

It took a bit of convincing, but Mother Nature finally gave the okay for fall to arrive during the final week of October. That change in seasons took the state from a warm, dry pattern that had persisted for the past three months to much more seasonable and rainy weather. Two successive storm systems at the end of the month brought heavy rains to much of southern and western Oklahoma, halting the advance of the flash drought that began during the heat of August. Those areas saw between 3-7 inches of rain, and in some areas of south central Oklahoma, more than 9

thus far with 67.4 inches with McAlester close behind at 66.1 inches. Many stations across the southeastern section of the state have seen from 50-65 inches of rain for the year thus far.

The autumnal weather to end the month cooled the state down a bit, but the statewide average for the entire month still finished 2 degrees above normal at 62.9 degrees. High temperatures during the first three weeks of the month were much closer to September normals than October.

October 2015 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	97°F	Multiple	Multiple
Low Temperature	31°F	Oilton	Multiple
High Precipitation	9.67 in.	Madill	--
Low Precipitation	0.50 in.	Miami	--

inches of moisture fell. Unfortunately, parts of northern and eastern Oklahoma came out on the short side with amounts of 2 inches or less. Areas of Grant and Garfield counties saw less than an inch for the month.

Statewide, the Oklahoma Mesonet recorded an average of 3.43 inches, 0.11 inches below normal but still ranked as the 42nd wettest October since records began in 1895. To demonstrate the contrast in fortunes, south central Oklahoma recorded an average of 6.41 inches while the north central region received 1.61 inches. Those values rank as the 16th wettest and 45th driest on record for those areas, respectively. The Panhandle more than doubled the northeast's meager total with an average of 3.89 inches, 2.19 inches above normal and ranked as its ninth wettest October on record. Madill led the Mesonet during October with 9.67 inches while Breckenridge had the lowest total of 0.9 inches. The National Weather Service's (NWS) cooperative observer at Madill reported 11.13 inches for the month. October's statewide average brought the year-to-date total up to 41.95 inches, 10.02 inches above normal and the fifth wettest January-October on record. That total stood about 2.4 inches behind 1915's record total of 44.27 inches. Tishomingo leads 2015's totals on the Mesonet

October 2015 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2015)
Month (October)	62.9°F	2.0°F	36th Warmest
Season-to-Date (Sep-Oct)	69.6°F	3.1°F	15th Warmest
Year-to-Date (Jan-Oct)	63.5°F	0.4°F	43rd Warmest

Precipitation

	Total	Depart.	Rank (1895-2015)
Month (October)	3.43 in.	-0.11 in.	42nd Wettest
Season-to-Date (Sep-Oct)	5.21 in.	-1.86 in.	44th Driest
Year-to-Date (Jan-Oct)	41.95 in.	10.02 in.	5th Wettest

Depart. = departure from 30-year normal

The highest temperature recorded during October was 97 degrees at several locations over several days during the middle of the month. The first freeze of the season occurred on the 25th when numerous stations in the northwest dropped to 32 degrees or less. The lowest temperature reported during the month was 31 degrees at four different stations on the 25th and 26th. The warm October helped boost the first 10 months of 2015 to the 43rd warmest on record at 63.5 degrees statewide, 0.4 degrees above normal.

Drought peaked during the month's third week with over 36 percent of Oklahoma in at least moderate drought according to the Oct. 20 U.S. Drought Monitor report. The subsequent heavy rain events at the end the month helped reduce the area of the state in drought to 18 percent by the Oct. 27 report. More of the state was expected to be removed from

drought when the final week's rains were considered in the first Drought Monitor report for November. The state was completely free of drought from June 2 through August 4 before the flash drought conditions began in mid-August.

OCTOBER 2015 DAILY SUMMARIES

OCTOBER 1-5: October started with a round of cool temperatures that were below average. The warmest maximum temperature measured was 85 degrees in Goodwell and Broken Bow on the 1st. On the following four day, the warmest maximum stayed around 80 degrees. The coolest maximum temperatures decreased from 65 degrees in Ada and Spencer on the 1st to 57 degrees on the 4th. The 5th had a very slight upturn in temperature with the lowest maximum measuring 60 degrees in Red Rock, Bristow, and Blackwell. The warmest minimum temperatures dropped from the low 60s to the mid-upper 50s. The coolest minimum temperatures were between 40-46 degrees. Rain, thunderstorms, and cloud cover aided in the cool temperatures. The areas that experienced the most rain were central and southeast OK on the 1st; western OK on the 2nd; all of western and central OK on the 3rd, including the panhandle; western and northwest OK on the 4th; and western OK again on the 5th. The highest daily amounts of precipitation measured were 1.77 inches in Red Rock (Oct. 1), .79 inches in Arnett (Oct. 2), 1.02 inches in Arnett (Oct. 3), .04 inches in Goodwell (Oct. 4), and .30 inches in Cheyenne (Oct. 5). Most of the rain evaporated on the 4th before hitting the ground. The highest daily average wind speeds were between 13 and 17mph.

OCTOBER 6-10: Temperatures slightly warmed back up, but rainfall kept trying to creep back into the state every other day which created a fluctuation in temperatures. The highest maximum temperatures were primarily in the upper 80s. The lowest maximum temperatures were in the low-mid 70s except on the 9th when Boise City only managed to warm to 67 degrees. The highest minimum temperature varied between 54 degrees (western OK on the 10th) and 64 degrees (southeast OK on the 8th). The coolest daily temperature measured in the state ranged from 38 degrees to 49 degrees. The highest rainfall measurements were .38 inches in Goodwell on the 7th and .49 inches in Minco on the 9th. Rainfall on the 6th, 8th, and 10th was negligible. The highest daily average wind speeds were 7-12mph.

OCTOBER 11-14: Temperatures were on the climb and rain ceased for four days. The warmest temperatures were between 93 and 97 degrees with Grandfield and Tipton taking the lead on the 11th and Burneyville, Waurika, and Grandfield following suit, reaching 97 degrees as well on the 14th. Oklahoma City broke its daily high temperature record and McAlester tied its daily high temperature record on the 14th with highs of 93 and 92 degrees, respectively.

The coolest maximum temperatures were 84 degrees (Jay), 73 degrees (Boise City and Kenton), 78 degrees (Jay), and 85 degrees (northeast) each successive day. The warmest minimum temperatures were between 60 and 66 degrees and the coolest temperatures were between 38 and 46 degrees. The highest daily average wind speeds were 16mph on the 11th and 12th, 9mph on the 13th, and 12mph on the 14th. A wind gust of 53mph was reported in Hollis on the 12th.

OCTOBER 15-16: Rain returned to the region as a cold front entered northern Oklahoma. The highest maximum temperature dropped from 97 degrees in Tipton, Burneyville, and Grandfield on the 15th to a much cooler 81 degrees in Idabel on the 16th. The coolest maximum temperature occurred in Boise City each day, but fell from 78 degrees on the 15th to 63 degrees on the 16th. Boise City's close neighbor, Kenton, also measured a high of 63 degrees on the 16th. The highest minimum temperature decreased from 68 degrees in Oklahoma City and Guthrie to 58 degrees in Durant. The lowest minimum temperature decreased from 41 degrees to 39 degrees in Kenton. Despite the cool down in temperatures, McAlester still managed to break a daily high temperature record with 93 degrees on the 15th. Maximum daily rainfall amounts were 1.41 inches in Cheyenne on the 15th and .65 inches in Elk City the following day. The highest peak wind gust each day was 51mph in Hollis on the 15th and 43mph in Altus on the 16th. Daily average wind speeds were less than 15mph on Thursday and less than 17mph on Friday.

OCTOBER 17-20: Although this period continued with cooler temperatures, there was a slight warming trend. The warmest highs climbed from 80 degrees in Grandfield and Tipton to 88 degrees in Freedom. The coolest highs climbed from 63 degrees to the mid-70s. In a similar upward trend, the highest minimums increased from 54 degrees at the Oklahoma City East Mesonet site to 64 degrees at Lake Carl Blackwell. The coolest minimum occurred in Wister each day, recording a low between 37 and 43 degrees. Oklahoma was rain-free, apart from a sprinkle in the panhandle on the 20th. Winds were gusty, averaging less than 18mph on the 17th, less than 19mph on the 18th, less than 23mph on the 19th, and less than 20mph on the 20th. The highest wind gust during this four day stretch was 50mph at Hooker on the 18th.

OCTOBER 21-24: An upper storm system coupled with gulf moisture caused showers and thunderstorms to drench the state for four days straight. The highest amounts of daily precipitation were 1.81 inches in Goodwell on the 21st, an excessive 5.45 inches in Tishomingo on the 22nd, 4.31 inches in Broken Bow on the 23rd, and 2.17 inches in Fittstown on the 24th. High maximum temperatures were in the low-mid 80s before a cold front on the 23rd caused a much lower maximum temperature of 71 degrees (Broken

Bow) on the 24th. The lowest maximum temperatures fell from the low-mid 60s to the upper 50s. The highest minimum temperature decreased from 66 degrees to 59 degrees and the lowest minimum temperature decreased from 48 degrees to 35 degrees. Dense fog blanketed portions of southwest Oklahoma on the 23rd. The highest daily average wind speeds were 13-19mph.

OCTOBER 25-28: Temperatures were much cooler following the rain and frontal passage, however, they did try to gradually warm. The warmest temperatures in the state increased from 73 degrees in Waurika on the 25th to a steady 77 degrees on the 27th and 28th. The lowest high temperatures increased from 58 degrees in Mt Herman on the 25th to 63 degrees on the 26th and 62 degrees on the 27th and 28th. The highest minimum temperatures were in the mid-upper 50s. The lowest minimum temperatures slightly increased from the low 30s to the mid-30s. Lingering showers dropped .44 inches of rain in Hugo, .35 inches in Idabel, .34 inches in Broken Bow, and less than a quarter inch of rain in other parts of southeast OK on the 25th. The 26th was rain-free, but light showers returned the following two days, leaving less than a quarter inch of rain at Mesonet sites in the east. The highest daily average wind speeds were 14mph on the 25th and 28th, 15mph on the 26th, and 11mph on the 27th. The highest wind gust was 52mph in Boise City on the 27th.

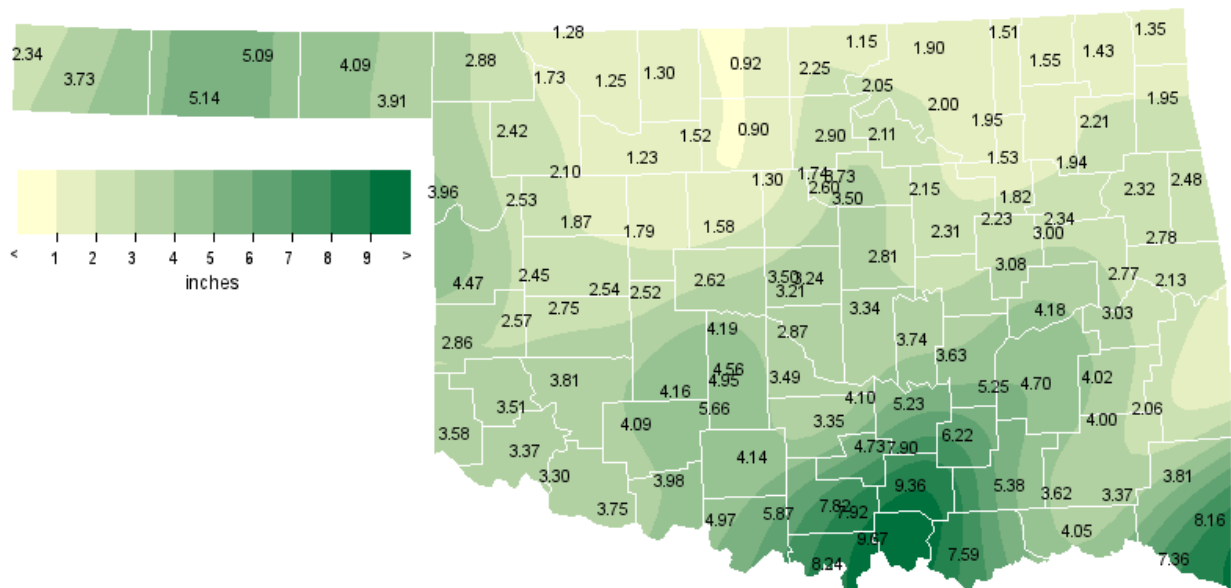
OCTOBER 29-30: Another cold front moved through on the 29th. Highs were between 53 degrees (Boise City) and 77 degrees (Waurika, Grandfield, and Tipton) on the 29th and between 46 degrees (Beaver, Slapout, Goodwell, and Hooker) and 65 degrees (Idabel and Valliant) on the 30th. Lows were between 33 degrees (Nowata) and 49 degrees (Eufaula and Medicine Park) on the 29th and between 32 degrees (Nowata) and 55 degrees (Burneyville, Durant, and Ringling) on the 30th. Rain and thunderstorms returned in full force on the 30th with the top three daily rainfall amounts measuring 3.68 inches in Madill, 3.60 inches in Ardmore, and 3.59 inches in Newport. Daily average wind speeds were less than 14mph.

OCTOBER 31: Showers moved east and out of the state just in time for evening trick-or-treating. The top three rainfall measurements were 1.47 inches at the Broken Bow Mesonet site, 1.28 inches at the Idabel Mesonet site, and .63 inches at the new Valliant Mesonet site. There was a wide range of temperatures with highs measuring between 58 degrees in Chandler, Oilton, and Oklahoma City and 73 degrees in Freedom and Butler. Lows were between 31 degrees in Kenton and 61 degrees in Idabel. Daily average wind speeds were less than 11mph.

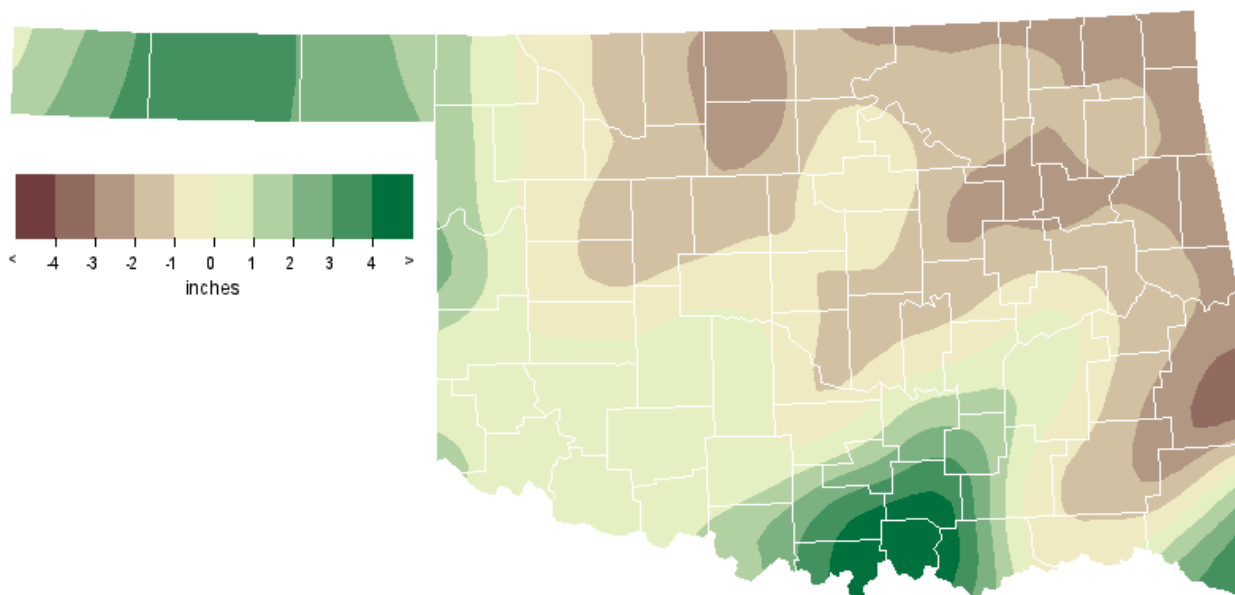
SEPTEMBER 2015 SEVERE WEATHER

No severe weather reports.

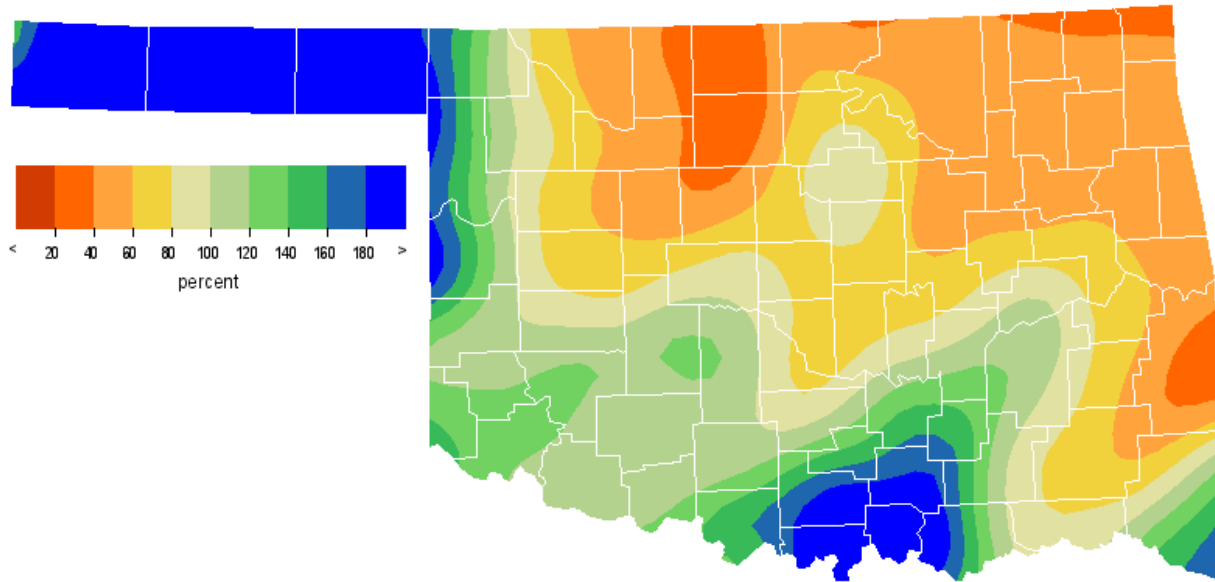
OCTOBER 2015 OBSERVED PRECIPITATION



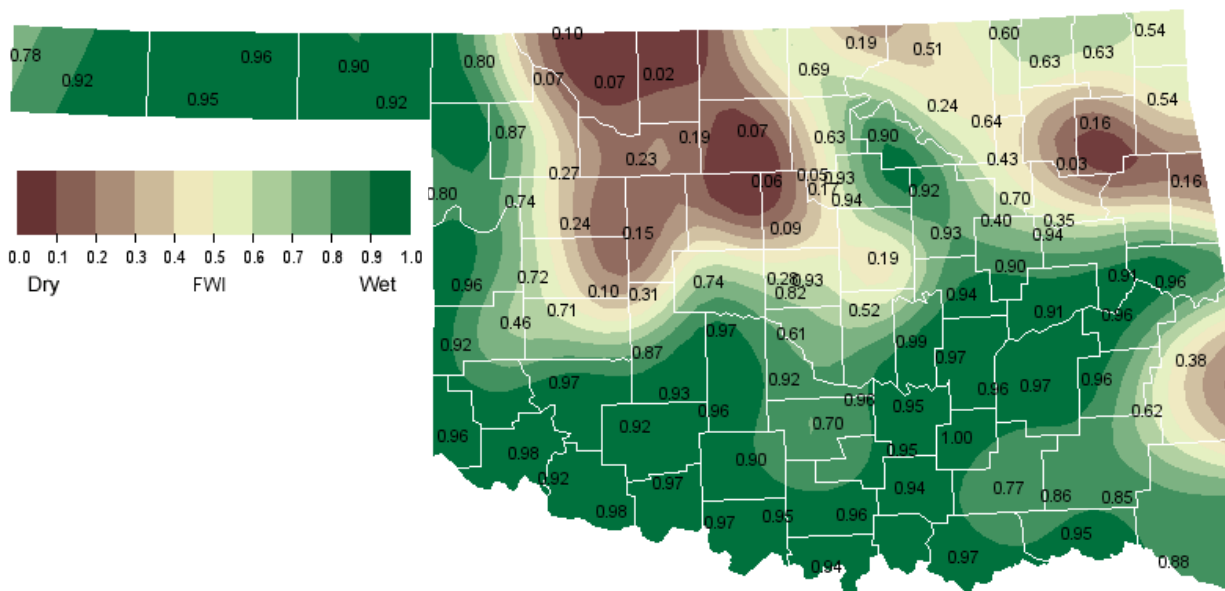
OCTOBER 2015 DEPARTURE FROM NORMAL PRECIPITATION



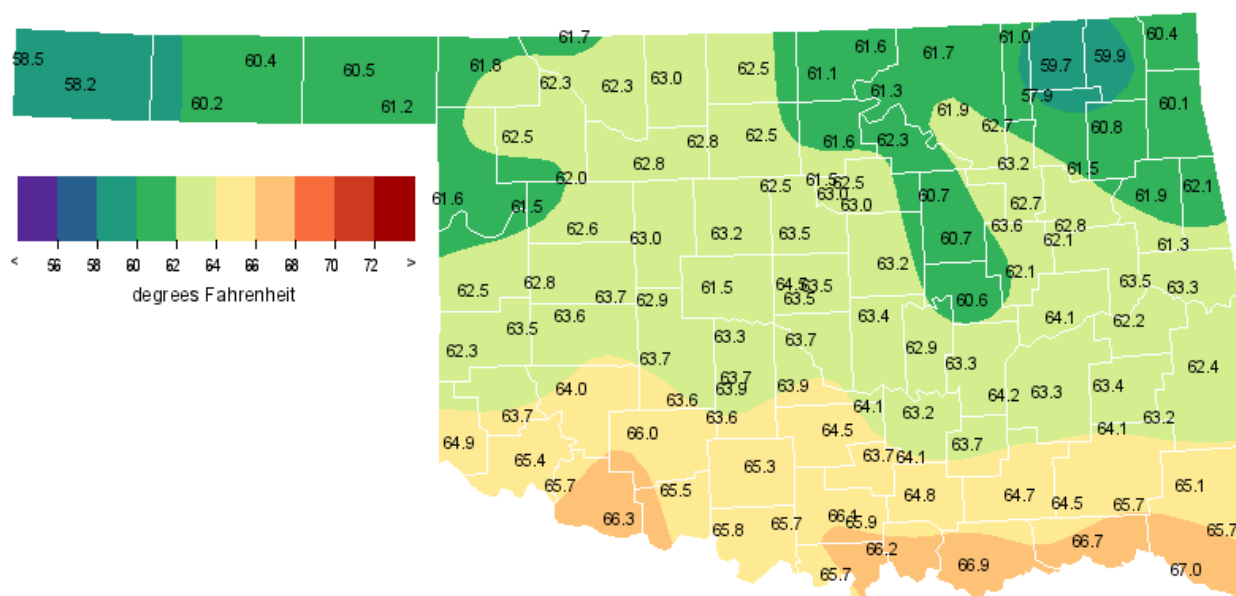
OCTOBER 2015 PERCENT OF NORMAL PRECIPITATION



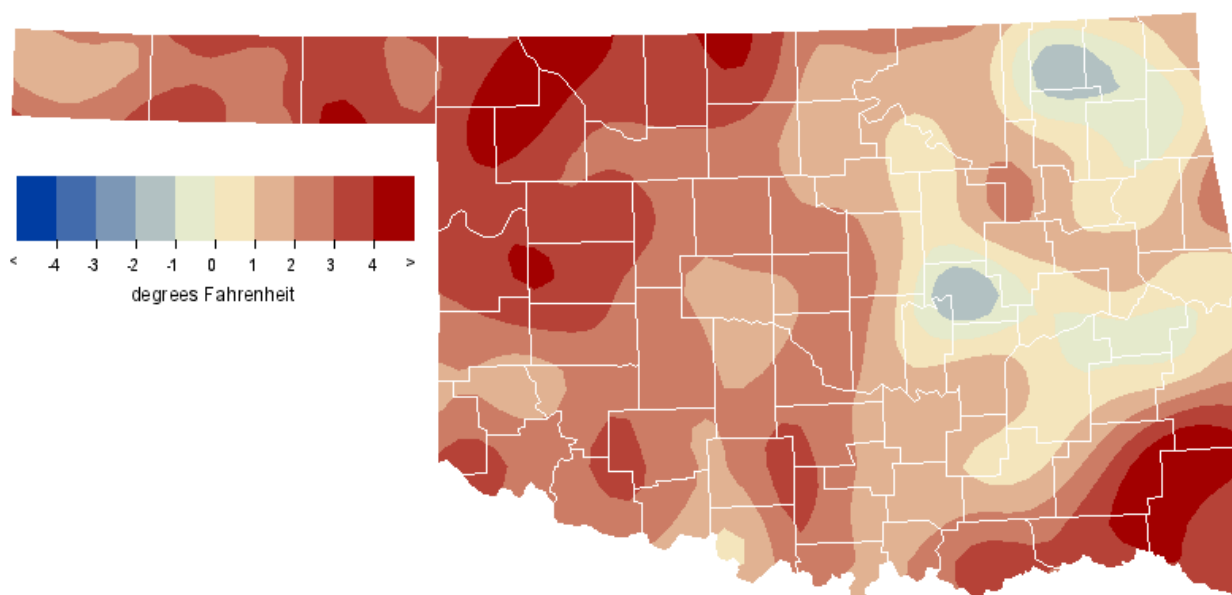
OCTOBER 2015 AVERAGE SOIL MOISTURE AT 25CM



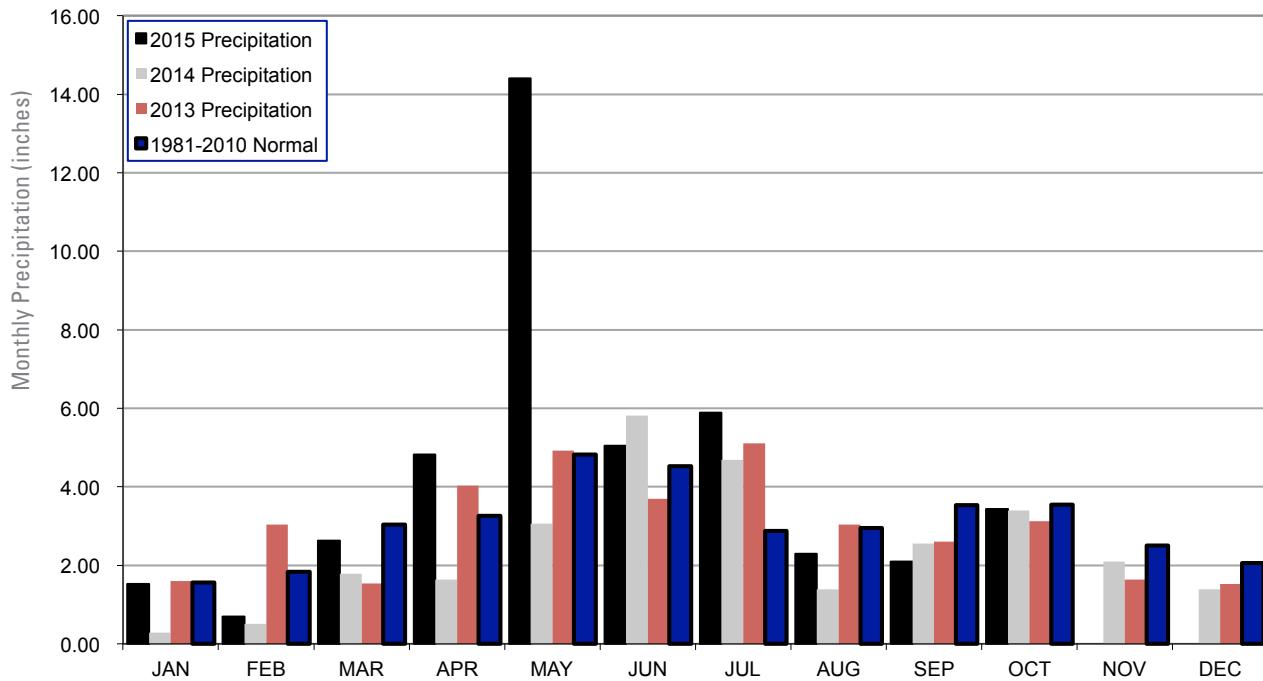
OCTOBER 2015 AVERAGE TEMPERATURE



OCTOBER 2015 DEPARTURE FROM NORMAL TEMPERATURE



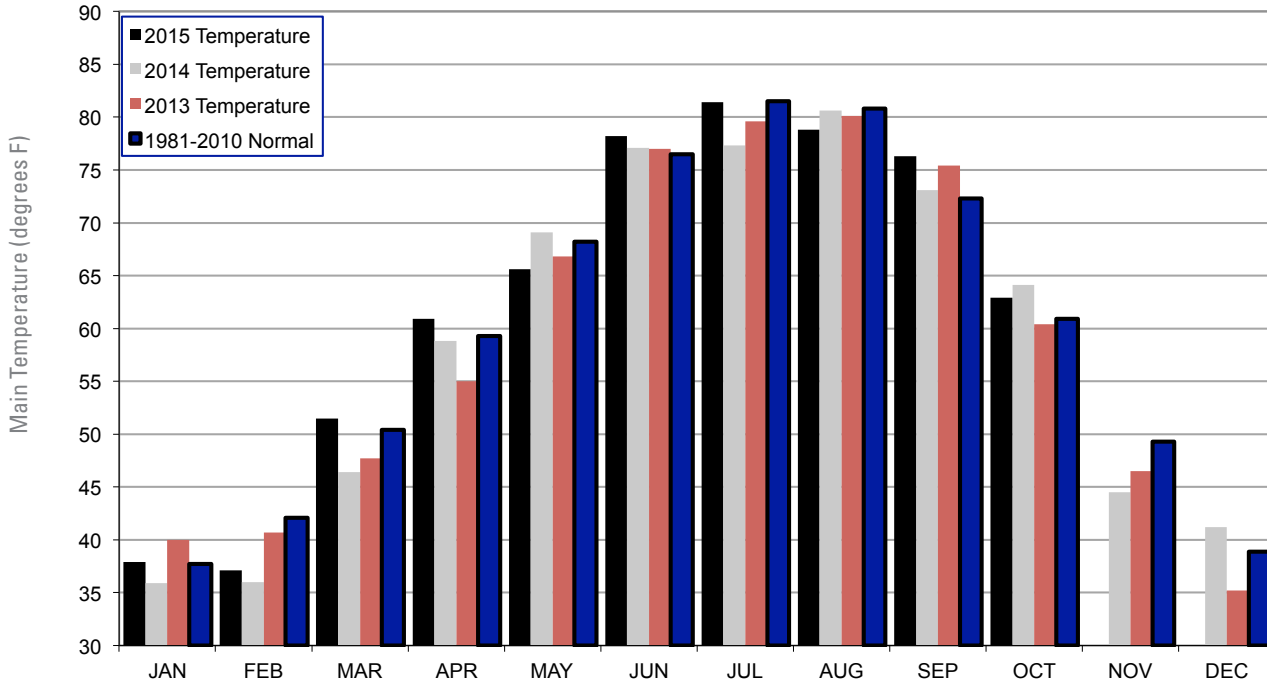
2013, 2014 AND 2015 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



October 2015 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Oct-14
Panhandle	3.89	2.19	9th Wettest	6.84 (1923)	0.03 (2001)	1.63
North Central	1.61	-1.30	45th Driest	8.97 (1998)	0.00 (1952)	2.51
Northeast	1.84	-1.94	36th Driest	14.98 (1941)	0.05 (1952)	5.57
West Central	2.65	-0.11	40th Wettest	9.57 (1923)	0.00 (1952)	2.07
Central	3.19	-0.56	44th Wettest	13.34 (1941)	0.03 (1952)	3.17
East Central	3.20	-1.24	57th Driest	14.00 (1941)	0.15 (1963)	5.98
Southwest	3.61	0.46	29th Wettest	11.03 (1983)	0.00 (1952)	1.31
South Central	6.41	2.04	16th Wettest	14.83 (1981)	0.09 (1921)	3.12
Southeast	4.49	-0.47	46th Wettest	12.89 (1984)	0.20 (1924)	5.57
Statewide	3.43	-0.11	42nd Wettest	10.75 (1941)	0.14 (1952)	3.43

2013, 2014 AND 2015 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



October 2015 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Oct-14 (F)
Panhandle	60.3	2.9	20th Warmest	65.9 (1963)	50.1 (1925)	60.6
North Central	62.2	2.5	26th Warmest	68.9 (1963)	51.6 (1925)	63.9
Northeast	61.2	1.0	56th Warmest	70.2 (1963)	53.9 (1925)	63.2
West Central	62.8	2.5	24th Warmest	68.5 (1963)	52.1 (1925)	64.7
Central	62.9	1.5	45th Warmest	70.2 (1963)	55.0 (2009)	65.7
East Central	62.8	1.1	55th Warmest	70.9 (1963)	55.5 (1976)	64.5
Southwest	64.7	2.2	27th Warmest	70.2 (1963)	55.4 (1925)	67.1
South Central	65.0	1.7	39th Warmest	71.0 (1963)	56.8 (1976)	67.1
Southeast	64.8	2.8	26th Warmest	69.8 (1963)	55.3 (1976)	64.6
Statewide	62.9	2.0	36th Warmest	69.5 (1963)	54.6 (1925)	64.6

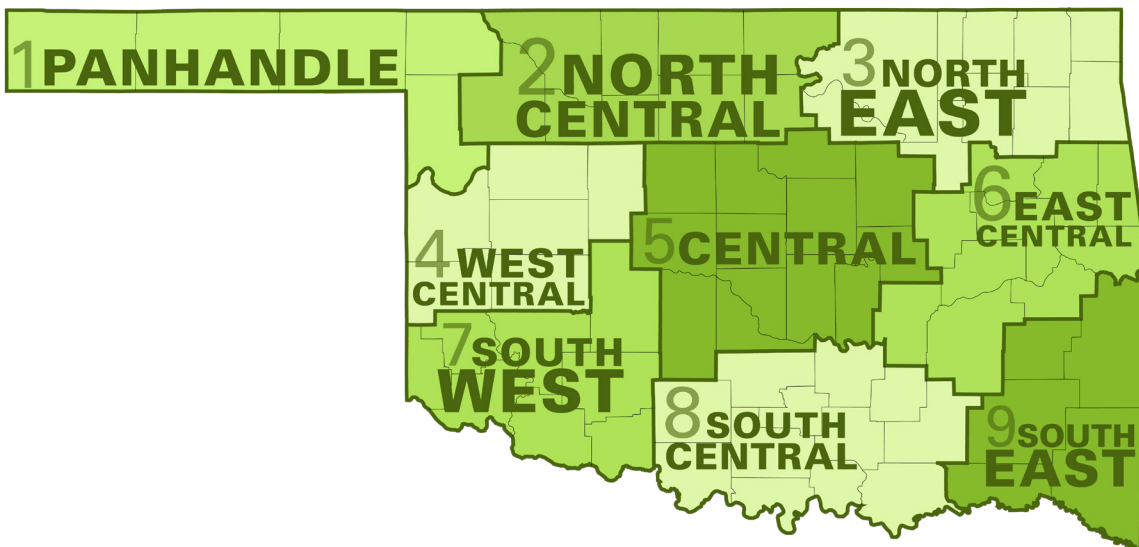
RECORD EVENT REPORTS OCTOBER 2015

Description	Day	Location	Record	Previous Record	Year
Daily high temperature	14	Oklahoma City	93	91	1950
Daily high temperature	14	McAlester	92	92	1963
Daily high temperature	15	McAlester	93	90	1963

MESONET EXTREMES FOR OCTOBER 2015

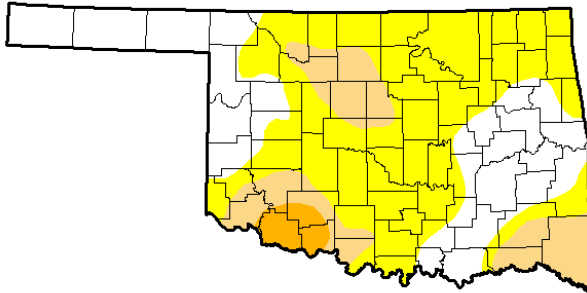
Climate Division	High Temp (F)			Low Temp (F)			High Monthly Rainfall (inches)		High Daily Rainfall (inches)		
	Day	Station	Day	Day	Station	Station	Day	Station			
Panhandle	94	11th	Hooker	31	25th	Beaver	5.14	Goodwell	1.81	21st	Goodwell
North Central	94	11th	Freedom	31	25th	Seiling	2.90	Red Rock	1.77	1st	Red Rock
Northeast	94	15th	Bixby	32	30th	Nowata	2.34	Porter	1.42	22nd	Porter
West Central	95	14th	Butler	31	25th	Camargo	4.47	Cheyenne	1.41	15th	Cheyenne
Central	95	15th	Marshall	31	26th	Lake Carl Blackwell	5.66	Acme	2.84	22nd	Acme
East Central	94	15th	Haskell	38	30th	Cookson	5.25	Stuart	2.87	22nd	Stuart
Southwest	97	11th	Grandfield	35	25th	Mangum	4.16	Apache	2.35	30th	Walters
South Central	97	14th	Burneyville	40	13th	Sulphur	9.67	Madill	5.45	22nd	Tishomingo
Southeast	96	15th	Broken Bow	37	18th	Wister	8.16	Broken Bow	4.31	23rd	Broken Bow
Statewide	97	14th	Burneyville	31	25th	Seiling	9.67	Madill	5.45	22nd	Tishomingo

Oklahoma Climate Divisions



OCTOBER 2015 DROUGHT MONITOR

U.S. Drought Monitor Oklahoma



October 27, 2015

(Released Thursday, Oct. 29, 2015)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	33.36	66.64	17.68	2.79	0.00	0.00
Last Week <i>19/2/2015</i>	43.20	56.80	36.18	18.44	4.58	0.00
3 Months Ago <i>7/28/2015</i>	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year <i>1/29/2014</i>	25.63	74.37	62.03	40.84	21.74	5.70
Start of Water Year <i>9/29/2015</i>	52.60	47.40	16.79	6.37	0.97	0.00
One Year Ago <i>10/28/2014</i>	21.40	78.60	64.49	58.08	23.00	6.86

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:

Brad Rippey

U.S. Department of Agriculture



<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.

SEVERE WEATHER REPORTS: Only the most significant events are listed. Tornadoes of F2 or greater strength (on the 0-5 Fujita scale), hail of two inches diameter or greater, and wind speeds of 70 miles per hour or above are listed. National Weather Service defines storms as severe when they produce a tornado, hail of three-quarters inch or greater, or wind speeds above 57 miles per hour (50 knots). For additional reports, contact the Oklahoma Climatological Survey, Storm Prediction Center, or your local National Weather Service forecast office.

SOIL MOISTURE: The soil moisture variable displayed is the Fractional Water Index (FWI), measured at a depth of 25 cm. This unitless value ranges from very dry soil having a value of 0, to saturated soils having a value of 1.

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 Climatic Data Center (more than about 4-5 months old):

<http://www4.ncdc.noaa.gov/cgi-win/wwwcgi.dll?wwEvent~Storms>

SEASONAL OUTLOOKS

Climate Prediction Center:

http://www.cpc.ncep.noaa.gov/products/OUTLOOKS_index.html

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

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