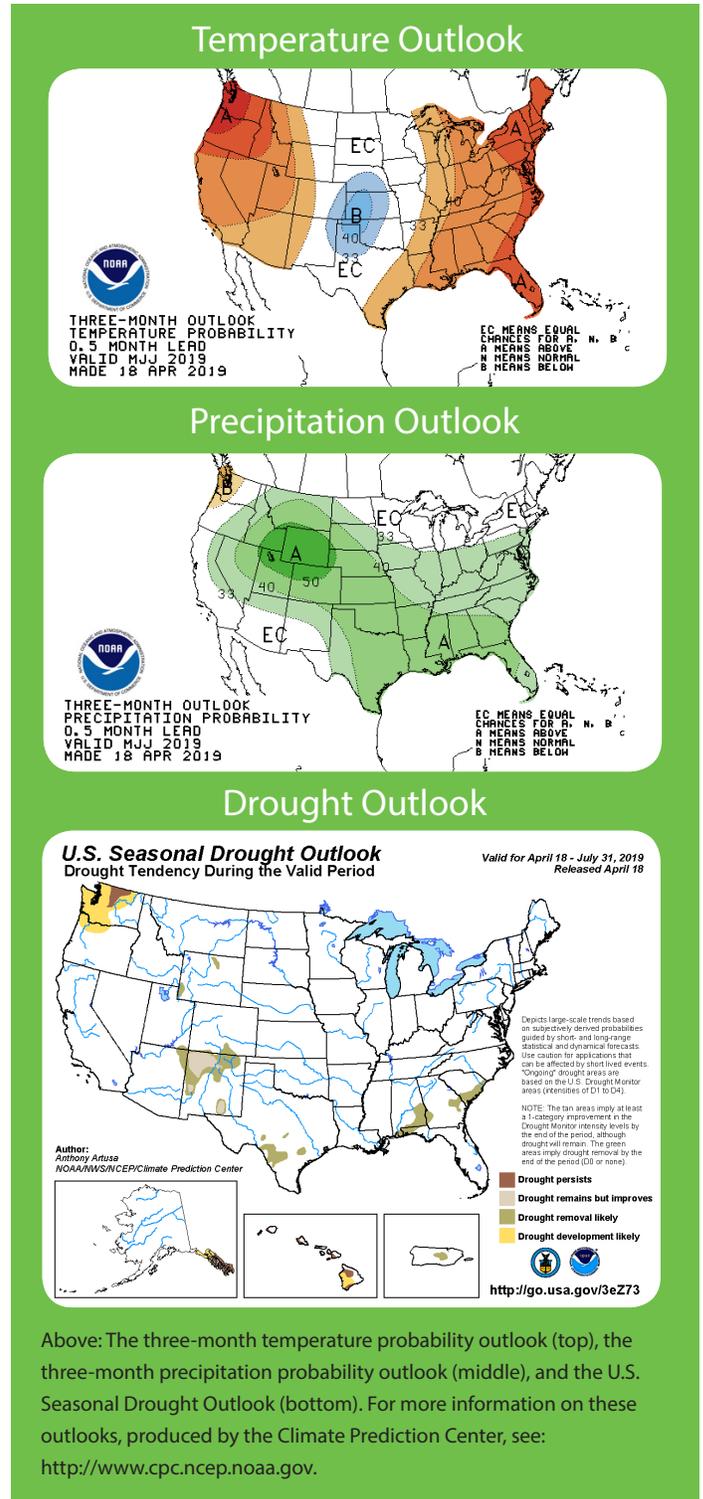
The May-July temperature outlook indicates an increased chance of above-normal temperatures for the western and eastern thirds of the contiguous U.S. In the High Plains, this includes the western half of Wyoming and western Colorado. Below-normal temperatures are expected throughout the Central Plains, including eastern Colorado, central Nebraska, and western and central Kansas. Elsewhere, there are equal chances for above-, below-, and near-normal temperatures during the May-July period.

Precipitation

The precipitation outlook for the next three months calls for a higher probability of above-normal precipitation across a large portion of the contiguous U.S., including the Interior West, the Plains, the Southeast, and the Mid-Atlantic. In the High Plains, this includes Colorado, Wyoming, Kansas, Nebraska, South Dakota, and the southwestern half of North Dakota. Below-normal precipitation is expected in the Pacific Northwest. Elsewhere, there are equal chances for above-, below-, and near-normal precipitation during the May-July period.

Drought

The April 18th U.S. Seasonal Drought Outlook indicates that drought is expected to persist and develop further across parts of the Pacific Northwest. Drought may improve or be removed in portions of the West, the Southern Plains, and the Southeast. In the High Plains, this includes pockets of drought in southern Colorado as well as western and northern Wyoming. Drought development is not anticipated in the High Plains region through July.



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	64.1*	36.6*	50.4*	3.4*	83	04/20	17	04/10	0.27*	-1.38*	16*
Alamosa San Luis Airport	61.8	26.4	44.1	2.3	74	04/20	10	04/12	0.80	0.21	136
Colorado Springs Municipal Airport	63.3	35.6	49.5	3.0	79	04/28	19	04/11	1.04	-0.38	73
Denver International Airport	62.7	35.6	49.1	1.7	80	04/20	17	04/11+	1.25	-0.46	73
Grand Junction Walker Field Airport	68.2	42.2	55.2	3.5	81	04/26	25	04/12	1.32	0.41	145
Pueblo Memorial Airport	70.7	37.1	53.9	3.3	86	04/28+	25	04/11	0.07	-1.33	5

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	70.2	43.8	57.0	3.9	87	04/20	27	04/13	1.63	-0.82	67
Dodge City Regional Airport	71.0	40.6	55.8	1.9	90	04/21	21	04/12	0.44	-1.38	24
Goodland Renner Field	66.9	36.1	51.5	2.3	87	04/20	21	04/11	0.38	-1.21	24
Topeka Municipal Airport	70.4	45.3	57.8	2.7	87	04/10	28	04/13	2.96	-0.57	84
Wichita Mid-Continent Airport	70.3	46.3	58.3	2.2	85	04/10	31	04/12+	2.45	-0.14	95

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Chadron Municipal Airport	59.4	33.0	46.2	1.4	83	04/20	11	04/13	1.51	-0.47	76
Grand Island Airport	65.7	38.6	52.2	1.6	88	04/20	26	04/14+	1.03	-1.50	41
Lincoln Municipal Airport	67.3	40.5	53.9	2.3	87	04/20	24	04/14	1.13	-1.58	42
Norfolk Karl Stefan Airfield	62.2	38.0	50.1	0.5	88	04/20	23	04/14	2.26	-0.39	85
North Platte Regional Airport	65.3	33.3	49.3	1.7	89	04/20	19	04/13	1.43	-0.84	63
Omaha Eppley Airport	66.3	43.4	54.9	3.2	88	04/21	30	04/13	1.35	-1.61	46
Valentine Miller Field	61.0	33.6	47.3	0.6	93	04/20	14	04/13	2.03	-0.19	91

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismarck Municipal Airport	55.9	32.5	44.2	0.4	81	04/19	22	04/03	1.14	-0.12	90
Fargo International Airport	51.8	34.4	43.1	-1.1	75	04/24	21	04/14	1.27	-0.09	93
Grand Forks International Airport	50.1	31.6	40.9	-1.1	73	04/24	18	04/13	1.71	0.70	169
Theodore Roosevelt Airport	55.3	29.7	42.5	0.2	78	04/19	17	04/13+	1.64	0.17	112
Williston International Airport	56.8	30.0	43.4	0.0	80	04/19	16	04/03	0.72	-0.28	72

All data are preliminary and subject to change. + indicates multiple dates, latest date listed. * indicates some missing data for the period. 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>.

April 2019 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	54.5	33.3	43.9	-0.5	86	04/20	17	04/14	1.42	-0.43	77
Huron Regional Airport	54.6	34.5	44.6	-1.9	82	04/20	18	04/14	3.48	1.17	151
Pierre Regional Airport	56.6	33.9	45.3	-1.7	90	04/20	23	04/13	3.27	1.46	181
Rapid City Regional Airport	56.0	31.5	43.8	-1.2	79	04/20	20	04/12+	1.92	0.12	107
Sioux Falls Joe Foss Field Airport	57.0	36.8	46.9	0.5	84	04/20	20	04/14	4.99	1.98	166

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	56.6	30.6	43.6	0.9	77	04/20	16	04/29	1.28	-0.01	99
Cheyenne Municipal Airport	56.3	32.1	44.2	1.4	78	04/26	14	04/10	1.54	-0.24	87
Lander Hunt Field Airport	56.7	32.4	44.6	0.7	75	04/20	18	04/11	2.66	0.79	142
Laramie Regional Airport	52.4*	28.1	40.2*	2.3*	68	04/19	14	04/11	0.93	-0.14	87
Rawlins Municipal Airport	55.0*	31.5*	43.2*	3.1*	73	04/20	16	04/12	1.73	0.68	165
Sheridan County Airport	56.4	31.5	44.0	0.4	79	04/19	17	04/13	1.86	0.26	116

April 2019 Highlights

Monthly Rankings

Precipitation and snowfall in inches

Driest	Precipitation / Ranking	Record / Year	Period of Record
Pueblo, CO	0.07 / 6th driest (tie, 1927)	T / 1963	1888-2019
McCook, NE	0.24 / 6th driest (tie, 1948)	0.00 / 1924	1894-2019
Goodland, KS	0.38 / 10th driest (tie, 1948)	T / 1963	1895-2019
Snowiest			
Snowiest	Snowfall / Ranking	Record / Year	Period of Record
Sisseton, SD	18.6 / 2nd snowiest	19.0 / 1970	1931-2019
Huron, SD	20.7 / 4th snowiest	25.8 / 1935	1881-2019
Pierre, SD	16.1 / 5th snowiest	20.8 / 2013	1893-2019
Mobridge, SD	10.6 / 9th snowiest	16.3 / 1970	1911-2019
Aberdeen, SD	13.6 / 10th snowiest	24.4 / 1970	1893-2019

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North Dakota Climate Summary

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Precipitation:

Based on the National Centers for Environmental Information (NCEI), the statewide average April precipitation was 1.17 inches, which was 0.68 inch more than last month, 0.67 inch more than in April 2018 but 0.05 inch less than the 1981-2010 average, making it the 59th driest April in the 125-year period of record. It was the driest April since 2018. The numbers less than 100 in Figure 1 below are shaded in yellow, orange and red to depict the region with below-average rainfall. In contrast, the numbers that are greater than 100 in the same figure are shaded in green, blue and purple to depict the region with above-average rainfall in April. The greatest monthly precipitation accumulation was 2.35 inches, recorded in Larimore, Grand Forks County. The greatest 24-hour precipitation was 1.55 inches, recorded in Ellendale, Dickey County, on April 12. The greatest monthly snowfall accumulation was 13.1 inches, recorded in Ashley, McIntosh County. The greatest 24-hour snowfall was 12 inches, recorded in Ellendale, Dickey County on April 12. Based on historical records, statewide April precipitation showed no long-term trends since 1895. The highest and lowest April precipitation for the state ranged from 3.71 inches in 1986 to 0.11 inch in 1987. It shows how volatile North Dakota's precipitation can be from one year to the next.

Temperature:

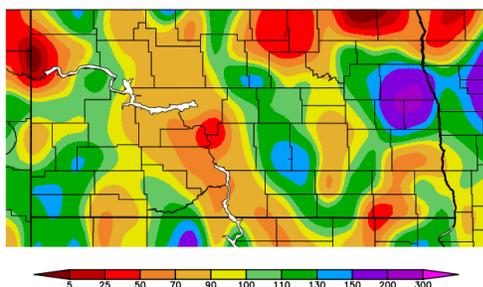
The official state average April temperature was 41.7 F, which is 21 F warmer than last month and 8.5 F warmer than in April 2018. The average April temperature was 0.7 F cooler than the 1981-2010 average, which made it the 56th warmest or 70th coolest April in the 125-year period of record. It was the warmest April since 2017. The negative numbers in Figure 2 are shaded in green and blue to depict the region with below-average temperatures in April. The state's highest and lowest daily temperatures ranged from 82 F on April 21 in Ashley, McIntosh County, to 12 F on April 4 in Drake, McHenry County. Based on the historical records, the state average April temperature showed no long-term trend since 1895. The highest and lowest monthly state April average temperatures ranged from 50.2 F in 1987 to 31.2 F in 2013.

Drought and other notable impacts:

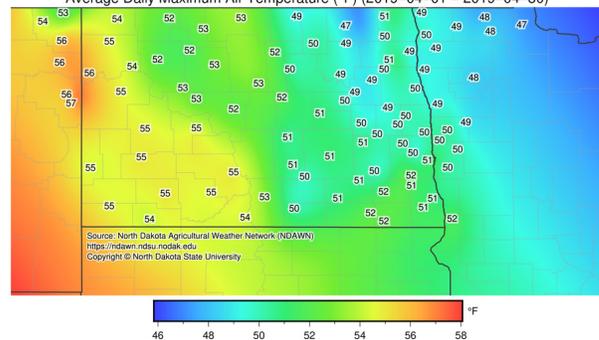
NDAWN's highest 10-meter peak gust in April was 50 mph, recorded at the Carrington weather station in Foster County on April 25, 2019. Across the observation network of weather stations with at least 30 years of history, a total of six daily high and 12 daily low-temperature-related records were set or tied. A total of 20 highest daily precipitation-related records were set or tied.

Temperature and Precipitation Overview

Percent of Normal Precipitation (%)
4/1/2019 - 4/30/2019



Average Daily Maximum Air Temperature (°F) (2019-04-01 - 2019-04-30)



Above: Percent of normal precipitation (left, figure 1) and departure from normal average temperature (right, figure 2) for April 2019 in North Dakota. Figure 1 produced by the Applied Climate Information System, figure 2 produced by NDAWN.

Kansas Climate Summary

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Wet vs. Dry

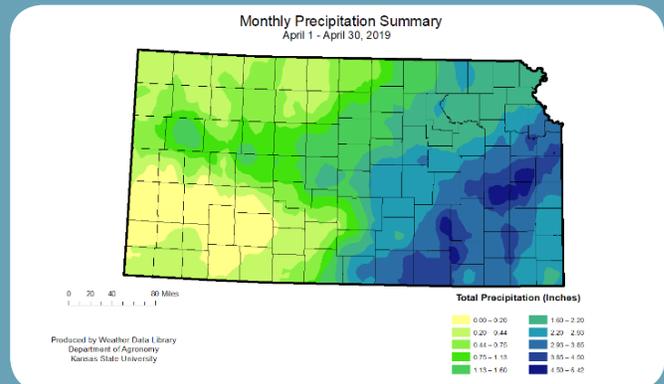
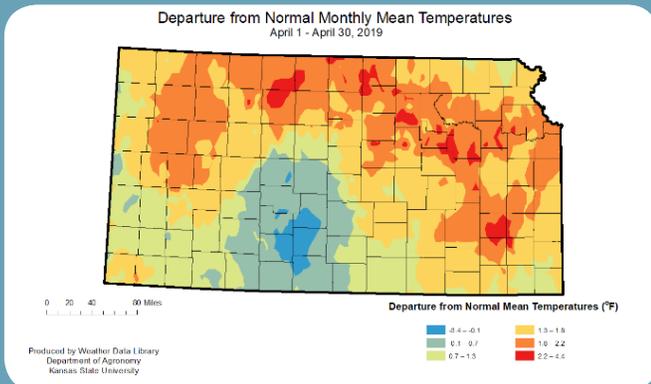
The normal gradient of wet in the east versus dry in the west was amplified in April. State-wide average precipitation for the month was 2.33 inches, 87 percent of normal. However, all three western divisions reported less than half of normal for the period. The Northwest Division was the driest with an average of 0.38 inches, 18 percent of normal. In contrast, the Southeast Division averaged 5.84 inches, 140 percent of normal. The highest 24-hour rainfall total for a National Weather Service Cooperative station 3.63 inches at Eudora 1S, on the 30th. The greatest 24-hour rainfall total for a Community Collaborative Rain, Hail and Snow network station was 3.91 inches at Burlington 0.9 NNE, Coffey County on the 18th. The greatest monthly precipitation totals for April: 6.42 inches at Johnson County Executive Airport, Johnson County (NWS) and 6.35 inches at Burlington 0.9 NNE, Coffey County (CoCoRaHS). Monthly snowfall was largely confined to the Northwest Division, with the highest amount reported 2.3 inches at Goodland, Sherman County (NWS) and 2.8 inches at Traer 2.5 NNW, Decatur County (CoCoRaHS).

April broke the cooler-than-normal trend that dominated winter. State-wide average temperature for the month was 54.7 oF, which is 1.4 degrees warmer than normal. This ranks as the 48th warmest on record, a stark contrast from last year which was the coldest April on record. The South Central Division came closest to normal with an average of 56.0 oF, 0.7 degrees warmer than normal. The West Central Division had the largest departure with an average of 53.2 oF, 2.3 degrees warmer than normal. The variability showed in the range of temperatures. The warmest maximum temperature was 93 oF at Hays 1S, Ellis County and Larned No.2, Pawnee County, on the 22nd. The coldest minimum temperature was 17 oF reported at Atwood, Rawlins County, on the 1st. The coldest reading at a Kansas Mesonet station was 14.8 oF recorded at the Meade County station near Meade on the 1st. A daily record low maximum temperature was set at one station: Wallace, Wallace County with 38 oF reported on the 12th. Still, record warm temperatures also occurred. There were 19 daily record warm minimums and 17 record warm maximum temperatures reported in April.

The 2019 Kansas tornado season began on April 17th, when two of the 6 tornadoes for the month were reported in South Central KS. The most destructive tornado of the month occurred in Miami County on the 28th, when a church lost part of its roof. There were no reports of deaths or injuries with any of the tornadoes. Hail and damaging winds made the bulk of the severe weather this month. There were 59 reports of large hail and 69 reports of damaging wind.

Given the wet conditions that were present at the beginning of April, the drier than normal pattern in western Kansas resulted in only a slight change in the drought status. Abnormally dry conditions now cover just under 5 percent of the state. The May precipitation outlook favors a slightly increased chance of above normal precipitation across the state. With the limited dry conditions and the increased amounts of precipitation normal at this time of the year, drought conditions are unlikely. The temperature outlook is for cooler than normal temperature in the western and central parts of the state, and equal chances for above or below normal temperatures for the remainder of the state. Largest concerns will be for flooding, particularly in the eastern parts of the state.

Temperature and Precipitation Overview



Above: April 2019 departure from normal monthly mean temperatures (left) and total precipitation (right) in Kansas. Maps produced by Weather Data Library, Department of Agronomy, Kansas State University.

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

Quarterly Climate Impacts and Outlook
Missouri River Basin
December 2014

National - Significant Events for September - November 2014

Highlights for October and the Month
October was the first month for the Missouri River Basin that was not a normal temperature. There were several events that were significant for the basin, including a major flood event in the upper Missouri (U) and lower Missouri (L) basins in the north and south.

Regional - Impact for September - November 2014

Significance
Fall began with perfect harvest conditions for the Missouri River Basin states. There were no major weather events that were significant for the basin, but there were several events that were significant for the basin, including a major flood event in the upper Missouri (U) and lower Missouri (L) basins in the north and south.

Regional - Climate Overview for September - November 2014

Temperature and Precipitation Anomalies
Temperature anomalies for the Missouri River Basin were generally positive, with the highest anomalies in the north and south. Precipitation anomalies were generally negative, with the lowest anomalies in the north and south.

Drought CI
The Missouri River Basin was in a state of drought in October and November 2014. The drought was most severe in the north and south, with the highest drought indices in the north and south.

Regional - Outlook for January - March 2015

3 Month Precipitation and Temperature Outlooks
Precipitation: The outlook for precipitation for the Missouri River Basin for January - March 2015 is generally positive, with the highest precipitation in the north and south. Temperature: The outlook for temperature for the Missouri River Basin for January - March 2015 is generally positive, with the highest temperatures in the north and south.

Soil Moisture Conditions
Soil moisture conditions for the Missouri River Basin for January - March 2015 are generally positive, with the highest soil moisture in the north and south.

MO River Basin Partners
The Missouri River Basin partners include the following organizations: NOAA Regional Climate Center, National Oceanic and Atmospheric Administration, National Weather Service, National Center for Environmental Prediction, National Center for Hydrologic Prediction, National Center for Water Prediction, National Center for Soil Prediction, National Center for Air Prediction, National Center for Ocean Prediction, National Center for Space Prediction, National Center for Earth Prediction, National Center for Life Prediction, National Center for Health Prediction, National Center for Education Prediction, National Center for Culture Prediction, National Center for Religion Prediction, National Center for Social Prediction, National Center for Economic Prediction, National Center for Environmental Prediction, National Center for Energy Prediction, National Center for Information Prediction, National Center for Communication Prediction, National Center for Transportation Prediction, National Center for Security Prediction, National Center for International Prediction, National Center for Global Prediction, National Center for Regional Prediction, National Center for Local Prediction, National Center for Community Prediction, National Center for Family Prediction, National Center for Work Prediction, National Center for Retirement Prediction, National Center for Health Prediction, National Center for Education Prediction, National Center for Culture Prediction, National Center for Religion Prediction, National Center for Social Prediction, National Center for Economic Prediction, National Center for Environmental Prediction, National Center for Energy Prediction, National Center for Information Prediction, National Center for Communication Prediction, National Center for Transportation Prediction, National Center for Security Prediction, National Center for International Prediction, National Center for Global Prediction, National Center for Regional Prediction, National Center for Local Prediction, National Center for Community Prediction, National Center for Family Prediction, National Center for Work Prediction, National Center for Retirement Prediction.

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

20141120 Monthly Climate and Drought Webinar

Forecast Precipitation Amounts (7 day)

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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