

Mother Nature threw Oklahoma a Hail Mary during the final week of July, offering drought-quenching rains and a glorious preview of fall. That brief seasonal transformation followed a dose of brutal summer weather that saw highs soar above 110 degrees and the heat index hit 120. The middle two weeks were especially fierce, culminating with record-breaking heat from the 19th through the 22nd. Temperatures reached 113 degrees at the Grandfield and Tipton Mesonet sites on both the 19th and 20th. There were 35 instances of temperatures reaching at least 110 degrees at Mesonet sites during the month, and highs reached 105 degrees 93 times. Combined with the humidity, the heat became even more oppressive. The heat index soared to 120 degrees at Pawnee on the 19th and again at Bristow the following day. The Mesonet’s 120 sites recorded heat index values of at least 115 degrees 36 times during July. The cold front that visited the state during the month’s final week was unusual in both its timing and

the 57th wettest on record. The heaviest rains fell across far northern Oklahoma and localized areas in the east. Twenty-Two Mesonet sites reported at least 4 inches of rain, with Pryor leading the state at 6.09 inches. Not all sections of the state were so fortunate, however. Significant deficits remained along the Red River as well as portions of north central Oklahoma. Ringling recorded 0.84 inches of rain for the lowest July total, while another 27 Mesonet sites recorded 2 inches or less. The first seven months of the year finished 2.53 inches below normal to rank as the 51st driest January-July on record. As with the monthly totals, the year-to-date totals were also highly variable. Southwestern Oklahoma was 6.23 inches below normal for their 18th driest such period, while east central Oklahoma enjoyed its 43rd wettest at 1.25 inches above normal. Deficits of nearly 10 inches existed over that period from southwestern through northeastern Oklahoma. Hollis received 7.5 inches of rain since Oct. 1, 2017, a deficit of 13.2 inches.

July 2018 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	113°F	Several Several	5
Low Temperature	50°F	Boise City, Eva	31
High Precipitation	6.09 in.	Pryor	--
Low Precipitation	0.84 in.	Ringling	--

strength, but provided a welcome respite from Oklahoma’s normal July drudgery. Rainy weather, clouds and the cooler air helped provide Oklahomans with a brief glimpse of fall. Highs struggled to reach 90 degrees, and Boise City and Eva fell to a relatively chilly 50 degrees on July’s final day. According to preliminary data from the Oklahoma Mesonet, the statewide average temperature for July was 81.2 degrees, 0.3 degrees below normal and ranked as the 58th coolest since records began in 1895. The year-to-date temperature through July was still very warm at 0.8 degrees above normal, the 29th warmest January-July on record.

The real benefit of the late-month cold front was the moisture it brought to a parched state. Through July 26, the statewide average rainfall total according to the Oklahoma Mesonet was 1.28 inches, on pace for the 21st driest July on record. That statewide average had more than doubled over the next five days to 2.93 inches, upping its ranking to

July 2018 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2018)
Month (Jul)	82.1°F	0.6°F	52nd Warmest
Year-to-Date (Jan-Jul)	60.5°F	1.0°F	26th Warmest

Precipitation

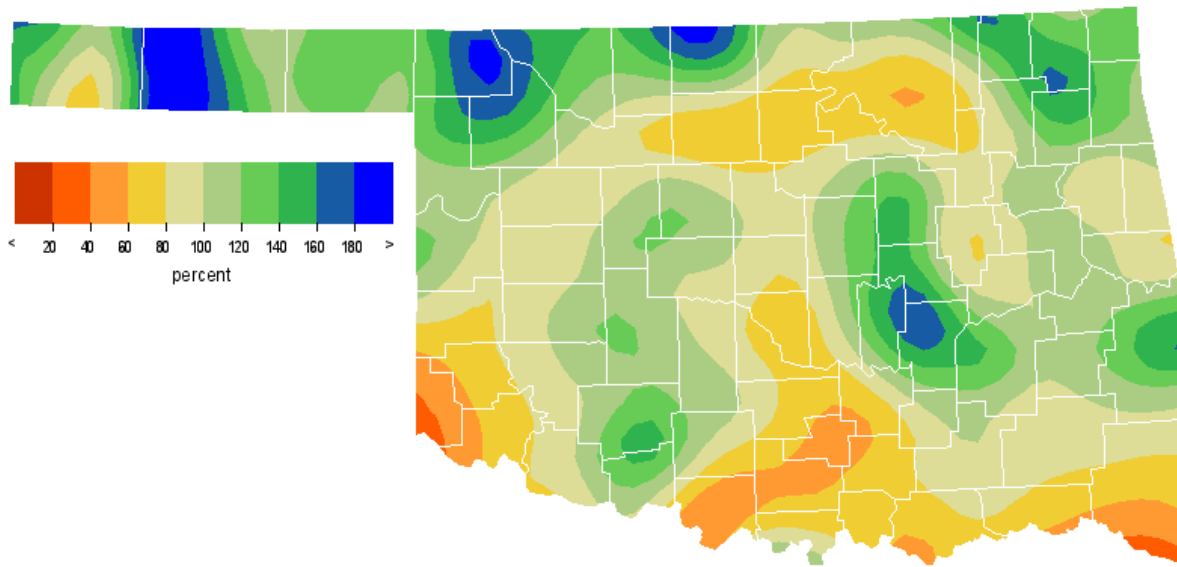
	Total	Depart.	Rank (1895-2018)
Month (Jul)	2.94 in.	0.06 in.	57th Wettest
Year-to-Date (Jan-Jul)	19.44 in.	-2.47 in.	51st Driest

Depart. = departure from 30-year normal

Despite the late relief during July, the U.S. Drought Monitor ended the month with 55 percent of the state in drought, and another 12 percent considered “abnormally dry,” a drought precursor. Thirty-Two percent of the state was in at least “severe” drought, and 7 percent was labeled “extreme.” Extreme drought dropped 5 percent since the end of June, but severe drought increased 9 percent. The Drought Monitor’s intensity scale slides from moderate-severe-extreme-exceptional, with exceptional being the worst classification.

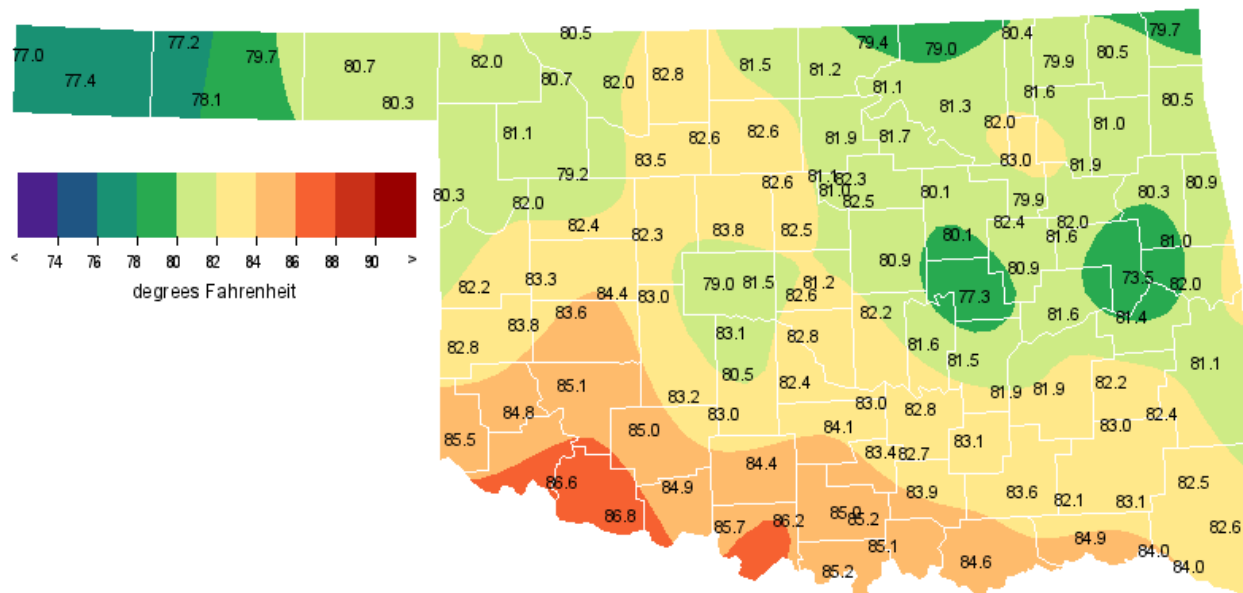
The August temperature outlook from the Climate Prediction Center (CPC) indicated increased odds of above normal temperature for all but the extreme northeast corner of the state. Those odds were greater along the Red River. The precipitation outlook saw slightly increased odds for below normal precipitation across the southern half of the state, but no clear signal in the northern half. Drought is expected to persist or intensify along the Red River and in the far western Panhandle during August, according to CPC's Monthly Drought Outlook. Other areas that were in drought at the end of July can expect improvement by the end of August.

JULY 2018 PERCENT OF NORMAL PRECIPITATION



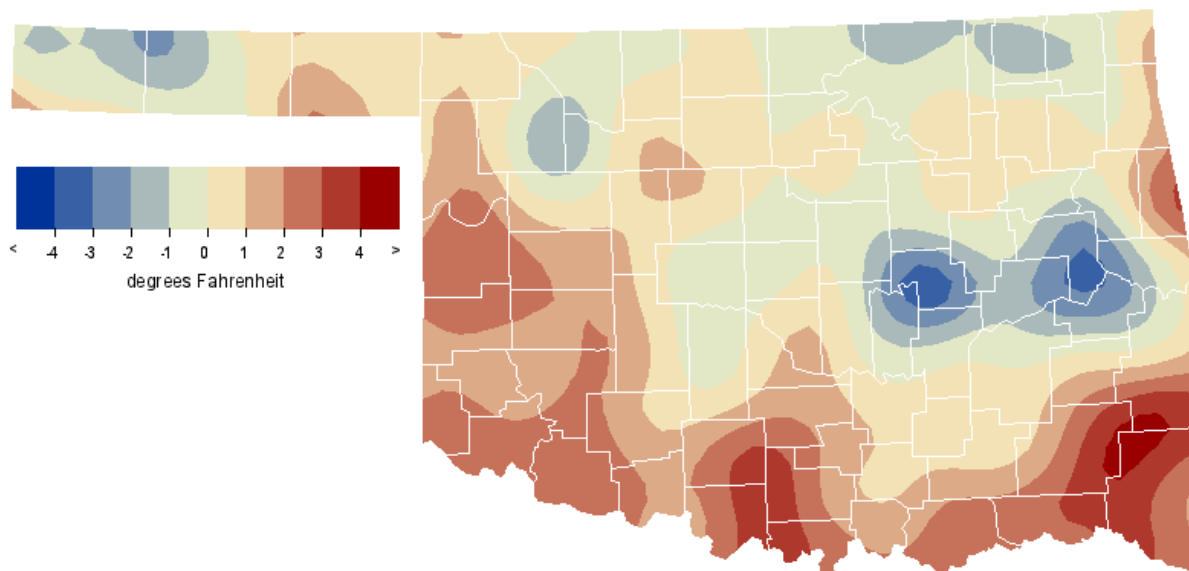
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JULY 2018 AVERAGE TEMPERATURE



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JULY 2018 DEPARTURE FROM NORMAL TEMPERATURE

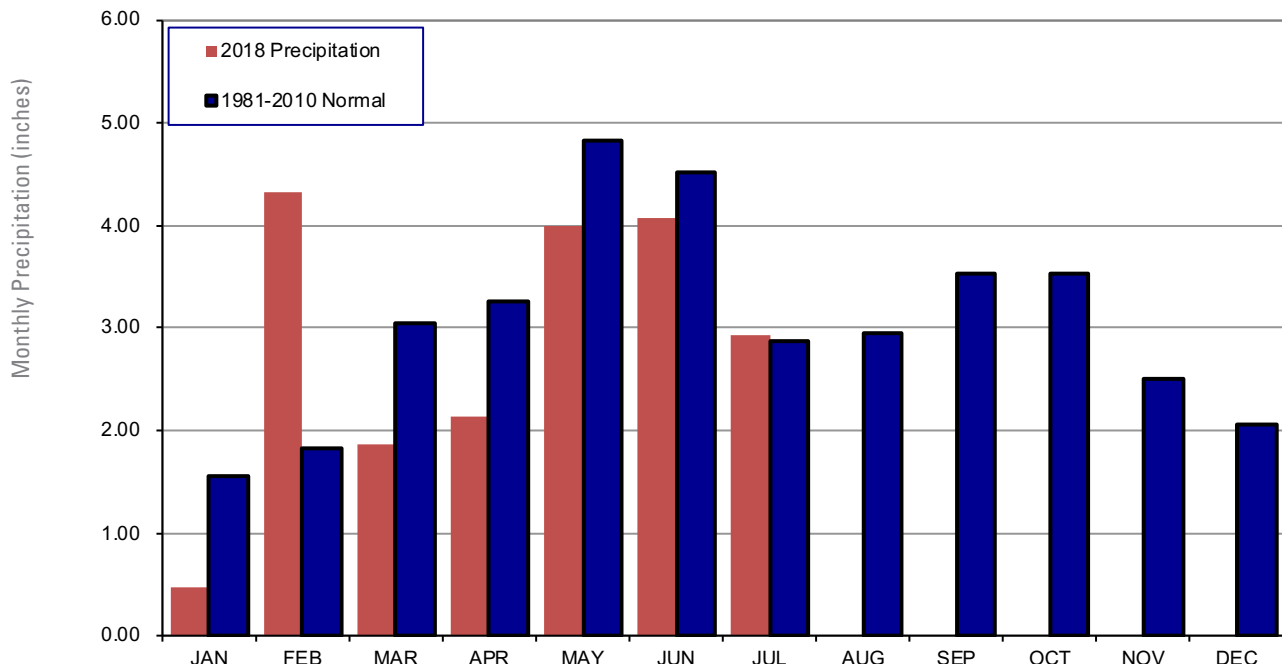


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MESONET MONTHLY SUMMARY FOR JULY 2018

NAME	MEAN TEMP	HIGH TEMP	LOW TEMP	DAY	HDD	CDD	TOT PPT	HIGH 24-HR	DAY	NAME	MEAN TEMP	HIGH TEMP	LOW TEMP	DAY	HDD	CDD	TOT PPT	HIGH 24-HR	DAY		
PANHANDLE																					
Arnett	80.2	108	20	58	31	0	472	2.64	.83	6	Goodwell	78.0	102	20	52	31	0	404	4.66	1.79	15
Beaver	80.7	110	20	56	31	0	485	3.91	1.60	27	Hooker	79.7	108	20	56	31	0	454	2.85	.70	6
Boise City	77.4	106	20	50	31	0	385	2.03	1.04	24	Kenton	77.0	105	20	51	31	0	373	4.93	1.07	5
Buffalo	82.0	110	20	59	31	0	527	3.62	1.33	17	Slapout	80.3	108	20	57	31	0	476	2.94	.90	29
Eva	77.2	105	20	50	31	0	378	4.70	2.14	6											
NORTH CENTRAL																					
Alva	82.1	110	20	59	31	0	530	3.25	.98	29	May Ranch	80.6	102	20	58	31	0	483	4.07	1.47	29
Blackwell	81.2	101	19	61	31	0	503	3.08	1.15	29	Medford	81.5	103	19	60	31	0	513	5.14	1.21	17
Breckinridge	82.6	111	20	61	31	0	545	1.59	.94	29	Newkirk	79.5	99	19	59	31	0	449	3.64	1.44	29
Cherokee	82.9	103	20	61	31	0	554	4.24	1.93	17	Red Rock	82.0	108	20	60	31	0	526	1.60	.92	29
Fairview	83.4	112	20	61	31	0	572	1.85	1.12	30	Seiling	81.8	109	20	60	31	****	****	2.70	.73	30
Freedom	80.8	108	20	58	31	0	488	4.41	1.42	15	Woodward	81.1	108	20	59	31	0	498	3.80	1.51	29
Lahoma	82.6	111	20	60	31	0	545	1.87	.56	30											
NORTHEAST																					
Bixby	82.2	104	20	63	31	0	535	2.39	.71	15	Pawnee	81.7	104	20	62	31	0	518	2.06	.92	29
Burbank	81.1	104	20	61	31	0	498	2.72	1.74	29	Porter	82.0	104	20	64	31	0	528	4.01	1.64	28
Copan	80.4	98	19	62	27	0	477	4.52	1.69	29	Pryor	81.0	102	19	62	8	0	497	6.09	1.75	29
Foraker	79.0	98	19	60	31	0	434	4.16	1.25	16	Skiatook	81.9	103	20	63	31	0	525	2.23	1.22	29
Inola	81.9	104	20	63	31	0	524	3.29	.92	29	Talala	81.6	105	19	63	31	0	514	3.92	1.70	29
Jay	80.5	101	19	61	30	0	480	3.85	1.17	30	Tulsa	83.0	105	20	65	31	0	559	2.74	1.01	1
Miami	79.7	98	11	59	27	0	455	4.68	.93	28	Vinita	80.5	100	12	59	27	0	481	3.80	1.03	28
Nowata	79.9	100	19	61	27	0	461	5.19	2.02	29	Wynona	81.3	103	19	63	31	0	507	2.09	.78	29
WEST CENTRAL																					
Bessie	83.6	109	20	61	31	0	575	2.32	1.00	12	Erick	82.8	111	20	62	31	0	553	1.57	.99	30
Butler	83.3	111	20	60	31	0	567	1.69	.70	30	Putnam	82.4	109	20	59	31	0	539	1.85	.56	6
Camargo	82.0	110	20	57	31	0	526	1.94	.72	30	Watonga	82.3	109	20	59	31	0	538	3.09	1.37	30
Cheyenne	82.3	109	20	59	31	0	535	2.48	.96	30	Weatherford	84.4	111	20	61	31	0	600	1.67	1.33	30
Elk City	83.8	111	20	61	31	0	583	1.23	.63	30											
CENTRAL																					
Acme	83.0	108	21	62	31	0	559	3.04	1.55	30	Marshall	82.6	112	20	61	31	0	547	2.15	.81	29
Bowlegs	81.6	109	20	62	31	0	514	4.70	3.14	30	Norman	82.8	108	20	64	31	0	552	2.28	2.06	30
Bristow	80.1	104	20	61	31	0	468	4.73	1.87	29	Oilton	80.2	105	20	60	31	0	470	3.98	1.28	29
Lake Carl Blac	81.1	105	20	62	31	0	499	2.81	1.02	29	OKC East	82.6	109	20	63	31	0	546	3.05	2.26	30
Chandler	80.9	103	20	62	31	****	493	3.36	.97	6	Okemah	82.1	109	20	63	31	0	529	2.80	1.16	29
Chickasha	83.2	110	19	62	25	****	****	2.56	2.03	30	Perkins	82.5	110	20	62	31	0	544	2.54	1.10	29
El Reno	81.6	111	20	60	31	****	****	1.46	1.18	30	Shawnee	82.3	110	20	63	31	0	535	2.30	1.51	30
Guthrie	82.5	111	20	61	31	0	542	1.97	.77	30	Spencer	81.2	106	20	61	31	0	503	3.01	1.62	30
Kingfisher	83.8	112	20	62	31	0	584	4.05	2.75	30	Stillwater	82.3	108	20	62	31	0	536	3.12	1.04	29
Marena	81.1	107	20	61	31	0	498	4.62	2.38	1	Washington	82.4	108	20	62	31	0	539	1.98	1.94	30
Minco	83.2	109	20	62	31	0	564	2.27	1.85	30	Yukon	81.5	108	20	62	31	0	510	2.91	1.49	30
EAST CENTRAL																					
Cookson	81.0	106	20	60	31	0	496	****	****	***	Sallisaw	82.0	106	20	62	31	0	527	2.65	.97	29
Eufaula	81.7	107	20	63	31	0	517	3.43	1.23	29	Stigler	81.4	105	20	62	31	0	507	3.13	.91	29
Haskell	81.6	106	20	62	31	0	513	2.27	.68	29	Stuart	81.9	106	20	62	31	0	525	4.30	1.80	30
Hectorville	82.4	107	20	64	31	0	540	2.49	.55	1	Tahlequah	80.3	100	20	58	31	0	474	3.21	1.24	16
Holdenville	81.5	106	20	62	31	0	511	5.49	2.83	30	Webbers Falls	81.4	98	21	64	31	****	****	4.10	1.09	16
McAlester	81.9	108	20	61	31	0	524	3.83	1.56	30	Westville	80.9	103	20	61	31	0	492	3.76	1.24	29
Okmulgee	80.9	107	20	62	31	0	493	2.56	.89	29											
SOUTHWEST																					
Altus	85.5	109	19	65	31	0	635	1.31	.58	6	Hollis	85.5	112	19	63	31	0	635	.89	.31	7
Apache	83.1	109	20	63	31	0	562	2.00	1.69	30	Mangum	84.8	112	20	63	31	0	614	1.81	1.34	30
Fort Cobb	****	***	***	***	***	****	****	4.03	3.47	30	Medicine Park	85.1	111	19	64	31	0	622	2.82	1.88	30
Grandfield	86.9	113	20	64	31	0	678	1.62	.73	6	Tipton	86.5	113	19	66	31	0	667	2.08	1.12	28
Hinton	83.0	108	19	61	31	0	558	2.45	2.13	30	Walters	84.9	108	19	65	31	0	616	3.59	1.71	14
Hobart	85.1	111	20	62	31	0	624	2.42	1.63	10											
SOUTH CENTRAL																					
Ada	82.8	109	20	62	31	0	551	2.36	1.83	30	Lane	83.6	109	21	64	31	0	577	3.28	1.06	7
Ardmore	85.3	111	19	64	31	0	629	.90	.43	30	Madi11	85.1	111	21	62	31	0	623	1.65	.70	30
Burneyville	85.2	111	22	62	31	0	626	2.96	1.66	1	Newport	85.0	111	21	63	31	0	620	2.03	.91	6
Byars	83.0	108	20	63	31	0	558	1.99	1.66	30	Pauls Valley	84.0	108	20	64	31	0	589	2.23	1.52	30
Centrahoma	83.1	110	20	62	31	0	560	2.55	1.47	30	Ringling	86.3	111	19	64	31	0	660	.84	.57	30
Durant	84.6	110	21	65	31	0	608	2.08	1.08	30	Sulphur	83.4	109	20	62	31	0	569	2.05	1.44	30
Fittstown	82.7	110	20	62	31	0	549	1.74	1.36	30	Tishomingo	83.9	110	19	63	31	0	586	2.40	1.10	30
Ketchum Ranch	84.3	111	19	63	31	0	599	2.56	1.02	30	Waurika	85.8	112	19	63	31	0	644	1.23	.44	30
SOUTHEAST																					
Antlers	82.2	105	21	63	31	0	532	2.99	1.26	30	Mt Herman	82.5	106	20	64	31	0	544	3.46	1.21	30
Broken Bow	82.6	107	20	66	25	0	546	2.80	1.18	30	Talihina	82.4	109	20	63	25	0	541	4.16	2.00	30
Clayton	83.0	109	20	64	31	0	557	3.28	2.18	30	Valliant	84.0	108	21	65	25	0	588	1.98	.78	6
Cloudy	83.1	106	20	65	31	0	560	3.50	1.53	30	Wilburton	82.1	106	20	63	31	0	530	3.69	1.77	30
Hugo	84.9	108	21	65	31	0	618	2.13	.82	29	Wister	81.1	106	20	63	31	0	498	5.13	1.02	12

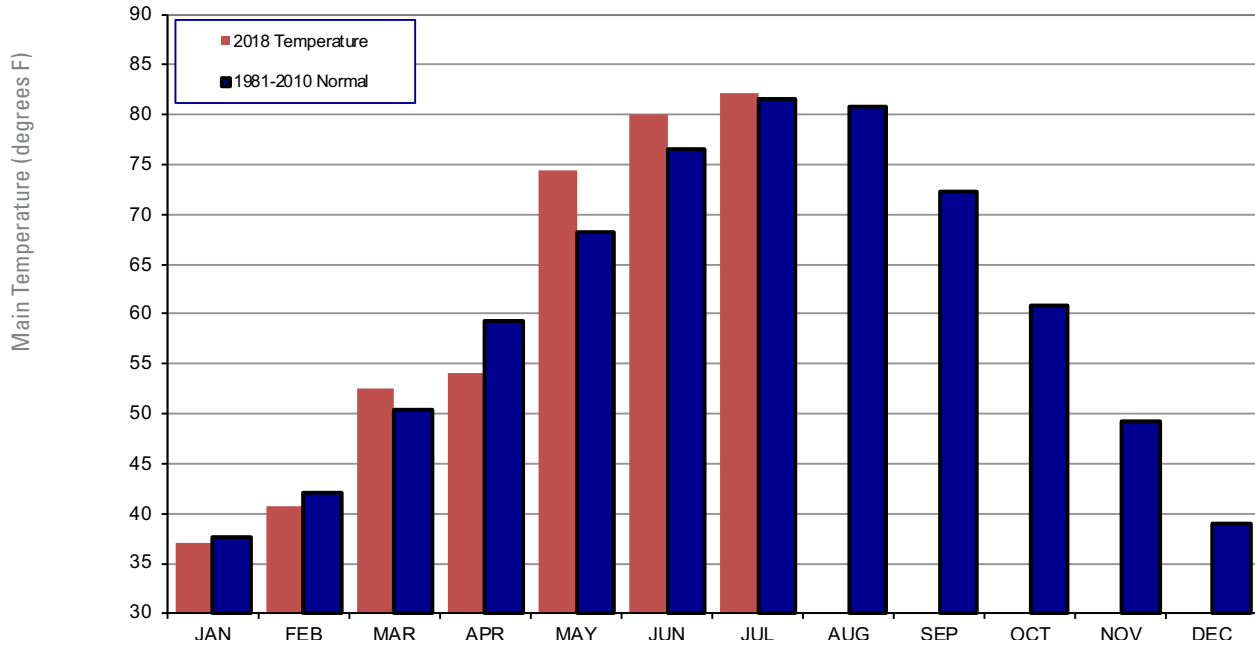
2018 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



July 2018 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Jul-17 (inches)
Panhandle	3.59	1.02	24th Wettest	8.81 (1950)	0.44 (1983)	2.69
North Central	3.17	0.36	49th Wettest	8.59 (1950)	0.12 (1983)	2.08
Northeast	3.61	0.23	56th Wettest	9.52 (1959)	0.28 (1946)	2.78
West Central	1.98	-0.28	60th Driest	7.63 (1950)	0.04 (1983)	1.74
Central	2.99	0.15	54th Wettest	9.61 (1950)	0.16 (1980)	3.31
East Central	3.44	0.15	51st Wettest	10.03 (1950)	0.36 (1993)	5.52
Southwest	2.27	0.00	61st Wettest	6.60 (1950)	0.03 (1980)	2.90
South Central	2.05	-0.70	48th Driest	8.46 (1950)	0.11 (1998)	6.13
Southeast	3.11	-0.51	53rd Driest	12.47 (1950)	0.19 (1993)	7.91
Statewide	2.94	0.06	57th Wettest	9.07 (1950)	0.42 (1980)	3.85

2018 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



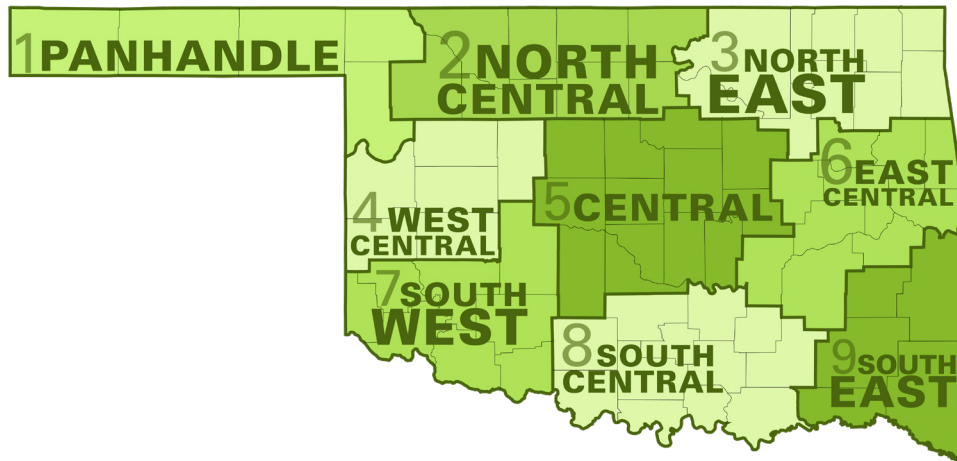
July 2018 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Jul-17 (F)
Panhandle	79.2	-0.1	54th Coolest	86.0 (1934)	72.8 (1906)	80.5
North Central	81.5	-0.3	58th Coolest	89.6 (2011)	75.9 (1950)	83.1
Northeast	81.1	0.3	62nd Coolest	89.3 (1954)	75.4 (1950)	81.4
West Central	83.0	1.2	41st Warmest	89.6 (2011)	75.8 (1906)	83.5
Central	81.8	-0.1	59th Coolest	90.2 (2011)	76.7 (1950)	83.3
East Central	80.8	-0.4	50th Coolest	88.9 (2011)	76.2 (1906)	81.9
Southwest	85.0	1.8	24th Warmest	91.7 (2011)	78.0 (1908)	84.1
South Central	84.2	1.8	35th Warmest	90.5 (2011)	77.9 (1950)	83.0
Southeast	82.9	2.5	23rd Warmest	87.5 (2011)	76.0 (1905)	81.6
Statewide	82.1	0.6	52nd Warmest	89.2 (2011)	76.3 (1906)	82.5

MESONET EXTREMES FOR JULY 2018

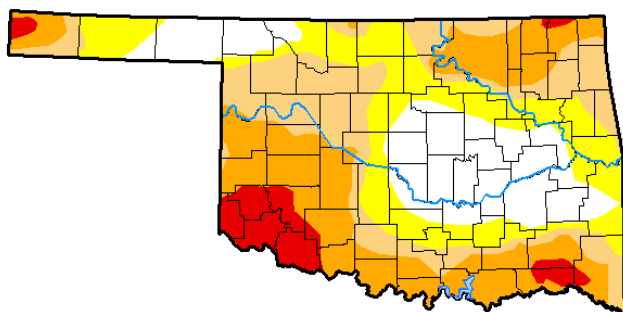
Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	110	20th	Beaver	50	31st	Boise City	4.93	Kenton	2.14	6th	Eva
North Central	112	20th	Fairview	58	31st	Freedom	5.14	Medford	1.93	17th	Cherokee
Northeast	105	19th	Talala	59	27th	Miami	6.09	Pryor	2.02	29th	Nowata
West Central	111	20th	Elk City	57	31st	Camargo	3.09	Watonga	1.37	30th	Watonga
Central	112	20th	Kingfisher	60	31st	Oilton	4.73	Bristow	3.14	30th	Bowlegs
East Central	108	20th	McAlester	58	31st	Tahlequah	5.49	Holdenville	2.83	30th	Holdenville
Southwest	113	20th	Grandfield	61	31st	Hinton	4.03	Fort Cobb	3.47	30th	Fort Cobb
South Central	112	19th	Waurika	62	31st	Sulphur	3.28	Lane	1.83	30th	Ada
Southeast	109	20th	Talihina	63	31st	Antlers	5.13	Wister	2.18	30th	Clayton
Statewide	113	20th	Grandfield	50	31st	Boise City	6.09	Pryor	3.47	30th	Fort Cobb

Oklahoma Climate Divisions



U.S. Drought Monitor Oklahoma

July 31, 2018
(Released Thursday, Aug. 2, 2018)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	22.31	77.69	55.48	32.39	6.81	0.00
Last Week 07-24-2018	12.38	87.62	61.07	34.36	10.16	0.00
3 Months Ago 05-01-2018	42.23	57.77	47.44	42.07	34.84	23.93
Start of Calendar 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 08-01-2017	51.19	48.81	18.51	3.65	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.

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<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/>



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