Oklahoma Monthly Climate Summary



Autumnal temperatures, heavy rain, and drought reduction captured the Oklahoma weather headlines during August, although the blazing voice of summer was still heard on occasion. Drought shrank considerably in both coverage and intensity during the month thanks to some well-placed heavy rains. Wind, hail and flash flooding accompanied a somewhat unusual uptick in severe weather. Flash flooding necessitated water rescues in several cities, and a Main Street bridge was washed away in Norman. The severe weather culminated with two confirmed tornadoes in Mayes and Rogers counties on Aug. 19, damaging mobile homes, outbuildings and trees. The first tornado passed over the Oklahoma Mesonet station east of Inola, producing a wind gust of 98 mph near the ground. The rains were the real star of the month, however.

According to preliminary data from the Mesonet, the statewide average rainfall was 3.99 inches, 1.04 inches

Description	Extreme	Station	Day
High Temperature	104°F	Hollis, Hooker	17, 30
Low Temperature	48°F	Eva	21
High Precipitation	11.28 in.	Miami	
Low Precipitation	1.14 in.	Apache	

August 2018 Statewide Extremes

above normal to rank as the 22nd wettest August since records began in 1895. Thirty-two of the Mesonet's 120 sites received at least 5 inches of rain, and another 22 recorded 4 inches or more. Miami led the state with 11.28 inches, although Wister was close behind at 10.56 inches. Apache had the lowest total of 1.14 inches. Twelve other sites, each across western Oklahoma, failed to reach 2 inches. The June-August statewide average of 10.8 inches was 0.45 inches above normal to rank as the 41st wettest climatological summer on record. The Panhandle enjoyed its 12th wettest summer with an average surplus of 3.21 inches. Sites in Beaver County were more than 5 inches above normal for the season. In contrast, many of the Mesonet locations in the southwest corner of the state were nearly 5 inches below normal. Wister was an impressive 11.6 inches above normal for the summer at 22.3 inches. The January-August statewide average of 23.58 inches was 1.28 inches below normal. A swath from southwest through northeast

Oklahoma was 10-12 inches below normal for the first eight months of the year.

The month was decidedly mild with a statewide average temperature of 79.5 degrees, 1.3 degrees below normal to rank as the 37th coolest August on record. The Mesonet's 120 sites failed to record a single triple-digit temperature on 16 days during the month. Hollis and Hooker led August with highs of 104 degrees on the 17th and 30th, respectively. Eva fell to 48 degrees on the 21st for the month's lowest temperature. The heat index soared to 113 degrees on the 16th at Webbers Falls. Thirty-four heat index readings of at least 110 degrees were recorded Aug. 16-17. Bolstered by the warmer-than-normal months of June and July, the climatological summer ended as the 34th warmest on record, 1.3 degrees above normal. Similarly, the first eight months of the year were 0.7 degrees above normal to rank as the 30th warmest January-August on record.

August 2018 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2018)
Month (Aug)	79.5°F	-1.3°F	37th Coolest
Season-to-Date (Jun-Aug)	80.9°F	1.3°F	34th Warmest
Year-to-Date (Jan-Aug)	63.0°F	0.7°F	30th Warmest

Precipitation

	Total	Depart.	Rank (1895-2018)
Month (Aug)	3.99 in.	1.04 in.	22nd Wettest
Season-to-Date (Jun-Aug)	10.80 in.	0.45 in.	41st Wettest
Year-to-Date (Jan-Aug)	23.58 in.	-1.28 in.	59th Wettest

Depart. = departure from 30-year normal

Drought coverage across the state was reduced from 55 percent at the end of July to 31 percent at the of August, with a wide strip of drought-free conditions from the western Panhandle through eastern Oklahoma. Drought intensity was reduced as well. Areal coverage of drought considered at least in the severe category fell from 32 percent to 19

percent. The Drought Monitor's intensity scale slides from moderate-severe-extreme-exceptional, with exceptional being the worst classification. The southwest remained the hardest hit area with 94 percent considered to be in severe or extreme drought.

The September temperature outlook from the Climate Prediction Center (CPC) indicated increased odds of above normal temperatures across the entire state, with those odds a bit more enhanced in the eastern third. The precipitation outlook showed enhanced odds of above normal precipitation across the far northwest, but a bit higher chances in the Panhandle. CPC's September drought outlook called for drought improvement or removal in the northeast and far southwest areas of the state, but persistence in south central Oklahoma.

AUGUST 2018 OBSERVED PRECIPITATION



AUGUST 2018 DEPARTURE FROM NORMAL PRECIPITATION



AUGUST 2018 PERCENT OF NORMAL PRECIPITATION



AUGUST 2018 AVERAGE TEMPERATURE



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AUGUST 2018 DEPARTURE FROM NORMAL TEMPERATURE



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MESONET MONTHLY SUMMARY FOR AUGUST 2018

NAME	MEAN TEMP	HIGH TEMP	DAY	LOW TEMP	DAY	HDD	CDD	ТОТ РРТ	HIGH 24-HR	DAY	NAME	MEAN TEMP	HIGH TEMP	DAY	LOW TEMP	DAY	HDD	CDD	ТОТ РРТ	HIGH 24-HR	DAY
PANHANDLE Arnett Beaver Boise City Buffalo Eva	79.0 77.5 74.3 ***** 75.5	99 100 97 *** 103	28 31 31 *** 30	55 52 54 *** 48	21 21 1 *** 21	0 0 **** 0	435 388 288 **** 325	4.05 3.52 3.69 1.69 1.90	1.22 1.22 .93 .59 .64	19 22 21 22 21	Goodwell Hooker Kenton Slapout	77.0 77.7 74.3 77.8	102 104 98 99	30 30 30 27	51 55 50 55	21 21 12 21	0 0 0 0	372 394 287 397	2.57 1.98 2.73 5.18	.99 .57 1.49 1.65	21 18 21 29
NORTH CENTRAL Alva Blackwell Breckinridge Cherokee Fairview Freedom Lahoma	79.6 79.2 80.2 81.0 80.9 79.4 79.7	100 99 102 101 101 100	31 31 31 31 31 31 5	58 61 60 60 56 61	21 1 21 1 21 21 21	0 0 0 0 0 0	452 441 473 496 492 446 457	4.08 2.57 6.64 1.54 2.97 4.57 6.07	.99 .76 2.50 .74 1.10 2.19 1.69	13 19 13 19 19 8 14	May Ranch Medford Newkirk Red Rock Seiling Woodward	79.2 79.9 78.4 79.8 **** 78.7	100 100 97 99 *** 96	31 30 6 5 *** 31	58 59 61 60 *** 57	21 21 21 1 *** 21	**** 0 0 ****	**** 463 417 460 **** 423	1.85 2.44 2.85 5.34 3.47 4.49	.65 .86 .82 1.93 1.88 1.21	14 25 19 19 19 19
NORTHEAST Bixby Burbank Copan Foraker Inola Jay Miami Nowata	79.5 78.7 78.0 77.7 79.1 77.7 77.5 77.5	96 98 96 96 96 94 96	6 6 6 16 6	61 60 61 60 57 59 58	1 3 1 21 1 1 1	0 0 0 0 0 0 0	449 424 403 393 437 394 386 394	5.97 3.14 3.86 2.86 3.39 3.87 11.28 3.86	2.99 1.11 1.53 .90 2.01 1.51 3.41 1.41	19 19 19 19 19 17 19 19	Pawnee Porter Pryor Skiatook Talala Tulsa Vinita Wynona	79.5 79.3 78.5 79.6 78.9 80.7 77.3 79.2	99 94 95 97 98 98 95 98	6 16 16 16 6 6 6	61 59 62 64 59 62	1 1 1 21 3 1	0 0 0 0 0 0 0	450 442 418 451 431 486 381 439	3.86 3.05 4.39 2.20 3.46 5.65 6.79 3.02	1.82 1.07 1.70 .99 1.73 1.55 2.49 1.56	19 15 19 19 19 19 19
WEST CENTRAL Bessie Butler Camargo Cheyenne Elk City	81.3 46.2 79.3 80.3 80.8	101 101 99 98 100	30 31 5 24 7	60 *** 57 59 61	21 30 1 21 21	0 0 0 ****	506 478 444 473 ****	2.42 2.75 5.17 2.58 3.64	1.28 1.11 2.24 1.71 1.61	14 19 19 19 10	Erick Putnam Watonga Weatherford	81.1 80.0 80.1 80.6	102 99 99 99	24 5 28 30	57 59 61 61	21 21 21 20	0 0 0	499 464 468 485	2.21 3.76 4.05 2.58	.73 1.29 1.50 .79	28 14 19 12
CENTRAL Acme Bowlegs Bristow Lake Carl Blac Chandler Chickasha El Reno Guthrie Kingfisher Marena Minco	46.4 79.3 78.2 79.3 79.2 81.0 79.2 80.7 80.8 78.9 80.1	99 95 94 97 94 100 98 97 100 96 98	31 7 30 5 28 7 5 30 6 7	*** 61 57 58 61 60 58 61 61 62 62	7 1 21 21 21 1 1 1 21	0 0 0 0 0 0 0 0 0 0 0 0 0	486 444 410 443 439 496 440 486 490 431 468	1.71 2.24 6.52 5.95 4.84 1.75 4.29 3.68 4.38 4.31 2.68	.70 .97 2.87 1.97 1.96 .74 1.22 1.38 1.83 1.90 .76	13 13 19 19 19 8 8 10 8 10 8 19 8	Marshall Norman Oilton OKC East Okemah Perkins Shawnee Spencer Stillwater Washington Yukon	80.4 80.3 78.7 80.3 79.8 80.0 80.6 80.0 79.9 80.2 79.4	98 96 96 96 98 99 96 98 98 96	6 7 30 24 7 6 7 24 30 17 7	60 61 58 62 61 62 63 60 61 61 60	1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0 0 0	478 475 423 475 458 464 464 466 462 472 445	4.63 6.87 5.21 3.23 3.22 3.95 2.47 2.67 5.59 1.94 7.78	1.70 3.47 1.88 1.19 .74 1.61 .99 .57 2.91 .96 2.77	19 14 19 16 19 19 19 16 19 8
EAST CENTRAL Cookson Eufaula Haskell Hectorville Holdenville McAlester Okmulgee	78.2 80.2 79.2 80.1 79.5 78.9 79.1	96 96 95 97 94 95 95	7 7 24 6 7 7 6	58 61 63 63 59 60	1 1 1 1 1 1 2	0 0 0 0 0 0	408 471 439 467 450 432 438	***** 4.01 3.72 ***** 3.71 4.23 4.16	***** 1.31 1.05 1.89 1.53 1.47 1.67	*** 13 14 19 13 13 15	Sallisaw Stigler Stuart Tahlequah Webbers Falls Westville	79.0 78.9 79.6 78.2 79.3 77.4	96 95 95 95 96 95	6 6 7 16 6	61 59 61 57 61 58	1 1 2 1 1	0 0 0 0 0	435 431 454 409 444 384	7.56 7.24 2.61 3.89 4.44 4.20	4.13 3.22 1.29 1.53 1.24 1.54	15 15 14 15 14
SOUTHWEST Altus Apache Fort Cobb Grandfield Hinton Hobart	81.5 81.1 ***** 84.5 79.6 82.8	100 100 *** 103 98 101	17 17 *** 28 28 28	62 60 *** 62 61 61	21 1 *** 1 21 21	0 0 **** 0 0 0	511 498 **** 604 453 551	7.05 1.14 1.61 1.77 2.72 1.87	2.96 .55 1.10 1.03 .88 .83	14 19 19 13 8 14	Hollis Mangum Medicine Park Tipton Walters	82.8 81.3 82.2 84.1 82.7	104 102 100 103 102	17 17 17 28 7	61 57 66 63 62	21 21 1 21 1	0 0 0 0	550 505 534 593 547	2.77 2.02 1.60 2.12 3.43	1.25 1.00 .77 .67 1.25	17 19 19 19 18
SOUTH CENTRAL Ada Ardmore Burneyville Byars Centrahoma Durant Fittstown Ketchum Ranch	80.1 82.1 82.4 80.3 80.2 81.7 79.3 81.6	99 100 102 97 98 99 98 99	7 7 7 7 7 7 7 7	60 63 59 63 63 60 62	1 2 1 1 2 1 21	0 0 0 0 0 0 0	467 530 538 475 473 519 444 516	7.11 4.26 2.41 5.23 2.86 5.09 6.35 2.99	3.36 2.01 .80 2.00 1.12 3.35 3.95 1.30	13 13 13 13 13 13 13 13	Lane Madill Newport Pauls Valley Ringling Sulphur Tishomingo Waurika	80.2 81.9 81.7 80.8 82.8 45.5 80.4 83.5	97 100 102 99 101 98 99 103	7 7 7 7 7 7 7 7	60 59 62 63 *** 61 60	3 1 1 9 1	0 0 **** 0 0 0 ****	472 523 518 **** 553 456 476 ****	4.15 2.84 5.47 5.08 3.90 4.77 6.03 2.62	2.12 1.18 2.51 2.76 2.40 2.02 3.78 1.81	13 13 13 13 13 13 13 13
SOUTHEAST Antlers Broken Bow Clayton Cloudy Hugo Idabel	79.4 80.1 79.9 79.6 81.3 81.3	97 97 97 96 98 99	7 7 7 7 7 7	58 60 59 60 62 62	3 2 2 2 2 2	0 **** **** 0 0	447 **** 463 **** 507 504	5.93 5.94 7.48 5.45 4.40 4.03	3.21 2.35 2.86 3.38 2.87 1.64	13 13 13 13 13 13 8	Mt Herman Talihina Valliant Wilburton Wister	79.1 79.7 81.6 79.3 78.3	94 96 99 95 95	7 7 7 7 7	60 60 60 59	1 2 1 1	0 0 0 0	437 455 514 445 412	6.32 6.50 2.46 4.44 10.56	4.06 3.55 1.38 1.93 4.96	13 13 13 14 15



6.00 2018 Precipitation ■1981-2010 Normal 5.00 4.00 3.00 2.00 1.00 0.00 JAN FEB MAR APR MAY JUN JUL AUG SEP ОСТ NOV DEC

August 2018 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Aug-17 (inches)
Panhandle	3.03	0.33	40th Wettest	5.81 (1917)	0.54 (1936)	3.21
North Central	3.92	0.70	38th Wettest	8.10 (1974)	0.14 (2000)	5.19
Northeast	4.42	1.18	36th Wettest	7.51 (1964)	0.03 (2000)	6.24
West Central	3.24	0.23	42nd Wettest	6.92 (2017)	0.02 (2000)	6.92
Central	4.09	0.99	23rd Wettest	8.18 (1906)	0.02 (2000)	7.16
East Central	4.52	1.49	28th Wettest	10.88 (1915)	0.02 (2000)	7.80
Southwest	2.55	-0.22	50th Wettest	7.38 (1996)	0.00 (2000)	6.94
South Central	4.45	1.85	21st Wettest	8.72 (1906)	0.01 (2000)	6.69
Southeast	5.60	2.78	15th Wettest	9.68 (1915)	0.25 (1936)	7.99
Statewide	3.99	1.04	22nd Wettest	6.47 (1915)	0.12 (2000)	6.41

2018 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL

Main Temperature (degrees F)



August 2018 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Aug-17 (F)
Panhandle	76.7	-1.2	33rd Coolest	83.7 (1937)	71.4 (1915)	73.9
North Central	79.5	-1.3	43rd Coolest	88.2 (1936)	72.9 (1915)	76.3
Northeast	78.7	-1.6	37th Coolest	88.8 (1936)	72.7 (1915)	76.4
West Central	79.9	-0.8	48th Coolest	87.9 (2011)	73.6 (1915)	76.9
Central	79.8	-1.6	32nd Coolest	88.7 (1936)	74.1 (1915)	77.8
East Central	79.0	-1.9	31st Coolest	88.6 (1936)	73.5 (1915)	78.1
Southwest	82.4	0.0	61st Warmest	91.4 (2011)	76.1 (1915)	78.4
South Central	80.7	-1.8	33rd Coolest	90.8 (2011)	76.1 (1992)	79.4
Southeast	79.5	-0.9	51st Coolest	87.5 (2011)	74.2 (1915)	78.4
Statewide	79.5	-1.3	37th Coolest	87.7 (2011)	73.9 (1915)	77.3

MESONET EXTREMES FOR AUGUST 2018

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	104	30th	Hooker	48	21st	Eva	5.18	Slapout	1.65	29th	Slapout
North Central	102	31st	Cherokee	56	21st	Freedom	6.64	Breckinridge	2.50	13th	Breckinridge
Northeast	99	6th	Pawnee	57	1st	Jay	11.28	Miami	3.41	19th	Miami
West Central	102	24th	Erick	57	1st	Camargo	5.17	Camargo	2.24	19th	Camargo
Central	100	30th	Kingfisher	57	21st	Acme	7.78	Yukon	3.47	14th	Norman
East Central	97	6th	Hectorville	57	1st	Tahlequah	7.56	Sallisaw	4.13	15th	Sallisaw
Southwest	104	17th	Hollis	57	21st	Mangum	7.05	Altus	2.96	14th	Altus
South Central	103	7th	Waurika	58	21st	Sulphur	7.11	Ada	3.95	13th	Fittstown
Southeast	99	7th	Valliant	58	3rd	Antlers	10.56	Wister	4.96	15th	Wister
Statewide	104	30th	Hooker	48	21st	Eva	11.28	Miami	4.96	15th	Wister

Oklahoma Climate Divisions



U.S. Drought Monitor Oklahoma

August 28, 2018 (Released Thursday, Aug. 30, 2018) Valid 8 a.m. EDT

	Drought Conditions (Percent Area)										
	None D0-D4 D1-D4 D2-D4 D3-D4										
Current	53.85	46.15	31.47	18.63	5.65	0.00					
Last Week 08-21-2018	50.09	49.91	32.00	18.58	5.77	1.28					
3 Month s Ago 05-29-2018	37.27	62.73	45.53	40.54	29.71	9.81					
Start of Calend ar Year 01-02-2018	0.00	100.00	77.15	38.76	0.00	0.00					
Start of Water Year 09-26-2017	64.46	35.54	0.77	0.00	0.00	0.00					
One Year Ago 08-29-2017	97.84	2.16	0.00	0.00	0.00	0.00					



D0 Abnormally Dry

D3 Extreme Drought D1 Moderate Drought D4 Exceptional Drought

D2 Severe Drought The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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<u>USDA</u>



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: <u>http://aa.usno.navy.mil/data</u>

SEVERE STORM REPORTS Storm Prediction Center: <u>http://spc.noaa.gov/climo/</u>

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/



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