

December was a cold month for many Oklahomans, a dry month for most, and a memorable one for all. Normally, snow would be the big news during the first month of winter, but drought intensification, one of the more memorable cold snaps in recent memory, and one of the warmest Christmas Days on record captured the headlines this year. According to preliminary data from the Oklahoma Mesonet, the statewide average temperature was 38.4 degrees, 0.5 degrees below normal and the 50th coolest December since records began in 1895. The frigid air was a more persistent visitor to the northwestern third of the state while the southeastern third managed to keep the cold at bay for the most part.

The Panhandle fell over 2 degrees below normal for their 28th coolest December on record. On the opposite side of the state, southeastern Oklahoma was 2.2 degrees above normal to rank as their 36th warmest. The first two weeks were generally cool-to-cold, but it was the last two weeks that featured the thermometer roller coaster ride.

December 2016 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	81°F	Altus, Hollis	16
Low Temperature	-18°F	Beaver, Eva	18
High Precipitation	2.40 in.	Broken Bow	--
Low Precipitation	0.12 in.	Boise City	--

A powerful blast of arctic air entered northwestern Oklahoma on the 16th and ushered in the coldest weather experienced by the state since February 2011. Many areas saw their temperatures drop 50-70 degrees in a 24-hour period after the front's passage. Lows ranged from the single digits to below zero from the 17th through the 19th while high temperatures struggled to escape the 20s. Winds gusting to 40-60 mph combined with the frosty air to produce wind chills from near zero degrees to the minus 30s on the 18th. The Mesonet sites at Eva and Hooker recorded lows of minus 18 degrees on the 18th and wind chills of minus 36 degrees and minus 35 degrees, respectively. All are the lowest such readings in the state since Feb. 10, 2011. Temperatures quickly moderated into the 50s and 60s following the arctic intrusion and remained that way through the rest of the month. The warmth culminated on Christmas Day with widespread 60s

and 70s. Oklahoma City went from a record low of 4 degrees on the 18th to its highest temperature of the month, 73 degrees, on the 25th. That mark also tied their record high for Christmas Day, first set back in 1922. Similarly, Tulsa rose from a record low of 3 degrees on the 18th to its monthly high of 71 degrees on the 25th. The month's highest temperature, 81 degrees, was recorded at Altus and Hollis on the 16th. The statewide average for 2016 was 62.3 degrees, 2.4 degrees above normal and the third warmest year on record for the state. Oklahoma's warmest year came in 2012 at 63.2 degrees. The year's highest temperature of 108 degrees was recorded at Goodwell on July 11, although Bixby recorded a humidity-aided heat index of 118 degrees on June 15.

December 2016 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2016)
Month (Dec)	38.4°F	-0.5°F	50th Coolest
Year-to-Date (Jan-Dec)	62.3°F	2.4°F	3rd Warmest

Precipitation

	Total	Depart.	Rank (1895-2016)
Month (Dec)	0.82 in.	-1.24 in.	26th Driest
Year-to-Date (Jan-Dec)	31.36 in.	-5.14 in.	44th Driest

Depart. = departure from 30-year normal

Not only was Christmas Day warm, it was also the wettest day of a very dry month. A narrow band of strong-to-severe thunderstorms formed in western Oklahoma and marched across the state on the 25th, producing wind gusts to nearly 70 mph and brief heavy downpours. Amounts were light, generally less than a quarter-inch, although several stations managed to receive more than half an inch. Those totals did little to alleviate the month's deficit, however. According to the Mesonet, the statewide average was 0.82 inches, 1.24 inches below normal to rank as the 26th driest December on record. Broken Bow led all 121 Mesonet sites with 2.4 inches. Boise City came in with 0.12 inches for the lowest total. Eighty-eight Mesonet sites recorded less than an inch of moisture during December. The year finished as the 44th driest on record with an average statewide deficit of 5.14 inches, and an average total of 31.36 inches. The fortunes

varied across the state, however. Southwestern Oklahoma, which bore the brunt of the 2010-15 drought, finished with an average of 32.91 inches, more than 2.5 inches above normal and the 28th wettest year for that region. East central Oklahoma had the worst outcome with an average of 34.5 inches, 11.64 inches below normal and a rank of 20th driest. Hooker had the driest 2016 with a total of 15.1 inches. Mt. Herman led the state with 61.7 inches.

Drought continued to intensify throughout December. Oklahoma Mesonet personnel received reports of failed crops and pastures, dry stock ponds and flagging state reservoirs. According to the U.S. Drought Monitor, the hazard increased from 57 percent of the state at the end of November to 72 percent at the end of December. Severe-to-extreme drought increased from 18 percent to 46 percent. The Drought Monitor's intensity scale slides from moderate-severe-extreme-exceptional, with exceptional being the worst classification. Oklahoma was drought free as late as June 21, 2016.

According to preliminary numbers from the National Weather Service (NWS), Oklahoma saw a total of 57 tornadoes during 2016, one more than the 1950-2015 average of 55.8. All but one of those tornadoes occurred during the primary severe weather season of March-May. The other twister touched down near Stillwater on July 3. Two people were killed and 13 injured due to tornadoes according to NWS reports. The strongest tornado was an EF4 that touched down on May 9 near the town of Katie in Garvin County, killing one. The other fatality occurred with an EF3 twister southeast of Connerville in Johnston County.

DECEMBER 2016 DAILY SUMMARIES

DECEMBER 1-2: A shift in northerly to southerly winds occurred in northwest Oklahoma and where winds blew from the south, temperatures were 5-10 degrees above normal. Maximum temperatures ranged from 44 degrees in Kenton to 66 degrees in Waurika on the 1st and 44 degrees in Kenton again to 67 degrees in Wister on the 2nd. The highest minimum temperature recorded in the state was 37 degrees in Byars on the 1st and 44 degrees in Burneyville the following day. Kenton had the coolest temperature both days, measuring 9 degrees and 14 degrees on the 1st and 2nd, respectively. Generally less than half an inch of rain fell in the southwest half of the state on the 2nd with Erick measuring the highest amount of precipitation at .56 inches. Daily average wind speeds were less than 13 mph.

DECEMBER 3-4: Rainfall spread throughout the state and temperatures decreased. The highest temperature each day was 56 degrees, but occurred first in far northeast Oklahoma on the 3rd (Miami) and then in western Oklahoma on the 4th (Mangum, Alva, Butler, and Hollis). The lowest maximum temperature increased from 37 degrees in the panhandle on

the 3rd to 46 degrees in Westville on the 4th. The highest minimum temperatures were in the low-mid 40s in the southeast and the lowest minimum temperature occurred yet again in Kenton, measuring 18 degrees on the 3rd and 11 degrees the next day. Precipitation was slightly heavier than the previous day with the top three rainfall amounts measuring .84 inches in Idabel, .78 inches in Broken Bow, and .75 inches in Hugo on the 3rd. By the 4th, rainfall intensity decreased and accumulations were less than two-tenths of an inch. Daily average wind speeds were less than 11 mph.

DECEMBER 5-8: Leading up to a cold front on the 6th and a second cold front on the 7th, temperatures were warm and areas were blanketed in fog. The highest maximum temperatures decreased each day from 69 degrees in Boise City on the 1st, to 54 degrees in Broken Bow on the 6th, 51 degrees in Ringling on the 7th, and 39 degrees in Broken Bow, Idabel, and Antlers on the 8th. The coolest maximum temperatures decreased from 46 degrees to 22 degrees during this four day stretch. The highest minimum temperatures fell from the low-mid 40s to the upper 20s. The lowest minimum temperatures occurred in the panhandle and plummeted from 20 degrees to a brutal -2 degrees. Light rain fell on the 5th in southeast Oklahoma (less than half an inch) before teetering out to just trace amounts on the 6th and 7th. The 8th was rain-free. Wind speeds were a little breezier, averaging less than 17 mph on the 5th and 6th, less than 15 mph on the 7th, and less than 16 mph on the 8th. Wind speed gusts were in the 40s from the 5th through the 6th and in the 30s the following two days.

DECEMBER 9-10: Temperatures varied greatly with some areas unable to get above freezing and others measuring in the 70s. Specifically, maximum temperatures ranged from 29 degrees in Foraker and Newkirk to 51 degrees in Kenton on the 9th. On the 10th, maximum temperatures were between 43 degrees in Westville and Newkirk and 72 degrees in Boise City and Kenton. The highest minimum temperatures increased from the upper 20s to the upper 30s and the lowest minimum temperature each day was 7 degrees in Bristow and Oilton on the 9th and 15 degrees in Hooker on the 10th. Wind speeds increased, averaging 2-14 mph on the 9th and 5-24 mph on the 10th. The highest wind gust during this time was 47 mph in Cheyenne on the 10th.

DECEMBER 11-14: Southerly winds caused some locations to warm just before another cold front entered northwest Oklahoma. During this period, the warmest reported temperatures in the state plummeted from 73 degrees in Newport and Burneyville on the 11th to 51 degrees in Burneyville on the 14th. The coolest maximum temperatures observed decreased from the mid-40s to the upper 20s. The warmest minimum temperatures were in the 40s and the coolest minimum temperatures were 17 degrees in Eva on the 11th, 12 degrees in Kenton on the 12th, 11 degrees in Kenton and Eva on the 13th, and 9 degrees in Buffalo on the 14th. Although very light rain fell in the southeast on the 11th, rainfall was negligible the following three days. The highest average

wind speeds were 22 mph, 9 mph, 18 mph, and 13 mph each consecutive day with the highest gust measuring 54 mph in Watonga on the 11th.

DECEMBER 15-16: Temperatures increased as a warm front passed through on the 16th. Maximum temperatures were between 33 degrees in west-central and north-central Oklahoma and 63 degrees in Kenton on the 15th. On the 16th, maximum temperatures were between 50 degrees in Broken Bow and 81 degrees in Hollis and Altus. The highest minimum temperatures were in the upper 30s and low 40s and the lowest minimum temperature was 8 degrees in Eva on the 15th and 22 degrees in Boise City and Kenton on the 16th. Less than a tenth of an inch of rain fell in southern, central, and north-central Oklahoma. Brisk winds accompanied the warm front. The highest daily average wind speed was 14 mph on the 15th in Boise City and the highest daily average wind speed was 25 mph in Cheyenne on the 16th. The top three wind gusts all occurred on the 16th, measuring 66 mph in Boise City, 60 mph in Kenton, and 54 mph in Goodwell.

DECEMBER 17-18: As an arctic cold front entered the state, a number of daily temperature records were broken, as well as a daily snowfall record. The highest maximum temperature in the state drastically fell from 78 degrees in Idabel on the 17th to 33 degrees in Broken Bow on the 18th. The lowest maximum temperatures were much cooler as well, measuring 24 degrees in parts of the panhandle on the 17th and 15 degrees in parts of northeast Oklahoma on the 18th. The highest minimum temperatures observed were 25 degrees on the 17th and 18 degrees the next day in the southeast. The coolest daily temperatures during the entire month were measured in Eva on the 17th and 18th. Eva got as cool as -14 degrees and -18 degrees on the 17th and 18th, respectively. On the 17th, Oklahoma City tied its daily snowfall record from 1909 with .4 inches. The next day, Oklahoma City also tied its daily lowest minimum temperature record of 4 degrees. Tulsa broke its daily lowest minimum and maximum temperature record on the 18th with a low of 3 degrees and a high of 20 degrees. McAlester also broke its daily lowest maximum temperature record on the 18th with a high of 24 degrees. Snow fell as the front moved through and, coupled with high winds, decreased visibility for travelers. Snowfall amounts were less than two inches in the panhandle and northwest Oklahoma and less than half an inch in the east. Daily average wind speeds were less than 28 mph on the 17th and less than 13 mph on the 18th. A couple wind gusts in the 50s were measured at Medicine Park and Minco on the 17th.

DECEMBER 19-20: Skies cleared and temperatures rebounded. The highest daily maximum temperature increased from 48 degrees in Kenton on the 19th to 63 degrees in Waurika on the 20th. The lowest daily maximum temperature increased from 31 degrees in Miami and Vinita to 45 degrees in Alva. The highest daily minimum temperature increased from 12 degrees in Grandfield to 28 degrees at the Oklahoma City North Mesonet site. The coolest temperature in the state was

-10 degrees in Eva on the 19th and 11 degrees in Wister on the 20th. On the 19th, McAlester broke its daily lowest minimum temperature record with a low of 6 degrees. Wind speeds decreased as well with the highest average wind speed measuring 17 mph in Cheyenne on the 19th and 12 mph in Watonga on the 20th.

DECEMBER 21-22: Another cold front moved through the area on the afternoon of the 21st. That day, highs were between 47 degrees in Copan and 70 degrees in Ringling. On the 22nd, highs were between 33 degrees in Boise City and 62 degrees in Broken Bow and Valliant. Minimum temperatures ranged from 16 degrees in Kenton to 39 degrees in Hugo. Less than a tenth of an inch of rain and isolated sleet fell in the panhandle and northwest Oklahoma on the 22nd. Daily average wind speeds were less than 14 mph.

DECEMBER 23-24: A weak cold front entered the state from the northwest. The highest temperature each day was 67 degrees in northwest Oklahoma and the panhandle. The lowest maximum temperature was 44 degrees in Sallisaw on the 23rd and 52 degrees in Foraker on the 24th. The highest daily minimum temperature increased from 40 degrees to 47 degrees while the lowest daily minimum temperature decreased from 24 degrees to 19 degrees. Eva measured the coolest temperature both days. Dense fog formed in central and southern Oklahoma, reducing visibility to less than half a mile in some locations. Light rain fell throughout the state with the hardest hit areas being eastern Oklahoma on the 23rd and southeast Oklahoma on the 24th. The highest rainfall amount each day was .44 inches in Westville and .84 inches in Idabel on the 23rd and 24th, respectively. Daily average wind speeds were less than 17 mph on the 23rd and less than 13 mph on Christmas Eve.

DECEMBER 25: Christmas Day experienced a passing warm front, rain showers, and high winds. Maximum temperatures were unseasonably warm, ranging between 52 degrees in Kenton and 78 degrees in Waurika. Minimum temperatures were between 29 degrees in Kenton and Boise City and 66 degrees in Clayton. Eastern Oklahoma received the most rainfall with the top three rainfall amounts in the state measuring 1.06 inches in Webbers Falls, 1.00 inch in Cookson, and .68 inches in Vinita. Average wind speeds were 7-29 mph, however, the top three wind gusts that day were 69 mph in Bessie, 67 mph in Goodwell, and 64 mph in Boise City, Kenton, and Hooker.

DECEMBER 26-27: Before another cold front entered the region, temperatures started off above normal. The warmest daily temperature recorded in Oklahoma decreased from 77 degrees in Broken Bow and Idabel on the 26th to 68 degrees in Durant, Hugo, and Valliant on the 27th. The coolest maximum temperature increased from 41 degrees in Eva to 51 degrees in Cherokee and Lahoma the following day. The highest minimum temperature occurred in Idabel both days, decreasing from 53 degrees to 47 degrees. Similarly, the lowest minimum temperature was measured in Kenton both days, decreasing

from 14 degrees to 11 degrees. Isolated showers fell in southeast Oklahoma on the 26th with the highest rainfall amount measuring .63 inches in Wilburton. Skies were rain-free on the 27th. Daily average wind speeds were less than 13 mph.

DECEMBER 28-29: Following an all too familiar trend, another weak cold front moved into the state and warmer than normal temperatures decreased. Highs ranged between 55 degrees in Kenton and 76 degrees in Burneyville on the 28th, and between 44 degrees in Boise City and Kenton and 58 degrees in Valliant and Broken Bow on the 29th. The highest daily minimum temperature occurred in Ardmore each day and decreased from 51 degrees to 39 degrees. Newport and Madill also reported a low of 39 degrees on the 29th. The lowest daily recorded minimum temperature occurred in Kenton and fell from 18 degrees to 15 degrees. On the 28th, McAlester broke its daily warmest temperature record with a maximum temperature of 75 degrees. Average wind speeds were generally less than 14 mph.

DECEMBER 30-31: The end of the year celebrated with one last cold front. Maximum temperatures were between 56 degrees in Mt. Herman and Westville and 70 degrees in Kenton on the 30th. On New Year's Eve, maximum temperatures were between 41 degrees in Boise City and 67 degrees in Idabel and Valliant. The highest daily minimum temperature increased from 35 degrees in Medicine Park to 47 degrees in Hugo and the lowest daily minimum temperature increased from 14 degrees in Bristow to 20 degrees in Eva from the 30th to the 31st. The highest daily average wind speed was 24 mph in Cheyenne on the 30th and 16 mph in Cheyenne again on the 31st. Watonga reported the highest wind gust each day at 52 mph and 42 mph on the 30th and 31st, respectively.

DECEMBER 2016 SEVERE WEATHER

Flooding

EF-Rating	County (Start/End)	Day
None		

Wind Gusts (70 mph or Greater)

EF-Rating	County (Start/End)	Day
None		

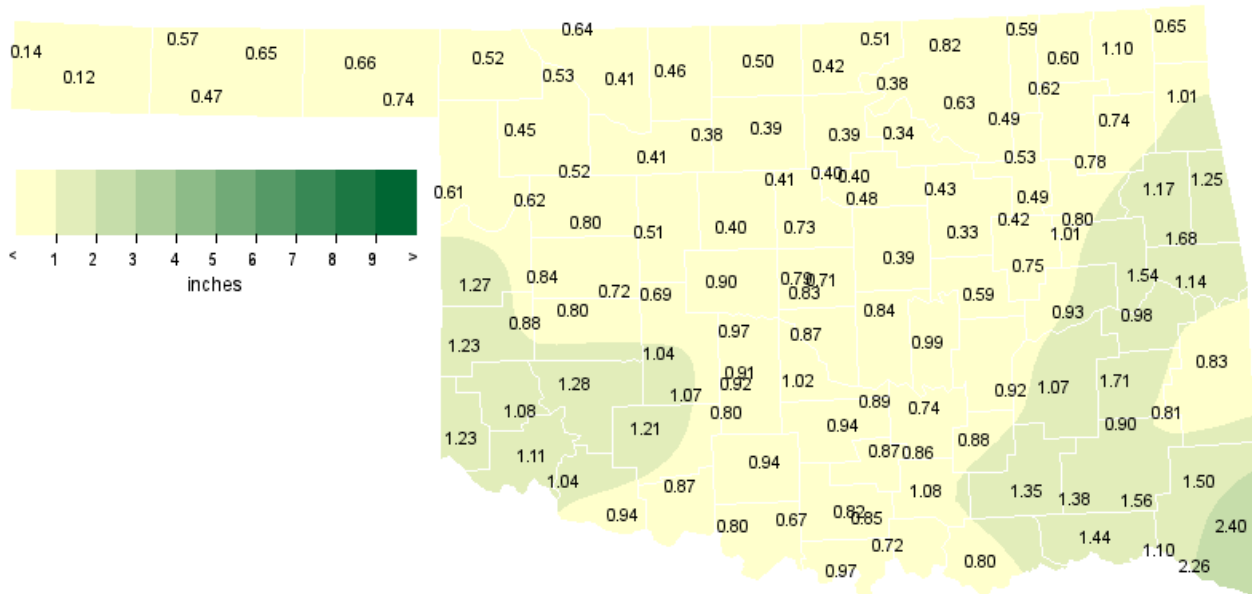
Hail (2 inches in Diameter or Greater)

EF-Rating	County (Start/End)	Day
None		

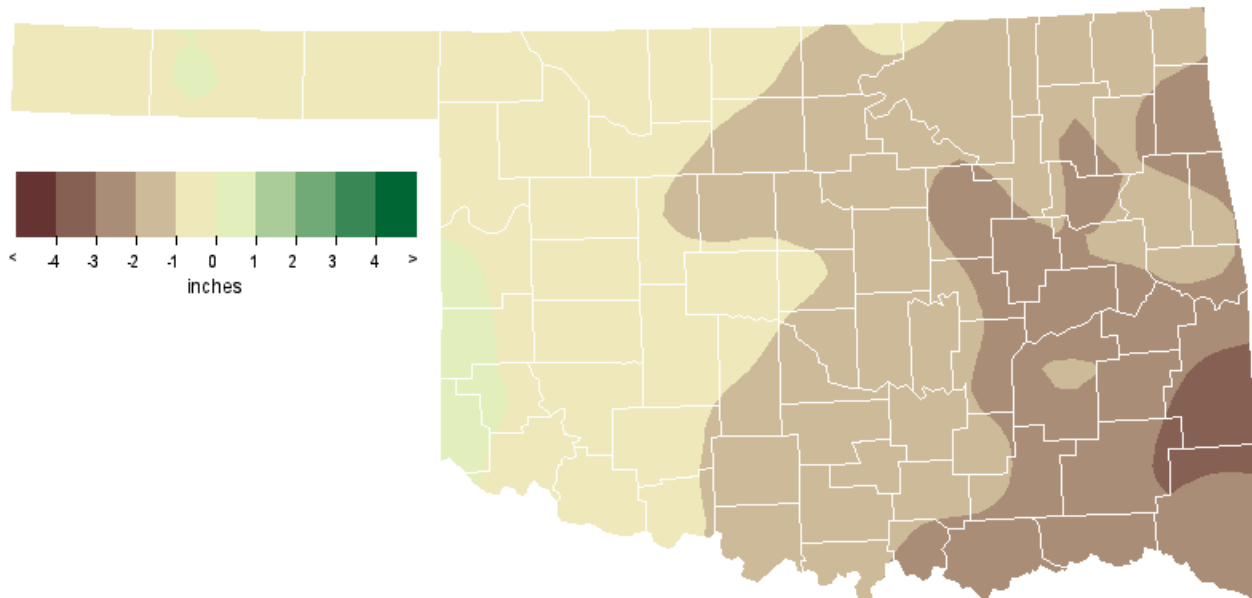
Significant Tornadoes (EF2 or Greater)

EF-Rating	County (Start/End)	Day
None		

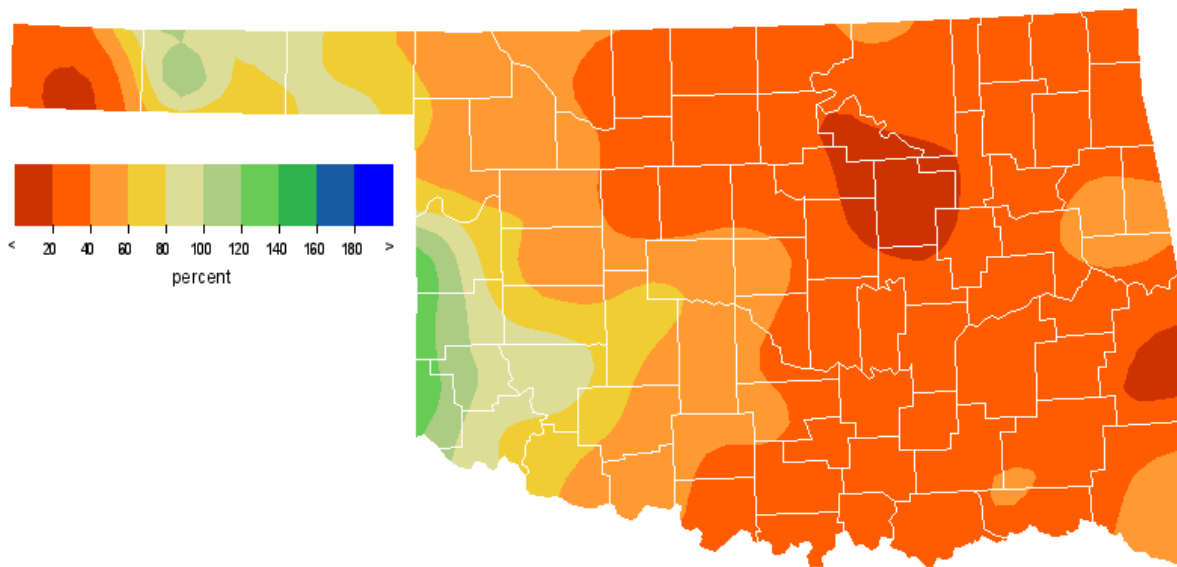
DECEMBER 2016 OBSERVED PRECIPITATION



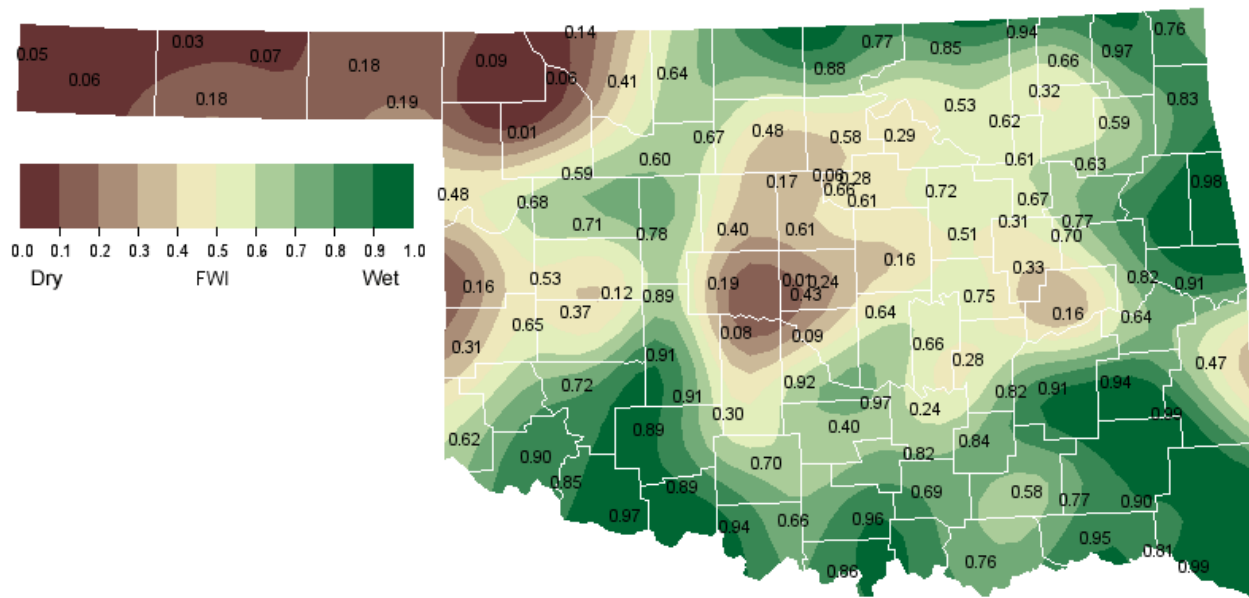
DECEMBER 2016 DEPARTURE FROM NORMAL PRECIPITATION



DECEMBER 2016 PERCENT OF NORMAL PRECIPITATION



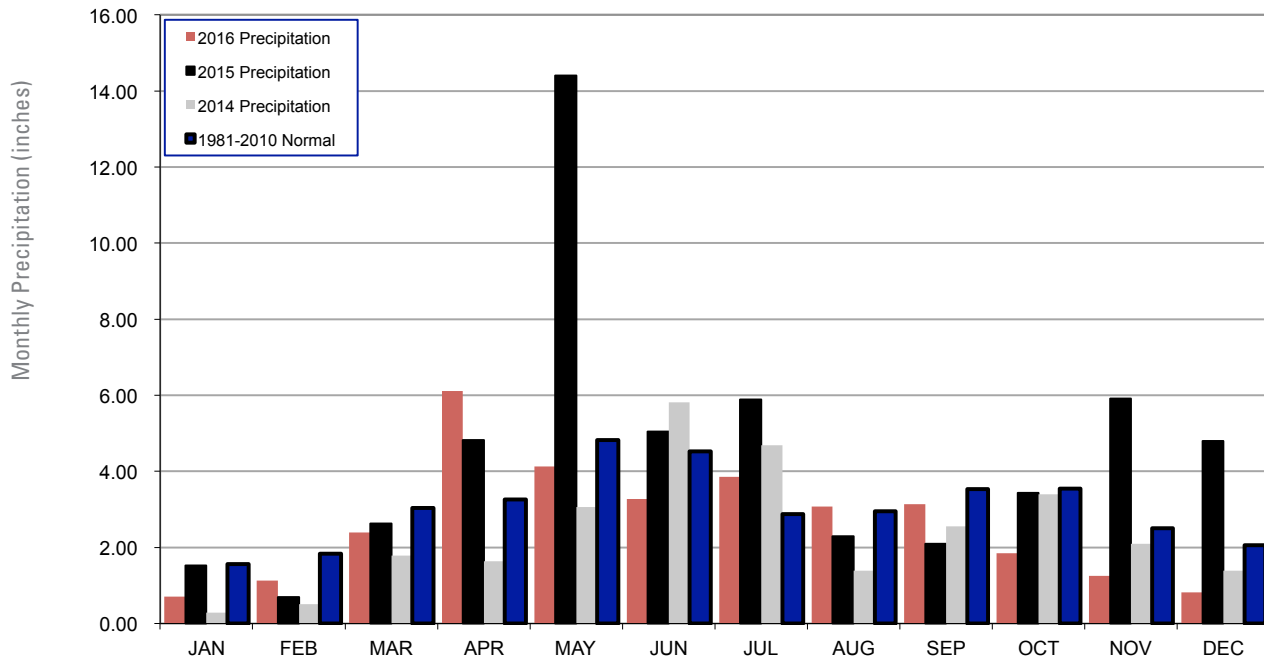
DECEMBER 2016 AVERAGE SOIL MOISTURE AT 25CM



MESONET MONTHLY SUMMARY FOR DECEMBER 2016

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	35.4	74	16	-4	18	917	0	.61	.20	2	Goodwell	33.0	74	16	-13	18	993	0	.47	.21	3
Beaver	33.2	76	16	-18	18	986	0	.66	.25	3	Hooker	32.5	76	16	-16	18	1008	0	.65	.32	25
Boise City	31.9	72	10	-14	18	1025	0	.12	.04	23	Kenton	31.4	72	10	-14	18	1042	0	.14	.07	25
Buffalo	33.7	76	16	-11	18	972	0	.52	.21	3	Slapout	34.8	75	16	-11	18	936	0	.74	.28	25
Eva	31.0	75	16	-18	18	1053	0	.57	.31	25											
NORTH CENTRAL																					
Alva	34.0	68	16	-10	18	960	0	.41	.19	3	May Ranch	34.7	70	16	-8	18	939	0	.64	.32	25
Blackwell	34.0	73	25	-2	18	960	0	.42	.17	3	Medford	34.0	71	25	-6	18	961	0	.50	.28	3
Breckinridge	35.0	74	25	-2	18	931	0	.39	.20	3	Newkirk	35.3	67	25	-4	18	922	0	.51	.17	4
Cherokee	34.3	70	25	-7	18	953	0	.46	.25	3	Red Rock	36.0	73	25	-4	18	899	0	.39	.19	3
Fairview	36.2	72	25	-2	18	892	0	.41	.27	3	Seiling	35.0	68	25	-2	18	931	0	.52	.17	25
Freedom	34.6	77	16	-10	18	943	0	.53	.21	3	Woodward	35.7	77	16	-7	18	909	0	.45	.18	3
Lahoma	35.2	72	25	-4	18	924	0	.38	.22	3											
NORTHEAST																					
Bixby	39.2	71	25	2	19	801	0	.49	.22	25	Pawnee	37.1	72	25	-1	18	864	0	.34	.12	3
Burbank	35.8	70	25	-4	18	906	0	.38	.11	3	Porter	39.6	71	25	3	18	787	0	.80	.28	25
Copan	36.0	68	25	-2	18	899	0	.59	.23	25	Pryor	37.4	70	25	0	18	854	0	.74	.42	25
Foraker	35.5	67	25	-6	18	915	0	.82	.36	25	Skiatook	38.5	68	25	0	18	821	0	.49	.16	25
Inola	37.9	69	25	2	19	841	0	.78	.42	25	Talala	36.8	68	25	-1	18	874	0	.62	.30	25
Jay	37.8	69	25	1	19	842	0	1.01	.58	25	Tulsa	39.8	70	25	3	18	782	0	.53	.28	25
Miami	36.8	72	25	0	19	873	0	.65	.23	25	Vinita	35.9	71	25	-2	18	902	0	1.10	.68	25
Nowata	35.7	70	25	-2	18	909	0	.60	.23	25	Wynona	37.3	70	25	-2	18	860	0	.63	.19	4
WEST CENTRAL																					
Bessie	38.1	75	16	1	18	834	0	.80	.36	2	Erick	37.4	78	16	1	18	856	0	1.23	.56	2
Butler	36.7	75	16	-2	18	876	0	.84	.37	2	Putnam	36.1	69	16	-1	18	896	0	.80	.30	3
Camargo	34.5	70	16	-5	18	945	0	.62	.22	2	Watonga	37.0	69	25	0	18	869	0	.51	.22	3
Cheyenne	37.3	74	16	-2	18	859	0	1.27	.50	2	Weatherford	37.3	70	16	0	18	858	0	.72	.35	2
Elk City	38.2	76	16	2	18	832	0	.88	.41	2											
CENTRAL																					
Acme	39.9	74	16	4	19	777	0	.80	.45	3	Ninnekah	39.9	75	25	5	18	777	0	.92	.47	3
Bowlegs	40.7	74	25	4	19	755	0	.99	.58	3	Norman	39.8	74	25	4	18	780	0	.87	.44	3
Bristow	37.7	73	25	-1	19	846	0	.33	.12	4	Oilton	36.8	72	25	-3	19	873	0	.43	.20	25
Lake Carl Blac	36.1	74	25	-2	19	897	0	.40	.17	3	OKC East	38.9	72	25	4	18	810	0	.83	.36	3
Chandler	39.3	74	25	2	18	797	0	.39	.15	3	OKC North	39.4	72	25	3	18	794	0	.79	.36	3
Chickasha	39.1	76	25	5	18	804	0	.91	.43	3	Okemah	39.7	73	25	4	18	784	0	.59	.20	3
El Reno	36.4	72	25	-2	19	886	0	.90	.29	3	Perkins	38.1	73	25	2	18	833	0	.48	.15	3
Guthrie	38.1	73	25	1	18	834	0	.73	.19	3	Shawnee	39.6	74	25	3	18	788	0	.84	.38	3
Kingfisher	36.4	74	25	1	19	885	0	.40	.16	2	Spencer	39.2	73	25	2	18	801	0	.71	.28	3
Marena	38.7	73	25	***	17	****	****	****	.16	3	Stillwater	37.4	73	25	1	18	856	0	.40	.18	3
Minco	38.6	71	25	3	18	819	0	.97	.43	3	Washington	40.5	75	25	5	18	758	0	1.02	.57	3
Marshall	35.4	74	25	-1	19	918	0	.41	.21	3											
EAST CENTRAL																					
Cookson	39.9	69	25	2	19	778	0	1.68	1.00	25	Sallisaw	40.9	72	25	7	19	746	0	1.14	.36	26
Eufaula	41.6	72	25	6	19	726	0	.93	.33	25	Stigler	40.6	72	25	5	19	757	0	.98	.24	3
Haskell	39.2	71	25	2	19	800	0	1.01	.49	25	Stuart	41.9	72	25	6	19	715	0	.92	.42	3
Hectorville	40.3	71	25	3	18	767	0	.42	.15	25	Tahlequah	39.4	69	25	1	19	794	0	1.17	.39	25
Holdenville	****	***	***	***	***	****	****	****	***	***	Webbers Falls	40.5	71	25	6	19	759	0	1.54	1.06	25
McAlester	41.6	74	28	4	19	725	1	1.07	.39	3	Westville	39.5	68	25	3	18	790	0	1.25	.45	25
Okmulgee	39.2	72	25	1	19	799	0	.75	.29	23											
SOUTHWEST																					
Altus	40.6	81	16	8	18	758	0	1.11	.47	3	Hollis	39.8	81	16	5	18	781	0	1.23	.61	3
Apache	39.4	73	16	4	18	793	0	1.07	.42	3	Mangum	38.8	80	16	3	18	812	0	1.08	.57	3
Fort Cobb	39.2	74	16	5	18	801	0	1.04	.42	3	Medicine Park	41.1	75	16	5	18	740	0	1.21	.55	3
Grandfield	41.7	79	16	8	18	721	0	.94	.59	3	Tipton	40.6	79	16	7	18	758	0	1.04	.47	3
Hinton	37.4	70	25	2	18	855	0	.69	.31	2	Walters	41.7	78	16	7	18	722	1	.87	.47	3
Hobart	38.8	76	16	4	18	813	0	1.28	.57	3											
SOUTH CENTRAL																					
Ada	41.4	75	25	6	18	735	3	.74	.48	3	Lane	43.6	74	28	9	19	667	3	1.35	.48	3
Ardmore	43.2	75	25	8	18	678	2	.85	.46	3	Madill	43.7	75	25	8	19	660	1	.72	.40	3
Burneyville	43.4	77	25	8	19	671	1	.97	.54	3	Newport	43.4	76	25	8	18	674	4	.82	.50	3
Byars	42.0	75	25	4	18	****	****	.89	.53	3	Pauls Valley	41.9	76	25	7	18	718	1	.94	.53	3
Centrahoma	41.8	74	25	7	19	719	0	.88	.49	3	Ringling	43.0	76	25	8	18	684	2	.67	.39	3
Durant	44.8	76	25	10	19	632	5	.80	.45	3	Sulphur	41.7	75	25	6	18	722	0	.87	.55	3
Fittstown	41.6	73	25	6	18	725	0	.86	.54	3	Tishomingo	42.5	73	25	8	18	697	0	1.08	.52	3
Ketchum Ranch	42.0	77	25	6	18	715	2	.94	.46	3	Waurika	43.0	78	16	7	18	686	3	.80	.39	3
SOUTHEAST																					
Antlers	43.7	75	28	6	19	664	2	1.38	.56	3	Mt Herman	43.6	75	26	10	19	663	1	1.50	.72	3
Broken Bow	44.9	77	17	10	19	622	0	2.40	.78	3	Talihina	43.0	72	26	6	19	683	3	.81	.36	3
Clayton	43.3	71	25	6	19	677	3	.90	.41	3	Valliant	45.9	76	26	9	19	594	2	1.10	.66	3
Cloudy	44.2	71	26	10	19	644	0	1.56	.73	3	Wilburton	41.8	73	28	6	19	719	0	1.71	.63	26
Hugo	45.7	75	28	10	19	601	2	1.44	.75	3	Wister	41.9	73	25	5	19	717	0	.83	.32	3
Idabel	46.9	78	17	11	19	564	2	2.26	.84	3											

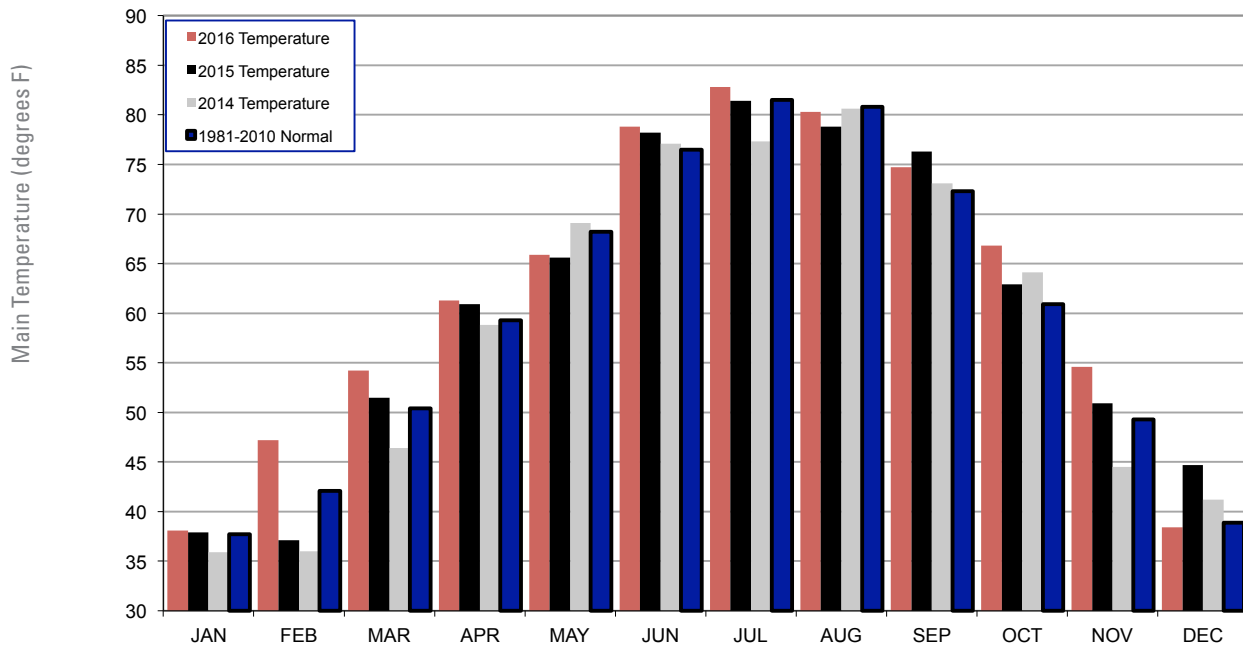
2014, 2015 AND 2016 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



December 2016 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Dec-15 (inches)
Panhandle	0.54	-0.2	49th Wettest	3.28 (2006)	0.00 (1976)	1.26
North Central	0.46	-0.83	36th Driest	3.59 (1984)	0.01 (1950)	2.72
Northeast	0.66	-1.69	21st Driest	7.61 (1895)	0.14 (1950)	7.2
West Central	0.85	-0.34	52nd Wettest	4.04 (1911)	0.00 (1908)	2.37
Central	0.68	-1.32	28th Driest	6.45 (1984)	0.03 (1908)	4.78
East Central	1.07	-2.02	21st Driest	11.09 (2015)	0.20 (1917)	11.09
Southwest	1.05	-0.36	58th Wettest	5.65 (1911)	0.00 (1908)	2.56
South Central	0.89	-1.74	24th Driest	6.97 (1991)	0.06 (1917)	6.45
Southeast	1.44	-2.56	15th Driest	12.32 (2015)	0.19 (1917)	12.32
Statewide	0.82	-1.24	26th Driest	5.54 (2015)	0.09 (1950)	5.54

2014, 2015 AND 2016 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



December 2016 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Dec-15 (F)
Panhandle	32.7	-2.3	28th Coolest	42.1 (1933)	22.6 (1983)	38.3
North Central	34.9	-1.2	40th Coolest	42.9 (1965)	21.5 (1983)	41.6
Northeast	37.3	-0.5	49th Coolest	44.9 (1965)	23.6 (1983)	44.6
West Central	37.0	-0.6	45th Coolest	44.1 (1965)	24.1 (1983)	42.5
Central	38.2	-1.1	43rd Coolest	46.0 (1965)	25.5 (1983)	45.3
East Central	40.4	-0.1	48th Coolest	48.1 (1933)	27.6 (1983)	47.5
Southwest	39.9	-0.3	56th Coolest	46.6 (1965)	27.4 (1983)	45.4
South Central	42.6	0.5	60th Coolest	48.4 (1933)	29.4 (1983)	47.7
Southeast	44.1	2.2	36th Warmest	49.7 (1984)	30.4 (1983)	48.9
Statewide	38.4	-0.5	50th Coolest	45.1 (1965)	25.7 (1983)	44.6

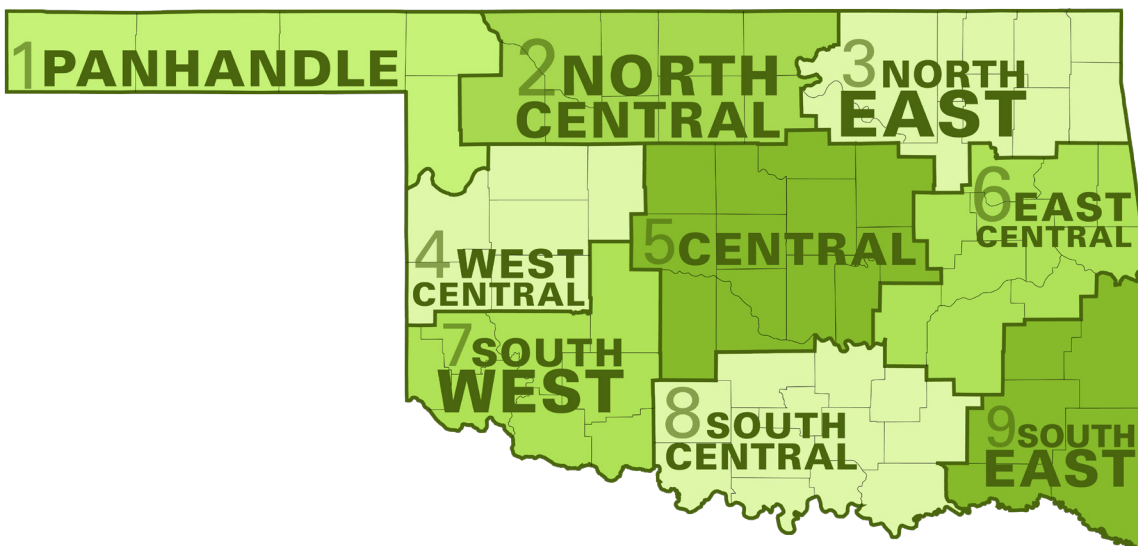
RECORD EVENT REPORTS DECEMBER 2016

Description	Day	Location	Record	Previous Record	Year
Daily snowfall	17	Oklahoma City	0.4 inches	0.4 inches	1909
Daily coolest minimum temperature	18	Oklahoma City	4	4	1924
Daily coolest minimum temperature	18	Tulsa	3	4	1964
Daily coolest maximum temperature	18	Tulsa	20	23	1981
Daily coolest maximum temperature	18	McAlester	24	26	1964
Daily coolest minimum temperature	19	McAlester	6	9	1983
Daily high maximum temperature	28	McAlester	75	70	1984

MESONET EXTREMES FOR DECEMBER 2016

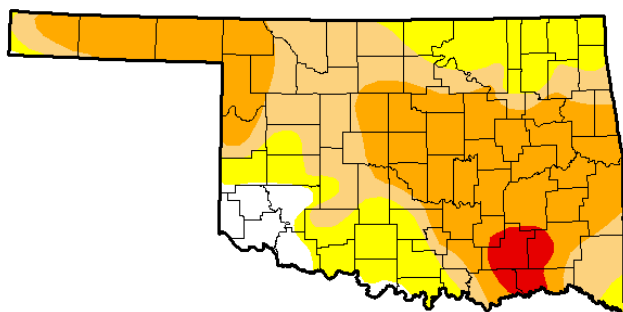
Climate Division	High Temp (F)			Low Temp (F)			High Monthly Rainfall (inches)		High Daily Rainfall (inches)		
	Day	Station	Day	Station	Day	Station	Station	Day	Station		
Panhandle	80	11th Arnett	0	17th Kenton	2.97	Buffalo	1.29	13th Buffalo			
North Central	75	11th Alva	6	29th Seiling	3.75	Red Rock	2.11	13th Red Rock			
Northeast	74	11th Pawnee	17	18th Burbank	12.80	Porter	4.82	26th Pryor			
West Central	74	11th Erick	9	29th Camargo	3.12	Putnam	1.08	26th Putnam			
Central	76	9th Washington	15	29th Lake Carl Blackwell	8.20	Okemah	3.39	27th Okemah			
East Central	75	11th Webbers Falls	22	18th Okmulgee	15.73	Tahlequah	6.51	27th Sallisaw			
Southwest	75	11th Walters	15	29th Mangum	3.75	Tipton	1.76	26th Tipton			
South Central	80	11th Waurika	21	17th Sulphur	11.90	Centrahoma	5.66	26th Centrahoma			
Southeast	77	11th Valliant	23	17th Antlers	16.68	Mt Herman	9.70	27th Talihina			
Statewide	80	11th Waurika	0	17th Kenton	16.68	Mt Herman	9.70	27th Talihina			

Oklahoma Climate Divisions



U.S. Drought Monitor Oklahoma

December 27, 2016
(Released Thursday, Dec. 29, 2016)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	5.63	94.37	72.32	45.73	3.14	0.00
Last Week <i>12/22/2016</i>	11.94	88.06	72.83	42.47	3.14	0.00
3 Months Ago <i>9/27/2016</i>	57.82	42.18	19.04	3.05	0.00	0.00
Start of Calendar Year <i>12/29/2015</i>	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year <i>9/27/2016</i>	57.82	42.18	19.04	3.05	0.00	0.00
One Year Ago <i>12/29/2015</i>	100.00	0.00	0.00	0.00	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.

Author:
Brad Rippey
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 differs 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.

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/wwwcgi.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 is the State Climate Office for Oklahoma

Dr. Kevin Kloesel Director

Dr. Chris Fiebrich Associate Director

EDITOR

Gary D. McManus State Climatologist

CONTRIBUTORS

Gary D. McManus State Climatologist

Dr. Mark A. Shafer Associate State Climatologist

Monica Deming Assistant State Climatologist

DESIGN

Ada Shih Creative Director

Jay Price Graphic Design Student Intern

For more information, contact:

Oklahoma Climatological Survey

The University of Oklahoma

120 David L. Boren Blvd., Suite 2900

Norman, OK 73072-7305

TEL: 405-325-2541

FAX: 405-325-7282

E-MAIL: ocs@ou.edu

WEBSITE: <http://climate.ok.gov>