

The tumultuous weather of May calmed somewhat with the transition to June, the first month of climatological summer. Despite the seasonal switch, however, there was still plenty of unsettled weather in store for Oklahoma. Western Oklahoma managed to dry out just enough to see the winter wheat harvest make significant advances by the end of the month. Other areas continued to see an active weather pattern with heavy rains, large hail, severe winds, and even tornadoes. At least eight tornadoes touched down during June according to the National Weather Service, bringing the 2019 annual total up to 115. The eight twisters during June is not that unusual – the average for the month is 7.3 – but the annual total ranks as the third highest for the state since accurate records began in 1950. Only 1999’s count of 145 and 2011’s 119 rank higher. Regardless of the total, 2019’s tornadoes have been particularly costly to lives and property. This year’s tornadoes killed four and injured another 41, and

inches or greater. Bringing up the rear was Eva at 1.12 inches, although four other Mesonet sites – Acme, Freedom, Hollis and Medicine Park – joined Eva by recording less than 2 inches of rain for the month. Combined with the gargantuan totals of May, the June rains propelled the two-month period’s statewide average to 15.52 inches, the fifth wettest on record with a surplus of 6.05 inches. The January-June average of 26.46 inches exceeded normal by 7.43 inches to rank as the seventh wettest such period on record. That six month value is only 10.04 inches less than the normal annual total of 36.5 inches for the state.

Given the enhanced rainfall and associated cloudiness, June was destined to be a cool month. The statewide average temperature of 75.1 degrees was 1.4 degrees below normal to rank as the 28th coolest June since records began in 1895. The first triple-digit reading of the year occurred on the

June 2019 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	104°F	Hollis	21
Low Temperature	45°F	Eva	3
High Precipitation	12.77 in.	Jay	--
Low Precipitation	1.12 in.	Eva	--

produced significant property and infrastructure damage in their wake.

According to preliminary data from the Oklahoma Mesonet, the statewide average rainfall total for the month was 5 inches, 0.48 inches above normal to rank as the 33rd wettest June since records began in 1895. A bit of a drying out occurred across western and parts of north central Oklahoma, but ample moisture along the Interstate 35 corridor and the eastern third of the state more than made up for those deficits. Southeastern Oklahoma was the wettest region of the state at 7.17 inches, a surplus of 2.52 inches and the 15th wettest June for that area. The northeast was not far behind at 7.11 inches, their 21st wettest June with a surplus of 1.88 inches. The southwest experienced a deficit of 1.67 inches on average for their 44th driest June on record. Jay led the state at 12.77 inches, a surplus of 8.6 inches. Fifty-five of the Mesonet’s 120 stations recorded rainfall totals of 5

June 2019 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2019)
Month (Jun)	75.1°F	-1.4°F	28th Coolest
Year-to-Date (Jan-Jun)	54.9°F	-0.9°F	45th Coolest

Precipitation

	Total	Depart.	Rank (1895-2019)
Month (Jun)	5.00 in.	0.48 in.	33rd Wettest
Year-to-Date (Jan-Jun)	26.46 in.	7.43 in.	7th Wettest

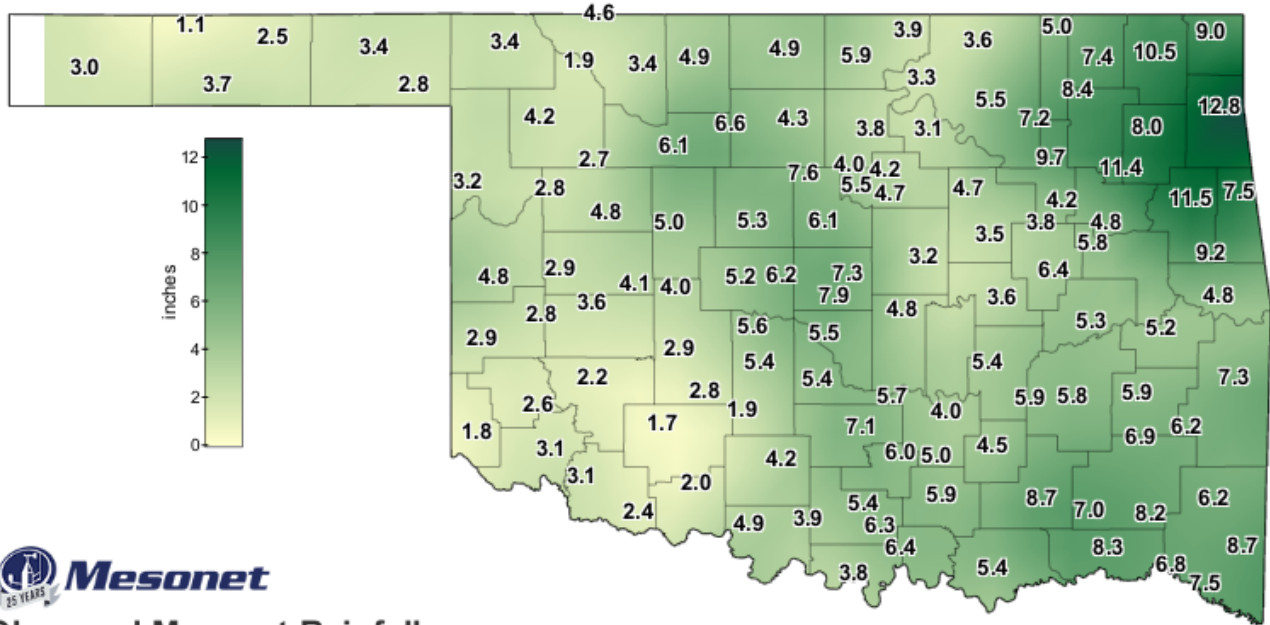
Depart. = departure from 30-year normal

20th at Altus and Hollis, both reaching exactly 100 degrees. Those extreme temperatures were in short supply during June, however, with only 21 recorded temperatures of 100 degrees or more across the 120 Mesonet sites. Fifteen of those readings occurred on June 21. Hollis led the Mesonet with 104 degrees on the 21st while Eva recorded the lowest temperature of 40 degrees on the 10th. The heat index was bound to spike at times thanks to the excessive rains of May and June. Heat index values rose above 110 degrees across

the state on June 20 and 21, with Kingfisher reaching 114 degrees on the 21st. The first six months of the year remained on the cool side with a statewide average of 54.9 degrees, 0.9 degree below normal and the 45th coolest January-June on record.

Drought was of little concern during June. In fact, no drought conditions have been seen in Oklahoma since the March 12 U.S. Drought Monitor, a span of 15 weeks. That duration of drought inactivity in Oklahoma has not occurred since the 38 consecutive drought-free weeks between Sept. 15, 2009, and June 1, 2010. The July temperature and precipitation outlooks from the Climate Prediction Center show increased odds of above normal precipitation and below normal temperatures for most of the state. Accordingly, CPC's July U.S. Drought Outlook did not foresee any drought development occurring within Oklahoma.

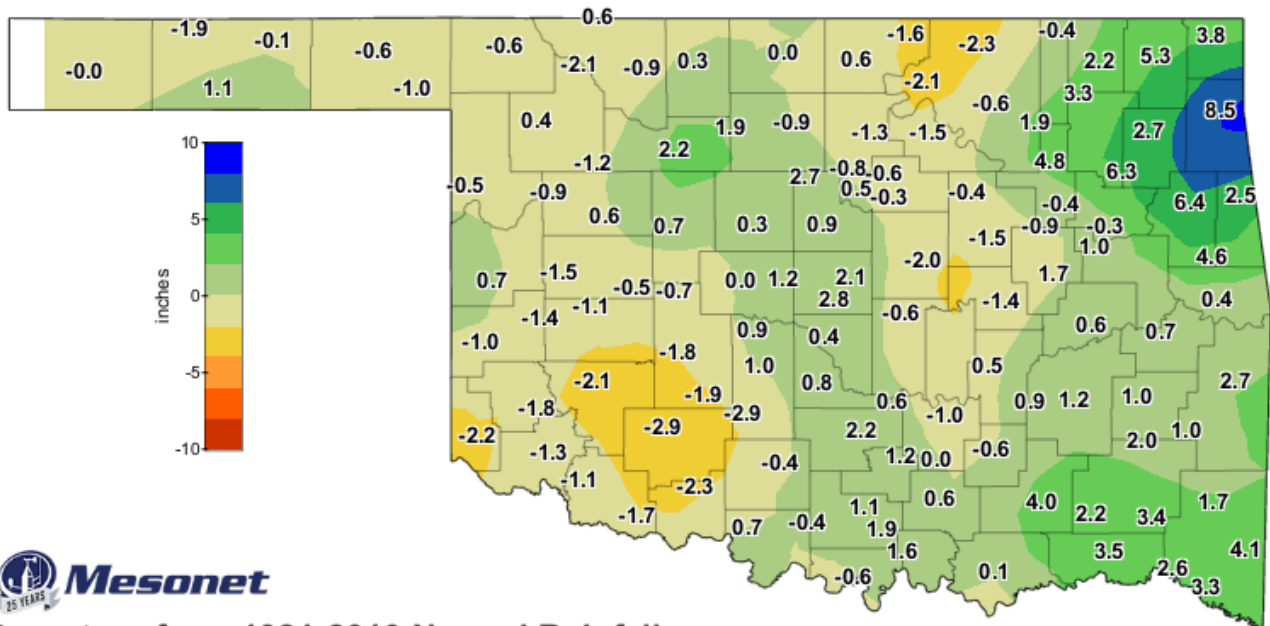
JUNE 2019 OBSERVED PRECIPITATION



Observed Mesonet Rainfall
Calendar Month to Date

Jun 1, 2019 through Jun 30, 2019
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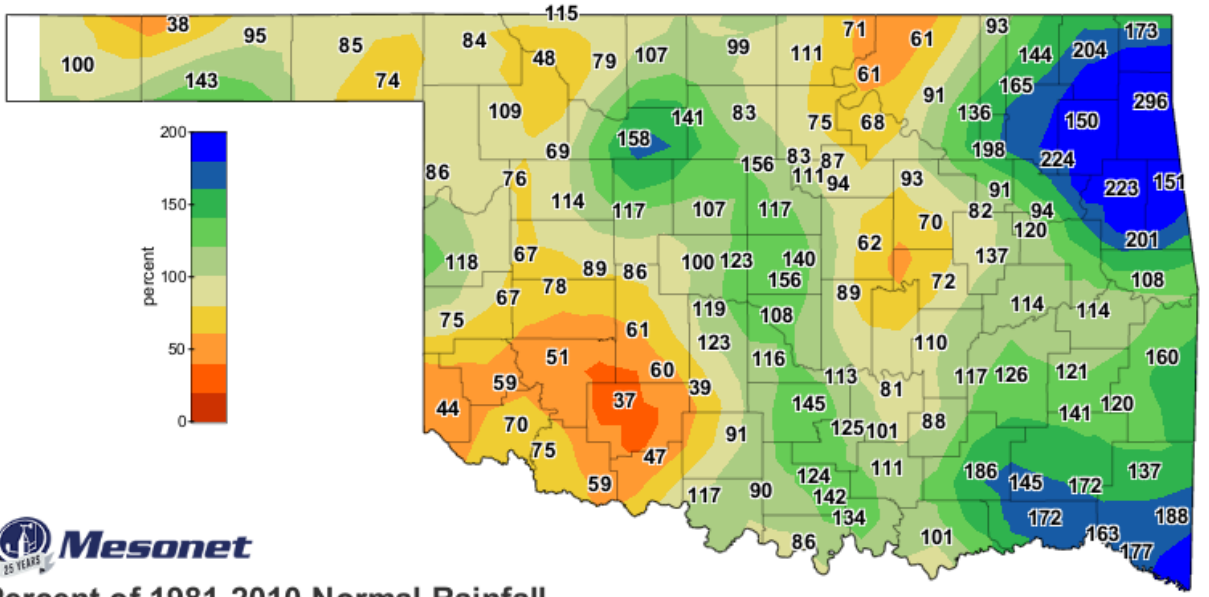
JUNE 2019 DEPARTURE FROM NORMAL PRECIPITATION



Departure from 1981-2010 Normal Rainfall
Calendar Month to Date

Jun 1, 2019 through Jun 30, 2019
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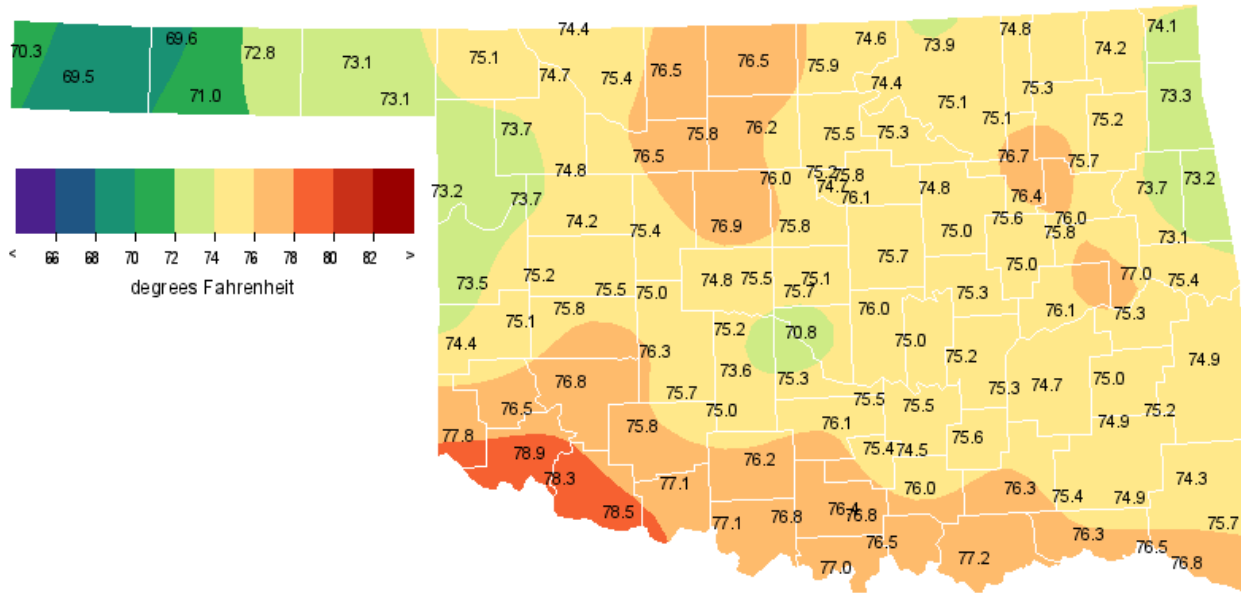
JUNE 2019 PERCENT OF NORMAL PRECIPITATION



Percent of 1981-2010 Normal Rainfall
Calendar Month to Date

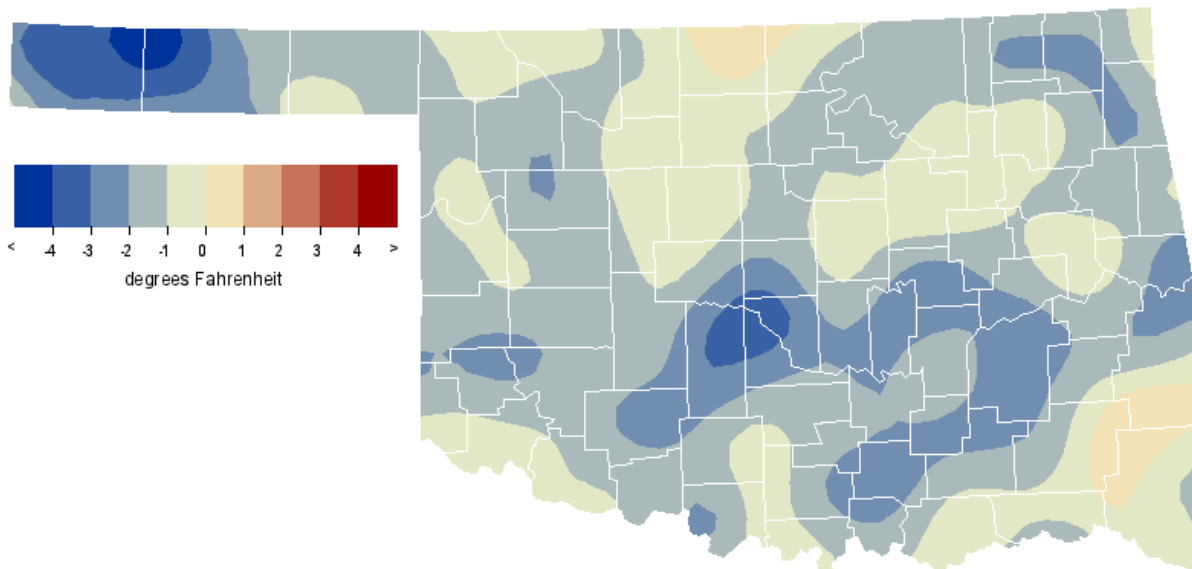
Jun 1, 2019 through Jun 30, 2019
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JUNE 2019 AVERAGE TEMPERATURE



Jun 2019
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JUNE 2019 DEPARTURE FROM NORMAL TEMPERATURE

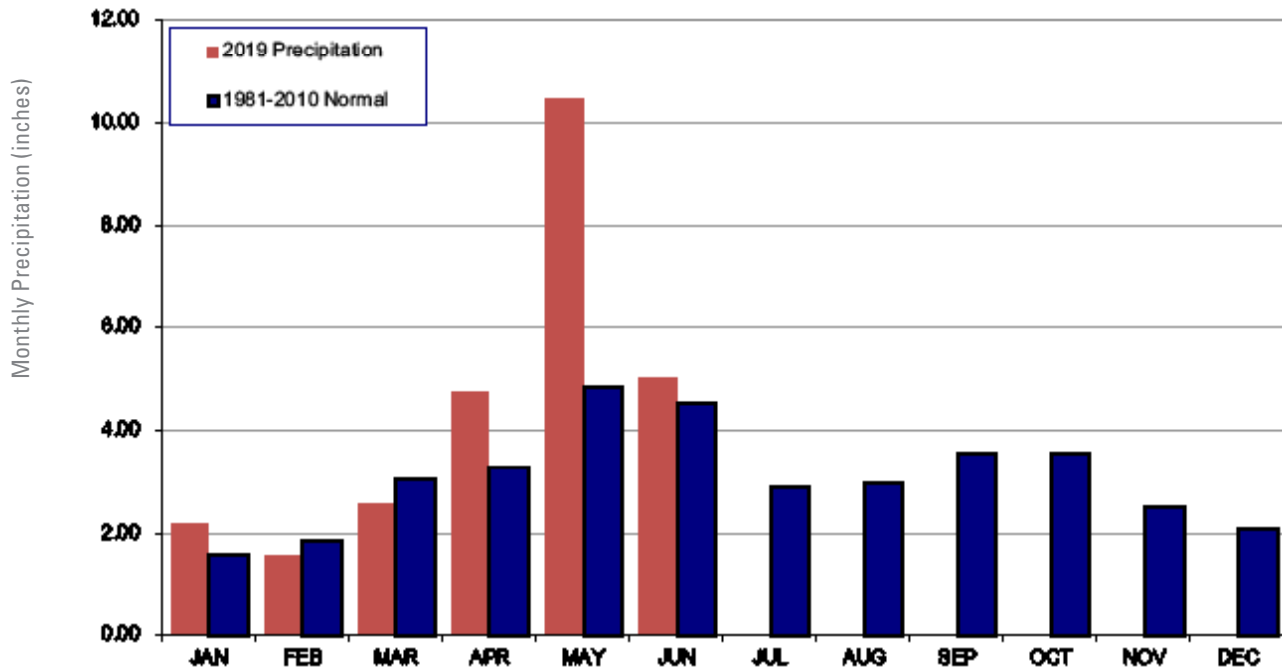


Jun 2019
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MESONET MONTHLY SUMMARY FOR JUNE 2019

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	73.2	100	21	51	13	3	248	3.19	1.16	3	Goodwell	71.0	98	29	47	10	10	188	3.67	.69	16
Beaver	73.1	99	29	46	10	7	250	3.35	1.80	23	Hooker	72.8	101	29	49	10	5	239	2.48	.77	16
Boise City	69.4	99	30	42	10	18	151	2.97	.83	2	Kenton	70.3	99	30	43	10	13	172	*****	*****	***
Buffalo	75.1	102	21	47	10	4	306	3.39	1.11	1	Slapout	73.2	99	21	49	10	5	252	2.79	.73	3
Eva	69.6	99	30	40	10	16	153	1.12	.35	18											
NORTH CENTRAL																					
Alva	75.4	99	21	52	10	0	312	3.38	.77	4	May Ranch	74.4	98	21	50	10	4	285	4.57	1.35	3
Blackwell	75.9	97	21	52	13	0	326	5.91	2.61	6	Medford	76.5	102	21	52	13	0	346	4.90	1.41	6
Breckinridge	76.2	99	21	51	13	0	336	4.26	2.40	6	Newkirk	74.5	94	29	52	13	0	286	3.89	1.23	6
Cherokee	76.6	100	21	51	10	0	347	4.93	1.69	15	Red Rock	75.5	95	29	52	13	0	315	3.80	1.55	6
Fairview	76.5	103	21	53	13	0	344	6.13	1.80	5	Seiling	74.8	99	21	51	10	1	296	2.70	.75	4
Freedom	74.8	103	21	46	10	6	298	1.94	.66	4	Woodward	73.7	98	21	49	10	3	265	4.18	1.31	4
Lahoma	75.8	101	21	53	10	0	324	6.59	2.05	9											
NORTHEAST																					
Bixby	76.4	94	21	55	13	0	342	4.21	1.59	23	Pawnee	75.3	93	21	51	13	0	309	3.13	.94	23
Burbank	74.4	93	21	50	13	1	282	3.27	1.47	6	Porter	75.9	93	29	55	11	0	327	4.78	1.79	23
Copan	74.8	93	21	52	13	0	295	4.95	2.91	23	Pryor	75.2	93	29	51	13	0	306	8.01	2.99	23
Foraker	73.9	92	21	49	13	2	268	3.59	1.15	15	Skiatook	75.1	92	29	52	13	0	304	7.23	2.49	6
Inola	75.6	93	28	53	13	0	319	11.36	4.51	23	Talala	75.2	93	21	53	13	0	307	8.39	4.66	23
Jay	73.3	91	29	49	13	4	253	12.77	3.60	23	Tulsa	76.6	94	21	56	13	0	349	9.74	4.75	6
Miami	74.1	91	29	50	13	2	275	8.98	3.02	23	Vinita	74.2	92	29	50	13	1	277	10.46	3.43	23
Nowata	*****	***	***	***	***	****	****	7.38	3.56	23	Wynona	75.1	93	21	51	13	0	303	5.49	1.88	6
WEST CENTRAL																					
Bessie	75.7	99	21	53	10	0	322	3.64	1.35	6	Erick	74.4	101	21	53	13	0	283	2.93	.93	15
Butler	75.2	100	21	51	13	0	307	2.90	.59	15	Putnam	74.2	97	21	52	10	1	277	4.83	2.14	15
Camargo	73.7	100	21	50	13	3	264	2.83	.96	4	Watonga	75.4	99	21	56	10	0	311	4.96	1.75	6
Cheyenne	73.6	95	21	55	10	1	259	4.77	1.34	23	Weatherford	75.6	99	21	54	13	0	317	4.12	1.10	6
Elk City	75.0	99	21	55	10	0	301	2.82	.81	18											
CENTRAL																					
Acme	75.1	95	29	51	13	0	302	1.87	.48	19	Norman	75.8	93	29	55	13	****	****	5.47	1.47	9
Bristow	75.1	92	29	51	13	0	302	3.52	1.22	23	Oilton	74.8	92	29	50	13	1	295	4.73	2.24	16
Lake Carl Blac	75.2	95	21	51	13	0	306	4.04	1.38	6	OKC East	75.7	94	29	54	13	0	322	7.94	1.89	6
Chandler	75.7	93	29	56	13	0	321	3.20	.92	23	Okemah	75.3	93	21	53	13	0	310	3.60	1.50	23
Chickasha	40.4	96	29	***	24	0	323	5.44	.89	9	Perkins	76.1	95	29	54	13	0	332	4.69	1.73	6
El Reno	74.9	95	29	53	13	0	296	5.22	1.06	6	Seminole	75.0	92	29	53	11	0	300	4.17	1.45	23
Guthrie	75.7	94	21	53	13	0	321	6.06	1.19	6	Shawnee	76.0	95	21	55	11	0	331	4.82	1.07	23
Kingfisher	77.0	99	21	53	13	0	359	5.29	1.44	6	Spencer	75.1	93	29	53	13	0	304	7.34	1.35	6
Marena	74.7	93	29	54	13	0	291	5.49	2.61	6	Stillwater	75.8	95	29	52	13	0	323	4.21	2.20	6
Minco	75.2	94	29	55	13	0	307	5.57	1.16	9	Washington	75.3	94	29	54	13	0	308	5.41	1.87	9
Marshall	75.9	97	21	53	13	0	328	7.55	3.51	6	Yukon	75.6	94	29	57	13	0	317	6.23	2.23	6
EAST CENTRAL																					
Cookson	73.0	90	20	48	13	7	248	9.16	5.04	23	Sallisaw	75.4	92	21	53	13	0	313	4.81	2.28	23
Eufaula	76.1	93	22	53	11	0	333	5.29	2.11	23	Stigler	75.3	92	21	52	11	0	309	5.24	2.18	23
Haskell	75.8	93	21	54	13	0	325	5.84	1.38	22	Stuart	75.2	92	29	52	11	0	306	5.85	1.81	23
Hectorville	75.6	92	29	56	11	0	319	3.77	1.42	23	Tahlequah	73.7	90	21	49	13	2	263	11.52	5.64	23
Holdenville	75.2	92	29	54	11	0	307	5.42	1.75	23	Webbers Falls	76.9	96	21	55	13	0	358	6.24	2.53	23
McAlester	74.7	93	29	51	11	0	291	5.80	2.00	23	Westville	73.2	91	21	49	13	4	251	7.53	4.00	23
Okmulgee	74.9	92	21	51	11	0	298	6.44	3.16	22											
SOUTHWEST																					
Altus	78.9	103	21	58	13	0	415	3.07	1.65	12	Hollis	77.8	104	21	57	11	0	384	1.79	.62	5
Apache	75.7	95	29	54	13	0	321	2.80	1.10	19	Mangum	76.4	101	21	53	13	0	343	2.61	.97	5
Fort Cobb	76.3	97	21	53	13	0	339	2.91	1.37	15	Medicine Park	75.8	96	29	57	13	0	324	1.66	.71	18
Grandfield	78.5	99	21	57	13	0	404	2.42	.86	15	Tipton	78.3	101	21	56	11	0	398	3.11	.84	5
Hinton	75.0	96	21	54	13	0	301	4.01	.91	6	Walters	77.1	97	29	56	11	0	364	2.02	.52	12
Hobart	76.9	100	21	55	13	0	357	2.16	.62	18											
SOUTH CENTRAL																					
Ada	75.5	93	29	51	11	0	314	4.02	1.49	23	Lane	76.2	93	21	55	11	0	337	8.70	3.77	3
Ardmore	76.9	94	29	56	11	0	357	6.32	3.21	5	Madiill	76.4	94	29	55	11	0	343	6.43	2.90	16
Burneyville	76.9	95	29	54	11	0	358	3.79	1.77	16	Newport	76.4	94	29	56	11	0	341	5.40	2.36	5
Byars	75.5	93	29	54	11	0	315	5.74	1.34	6	Pauls Valley	76.1	94	29	56	11	0	332	7.08	1.62	23
Centrahoma	75.6	92	29	51	11	0	318	4.45	.99	23	Ringling	76.8	95	29	56	11	0	354	3.91	.76	23
Durant	77.2	93	20	60	13	0	366	5.40	1.87	23	Sulphur	75.4	93	29	52	11	0	312	5.98	1.94	6
Fittstown	74.6	91	29	53	11	0	287	5.01	1.61	6	Tishomingo	75.9	93	21	55	11	0	328	5.90	1.12	16
Ketchum Ranch	76.2	94	29	57	13	0	335	4.23	1.29	19	Waurika	77.2	96	29	53	13	0	365	4.89	2.01	23
SOUTHEAST																					
Antlers	75.4	92	21	53	11	0	312	7.00	2.73	5	Mt Herman	74.4	90	22	53	13	0	281	6.18	1.77	23
Broken Bow	75.7	92	21	55	12	0	322	8.67	3.61	23	Talihina	75.1	92	20	52	11	0	304	6.18	1.96	3
Clayton	74.9	93	28	51	11	0	297	6.93	1.72	23	Valliant	76.5	93	21	57	12	0	344	6.78	1.85	23
Cloudy	74.9	91	21	56	12	0	297	8.17	4.13	5	Wilburton	74.9	91	28	52	11	0	297	5.93	2.00	3
Hugo	76.3	92	21	59	12	0	340	8.26	2.43	3	Wister	75.0	93	20	51	11	0	300	7.26	3.58	23
Idabel	76.8	93	21	57	12	0	355	7.50	1.65	16											

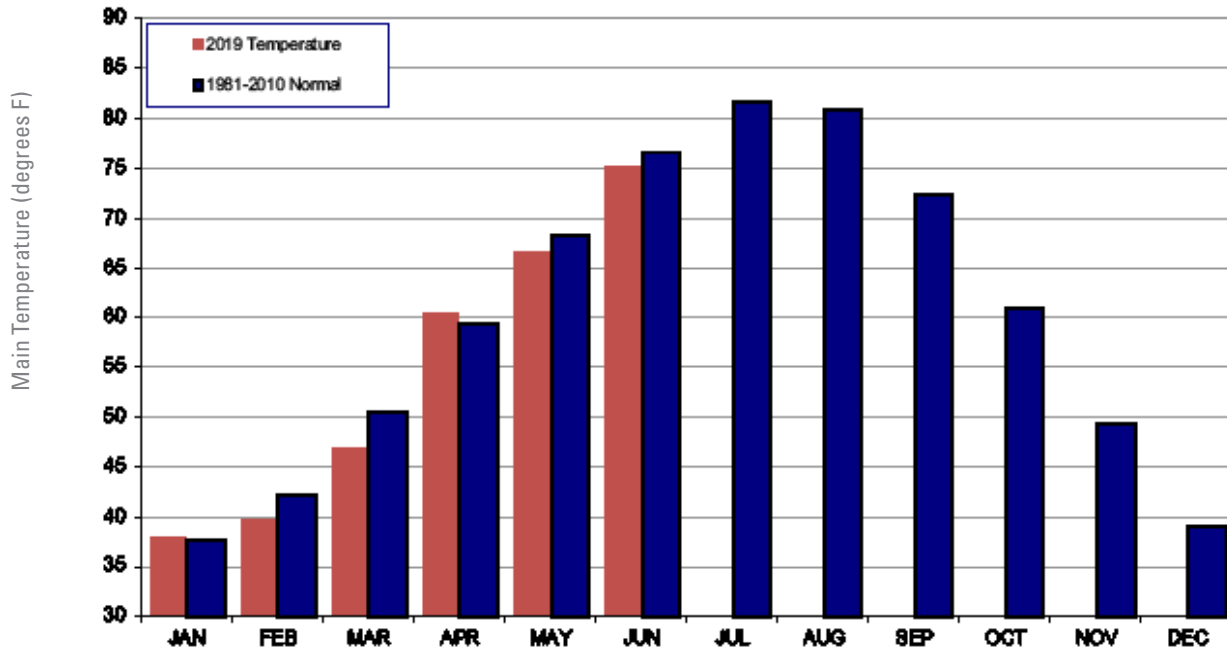
2019 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



June 2019 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Jun-18 (inches)
Panhandle	2.87	-0.30	59th Wettest	7.09 (1962)	0.29 (1911)	4.65
North Central	4.40	-0.13	45th Wettest	10.87 (2007)	0.40 (1933)	5.37
Northeast	7.11	1.88	21st Wettest	12.64 (2007)	0.28 (1933)	2.76
West Central	3.76	-0.39	53rd Wettest	8.90 (1962)	0.30 (1933)	3.87
Central	5.08	0.16	39th Wettest	12.63 (2007)	0.41 (1933)	5.16
East Central	6.39	1.59	25th Wettest	12.47 (1935)	0.69 (2011)	3.18
Southwest	2.60	-1.67	44th Driest	9.96 (2007)	0.43 (1911)	1.96
South Central	5.45	0.72	30th Wettest	11.30 (1908)	0.25 (1933)	2.42
Southeast	7.17	2.52	15th Wettest	11.51 (1935)	0.77 (1933)	3.31
Statewide	5.00	0.48	33rd Wettest	9.52 (2007)	0.44 (1933)	3.70

2019 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



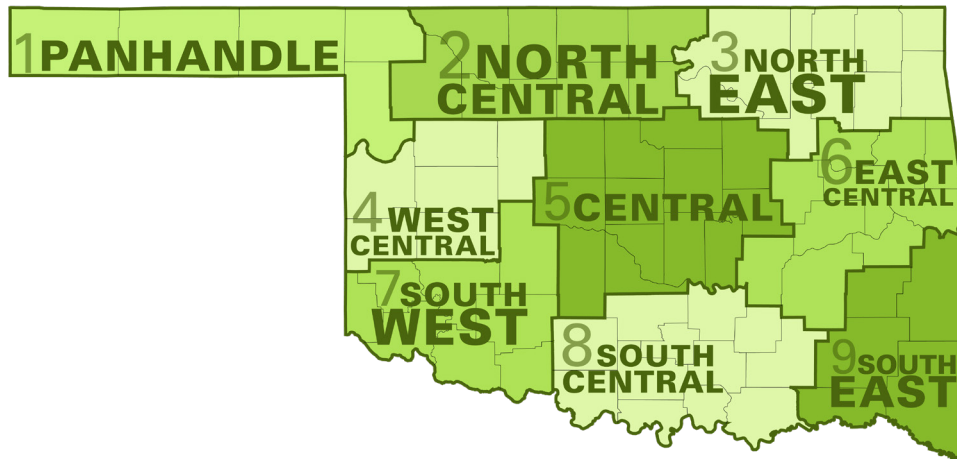
June 2019 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Jun-18 (F)
Panhandle	72.0	-2.2	21st Coolest	82.9 (1953)	67.0 (1903)	78.5
North Central	75.4	-1.2	36th Coolest	85.2 (1953)	69.1 (1903)	80.7
Northeast	75.0	-0.8	38th Coolest	84.4 (1911)	70.3 (1903)	79.4
West Central	74.8	-1.9	26th Coolest	85.7 (1953)	70.0 (1903)	81.3
Central	75.1	-1.7	22nd Coolest	85.2 (1911)	71.1 (1903)	80.3
East Central	75.0	-1.4	22nd Coolest	84.5 (1953)	70.3 (1903)	80.1
Southwest	77.0	-1.3	30th Coolest	87.3 (2011)	72.4 (1903)	83.3
South Central	76.2	-1.7	19th Coolest	85.7 (1911)	72.0 (1903)	82.3
Southeast	75.4	-0.7	35th Coolest	83.5 (1953)	70.6 (1903)	80.6
Statewide	75.1	-1.4	28th Coolest	84.8 (1953)	70.3 (1903)	80.7

MESONET EXTREMES FOR JUNE 2019

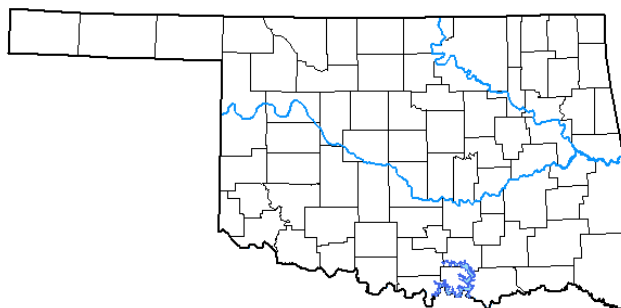
Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	102	21st	Buffalo	40	10th	Eva	3.67	Goodwell	1.80	23rd	Beaver
North Central	103	21st	Fairview	46	10th	Freedom	6.59	Lahoma	2.61	6th	Blackwell
Northeast	94	21st	Bixby	49	13th	Jay	12.77	Jay	4.75	6th	Tulsa
West Central	101	21st	Erick	50	13th	Camargo	4.96	Watonga	2.14	15th	Putnam
Central	99	21st	Kingfisher	50	13th	Oilton	7.94	Oklahoma City East	3.51	6th	Marshall
East Central	96	21st	Webbers Falls	48	13th	Cookson	11.52	Tahlequah	5.64	23rd	Tahlequah
Southwest	104	21st	Hollis	53	13th	Mangum	4.01	Hinton	1.65	12th	Altus
South Central	96	29th	Waurika	51	11th	Centrahoma	8.70	Lane	3.77	3rd	Lane
Southeast	93	20th	Wister	51	11th	Clayton	8.67	Broken Bow	4.13	5th	Cloudy
Statewide	104	21st	Hollis	40	10th	Eva	12.77	Jay	5.64	23rd	Tahlequah

Oklahoma Climate Divisions



U.S. Drought Monitor Oklahoma

June 25, 2019
(Released Thursday, Jun. 27, 2019)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week 06-18-2019	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago 03-26-2019	97.87	2.13	0.00	0.00	0.00	0.00
Start of Calendar Year 01-01-2019	94.85	5.15	0.00	0.00	0.00	0.00
Start of Water Year 09-25-2018	72.93	27.07	9.11	4.16	0.00	0.00
One Year Ago 06-26-2018	27.72	72.28	54.09	28.12	11.75	0.40

Intensity:

- None
- 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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CPC/NOAA



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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