Oklahoma Monthly Climate Summary

MARCH 2014

OKLAHOMA CLIMATOLOGICAL SURVEY

Oklahoma's weather during March was so boring only a Mother (Nature) could love it. Dust storms and wildfires livened things up a bit, but there was very little in the way of traditional severe weather. Through March 31, the number of consecutive days without a reported tornado in Oklahoma rose to 236, the third longest stretch since accurate records began in 1950. The last reported tornado in Oklahoma occurred back on August 7, 2013, when a small EF0 twister touched down near Turpin in Beaver County. The longest tornado drought on record is 292 days from May 17, 2003, to March 3, 2004. Snow and sleet kept winter in the news the first few days of the month with amounts of nearly 6 inches reported across northern Oklahoma. Despite that moisture, it was dry across most of the state and in some areas, exceedingly so. The Oklahoma Mesonet site at Boise City brought up the rear with a scant 0.05 inches of liquid moisture. Of the 120 existing Mesonet sites, 33 came in with less than an inch of moisture, and 64 recorded less than 2 inches. Mt. Herman in McCurtain County recorded the most with 5.98 inches. The statewide average was 1.75 inches, 1.36 inches below normal to rank as the 38th driest March since records began in 1895. March was the seventh consecutive month that the statewide average precipitation total dipped below normal, and the 30th month out of the previous 42 to do so, dating back to October 2010. The cumulative statewide precipitation deficit over that period rose to approximately 28.9 inches.

March 2014 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	88°F	(Several)	31st
Low Temperature	-7°F	Buffalo	3rd
High Precipitation	5.98 in.	Mt. Herman	
Low Precipitation	0.05 in.	Boise City	

March also continued a tendency for cooler than normal weather. According to preliminary data from the Mesonet, the statewide average temperature was 46.4 degrees, the 23rd coolest March on record at 3.8 degrees below normal. That is the 12th month out of the last 14 to finish cooler than normal, dating back to February 2013. The month's highest temperature of 88 degrees was recorded at four separate locations on the 31st. The lowest temperature for the month, minus 7 degrees, was reported at Buffalo on the third. Several low temperature records were either tied or broken at stations in northeastern Oklahoma during those first few icy days of the month.

The combination of drought, high winds and low relative humidity produced numerous days with extreme wildfire conditions. Fires burned several hundred acres in Logan County on March 20, destroying two mobile homes. A Texas wildfire on the 18th spread for 20 miles and burned its way into Ellis County, Oklahoma. It required several Oklahoma and Texas firefighter units to extinguish the blaze. Many other wildfires were reported throughout the month. Those same weather conditions also produced intense dust storms that some local Panhandle residents likened to the Dust Bowl storms of the 1930s. The biggest "duster" was possibly the March 11 storm that kicked up dust from eastern Colorado down into the High Plains of the Oklahoma and Texas panhandles. Another dust storm on the 18th spread much farther to the east, obscuring the sky throughout western and central Oklahoma.

March 2014 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2014)
Month (March)	46.6°F	-3.8°F	23rd Coolest
Year-to-Date (Jan-Mar)	39.6°F	-3.1°F	19th Coolest

Precipitation

	Total	Depart.	Rank (1895-2014)
Month (March)	1.78 in.	-1.33 in.	38th Driest
Year-to-Date (Jan-Mar)	2.53 in.	-3.79 in.	6th Driest

Depart. = departure from 30-year normal

The drought that helped produce those dust storms intensified across the High Plains into western Oklahoma. The latest U.S. Drought Monitor report indicated a significant increase in extreme to exceptional drought across the western third of Oklahoma, now encompassing 24 percent of the state. That's an increase of nearly 20 percent since October 1, 2013. Moderate to severe drought covered approximately 53 percent of the state and nearly 19 percent was considered to be in "Abnormally

Dry" conditions. Only four percent of Oklahoma was portrayed devoid of any dry conditions. The Drought Monitor's intensity scale slides from moderate-severe-extreme-exceptional, with exceptional being the worst classification.

The latest April outlooks from the National Weather Service's Climate Prediction Center (CPC) gave no indication of increased odds for either above-, below- or near-normal temperatures and precipitation. CPC's U.S. Monthly Drought Outlook for April shows drought either continuing or intensifying across the western half of the state through the month, with drought removal likely across northeastern and southeastern areas of the state.

MARCH 2014 DAILY SUMMARIES

MARCH 1-3: Temperatures started off pleasant, and then dipped with a passing cold front. The warmest temperatures in the state got to 74 degrees in Durant on the 1st, but fell to 57 degrees on the 3rd. Maximum temperatures stayed well below freezing in many areas, with Boise City only reaching 31 degrees on the 1st, Goodwell reaching 9 degrees on the 2nd, and Breckinridge warming only to 15 degrees on the 3rd. The highest minimums ranged between 16 (Broken Bow) and 46 (Durant) degrees, and the lowest minimum temperatures ranged between 9 (Hooker and Goodwell) and -7 degrees (Buffalo). Cool temperatures, strong winds, and a wintry mix of precipitation made for some unfavorable conditions. Freezing rain and snow started in the north and as it moved south-southeastward, the precipitation was accompanied by rumbles of thunder. The highest amounts of precipitation captured by the Mesonet were just tenths of an inch on the 1st, 1.69 inches in Broken Bow on the 2nd, and .14 inches in Goodwell on the 3rd. However, COOP volunteers observed over 2 inches of snow in the northeast on the 2nd, up to 2 inches of precipitation in Billings on the 3rd, and over 4 inches of snow in the north. On the 3rd, Tulsa tied a daily low temperature record of 7 degrees and Bartlesville hit a new daily low temperature record of 1 degree. A severe weather report of 2 inch hail was called in from Checotah on the 2nd. Daily wind speed averages were less than 17mph on Saturday, less than 22mph on Sunday, and less than 12mph on Monday.

MARCH 4-5: There was a 10 degree warm up in maximum temperatures following March 3rd ¬with panhandle highs in the upper 60s. This was short-lived, however, as a cold front pushed in from the northwest. The highest maximum temperatures only made it into the mid-50s on the 5th while some areas didn't make it past 38 degrees. Lows were much warmer, ranging from 25 degrees in the panhandle on the 4th to 20 degrees in the southeast on the 5th. Despite the warm-up, Bartlesville hit another daily low temperature record at 0 degrees on the 4th. Rain and snow passed over central, southwest, and south-central OK and eventually made its way east. A number of Mesonet sites measured .3 to .49 inches (Byars) of precipitation on the 4th, and .3 to .45 inches on the 5th. Although some wind anemometers were frozen up, most wind speed measurements were less than 15mph with a gust of 45mph on Wednesday.

MARCH 6: High pressure over the region made for some mild and pleasant conditions. Skies cleared in the west and the sun started to peek through the clouds. After light rain and snow ended around sunrise in the east, clouds started to clear there as well. High temperatures ranged between 48 degrees in Watonga and 73 degrees in Kenton. Low temperatures were between 21 degrees in Hollis and 36 degrees in the southeast. Although the Mesonet measured less than one-tenth of an inch of rain in central OK, .3 inches was reported in Wister. Wind speeds were anywhere between 3 and 16mph.

MARCH 7-8: High pressure changed to low pressure and another cold front moved through the region. The highest maximum temperatures reported in the state dropped drastically from 83 degrees in Hollis to 58 degrees in Wister. The lowest reported maximum temperatures fell from 58 degrees in Westville to 38 degrees in the panhandle, north-central, and west-central OK. Minimum temperatures were between 23 and 41 degrees. The 8th got the brunt of the precipitation as scattered showers and thunderstorms dropped as much as .64 inches of rain in Claremore and .62 inches in Tulsa. Central, northwest, and north-central Oklahoma got a mix of sleet and light snow with reports of 1-3 inches by the National Weather Service. Wind gusts of 47mph occurred in Hobart, Altus, and Tipton on the 8th. Average wind speeds were breezy, measuring 5-23mph.

MARCH 9-11: In spite of a cold front passing through on the 11th, a warm-up ensued during this period as the maximum temperature range climbed from 52-71 degrees to 63-87 degrees. The warmest cities during this period were Beaver and Tipton. The minimum temperature range changed from 17-42 degrees on the 9th to 33-52 degrees on the 11th. The coolest locations were Medford (17 degrees) on the 9th, Camargo (22 degrees) on the 10th, and Boise City (33 degrees) on the 11th. Despite some fog in the southeast, high pressure aloft kept the region fairly dry. The highest average daily wind speeds were 11mph (Goodwell) on the 9th, 18mph (Watonga) on the 10th, and 27mph (Cheyenne) on the 11th.

MARCH 12: Due to a cold front the previous day, temperatures were drastically cooler by nearly 30 degrees. High temperatures ranged from 52 degrees in Boise City and Westville to 60 degrees in Burneyville. Minimum temperatures ranged from 24 degrees in Hooker and Boise City to 39 degrees in the south. Rainfall was negligible and wind speeds averaged between 6 and 18mph.

MARCH 13-15: Maximum temperatures didn't waver much during this period as the warmest highs stayed around 73 and 74 degrees. Similarly, the lowest highs only fluctuated between 57 and 64 degrees. The highest minimums increased from 42 degrees in Fairview to 53 degrees in Centrahoma and Bowlegs. The coolest temperatures increased from a chilly 19 degrees in

Hooker, Mangum, and Camargo on the 13th to 28 degrees in Buffalo by the 15th. Skies were generally sunny on the 13th, but clouds and light rain passed over central OK on the 14th. A dry cold front moved in from the northwest on the 14th and became stationary by the 15th. The stalled front created southeast winds (10-15mph) to the east, and light and variable winds to the west. Winds gusted in the mid and upper 50s in the panhandle that day. A narrow and isolated area of precipitation produced 3.96 inches of rain in Wilburton, 3.22 inches in Stuart, 3.11 inches in Centrahoma, and just less than 3 inches in portions of east-central, south-central, and southeast Oklahoma. By the evening of the 15th, scattered showers and thunderstorms had made its way over north and west-central Oklahoma.

MARCH 16: A cold front that just started to touch the northwest tip of Oklahoma on the 15th made its way further into the state on the 16th. The highest maximum temperatures plunged to 57 degrees in Broken Bow and Sallisaw. Watonga, Putnam, and Weatherford reported the lowest maximum temperature of 47 degrees. Minimum temperatures ranged from 23 degrees in Camargo and Medford to 39 degrees in the south and southeast. Apart from northwest OK, widespread rain passed over much of the state. 1.69 inches of rain was measured at the Jay Mesonet, 1.25 inches at the Cookson, Pryor, and Vinita Mesonet and less than an inch elsewhere. A wind gust of 54mph was measured in Minco and averages were generally between 10 and 28mph.

MARCH 17-20: Although precipitation made its way out of the area on the 17th, clouds increased over the area ahead of an approaching cold front. The front moved in from the northwest on the 18th, shifting wind directions and obscuring visibilities with blowing dust in the northwest and west. Maximum temperatures were about 10 degrees above normal right before the cold front passed, and then more seasonal following the front on the 19th. The highest temperatures fluctuated from 77 degrees in Kenton on the 17th, to 83 degrees in Burneyville on the 18th, 63 degrees in the southeast on the 19th, and 79 degrees in Arnett on the 20th. The lowest minimum temperatures were in the 50s for the first three days and then reached 66 degrees in Westville on the 20th. Minimum temperatures ranged from the upper teens in the north to the upper 40s in the south. Skies were rain free and average wind speeds were less than 18mph on the 17th, less than 24mph on the 18th, less than 15mph on the 19th, and less than 19mph on the 20th.

MARCH 21-23: Maximum temperatures measuring in the upper 70s didn't last long on the 21st as a cold front moved through and initiated a cooling trend. The highest temperatures in the state only reached 66 degrees (Cloudy) on the 22nd and 60 degrees (Broken Bow) on the 23rd. The lowest maximums fell from 57 degrees in Kenton to 43 degrees in Watonga. Lows ranged from 19 degrees in Kenton to 55 degrees in Spencer. Light rain and thunderstorms developed in central, east, and southeast Oklahoma, however, the storms in the southeast were much stronger. Rainfall measurements ranged from one-tenth of an inch in the northwest to .55 inches in Clayton and Talihina on the 21st and 3.25 inches in Mt. Herman on the 22nd. Peak wind gusts were in the 40s and average wind speeds were less than 19mph, 22mph, and 15mph each day, respectively.

MARCH 24-25: Yet another dry cold front passed through north and west Oklahoma on the 24th. Maximum temperatures fell from a range of 49 (Kenton) to 70 (Tipton) degrees on the 24th to a range of 45 (Miami and Jay) to 62 degrees (panhandle) on the 25th. Minimum temperatures ranged from 19 degrees to 37 degrees. Rainfall was negligible and average wind speeds were roughly less than 16mph.

MARCH 26-28: An upper-level wave followed by cold fronts and a stalled frontal boundary made for a fairly wet period. Rain started in the southwestern one-third of the state on the 16th and eventually moved through central and eastern OK, along with thunderstorms, by the 28th. A wind advisory was issued on the 27th for the northeast, and storms became severe with small hail and 72mph wind gusts (Adair) on the 28th. The top 24-hour rainfall measurements recorded by the Mesonet each day were .41 inches in Medicine Park on the 26th, .36 inches in Stigler on the 27th, and .73 inches in Cookson on the 28th. Maximum temperatures were warm, ranging from the 50s and low 60s to the upper 70s and low 80s. The lowest minimum temperatures were in the upper 20s and 30s, and the highest minimum temperatures were in the 40s on the 26th and 50s on the 27th and 28th. Wind speeds were high with the highest daily average being 28mph in Beaver on Wednesday, 24mph in Vinita on Thursday, and 19mph in Weatherford on Friday. Apart from the severe wind gust reported on the 28th, gusts were peaking in the 50s the other two days.

MARCH 29-31: The month ended with a warming trend. High maximum temperatures jumped from 74 degrees in Hollis and Butlers to 88 degrees in Waurika, Tipton, Altus, and Grady. Low maximum temperatures wavered a bit, changing from 59 degrees on the 29th to 70 degrees on the 30th and 63 degrees on the 31st. Minimum temperatures started with a range of 22 (Kenton) to 42 (Hugo) degrees on the 29th, but warmed to a range of 39 (Boise City) to 58 degrees (Chandler) on the 31st. As a cold front moved through on the 31st, showers and thunderstorms moved from the southwest to central, south-central, and eastern Oklahoma. Gusts of 51mph, 50mph, and 49mph were reported in Freedom, Fairview, and Boise City, respectively. Average wind speeds were less than 18mph on the 29th, less than 25mph on the 30th, and less than 20mph on the 31st. The combination of breezy wind speeds and warm temperatures created favorable conditions for high fire danger. Rainfall amounts varied from one-tenth of an inch to .43 inches in Claremore on the 31st.

MARCH 2014 SEVERE WEATHER

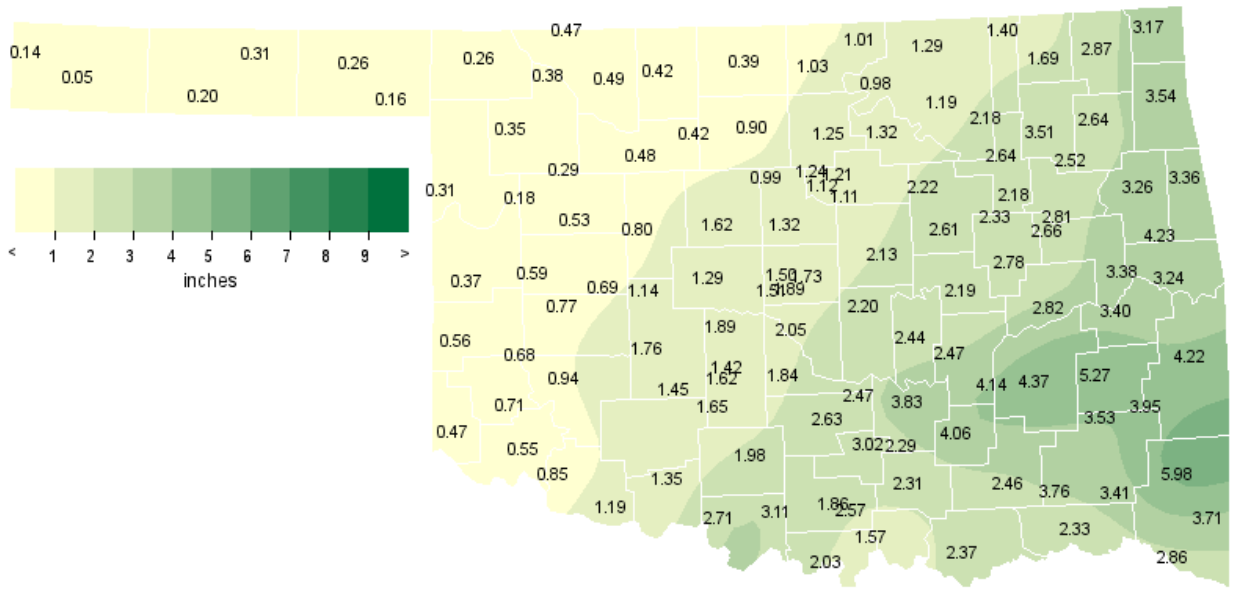
Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Day
2.00	Checotah	McIntosh	2

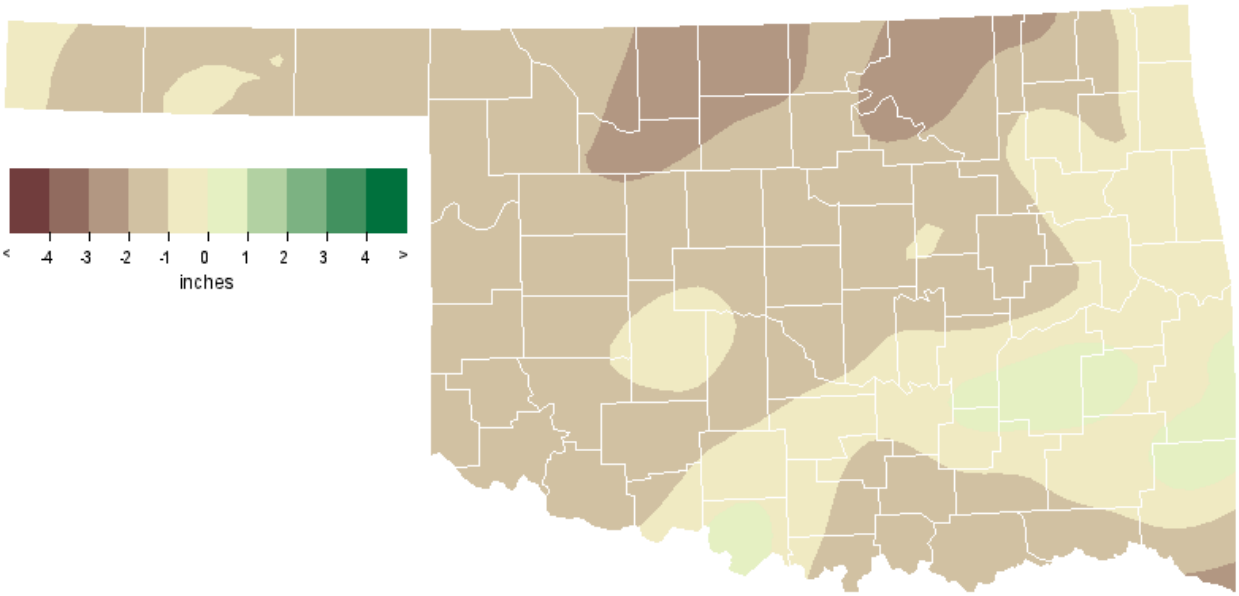
Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Day
72	5 WNW Westville	Adair	28

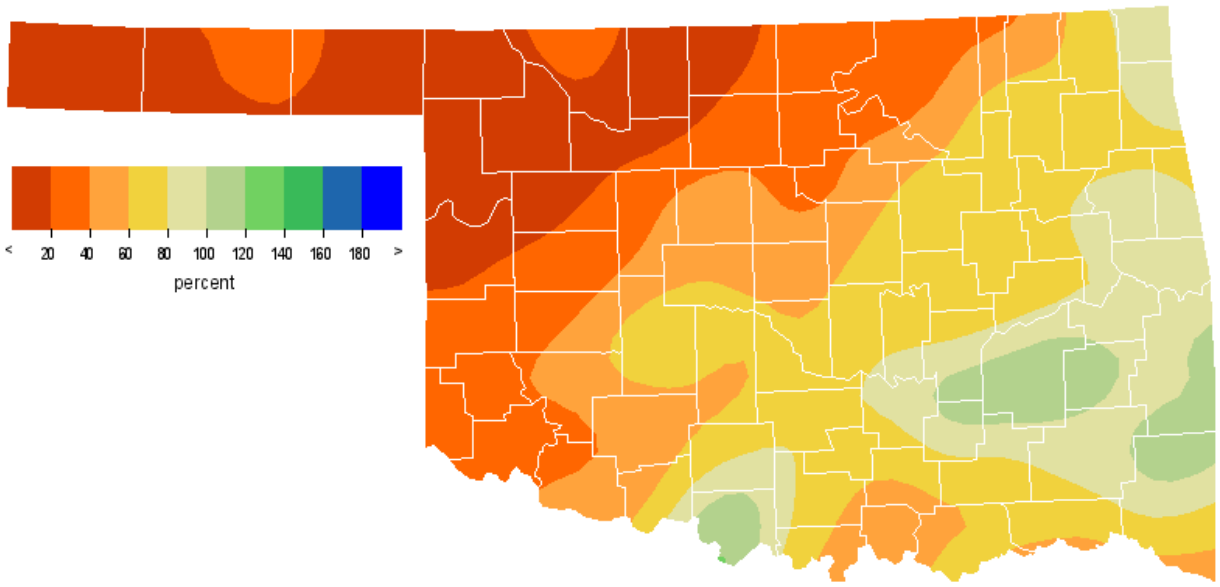
MARCH 2014 OBSERVED PRECIPITATION



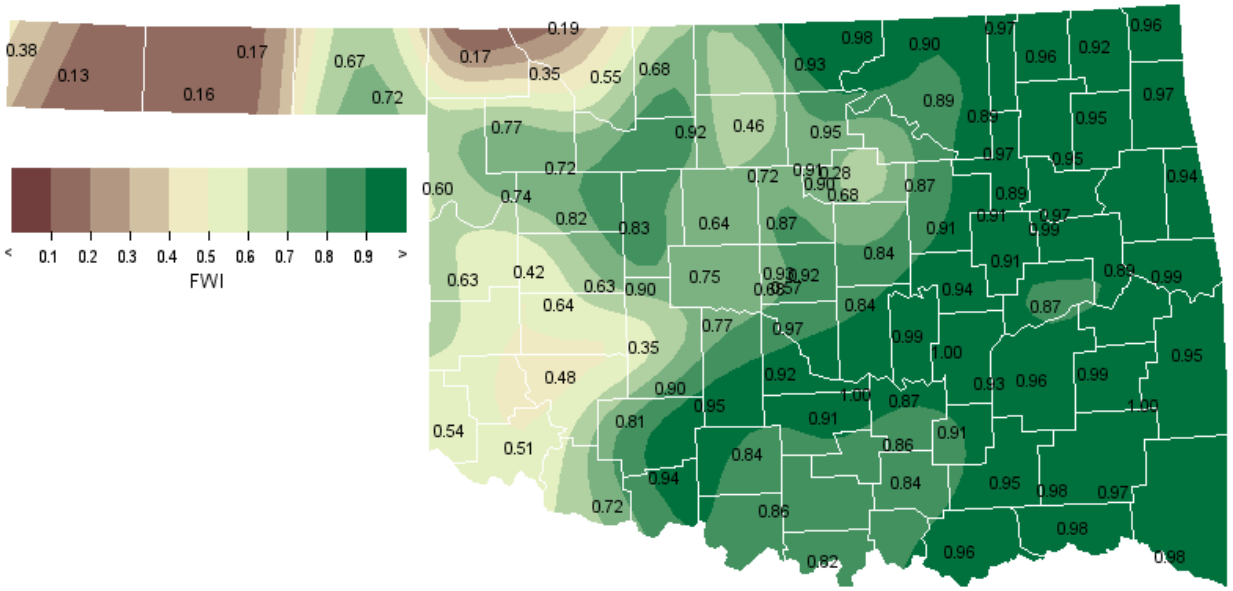
MARCH 2014 DEPARTURE FROM NORMAL PRECIPITATION



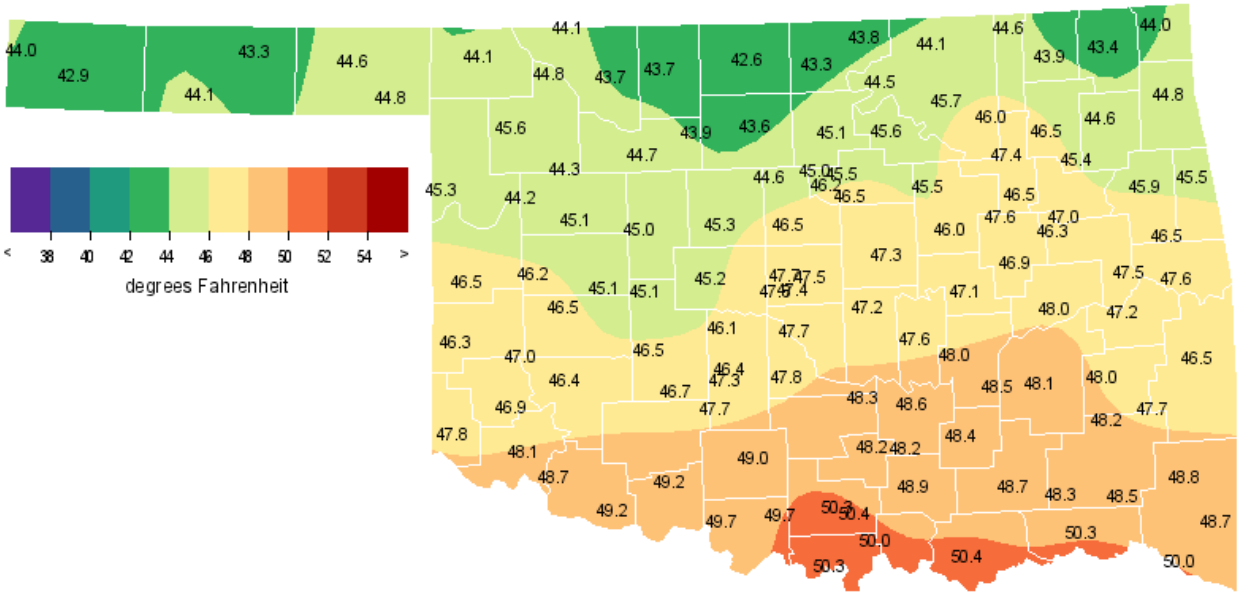
MARCH 2014 PERCENT OF NORMAL PRECIPITATION



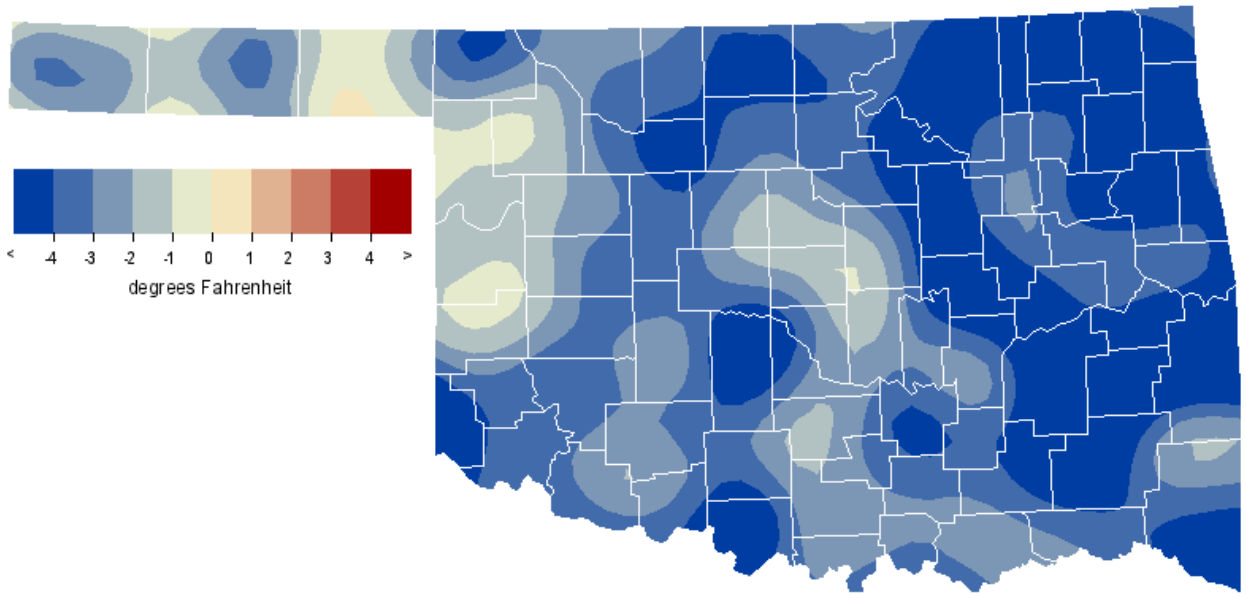
MARCH 2014 AVERAGE SOIL MOISTURE AT 25CM



MARCH 2014 AVERAGE TEMPERATURE



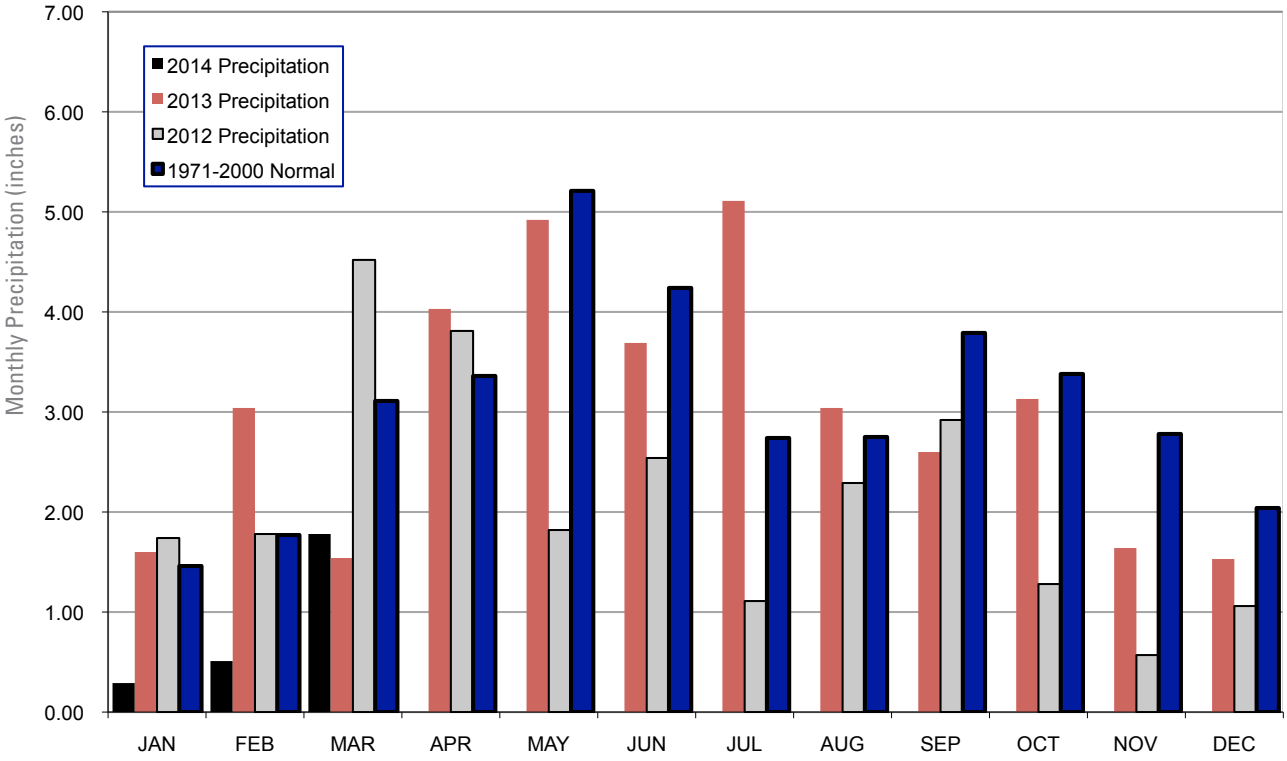
MARCH 2014 DEPARTURE FROM NORMAL TEMPERATURE



MESONET MONTHLY SUMMARY FOR MARCH 2014

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	45.4	81	30	-1	3	609	0	.31	.19	26
Beaver	44.7	85	30	-4	3	634	3	.26	.24	4
Boise City	42.8	78	30	-2	3	688	0	.05	.03	3
Buffalo	44.1	82	30	-7	3	650	3	.26	.18	4
Goodwell	44.1	81	30	-2	3	649	0	.20	.14	3
Hooker	43.4	83	30	-3	3	670	0	.31	.18	4
Kenton	44.0	78	30	0	3	652	0	.14	.06	3
Slapout	44.8	83	30	-5	3	628	1	.16	.07	3
NORTH CENTRAL										
Alva	43.8	82	10	-6	3	658	0	.49	.30	4
Blackwell	43.3	81	31	-2	3	672	0	1.03	.66	15
Breckinridge	43.6	81	31	-1	3	664	0	.90	.53	15
Cherokee	43.8	80	10	-5	3	658	0	.42	.25	4
Fairview	44.8	81	31	-1	3	628	0	.48	.24	4
Freedom	44.8	81	10	-4	3	626	1	.38	.17	4
Lahoma	43.9	80	31	-2	3	655	0	.42	.27	15
May Ranch	44.0	81	10	-4	3	652	0	.47	.23	26
Medford	42.5	79	31	-5	3	696	0	.39	.12	8
Newkirk	43.8	81	11	-3	3	657	0	1.01	.46	15
Red Rock	45.1	83	31	-2	3	620	2	1.25	.65	15
Seiling	44.3	80	10	-2	3	642	0	.29	.13	15
Woodward	45.7	81	10	-2	3	600	2	.35	.13	3
NORTHEAST										
Bixby	46.4	82	11	5	3	578	2	2.18	.97	16
Burbank	44.5	82	11	0	3	637	1	.98	.36	15
Claremore	46.5	81	11	4	3	574	0	3.51	1.08	16
Copan	44.6	83	11	1	3	631	0	1.40	.60	16
Foraker	44.1	83	31	-2	3	647	0	1.29	.35	16
Inola	45.4	80	11	3	3	609	0	2.52	.98	16
Jay	44.8	78	11	2	3	626	0	3.54	1.69	16
Miami	44.0	78	11	3	3	651	0	3.17	1.12	16
Nowata	43.9	82	11	1	3	655	0	1.69	.82	16
Pawnee	45.7	83	31	1	3	602	3	1.32	.39	15
Porter	47.1	80	11	4	3	556	1	2.81	1.01	16
Pryor	44.5	79	11	1	4	635	0	2.64	1.25	16
Skiatook	45.9	82	11	2	3	591	1	2.18	1.09	16
Tulsa	47.4	83	11	4	3	548	2	2.64	.87	16
Vinita	43.4	79	11	0	3	670	0	2.87	1.25	16
Wynona	45.6	83	11	1	3	603	3	1.19	.58	16
WEST CENTRAL										
Bessie	46.5	82	31	3	3	576	4	.77	.36	15
Butler	46.2	82	31	1	3	587	4	.59	.31	15
Camargo	44.1	80	30	-1	3	647	0	.18	.10	26
Cheyenne	46.4	79	30	1	3	577	0	.37	.22	26
Erick	46.3	82	7	4	3	581	2	.56	.20	26
Putnam	45.0	79	31	0	3	619	0	.53	.31	15
Retrop	47.0	84	31	4	3	563	5	.68	.31	15
Watonga	45.0	80	31	1	3	619	0	.80	.39	15
Weatherford	45.1	80	31	2	3	618	1	.69	.31	15
CENTRAL										
Acme	47.7	84	31	5	3	544	7	1.65	.83	15
Bowlegs	47.6	81	11	5	3	542	2	2.44	1.10	15
Bristow	46.1	83	11	3	3	591	4	2.61	.96	16
Lake Carl Blac	45.0	83	31	1	3	622	2	1.24	.41	15
Chandler	47.3	83	11	3	3	555	5	2.13	.74	15
Chickasha	46.5	85	31	6	3	582	9	1.42	.79	15
El Reno	45.1	84	31	1	3	620	4	1.29	.45	15
Guthrie	46.6	83	31	2	3	575	5	1.32	.32	5
Kingfisher	45.2	83	31	2	3	617	4	1.62	1.01	15
Marena	46.2	84	31	1	3	587	5	1.12	.41	15
Minco	46.1	83	31	3	3	591	5	1.89	.83	15
Marshall	44.6	83	31	-2	3	635	3	.99	.45	15
Ninnekah	47.4	84	31	5	3	555	8	1.62	.95	15
Norman	47.7	83	31	5	3	542	7	2.05	1.10	15
Oilton	45.4	83	11	1	3	609	1	2.22	.72	16
OKC East	47.4	84	31	4	3	552	7	1.89	.71	15
OKC North	47.7	83	31	4	3	543	7	1.50	.40	15
OKC West	47.7	83	31	5	3	544	7	1.51	.42	15
Okemah	47.2	80	11	5	3	552	1	2.19	.89	15
Perkins	46.5	83	31	2	3	577	5	1.11	.29	15
Shawnee	47.2	81	11	3	3	556	3	2.20	.74	15
Spencer	47.5	83	31	3	3	550	6	1.73	.41	15
Stillwater	45.5	83	31	2	3	606	2	1.21	.45	15
Washington	47.7	84	31	6	3	543	7	1.84	.88	15
EAST CENTRAL										
Cookson	46.5	77	11	4	3	574	0	4.23	1.25	16
Eufaula	48.0	80	11	6	3	528	0	2.82	1.75	15
Haskell	46.3	80	11	5	3	580	1	2.66	.89	15
Hectorville	47.7	82	11	4	3	541	3	2.33	.91	16
Holdenville	48.0	81	11	5	3	529	1	2.47	1.35	15
McAlester	48.1	80	11	7	3	523	1	4.37	2.85	15
Okmulgee	46.9	82	11	5	3	564	2	2.78	.81	15
Sallisaw	47.6	80	11	8	3	540	0	3.24	1.54	15
Stigler	47.3	79	11	7	3	550	0	3.40	1.79	15
Stuart	48.5	80	11	6	3	511	0	4.14	3.22	15
Tahlequah	45.9	78	11	4	3	592	0	3.26	1.20	15
Webbers Falls	47.5	80	11	8	3	543	0	3.38	1.43	15
Westville	45.6	76	11	4	3	603	0	3.36	.93	16
SOUTHWEST										
Altus	48.1	88	31	8	3	535	10	.55	.22	15
Apache	46.7	84	31	4	3	574	6	1.45	.77	15
Fort Cobb	46.5	83	31	5	3	581	7	1.76	1.00	15
Grandfield	49.2	88	31	8	3	502	12	1.19	.50	15
Hinton	45.1	80	31	2	3	618	2	1.14	.48	15
Hobart	46.4	84	31	5	3	581	3	.94	.54	15
Hollis	47.7	86	31	6	3	541	6	.47	.17	26
Mangum	46.9	86	31	6	3	568	7	.71	.35	15
Medicine Park	*****	***	***	***	***	****	****	1.28	.72	15
Tipton	48.6	88	31	8	3	520	12	.85	.37	26
Walters	49.2	86	31	7	3	503	12	1.35	.82	15
SOUTH CENTRAL										
Ada	48.6	82	11	6	3	513	3	3.83	2.92	15
Ardmore	50.4	83	11	9	3	460	7	2.57	2.00	15
Burneyville	50.4	84	11	10	3	464	10	2.03	1.64	15
Byars	48.3	81	11	5	3	521	3	2.47	1.22	15
Centrahoma	48.4	80	11	7	3	514	1	4.06	3.11	15
Durant	50.4	79	21	10	3	454	1	2.37	1.59	15
Fittstown	48.1	80	11	6	3	524	1	2.29	1.55	15
Ketchum Ranch	49.0	85	31	6	3	505	9	1.98	1.32	15
Lane	48.7	79	11	9	3	504	0	2.46	1.52	15
Madill	50.0	82	11	10	3	470	6	1.57	1.06	15
Newport	50.3	84	11	8	3	465	9	1.86	1.24	15
Pauls Valley	*****	***	***	***	***	****	****	2.63	1.48	15
Ringling	49.7	83	11	8	3	483	8	3.11	2.58	15
Sulphur	48.2	82	11	6	3	525	3	3.02	2.33	15
Tishomingo	48.9	81	11	8	3	501	2	2.31	1.50	15
Waurika	49.8	88	31	7	3	484	12	2.71	2.28	15
SOUTHEAST										
Antlers	48.3	79	11	10	3	517	0	3.76	1.43	15
Broken Bow	48.7	79	21	16	3	504	0	3.71	1.69	2
Clayton	48.3	78	21	9	3	519	0	3.53	1.74	15
Cloudy	48.6	77	21	10	3	508	0	3.41	1.36	15
Hugo	50.3	79	11	11	3	457	0	2.33	1.31	15
Idabel	50.0	78	21	15	3	464	0	2.86	1.47	2
Mt Herman	48.7	77	21	11	3	505	0	5.98	3.25	22
Talihina	47.7	78	11	9	3	536	0	3.95	1.82	15
Wilburton	48.0	78	11	7	3	528	0	5.27	3.96	15
Wister	46.5	79	11	10	3	573	0	4.22	2.19	15

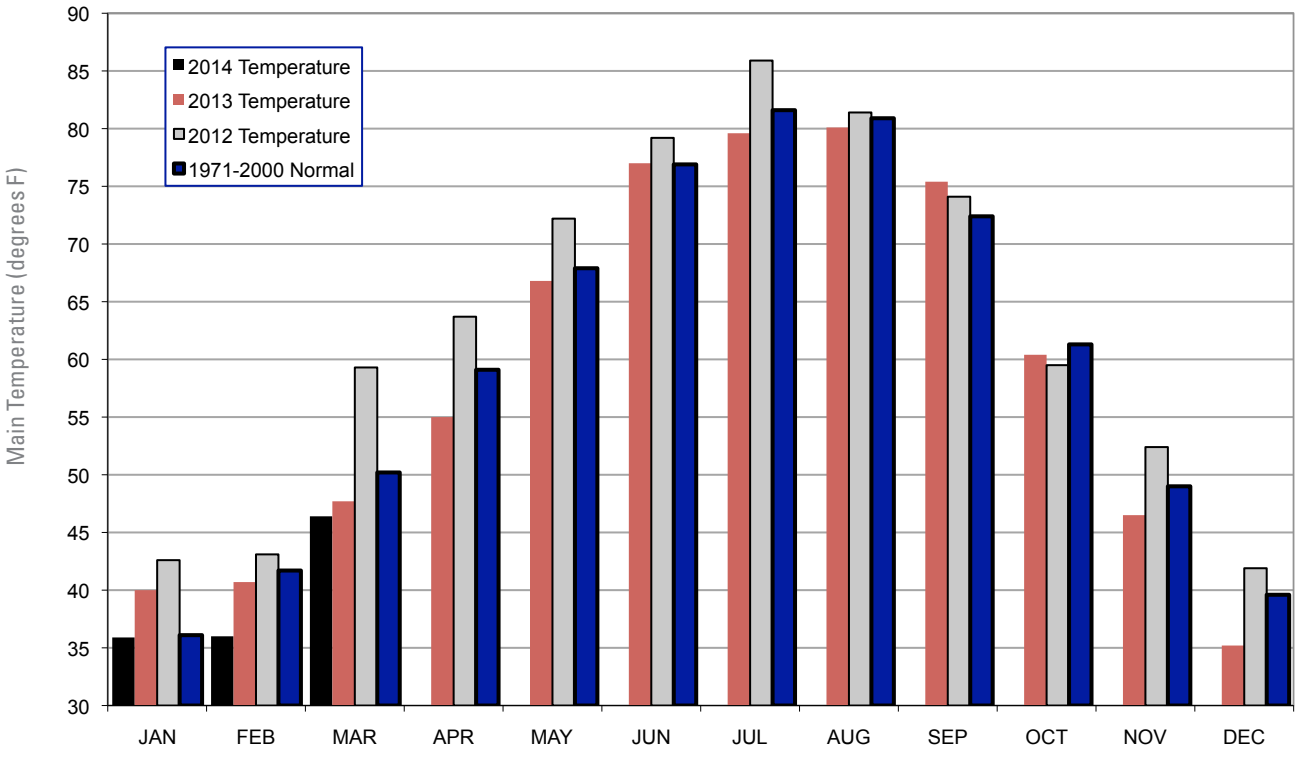
2012, 2013 AND 2014 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



March 2014 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Mar-13
Panhandle	0.21	-1.42	19th Driest	5.66 (1973)	0.01 (1936)	0.57
North Central	0.61	-2.07	22nd Driest	8.27 (1973)	0.00 (1936)	1.07
Northeast	2.25	-1.42	49th Driest	9.33 (1973)	0.33 (1971)	1.78
West Central	0.57	-1.83	28th Driest	6.76 (1973)	0.00 (1971)	0.64
Central	1.70	-1.54	40th Driest	7.45 (1990)	0.10 (1971)	1.00
East Central	3.26	-0.83	56th Wettest	10.02 (1945)	0.52 (1941)	3.05
Southwest	1.04	-1.22	39th Driest	5.61 (1973)	0.00 (1940)	0.41
South Central	2.58	-0.97	56th Driest	8.15 (1945)	0.28 (1950)	1.81
Southeast	3.92	-0.56	59th Driest	12.50 (1945)	0.96 (2011)	4.42
Statewide	1.78	-1.33	38th Driest	7.43 (1973)	0.39 (1971)	1.59

2012, 2013 AND 2014 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



March 2014 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Mar-13 (F)
Panhandle	44.1	-2.2	46th Coolest	55.4 (2012)	34.1 (1958)	45.4
North Central	44.1	-4.1	28th Coolest	58.5 (2012)	36.0 (1915)	44.9
Northeast	45.2	-4.4	26th Coolest	59.7 (2012)	36.9 (1960)	45.3
West Central	45.8	-3.1	30th Coolest	58.3 (1907)	37.2 (1915)	46.9
Central	46.6	-3.9	22nd Coolest	60.7 (2012)	38.6 (1915)	48.2
East Central	47.2	-4.3	24th Coolest	61.2 (2012)	39.8 (1915)	47.6
Southwest	47.5	-4.0	19th Coolest	61.4 (1907)	40.6 (1915)	50.6
South Central	49.3	-3.7	23rd Coolest	62.1 (1907)	41.6 (1915)	50.5
Southeast	48.5	-4.3	25th Coolest	62.0 (1907)	40.3 (1915)	48.3
Statewide	46.4	-3.8	23rd Coolest	59.6 (2012)	38.5 (1915)	47.5

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Daily Low Temperature	3	Tulsa	7	7	1943
Daily Low Temperature	3	Bartlesville	1	3	2002
Daily Low Temperature	4	Bartlesville	0	0	2002

MESONET EXTREMES FOR MARCH 2014

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	85	30th	Beaver	-7	3rd	Buffalo	0.31	Arnett	0.24	4th	Beaver
North Central	83	31st	Red Rock	-6	3rd	Alva	1.25	Red Rock	0.66	15th	Blackwell
Northeast	83	31st	Pawnee	-2	3rd	Foraker	3.54	Jay	1.69	16th	Jay
West Central	84	31st	Retrop	-1	3rd	Camargo	0.80	Watonga	0.39	15th	Watonga
Central	85	31st	Chickasha	-2	3rd	Marshall	2.61	Bristow	1.10	15th	Norman
East Central	82	11th	Hectorville	4	3rd	Westville	4.37	McAlester	3.22	15th	Stuart
Southwest	88	31st	Tipton	2	3rd	Hinton	1.76	Fort Cobb	1.00	15th	Fort Cobb
South Central	88	31st	Waurika	5	3rd	Byars	4.06	Centrahoma	3.11	15th	Centrahoma
Southeast	79	11th	Antlers	7	3rd	Wilburton	5.98	Mt Herman	3.96	15th	Wilburton
Statewide	88	31st	Waurika	-7	3rd	Buffalo	5.98	Mt Herman	3.96	15th	Wilburton

APRIL OUTLOOK

April is the first full month of spring- the season of newly green trees and grass, redbud trees in bloom, and wildflowers aplenty. Baseball, romance, and pollen permeate the air, creating the dizzying mixture of joy and misery that marks the season. Most of April features exceedingly pleasant weather, much like that on April 22, 1889. According to the weather report submitted by the observer at Fort Reno, the day of the first great land run featured a high temperature of 80 degrees Fahrenheit, sandwiched between overnight lows of 46 and 54 degrees. Winds were northeasterly and light. Clouds were few.

April is the state's 5th wettest and 7th warmest month, establishing it clearly as part of the spring transition season. The statewide-averaged normal precipitation, based on the 30-year record compiled from 1971 through 2000, is 3.32 inches. The average monthly temperature, compiled from observations over the same period, is 59.8 degrees.

Temperature

Mean	59.8 degrees
Warmest Location	63.9 degrees, Waurika
Coolest Location	54.0 degrees, Boise City
Warmest April	1954, 65.4 degrees
Coolest April	1983, 54.0 degrees
Hottest Recorded	106 degrees, Mangum, April 12, 1972
Coldest Recorded	7 degrees, Hooker, April 4, 1979

Precipitation generally increases from southeast to northwest. Monthly normal precipitation for individual stations ranges from 1.36 inches at Oklahoma's driest observing station, Regnier (in the northwestern panhandle), to 5.19 inches at Daisy, on the western edge of southeastern Oklahoma's Ouachita Mountains. A statewide–averaged precipitation of 8.50 inches rates 1942 as the wettest April in the state's annals. The driest April, statewide, was in 1989 when the state's reporting stations received an average of just 0.58 inch for the month. The greatest April precipitation at any reporting station was 17.78 inches recorded at Okemah in 1945. Snowfall is rare in April, except in the panhandle. Boise City averages 2.5 inches of snow during April. Goodwell reported 17 inches of snow during April 1988, and Fargo received 14 inches during that month in 1973.

Normal monthly temperatures decrease from south to north. Waurika is the state's warmest location during April with a normal temperature of 63.9 degrees. Boise City ranks as the coolest site with a monthly average temperature of 54 degrees. Normal daily maximum temperatures range from 77 degrees at Waurika to 67.8 degrees at Newkirk. Normal daily minimum temperatures range from Waurika's 50.7 degrees to Boise City's 37.3. Temperatures drop below the freezing mark an average of nearly 8 times during April at Kenton, but freezes are uncommon across most of the main body of the state. Except in the panhandle, any sub-freezing temperatures after mid-April would constitute a late freeze and would be harmful to plants, especially fruit or pecan trees. Southwestern Oklahoma experiences temperatures in the 90s an average of three times each April. Hot and cold do manage to creep in, however. On April 12, 1972, Mangum recorded a high temperature of 106 degrees, the highest of the 15 temperature reports of 102 degrees or more across the state that day. Conversely, Hooker's daily minimum temperature on April 4, 1979 was 7 degrees, thereby establishing the other extreme temperature for the month.

Precipitation

Mean	3.32 inches
Wettest April	1942, 8.50 inches
Driest April	1989, 0.58 inches
Wettest location	Daisy, 5.19 inches
Driest location	Regnier, 1.36 inches
Most recorded	17.78 inches, Okemah, 1945

Tornadoes

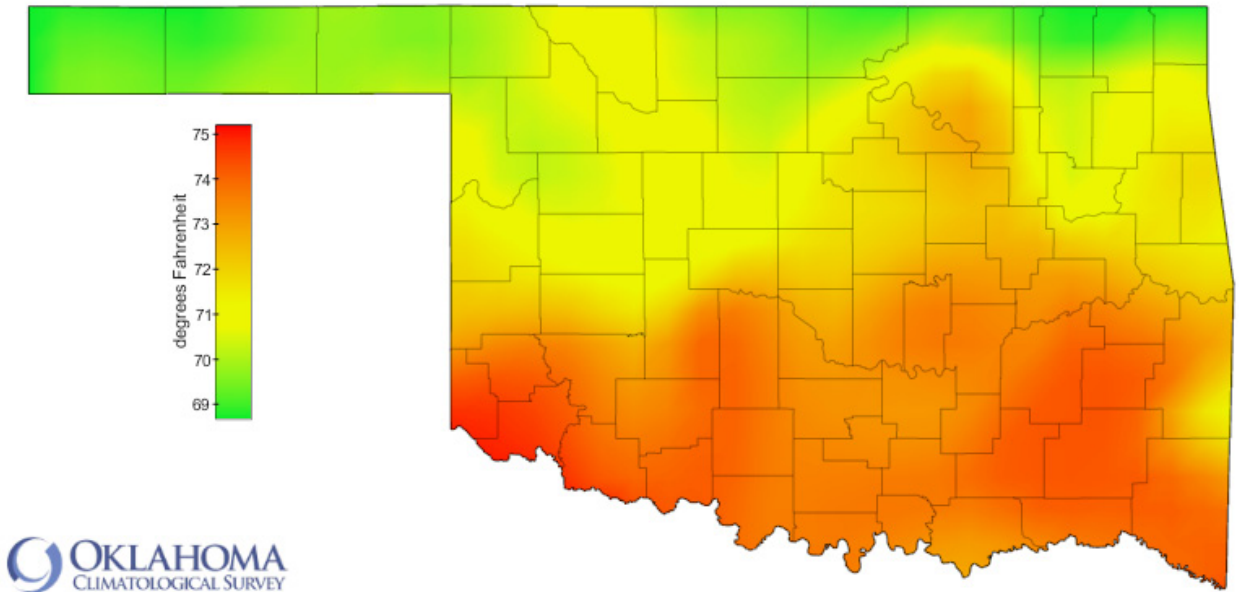
Average April Tornadoes (1950-2013)	11.7
Most	54 (2012)

Spring brings with it Oklahoma's noted severe weather season. April is Oklahoma's windiest month and ranks second among the 12 months in the number of tornadoes observed across the state. The state has averaged 11.7 tornadoes each April since 1950, a monthly average exceeded only by May. South winds prevail in most areas, although passing

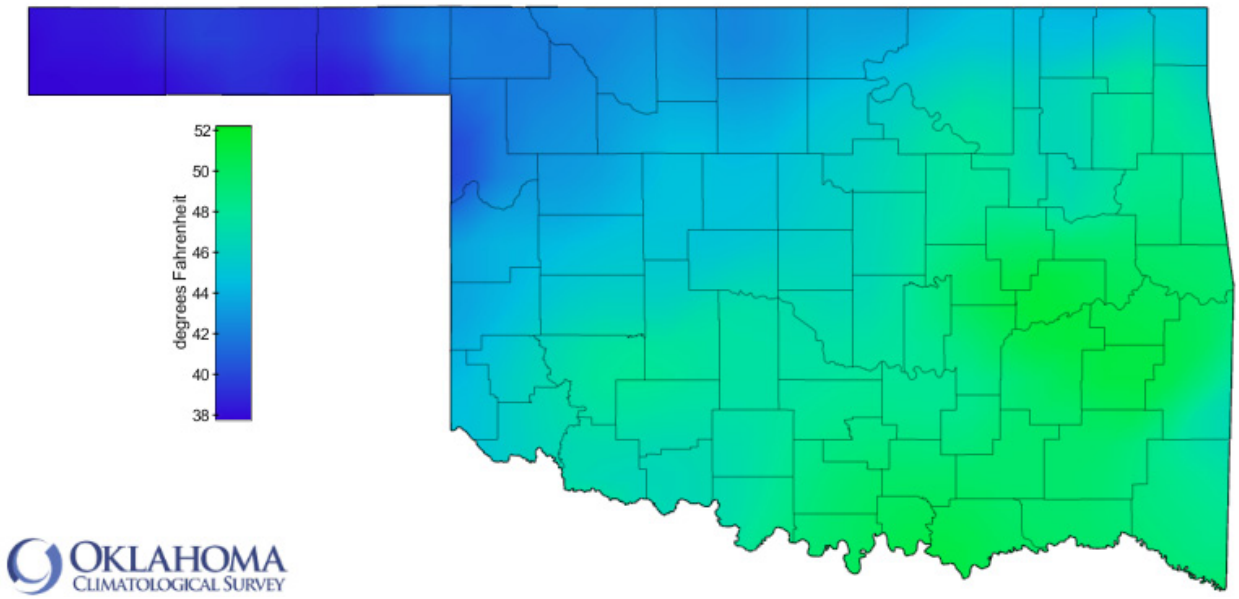
cold fronts are still capable of turning winds to northerly for a day or so at a time.

Comprehensive records of tornado occurrence are available from 1950 to the present. A total of 751 tornadoes are listed as having struck within Oklahoma during April from 1950 through 2103. Fifty-four of those tornadoes were reported in 2012, beating out 2011's 50 for the most of any April.

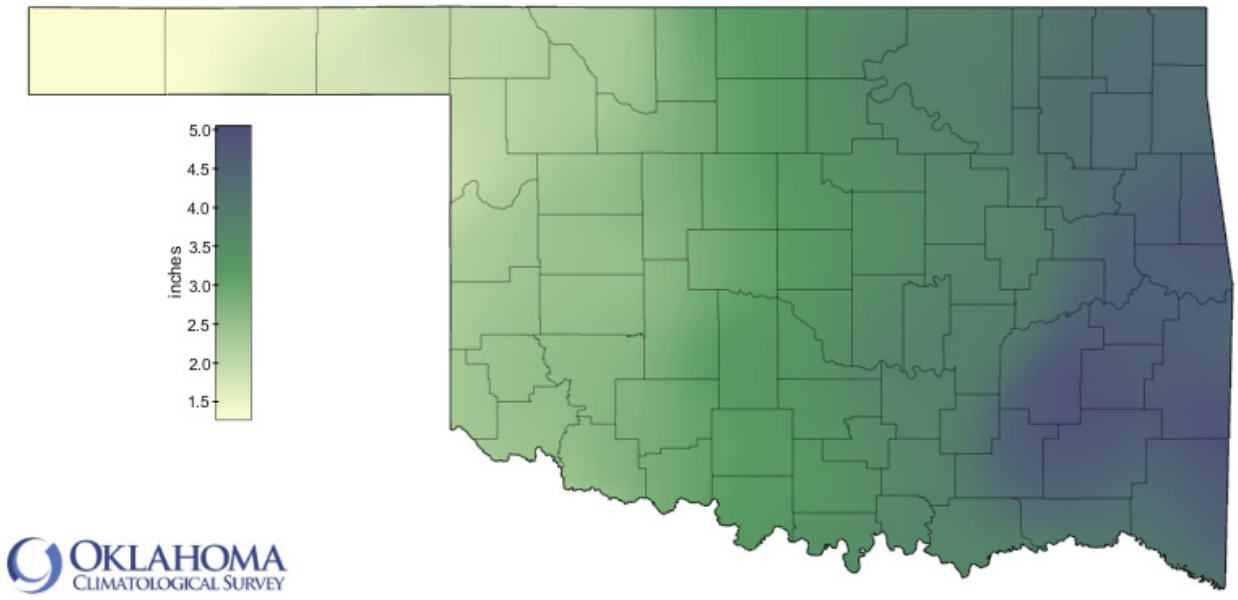
APRIL NORMAL DAILY MAXIMUM TEMPERATURE (1981-2010)



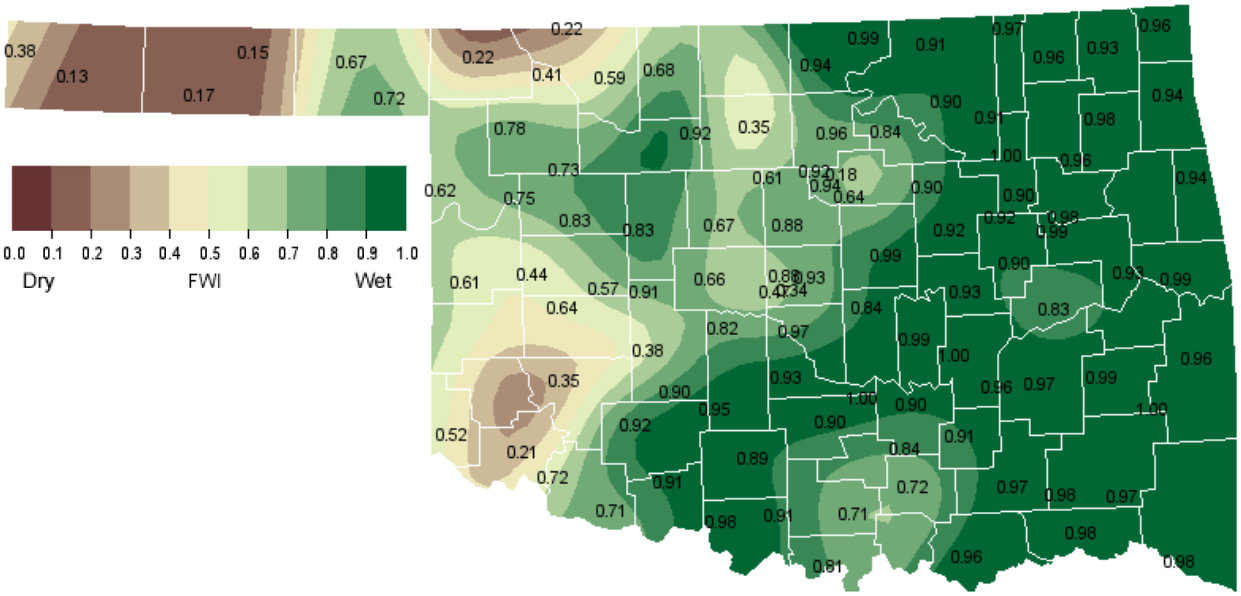
APRIL NORMAL DAILY MINIMUM TEMPERATURE (1981-2010)



APRIL NORMAL PRECIPITATION (1981-2010)

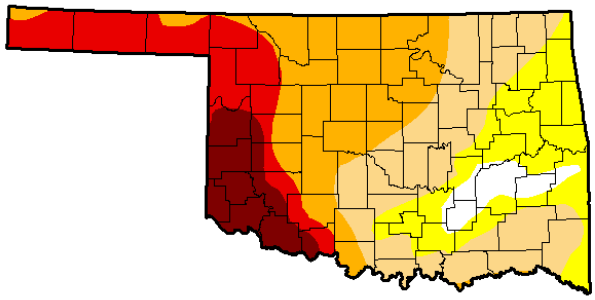


APRIL 1, 2014 SOIL MOISTURE CONDITIONS AT 25CM



APRIL 2014 DROUGHT INDICES

U.S. Drought Monitor
Oklahoma



April 1, 2014
(Released Thursday, Apr. 3, 2014)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	4.05	95.95	77.48	50.67	24.03	8.61
Last Week 3/25/2014	4.05	95.95	77.41	32.48	24.03	8.58
3 Months Ago 12/31/2013	50.84	49.16	38.17	18.99	4.84	2.40
Start of Calendar Year 12/31/2013	50.84	49.16	38.17	18.99	4.84	2.40
Start of Water Year 10/1/2013	21.74	78.26	43.00	17.62	4.42	1.45
One Year Ago 4/2/2013	0.00	100.00	99.30	80.68	52.97	9.90

Intensity:

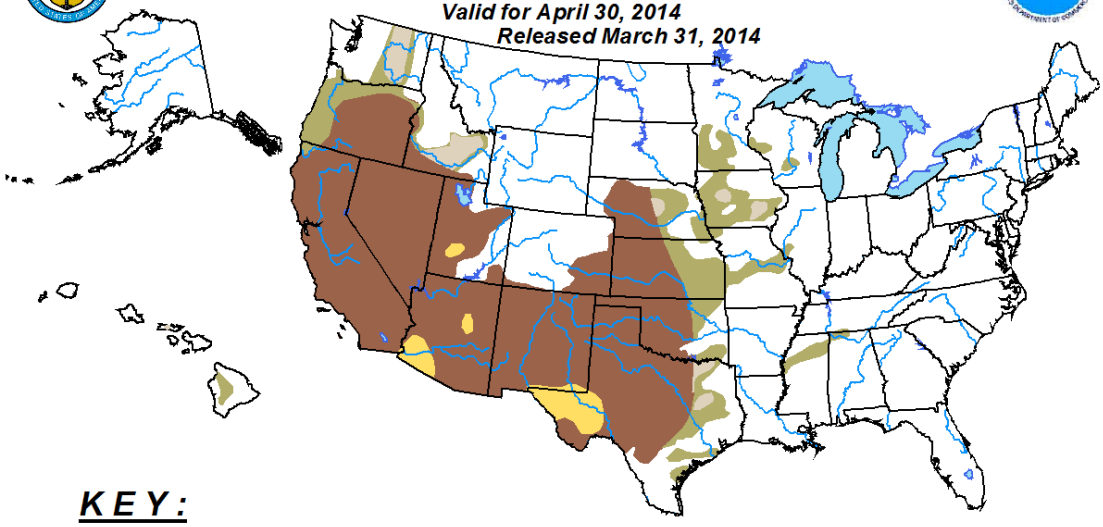
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

Author:
David Simeral
Western Regional Climate Center

http://droughtmonitor.unl.edu/

U.S. Monthly Drought Outlook
Drought Tendency During the Valid Period
Valid for April 30, 2014
Released March 31, 2014



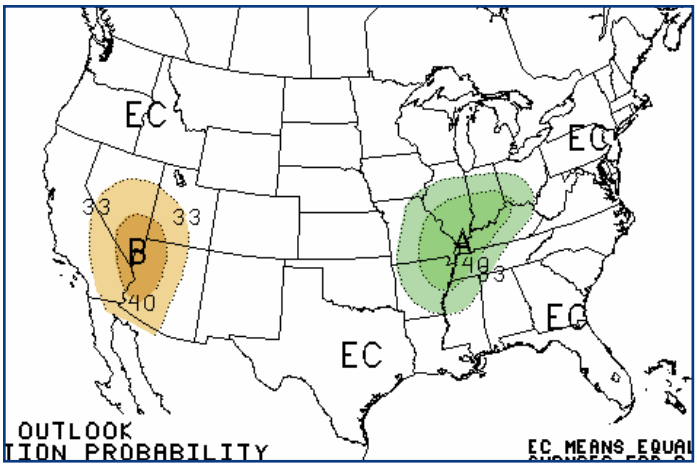
KEY:

- **Drought persists or intensifies**
- **Drought remains but improves**
- **Drought removal likely**
- **Drought development likely**

Author: Anthony Artusa, Climate Prediction Center, NOAA
http://www.cpc.ncep.noaa.gov/products/expert_assessment/mdo_summary.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor.
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain. The green areas imply drought removal by the end of the period (D0 or none)

APRIL 2014 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

- 5% - 10%
- 0% - 5%

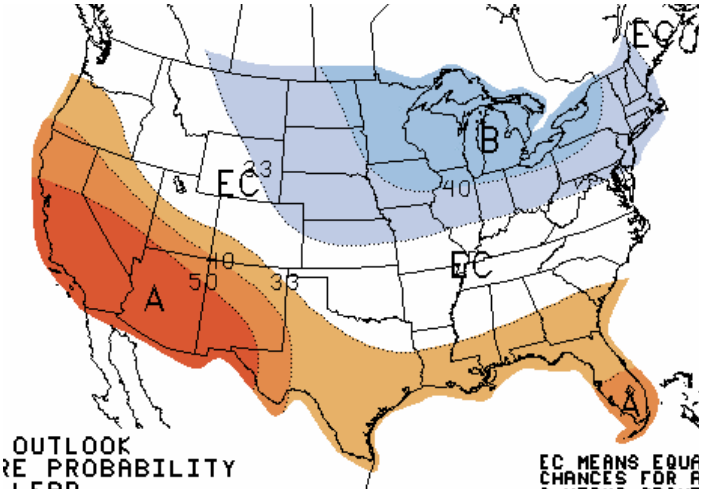
A = Above

- 0% - 5%
- 5% - 10%

B = Below

*EC indicates no forecasted anomalies due to lack of model skill.

APRIL 2014 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

- 10% - 20%
- 5% - 10%
- 0% - 5%

A = Above

- 0% - 5%
- 5% - 10%

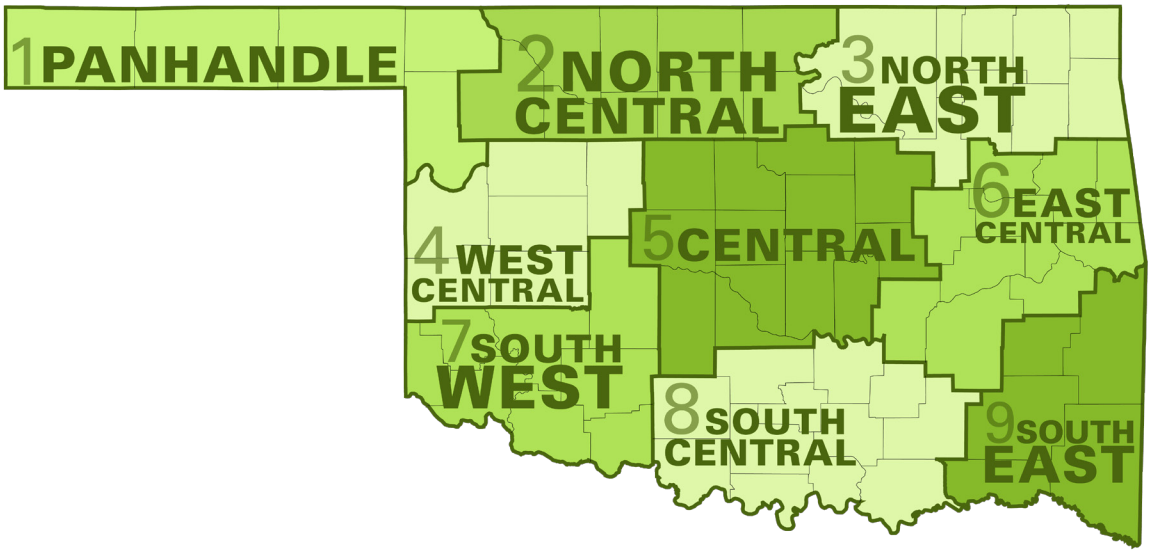
B = Below

*EC indicates no forecasted anomalies due to lack of model skill.

APRIL CLIMATE NORMALS

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	70.7	40.5	55.6	1.81
2	70.2	43.6	56.9	2.95
3	72.1	47.1	59.6	3.92
4	71.0	44.3	57.7	2.48
5	71.9	47.2	59.6	3.47
6	72.3	48.3	60.3	4.24
7	73.6	46.4	60.0	2.66
8	73.5	48.9	61.2	3.74
9	73.7	47.8	60.8	4.46
Statewide	72.1	46.2	59.2	3.41

Oklahoma Climate Divisions



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 June 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 June result in an artificially high or low value.

SEVERE WEATHER REPORTS: Only the most significant events are listed. Tornadoes of F2 or greater strength (on the 0-5 Fujita scale), hail of two inches diameter or greater, and wind speeds of 70 miles per hour or above are listed. National Weather Service defines storms as severe when they produce a tornado, hail of three-quarters inch or greater, or wind speeds above 57 miles per hour (50 knots). For additional reports, contact the Oklahoma Climatological Survey, Storm Prediction Center, or your local National Weather Service forecast office.

SOIL MOISTURE: The soil moisture variable displayed is the Fractional Water Index (FWI), measured at a depth of 25 cm. This unitless value ranges from very dry soil having a value of 0, to saturated soils having a value of 1.

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 Climatic Data Center (more than about 4-5 months old):
http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storms

SEASONAL OUTLOOKS
Climate Prediction Center:
http://www.cpc.ncep.noaa.gov/products/OUTLOOKS_index.html

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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