Oklahoma Monthly Climate Summary

MARCH 2019

OKLAHOMA CLIMATOLOGICAL SURVEY

LSpring failed to gain a toehold during March, a month that both began and finished with a healthy dose of winter. A powerful cold front plowed through the Southern Plains over the first few days of the month and brought a bit of snow, a bit of ice, and a generous portion of frigid weather. Wind chills fell below zero over much of the state, and as low as minus 12 degrees in the Panhandle. Snow totals were generally light – less than an inch in most areas – although Forgan and Claremore reported 4 and 5 inches, respectively. Another strong front struck during the last couple of days of March and dropped low temperatures well below freezing across the northwestern half of the state. The Mesonet site at Eva recorded a teeth-chattering 16 degrees on March's final day. Hail up to the size of baseballs plagued central and eastern Oklahoma associated with a storm system on the 23rd and 24th. Perhaps the most damaging March hazard was a windstorm that enveloped the state March 13-14. Winds gusted to more than 70 mph across western Oklahoma, and 50-60 mph to the east. The Oklahoma Mesonet recorded 303 instances of wind gusts 58 mph or greater on the 13th, the speed required to trigger a severe thunderstorm warning according to National Weather Service criteria. There were widespread reports of downed power lines and trees, and a fire station in Del City lost part of its roof due to the severe winds.

March 2019 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	87°F	Arnett, Woodward	28
Low Temperature	-2°F	Kenton	5
High Precipitation	4.66 in.	Cookson	--
Low Precipitation	1.19 in.	Hollis	--

According to preliminary data from the Oklahoma Mesonet, March fell 3.4 degrees below normal with a statewide average of 47 degrees. That ranked the month as the 33rd coolest March since records began in 1895. The chill during that first week was profound. High temperatures in the Panhandle failed to reach 20 degrees on March 3-4, more than 30 degrees below normal. Kenton recorded a low of minus 2 degrees on March 5 for the lowest temperature of the month. McAlester broke its record low on March 5, falling to 13 degrees. The northwest half of the state spent more than 100 hours below freezing during March's first seven days, with 50-90 of those hours below 24 degrees. The southeast half spent 50-90 hours below 32 degrees. There was a bit of spring heat to satisfy warm weather fans, mostly during the latter half of the month. Arnett and Woodward reached 87 degrees on the 28th for the highest mark. The January-March statewide average of 42 degrees was 1.4 degrees below normal, the 58th coolest first three months of the year on record.

The statewide average precipitation total was 2.58 inches, 0.46 inches below normal and ranked as the 53rd wettest March on record. There was a wide disparity between rain totals in various regions of the state, however. West central Oklahoma finished with an average of 2.86 inches, 0.57 inches above normal for their 21st wettest March on record.

March 2019 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2019)
Month (March)	47.0°F	-3.4°F	33rd Coolest
Year-to-Date (Jan-Mar)	42.0°F	-1.4°F	58th Coolest

Precipitation

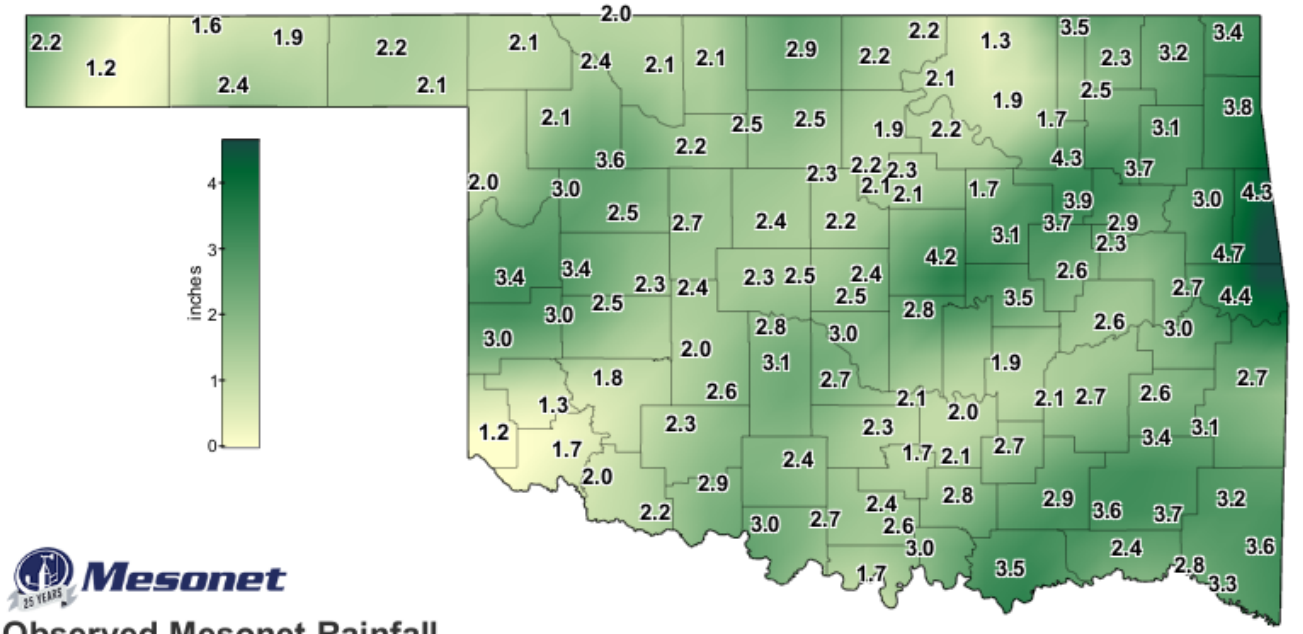
	Total	Depart.	Rank (1895-2019)
Month (March)	2.58 in.	-0.46 in.	53rd Wettest
Year-to-Date (Jan-Mar)	6.21 in.	-0.22 in.	50th Wettest

Depart. = departure from 30-year normal

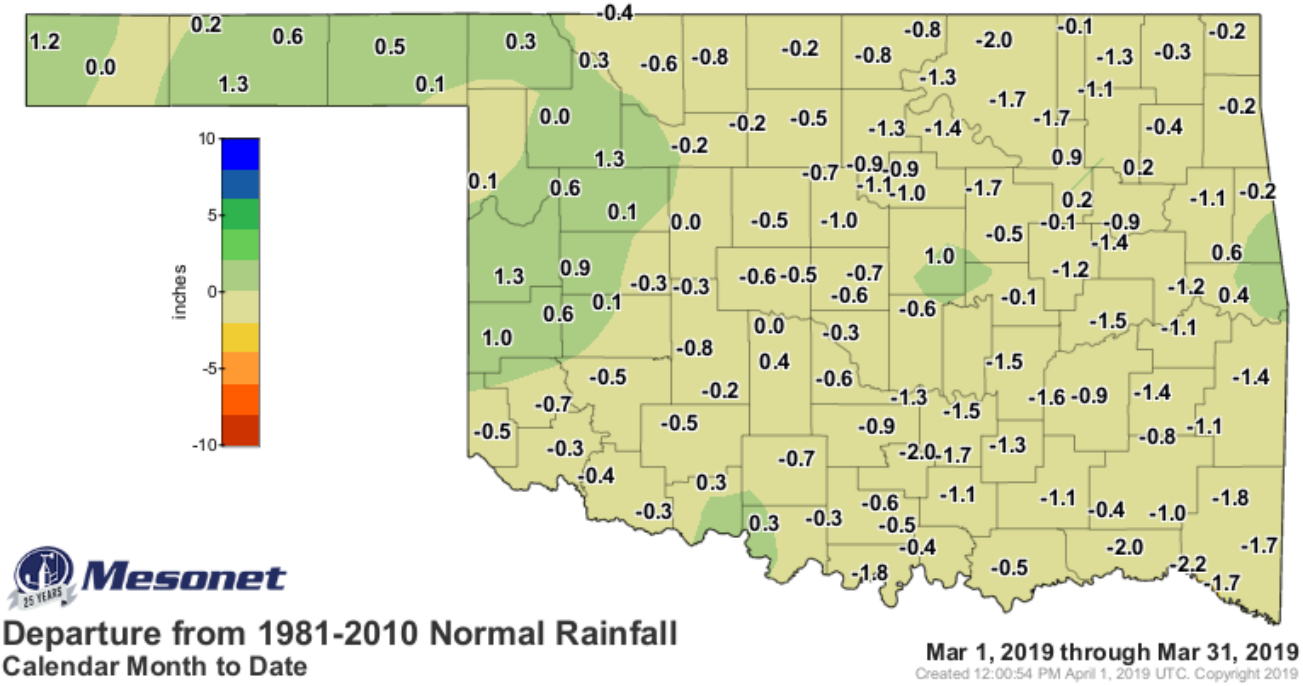
The Panhandle was close behind at 0.54 inches above normal with an average total of 1.97 inches, their 24th wettest March on record. Meanwhile, the southeast was more than an inch below normal at 3.12 inches, their 44th driest March. While all of the Mesonet's 120 stations received at least an inch of rain, the majority ended at a deficit for the month. Boise City recorded the least with 1.16 inches. Cookson led all stations with 4.66 inches. The first three months of the year saw a deficit of 0.22 inches, the 50th wettest January-March on record.

Following a brief flare up of drought in southwest Oklahoma in late February, enough precipitation fell to reduce that area back to "abnormally dry" conditions on the U.S. Drought Monitor report during March. According to the April outlooks from the Climate Prediction Center (CPC), chances of that drought returning within the next month are remote. Those outlooks show increased odds for above normal precipitation across the entire state during April. Chances are also increased for above normal temperatures over eastern Oklahoma and the western Panhandle. CPC's April drought outlook does not indicate any drought intensification within Oklahoma during April.

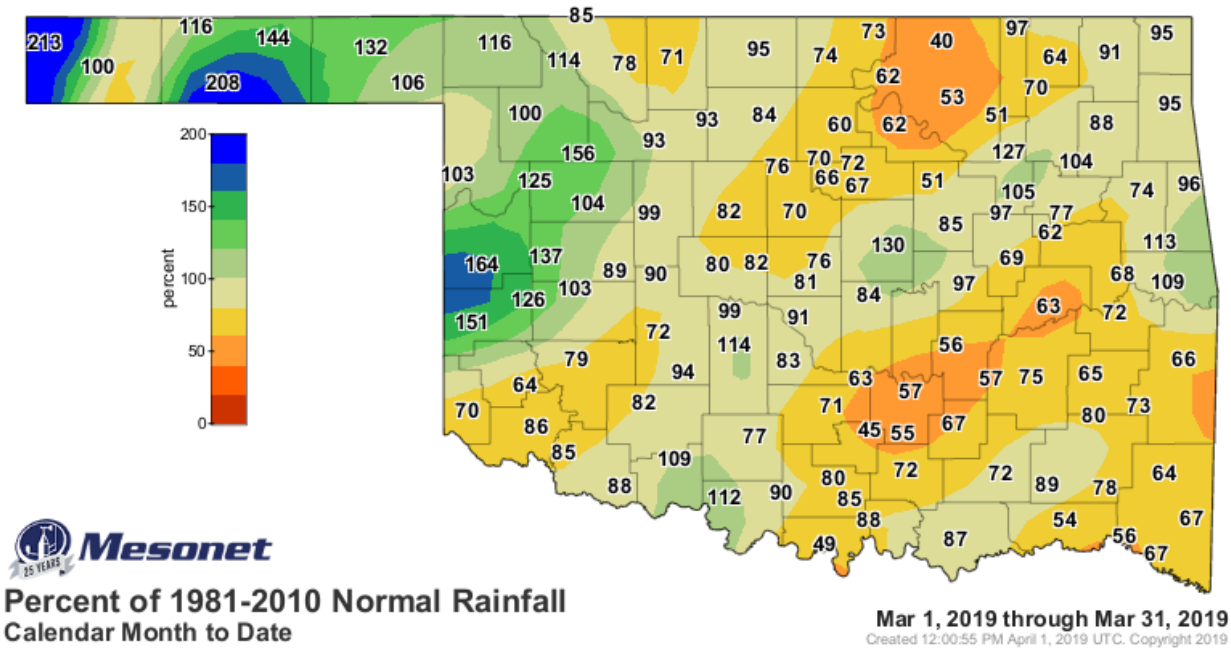
MARCH 2019 OBSERVED PRECIPITATION



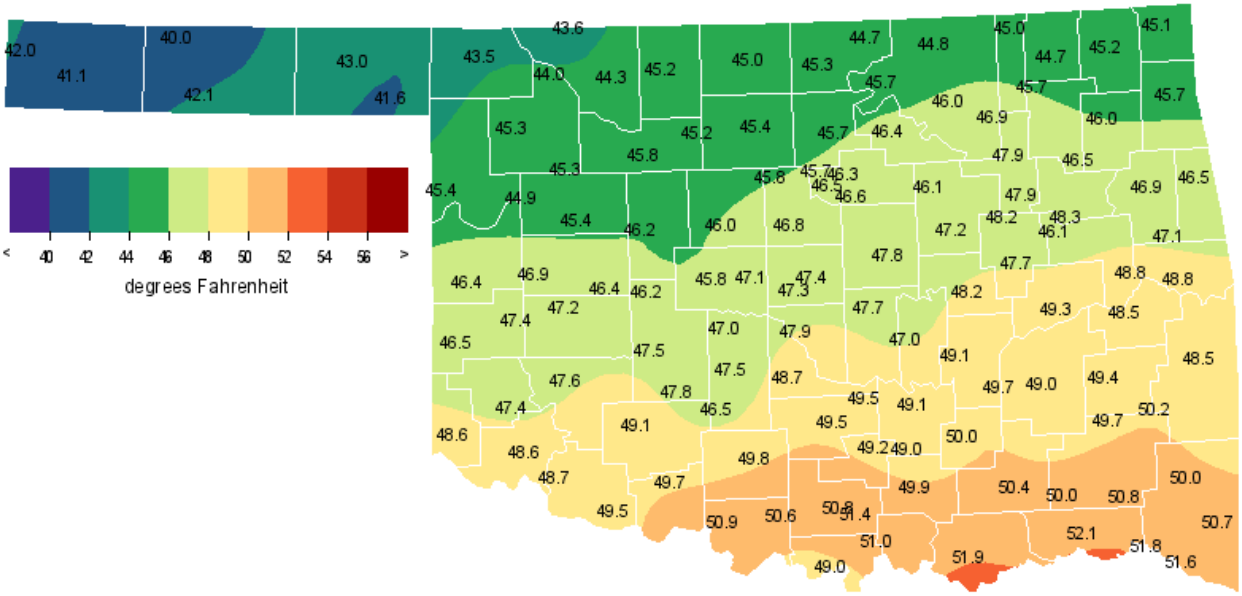
MARCH 2019 DEPARTURE FROM NORMAL PRECIPITATION



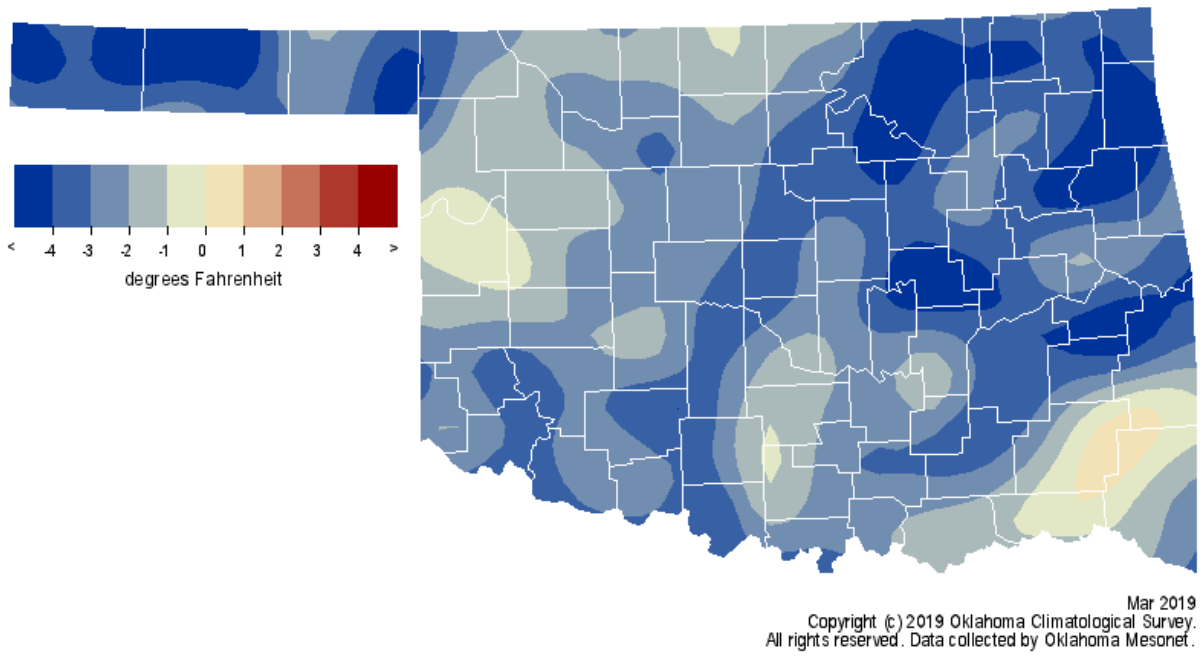
MARCH 2019 PERCENT OF NORMAL PRECIPITATION



MARCH 2019 AVERAGE TEMPERATURE



MARCH 2019 DEPARTURE FROM NORMAL TEMPERATURE

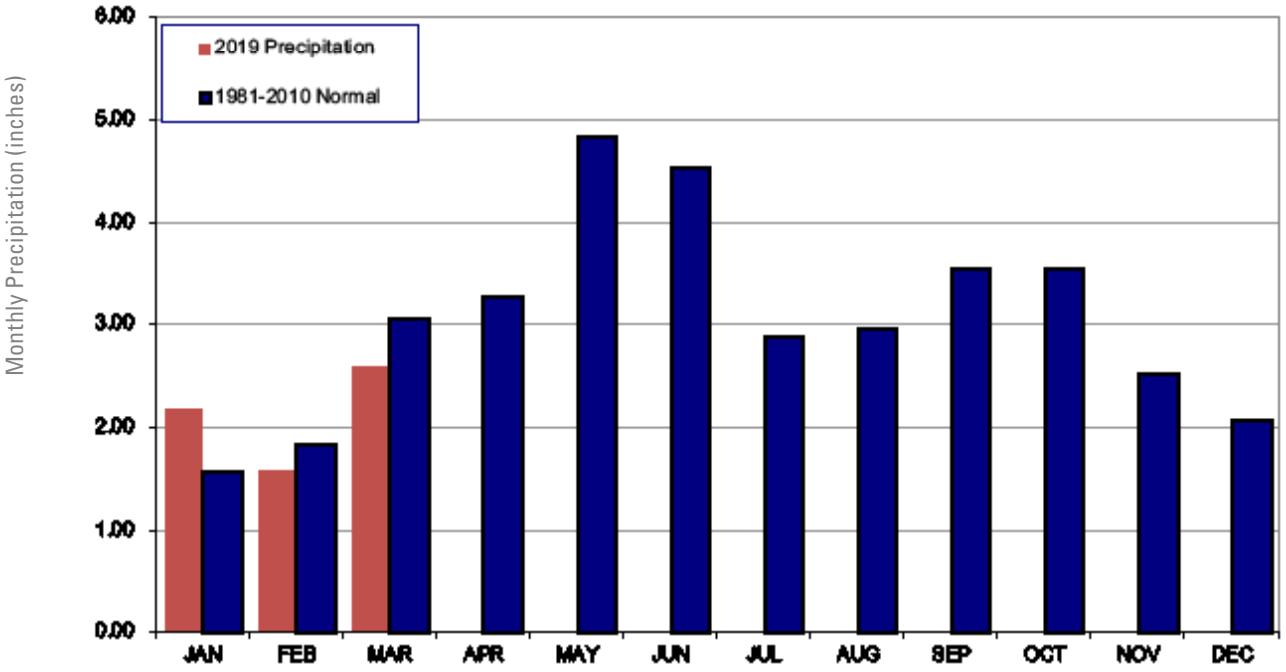


MESONET MONTHLY SUMMARY FOR MARCH 2019

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	45.4	87	28	6	4	613	5	2.02	.81	22
Beaver	43.0	81	27	5	5	683	1	2.24	.75	22
Boise City	41.1	81	28	4	5	740	1	1.22	.59	22
Buffalo	43.5	78	28	8	5	665	0	2.11	.85	22
Eva	40.0	84	27	0	5	776	2	1.64	1.13	22
NORTH CENTRAL										
Alva	44.3	82	28	4	4	643	3	1.93	.75	13
Blackwell	45.2	78	28	8	4	613	0	2.18	.87	12
Breckinridge	45.3	78	28	7	4	611	1	2.47	.92	13
Cherokee	45.2	79	28	9	4	617	3	2.05	.77	12
Fairview	45.7	76	28	10	4	600	2	2.16	.79	13
Freedom	44.1	84	28	6	4	652	3	2.43	.81	13
Lahoma	45.2	78	28	8	4	615	0	2.52	1.35	12
NORTHEAST										
Bixby	48.0	78	28	9	4	531	3	3.92	1.87	23
Burbank	45.7	79	28	7	5	601	3	2.09	1.10	13
Copan	45.0	76	28	6	4	620	0	3.48	1.52	29
Foraker	44.8	77	28	5	4	628	2	1.33	.71	13
Inola	46.5	75	28	8	4	572	0	3.70	.93	23
Jay	45.6	74	28	5	5	600	0	3.81	.91	9
Miami	45.1	73	28	6	4	617	0	3.42	.89	9
Nowata	44.8	74	28	7	5	628	0	2.31	.74	9
WEST CENTRAL										
Bessie	47.1	77	28	11	4	555	1	2.54	.85	23
Butler	46.8	81	28	9	5	568	4	3.36	.90	13
Camargo	44.8	81	28	5	4	628	3	2.98	.89	22
Cheyenne	46.4	78	28	10	4	577	2	3.43	1.05	22
Elk City	47.3	78	28	11	4	551	2	2.98	.77	13
CENTRAL										
Acme	82.9	102	22	65	4	0	555	2.38	1.00	3
Acme	47.8	77	23	9	4	533	0	3.45	1.78	13
Bristow	47.3	77	28	10	5	552	3	3.05	.92	23
Lake Carl Blac	45.7	79	28	8	5	602	4	2.17	1.04	13
Chandler	47.8	79	28	9	5	537	2	4.16	1.72	23
Chickasha	47.4	76	23	10	4	545	0	3.12	1.32	13
El Reno	45.8	75	27	9	4	595	0	2.30	1.05	13
Guthrie	46.9	78	28	9	4	566	3	2.23	1.19	13
Kingfisher	45.9	75	28	10	4	593	1	2.40	1.03	13
Marena	46.5	79	28	9	4	577	4	2.08	1.09	13
Minco	46.9	76	23	9	4	560	0	2.77	1.15	13
Marshall	45.8	76	28	9	4	596	2	2.26	1.39	13
EAST CENTRAL										
Cookson	47.0	74	28	8	5	557	0	4.66	1.07	9
Eufaula	49.3	75	29	11	4	490	3	2.55	.61	13
Haskell	47.6	74	24	10	4	****	****	2.31	.60	30
Hectorville	48.2	77	28	8	4	523	2	3.68	1.56	23
Holdenville	49.2	78	24	11	4	493	2	1.94	.70	13
McAlester	49.0	77	24	11	5	499	4	2.74	.82	13
Okmulgee	47.7	75	28	10	5	537	2	2.55	.59	13
SOUTHWEST										
Altus	48.6	80	28	13	5	509	2	1.71	.76	10
Apache	47.8	78	23	9	4	533	0	2.57	.97	13
Fort Cobb	47.5	76	23	10	4	542	0	1.97	.52	13
Grandfield	49.5	79	23	14	4	482	2	2.20	.94	10
Hinton	46.3	74	28	10	4	581	0	2.39	.95	23
Hobart	47.5	76	28	11	4	543	1	1.80	.77	13
SOUTH CENTRAL										
Ada	49.2	78	24	12	4	492	1	2.00	.70	13
Ardmore	51.4	78	24	15	4	424	2	2.61	1.23	11
Burneyville	50.6	80	24	14	5	****	****	1.70	.75	13
Byars	49.6	76	24	11	4	479	1	2.13	.78	13
Centrahoma	49.9	80	24	14	4	469	2	2.49	.86	13
Durant	51.9	79	24	17	4	412	5	3.48	.86	9
Fittstown	49.0	77	24	12	4	495	0	2.07	.70	13
Ketchum Ranch	49.8	77	23	11	4	470	0	2.40	1.10	13
SOUTHEAST										
Antlers	50.0	79	24	15	6	468	2	3.64	.83	13
Broken Bow	50.8	76	8	19	5	443	2	3.56	1.58	9
Clayton	49.7	77	24	14	4	478	5	3.35	1.02	9
Cloudy	50.7	76	24	16	4	444	2	3.69	1.03	12
Hugo	52.0	78	24	17	4	408	6	2.42	.63	13
Idabel	51.7	76	8	20	4	417	4	3.33	1.76	9

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	42.1	84	27	7	4	711	1	2.41	1.65	22
Hooker	*****	***	***	***	***	****	****	1.94	.91	22
Kenton	42.0	81	28	-2	5	716	2	2.21	.96	12
Slapout	42.9	78	27	7	4	****	****	2.10	.92	22
May Ranch	43.6	84	28	6	4	665	2	2.02	.72	13
Medford	44.9	76	28	9	4	622	0	2.91	1.48	12
Newkirk	44.7	77	28	5	4	630	1	2.19	.83	13
Red Rock	45.7	79	28	8	4	602	2	1.89	.89	13
Seiling	45.3	78	28	8	4	612	0	3.64	1.32	12
Woodward	45.3	87	28	8	4	615	4	2.12	.84	22
Pawnee	46.3	79	28	8	4	581	2	2.24	.96	13
Porter	48.2	75	28	9	4	520	0	2.90	.69	30
Pryor	46.0	74	28	8	4	589	0	3.10	1.11	9
Skiatook	46.9	77	28	7	4	564	2	1.69	.57	13
Talala	45.7	74	28	8	4	598	0	2.50	.78	9
Tulsa	47.9	77	28	9	4	535	3	4.30	1.29	9
Vinita	45.2	74	28	6	4	615	0	3.20	.94	9
Wynona	46.0	79	28	8	4	591	3	1.90	.68	23
Erick	46.5	79	28	11	5	576	1	3.03	.87	22
Putnam	45.4	77	28	8	4	609	1	2.46	.73	12
Watonga	46.1	75	28	9	4	585	0	2.66	.67	13
Weatherford	46.4	73	27	9	4	577	0	2.30	.89	23
Ninnekah	83.6	104	22	64	4	0	577	1.42	1.23	3
Norman	47.9	75	28	10	4	530	1	2.97	1.05	13
Oilton	46.2	80	28	8	5	588	4	1.64	.71	13
OKC East	47.2	75	28	10	4	552	2	2.50	1.10	13
Okemah	48.2	75	28	11	4	521	1	3.48	1.06	23
Perkins	46.6	78	28	9	4	572	2	2.11	.97	13
Seminole	48.5	77	28	11	4	****	****	2.00	.54	13
Shawnee	47.8	75	28	10	4	534	1	2.83	.78	13
Spencer	47.4	77	28	9	4	548	2	2.37	1.03	13
Stillwater	46.3	80	28	10	4	582	3	2.27	1.02	13
Washington	48.7	75	28	10	4	506	1	2.69	1.07	13
Yukon	47.1	77	27	9	4	559	2	2.47	1.31	13
Sallisaw	48.8	77	28	12	4	505	2	4.39	1.96	9
Stigler	48.5	75	24	12	4	513	3	2.95	.77	9
Stuart	49.6	78	24	12	4	478	2	2.14	.77	13
Tahlequah	46.9	74	28	7	4	561	0	3.00	.76	23
Webbers Falls	48.8	75	28	12	4	504	0	2.69	.64	30
Westville	46.6	72	28	6	4	571	0	4.27	.97	12
Hollis	48.5	83	28	12	5	513	3	1.19	.60	13
Mangum	47.4	80	28	10	5	547	2	1.29	.63	13
Medicine Park	49.0	78	23	10	4	495	0	2.30	.93	10
Tipton	48.7	81	23	11	5	508	2	1.99	.96	10
Walters	49.7	79	23	13	4	476	2	2.90	1.39	13
Lane	50.4	78	24	15	4	455	4	2.88	.87	13
Madill	50.9	78	24	15	5	439	3	2.95	.97	11
Newport	50.8	77	24	14	4	441	2	2.41	1.12	11
Pauls Valley	49.5	76	24	12	4	481	1	2.26	.88	13
Ringling	50.6	76	24	15	4	449	2	2.70	1.20	11
Sulphur	49.3	77	24	12	4	487	0	1.65	.50	13
Tishomingo	49.9	79	24	14	4	469	1	2.79	.85	13
Waurika	50.8	81	23	14	5	447	8	3.01	1.11	13
Mt Herman	50.0	74	9	15	5	464	0	3.15	1.04	12
Talihina	50.2	76	24	15	4	461	3	3.10	1.21	9
Valliant	51.8	77	24	19	5	415	6	2.79	.82	9
Wilburton	49.4	77	24	13	4	488	4	2.58	.81	9
Wister	48.5	75	28	13	5	514	1	2.72	1.09	9

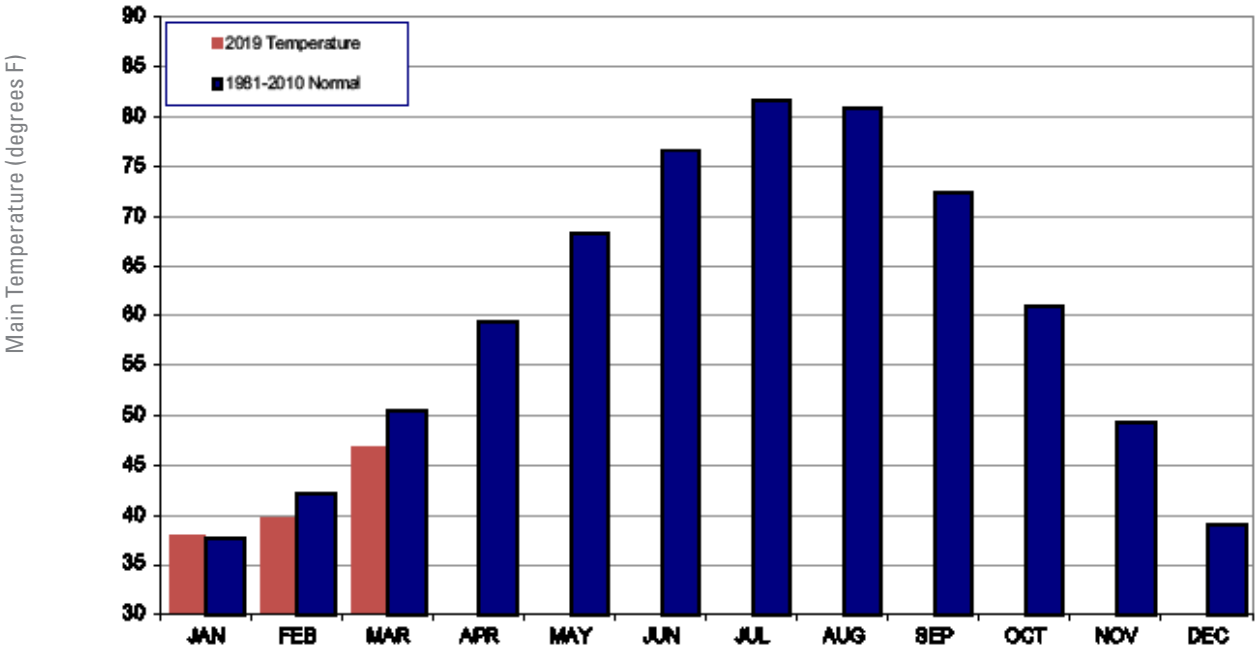
2019 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



March 2019 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Mar-18 (inches)
Panhandle	1.99	0.46	24th Wettest	5.66 (1973)	0.01 (1936)	0.20
North Central	2.36	-0.31	33rd Wettest	8.27 (1973)	0.00 (1936)	1.02
Northeast	2.87	-0.64	57th Wettest	9.33 (1973)	0.33 (1971)	2.57
West Central	2.86	0.57	21st Wettest	6.76 (1973)	0.00 (1971)	0.43
Central	2.57	-0.57	52nd Wettest	7.45 (1990)	0.10 (1971)	1.65
East Central	3.07	-0.81	61st Wettest	10.02 (1945)	0.52 (1941)	4.54
Southwest	2.03	-0.34	44th Wettest	5.61 (1973)	0.00 (1940)	0.85
South Central	2.48	-1.00	55th Driest	8.15 (1945)	0.28 (1950)	3.23
Southeast	3.12	-1.39	44th Driest	12.50 (1945)	0.96 (2011)	4.54
Statewide	2.58	-0.46	53rd Wettest	7.43 (1973)	0.39 (1971)	2.09

2019 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



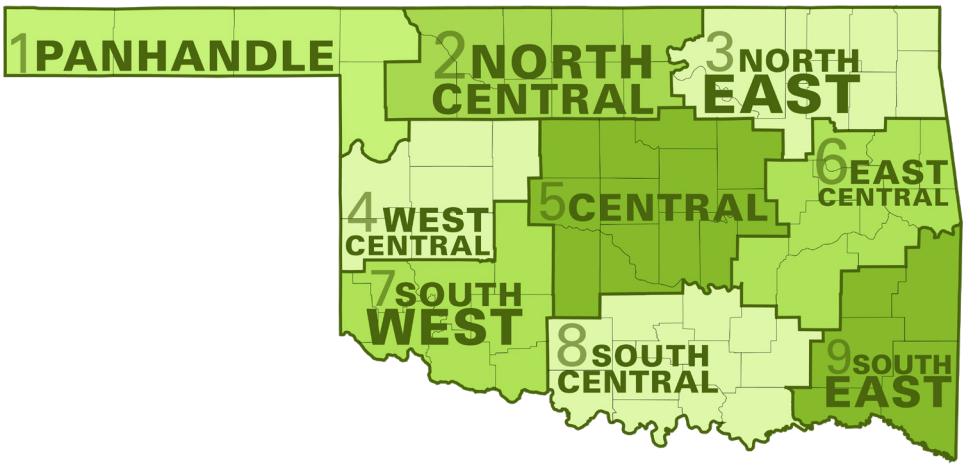
March 2019 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Mar-18 (F)
Panhandle	42.3	-4.2	27th Coolest	55.4 (2012)	34.1 (1958)	49.6
North Central	45.0	-3.3	36th Coolest	58.5 (2012)	36.0 (1915)	50.7
Northeast	46.1	-3.6	39th Coolest	59.7 (2012)	36.9 (1960)	50.8
West Central	46.4	-3.0	38th Coolest	58.3 (1907)	37.2 (1915)	52.9
Central	47.0	-3.9	28th Coolest	60.7 (2012)	38.6 (1915)	53.3
East Central	48.1	-3.6	32nd Coolest	61.2 (2012)	39.8 (1915)	53.1
Southwest	48.2	-3.8	26th Coolest	61.4 (1907)	40.6 (1915)	55.6
South Central	50.1	-3.3	30th Coolest	62.1 (1907)	41.6 (1915)	56.0
Southeast	50.4	-2.1	46th Coolest	62.0 (1907)	40.3 (1915)	55.2
Statewide	47.0	-3.4	33rd Coolest	59.6 (2012)	38.5 (1915)	52.9

MESONET EXTREMES FOR MARCH 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	87	28th	Arnett	-2	5th	Kenton	2.41	Goodwell	1.65	22nd	Goodwell
North Central	87	28th	Woodward	4	4th	Alva	3.64	Seiling	1.48	12th	Medford
Northeast	79	28th	Burbank	5	5th	Jay	4.30	Tulsa	1.87	23rd	Bixby
West Central	81	28th	Butler	5	4th	Camargo	3.43	Cheyenne	1.05	22nd	Cheyenne
Central	80	28th	Oilton	8	5th	Lake Carl Blackwell	4.16	Chandler	1.72	23rd	Chandler
East Central	78	24th	Stuart	6	4th	Westville	4.66	Cookson	1.96	9th	Sallisaw
Southwest	83	28th	Hollis	9	4th	Apache	2.90	Walters	1.39	13th	Walters
South Central	81	23rd	Waurika	11	4th	Byars	3.48	Durant	1.23	11th	Ardmore
Southeast	79	24th	Antlers	13	5th	Wister	3.69	Cloudy	1.76	9th	Idabel
Statewide	87	28th	Arnett	-2	5th	Kenton	4.66	Cookson	1.96	9th	Sallisaw

Oklahoma Climate Divisions



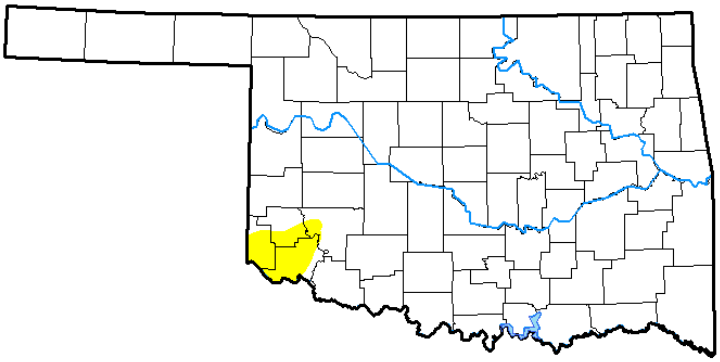
U.S. Drought Monitor

Oklahoma

March 26, 2019

(Released Thursday, Mar. 28, 2019)

Valid 8 a.m. EDT



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:

Eric Luebehusen
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.

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/

OKLAHOMA CLIMATOLOGICAL SURVEY

Oklahoma Climatological Survey is the State Climate Office for Oklahoma

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