



April 2018 Climate Summary

Lilacs are finally in bloom after a delayed onset of spring in Lincoln, NE. Photo courtesy of Natalie Umphlett. <http://hprcc.unl.edu>

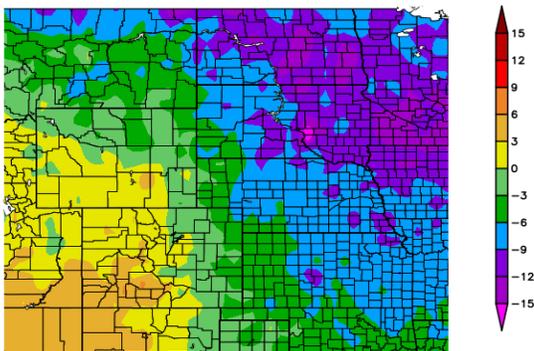
A Month of Extremes

April brought a wide variety of hazards to the High Plains, including record cold, blizzards, wildfires, and dust storms. Below-normal temperatures dominated eastern areas of the region this month, with departures exceeding 8.0 degrees F (4.4 degrees C) below normal across portions of the Dakotas. Numerous daily records for lowest maximum and minimum temperatures were broken during the first two weeks of April, and for many locations, it was the coolest first half of April (April 1-15) on record. Late-season snowstorms impacted much of the region, particularly in mid-April when a blizzard produced record snowfall totals and caused whiteout conditions, severe travel disruptions, and power outages. The cold and wet conditions negatively impacted calving and lambing, especially in South Dakota, and losses are still being determined. Additionally, planting was delayed across the Northern and Central Plains as soils were slow to warm up.

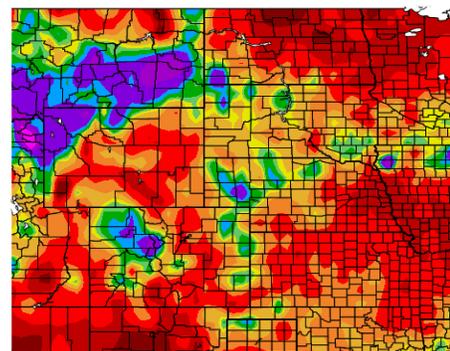
Despite the impressive snowfall totals, April precipitation was below normal in most locations. While heavy snows improved drought conditions across the Northern Plains, drought continued to spread and intensify throughout Colorado and Kansas where precipitation deficits have been accumulating since October. Wildfires burned across these states, as well as others in the Southern Plains where historically extreme fire conditions were present. One notable fire in the High Plains region was the Badger Hole Fire, which burned over 48,000 acres on the border between southeastern Colorado and western Kansas, killing livestock, destroying homes, and causing \$250,000 in damage to electrical infrastructure. The combination of high winds, dryness, and freshly tilled soils prompted the National Weather Service in Omaha to issue a Dust Storm Warning for eastern Nebraska, which is highly unusual for the area. Several multi-vehicle crashes occurred on Interstate 80 due to blowing dust and reduced visibility. Cold temperatures and dry conditions caused a late start to the severe weather season across the Central and Southern Plains. No tornadoes were reported in Kansas in April, which was the latest start to the tornado season since 2000.

Temperature and Precipitation Overview

Departure from Normal Temperature (F)
4/1/2018 - 4/30/2018



Percent of Normal Precipitation (%)
4/1/2018 - 4/30/2018



Above: Departure from 1981-2010 normal temperature (left) and percent of normal precipitation (right) for April 2018 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

It was a dry month for the High Plains, as precipitation ranged from 50-70 percent of normal across a large portion of the region. The driest areas included much of North Dakota and eastern Nebraska where less than 25 percent of normal precipitation fell. For instance, Omaha, Nebraska had its 3rd driest April on record, receiving only 0.27 inches (7 mm) of precipitation, which was 9 percent of normal. Locations in North Dakota, Kansas, and Wyoming had Aprils that ranked in the top 10 driest as well. Precipitation deficits tend to accumulate quickly during the spring season and should be watched as we head into the late spring and summer, which is typically the wettest time of year.

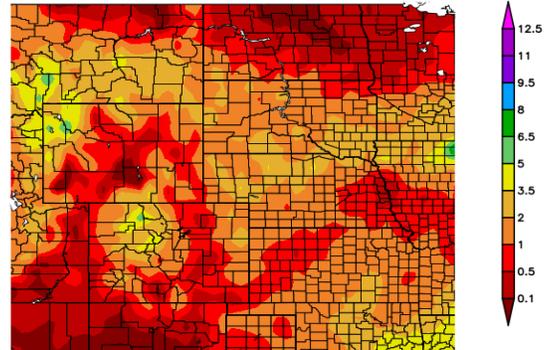
Snowfall deficits continued to accumulate in some areas as well. Very little snow fell in April in portions of Colorado and Kansas where drought has been present since the fall. Seasonal snowfall totals in these areas have been abysmal and, with temperatures warming up, it is unlikely that much more snow will fall this season. Season-to-date (July-April) snowfall ranked in the top 10 least snowiest for the following locations: Alamosa, CO (3rd), Dodge City, KS (3rd), Wichita, KS (tied with 2017 for 3rd), Denver, CO (5th), Pueblo, CO (5th), and Grand Junction, CO (6th).

Despite much of the High Plains being drier than normal, several snowstorms impacted the region, setting snowfall records for the month of April. The most notable storm was a blizzard that occurred April 13th-15th, impacting the North-Central U.S. For some locations, this storm produced the highest snowfall totals of the season. For instance, Sioux Falls, South Dakota received 14.5 inches (37 cm) of snow from the storm, which was the largest snowstorm of the season. It was by far the snowiest April on record for Sioux Falls, as an astounding 31.4 inches (80 cm) of snow fell, crushing the old record of 18.4 inches (47 cm) set in 1983. It was also Sioux Falls' 4th snowiest month on record! Blizzard conditions significantly reduced visibility

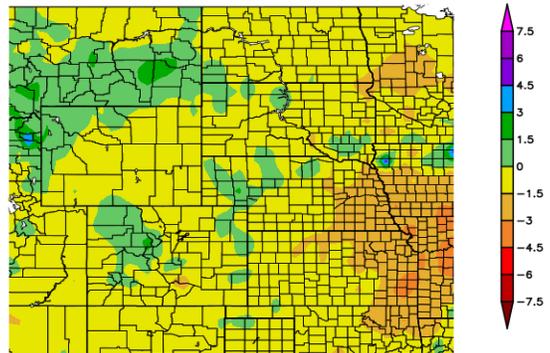
across the region, and long stretches of highways and Interstates 29, 70, 80, and 90 were closed, impacting travel in Colorado, Kansas, Nebraska, South Dakota, and Wyoming. Numerous power outages occurred, and a combination of ice and high winds took down the Region 26 Emergency Management Agency tower in Ord, Nebraska that supported local law enforcement, first responders, and the NOAA weather transmitter. This excessive snowfall, followed by a rapid warmup, caused flooding along the Big Sioux River and Little Sioux River in eastern South Dakota.

Regional Precipitation

Precipitation (in)
4/1/2018 - 4/30/2018



Departure from Normal Precipitation (in)
4/1/2018 - 4/30/2018



Above: Total precipitation in inches (top) and departure from normal precipitation in inches (bottom) for April 2018. 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

Upper Missouri Basin snowpack continued to be well above normal during April. According to the U.S. Army Corps of Engineers, Snow Water Equivalent (SWE) above Fort Peck Reservoir was 135 percent of average as of the end of April, and SWE between Fort Peck and Garrison Reservoirs was 129 percent of average. It appears that the snowpack has peaked in both reaches near the normal peak date of April 15. Cool and wet conditions across northwestern Wyoming allowed mountain snowpack to remain above normal. As for Colorado snowpack, the San Juan and Sangre de Cristo Mountains experienced a near-record-low snowpack this season and are on track for a near-record early meltout, according to the Colorado Climate Center. In the Plains, the mid-April storm blanketed the Dakotas, Nebraska, northern Kansas, and northeastern Colorado with snow, but the region was snow free by the end of the month.

Temperatures

April was rather cool for a large portion of the High Plains region, with temperature departures ranging from approximately 3.0-10.0 degrees F (1.7-5.6 degrees C) below normal. Huron, South Dakota and Sioux Falls, South Dakota had their coldest April on record, and temperatures ranked among the top 10 coolest of Aprils in numerous locations throughout the Dakotas, Nebraska, and Kansas.

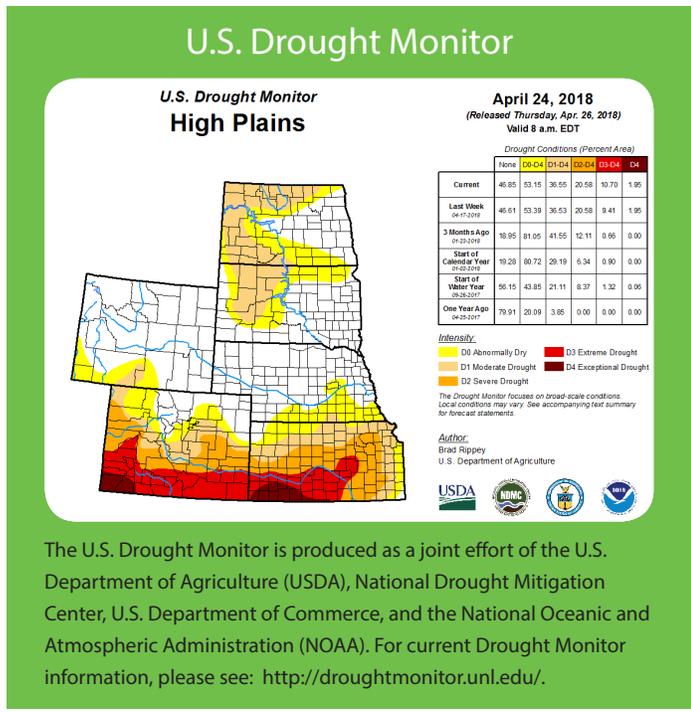
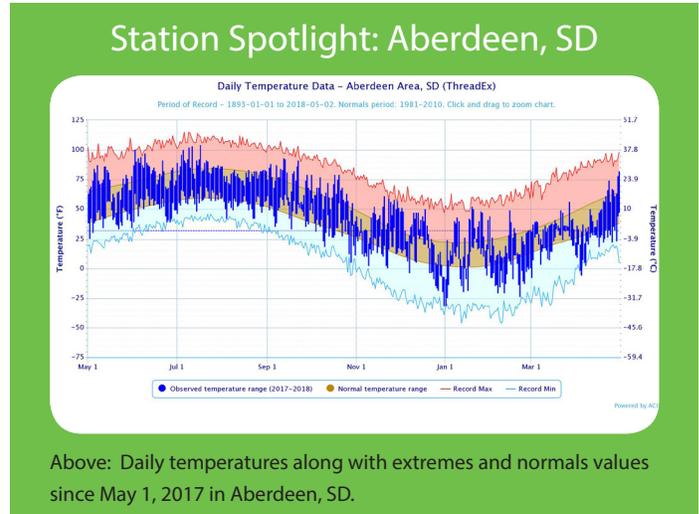
Temperatures during the first half of the month (April 1-15) were especially cool in the High Plains, ranging from about 11.0-17.0 degrees F (6.1-9.4 degrees C) below normal. Many locations had their coolest first half of April on record. A cold snap that occurred during the first week of the month set records for lowest April temperature at Aberdeen, South Dakota, Pierre, South Dakota, and Concordia, Kansas. On the 4th, it got down to -6.0 degrees F (-21.1 degrees C) in Aberdeen, which was not only its lowest April temperature on record, but it was also the latest date that a negative temperature was recorded for Aberdeen. Aberdeen ended up recording four of the top 10 lowest minimum temperatures that have occurred in the month of April.

Thankfully, it is unlikely that crops or other plants were damaged by the cold temperatures in April because the cold spell did not follow a period of warm weather. In previous years, spring came early and plants broke dormancy prematurely, and a cold spell like the one experienced during April would have been detrimental to plants. However, the cold temperatures are largely responsible for a delay in spring planting this year, particularly across the Dakotas. For instance, as of the end of April, the planting of spring wheat, oats, barley, and sugar beets had barely begun.

Drought Conditions

Drought conditions improved in the Dakotas but worsened in parts of Colorado and Kansas during April. A late-spring winter storm brought record-breaking snowfall to portions of the Northern Plains, which alleviated drought conditions. According to the U.S. Drought Monitor, the area experiencing drought decreased from 49 percent to 39 percent in North Dakota, and from 36 percent to 19 percent in South Dakota. The area in severe drought (D2) was removed, while moderate drought (D1) and abnormally dry (D0) conditions were vastly reduced. According to the South Dakota State Climatologist, stock ponds have filled up from snowmelt, and this April moisture bodes well for grasses and forage production later in the season.

It was another dry month for drought-stricken areas of Colorado and Kansas, causing conditions to worsen. Storms brought some relief to northern Colorado, while southern Colorado and much of Kansas remained dry. Exceptional drought (D4) was expanded in southern Kansas and introduced to southwestern Colorado. Extreme drought (D3) expanded to encompass all of southern Colorado, and D3 conditions reached into central Kansas as well. As for impacts, below-normal runoff is expected in western Colorado due to the lack of snow this season. The primary agricultural impacts to the Southern Plains have been on cattle, hay, and winter wheat. Unprecedented fire conditions were present across portions of Colorado, Kansas, New Mexico, Oklahoma, and Texas, and high winds caused fires to spread quickly, burning thousands of acres.



Climate Outlooks

According to the Climate Prediction Center, La Niña conditions are present in the Pacific. Equatorial sea surface temperatures are near-to-below average across the east-central and eastern Pacific Ocean. La Niña is expected to transition to ENSO-neutral conditions during April and May, and ENSO-neutral conditions are likely through the summer. If you are looking for more information about ENSO, check out the ENSO blog here: <https://www.climate.gov/news-features/department/8443/all>.

The National Weather Service’s long-range flood outlook indicates that moderate flooding is expected along the Big Sioux River in eastern South Dakota, as well as Stranger Creek and Little Osage and Neosho Rivers in eastern Kansas, through July. Minor flooding is predicted for streams in the eastern Dakotas, eastern Kansas, and western Wyoming. Dry conditions are expected to lead to above-normal wildland fire potential through May in southwestern Kansas and through June in Colorado, with fire potential returning to normal in July and August.

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

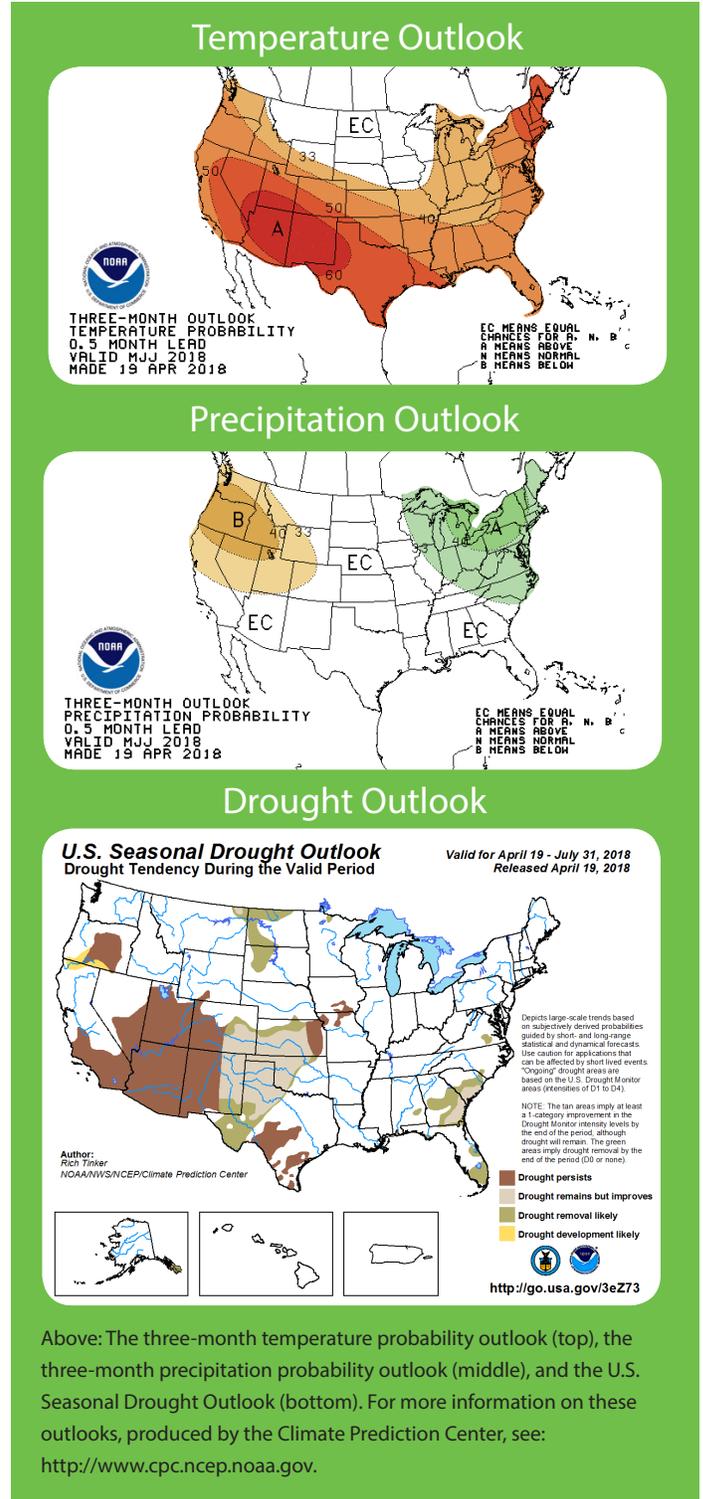
The May-July temperature outlook indicates an increased chance of above-normal temperatures for southern, western, central, and eastern portions of the contiguous U.S. In the High Plains, this includes Colorado, Kansas, and the southwestern halves of Wyoming and Nebraska. Elsewhere, there are equal chances 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 in the Great Lakes, Ohio Valley, and Northeast regions. Below-normal precipitation is expected throughout the western U.S., including western and central portions of Wyoming and Colorado in the High Plains. Elsewhere, there are equal chances for above-, below-, and near-normal precipitation in the contiguous U.S. during the May-July period.

Drought

The April 19th U.S. Seasonal Drought Outlook shows that drought is expected to persist across parts of the Northwest, Southwest, Midwest, and Plains regions. In the High Plains, this includes western Colorado, eastern Kansas, and a small portion of south-central Wyoming. Drought may improve or be removed in the Plains and the Southeast, including the western Dakotas, eastern Colorado, western and central Kansas, and south-central Nebraska in the High Plains. Drought development is likely across southern Oregon and northern California, but additional drought development is not expected in the High Plains 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	60.3	30.7	45.5	-1.5	85	04/29	15	04/07+	1.94	0.29	118
Alamosa San Luis Airport	63.4*	25.8*	44.6*	2.8	72	04/29+	13	04/18	0.20	-0.39	34
Colorado Springs Municipal Airport	61.4	31.9	46.6	0.1	79	04/29	19	04/07	1.08	-0.34	76
Denver International Airport	63.2	32.5	47.8	0.4	83	04/29	21	04/06	0.86	-0.85	50
Grand Junction Walker Field Airport	68.5	40.3	54.4	2.7	81	04/23	27	04/18	0.69	-0.22	76
Pueblo Memorial Airport	69.3	33.1	51.2	0.6	88	04/11	20	04/04	0.49	-0.91	35

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	60.1	32.7	46.4	-6.7	85	04/12	12	04/07	0.99	-1.46	40
Dodge City Regional Airport	66.0	32.8	49.4	-4.5	96	04/12	16	04/07+	0.97	-0.85	53
Goodland Renner Field	62.3	29.8	46.0	-3.2	86	04/29	12	04/06	1.48	-0.11	93
Topeka Municipal Airport	61.3	35.6	48.4	-6.7	84	04/11	18	04/07+	1.06	-2.47	30
Wichita Mid-Continent Airport	64.2	37.3	50.7	-5.4	87	04/12	18	04/07	1.76	-0.83	68

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Chadron Municipal Airport	56.9	27.3	42.1	-2.7	81	04/29	13	04/06	1.18	-0.80	60
Grand Island Airport	55.4	30.8	43.1	-7.5	84	04/30	8	04/07	1.26	-1.27	50
Lincoln Municipal Airport	58.7	30.1	44.4	-7.2	85	04/30	10	04/07	0.67	-2.04	25
Norfolk Karl Stefan Airfield	53.4	29.1	41.3	-8.3	85	04/30	6	04/04	1.32	-1.33	50
North Platte Regional Airport	58.4	28.0	43.2	-4.4	85	04/29+	4	04/07	1.46	-0.81	64
Omaha Eppley Airport	57.4	32.4	44.9	-6.8	85	04/30	13	04/04	0.27	-2.69	9
Valentine Miller Field	54.4	27.1	40.8	-5.9	85	04/11	5	04/04	1.82	-0.40	82

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismarck Municipal Airport	48.5	24.0	36.2	-7.6	83	04/29	2	04/06	0.62	-0.64	49
Fargo International Airport	45.0	24.0	34.5	-9.7	81	04/30	3	04/07+	0.37	-0.99	27
Grand Forks International Airport	44.0	22.3	33.2	-8.8	78	04/30	2	04/06	0.35	-0.66	35
Theodore Roosevelt Airport	48.2	22.4	35.3	-7.0	84	04/29	0	04/06+	0.81	-0.66	55
Williston International Airport	47.8	23.3	35.6	-7.8	82	04/29	-4	04/01	0.48	-0.52	48

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 2018 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	48.6	22.8	35.7	-8.7	82	04/30	-6	04/04	0.98	-0.87	53
Huron Regional Airport	48.0	25.8	36.9	-9.6	82	04/30	3	04/04	2.29	-0.02	99
Pierre Regional Airport	50.8	25.2	38.0	-9.0	85	04/29	0	04/04	1.67	-0.14	92
Rapid City Regional Airport	52.1	25.8	38.9	-6.1	82	04/29	9	04/03	1.70	-0.10	94
Sioux Falls Joe Foss Field Airport	48.1	26.9	37.5	-8.9	85	04/30	5	04/04	3.34	0.33	111

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	58.7	25.1	41.9	-0.8	80	04/28	5	04/03	1.03	-0.26	80
Cheyenne Municipal Airport	57.3	29.0	43.1	0.3	76	04/29	16	04/06	0.94	-0.84	53
Lander Hunt Field Airport	58.5	29.4	43.9	0.0	76	04/28	13	04/03	1.49	-0.38	80
Laramie Regional Airport	54.8	24.3	39.5	1.6	71	04/29	12	04/18	0.30	-0.77	28
Rawlins Municipal Airport	56.3*	25.8*	41.3*	1.2	76	04/28	8	04/03	0.27*	-0.78	26
Sheridan County Airport	55.8	26.7	41.2	-2.4	84	04/28	3	04/01	1.83	0.23	114

April 2018 Highlights

Monthly Rankings

Precipitation in inches, Temperature in degrees F

Coolest	Temperature / Ranking	Record / Year	Period of Record
Huron, SD	36.9 / COOLEST	36.9 / 1920	1882-2018
Sioux Falls, SD	37.5 / COOLEST	37.8 / 1950	1893-2018
Aberdeen, SD	35.7 / 2nd coolest	34.9 / 2013	1896-2018
Pierre, SD	38.0 / 2nd coolest	37.6 / 2013	1934-2018
Grand Island, NE	43.1 / 2nd coolest	41.1 / 1920	1896-2018
Norfolk, NE	41.3 / 2nd coolest	40.5 / 1920	1893-2018
Lincoln, NE	44.4 / 3rd coolest	43.5 / 1907	1887-2018
Concordia, KS	46.4 / 3rd coolest	44.9 / 1983	1886-2018
Topeka, KS	48.4 / 3rd coolest	47.2 / 1907	1888-2018
Wichita, KS	50.7 / 4th coolest	48.0 / 1983	1889-2018
Grand Forks, ND	33.2 / 5th coolest	29.7 / 1950	1894-2018
Driest	Precipitation / Ranking	Record / Year	Period of Record
Omaha, NE	0.27 / 3rd driest	0.23 / 1936	1871-2018
Laramie, WY	0.30 / 5th driest	0.20 / 1966	1948-2018
Topeka, KS	1.06 / 9th driest	0.62 / 1989	1888-2018
Fargo, ND	0.37 / 10th driest	0.01 / 1988	1881-2018
Lincoln, NE	0.67 / 10th driest (tie, 1902)	0.02 / 1910	1887-2018

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North Dakota Climate Summary

Adnan Akyuz - State Climatologist
North Dakota State Climate Office, North Dakota State University
For more information: www.ndsu.edu/ndsco or www.ndawn.ndsu.nodak.edu



Precipitation:

Based on the National Centers for Environmental Information (NCEI), the statewide total April precipitation was 0.49 inch, which was 0.88 inch less than last month, 0.48 inch less than in April 2017 and also 0.73 inch less than the 1981-2010 average, making it the 14th driest April in the 124-year period of record. It was the driest April since 1988. Well-below-average precipitation was observed commonly in all parts of the state except for the southwest, where above-average conditions were observed (Figure 1). The greatest monthly precipitation accumulation was 2.1 inches, recorded in Bowman, Bowman County. The greatest 24-hour precipitation was 0.53 inch, recorded in Ashley, Dickey County, on April 3. The greatest monthly snowfall accumulation was 20.1 inches, recorded in Fullerton, Dickey County. The greatest 24-hour snowfall was 18 inches, also recorded in Fullerton, Dickey County, on April 8. Based on historical records, statewide April precipitation showed a slight positive long-term trend of 0.01 inch per century since 1895. The highest and lowest April precipitation for the state ranged from 3.71 inches in 1986 to 0.11 inch the following year in 1987.

Temperature:

The official state average April temperature was 32.8 F, only 7.7 F warmer than last month but 10 F colder than in April 2017 and 9.6 F colder than the 1981-2010 average, making it the fifth coldest April in the 124-year period of record. It was the coldest April since 2013. Below-average temperatures were observed commonly in the state, with the highest departure from the average in the northwestern part of the state (Figure 2). The state's highest and lowest daily temperatures ranged from 84 F on April 29 in Dickinson, Stark County, to minus 10 F on April 6 and 7 in Max, McLean County, and at Lake Metigoshe, Bottineau County, on April 3. Based on the historical records, the state average April temperature showed no trend since 1895. The highest and the lowest monthly state April average temperatures ranged from 40.6 F in 2012 to 7 F in 1899.

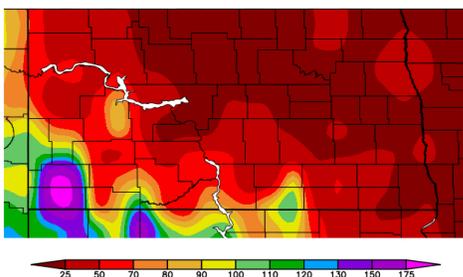
Drought and other notable impacts:

Drought conditions improved toward the middle of the month, compared with the beginning of the month. However, the rainy momentum from March reversed in April. Toward the end of April, a severe drought was spotted in the north-central part of the state as seen in the Drought Monitor map published on May 1. By the end of the month, 39 percent of the state was experiencing drought, 3 percent of which was in the severe category.

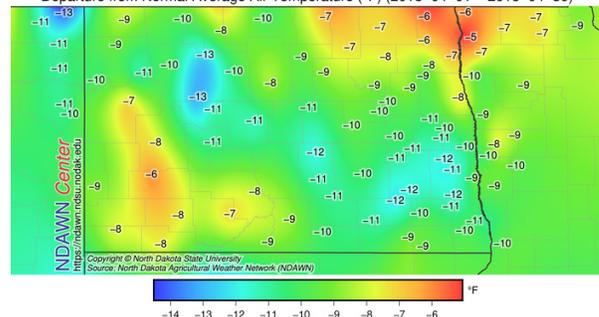
NDAWN's highest peak gust in April was 48 mph, recorded at the Edgeley weather station in LaMoure County on April 23, 2018. The NOAA Storm Report reported no significant storm events in April. Across the observation network of weather stations with at least 30 years of history, a total of 126 daily low-temperature-related records were set or tied. A total of 13 highest daily precipitation-related records were set or tied.

Temperature and Precipitation Overview

Percent of Normal Precipitation (%)
4/1/2018 - 4/30/2018



Departure from Normal Average Air Temperature (°F) (2018-04-01 - 2018-04-30)



Above: Percent of normal precipitation (left, figure 1) and departure from normal average temperature (right, figure 2) for April 2018 in North Dakota. Figure 1 produced by the Applied Climate Information System, Figure 2 produced by NDAWN.

Kansas Climate Summary

Mary Knapp - Service Climatologist
Kansas Weather Data Library, Kansas State University
For more information: www.ksre.ksu.edu/wdl



Cold and dry

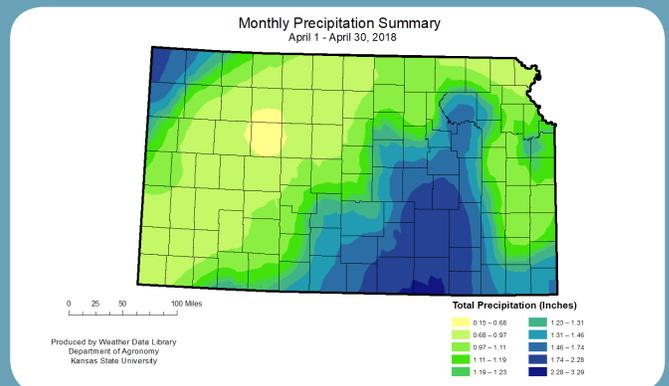
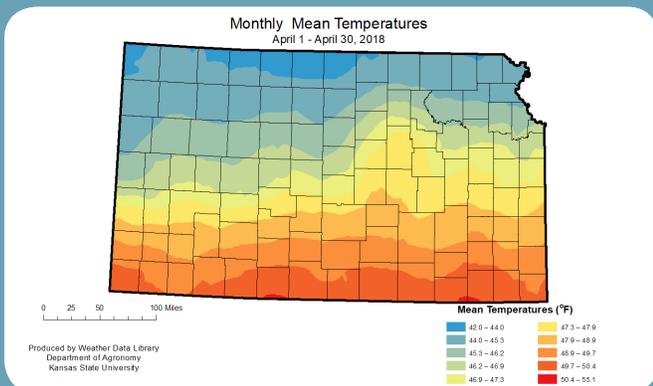
April set a new record as the coldest since 1895. The state-wide average temperature for the month was 46.7 oF. This was 6.5 degrees cooler than normal. The Northeast Division had the greatest departure with an average of 44.5 oF which was a departure of -9.0 degrees. The West Central Division came closest to normal with an average of 46.0 oF, which was a departure from normal of -4.7 degrees. There were 189 new record daily cold maximum temperatures, of which 18 set new record low maximums for the month. In addition, there were 291 new daily record low minimum temperatures, of which 3 set new records for the month. The records weren't all on the cold side, however. There were 26 new record high maximum temperatures and 10 new record high minimum temperatures record during April. The warmest temperature reported during the month was 99 oF at Ashland, Clark County, and Wilmore 16SE, Comanche County, on the 13th. The coldest temperature reported during April was 4 oF. This was reported at multiple locations and dates with the latest at Atwood, Rawlins County, on the 8th.

While precipitation began to fall towards the end of the month. April continued the pattern of below normal precipitation. The state-wide average precipitation was 1.19 inches which was just 45 percent of normal. April is one of the months with higher normal precipitation, so the deficit of -1.48 inches has had a negative impact on vegetation. The division that came closest to normal precipitation was the Southcentral Division with an average of 1.57 inches or 58 percent of normal. The Northeast Division had the greatest departure, with an average of 1.01 inches or just 31 percent of normal. The greatest monthly total for a National Weather Service Cooperative station was Augusta, Butler County with 3.29 inches. The Community Collaborative Rain, Hail and Snow network station with the greatest monthly precipitation was Winfield 5.9SW, Cowley County, with 3.06 inches. Among the Kansas Mesonet stations, the Butler County station near El Dorado had the greatest total at 2.38 inches.

Unsurprisingly, given the dry conditions, severe weather reports during the month were limited. There were 11 hail reports and 4 damaging wind reports. The lack of tornadoes in April made for the latest start to the tornado season since 2000.

The Northwest and Southeast corners of the state remain drought-free. The rest of the state saw deterioration. Exceptional drought conditions now cover just over 7 percent of the state, with extreme drought covers an additional 20 percent of the state. Severe drought has expanded to a quarter of the state while moderate drought covers an additional 32 percent of the state. The May outlook has a slight chance for wetter than normal conditions across the state. The temperature outlook is for cooler than normal temperatures statewide. Unless May moisture is significant, that combination is unlikely to result in significant improvement of the drought conditions. With the wet summer last year, current dryness, and the cool start to the year, increased fire danger continues in Southwest Kansas.

Temperature and Precipitation Overview



Above: April 2018 monthly mean temperatures (left) and total precipitation (right) in Kansas. Maps produced by Weather Data Library, Department of Agronomy, Kansas State University.

Nebraska Climate Summary

Martha Shulski - State Climatologist
Nebraska State Climate Office, University of Nebraska-Lincoln
For more information: <https://nsco.unl.edu/>



A spring blizzard and record cold highlight April

A mid-month blizzard marched its way across Nebraska, resulting in a foot or more of snow and sustained high winds. The timing of the storm (April 13-14) was such that calving was impacted and in some areas of the state there was a shortage of shelter equipment. The strongest winds were from an east – northeast direction, which is not common for a blizzard. The Nebraska Mesonet station near Big Springs recorded a wind gust of 66 mph on the 13th. Power losses occurred in portions of the state and a significant stretch of I-80 was closed for a time as the storm passed through the state. Snowfall totals were highest at more than 8 inches in a large swath stretching from the southern Panhandle to northcentral Nebraska. The highest totals were up to 2 feet of snow, near the South Dakota border. As the blizzard approached southeast Nebraska, the air temperature took a dive from 85 degrees on the 13th to a high of only 32 degrees on the afternoon of the 14th.

Another key story was the persistence of cold weather for much of the month, aside from the blizzard. The strongest departures from normal were in the eastern two thirds of the state. Temperatures averaged up to 10 degrees below normal in the east to about 3 degrees below normal in the Panhandle. Norfolk (41.3°F), Lincoln (44.4°F), and Grand Island (43.1°F) airports all reported the coldest April on record. Omaha (44.9°F), Hastings (42.3°F) and Columbus (42.9°F) came in at second coldest while Imperial and North Platte were 6th and 8th coldest, respectively. A warmup was felt during the last week of the month as temperatures moderated. The statewide high of 88°F was reached across portions of southern Nebraska on the 29th and 30th.

Precipitation was heaviest in areas of the state that experienced the highest snowfall amounts. Liquid equivalent totals were more than 1.5 inches in these areas. Conditions were relatively dry in the east with less than an inch reported, which is a few inches less than normal for April. In fact, Omaha (0.27 inch), Lincoln (0.67 inch), and Columbus (0.50 inch) ranked as 2nd, 3rd, and 7th driest, respectively.

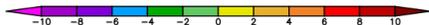
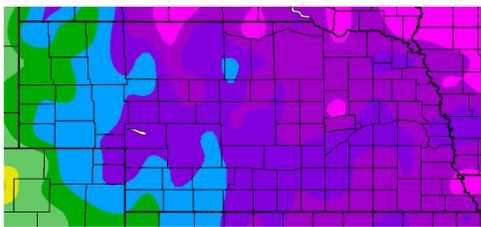
Soil temperatures were below freezing at the beginning of the month. It took until late April for temperatures to warm into the 50s. By month's end, the weekly average bare soil temperature was in the mid to high 50s across much of Nebraska. The diurnal temperature cycle is running in the low 40s at night and 60s to low 70s for afternoon highs. It got as high as 75°F under bare ground at O'Neill on the 30th.

With the relative lack of precipitation in the east, the state saw a degradation in this area and the placement of abnormal dryness (D0) in this area, according to the U.S. Drought Monitor. The opposite occurred in the southern Panhandle, with an elimination of D0 in Cheyenne and Kimball counties. At the start of May, abnormal dryness covered 25% of the state and moderate drought (D1) 2% in the far southeast and southcentral.

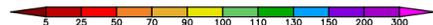
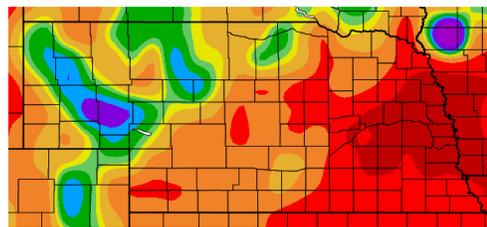
Rocky Mountain snowpack is continuing the trend from last month with generally below normal conditions (75% of normal) for the North and South Platte basins. Above normal snow amounts are confined to the highest elevations, whereas lower elevation snowpack conditions are normal to below normal.

Temperature and Precipitation Overview

Departure from Normal Temperature (F)
4/1/2018 - 4/30/2018



Percent of Normal Precipitation (%)
4/1/2018 - 4/30/2018



Above: April 2018 departure from normal temperature (left) and percent of normal precipitation (right) in Nebraska. Maps produced by the Applied Climate Information System.

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 first week of November 2014

Significant Events for November and Autumn 2014

Regional - Impacts for September - November 2014

Regional - Climate Overview for September - November 2014

Drought Co-Occurrence

3-Month Precipitation and Temperature Outlooks

Soil Moisture Conditions

MO River Basin Partners

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

Author Information

For questions, comments, or suggestions, please contact:
Crystal Stiles, Applied Climatologist
(402) 202-3320 - cstiles3@unl.edu
713 Hardin Hall, 3310 Holdrege Street
Lincoln, NE 68583-0997
<http://hprcc.unl.edu>

