Oklahoma Monthly Climate Summary

The first month of spring greeted Oklahoma with warmer

and more tranguil weather than the historic cold and

snowy February that preceded it. While March offered

up momentary glances of nearly every weather hazard in

Oklahoma's arsenal, the month was most often quiet. By

coincidence-although state lore will say it's the norm-the

most active weather occurred during Oklahoma's collectively

shared spring break. On March 16-17, local National Weather

Service offices issued a blizzard warning in the Panhandle,

and severe thunderstorm and tornado watches in the main body of the state. That storm system started with severe

weather across western Oklahoma the evening of the 16th,

and transitioned to snow the morning of the 17th. Snowfall

of 3-4 inches was being driven by 40 mph winds to create

white-out conditions across far northwestern Oklahoma

throughout the day on the 17th while the severe weather was

pushed east. The additional 3-4 inches of snow across the

March 2021 Statewide Extremes

inches and 7.59 inches, respectively. Twenty-five of the 120 Oklahoma Mesonet sites recorded at least 4 inches of rain for the month. Thirty stations saw less than 2 inches, with Fort Cobb seeing the least at 0.64 inches. The first three months of the year ended as the 51st wettest since 1895 with a statewide average of 6.2 inches, 0.23 inches below normal. The January-March moisture distribution was similar to March's pattern, with surpluses to the northwest and deficits to the southeast.

March was warm by any standard, but especially so following the historic cold weather of the previous month. The statewide average temperature for the month finished at 53.6 degrees, 3.2 degrees above normal, to rank as the 27th warmest March on record. High temperatures rose into the 70s and 80s quite often, with Beaver taking the top spot at 88 degrees on the 29th. Freezes were still common through

Description	Extreme	Station	Day
High Temperature	88°F	Beaver	29
Low Temperature	8°F	Kenton	1
High Precipitation	8.06 in.	Foraker	
Low Precipitation	0.64 in.	Fort Cobb	

northwest brought seasonal totals to more than 40 inches in that region, with Arnett leading at 42.3 inches. Oklahoma City's seasonal total of 22.5 inches through March was just 2.7 inches behind its record tally of 25.2 inches from 1947-1948, and ranked sixth highest on record. Tulsa's seasonal total was 15.8 inches, its 17th highest on record and well behind 2010-2011's 26.1 inches.

The statewide average precipitation total was 3.07 inches according to preliminary data from the Oklahoma Mesonet, 0.03 inches above normal, to rank as the 36th wettest March since records began in 1895. The northwestern half of the state saw surpluses of 1-3 inches, while the southeast fell 1-2 inches below normal. The moisture abundance was profound across parts of Oklahoma, with the Panhandle, north central and west central sections each experiencing one of their top 10 wettest Marches on record. The more robust totals came in Osage County, where Foraker and Burbank tallied 8.06

March 2021 Statewide Statistics

	Average	Depart.	Rank (1895-2021)							
Month (March)	53.6°F	3.2°F	27th Warmest							
Year-to-Date (Jan-Mar)	41.9°F	-1.6°F	55th Coolest							
Precipitation										

	Total	Depart.	Rank (1895-2021)
Month (March)	3.07 in.	0.03 in.	36th Wettest
Year-to-Date (Jan-Mar)	6.20 in.	-0.23 in.	51st Wettest

Depart. = departure from 30-year normal

the month, especially across far northwestern Oklahoma. Kenton recorded March's lowest reading at 8 degrees on the month's first day. The first three months of 2021 ended at 41.9 degrees, 1.6 degrees below normal and ranked as the 55th coolest January-March on record.

Drought continued to diminish in Oklahoma during March, dropping to an areal coverage of 10.71 percent on the month's final U. S. Drought Monitor map. Drought was nearly eliminated across southwestern Oklahoma, although a



newer area of drought was attempting to intensify and spread across south central Oklahoma. The April temperature and precipitation outlooks from the Climate Prediction Center (CPC) indicated increased odds of above normal temperatures across the entire state, and below normal precipitation across the western half of Oklahoma. Given those outlooks, CPC's April drought outlook considered drought development likely in southwestern and west central Oklahoma, with no changes considered likely over the rest of the state.

MARCH 2021 OBSERVED PRECIPITATION



MARCH 2021 DEPARTURE FROM NORMAL PRECIPITATION



MARCH 2021 PERCENT OF NORMAL PRECIPITATION



MARCH 2021 AVERAGE TEMPERATURE



MARCH 2021 DEPARTURE FROM NORMAL TEMPERATURE



MESONET MONTHLY SUMMARY FOR MARCH 2021

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	TOT PPT	HIGH 24-HR	DAY
PANHANDLE Arnett Beaver Boise City Buffalo Eva	50.8 49.2 44.5 50.8 45.3	85 88 84 86 86	29 29 29 29 29	21 13 11 18 9	2 1 1 1 1	443 494 636 445 611	2 5 0 5 0	3.74 2.88 1.10 4.23 1.45	1.09 1.11 .60 1.41 .63	22 13 13 22 13	Goodwell Hooker Kenton Slapout	47.1 46.9 44.9 50.1	85 85 86 87	29 29 29 29	13 12 8 21	1 1 1	554 562 624 466	0 0 0 3	2.90 3.14 1.78 3.45	1.64 2.16 1.11 .98	13 13 13 13
NORTH CENTRAL Alva Blackwell Breckinridge Cherokee Fairview Freedom Lahoma	51.5 52.4 52.8 52.0 53.0 51.0 52.2	83 80 82 83 83 83	29 10 10 10 10 29 10	19 24 23 23 26 17 24	1 1 1 1 1 1	420 396 383 403 375 436 402	1 5 1 4 3 5	3.56 4.69 4.40 3.28 4.57 5.62 4.56	1.27 1.79 1.52 1.13 1.40 2.11 1.94	22 17 22 22 17 22 12	May Ranch Medford Newkirk Red Rock Seiling Woodward	51.2 52.0 52.6 53.2 51.8 51.5	85 80 81 81 85	29 10 10 10 10 29	21 22 23 25 22 20	1 1 2 1 1	432 409 390 374 410 423	4 5 7 2 3	5.45 3.60 5.04 5.15 3.10 5.18	2.00 1.31 1.75 1.70 1.15 1.49	22 22 17 12 22 22
NORTHEAST Bixby Burbank Copan Foraker Inola Jay Miami Nowata	54.4 53.1 52.6 52.3 53.3 53.2 52.4 52.1	79 81 77 78 78 77 75 75	27 10 10 27 27 16 10	28 24 26 25 26 27 26 23	2 1 1 2 6 2 2	331 375 388 397 366 366 391 402	4 7 4 3 1 2 3	2.10 7.59 6.53 8.06 2.41 5.23 6.07 5.94	.79 2.18 2.32 2.58 .63 1.75 2.40 2.39	22 12 13 12 17 13 13 13	Pawnee Porter Pryor Skiatook Talala Tulsa Vinita Wynona	53.9 55.4 52.9 54.4 53.0 55.1 52.2 53.6	80 81 77 76 76 77 76 79	16 27 27 10 10 27 16 10	26 29 24 25 30 25 25	2 2 1 1 2 1	350 303 379 334 377 310 399 359	6 5 4 4 3 5	2.72 1.77 5.31 3.14 4.81 3.68 6.86 3.42	.82 .63 1.64 .89 2.10 .96 2.70 .91	17 14 13 22 13 22 13 22
WEST CENTRAL Bessie Butler Camargo Cheyenne Elk City	53.6 53.0 50.7 52.0 53.1	84 84 82 81 84	10 10 29 29 10	26 21 18 27 25	1 2 2 1 2	357 378 443 405 372	5 6 1 1 4	2.88 3.23 3.95 3.37 4.81	1.32 1.09 1.12 1.25 1.69	13 17 16 22 13	Erick Putnam Watonga Weatherford	51.7 51.8 52.9 52.9	81 82 81 82	10 10 10 10	20 25 27 29	2 1 1 1	414 413 380 380	1 4 4 5	3.85 3.82 4.85 3.58	1.91 1.73 1.55 1.08	13 17 13 16
CENTRAL Acme Bristow Lake Carl Blac Chandler Chickasha El Reno Guthrie Kingfisher Marena Minco Marshall	55.0 54.0 53.3 55.6 54.1 53.0 55.2 53.4 54.5 54.2 53.4	80 78 81 79 81 82 81 80 81 80 80	10 16 10 10 10 10 10 10 10	25 25 22 31 24 25 30 25 27 28 25	2 2 2 2 1 1 2 1 1 2	315 347 369 296 343 379 311 365 333 341 367	5 4 7 5 7 6 7 5 6	1.48 2.90 3.11 2.71 1.40 2.13 2.69 2.61 1.03 5.61	1.16 1.63 .80 1.52 .96 .36 .75 .77 1.09 .67 2.11	22 22 22 22 22 22 22 22 17 22 22 12	Norman Oilton OKC East Okemah Perkins Seminole Shawnee Spencer Stillwater Washington Yukon	55.4 53.6 55.1 54.8 54.4 56.0 55.3 55.7 54.2 55.8 54.8	79 77 80 78 80 78 80 82 80 81	10 16 10 27 16 16 16 16 10 10	30 25 30 26 28 29 30 31 24 33 28	2 2 2 2 2 2 2 1 2 7 1	302 359 312 318 334 284 305 293 344 290 321	5 5 6 3 6 4 6 8 6 6	2.51 2.77 1.88 2.12 2.46 2.43 2.75 2.43 2.58 2.66 1.83	1.64 1.26 1.42 1.14 1.09 1.65 2.01 1.44 1.01 2.24 .73	22 22 22 22 22 22 22 22 22 22 22 22
EAST CENTRAL Cookson Eufaula Haskell Hectorville Holdenville McAlester Okmulgee	54.5 55.5 54.2 55.6 56.0 55.5 54.2	80 79 80 79 78 79 80	27 27 27 27 27 27 27 27	28 30 27 31 32 29 26	6 2 2 6 2 2	330 295 339 295 283 302 339	5 1 3 4 6 3	3.31 1.97 1.64 2.66 2.04 2.78 1.71	.76 .79 .55 .99 1.16 1.04 .64	14 22 14 22 22 22 22	Sallisaw Stigler Stuart Tahlequah Webbers Falls Westville	55.1 54.6 56.0 53.8 55.0 53.8	80 81 77 77 79 77	27 27 27 27 27 27 27	29 29 32 28 31 31	3 2 7 6 2 6	317 325 286 349 314 347	10 3 7 1 4 0	3.67 3.73 2.53 3.27 3.18 2.64	.83 1.02 1.11 .69 .89 .60	27 22 22 17 22 25
SOUTHWEST Altus Apache Fort Cobb Grandfield Hinton Hobart	54.2 54.4 53.9 56.1 52.9 54.0	87 83 83 85 81 85	10 10 10 10 10 10	25 31 27 30 30 25	2 2 2 19 2	342 336 349 285 379 345	8 6 10 5 5	.86 .86 .64 1.22 2.15 1.13	.65 .60 .47 .63 .76 .64	22 22 22 22 22 22 22	Hollis Mangum Medicine Park Tipton Walters	53.6 53.3 55.5 54.3 56.1	86 87 83 87 83	10 10 10 10 10	21 18 33 24 29	2 2 3 2 3	357 368 302 340 285	4 5 6 9 10	3.08 1.38 1.24 .94 1.18	1.66 .66 .74 .56 .70	13 22 22 22 22
SOUTH CENTRAL Ada Ardmore Burneyville Byars Centrahoma Durant Fittstown Ketchum Ranch	55.7 57.6 56.9 56.7 56.6 57.8 55.6 55.6	77 80 79 78 78 78 77 80	27 16 27 27 27 27 10	27 34 27 34 29 33 29 30	2 2 19 2 2 2 2	295 247 273 264 274 241 299 268	6 19 22 9 12 17 7 9	1.99 2.60 1.50 2.49 2.48 1.95 2.00 1.52	1.57 1.65 1.05 1.90 1.62 .62 1.50 .94	22 22 22 22 22 22 24 22 22 22	Lane Madill Newport Pauls Valley Ringling Sulphur Tishomingo Waurika	56.5 57.6 57.5 56.1 57.5 56.2 56.0 57.4	80 79 80 81 79 78 83	27 16 16 16 16 16 16 10	28 30 34 29 31 25 28 27	3 2 2 2 2 3 2	282 249 252 285 250 286 294 253	18 19 9 17 12 15 18	1.91 2.14 1.86 3.05 1.60 1.78 3.37 2.12	.78 1.35 1.49 2.38 1.34 1.51 2.18 1.11	22 22 22 22 22 22 22 22 22
SOUTHEAST Antlers Broken Bow Clayton Cloudy Hugo Idabel	55.9 55.7 55.6 55.4 57.7 56.5	80 80 79 77 79 78	27 27 27 27 27 27 27	28 28 30 29 34 32	3 3 7 3 3 3	296 298 304 305 245 280	13 10 13 9 17 18	2.42 3.93 2.24 4.07 3.43 4.00	.81 1.27 .56 1.42 1.06 1.02	24 25 22 24 22 24 22	Mt Herman Talihina Valliant Wilburton Wister	54.9 55.5 56.2 55.6 53.7	76 79 77 79 79	27 27 27 27 27 27	30 27 30 32 26	3 3 3 3 3	324 311 289 302 362	10 17 17 10 11	4.19 2.72 3.53 2.72 3.23	1.58 .86 1.19 .72 1.31	25 25 22 25 25

2021 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



March 2021 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Mar-20 (inches)
Panhandle	2.74	1.21	8th Wettest	5.66 (1973)	0.01 (1936)	1.22
North Central	4.48	1.81	7th Wettest	8.27 (1973)	0.00 (1936)	3.19
Northeast	4.73	1.22	23rd Wettest	9.33 (1973)	0.33 (1971)	6.39
West Central	3.82	1.53	9th Wettest	6.76 (1973)	0.00 (1971)	2.99
Central	2.41	-0.73	58th Wettest	7.45 (1990)	0.10 (1971)	5.61
East Central	2.70	-1.18	47th Driest	10.02 (1945)	0.52 (1941)	7.19
Southwest	1.33	-1.04	53rd Driest	5.61 (1973)	0.00 (1940)	4.71
South Central	2.15	-1.33	45th Driest	8.15 (1945)	0.28 (1950)	7.08
Southeast	3.32	-1.19	50th Driest	12.50 (1945)	0.96 (2011)	7.94
Statewide	3.07	0.03	36th Wettest	7.43 (1973)	0.39 (1971)	5.16

2021 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



March 2021 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Mar-20 (F)
Panhandle	47.7	1.2	39th Warmest	55.4 (2012)	34.1 (1958)	50.8
North Central	52.1	3.8	20th Warmest	58.5 (2012)	36.0 (1915)	52.6
Northeast	53.4	3.7	20th Warmest	59.7 (2012)	36.9 (1960)	54.8
West Central	52.4	3.0	27th Warmest	58.3 (1907)	37.2 (1915)	54.4
Central	54.6	3.7	21st Warmest	60.7 (2012)	38.6 (1915)	56.0
East Central	54.9	3.2	26th Warmest	61.2 (2012)	39.8 (1915)	57.2
Southwest	54.4	2.4	33rd Warmest	61.4 (1907)	40.6 (1915)	56.4
South Central	56.8	3.4	26th Warmest	62.1 (1907)	41.6 (1915)	58.8
Southeast	55.7	3.2	24th Warmest	62.0 (1907)	40.3 (1915)	58.6
Statewide	53.6	3.2	27th Warmest	59.6 (2012)	38.5 (1915)	55.5

MESONET EXTREMES FOR MARCH 2021

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	88	29th	Beaver	8	1st	Kenton	4.23	Buffalo	2.16	13th	Hooker
North Central	85	29th	May Ranch	17	1st	Freedom	5.62	Freedom	2.11	22nd	Freedom
Northeast	81	27th	Porter	23	2nd	Nowata	8.06	Foraker	2.70	13th	Vinita
West Central	84	10th	Butler	18	2nd	Camargo	4.85	Watonga	1.91	13th	Erick
Central	82	10th	El Reno	22	2nd	Lake Carl Blackwell	5.61	Marshall	2.24	22nd	Washington
East Central	81	27th	Stigler	26	2nd	Okmulgee	3.73	Stigler	1.16	22nd	Holdenville
Southwest	87	10th	Mangum	18	2nd	Mangum	3.08	Hollis	1.66	13th	Hollis
South Central	83	10th	Waurika	25	2nd	Sulphur	3.37	Tishomingo	2.38	22nd	Pauls Valley
Southeast	80	27th	Antlers	26	3rd	Wister	4.19	Mt Herman	1.58	25th	Mt Herman
Statewide	88	29th	Beaver	8	1st	Kenton	8.06	Foraker	2.70	13th	Vinita

Oklahoma Climate Divisions



U.S. Drought Monitor **Oklahoma**

March 30, 2021 (Released Thursday, Apr. 1, 2021) Valid 8 a.m. EDT

Drought Conditions (Percent Area) None D0-D4 D1-D4 D2-D4 D3-D4

> 11.54 3.42 0.08

25.21 7.75 1.45 0.00

17.71 11.97 1.55 0.00

D4

0.00

0.08 0.00



One Year Ago 03-31-2020 Intensity:

Current

Last Week 03-23-2021

3 Month s Ago 12-29-2020

Start of Calendar Year

Start of Water Year 09-29-2020

None D0 Abnormally Dry

95.89 4. 11 2.52 0.84 0.00 0.00

63.05 36.95 10.71 3.42

63.26 36.74

56.83 43.17 25.21 7.75 1.45 0.00

43.17 56.83

33.21 66.79

> D2 Severe Drought D3 Extreme Drought

D1 Moderate Drought D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

<u>Author:</u> Brad Pugh CPC/NOAA

USDA



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/ **OKLAHOMA** CLIMATOLOGICAL SURVEY

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