

Oklahoma Monthly Climate Summary

AUGUST 2017

August is often Oklahoma’s most brutal summer month. The spring rains become a distant memory, heat gains momentum through July, and the state’s landscape turns a sickly shade of yellow. With drought intensifying along with the heat this summer, August looked bleak once again. However, Mother Nature was in a charitable mood. The upper-level heat dome – a common visitor to the Southern Plains in late summer – shifted to the west and brought Oklahoma under northwesterly flow aloft. That change meant more cool fronts and storm systems to interact with the rich moisture flowing north from the Gulf of Mexico. With that favorable pattern in place through much of the month, Oklahoma enjoyed one of its most mild and wet Augusts on record.

According to preliminary data from the Oklahoma Mesonet, the statewide average precipitation total was 6.42 inches, 3.47 inches above normal and the second wettest August

121 stations recorded a temperature of at least 100 degrees 22 times, and those occurred on only two days – Aug. 5 and Aug. 19. Freedom and Kingfisher led the state with 103 degrees on Aug. 5 while Eva had the lowest temperature at 47 degrees on the month’s final morning. Climatological summer ended as the 29th coolest on record with a statewide average of 78.7 degrees, about a degree below normal. The mild August put a dent in 2017’s march towards a top-10 warmest ranking, but the first eight months of the year remained 1.8 degrees above normal at 64 degrees, the 11th warmest January-August on record.

Flooding was the biggest weather hazard Oklahomans faced during August, given the frequent downpours. Flash flooding resulted in numerous water rescues across the Oklahoma City area on both Aug. 22 and Aug. 25, and in the Tulsa area on Aug. 15. The Tulsa area faced a more violent weather hazard

August 2017 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	103°F	Freedom, Kingfisher	5
Low Temperature	47°F	Eva	31
High Precipitation	13.04 in.	OKC East	--
Low Precipitation	1.55 in.	Buffalo	--

since records began in 1895. August 1915 holds the top spot with 6.48 inches. The Oklahoma City East site led the Mesonet with 13.04 inches, but there were plenty of hefty totals during the month. Ten Mesonet sites recorded at least 10 inches, and 79 received between 5 and 10 inches. Buffalo had the lowest total with 1.55 inches. Climatological summer (June 1-Aug. 31) was the 29th wettest on record with a statewide average of 12.24 inches, 1.89 inches above normal. The January-August average of 30.59 inches was 5.73 inches above normal to rank as the eighth wettest such period on record.

Those that don’t favor summer’s usual fare can thank the string of cool fronts, abundant rainfall and its associated cloudiness for the delightfully mild August. According to preliminary data from the Mesonet, the statewide average temperature was 76.4 degrees, 4.4 degrees below normal to rank as the sixth coolest August on record. The Mesonet’s

August 2017 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2017)
Month (Aug)	76.5°F	-4.3°F	6th Coolest
Season-to-Date (Jun-Aug)	78.7°F	-0.9°F	29th Coolest
Year-to-Date (Jan-Aug)	64.0°F	1.7°F	11th Warmest

Precipitation

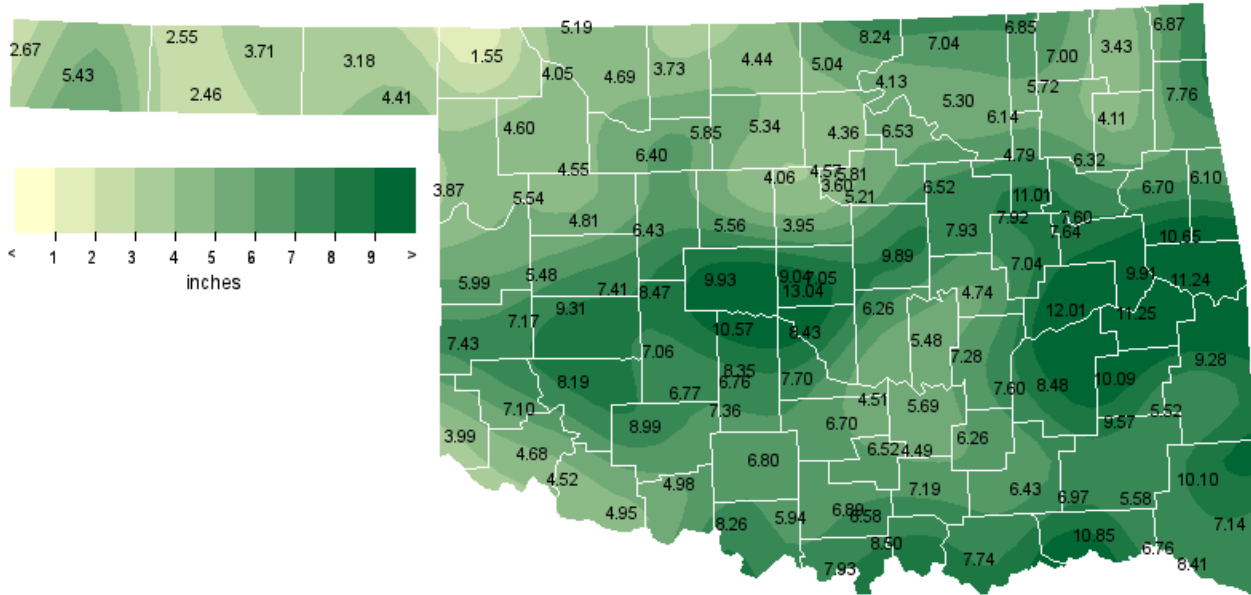
	Total	Depart.	Rank (1895-2017)
Month (Aug)	6.42 in.	3.47 in.	2nd Wettest
Season-to-Date (Jun-Aug)	12.85 in.	2.50 in.	18th Wettest
Year-to-Date (Jan-Aug)	31.14 in.	6.28 in.	8th Wettest

Depart. = departure from 30-year normal

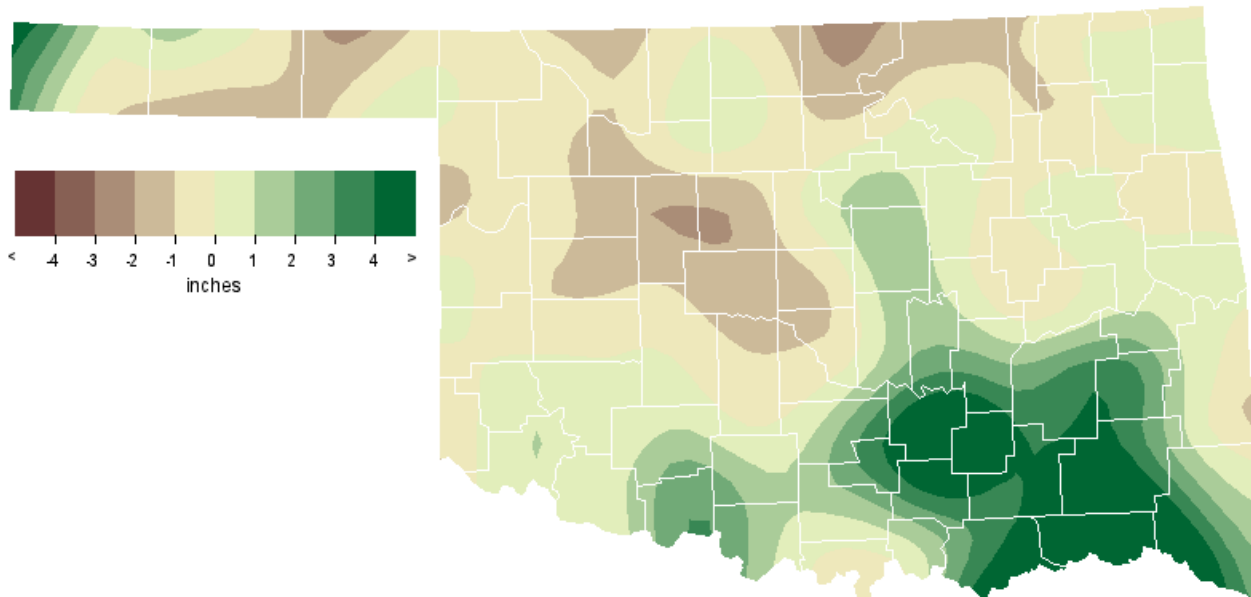
early on the sixth with the touchdown of four tornadoes. The strongest tornado, rated an EF-2 on the Enhanced Fujita scale, injured more than two dozen people and caused significant damage to businesses in the midtown Tulsa area. Three additional EF-1 tornadoes struck Broken Arrow, Chelsea, and Oologah. Drought impacts virtually disappeared thanks to the generous rainfall amounts. According to the U.S. Drought

Monitor, 19 percent of the state was considered in drought and another 30 percent abnormally dry at the beginning of the month. Drought had been totally eliminated and only two percent of Oklahoma was still abnormally dry by the end of August.

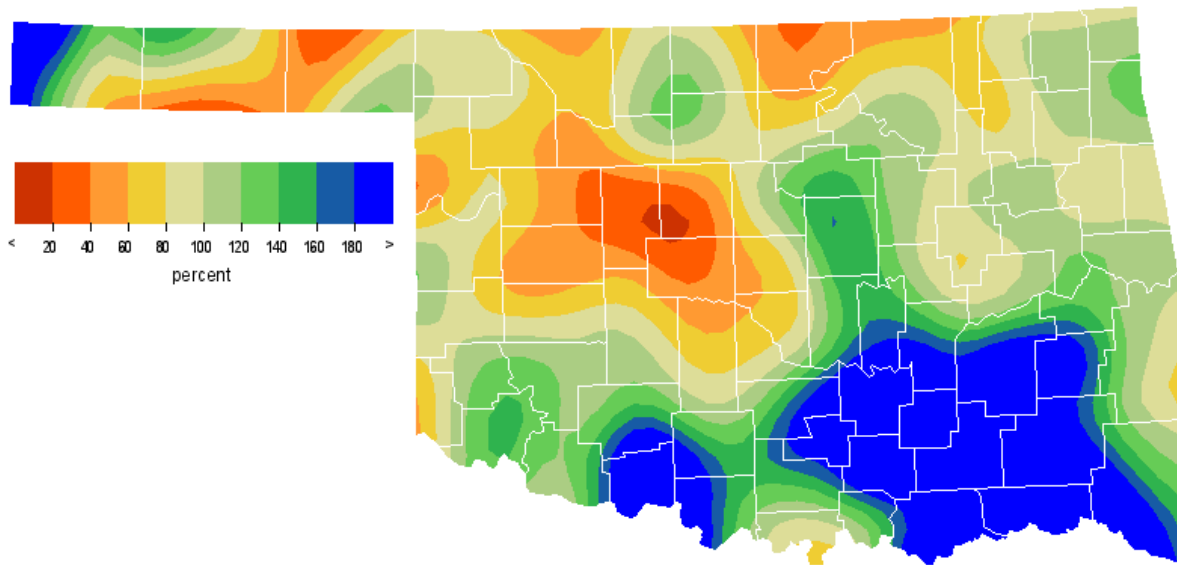
AUGUST 2017 OBSERVED PRECIPITATION



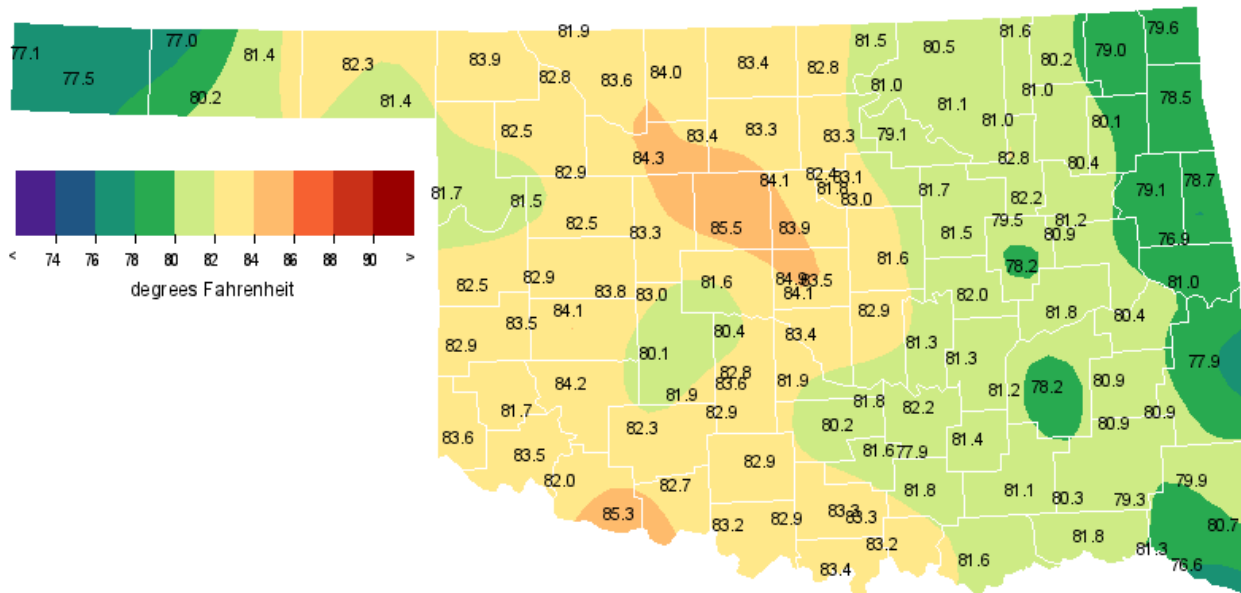
AUGUST 2017 DEPARTURE FROM NORMAL PRECIPITATION



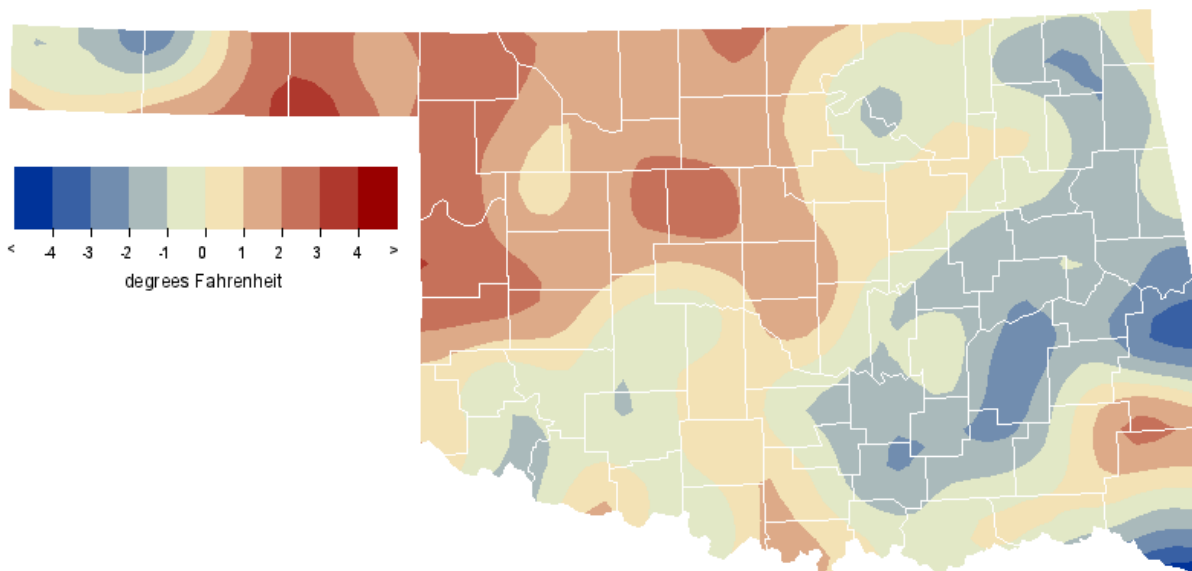
AUGUST 2017 PERCENT OF NORMAL PRECIPITATION



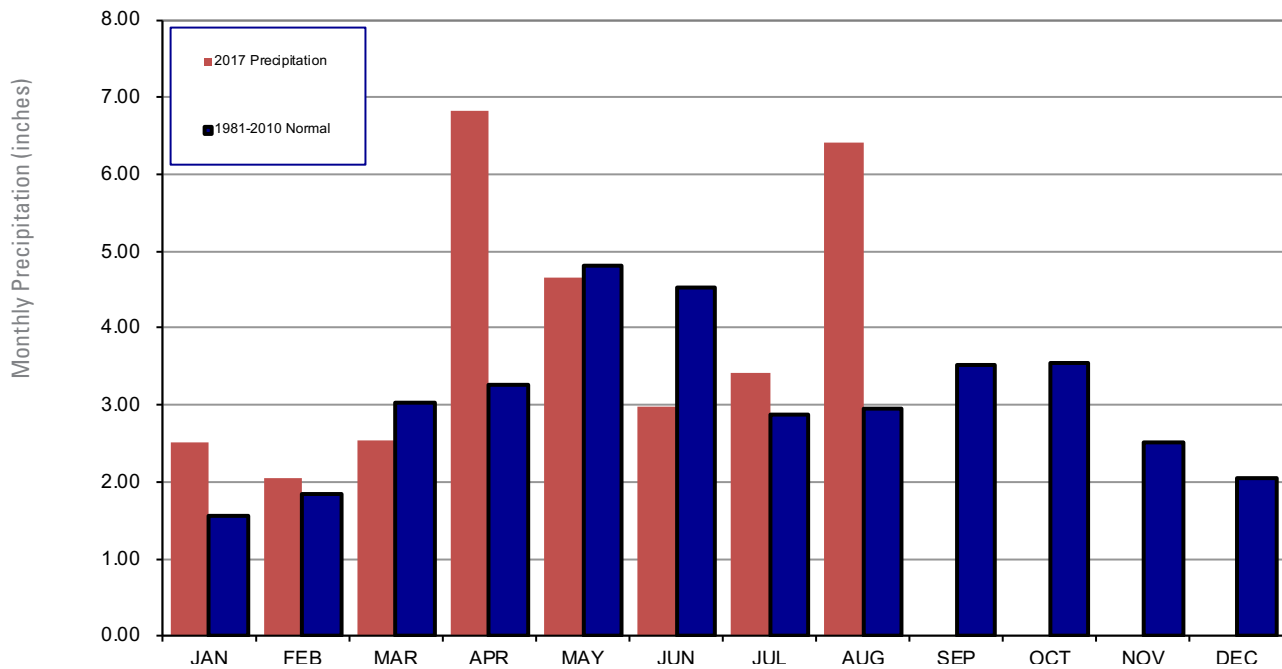
AUGUST 2017 AVERAGE TEMPERATURE



AUGUST 2017 DEPARTURE FROM NORMAL TEMPERATURE



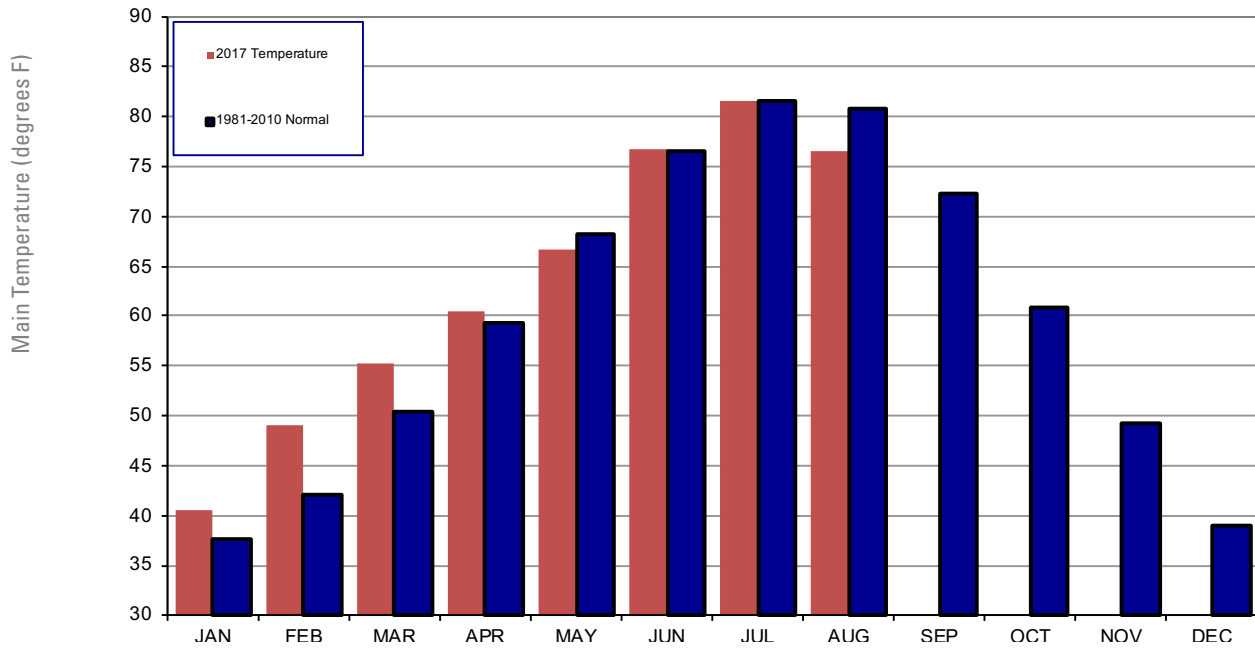
2017 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



August 2017 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Aug-16 (inches)
Panhandle	3.31	0.61	30th Wettest	5.81 (1917)	0.54 (1936)	3.59
North Central	5.11	1.89	20th Wettest	8.10 (1974)	0.14 (2000)	3.41
Northeast	6.29	3.05	10th Wettest	7.51 (1964)	0.03 (2000)	2.41
West Central	6.62	3.61	1st Wettest	6.18 (2005)	0.02 (2000)	3.99
Central	7.04	3.94	2nd Wettest	8.18 (1906)	0.02 (2000)	1.64
East Central	8.76	5.73	3rd Wettest	10.88 (1915)	0.02 (2000)	2.74
Southwest	6.34	3.57	5th Wettest	7.38 (1996)	0.00 (2000)	2.40
South Central	6.65	4.05	6th Wettest	8.72 (1906)	0.01 (2000)	1.92
Southeast	8.21	5.39	2nd Wettest	9.68 (1915)	0.25 (1936)	4.97
Statewide	6.42	3.47	2nd Wettest	6.47 (1915)	0.12 (2000)	2.90

2017 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



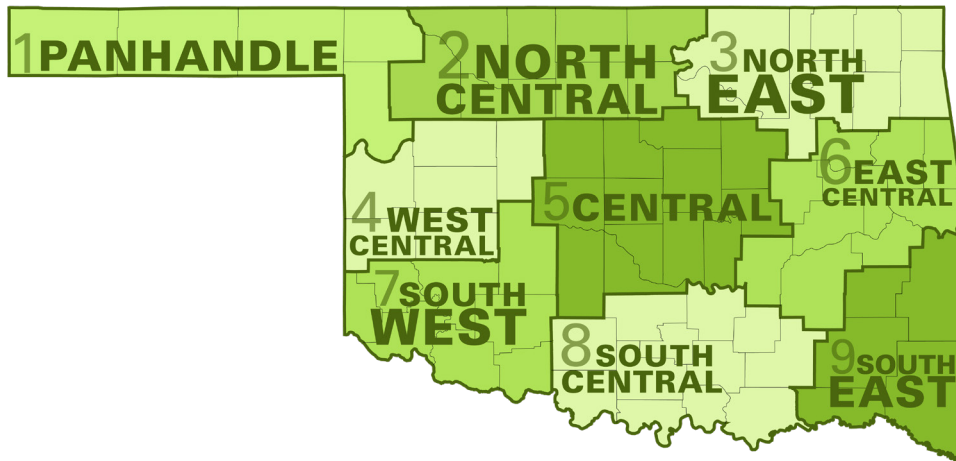
August 2017 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Aug-16 (F)
Panhandle	73.6	-4.3	7th Coolest	83.7 (1937)	71.4 (1915)	76.6
North Central	76.4	-4.4	9th Coolest	88.2 (1936)	72.9 (1915)	80.2
Northeast	74.5	-5.8	4th Coolest	88.8 (1936)	72.7 (1915)	80.9
West Central	76.3	-4.4	7th Coolest	87.9 (2011)	73.6 (1915)	80.2
Central	77.0	-4.4	7th Coolest	88.7 (1936)	74.1 (1915)	81.8
East Central	76.6	-4.3	5th Coolest	88.6 (1936)	73.5 (1915)	81.5
Southwest	77.5	-4.9	5th Coolest	91.4 (2011)	76.1 (1915)	82.1
South Central	78.4	-4.1	7th Coolest	90.8 (2011)	76.1 (1992)	82.7
Southeast	78.2	-2.2	26th Coolest	87.5 (2011)	74.2 (1915)	80.8
Statewide	76.5	-4.3	6th Coolest	87.7 (2011)	73.9 (1915)	80.8

MESONET EXTREMES FOR AUGUST 2017

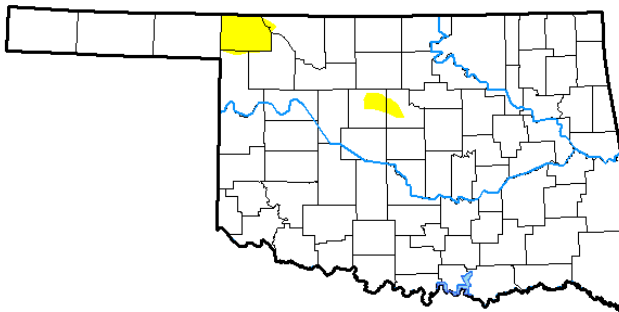
Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	102	5th	Buffalo	47	31st	Eva	5.43	Boise City	3.4	10th	Slapout
North Central	103	5th	Freedom	52	30th	Seiling	8.24	Newkirk	4.57	5th	Newkirk
Northeast	97	5th	Wynona	55	29th	Nowata	11.01	Bixby	5.11	6th	Bixby
West Central	101	5th	Putnam	53	30th	Butler	9.31	Bessie	2.77	12th	Bessie
Central	103	5th	Kingfisher	53	30th	Oilton	13.04	Oklahoma City East	4.2	10th	Chickasha
East Central	97	5th	Hectorville	57	30th	Cookson	12.01	Eufaula	5.89	13th	Sallisaw
Southwest	101	5th	Grandfield	55	30th	Mangum	8.99	Medicine Park	4.69	25th	Medicine Park
South Central	100	5th	Waurika	58	30th	Byars	8.5	Madill	3.71	6th	Centrahoma
Southeast	97	19th	Talihina	62	30th	Wilburton	10.85	Hugo	6.7	6th	Hugo
Statewide	103	5th	Kingfisher	47	31st	Eva	13.04	Oklahoma City East	6.7	6th	Hugo

Oklahoma Climate Divisions



U.S. Drought Monitor Oklahoma

August 29, 2017
(Released Thursday, Aug. 31, 2017)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	97.84	2.16	0.00	0.00	0.00	0.00
Last Week 08-22-2017	96.03	3.97	0.00	0.00	0.00	0.00
3 Months Ago 05-30-2017	97.17	2.83	0.00	0.00	0.00	0.00
Start of Calendar Year 01-03-2017	5.61	94.39	83.21	55.75	5.55	0.00
Start of Water Year 09-27-2016	57.82	42.18	19.04	3.05	0.00	0.00
One Year Ago 08-30-2016	52.00	48.00	14.06	0.30	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 forecast statements.

Author:

Chris Fenimore
NCEI/NESDIS/NOAA



<http://droughtmonitor.unl.edu/>

INTERPRETATION INFORMATION

MEAN DAILY TEMPERATURE: Calculated from an average of the daily maximum and minimum temperatures. Daily averages are summed for each day, and then divided by the number of valid data points – typically the number of days in the month. Although this November differ from the “true” daily average, it is consistent with historical methods of observation and comparable to the normals and extremes for stations and regions of the state.

DEGREE DAYS: Degree Days are calculated each day of the month for which there is a temperature report and the mean temperature for the day is less than (Heating Degree Days) or greater than (Cooling Degree Days) 65 degrees. Daily values are summed to arrive at a monthly total. HDD/CDD are qualitative measures of how much heating/cooling was required to maintain a comfortable indoor temperature. Missing observations November result in an artificially high or low value.

ADDITIONAL RESOURCES

SUNRISE / SUNSET TABLES

U.S. Naval Observatory: <http://aa.usno.navy.mil/data>

SEVERE STORM REPORTS

Storm Prediction Center: <http://spc.noaa.gov/climo/>

National Centers for Environmental Information:
<https://www.ncdc.noaa.gov/stormevents/>

SEASONAL OUTLOOKS

Climate Prediction Center:
http://www.cpc.ncep.noaa.gov/products/OUTLOOKS_index.shtml

CLIMATE CALENDARS AND OTHER LOCAL WEATHER AND CLIMATE INFORMATION

Oklahoma Climatological Survey:
<http://climate.mesonet.org> or <http://climate.ok.gov/>



Oklahoma Climatological Survey is the State Climate Office for Oklahoma

Dr. Kevin Kloesel Director
Dr. Chris Fiebrich Associate Director

EDITOR

Gary D. McManus State Climatologist

DESIGN

Ada Hoang Creative Director

For more information, contact:
Oklahoma Climatological Survey
The University of Oklahoma
120 David L. Boren Blvd., Suite 2900
Norman, OK 73072-7305

TEL: 405-325-2541

FAX: 405-325-7282

E-MAIL: ocs@ou.edu

WEBSITE: <http://climate.ok.gov>