

Oklahoma’s weather during November was both simplistic and momentous. It began and ended on the warm side, and had a good dose of January thrown in during the middle. That’s the simplified version, of course. As is often the case with Oklahoma weather, however, the excitement lies in the details. A big rain late in the month provided some drought-quenching exhilaration, and the strong arctic cold front on November’s final day was a non-gentle reminder of the season. But the big story was undoubtedly the brush with frigid weather in the middle of the month, one of the most significant early-season winter outbreaks on record for Oklahoma. Despite the abundance of warm weather, that mid-November arctic blast pulled the entire month down to a statewide average of 44.5 degrees, 4.8 degrees below normal to rank as the 10th coolest November since records began in 1895. The year is still on course to be one of the coolest in recent memory with a January-November statewide average of 60.6 degrees, 1.3 degrees below normal and the 19th coolest such period on record.

November 2014 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	88°F	Mangum	10
Low Temperature	3°F	Kenton	17
High Precipitation	6.60 in.	Ketchum Ranch	
Low Precipitation	0.08 in.	Hooker	

The cold snap began with a cold front on the 11th that dropped temperatures from the 70s and 80s into the 30s and 40s. The Oklahoma Mesonet station at Boise City struggled to a high of 15 degrees on the 12th just two days after reaching a high of 81 degrees. Kenton dropped to a low of 3 degrees on the 17th for the month’s lowest reading. Temperatures were on the rise from that point forward signaling an end to the weeklong foray into deep winter, but not before most of the state had spent from 100 to more than 150 hours below freezing. The event also came with a statewide blanket of snow. Amounts of 3-4 inches were common across parts of western, northern and central Oklahoma. Totals of more than 4 inches were reported near

Forgan and Laverne. Within a few days, highs had risen back into the 60s and 70s across much of the area, culminating in widespread 70s and 80s on the 28th and 29th. November 30 was a day of transition as the month’s second strong cold front barreled through the state.

November 2014 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2014)
Month (November)	44.5°F	-4.8°F	10th Coolest
Season-to-Date (Sept-Nov)	61.0°F	0.1°F	60th Warmest
Year-to-Date (Jan-Nov)	60.6°F	-1.3°F	19th Coolest

Precipitation

	Total	Depart.	Rank (1895-2014)
Month (November)	2.10 in.	-0.41 in.	52nd Wettest
Season-to-Date (Sept-Nov)	7.82 in.	-1.76 in.	57th Driest
Year-to-Date (Jan-Nov)	27.02 in.	-7.42 in.	25th Driest

Depart. = departure from 30-year normal

The snow added a bit of moisture, but the big rains of Nov. 21-23 provided the biggest boost to the month’s statewide average of 2.12 inches, 0.4 inches below normal and the 50th wettest November on record. Areas across south central Oklahoma recorded more than 6 inches of moisture with the Mesonet station at Ketchum Ranch in Stephens County leading the way at 6.6 inches. Totals of 3-5 inches surrounded that mark from southwestern up into east central Oklahoma. Much of the far northwest remained considerably dry with less than an inch of moisture. Far southeastern Oklahoma was also left wanting with barely an inch falling across that region. The statewide average precipitation total for climatological fall, September-November, finished at 7.84 inches, 1.74 inches below normal to rank as the 58th driest autumn on record. The year-to-date period remained quite dry at 27.04 inches, more than 7 inches below normal and the 25th driest January-November on record.

Oklahoma did see a reduction in drought intensity according to the U.S. Drought Monitor report. Parts of southwestern through central Oklahoma saw extreme-to-exceptional drought reduced to severe-to-moderate intensity. With the southeastern corner's poor showing during the month, that area actually saw abnormally dry conditions increase. The "abnormally dry" designation is not a drought intensity, but signifies an area that could be entering (or leaving) actual drought conditions. By month's end, 60 percent of the state was considered to be in at least moderate drought. The Drought Monitor's intensity scale slides from moderate-severe-extreme-exceptional, with exceptional being the worst classification.

NOVEMBER 2014 DAILY SUMMARIES

NOVEMBER 1: Just before northerly winds turned back into southerly winds, a widespread freeze occurred over much of Oklahoma early in the day. Temperatures were unseasonably cool with highs ranging from 55 degrees in Newkirk, Webbers Falls, and Cookson to 68 degrees in Kenton and Hooker. The coolest lows were well below freezing at 22 degrees in Bristow, Nowata, and Oilton. The highest low in the state was 44 degrees in Kenton. Skies were clear and average wind speeds were generally between 5 and 20mph.

NOVEMBER 2-4: Temperatures warmed briefly on the 2nd due to high pressure and overnight clouds, but soon feel as an upper-level disturbance caused precipitation over much of the state. Highs ranged from 59-80 degrees on the 2nd, 63-75 degrees on the 3rd, and 50-69 degrees on the 4th. Minimums remained fairly consistent, ranging from the low-mid 30s to the mid-50s each day. The maximum 24-hour rainfall totals were .16 inches in Boise City, 1.71 inches in Watonga, and 2.31 inches in Ketchum Ranch each consecutive day. Winds were breezy with averages less than 26mph (Nov. 2), 19mph (Nov. 3), and 13mph (Nov. 4). Peak wind gusts were in the 40-50mph range.

NOVEMBER 5: Temperatures were slightly warmer on the 5th. Highs were between 57 and 71 degrees and lows were between 26 and 54 degrees. The northwest reported the highest swing in temperatures with the highest and lowest temps occurring in that region. Lingering showers caused an accumulation of .37 inches in Broken Bow, .37 inches in Idabel, and .13 inches in Mt. Herman. Only a few other areas in the south and south-east received trace amounts of rain. Average wind speeds were less than 9mph.

NOVEMBER 6-7: A weak cold front moved through the region, resulting in little more than a shift to northerly winds. The highest maximum temperatures were 71 degrees in Burneyville, Waurika, and Idabel on the 6th and a warm 82 degrees in Slapout and Buffalo on the 7th. The lowest maximums were 58 and 60 degrees. Minimum temperatures

were between 29 and 47 degrees both days. The highest maximum daily winds speed sped up a bit from 11mph on the 6th to 18mph on the 7th.

NOVEMBER 8-10: Despite a cold front entering the area overnight on the 8th, this three day period experienced a warm-up. The highest maximum temperatures increased from 69 degrees in Burneyville to 88 degrees in Mangum and the lowest maximum temperatures increased from 56 degrees in the northeast to 74 degrees in Westville and Cookson. Minimum temperatures ranged between 30 and 48 degrees on the 8th, between 27 and 47 degrees on the 9th, and between 22 and 55 degrees on the 10th. Average wind speeds were less than 15mph on the 8th and 9th and less than 22mph on the 10th. The winds picked up on the 10th due to an approaching cold front and gusts as high as 66mph and 59mph were reported in Altus and Medicine Park, respectively.

NOVEMBER 11-13: Overnight, a strong cold front moved in from the northwest. Winds were gusty and temperatures plummeted each day. The warmest highs dropped from 68 degrees in Wister to 40 degrees in Idabel and Broken Bow. The coolest highs fluctuated between 15 and 29 degrees. The warmest minimum temperatures fell from 35 to 27 degrees and the coolest minimum temperatures dropped from 13 to 9 degrees in the panhandle. Oklahoma City broke its daily low maximum temperature record with 29 degrees on the 12th. Due to the passing front, winds continued to be breezy on the 11th with gusts measuring 60mph in Medicine Park. Daily average wind speeds were less than 26mph on the 11th, less than 24mph on the 12th, and less than 14mph on the 13th.

NOVEMBER 14-15: Following a very cold night, warming temperatures made a comeback. The highest maximums increased from 46 degrees in Kenton on the 14th to 63 degrees in Kenton on the 15th. The lowest maximums were roughly 35 degrees. Minimums ranged from 15 to 26 degrees on Friday and 16 to 34 degrees on Saturday. Although light freezing rain, sleet, and snow flurries developed over northeast and north-central OK, it did not accumulate at the surface. Average wind speeds were less than 18mph.

NOVEMBER 16-20: Widespread snow fell across Oklahoma on the 16th with totals between 1 and 3 inches in western and central OK. That day, Oklahoma City broke its daily snowfall record with 2.5 inches. Daily maximum liquid precipitation amounts measured by the Mesonet were .20 inches in Broken Bow (Nov. 16th) and .32 inches in Erick (Nov.17th). Although temperatures were unseasonably cool and a weak cold front developed on the 19th, a warming trend was still evident. Maximum temperatures increased from a range between 26 and 42 degrees on the 16th to a range between 48 and 71 degrees on the 20th. The warmest lows fluctuated between 22 and 37 degrees and the coolest lows

fluctuated between 3 and 19 degrees. Tulsa and McAlester broke their daily low minimum temperature record on the 18th with 14 and 15 degrees, respectively. The highest daily average wind speeds were 17mph on the 16th, 12mph on the 17th, 14mph on the 18th, 10mph on the 19th, and 12mph on the 20th.

NOVEMBER 21-23: Moisture increased and a warm front advanced on the 21st. This led to a rainy stretch with increasing temperatures and dense fog on all three days. Rain fell over east-central and north-central OK on the 21st and then strong thunderstorms and intense lightning developed by the 22nd over southern and central Oklahoma. By the 23rd, a cold front approaching from the northwest caused further rainfall in the northern and central portions of the state. The highest daily maximum rainfall amounts were .54 inches in Talala on the 21st, 4.22 inches in Ketchum Ranch on the 22nd, and .52 inches in Miami on the 23rd. During this period, the warmest highs increased from 71 to 74 degrees. The coolest lows increased from 41 to 54 degrees on the 21st and 22nd, but dipped back down to 49 degrees on the 23rd as the cold front moved in. The warmest minimums were in the low-mid 50s and the coolest minimums were in the panhandle and increased from 20 degrees on the 21st to 28 degrees on the 23rd. Average wind speeds were less than 13mph on the 21st, 5-15mph on the 22nd, and 5-20mph on the 23rd. 54mph wind gusts were reported at multiple Mesonet sites in the northwest on the 23rd.

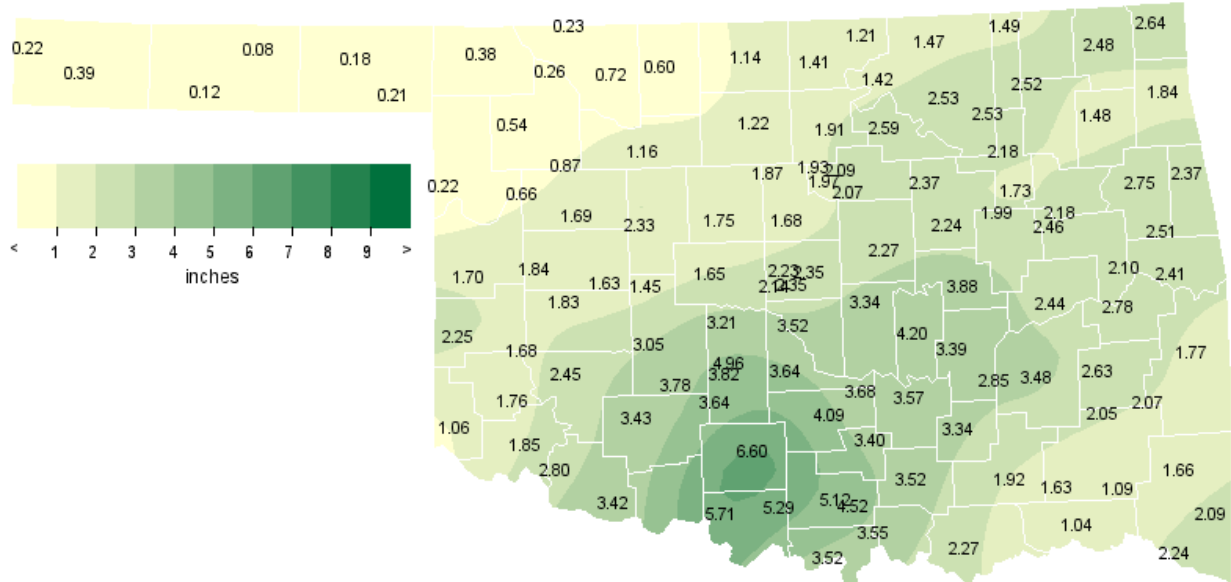
NOVEMBER 24-25: There was about a 10 degree cool down following a strong cold front on the 23rd. Maximum temperatures were between 46 and 62 degrees, and minimum temperatures were between 18 and 40 degrees. Skies were mostly clear and wind speeds averaged less than 13mph.

NOVEMBER 26-29: Effects from the previous cold front were short-lived as temperatures were able to quickly and drastically recover. Although the highest maximum temperature was still a chilly 62 degrees in Burneyville on the 26th, it increased to a warm 84 degrees in Arnett by the 29th. McAlester broke its daily high temperature record with 76 degrees on the 29th, which beat the previous record of 75 degrees in 2006. The lowest maximum temperature increased from 46 degrees in Boise City to 71 degrees in Weatherford and Watonga. The highest minimums climbed from the upper 30s to mid-50s and the lowest minimums were 21 degrees (Buffalo) on the 21st, 17 degrees (Beaver and Buffalo) on the 27th, and 26 degrees (Wister and Kenton) on the 28th and 29th. Rainfall was absent and daily average wind speeds increased from 15mph on the 26th to 22mph on the 29th.

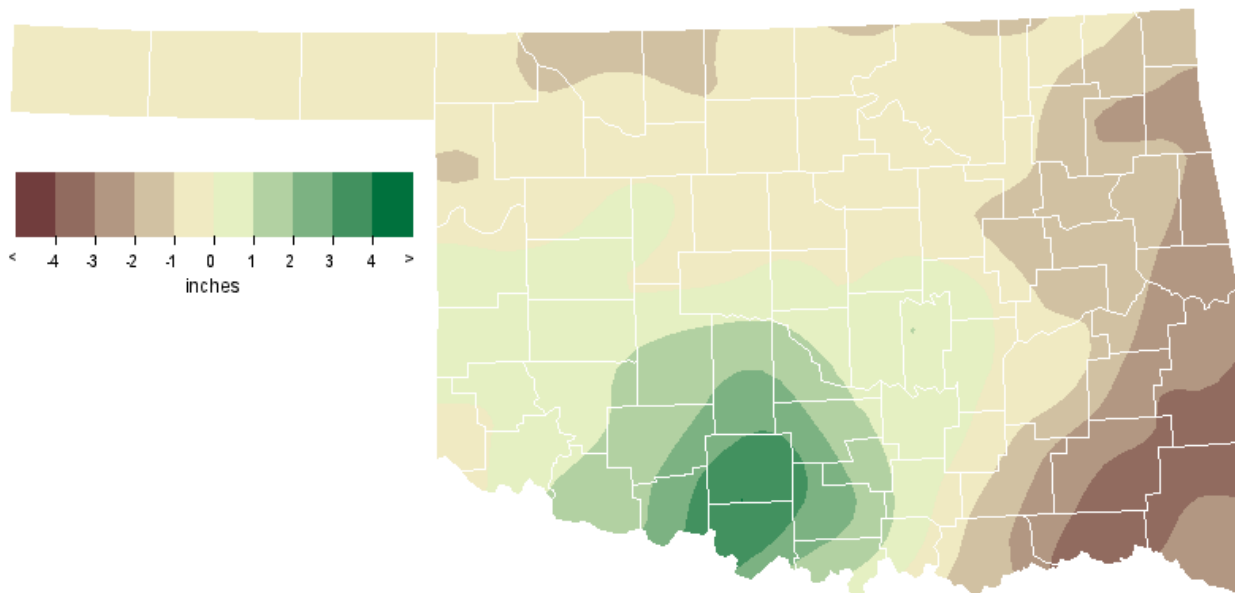
NOVEMBER 30: Another strong, dry cold front moved through the state from the northwest. Highs ranged from 52 degrees

in Beaver to 79 degrees in Burneyville and Hugo. Lows ranged from a chilly 17 degrees in Goodwell to 61 degrees in Mt. Herman. A daily high temperature record was broken by McAlester with a maximum temperature of 78 degrees. Average wind speeds were 7-21mph and the highest wind gust was 49mph in Medicine Park.

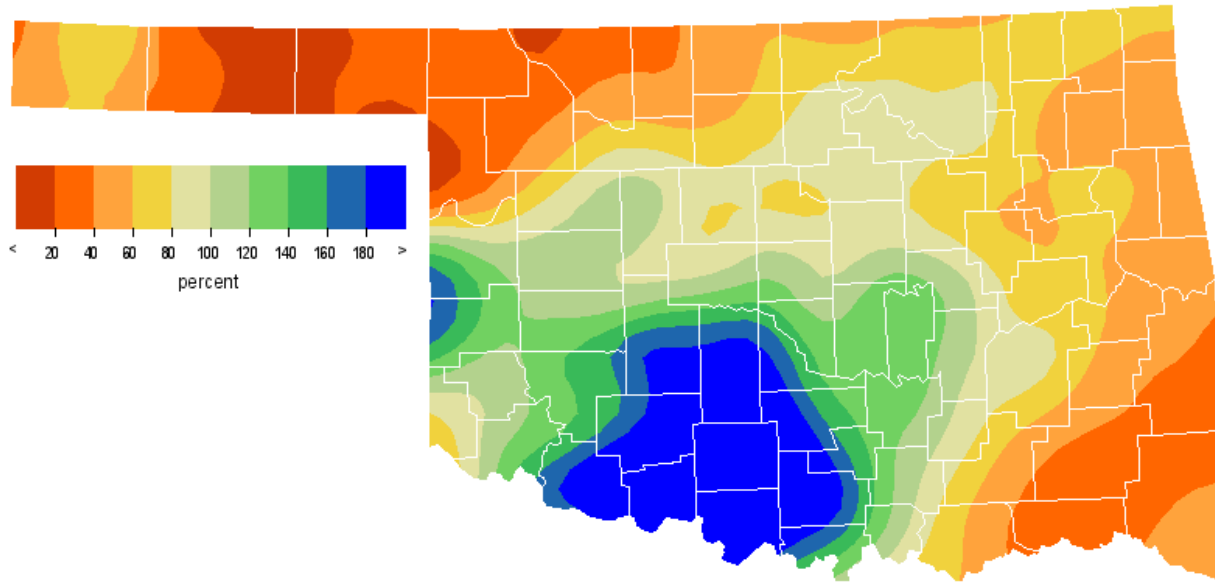
NOVEMBER 2014 OBSERVED PRECIPITATION



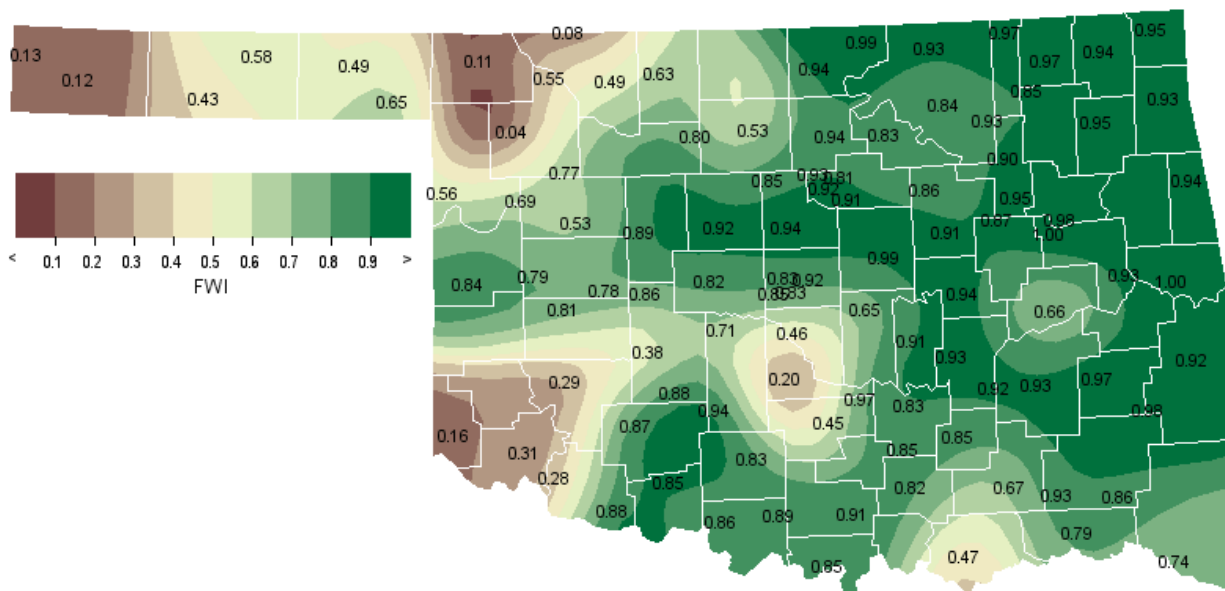
NOVEMBER 2014 DEPARTURE FROM NORMAL PRECIPITATION



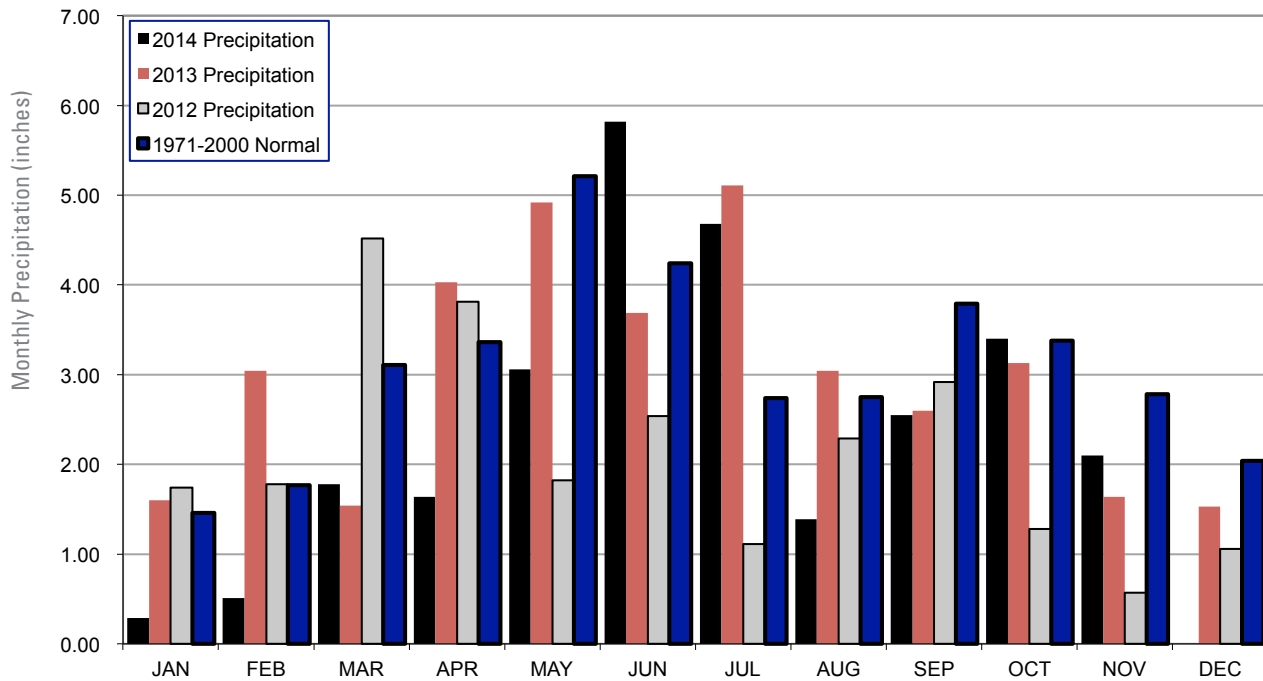
NOVEMBER 2014 PERCENT OF NORMAL PRECIPITATION



NOVEMBER 2014 AVERAGE SOIL MOISTURE AT 25CM



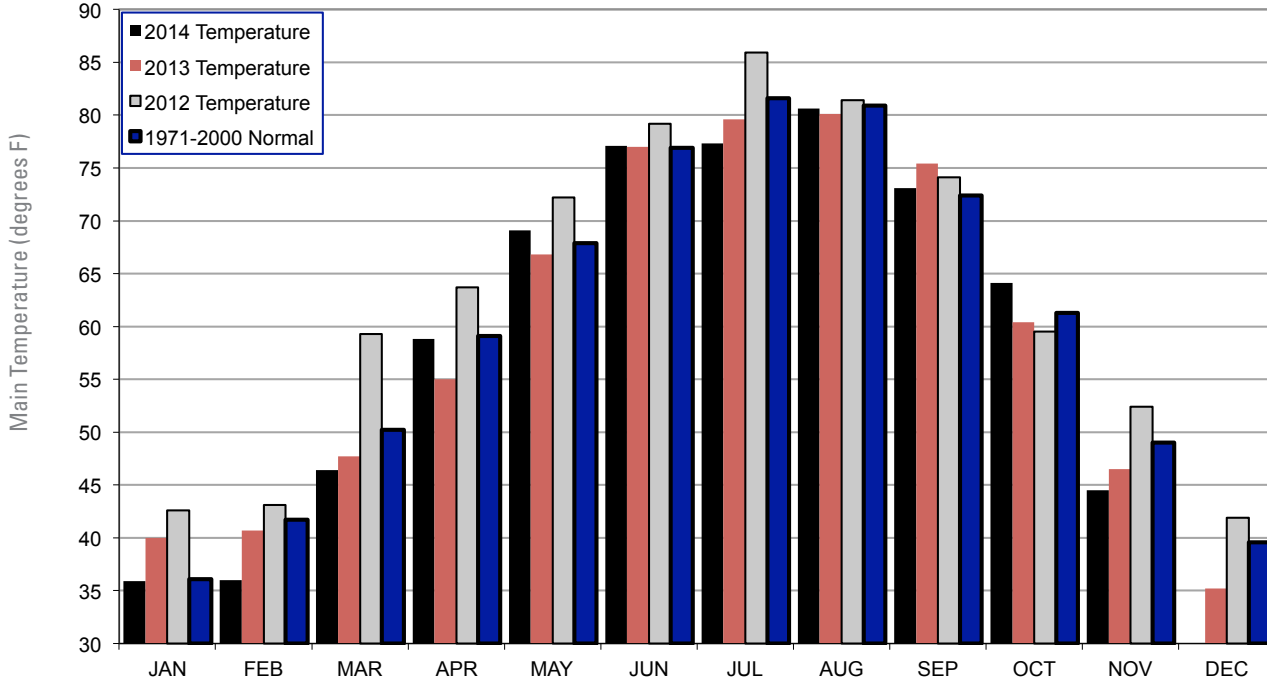
2012, 2013 AND 2014 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



November 2014 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	
Panhandle	0.23	-0.60	36th Driest	4.08 (1909)	0.00 (1921)	0.50
North Central	0.94	-0.79	50th Driest	6.61 (1964)	0.00 (1910)	1.05
Northeast	2.08	-1.07	58th Driest	7.04 (1992)	0.05 (1910)	2.15
West Central	1.73	0.24	40th Wettest	6.96 (1909)	0.00 (1949)	1.08
Central	2.72	0.31	37th Wettest	6.56 (1992)	0.01 (1955)	1.45
East Central	2.63	-1.25	57th Driest	9.86 (1946)	0.32 (1910)	2.27
Southwest	2.50	0.79	23rd Wettest	6.63 (2004)	0.00 (1949)	1.15
South Central	4.01	1.12	25th Wettest	8.87 (1902)	0.07 (1949)	1.98
Southeast	1.83	-2.82	32nd Driest	12.32 (1946)	0.40 (1910)	4.21
Statewide	2.10	-0.41	52nd Wettest	5.96 (2004)	0.13 (1949)	1.72

2012, 2013 AND 2014 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



November 2014 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	
Panhandle	41.8	-3.2	28th Coolest	51.5 (1999)	35.5 (1929)	43.2
North Central	42.7	-4.4	18th Coolest	54.5 (1999)	39.0 (1929)	44.9
Northeast	43.0	-5.9	7th Coolest	56.4 (1999)	41.1 (1929)	46.1
West Central	43.6	-4.4	17th Coolest	54.8 (1999)	39.4 (1929)	45.6
Central	44.8	-5.0	11th Coolest	57.1 (1999)	42.0 (1929)	47.2
East Central	45.3	-5.5	8th Coolest	58.9 (1909)	43.3 (1929)	47.8
Southwest	45.9	-4.6	15th Coolest	56.7 (1999)	42.4 (1929)	47.8
South Central	47.2	-5.1	8th Coolest	58.6 (1999)	43.5 (1929)	48.6
Southeast	46.5	-5.1	9th Coolest	58.3 (1909)	43.7 (1929)	48.1
Statewide	44.5	-4.8	10th Coolest	56.1 (1999)	41.1 (1929)	46.6

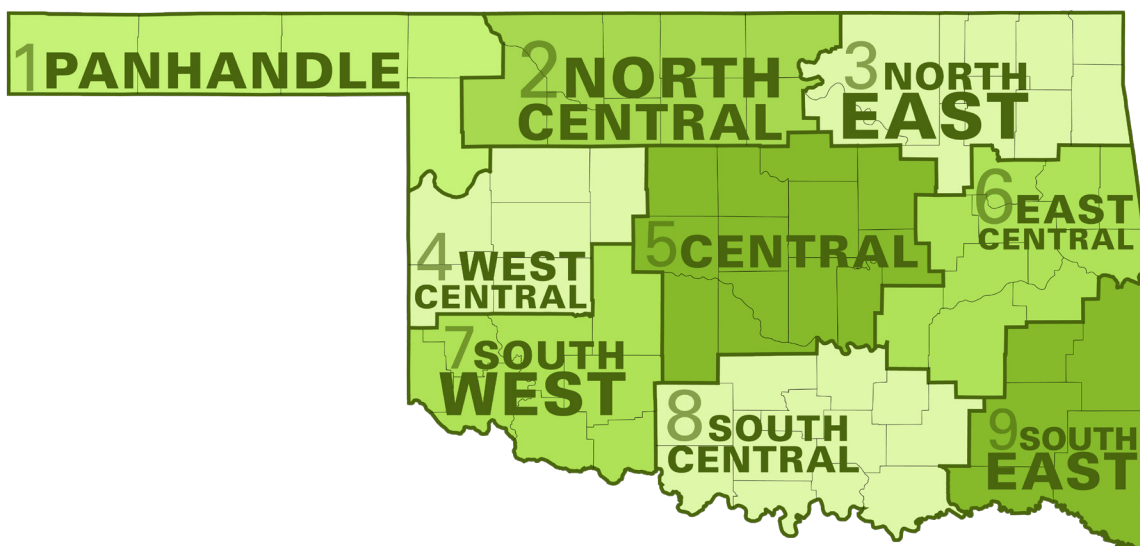
RECORD EVENT REPORTS NOVEMBER 2014

Description	Day	Location	Record	Previous Record	Year
Daily cool maximum	12	Oklahoma City	29	29	1940
Daily snowfall	16	Oklahoma City	2.5 in.	trace	1980
Daily low minimum	18	Tulsa	14	19	1951
Daily low minimum	18	McAlester	15	17	1959
Daily high temperature	29	McAlester	76	75	2006
Daily high maximum	30	McAlester	78	75	1982

MESONET EXTREMES FOR NOVEMBER 2014

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	85	10th	Arnett	3	17th	Kenton	0.39	Boise City	0.19	3rd	Buffalo
North Central	87	10th	Freedom	8	17th	Freedom	1.91	Red Rock	1.33	3rd	Red Rock
Northeast	79	10th	Bixby	8	18th	Nowata	2.64	Miami	1.70	4th	Vinita
West Central	85	10th	Camargo	9	16th	Erick	2.33	Watonga	1.71	3rd	Watonga
Central	81	10th	Ninnekah	10	17th	El Reno	4.96	Chickasha	2.95	22nd	Chickasha
East Central	78	30th	Sallisaw	11	18th	Westville	3.48	McAlester	2.16	22nd	Holdenville
Southwest	88	10th	Mangum	9	17th	Tipton	3.78	Apache	2.12	22nd	Apache
South Central	82	10th	Waurika	11	17th	Sulphur	6.60	Ketchum Ranch	4.22	22nd	Ketchum Ranch
Southeast	79	30th	Hugo	12	18th	Talihina	2.63	Wilburton	1.28	22nd	Wilburton
Statewide	88	10th	Mangum	3	17th	Kenton	6.60	Ketchum Ranch	4.22	22nd	Ketchum Ranch

Oklahoma Climate Divisions



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 differs 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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