



August 2016 Climate Summary

A waterspout on Lake Manawa in Council Bluffs, IA, across the river from Omaha, NE. - Photo courtesy WOWT 6 News
<http://hprcc.unl.edu>

A Cooler End to the Summer Season

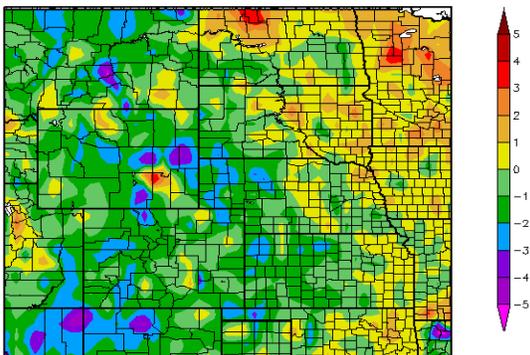
The summer ended with near-normal temperatures in August across the High Plains, but it was cooler compared to the above-normal temperatures experienced in most of the region in June and July. Average temperatures in August ranged from 2.0 degrees F (1.1 degrees C) below normal in the west to 2.0 degrees F (1.1 degrees C) above normal in the east, with near-normal temperatures in the central High Plains. Precipitation continued to be variable, with extreme wetness and dryness present throughout the area. A disparity in precipitation across the Missouri River Basin resulted in lower streamflows in the Upper Basin and higher streamflows in the Lower Basin, causing the U.S. Army Corps of Engineers to refrain from making releases to meet downstream targets, which is uncommon. As for drought conditions, beneficial rainfall improved conditions in western South Dakota/northeastern Wyoming, but the compounding precipitation departures across northwestern Wyoming caused expansion and intensification of drought in that area.

During this time of year, climate conditions can impact crops as they near maturity, as well as the beginning of harvest season. Corn and soybeans were faring well across the region, although their conditions were not as good in South Dakota where drought has been present. The drought-stricken areas of South Dakota continued to experience issues with forage and hay. In Wyoming, dryness was causing pasture and range conditions to suffer. Thanks to ample rainfall, topsoil moisture improved in South Dakota and Kansas during August, but topsoil was drying out across Nebraska and Colorado.

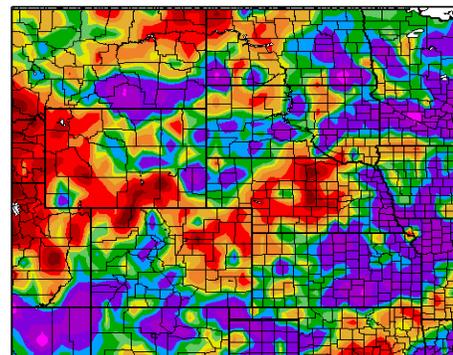
A major event worth noting that occurred outside the region was catastrophic flooding in Louisiana in mid-August. The flooding was caused by a slow-moving storm system that entered a moisture-rich environment and dumped over 30.00 inches (762 mm) of rain in just a couple of days near Baton Rouge. The storm was characterized as a 1 in 500 year flood event. According to the Associated Press, at least 40,000 homes were damaged, over 30,000 people had to be rescued from the rising floodwaters, and 12 parishes in Louisiana were declared major federal disaster areas.

Temperature and Precipitation Overview

Departure from Normal Temperature (F)
8/1/2016 - 8/31/2016



Percent of Normal Precipitation (%)
8/1/2016 - 8/31/2016



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

Precipitation was variable across the High Plains during August, and both wet and dry extremes occurred. The wettest areas included the extreme eastern High Plains, southwestern Colorado, and the Nebraska panhandle extending northeast into southwestern South Dakota. Much of these areas received at least 150 percent of normal precipitation. South-central Kansas was the wettest area, where precipitation departures were greater than 4.00 inches (102 mm) above normal. As a result, Salina and Wichita had their 2nd and 4th wettest Augusts on record, respectively.

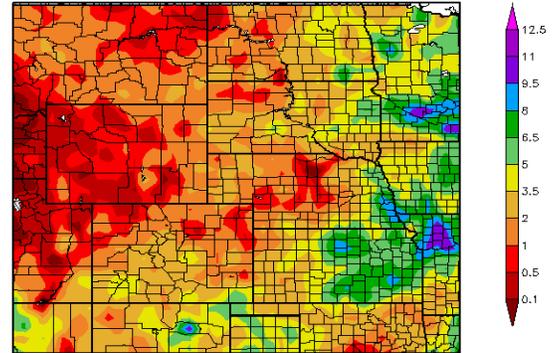
It was also quite dry in some areas of the region. One area stretched from western Wyoming down through eastern Colorado, then northeast through central Nebraska. Another area of dryness occurred across western North Dakota. These areas generally received only 25-50 percent of normal precipitation during August. The locations with a top 10 driest August on record included Rawlins, Wyoming (2nd driest); Grand Island, Nebraska (3rd driest); and Denver, Colorado (8th driest).

Summer precipitation caused extreme differences across the region as well. It was a particularly wet summer for North Dakota and the southern half of Kansas. According to the North Dakota State Climatologist, persistent rain events caused problems for potato and sugar beet growers, and flooding and hail damage were issues as well. In Kansas, Wichita had its 3rd wettest summer on record, while it was the 6th wettest summer for Garden City. On the contrary, much of the state of Wyoming experienced a very dry summer, including Rawlins, which only recorded 0.33 inches (8 mm) of precipitation and had its driest summer on record. Grand Island, Nebraska had its 6th driest summer with a precipitation deficit of 6.10 inches (155 mm).

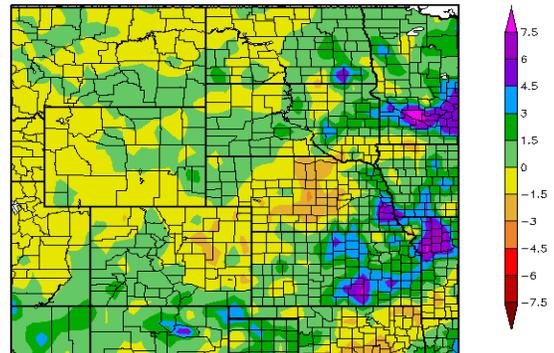
Even though the occurrence of tornadoes is less common in the High Plains during the late summer, several tornadoes were reported throughout the region during August. For instance, tornadoes were reported in north-central North Dakota on the 3rd, but thankfully damage was minimal. On the 4th, a waterspout occurred just across the Missouri River from Omaha, Nebraska in Council Bluffs, Iowa and was reported being seen from high-rise buildings in downtown Omaha and from air travelers aboard planes that were taking off from and landing at Eppley Airfield. It did not cause damage, but it did cause quite a stir during the evening rush hour!

Regional Precipitation

Precipitation (in)
8/1/2016 – 8/31/2016



Departure from Normal Precipitation (in)
8/1/2016 – 8/31/2016



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

Streamflow Update

Monthly streamflows in the Upper Missouri Basin were generally below normal, while in the Lower Missouri Basin, streamflows were much higher in August. This was mostly due to disparate precipitation during the summer, as numerous high-precipitation events occurred in the Lower Basin, while dryness prevailed in the Upper Basin. Streamflows were especially low in northern and western Wyoming where dry conditions have caused drought to persist in some areas and develop in others. Meanwhile, streamflows were normal to above normal in eastern Kansas and eastern Nebraska where precipitation has been more ample. One positive impact of these conditions is the U.S. Army Corps of Engineers did not have to increase releases to meet downstream targets this summer, which was helpful because it was a low runoff year in the Missouri Basin.

Temperatures

August temperatures were near normal throughout the region. Temperatures ranged from about 2.0 degrees F (1.1 degrees C) below normal in the western High Plains to 2.0 degrees F (1.1 degrees C) above normal in the eastern part of the region. The warmest areas included the Dakotas, specifically north-central North Dakota and eastern South Dakota. In Minot, North Dakota, the average temperature in August was 3.8 degrees F (2.1 degrees C) above normal and tied 1971 for the 7th warmest August on record. On the contrary, Colorado and Wyoming experienced cooler conditions in August. For example, Alamosa, Colorado had its 9th coolest August on record, tying with 2009. And, although Rawlins, Wyoming did not have a top 10 coolest August on record, this location did experience its 4th earliest freezing temperature of the season on August 20th when it got down to 31.0 degrees F (-0.6 degrees C).

While August temperature records were not particularly impressive, the summer was quite warm in some locations in the High Plains. Except for eastern North Dakota where the average temperature for the summer was near normal, temperature departures throughout the rest of the region ranged from about 1.0-2.0 degrees F (0.6-1.1 degrees C) above normal, with locally higher departures. The areas that experienced a top 10 warmest summer on record include the following: Minot, North Dakota (3rd warmest); Pueblo, Colorado (4th warmest); Salina, Kansas (5th warmest); Colorado Springs, Colorado (6th warmest); Alamosa, Colorado (7th warmest); Sheridan, Wyoming (10th warmest); and Wichita, Kansas (tied with 1952 for 10th warmest). The warmth of June was most impressive of the summer months, as every High Plains state except North Dakota experienced a top 10 warmest June on record.

Drought Conditions

Regionwide, the area in drought in the High Plains improved slightly in August, thanks to cooler temperatures and beneficial rainfall occurring in drought-stricken locations. Since late July, the area in drought or abnormal dryness (D0-D4) shrank from about 35 percent to 32 percent. However, there were both improvements and degradations in drought conditions throughout the region in August.

U.S. Drought Monitor

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

August 30, 2016
(Released Thursday, Sep. 1, 2016)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	67.61	32.39	12.02	3.87	0.72	0.00
Last Week <small>8/23/16</small>	64.09	35.91	11.42	4.08	0.72	0.00
3 Months Ago <small>6/30/16</small>	80.91	9.09	1.00	0.00	0.00	0.00
Start of Calendar Year <small>1/1/16</small>	79.82	21.18	1.58	0.00	0.00	0.00
Start of Water Year <small>10/1/15</small>	75.58	24.42	0.92	0.00	0.00	0.00
One Year Ago <small>8/30/15</small>	91.92	8.08	0.18	0.00	0.00	0.00

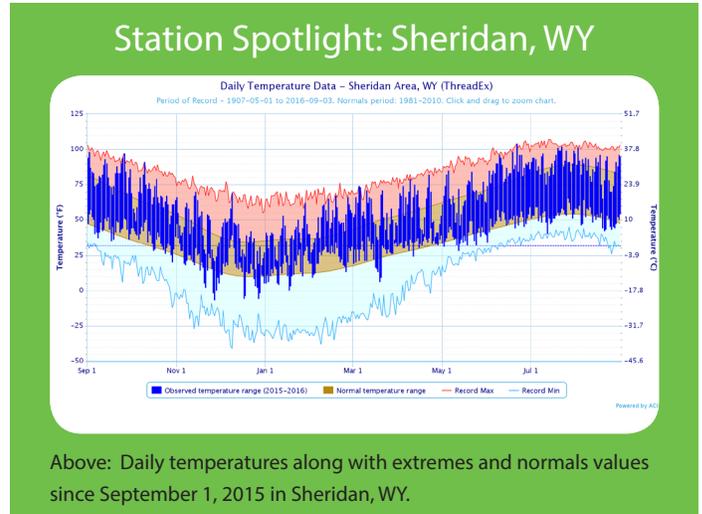
Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forest statements.

Author:
Chris Fairman
NCEI/NESDIS/NOAA

The U.S. Drought Monitor is produced as a joint effort of the U.S. Department of Agriculture (USDA), National Drought Mitigation Center, U.S. Department of Commerce, and the National Oceanic and Atmospheric Administration (NOAA). For current Drought Monitor information, please see: <http://droughtmonitor.unl.edu/>.



The Blackhills region of South Dakota extending west into Wyoming fared worst over the summer, but beneficial rainfall over the past month brought significant improvements in drought conditions to the area, especially across South Dakota. The areal coverage of drought in the state improved from 48 percent to about 35 percent over the month. The heaviest rain fell in early August, but several systems brought rain to the area the rest of the month, allowing conditions to continue to improve. Moderate drought (D1) was removed from the Nebraska panhandle. The area of D1 that had been present in northeastern South Dakota/southeastern North Dakota was also removed.

As for degradations, drought that has been present in the Bighorn Mountains region of northern Wyoming expanded into the northwestern part of the state. It was very dry in this area in August, as it received no more than about 50 percent of normal precipitation. Other areas that missed out on precipitation in August included north-central Colorado, where a small area of D1 was introduced, and south-central Nebraska, where D1 was upgraded to severe drought (D2).

Climate Outlooks

According to the Climate Prediction Center, ENSO-neutral conditions are present in the Pacific. Equatorial sea surface temperatures are near average to below average in the east-central and eastern Pacific Ocean. La Niña is slightly favored to develop during the August-October 2016 time period, with approximately a 55-60 percent chance that La Niña conditions will be present during the 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 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 September-November temperature outlook indicates an increased chance of above-normal temperatures for the entire contiguous U.S., including all of the High Plains region. There are no areas of the contiguous U.S. with an increased chance for below-normal temperatures, nor are there areas with an equal chance for above-, below-, or near-normal temperatures during the September-November period.

Precipitation

The precipitation outlook for the next three months calls for a higher probability of above-normal precipitation across the Northern Plains. In the High Plains region, this includes the western three-quarters of North Dakota, northwestern South Dakota, and northern Wyoming. Below-normal precipitation is favored in the Interior West and in the Southeast. The remainder of the contiguous U.S. has equal chances for above-, below-, or near-normal precipitation.

Drought

The August 18th U.S. Seasonal Drought Outlook shows that drought is expected to persist across portions of the West, the Southeast, and the Northeast. Drought will remain, but improve, in southeastern Arizona, northern Wyoming, and in the Blackhills region of South Dakota extending west into northeastern Wyoming. Drought removal is likely in western Oregon, the Southwest, the Plains, and northern Ohio. In the High Plains region, this includes parts of north-central and northeastern Wyoming, western and central South Dakota, the panhandle and south-central part of Nebraska, and north-central Colorado. Drought development is likely in the Southeast. At the time the outlook was released, drought was not expected to develop in northwestern Wyoming. However, this area was placed in moderate drought in August, according to the U.S. Drought Monitor.

Temperature Outlook

Precipitation Outlook

Drought Outlook

U.S. Seasonal Drought Outlook Valid for August 18 - November 30, 2016
Drought Tendency During the Valid Period Released August 18, 2016

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	84.8	56.5	70.6	-1.5	96	08/09	40	08/20	1.59	-0.71	69
Alamosa San Luis Airport	76.8	44.7	60.8	-1.9	85	08/01	34	08/28	2.16	0.89	170
Colorado Springs Municipal Airport	82.1	55.4	68.7	0.0	92	08/15+	43	08/25	2.43	-0.91	73
Denver International Airport	86.3	56.2	71.2	-1.3	97	08/09	47	08/25+	0.22	-1.47	13
Grand Junction Walker Field Airport	88.5	60.8	74.6	-0.9	97	08/02	51	08/26	0.55	-0.40	58
Pueblo Memorial Airport	90.4	59.3	74.9	1.5	101	08/10	50	08/25	1.32	-1.00	57

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	86.3	66.1	76.2	-0.9	98	08/11	57	08/21	6.01	2.87	191
Dodge City Regional Airport	88.9	64.3	76.6	-1.5	100	08/01	52	08/21	2.88	0.13	105
Goodland Renner Field	85.6	58.5	72.0	-1.7	97	08/10	47	08/21+	2.31	-0.39	86
Topeka Municipal Airport	87.7	67.5	77.6	0.2	100	08/04	55	08/21	5.83	1.59	138
Wichita Mid-Continent Airport	89.6	70.2	79.9	-0.1	101	08/03	57	08/21	8.28	4.57	223

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Chadron Municipal Airport	88.4	54.4	71.4	-0.8	103	08/22	39	08/21	1.49	-0.09	94
Grand Island Airport	84.4	62.7	73.5	-0.5	95	08/18	47	08/21	0.57	-2.55	18
Lincoln Municipal Airport	86.2	64.9	75.5	0.2	96	08/11	52	08/21	3.83	0.34	110
Norfolk Karl Stefan Airfield	83.0	61.2	72.1	-0.7	92	08/18+	45	08/21	2.33	-0.92	72
North Platte Regional Airport	86.0	58.9	72.5	0.4	97	08/18	43	08/21	0.88	-1.41	38
Omaha Eppley Airport	85.9	65.9	75.9	1.3	99	08/11	55	08/21	5.78	1.96	151
Valentine Miller Field	85.8	58.2	72.0	-0.8	100	08/18	45	08/26+	1.34	-0.84	61

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismark Municipal Airport	82.7	55.0	68.9	-0.6	95	08/03	41	08/26	1.88	-0.40	82
Fargo International Airport	81.6	58.9	70.3	1.0	91	08/23	46	08/21	1.56	-1.00	61
Grand Forks International Airport	81.2	56.2	68.7	1.6	90	08/03	45	08/21	3.53	0.65	123
Theodore Roosevelt Airport	82.8	50.5	66.7	-1.7	97	08/22	43	08/26+	0.65	-0.89	42
Williston International Airport	85.7	54.5	70.1	1.2	99	08/22	44	08/27	0.45	-1.00	31

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>.

August 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	83.5	57.8	70.7	1.7	92	08/28+	42	08/26	2.02	-0.41	83
Huron Regional Airport	84.7	60.3	72.5	0.9	96	08/10	45	08/26	2.83	0.40	116
Pierre Regional Airport	86.4	59.2	72.8	-0.9	100	08/10	45	08/26	2.14	0.34	119
Rapid City Regional Airport	83.9	55.0	69.5	-2.0	101	08/22	42	08/20	2.28	0.72	146
Sioux Falls Joe Foss Field Airport	82.8	61.7	72.2	1.6	94	08/10	49	08/26+	2.32	-0.73	76

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	84.9	48.4	66.7	-2.3	96	08/03+	38	08/21+	1.30	0.45	153
Cheyenne Municipal Airport	81.2	52.0	66.6	-1.0	92	08/09	37	08/20	1.05	-0.90	54
Lander Hunt Field Airport	84.7	51.9	68.3	-1.3	95	08/02	42	08/27+	0.52	-0.09	85
Laramie Regional Airport	78.1	44.3	61.2	-1.1	88	08/03	33	08/20	1.03	-0.20	84
Rawlins Municipal Airport	82.2	46.1	64.1	-1.1	93	08/02	31	08/20	0.08	-0.68	11
Sheridan County Airport	86.0	51.3	68.6	-0.4	101	08/02	42	08/20	1.44	0.72	200

August 2016 Highlights

Monthly Rankings

Temperature in degrees F / Precipitation in inches

Warmest / Coolest	Temperature / Ranking	Record / Year	Period of Record
Minot, ND	72.3 / 7th warmest (tie: 1971)	75.1 / 1961	1948-2016
Alamosa, CO	60.8 / 9th coolest (tie: 2009)	59.3 / 1974	1906-2016
Wettest / Driest	Precipitation / Ranking	Record / Year	Period of Record
Salina, KS	7.84 / 2nd wettest	13.75 / 1977	1948-2016
Wichita, KS	8.28 / 4th wettest	11.96 / 2005	1888-2016
Jamestown, ND	4.59 / 5th wettest	5.73 / 1980	1948-2016
Alamosa, CO	2.16 / 8th wettest	5.40 / 1993	1906-2016
Rawlins, WY	0.08 / 2nd driest	T / 1954	1951-2016
Grand Island, NE	0.57 / 3rd driest	0.33 / 1919	1896-2016
Denver, CO	0.22 / 8th driest	0.02 / 1924	1872-2016

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

North Dakota Monthly 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), statewide averaged monthly accumulated precipitation was 2.27", 0.68" greater than last year, 0.17" greater than the 1981-2010 average August precipitation and was the wettest August since 2014. The statewide average precipitation was ranked the 45th wettest on record since 1895. A majority of the central and eastern parts of the state received above to much-above normal precipitation (Figure 1). On the contrary, northwestern parts of the state stayed dryer than normal. The largest amount of monthly accumulation was 7.45" and was recorded in Oakes, Dickey County by a Coop observer. The least amount of monthly accumulation was 0.45" and recorded at Williston Sloulin Int. Airport, Williams County. The greatest 24-hr rainfall was 3.89" and was recorded in Fullerton on August 10 by a Coop observer. Based on historical records, the state average annual precipitation accumulation showed no long-term trend since 1895. The highest and the lowest monthly state August precipitation ranged from 4.54" in 1900 to 0.73" in 1929.

Temperature:

The state average temperature in July based on NCEI was 67.9°F, nearly as warm as last year, 0.4° warmer than the 1981-2010 average and was the warmest August since 2015. It was ranked the 50th warmest August on record since 1895. As the northern parts of the state showed warmer than normal conditions, eastern parts of the state were cooler than normal and southern parts of the state were near normal (Fig. 2). The state's highest and lowest daily temperatures ranged from 99° on August 1 in Watford City (McKenzie County) to 58° on August 29 in Taylor (Stark County). Based on the historical records, the state average annual temperature showed an increasing trend of 0.02°F per decade since 1895. The highest and the lowest monthly state July average temperatures ranged from 80.1° in 1936 to 61.8° in 1992.

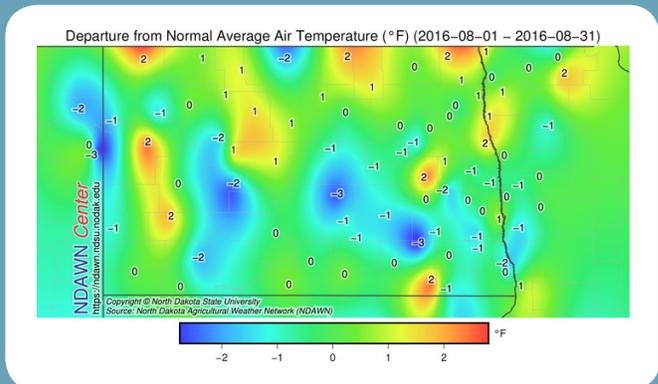
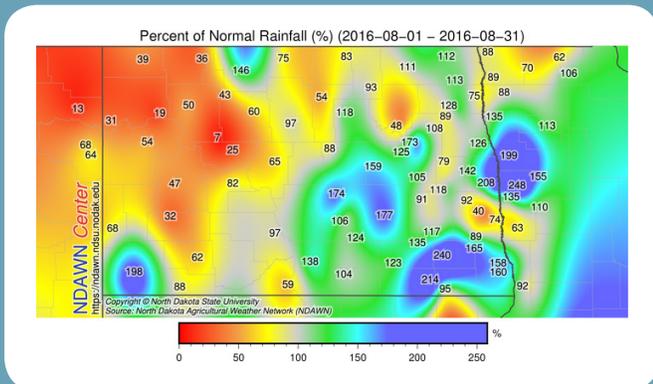
Drought and other notable impacts:

Based on the Drought Monitor (DM) on August 30, 2016, less than 2% of the state was under a drought designation. Out of that, only 0.29% was designated in a severe category, or D2, based on the index used by the DM from D0 (Abnormally Dry) to D4 (Exceptional Drought). As of July 26, part of Bowman County was experiencing severe drought, and another part of that county and Adams County were in moderate drought. Nearly 90% of the state did not have any D- designation including abnormally dry conditions.

NWS Storm Prediction Center reported 13 tornadoes, 77 hail, and 48 high wind events in ND. NDAWN's highest peak gust in July was 80 mph recorded at the Linton weather station on August 9, 2016. On August 3, thunderstorms embedded in a very strong upper level low produced tornadoes (mostly concentrated in Devils Lake Basin), numerous wind damage to crops and other property.

By the end of the summer the North Dakota Agricultural Statistics Service reported corn 8% mature (near average), and 29% of the soybean crop was dropping leaves (slightly ahead of average).

Temperature and Precipitation Overview



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



Wet and warm

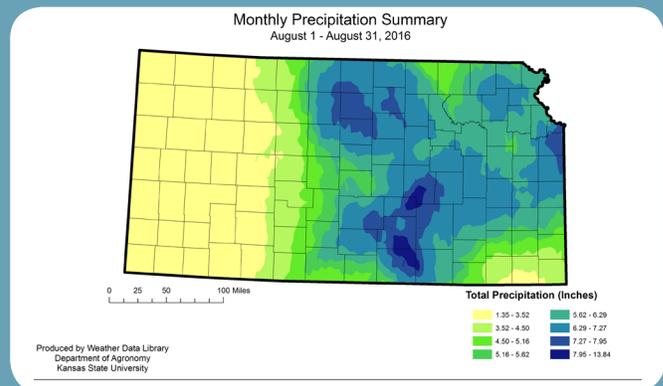
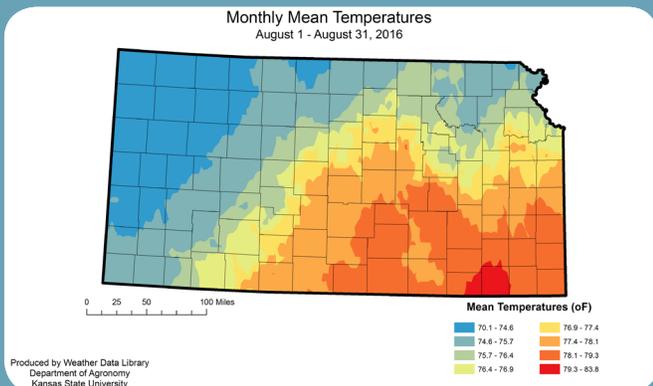
August had very close to normal temperatures, but was much wetter than normal over most of the state. The state-wide average temperature was 76.2 oF, or 0.7 degrees cooler than normal. The standard deviation for the mean temperature is 2.7 oF, so this isn't a significant departure. On the temperature side, this was the 43rd warmest since 1896, which places it in the middle range of the distribution. The Southeast Division was closest to normal for the month. Their average was 78.4 oF, or exactly normal. The warmest division was the Northeast Division where average temperature was 78.2 oF or 0.4 degrees warmer than normal. There was only 1 event that tied the daily record high temperature, when Salina reached 103 oF on the 11th. In contrast, 36 new low maximum temperature records were set. There were 11 new record warm minimum temperatures set, and 12 records tied. The highest temperature recorded was 104 oF set at two locations: Hutchinson Airport, Reno County, and Salina, Saline County, on the 3rd. The coldest temperature recorded for the month was 42 oF at Atwood, Rawlins County, on the 21st.

State-wide rainfall for August was well above normal. However the Northwest Division missed out on the extra rainfall again. The Northwest Division averaged 1.74 inches or just 64 percent of normal. In contrast, the South Central Division averaged 6.42 inches or 186 percent of normal. This August ranks as the 51st wettest in the 122 years of record. The wettest August on record occurred in 1927, when the statewide average total was 6.63 inches. With the overall wet pattern it is no surprise that there were 127 new record daily rainfall totals. Of those, four reports set new monthly records, and two set new all-time records as well: 6.84 inches at Peck 2S, Sedgwick County on the 20th and 2.84 inches at Goff 3WSW on the 26th. The 6.84 inches at Peck 2S was the greatest 24 hour total for a NWS station. The greatest 24 hour total for a CoCoRaHS station was 6.22 inches at Haysville 3.8 SSE, Sedgwick County, also on the 20th. Highest monthly totals: 13.84 inches at Peck 2S, Sedgwick County (NWS) and 13.01 inches at Mulvane 1.5 ESE, Sumner County (CoCoRaHS).

With the continued wet pattern severe weather was also a factor, although not to the degree that was seen in July. There were two tornadoes reported in August. Fortunately there were no deaths or injuries reported with the events There were a total of 27 hail reports. The most common severe weather report was damaging winds, with 65 damaging wind reports in the month.

Above normal precipitation coupled with near normal temperatures allowed for removal of the abnormally dry conditions in the eastern third of the state. On the other hand, the continued below normal rainfall in the Northwest Division resulted in an intensification of drought in that region. Abnormal dry conditions returned to the map for the first time since April 26th, 2016.

Temperature and Precipitation Overview



Above: August 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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