



May 2016 Climate Summary



Snowmelt and heavy rainfall caused flooding in Lander, Wyoming. - Photo courtesy Lander Journal
<http://hprcc.unl.edu>

Wet Conditions Impact Crop Progress and Cause Flooding

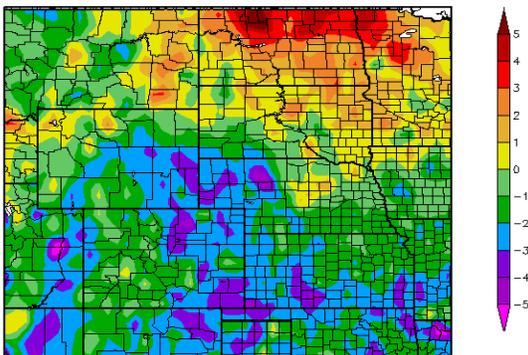
May was a drier month than April across the central part of the High Plains, but wet conditions prevailed in locations such as southwestern Wyoming and the eastern halves of Nebraska and Kansas. Snowmelt and excessive rainfall caused the declaration of a state of emergency in Lander, Wyoming for flooding, and severe weather and slow-moving storms produced large hail and flooding in Nebraska and Kansas. The continuation of wet conditions in these areas resulted in a few top 5 records for wettest springs: Lander, WY (wettest), Topeka, KS (3rd wettest), and Valentine, NE (4th wettest). A positive impact of this abundant precipitation was it brought drought relief to Wyoming, and drought was removed in Kansas and Colorado. However, dryness was an issue in the Blackhills of South Dakota and northeastern Wyoming, and as a result, drought developed in that area. It was especially dry in Rapid City, South Dakota, which had its 2nd driest May on record.

Below-normal temperatures were prominent across the central and southern parts of the region this month. However, above-normal temperatures returned to North Dakota and northeastern South Dakota. It was especially warm near the Canadian border, as Minot, North Dakota experienced its 2nd warmest May on record. This warm pattern was evident across much of the eastern portion of the High Plains throughout the spring, and several locations had a top 5 warmest spring on record: Minot, ND (warmest), Bismarck, ND (4th warmest), Lincoln, NE (4th warmest), Fargo, ND (5th warmest), and Omaha, NE (5th warmest).

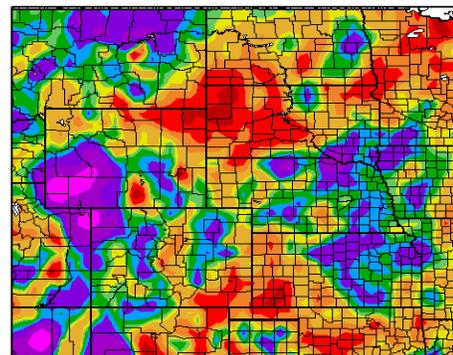
The growing season is now in full swing, and climate conditions in May had both positive and negative impacts on agriculture. On the positive side, pasture and range conditions were in good shape in areas that experienced ample moisture and cooler temperatures. However, freezes may have damaged crops in North Dakota and Kansas. Wet conditions caused delayed planting in Kansas and South Dakota, and seedling diseases emerged in corn fields in Nebraska.

Temperature and Precipitation Overview

Departure from Normal Temperature (F)
5/1/2016 - 5/31/2016



Percent of Normal Precipitation (%)
5/1/2016 - 5/31/2016



Above: Departure from 1981-2010 normal temperature (left) and percent of normal precipitation (right) for May 2016 in the High Plains region. Maps produced by the High Plains Regional Climate Center and are available at: <http://hprcc.unl.edu/maps/current>.

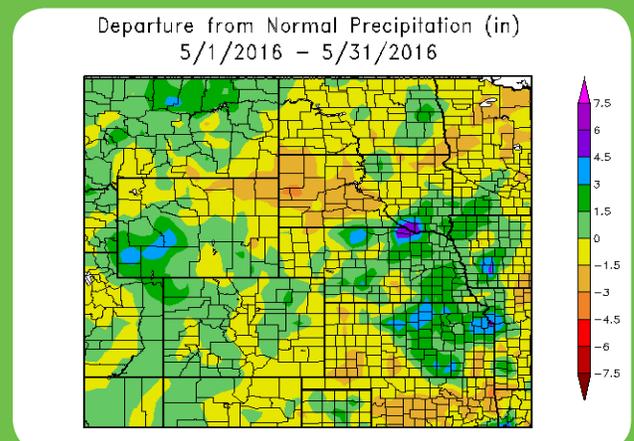
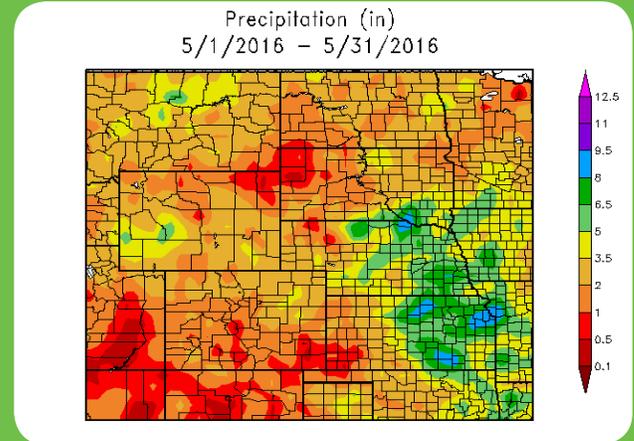
Precipitation

May brought both above- and below-normal precipitation to the High Plains. The wettest conditions occurred in the western and eastern parts of the region in southwestern Wyoming and the eastern portions of Nebraska and Kansas. In Lander, Wyoming, the combination of snowmelt and excessive rainfall caused severe flooding during early May, resulting in the city declaring a state of emergency and evacuating the Lander Regional Hospital. Lander received 3.35 inches (85 mm) of rain on May 7, which was its 3rd highest 1-day precipitation total on record for any day of the year (period of record 1891-2016). On the dry side, the Black Hills region of South Dakota and northeastern Wyoming received only 50 percent of normal precipitation in May, at best. Rapid City, South Dakota had its 2nd driest May on record with only 0.84 inches (21 mm) of precipitation, which was 2.38 inches (60 mm) below normal (period of record 1943-2016). The short-term precipitation deficits prompted the introduction of moderate drought in this area in mid-May by the U.S. Drought Monitor.

Severe weather was reported throughout the region, especially in Kansas, Nebraska, and Colorado. A nearly stationary severe thunderstorm struck Lincoln, Nebraska on May 9, producing hail up to 4.25 inches (11 cm) in diameter that damaged homes and vehicles. The storm also produced 2 tornadoes, but they were weak and caused minimal damage. On May 11, hail fell in Omaha, Nebraska and accumulated so deep that residents had to get their shovels and plows back out in order to clear roads and driveways. On the 24th, a severe weather outbreak occurred from northeastern Colorado southward to Oklahoma. A supercell that developed near Minneola, Kansas, produced numerous tornadoes, one of which barely missed Dodge City. Occasionally, one could see multiple tornadoes at a time from this supercell!

The excessive wetness in Kansas and Nebraska caused some impacts to agriculture. As of the end of May, soybean and cotton planting were behind in Kansas. Only 26 percent of soybeans were planted, compared to the 5-year average of 53 percent. As for cotton, just 10 percent had been planted, compared to an average of 45 percent over the last 5 years. Prolonged wetness in Nebraska caused stripe rust in wheat and seedling diseases to develop in corn fields, according to the University of Nebraska-Lincoln (UNL) CropWatch. However, ample moisture and cooler temperatures in these areas improved pasture and range conditions in May.

Regional Precipitation



Above: Total precipitation in inches (top) and departure from normal precipitation in inches (bottom) for May 2016. 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

Mountain snowpack in the Missouri River Basin peaked in early April, which was about two weeks earlier than normal, according to the U.S. Army Corps of Engineers. Mountain snowpack also peaked slightly below average in both reaches of the basin. Snow water equivalent (SWE) peaked at 95 percent of average above Fort Peck and 89 percent of average from Fort Peck to Garrison.

According to the U.S. Geological Survey, monthly streamflows were high in May in the lower Missouri Basin and southeastern Wyoming. High flows on the Platte River in Nebraska were partly due to snowmelt. Additionally, a wet May caused streamflows in eastern Nebraska and northeastern Kansas to run much above normal.

Temperatures

The warmer temperature pattern observed in April throughout much of the High Plains shifted to a cooler pattern in May. The central and southern parts of the region experienced temperatures that were generally 1.0-3.0 degrees F (0.6-1.7 degrees C) below normal. In North Dakota, however, warmer weather returned after temperatures were near normal to slightly below normal in April. Temperature departures in May ranged from about 1.0-4.0 degrees F (0.6-2.2 degrees C) above normal throughout the state, with locally higher departures. It was especially warm in northern North Dakota. For example, the monthly average temperature in Minot was 6.9 degrees F (3.8 degrees C) above normal, and Minot had its 2nd warmest May on record (period of record 1949-2016). In fact, Minot was warmer on average in May than Dodge City, Kansas! It reached 90.0 degrees F (32.2 degrees C) in Minot for the first time this year on May 5, while the average date that Minot reaches that temperature is June 17. Meanwhile, as of the end of May, Dodge City had yet to reach 90.0 degrees F (32.2 degrees C) this year, although on average this location reaches that temperature by May 8.

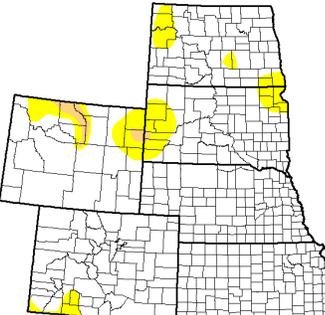
May temperatures played a role in crop progress in the region. A combination of early planting in April and above average temperatures and timely rainfall in May caused the emergence of corn, soybeans, and spring wheat to be well ahead of the 5-year average in North Dakota. However, May freezes could have damaged crops in Kansas and North Dakota. Farmers in western Kansas were concerned about winter wheat damage and, according to the state climatologist in North Dakota, farmers were assessing damage to canola, sugar beets, and alfalfa.

Drought Conditions

Wet conditions and below normal temperatures in May brought relief to several areas in the High Plains that have been experiencing drought and dryness. According to the May 31st U.S. Drought Monitor, approximately 9 percent of the region was in drought (D1-D4) or experiencing abnormal dryness (D0), compared to about 27 percent in late April.

U.S. Drought Monitor

**U.S. Drought Monitor
High Plains**



May 31, 2016
(Released Thursday, Jun. 2, 2016)
Valid 8 a.m. EDT

| | Drought Conditions (Percent Area) | | | | |
|--|-----------------------------------|-------|-------|-------|-------|
| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 |
| Current | 90.91 | 9.09 | 1.00 | 0.00 | 0.00 |
| Last Week <small>5/25/16</small> | 82.04 | 7.96 | 1.00 | 0.20 | 0.00 |
| 3 Months Ago <small>3/31/16</small> | 70.76 | 29.24 | 3.18 | 0.41 | 0.00 |
| Start of Calendar Year <small>1/1/16</small> | 70.82 | 21.18 | 1.56 | 0.00 | 0.00 |
| Start of Water Year <small>10/1/15</small> | 75.58 | 24.42 | 0.62 | 0.00 | 0.00 |
| One Year Ago <small>6/2/15</small> | 71.94 | 28.06 | 6.12 | 0.00 | 0.00 |

Intensity:
■ D0 Abnormally Dry ■ D3 Extreme Drought
■ D1 Moderate Drought ■ D4 Exceptional Drought
■ D2 Severe Drought

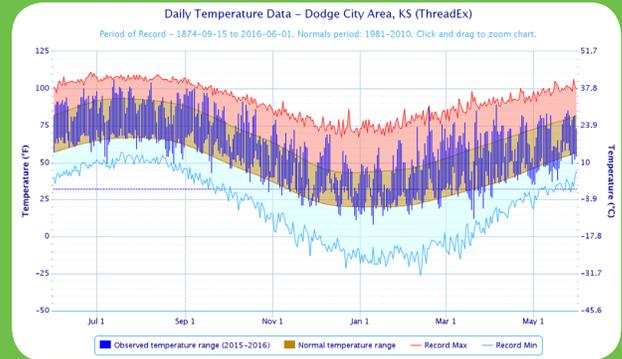
Author:
Mark Svoboda
National Drought Mitigation Center






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/>.

Station Spotlight: Dodge City, KS



Above: Daily temperatures along with extremes and normals values since June 1, 2015 in Dodge City, KS.

Moderate drought (D1) was completely removed in Kansas and Colorado, thanks to heavy precipitation in late April and early May. Continued wetness allowed for the removal of D0 conditions across Kansas and southeastern Colorado.

In Wyoming, abundant precipitation resulted in the removal of D0 and D1 conditions in the southwestern part of the state. This area experienced 150-300 percent of normal precipitation during May, and localized flooding occurred. The Bighorn Mountains in northern Wyoming received much-needed relief as well, which led to the removal of severe drought (D2) conditions and a reduction of D1 in that area. However, a disappointing mountain snowpack season has caused impacts such as below-normal streamflows, so drought may linger in this area for a while longer.

One area that experienced a degradation in drought conditions was in the Black Hills area of South Dakota, extending across the border to northeastern Wyoming. D1 was introduced to the area in mid-May. This region missed out on the slow-moving storms that were a feature of the High Plains in May. This area only received, at most, about 50 percent of normal precipitation during the month.

Climate Outlooks

According to the Climate Prediction Center, El Niño is still present but is weakening. La Niña is favored to develop during summer 2016, with approximately a 75 percent chance that La Niña conditions will be present during fall and winter. A La Niña Watch has been issued, which means conditions are favorable for the development of La Niña conditions within the next six months. If you are looking for more information about the current El Niño and its impacts, or if you want to keep up to date on the potential for a developing La Niña, check out the ENSO blog here: <https://www.climate.gov/news-features/department/8443/all>.

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 the entire contiguous U.S. except in the Central Plains. In the High Plains region, this includes most of North Dakota, northeastern South Dakota, and the western two-thirds of Wyoming and Colorado. Only the Central Plains region in the contiguous U.S. has equal chances for above-, below-, or near-normal temperatures. There are no areas of the contiguous U.S. with an increased chance for below-normal temperatures during the June–August period.

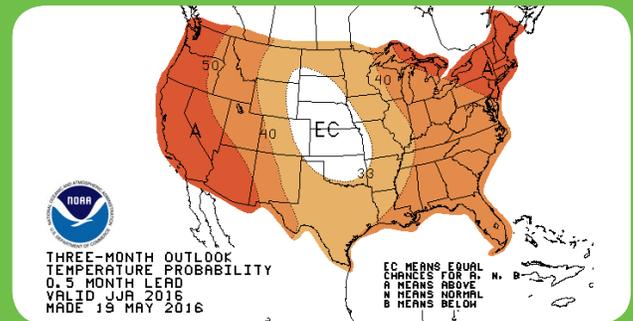
Precipitation

The precipitation outlook for the next three months calls for a higher probability of above-normal precipitation across the Central Plains and Rockies, as well as in New England. In the High Plains region, this includes Wyoming, Nebraska, Kansas, most of Colorado and South Dakota, and the southwestern tip of North Dakota. The remainder of the contiguous U.S. has equal chances for above-, below-, or near-normal precipitation. There are no areas of the contiguous U.S. with an increased chance for below-normal precipitation during the June–August period.

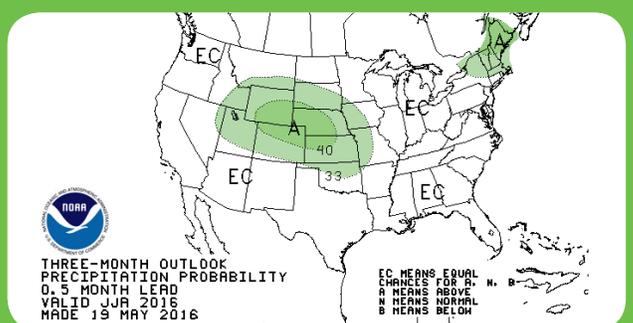
Drought

The May 19th U.S. Seasonal Drought Outlook shows that drought is expected to persist across portions of the Southwest and in southern Pennsylvania. Drought will remain, but improve, in northern Wyoming. Drought removal is likely across several areas, including the northern Rockies, New Mexico, western Oklahoma, and in the Southeast. In the High Plains, part of the area of drought in northern Wyoming, as well as the small area of drought in eastern Wyoming/western South Dakota, may be removed. Drought development is likely in the Pacific Northwest, the Northern Plains, and in the Northeast. This includes the eastern half of North Dakota and northeastern South Dakota in the High Plains region.

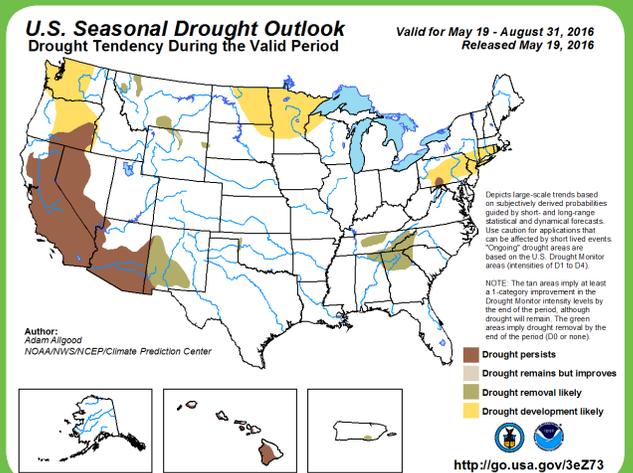
Temperature Outlook



Precipitation Outlook



Drought Outlook



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 | 67.1 | 42.0 | 54.6 | -2.5 | 85 | 05/06 | 28 | 05/02 | 3.12 | 0.20 | 107 |
| Alamosa San Luis Airport | 66.9 | 33.9 | 50.4 | -0.8 | 77 | 05/14+ | 25 | 05/08 | 1.12 | 0.54 | 193 |
| Colorado Springs Municipal Airport | 67.9 | 41.3 | 54.6 | -1.3 | 83 | 05/21 | 26 | 05/02 | 2.38 | 0.35 | 117 |
| Denver International Airport | 66.9 | 41.9 | 54.4 | -2.7 | 83 | 05/21 | 28 | 05/02 | 2.38 | 0.26 | 112 |
| Grand Junction Walker Field Airport | 73.0 | 44.9 | 59.0 | -2.6 | 85 | 05/14 | 34 | 05/11 | 0.91 | 0.03 | 103 |
| Pueblo Memorial Airport | 75.8 | 45.9 | 60.9 | 0.5 | 91 | 05/21 | 32 | 05/02 | 2.76 | 1.25 | 183 |

| Kansas | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|-------------------------------|--------------------------|------|------|--------|----------|-------|-----|-------|------------------------|--------|--------|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Concordia Municipal Airport | 73.0 | 50.9 | 62.0 | -1.1 | 85 | 05/29 | 39 | 05/03 | 8.26 | 4.10 | 199 |
| Dodge City Regional Airport | 72.9 | 49.1 | 61.0 | -3.2 | 85 | 05/25 | 35 | 05/02 | 2.41 | -0.44 | 85 |
| Goodland Renner Field | 71.3 | 44.0 | 57.6 | -1.8 | 88 | 05/22 | 29 | 05/02 | 1.96 | -0.99 | 66 |
| Topeka Municipal Airport | 74.2 | 52.8 | 63.5 | -1.5 | 88 | 05/07 | 39 | 05/03 | 8.82 | 3.91 | 180 |
| Wichita Mid-Continent Airport | 75.8 | 53.8 | 64.8 | -1.2 | 90 | 05/25 | 41 | 05/03 | 7.06 | 2.49 | 154 |

| Nebraska | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|-------------------------------|--------------------------|------|------|--------|----------|--------|-----|--------|------------------------|--------|--------|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Chadron Municipal Airport | 69.8 | 38.7 | 54.3 | -1.5 | 87 | 05/05 | 25 | 05/14 | 0.68 | -2.08 | 25 |
| Grand Island Airport | 71.9 | 48.5 | 60.2 | -1.0 | 85 | 05/30 | 34 | 05/14 | 6.84 | 2.43 | 155 |
| Lincoln Municipal Airport | 74.4 | 50.9 | 62.7 | 0.4 | 89 | 05/06 | 38 | 05/15+ | 5.42 | 1.13 | 126 |
| Norfolk Karl Stefan Airfield | 72.0 | 47.6 | 59.8 | -0.7 | 86 | 05/24+ | 34 | 05/14+ | 6.68 | 2.75 | 170 |
| North Platte Regional Airport | 69.7 | 43.3 | 56.5 | -1.4 | 83 | 05/29+ | 25 | 05/02 | 3.90 | 0.62 | 119 |
| Omaha Eppley Airport | 74.1 | 52.1 | 63.1 | 0.8 | 88 | 05/30+ | 39 | 05/14 | 4.84 | 0.08 | 102 |
| Valentine Miller Field | 71.2 | 43.2 | 57.2 | -0.4 | 88 | 05/06 | 27 | 05/02 | 7.09 | 3.96 | 227 |

| North Dakota | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|-----------------------------------|--------------------------|------|------|--------|----------|-------|-----|--------|------------------------|--------|--------|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Bismark Municipal Airport | 71.7 | 42.6 | 57.2 | 1.7 | 88 | 05/05 | 30 | 05/01 | 1.96 | -0.44 | 82 |
| Fargo International Airport | 73.9 | 47.3 | 60.6 | 3.5 | 91 | 05/05 | 29 | 05/14 | 1.42 | -1.39 | 51 |
| Grand Forks International Airport | 72.0 | 44.5 | 58.3 | 3.5 | 93 | 05/05 | 23 | 05/14 | 3.70 | 1.02 | 138 |
| Theodore Roosevelt Airport | 66.9 | 38.1 | 52.5 | -0.6 | 86 | 05/05 | 25 | 05/14 | 1.37 | -0.95 | 59 |
| Williston International Airport | 71.3 | 41.2 | 56.3 | 2.2 | 90 | 05/05 | 30 | 05/15+ | 1.81 | -0.11 | 94 |

All data are preliminary and subject to change. + indicates multiple dates, latest date listed.

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 2016 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 | 74.0 | 44.2 | 59.1 | 2.7 | 93 | 05/06 | 26 | 05/14 | 2.13 | -0.98 | 68 |
| Huron Regional Airport | 72.5 | 46.1 | 59.3 | 1.2 | 92 | 05/06 | 29 | 05/14 | 2.73 | -0.38 | 88 |
| Pierre Regional Airport | 71.6 | 44.1 | 57.9 | 0.0 | 87 | 05/06+ | 31 | 05/15+ | 1.20 | -1.95 | 38 |
| Rapid City Regional Airport | 68.1 | 39.7 | 53.9 | -1.1 | 84 | 05/05 | 25 | 05/14 | 0.84 | -2.38 | 26 |
| Sioux Falls Joe Foss Field Airport | 71.0 | 46.8 | 58.9 | 0.9 | 87 | 05/06 | 32 | 05/14+ | 3.11 | -0.29 | 91 |

| 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 | 63.4 | 36.1 | 49.8 | -2.4 | 81 | 05/21 | 27 | 05/12 | 3.01 | 0.99 | 149 |
| Cheyenne Municipal Airport | 61.6 | 38.3 | 50.0 | -2.4 | 78 | 05/06+ | 25 | 05/02 | 2.03 | -0.31 | 87 |
| Lander Hunt Field Airport | 62.9 | 39.7 | 51.3 | -2.0 | 78 | 05/05 | 29 | 05/11 | 5.03 | 2.83 | 229 |
| Laramie Regional Airport | 58.9 | 31.5 | 45.2 | -2.4 | 71 | 05/21+ | 13 | 05/02 | 2.01 | 0.32 | 119 |
| Rawlins Municipal Airport | 62.1 | 34.8 | 48.4 | -1.0 | 76 | 05/05 | 20 | 05/02 | - | - | - |
| Sheridan County Airport | 67.2 | 38.0 | 52.6 | 0.1 | 85 | 05/05 | 28 | 05/12 | 1.06 | -1.29 | 45 |

May 2016 Highlights

Monthly Rankings

Temperature in degrees F / Precipitation in inches

| Wettest / Driest | Precipitation / Ranking | Record / Year | Period of Record |
|-------------------|-------------------------|---------------|------------------|
| Rapid City, SD | 0.84 / 2nd driest | 0.33 / 1966 | 1943-2016 |
| Spearfish, SD | 0.63 / 4th driest | 0.15 / 1934 | 1893-2016 |
| Valentine, NE | 7.09 / 4th wettest | 8.96 / 1962 | 1890-2016 |
| Chadron, NE | 0.68 / 4th driest | 0.02 / 1966 | 1915-2016 |
| Concordia, KS | 8.26 / 10th wettest | 13.15 / 1903 | 1885-2016 |
| Topeka, KS | 8.82 / 11th wettest | 14.10 / 1892 | 1888-2016 |
| Warmest / Coolest | Temperature / Ranking | Record / Year | Period of Record |
| Minot, ND | 61.7 / 2nd warmest | 62.8 / 1977 | 1949-2016 |
| Fargo, ND | 60.6 / 13th warmest | 66.5 / 1977 | 1881-2016 |
| | | | |
| | | | |
| | | | |
| | | | |

All data are preliminary and subject to change. + indicates multiple dates, latest date listed. - indicates insufficient data.
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 For more information please contact us: <http://www.hprcc.unl.edu/contact.php>.

North Dakota Monthly Climate Summary

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



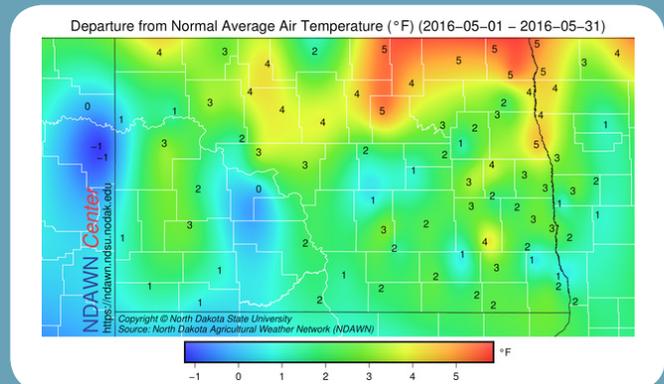
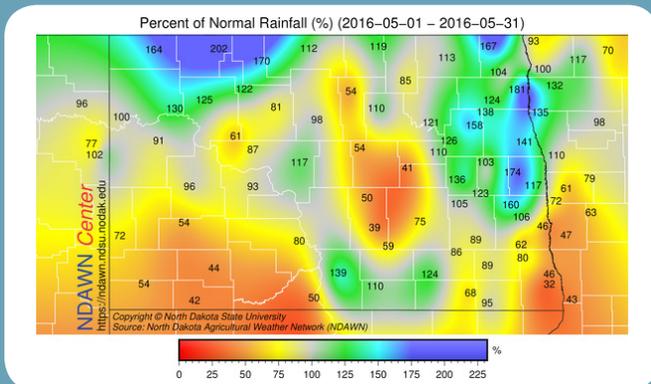
Precipitation:

Very little precipitation fell across North Dakota during the first half of May but the last 10 days of the month it turned quite wet for at least some parts of the state. With the lack of moisture during the first part of the month many seeds did not germinate or emerge until the rains arrived which in some ways was a blessing because of a hard freeze right before the needed rains eventually arrived. The North Dakota Agricultural Weather Network (NDAWN) average rainfall for stations located in North Dakota was 2.61 inches, which is right at the average for those stations. Even though the overall precipitation for the state was near the average, most NDAWN stations tended to finish either well above or well below normal for the month (Figure 1).

Temperature:

May 2016 continued the overall trend for above normal temperatures that started last summer. The southern and western portions of North Dakota recorded temperatures near to a bit above average, whereas the northeastern portion of the state had temperature departures more noticeably above the current 30 year average (Figure 2). The average temperature for the North Dakota NDAWN stations in May was 57.3° which is 2.6° above normal for those locations. The highest temperature recorded during the month occurred on May 5 when the NDAWN station near Cavalier, ND reached 94.0° F. The lowest temperature recorded in the month was 21.5° F at the Pillsbury, ND NDAWN station on May 14. That hard freeze damaged crops that had emerged throughout the region.

Temperature and Precipitation Overview



Above: Percent of normal precipitation (left, figure 1) and departure from normal average temperature (right, figure 2) for May 2016 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



Cool and mostly wet

Spring ended on a cool note across the state. The mean temperature for the state was 61.3 oF, which was 2.5 degrees cooler than normal. While on the cool side of the distribution, it was only the 27th coolest since 1895. The Southeast Division had the largest departure with a mean temperature 62.6 oF, or -3.1 degrees cooler than average. The North Central Division was closest to normal, with a mean temperature of 61.7 oF or -1.8 degrees cooler than normal. There were no daily record high temperatures, and only two record warm low temperatures. On the cold side of the record, there were 77 record low maximum temperatures and 5 record low minimum temperatures during the month. The warmest high temperature was 94 oF recorded at Medicine Lodge (Barber County) on the 27th. The coldest temperature was 28 oF recorded at Sharon Springs (Wallace County) on the 2nd. The low temperatures so late in the season brought concerns of damage to vegetation that moved out of dormancy early. This was especially true for winter wheat.

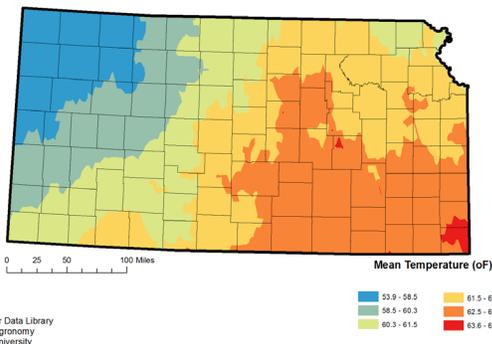
The wet conditions that ended April moved east in May. The month ended almost exactly at normal. The North Central and Northeastern divisions were the wettest, at 151 percent of normal for the North Central Division and 133 percent of normal for the Northeast. The Southwest Division was the driest, averaging just 1.22 inches or 44 percent of normal. Despite that dryness, the year-to-date average for the division is still at 113 percent of normal. May ranks as the 33rd wettest May on record. The greatest monthly total was 16.21 inches at Rock, Cowley County (NWS). The greatest total for CoCoRaHS stations was 11.98 inches at Hunter, Mitchell County. There were 92 new daily record precipitation totals. Twenty-one of those were record high amounts for May. None of these set monthly records.

Along with the increased rainfall pattern there was an increase in severe weather reports. There were 59 tornadoes reported, as well as 104 reports of damaging wind. The most common severe weather report was hail reports. There were 223 reports of hail during the month.

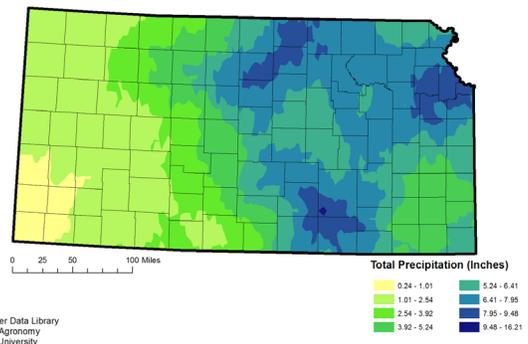
The wet month resulted in dramatic improvements in the drought status. The end of April saw 43 percent of the state as drought free. The last Drought Monitor issued in May saw the entire state labeled drought free. The precipitation outlook for June is for wetter than average conditions. However, the short term outlooks are for drier than average conditions for the first half of the month state-wide. If the drier conditions persists, abnormally dry conditions are likely to reappear, particularly in the western divisions.

Temperature and Precipitation Overview

Monthly Mean Temperatures
May 1 - May 31, 2016



Monthly Precipitation Summary
May 1 - May 31, 2016



Above: May 2016 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

For more information:
<https://www.drought.gov/drought/dews/missouri-river-basin/reports-assessments-and-outlooks>

Midwest and Great Plains Monthly Climate and Drought Webinar

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

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

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