



May 2018 Climate Summary

The Big Sioux River in Sioux Falls, SD. Photo courtesy of Natalie Umphlett.
<http://hprcc.unl.edu>

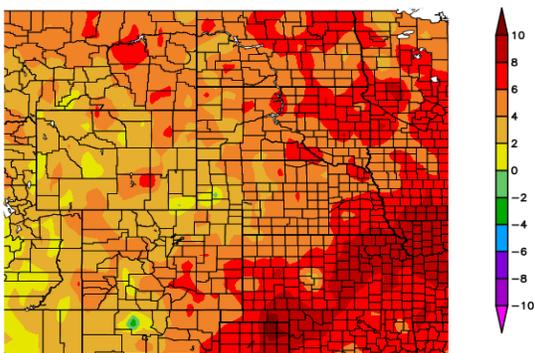
A Drastic Temperature Change

The cool temperatures experienced in April by eastern portions of the region were quickly forgotten in May, as a drastic warmup brought summerlike temperatures to the High Plains. Departures across the Dakotas, Nebraska, and Kansas ranged from 4.0-10.0 degrees F (2.2-5.6 degrees C) below normal in April to 4.0-10.0 degrees F (2.2-5.6 degrees C) above normal in May. The extremes were evident in locations such as Aberdeen, South Dakota, which went from having its 2nd coolest April to having its 3rd warmest May. This rapid change in temperatures impacted agriculture and livestock. For instance, warmer temperatures aided with crop progress after slow growth in April, but increased evaporative demand worsened winter wheat conditions in Colorado and Kansas where it has been dry since the fall. Additionally, oppressive heat and humidity in late May caused cattle deaths in South Dakota because the cattle were not yet acclimated to these conditions. Looking at temperatures for the spring season, Colorado was particularly warm, as departures were generally 2.0-4.0 degrees F (1.1-3.3 degrees C) above normal. Alamosa, Colorado Springs, and Pueblo each had a top 10 warmest spring on record.

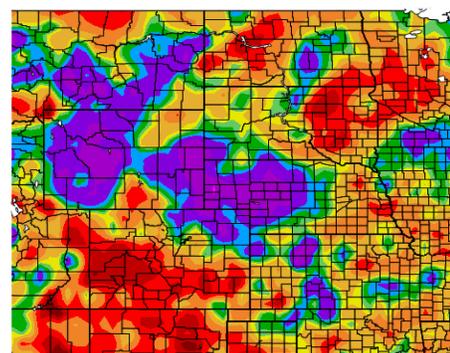
As for precipitation, conditions varied across the region, as wetter areas included a swath from western Wyoming eastward into central Nebraska and Kansas, while the rest of the region was dry. Heavy rains improved drought conditions throughout a large part of Kansas and northeastern Colorado, while continued dryness caused drought to spread and intensify across portions of the Dakotas. A combination of snowmelt and heavy rains caused flooding in the Upper Missouri Basin, and a statewide flooding emergency was declared in Montana. Like May, spring precipitation varied throughout the High Plains, and records for wetness and dryness were both set. For instance, this spring was among the top 10 wettest for Scottsbluff, Nebraska and Akron, Colorado, while it was among the top 10 driest for Alamosa, Colorado; Pueblo, Colorado; Salina, Kansas; and Aberdeen, South Dakota.

Temperature and Precipitation Overview

Departure from Normal Temperature (F)
5/1/2018 - 5/31/2018



Percent of Normal Precipitation (%)
5/1/2018 - 5/31/2018



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

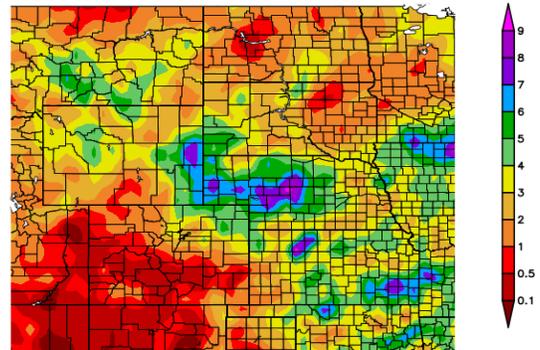
Both wet and dry conditions existed in the High Plains during May. Precipitation was 150-300 percent of normal across much of Wyoming, the western half of Nebraska, northeastern Colorado, and pockets of Kansas and the Dakotas. Locations that received enough precipitation to make the top 10 of wettest Mays on record included North Platte, Nebraska (4th wettest); Scottsbluff, Nebraska (5th wettest); and Goodland, Kansas (6th wettest). The rest of the region remained dry in May, particularly southwestern Colorado and eastern South Dakota where precipitation was less than 50 percent of normal. Aberdeen, South Dakota had its 7th driest May on record with only 17 percent of normal precipitation.

The cool and dry conditions of April brought about a slow start to the severe weather season in the High Plains, but the pattern change allowed for all modes of severe weather to occur in May, impacting parts of the region. For instance, a storm dropped hail that was 2.0 inches (5 cm) in diameter in Scott County, Kansas on the 14th, damaging wheat fields, windows, siding, and fertilizer tanks. According to Kansas Wheat, Scott City and Sharon Springs were hardest hit. On the 17th-18th, another storm brought torrential rainfall to north-central South Dakota, which caused flash flooding. The flooding destroyed a concrete dam at Lake Hiddenwood Recreation Area in Walworth County. On Memorial Day (May 28th), heavy rain fell in Graham County, Kansas, with 5.61 inches (142 mm) reported at the Hill City Municipal Airport. The rain washed out roads and caused the Saline River to flood.

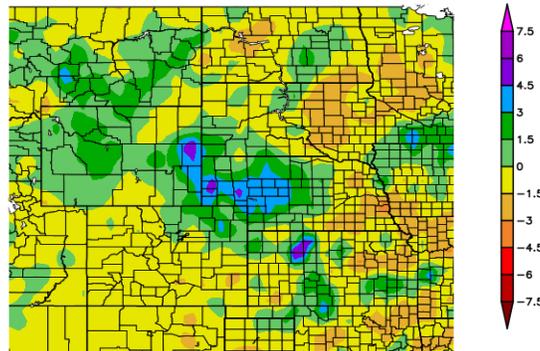
One positive impact of the heavy rains that fell in parts of the region was it helped improve soil moisture conditions. Soil moisture conditions are very important during this time of year, as most crops have been planted and the moisture is needed for them to grow. According to the U.S. Department of Agriculture Weekly Weather and Crop Bulletin, beneficial rains improved topsoil and subsoil moisture in May in portions of Colorado, Kansas, North Dakota, and Nebraska. However, topsoil moisture declined in South Dakota, where most areas missed out on heavy rainfall and experienced much-above-normal temperatures. The decline of topsoil moisture is an indicator of worsening drought conditions, and it is something to watch closely as we move into the season when crop water demand is highest.

Regional Precipitation

Precipitation (in)
5/1/2018 – 5/31/2018



Departure from Normal Precipitation (in)
5/1/2018 – 5/31/2018



Above: Total precipitation in inches (top) and departure from normal precipitation in inches (bottom) for May 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 and Runoff Update

Upper Missouri Basin snowpack peaked in April and rapidly declined in May. According to the U.S. Army Corps of Engineers, Snow Water Equivalent (SWE) above Fort Peck Reservoir was 96 percent of average as of the end of May, and SWE between Fort Peck and Garrison Reservoirs was 95 percent of average. Above-normal temperatures caused the snowpack to melt quickly and, as a result, streamflows ran high throughout Wyoming and Montana. According to the U.S. Army Corps of Engineers Missouri River Water Management Division in Omaha, Nebraska, the Corps intends to continue above-average releases from all system projects throughout the summer in order to slowly evacuate stored flood waters. Meanwhile, streamflows were below normal in areas of Kansas and Colorado where drought was present.

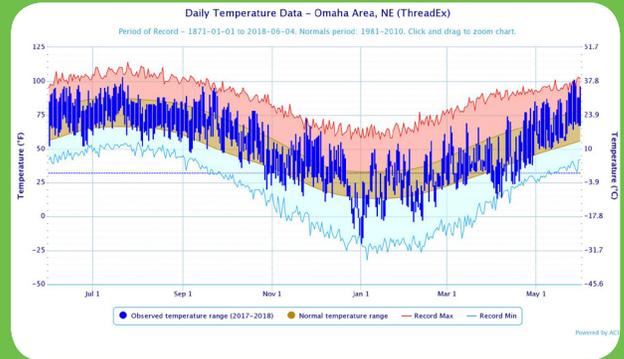
Temperatures

A stark turnaround in temperatures occurred in May, as the cool pattern experienced by eastern portions of the High Plains in April abruptly ended and above-normal temperatures prevailed. Average temperatures in May ranged from approximately 3.0-9.0 degrees F (1.7-5.0 degrees C) above normal, with the highest departures occurring throughout much of Kansas and eastern areas of the Dakotas, Nebraska, and Colorado. Many locations had a top 10 warmest May on record, some of which followed a top 10 coolest April. Locations that had their warmest May on record included Concordia, KS; Dodge City, KS; Topeka, KS; Colorado Springs, CO; and Pueblo, CO.

In addition to average monthly temperatures, numerous daily records for maximum temperatures were broken as well. Temperatures reached 90.0 degrees F (32.2 degrees C) on quite a few days throughout a large portion of the High Plains, with several locations setting new records or ranking in the top five for most number of days that 90.0 degrees F (32.2 degrees C) was reached in the month of May. For instance, Dodge City, KS and Salina, KS reached 90.0 degrees F (32.2 degrees C) on 15 out of 31 days in May, which was the most on record for both locations.

The highest temperatures of the month occurred over Memorial Day Weekend for most of the High Plains and caused negative impacts. Temperatures reached 100.0 degrees F (37.8 degrees C) in portions of Nebraska and South Dakota. Daily record highs were set four days in a row (25th-28th) in Omaha, Nebraska, which buckled pavement and compromised air quality in and around the area. This impressive heat wave was also blamed for cattle deaths in South Dakota.

Station Spotlight: Omaha, NE



Above: Daily temperatures along with extremes and normals values since June 1, 2017 in Omaha, NE.

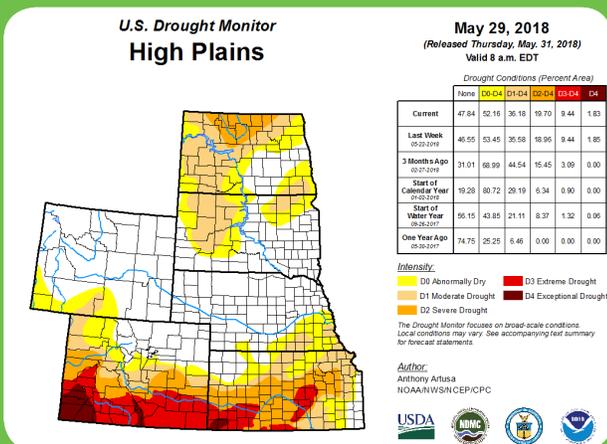
Drought Conditions

Both improvements and degradations in drought conditions occurred throughout the High Plains in May. According to the U.S. Drought Monitor, little change occurred to the region-wide percent area experiencing drought over the past month. However, changes in conditions were evident on a more local basis. For instance, heavy rains improved conditions across portions of Kansas, northern Colorado, and south-central Nebraska, while drought expanded and intensified in the Dakotas, southern Colorado, and southeastern Nebraska.

Kansas experienced the greatest improvements in drought conditions during the month of May. Portions of central Kansas received up to 300 percent of normal precipitation, which was quite welcome after paltry amounts in April. Unfortunately, it was too late to improve winter wheat conditions in Kansas, as nearly half of the crop was still in poor to very poor condition by the end of the month.

Meanwhile, continued dryness and high temperatures caused drought to expand and intensify in the Dakotas and parts of Colorado and Nebraska. In North Dakota, pastures were dry and low streamflows impacted flow releases from dams. Twenty-one counties were declared natural disaster areas due to lingering drought conditions that caused significant production losses last year. Impacts continued to mount in Colorado, as livestock producers reduced herds and hauled water, and visitation declined in Great Sand Dunes National Park due to low flows in Medano Creek.

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, La Niña has ended and ENSO-neutral conditions are present in the Pacific. Equatorial sea surface temperatures are near average across most of the Pacific Ocean. ENSO-neutral is favored through fall 2018, with the possibility of El Niño nearing 50 percent by winter 2018-19. 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 major flooding is expected on the Wind River near Dubois, Wyoming, with minor to moderate flooding expected downstream through August. Moderate flooding may occur along Stranger Creek and the Little Osage River in eastern Kansas. Dry conditions are expected to lead to above-normal wildland fire potential in southern and western Colorado in June, while below-normal wildland fire potential is favored throughout much of South Dakota, northern Wyoming, and northwestern Nebraska in June and July.

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

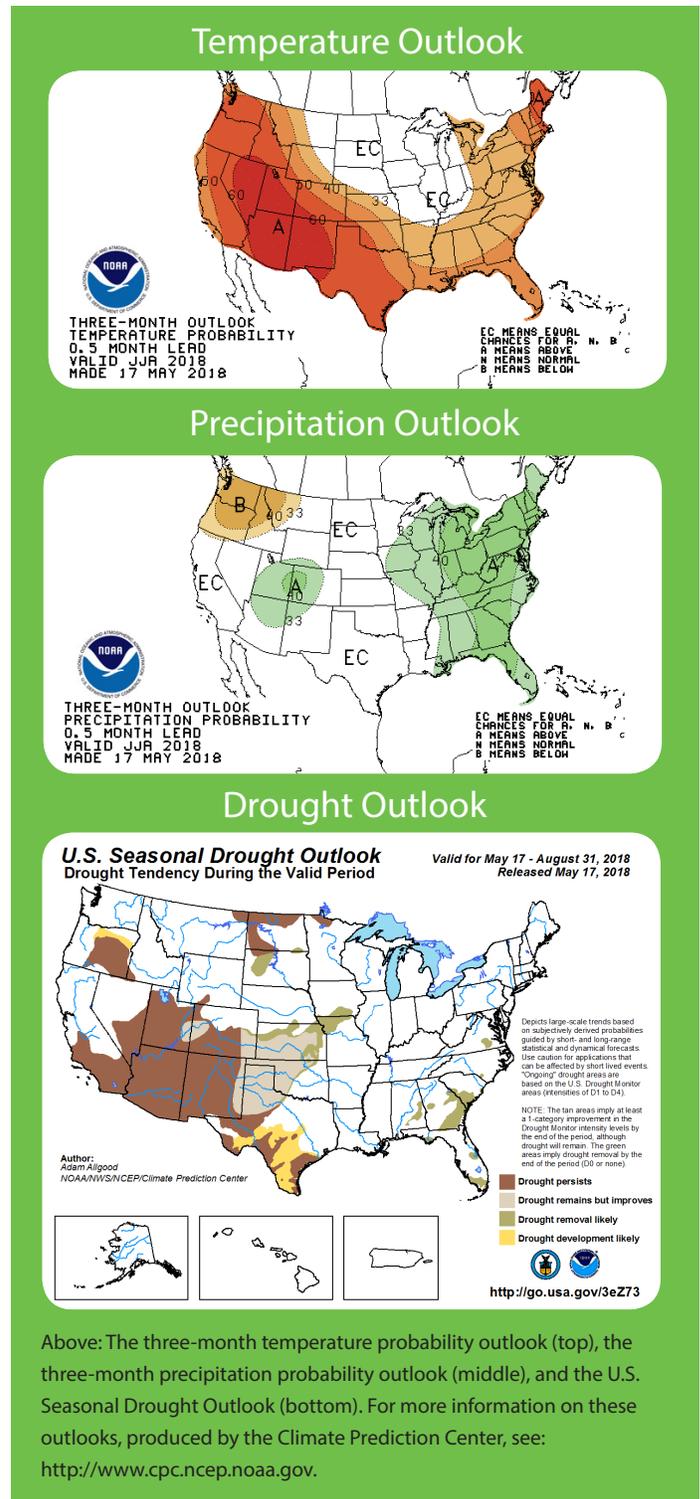
The June-August temperature outlook indicates an increased chance of above-normal temperatures for southern, western, central, and eastern portions of the contiguous U.S. In the High Plains, this includes Colorado, much of Wyoming and Kansas, and southwestern Nebraska. Elsewhere, there are equal chances for above-, below-, and near-normal temperatures during the June-August period.

Precipitation

The precipitation outlook for the next three months calls for a higher probability of above-normal precipitation across the eastern third of the contiguous U.S., as well as the Four Corners region. In the High Plains, this includes the western half of Colorado and southern Wyoming. Below-normal precipitation is expected in the Pacific Northwest. Elsewhere, there are equal chances for above-, below-, and near-normal precipitation in the contiguous U.S. during the June-August period.

Drought

The May 17th U.S. Seasonal Drought Outlook shows that drought is expected to persist across parts of the Northwest, Southwest, and Plains regions. In the High Plains, this includes portions of Colorado, Wyoming, North Dakota, and South Dakota. Drought may improve or be removed in the Plains and the Southeast, including areas of Kansas, Colorado, Nebraska, and the Dakotas. Drought development is likely across northern Oregon and parts of Texas, but additional drought development is not expected in the High Plains through August.



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 | 73.1 | 48.1 | 60.6 | 3.5 | 91 | 05/26 | 40 | 05/20+ | 6.19 | 3.27 | 212 |
| Alamosa San Luis Airport | 75.0 | 33.5 | 54.2 | 3.0 | 83 | 05/31+ | 22 | 05/03 | 0.14 | -0.44 | 24 |
| Colorado Springs Municipal Airport | 77.0 | 47.5 | 62.2 | 6.3 | 91 | 05/26 | 39 | 05/04 | 1.46 | -0.57 | 72 |
| Denver International Airport | 75.4 | 47.5 | 61.4 | 4.3 | 94 | 05/26 | 40 | 05/20+ | 1.86 | -0.26 | 88 |
| Grand Junction Walker Field Airport | 80.7 | 49.9 | 65.3 | 3.7 | 94 | 05/26 | 40 | 05/04 | 0.19 | -0.69 | 22 |
| Pueblo Memorial Airport | 84.1 | 50.6 | 67.4 | 7.0 | 98 | 05/26 | 37 | 05/04 | 0.58 | -0.93 | 38 |

| Kansas | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|-------------------------------|--------------------------|------|------|--------|----------|--------|-----|-------|------------------------|--------|--------|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Concordia Municipal Airport | 83.9 | 58.6 | 71.3 | 8.2 | 97 | 05/27 | 49 | 05/04 | 4.08 | -0.08 | 98 |
| Dodge City Regional Airport | 87.0 | 57.3 | 72.2 | 8.0 | 98 | 05/26 | 44 | 05/04 | 2.30 | -0.55 | 81 |
| Goodland Renner Field | 78.1 | 50.4 | 64.2 | 4.8 | 92 | 05/27+ | 39 | 05/04 | 6.10 | 3.15 | 207 |
| Topeka Municipal Airport | 86.8 | 62.6 | 74.7 | 9.7 | 97 | 05/26 | 51 | 05/05 | 3.80 | -1.11 | 77 |
| Wichita Mid-Continent Airport | 87.4 | 62.7 | 75.1 | 9.1 | 96 | 05/26 | 52 | 05/05 | 4.74 | 0.17 | 104 |

| Nebraska | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|-------------------------------|--------------------------|------|------|--------|----------|--------|-----|--------|------------------------|--------|--------|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Chadron Municipal Airport | 74.8 | 45.5 | 60.2 | 4.4 | 92 | 05/26 | 32 | 05/02 | 3.38 | 0.62 | 122 |
| Grand Island Airport | 78.6 | 55.5 | 67.0 | 5.8 | 100 | 05/26 | 45 | 05/21 | 3.98 | -0.43 | 90 |
| Lincoln Municipal Airport | 82.5 | 56.5 | 69.5 | 7.2 | 100 | 05/26 | 43 | 05/07 | 2.23 | -2.06 | 52 |
| Norfolk Karl Stefan Airfield | 77.7 | 53.8 | 65.7 | 5.2 | 97 | 05/27+ | 43 | 05/03 | 1.62 | -2.31 | 41 |
| North Platte Regional Airport | 76.8 | 50.2 | 63.5 | 5.6 | 94 | 05/26 | 36 | 05/04 | 7.32 | 4.04 | 223 |
| Omaha Eppley Airport | 82.5 | 58.8 | 70.6 | 8.3 | 101 | 05/27 | 50 | 05/11+ | 1.97 | -2.79 | 41 |
| Valentine Miller Field | 77.2 | 51.7 | 64.4 | 6.8 | 95 | 05/27+ | 36 | 05/02 | 4.26 | 1.13 | 136 |

| North Dakota | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|-----------------------------------|--------------------------|------|------|--------|----------|--------|-----|-------|------------------------|--------|--------|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Bismarck Municipal Airport | 75.6 | 47.2 | 61.4 | 5.9 | 93 | 05/26 | 31 | 05/03 | 1.60 | -0.80 | 67 |
| Fargo International Airport | 77.8 | 49.5 | 63.6 | 6.5 | 93 | 05/26+ | 29 | 05/11 | 1.94 | -0.87 | 69 |
| Grand Forks International Airport | 75.8 | 44.2 | 60.0 | 5.2 | 94 | 05/25 | 24 | 05/11 | 1.55 | -1.13 | 58 |
| Theodore Roosevelt Airport | 72.8 | 46.0 | 59.4 | 6.3 | 92 | 05/26 | 33 | 05/20 | 2.49 | 0.17 | 107 |
| Williston International Airport | 74.4 | 46.6 | 60.5 | 6.4 | 92 | 05/26 | 31 | 05/20 | 1.50 | -0.42 | 78 |

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>.

May 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 | 80.1 | 49.0 | 64.5 | 8.1 | 101 | 05/27 | 29 | 05/02 | 0.52 | -2.59 | 17 |
| Huron Regional Airport | 77.9 | 52.2 | 65.0 | 6.9 | 98 | 05/27 | 35 | 05/02 | 1.39 | -1.72 | 45 |
| Pierre Regional Airport | 76.5 | 51.0 | 63.8 | 5.9 | 91 | 05/26 | 35 | 05/02 | 2.78 | -0.37 | 88 |
| Rapid City Regional Airport | 71.5 | 46.5 | 59.0 | 4.0 | 88 | 05/26 | 33 | 05/02 | 4.04 | 0.82 | 125 |
| Sioux Falls Joe Foss Field Airport | 75.9 | 52.1 | 64.0 | 6.0 | 95 | 05/27 | 40 | 05/02 | 2.48 | -0.92 | 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 | 70.8 | 40.5 | 55.7 | 3.5 | 88 | 05/26 | 29 | 05/01 | 2.86 | 0.84 | 142 |
| Cheyenne Municipal Airport | 68.7 | 43.4 | 56.0 | 3.6 | 84 | 05/26 | 34 | 05/01 | 4.10 | 1.76 | 175 |
| Lander Hunt Field Airport | 67.8 | 42.8 | 55.3 | 2.0 | 83 | 05/26 | 29 | 05/01 | 4.07 | 1.87 | 185 |
| Laramie Regional Airport | 66.5 | 35.8 | 51.1 | 3.5 | 84 | 05/26 | 27 | 05/04 | 1.66 | -0.03 | 98 |
| Rawlins Municipal Airport | 70.1 | 37.9 | 54.0 | 4.6 | 85 | 05/26 | 27 | 05/01 | 0.62 | -0.79 | 44 |
| Sheridan County Airport | 70.5 | 44.5 | 57.5 | 5.0 | 84 | 05/26 | 32 | 05/02 | 3.57 | 1.22 | 152 |

May 2018 Highlights

Monthly Rankings

Precipitation in inches, Temperature in degrees F

| Warmest | Temperature / Ranking | Record / Year | Period of Record |
|----------------------|--------------------------------|---------------|------------------|
| Concordia, KS | 71.3 / WARMEST | 71.1 / 1962 | 1885-2018 |
| Dodge City, KS | 72.2 / WARMEST | 71.1 / 1962 | 1875-2018 |
| Topeka, KS | 74.7 / WARMEST | 72.7 / 1962 | 1888-2018 |
| Colorado Springs, CO | 62.2 / WARMEST | 60.8 / 1934 | 1895-2018 |
| Pueblo, CO | 67.4 / WARMEST | 67.0 / 1934 | 1889-2018 |
| Omaha, NE | 70.6 / 2nd warmest | 72.9 / 1934 | 1871-2018 |
| Valentine, NE | 64.4 / 2nd warmest | 67.4 / 1934 | 1890-2018 |
| Chanute, KS | 73.7 / 2nd warmest | 74.7 / 1962 | 1896-2018 |
| Wichita, KS | 75.1 / 2nd warmest | 75.3 / 1962 | 1889-2018 |
| Aberdeen, SD | 64.5 / 3rd warmest | 69.0 / 1934 | 1893-2018 |
| Fargo, ND | 63.6 / 3rd warmest (tie, 1934) | 66.5 / 1977 | 1881-2018 |
| Grand Island, NE | 67.0 / 3rd warmest (tie, 1977) | 71.7 / 1934 | 1896-2018 |
| Wettest/Driest | Precipitation / Ranking | Record / Year | Period of Record |
| North Platte, NE | 7.32 / 4th wettest | 8.01 / 1962 | 1875-2018 |
| Scottsbluff, NE | 7.51 / 5th wettest | 7.95 / 2015 | 1893-2018 |
| Goodland, KS | 6.10 / 6th wettest | 8.21 / 1981 | 1897-2018 |
| Aberdeen, SD | 0.52 / 7th driest (tie, 1976) | 0.25 / 1900 | 1893-2018 |

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North Dakota Climate Summary

Adnan Akyuz - State Climatologist
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Precipitation:

Based on the National Centers for Environmental Information (NCEI), the statewide total May precipitation was 1.83 inches, which was 1.34 inches more than last month, 0.82 inch more than in May 2017 and also 0.7 inch less than the 1981-2010 average, making it the 46th driest May in the 124-year period of record. It was the driest May since 2017. Below-average precipitation was observed commonly in all parts of the state except for a small area in south-central North Dakota, where above-average conditions were observed (Figure 1). The greatest monthly precipitation accumulation was 4.31 inches, recorded in Streeter, Stutsman County. The greatest 24-hour precipitation was 2.65 inches, recorded in Ashley, McIntosh County, on May 18. Based on historical records, statewide May precipitation showed a positive long-term trend trend of 0.34 inch per century since 1895. The highest and lowest May precipitation for the state ranged from 5.96 inches in 1927 to 0.23 inch in 1901.

Temperature:

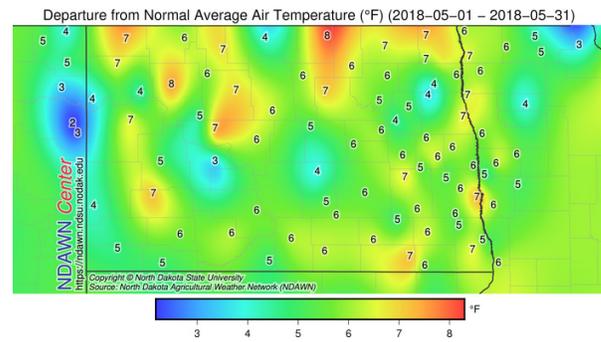
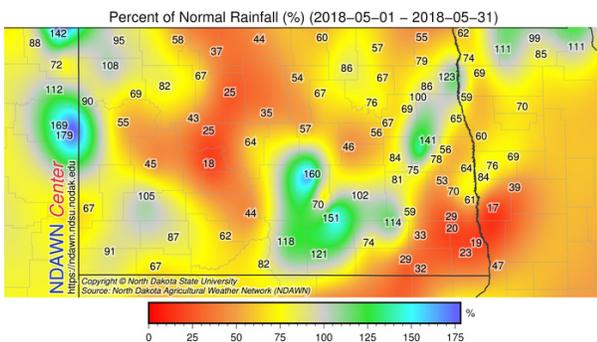
The official state average May temperature was 59.9 F, 27.1 F warmer than last month, 5.1 F warmer than in May 2017 and also 5.8 F warmer than the 1981-2010 average, making it the seventh warmest May in the 124-year period of record. It was the warmest May since 1988. Above-average temperatures were observed commonly in the state, with the highest departure from the average in the northern part of the state (Figure 2). The state's highest and lowest daily temperatures ranged from 98 F on May 27 in Watford City, McKenzie County, to 22 F on May 2 and May 4 in Willow City, Bottineau County. Based on the historical records, the state average May temperature showed a positive long-term trend trend of 1 F per century since 1895. The highest and the lowest monthly state May average temperatures ranged from 63.4 F in 1934 to 44.4 F in 1907.

Drought and other notable impacts:

In general, overall drought conditions worsened throughout the month. Toward the end of May, severe drought conditions in the north-central part of the state expanded westward and southward. By the end of the month, 51 percent of the state was experiencing drought (increased in coverage by 12 percent compared with the previous month), 14 percent of which was in the severe category.

NDAWN's highest peak gust in May was 57 mph, recorded at the Carson weather station in Grant County on May 31, 2018. The NOAA Storm Report reported a total of 35 significant storm events in May. Across the observation network of weather stations with at least 30 years of history, a total of 71 daily high and two daily low-temperature-related records were set or tied. A total of four highest daily precipitation-related records were set or tied.

Temperature and Precipitation Overview



Above: Percent of normal precipitation (left, figure 1) and departure from normal average temperature (right, figure 2) for May 2018 in North Dakota. Both figures 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



From Cold to Hot

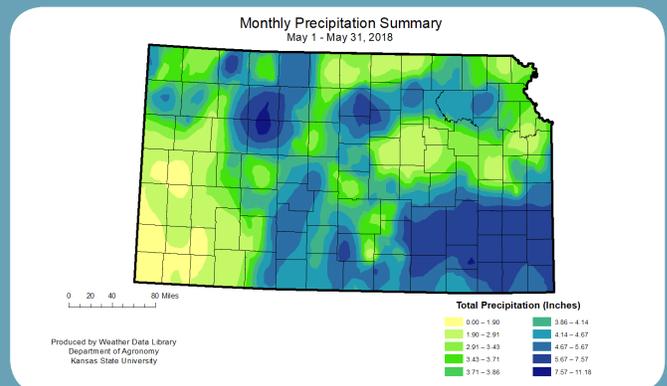
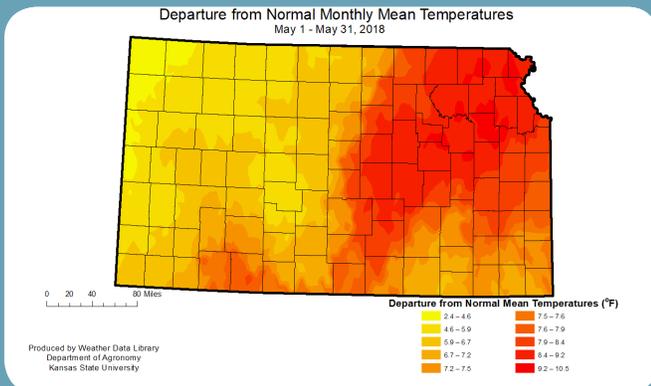
May came close to setting the record as the hottest since 1895. The state-wide average temperature for the month was 70.6 oF. This was 7.2 degrees warmer than normal, and ranked as the second warmest. The swing from the cold of April to the warmth of May was the largest change on record at 23.7 degrees. The Northeast Division had the greatest departure with an average of 72.4 oF which was a departure of +8.6 degrees. The Northwest Division came closest to normal with an average of 64.5 oF, which was a departure from normal of +4.6 degrees. There were 90 new record daily warm maximum temperatures, of which 6 set new record warm maximums for the month. In addition, there were 60 new daily record warm minimum temperatures, of which 1 set a new record for the month. This month, there were no new records on the cold side for either coldest maximum or coldest minimum temperatures. This is one reason that the monthly average was so much warmer than normal with relatively few records. The warmest temperature reported during the month was 103 oF at Abilene, Dickinson County on the 29th. The coldest temperature reported during May was 35 oF, reported at Syracuse, Hamilton County, on the 4th.

While May continued the pattern of below normal precipitation, it was much closer to normal. The state-wide average precipitation was 3.92 inches which was 94 percent of normal. As the month was much warmer than normal, the benefit from that precipitation was less than it might have been. The division with the largest surplus was the West Central Division, with an average of 3.66, or 114 percent of normal. The East Central Division had the greatest departure, with an average of 3.48 inches or 67 percent of normal. The greatest monthly total for a National Weather Service Cooperative station was Wakeeney, Trego County, with 11.88 inches. The Community Collaborative Rain, Hail and Snow network station with the greatest monthly precipitation was Latham 0.2 W, Butler County, with 8.95 inches. Among the Kansas Mesonet stations, the Hill City station in Graham County had the greatest total at 7.49 inches.

With the resurgence of moisture, severe weather reports during the month also increased. With 34 tornadoes reported, it was slightly higher than the average of 24 (based on 1950-2016 SPC data), and makes a slight dent in the late start to the season. There were 258 hail reports and 131 damaging wind reports. One of the most destructive events was the heavy flooding in Graham and Gove counties, where widespread rainfall amounts in excess of 4 inches were reported.

The Northwest and Southeast corners of the state remain drought-free, and there was some reduction in the most severe drought. Exceptional drought conditions now cover just under 2 percent of the state, while extreme drought covers an additional 14 percent of the state. Severe drought has expanded to 30 percent of the state while moderate drought covers an additional 23 percent of the state. The June outlook has a slight chance for drier than normal conditions across the state. The temperature outlook is for warmer than normal temperatures statewide. That combination is unlikely to result in significant improvement of the drought conditions.

Temperature and Precipitation Overview



Above: May 2018 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 to experience a normal temperature. There were no significant events for the month. The only significant event was a heavy rain event in the Missouri River Basin on October 15th.

Regional - Impact for September - November 2014

Significance
Fall began over perfect harvest conditions for the Missouri River Basin states. There were no significant events for the month. The only significant event was a heavy rain event in the Missouri River Basin on October 15th.

Regional - Climate Overview for September - November 2014

Temperature and Precipitation Anomalies
Temperature anomalies for the Missouri River Basin were mostly positive, indicating warmer than average conditions. Precipitation anomalies were mostly negative, indicating drier than average conditions.

Drought
The Missouri River Basin is currently experiencing drought conditions. The drought is most severe in the central and eastern parts of the basin.

Regional - Outlook for January - March 2015

3 Month Precipitation and Temperature Outlook
Precipitation: Above normal
Temperature: Above normal

Soil Moisture Conditions
Soil moisture conditions are generally low, indicating dry conditions.

MO River Basin Partners
High Plains Regional Climate Center
Nebraska State Climate Office
Kansas State Climate Office
South Dakota State Climate Office
North Dakota State Climate Office
Colorado State Climate Office

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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