

Mother Nature did little during November to sooth those areas in Oklahoma most impacted by drought. Significant rains were scattered and temperatures were well above normal – as was the Oklahoma wind. All those factors contributed to drought intensification. According to preliminary data from the Oklahoma Mesonet, the statewide average rainfall total was 1.23 inches, 1.28 inches below normal and ranked as the 41st driest November since records began in 1895. The four sites in McCurtain County led the state with more than 4 inches of rain, the only Mesonet stations out of 119 to eclipse that mark. Valliant led the way with 4.93 inches. Southwestern Oklahoma also saw significant moisture with more than 2 inches across Greer, Kiowa and Comanche counties.

November 2016 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	90°F	Buffalo	16
Low Temperature	12°F	Beaver, Hooker	19
High Precipitation	4.93 in.	Valliant	--
Low Precipitation	0.02 in.	Goodwell	--

Hooker and Goodwell brought up the rear with 0.04 inches and 0.02 inches, respectively. Sixty-three of those 119 stations recorded less than an inch of rain for the month. November brought climatological autumn to a close and as expected, it finished much drier than normal. The September-November statewide average of 6.44 inches was more than 3 inches below normal to rank as the 36th driest fall on record. The January-November period was extremely dry from much of eastern into central Oklahoma. The east central region was more than 10 inches below normal to rank as the 24th driest on record, while southwestern Oklahoma enjoyed a surplus of more than 3 inches and a ranking of 27th wettest. Statewide, the average fell more than 4 inches below normal to rank the year thus far as the 53rd driest on record.

The statewide average temperature was 5.3 degrees above normal at 54.6 degrees to rank as the third warmest November on record. High temperatures rose into the 70s and 80s with unusual regularity well into the month. Buffalo topped the Mesonet with a reading of 90 degrees on the 16th breaking the all-time statewide high for that date. The previous record high for Nov. 16 was 89 degrees set at Ft. Reno more than a decade before statehood in 1894. Periodic

cold fronts meant occasional forays into freezing weather, especially in the dry air across northwestern Oklahoma. Hooker and Beaver reached 12 degrees on the 19th for the lowest readings. The Mesonet site at Eva in Texas County fell to 32 degrees or lower for a total of 100 hours to lead the state. Nearly the entire state had experienced a hard freeze of at least 28 degrees by the end of the month. The near historic warmth of October and November pushed climatological fall to end as the 2nd warmest on record at 65.6 degrees, 4.8 degrees above normal, still well below 1931's 66.4 degrees. The first 11 months of 2016 rose 2.6 degrees above normal, the third warmest such period on record.

November 2016 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2016)
Month (Nov)	54.6°F	5.3°F	3rd Warmest
Season-to-Date (Sep-Nov)	65.6°F	4.8°F	2nd Warmest
Year-to-Date (Jan-Nov)	64.4°F	2.6°F	3rd Warmest

Precipitation

	Total	Depart.	Rank (1895-2016)
Month (Nov)	1.25 in.	-1.26 in.	41st Driest
Season-to-Date (Sep-Nov)	6.67 in.	-2.91 in.	39th Driest
Year-to-Date (Jan-Nov)	30.53 in.	-3.91 in.	53rd Driest

Depart. = departure from 30-year normal

Drought erupted and intensified from the beginning of the month according to the U.S. Drought Monitor, rising from 36 percent of the state on Nov. 1 to nearly 57 percent of the state by month's end. That is the highest percentage of the state in drought since 59 percent on May 5, 2015. The biggest increase came in the more intense drought categories, with severe drought increasing from 8 percent to 16 percent and extreme drought emerging at 3 percent. The Drought Monitor's intensity scale slides from moderate-severe-extreme-exceptional, with exceptional being the worst classification. Drought increased from 14 percent of the state to 57 percent during autumn. Oklahoma was drought free at the beginning of 2016.

NOVEMBER 2016 DAILY SUMMARIES

NOVEMBER 1-3: November started with unseasonably warm temperatures before a cold front moved into the state. The highest recorded temperature each day decreased from 87 degrees in Grandfield on the 1st, to 86 degrees in Stigler, Webbers Falls, and Newport on the 2nd, and finally to 77 degrees in parts of eastern and north-central Oklahoma on the 3rd. The lowest maximum temperatures were in the mid-60s. The highest minimum daily temperature was 69 degrees in Talihina on the 1st, 72 degrees in Hectorville on the 2nd, and 65 degrees in Cloudy and Clayton on the 3rd. The coolest temperature each day occurred in Kenton, decreasing from 42 degrees on the 1st to 33 degrees by the 3rd. Despite the cold front, a number of daily high maximum and minimum temperature records were broken. Oklahoma City tied its daily high maximum temperature record with 83 degrees and 84 degrees on the 1st and 2nd, respectively. McAlester broke its daily high minimum temperature record with 71 degrees on the 1st, and Tulsa broke its daily high minimum temperature record with 70 degrees on the 2nd. Along with the frontal boundary came showers and thunderstorms. The highest amount of recorded precipitation was 2.40 inches in Chickasha on the 2nd and 2.24 inches in Vinita on the 3rd. Flash flooding occurred in Duncan on the 2nd with water covering parts of Highway 81. The highest wind gusts that occurred with the passing storms on Wednesday were measured in Hollis (57 mph), Hobart (46 mph), and Mangum (46 mph). On average, winds were less than 18 mph on the 1st, less than 15 mph on the 2nd, and less than 12 mph on the 3rd.

NOVEMBER 4: Drizzle and fog formed over parts of the state before skies cleared. Rainfall amounts were less than a tenth of an inch. Temperatures increased and highs ranged between 62 degrees in Tipton and Hollis, and 81 degrees in Talihina. Lows were between 32 degrees in Beaver and 63 degrees in Durant. Daily average wind speeds were 2-9 mph.

NOVEMBER 5-7: Widespread rain continued during this three day period. The highest rainfall amounts each day were .28 inches in Erick on the 5th, 1.22 inches in Hinton on the 6th, and 1.58 inches in Bristow on the 7th. The highest maximum temperatures were in the low to mid-70s and the lowest maximum temperatures were between the upper 50s and mid-60s. The highest minimum temperatures huddled around 60 degrees. The lowest minimum temperatures were 32 degrees in Eva on the 5th, 32 degrees in Wister on the 6th, and 37 degrees in Kenton on the 7th. Daily average wind speeds were less than 11 mph on the 5th and less than 13 mph on the 6th and 7th.

NOVEMBER 8-10: Precipitation fell ahead of a stalled cold front on the 8th. That day, the top three rainfall amounts were .63 inches in Byars, .53 inches in Jay and Tulsa, and .49 inches in Waurika. Rainfall was negligible the following two days. The warmest maximum temperatures were in the mid-70s, occurring in the southeast on the 8th and 9th, and in the

panhandle on the 10th. The coolest maximum temperature was 60 degrees on the 8th and 9th before increasing to 66 degrees on the 10th. The warmest daily minimum temperature measured decreased from 59 degrees to 47 degrees. The panhandle measured the coolest temperatures in the state which fell below the freezing mark and settled in the upper 20s. The highest daily average wind speeds were 16 mph in Medicine Park on the 8th, 11 mph in Minco on the 9th, and 12 mph in Cheyenne on the 10th.

NOVEMBER 11-12: Despite another cold front entering the region, skies remained rain-free. The highest recorded temperature decreased from 78 degrees in Broken Bow on the 11th to 70 degrees in Talihina on the 12th. The lowest maximum temperature was 57 degrees both days. The highest minimum temperature decreased slightly from 50 degrees to 48 degrees and the lowest minimum temperature decreased from 28 degrees in Kenton and Eva on the 11th to 21 degrees in Eva and Beaver the following day. Daily average wind speeds were less than 15 mph on the 11th and less than 10 mph on the 12th.

NOVEMBER 13-16: Even though a weak cold front entered the region on the 14th, conditions remained dry and overall temperatures increased. The maximum temperature range was between 63 degrees in parts of eastern Oklahoma and 72 degrees in Buffalo on the 13th. Maximum temperatures increased by the 16th with a range between 79 degrees in Vinita and Nowata and 90 degrees in Buffalo. The highest minimum temperatures increased from the mid-40s to the mid-50s over these four days as well. The lowest minimum temperatures crossed the freezing line, increasing from 25 degrees in Wister on the 13th to 35 degrees in Camargo, Wister, and Lake Carl Blackwell on the 16th. Three cities broke their daily high maximum temperature records on the 16th: Oklahoma City and McAlester with maximum temperatures of 86 degrees and Tulsa with a maximum temperature of 84 degrees. The highest daily average wind speeds were 15 mph on the 13th, 12 mph on the 14th and 15th, and 17 mph on the 16th.

NOVEMBER 17-19: The unseasonably warm temperatures on the 17th didn't last long as a strong cold front entered the state on the 18th. Before the front, however, Tulsa and Bartlesville tied their daily high maximum temperature records on the 17th with a high of 80 degrees. That same day, McAlester tied its daily high minimum temperature record with a low of 62 degrees. Looking at the entire state through this period, the highest maximum temperatures decreased from 81 degrees in northern Oklahoma on the 17th to 59 degrees in Broken Bow by the 19th. The panhandle and northeast Oklahoma were most impacted by the frontal passage as those regions had highs in the low-mid 40s on the 18th and 19th. The highest daily minimum temperature decreased from 66 degrees to 32 degrees and the lowest daily minimum temperatures fell from 32 degrees in Boise City to a frigid 14 degrees in Eva on the 18th and 12 degrees in Hooker and Beaver on the 19th. Isolated thunderstorms and rain formed as a result of the passing cold

front in southeast Oklahoma on the 18th. The top three rainfall amounts that day were .79 inches in Broken Bow, .34 inches in Idabel, and .24 inches in Talihina. Daily average wind speeds were 3-25 mph on the 17th, 5-23 mph on the 18th, and 3-17 mph on the 19th. The highest wind gusts were in the 50s, occurring in Kenton, Boise City, and Eva on the 17th, and in Medicine Park the following day.

NOVEMBER 20-21: Temperatures rebounded and skies cleared. The highest maximum temperatures were much warmer, measuring in the low to mid-70s. The lowest maximum temperatures were in the upper 50s. The highest minimum temperature increased from 36 degrees in parts of northwest Oklahoma on the 20th to 48 degrees in McAlester on the 21st. Although Wister measured the coolest temperature in the state both days, Wister's low increased from 19 degrees on the 20th to 26 degrees the next day. Daily average wind speeds were less than 20 mph on the 20th and less than 14 mph on the 21st.

NOVEMBER 22-23: Showers and thunderstorms formed in advance of a cold front in southeast Oklahoma. Roughly two inches of rain fell in Mt. Herman and Valliant on the 22nd, the highest amounts measured that day. Rainfall intensity and coverage decreased the following day, with the highest rainfall amount only measuring .33 inches in Mt Herman. On the 22nd, highs were between 50 degrees in Boise City and 78 degrees in Altus and lows were between 36 degrees in Boise City and 58 degrees in Wister. On the 23rd, highs were between 50 degrees in Copan and 66 degrees in Mangum and lows were between 28 degrees in Kenton and 46 degrees in Medicine Park. The highest wind gust was 49 mph in Burneyville on the 22nd and 46 mph in Medicine Park on the 23rd. In general, wind speeds averaged less than 23 mph and 15 mph on the 22nd and 23rd, respectively.

NOVEMBER 24-26: The 24th through the 26th was another dry period for Oklahoma. The highest maximum temperatures were in the upper 60s and low 70s with Mangum, Butler, Waurika, and Cheyenne measuring the warmest temperature at 72 degrees on the 24th. The lowest maximum temperature reported in the state decreased from 57 degrees in Kenton on the 24th to 47 degrees in Mt. Herman on the 26th. The highest minimum temperatures were in the upper 30s and low 40s and the lowest minimum temperature was 26 degrees in Bristow and Kenton on the 24th, 18 degrees in Kenton on the 25th, and 19 degrees in Camargo on the 26th. The highest average wind speed in the state was 15 mph, 13 mph, and 17 mph on the 24th, 25th, and 26th, respectively.

NOVEMBER 27-28: Light rain and freezing fog in the east were the name of the game on the 27th, but by the 28th, showers and thunderstorms increased in intensity due to a deepening trough. While less than a tenth of an inch of rain fell in parts of central and southeast Oklahoma on the 27th, the top three rainfall amounts on the 28th were 2.71 inches in Idabel, 2.34 inches in Broken Bow, and 2.10 inches in Valliant. Maximum

temperatures were between 53 degrees (Cloudy and Cookson) and 73 degrees (Buffalo) on the 27th and between 54 degrees (Boise City and Kenton) and 69 degrees (Durant) on the 28th. The highest minimum temperatures were in the low to mid-50s and the lowest minimum temperatures were in the mid-30 and low 20s. The Eva Mesonet site had a minimum temperature of 20 degrees on the 28th which was the coldest Mesonet site reading during those two days. The highest wind gust was 56 mph in Fairview on the 27th and 51 mph in Byars on the 28th. Wind speeds were breezy on the 27th, averaging 5-24 mph. The following day, winds averaged 5-14 mph.

NOVEMBER 29-30: November ended with a dry cold front. The warmest daily temperature measured in Oklahoma from the Mesonet decreased from 72 degrees in Valliant on the 29th to 59 degrees in Waurika on the 30th. The lowest maximum temperatures were in the panhandle and measured in the mid-upper 40s. The highest minimum temperature decreased from 47 degrees in Hugo to 40 degrees in Medicine Park and the lowest minimum temperatures were in the low to mid-teens in the panhandle. The highest wind gust was 41 mph in Hooker on the 29th and 42 mph in Medicine Park on the 30th. Daily average wind speeds were less than 15 mph each day.

NOVEMBER 2016 SEVERE WEATHER

Flooding

Location	County	Day
Duncan	Stephens	2

Wind Gusts (70 mph or Greater)

EF-Rating	County (Start/End)	Day
None		

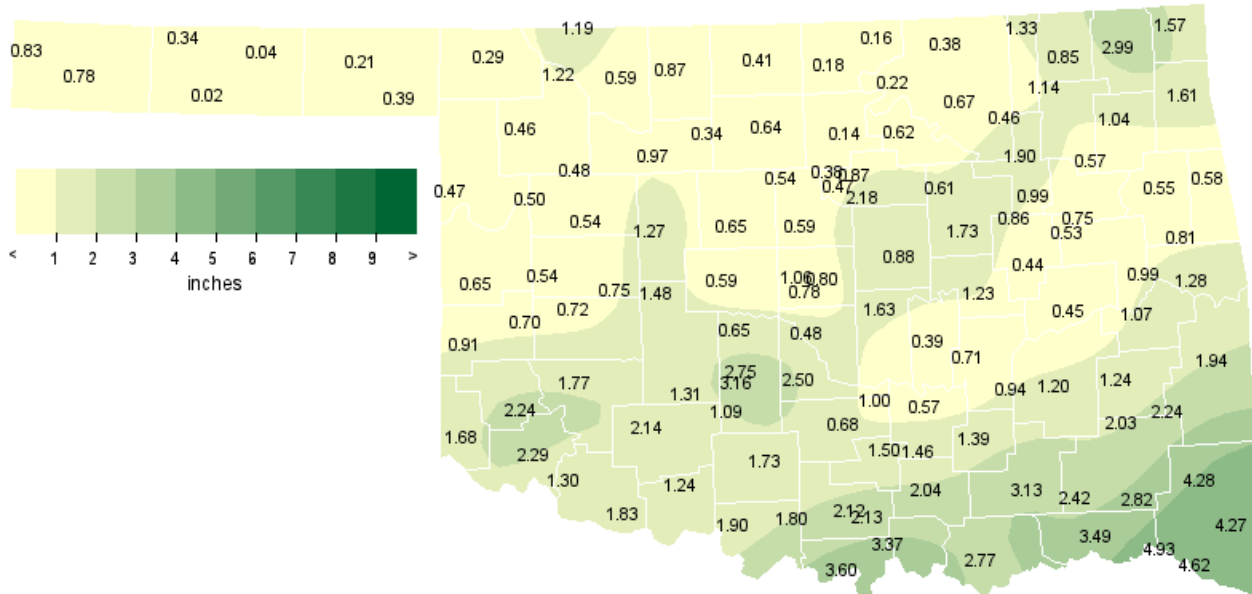
Hail (2 inches in Diameter or Greater)

EF-Rating	County (Start/End)	Day
None		

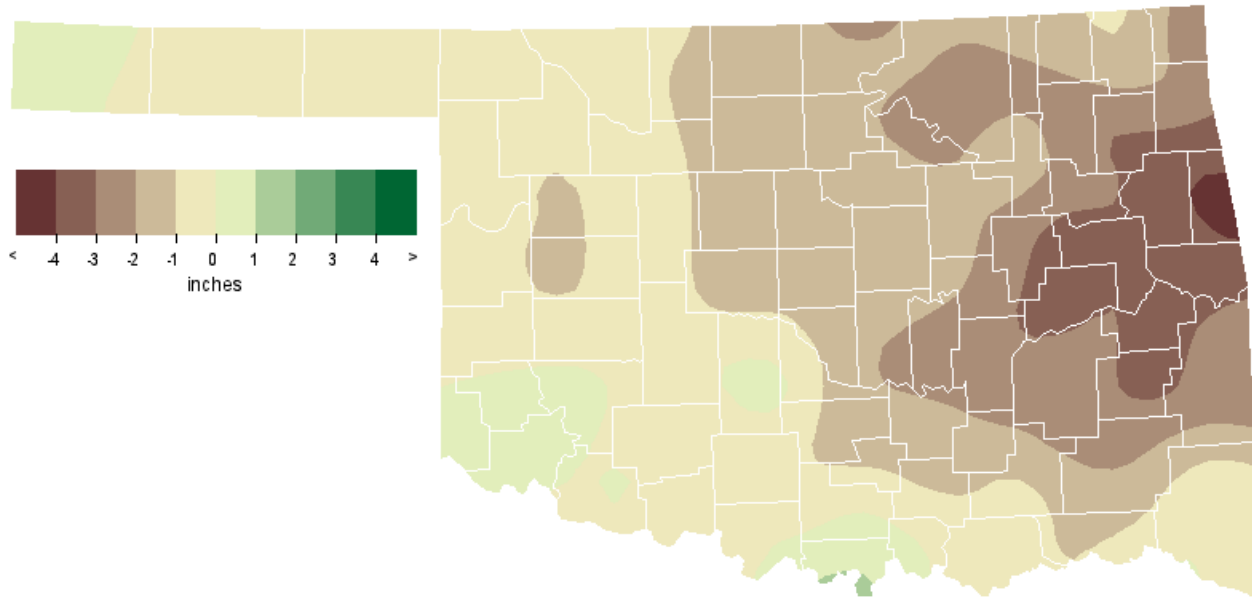
Significant Tornadoes (EF2 or Greater)

EF-Rating	County (Start/End)	Day
None		

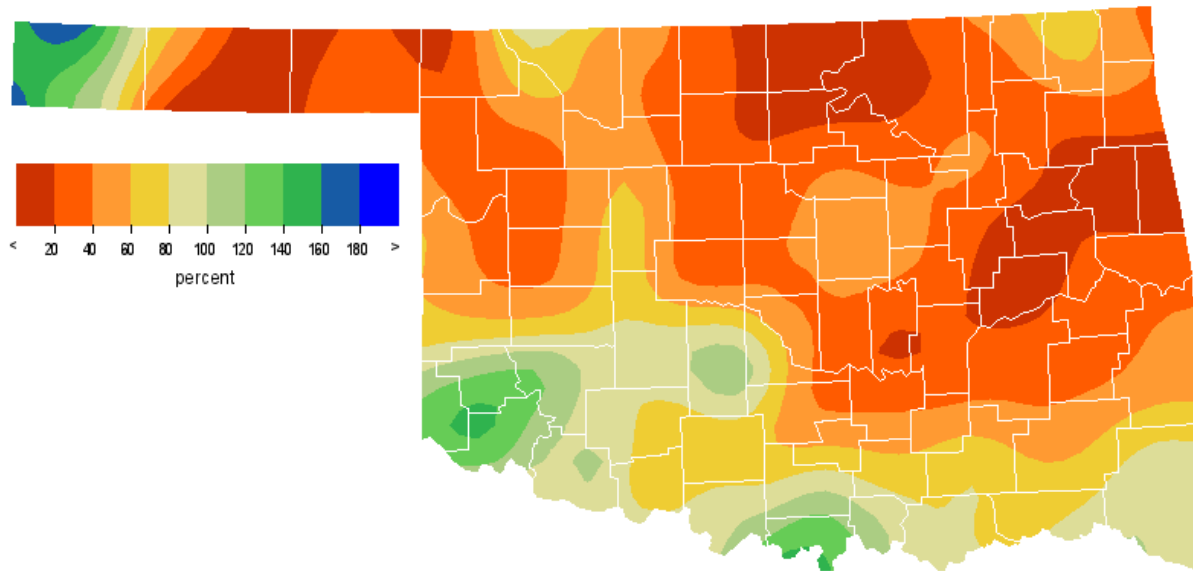
NOVEMBER 2016 OBSERVED PRECIPITATION



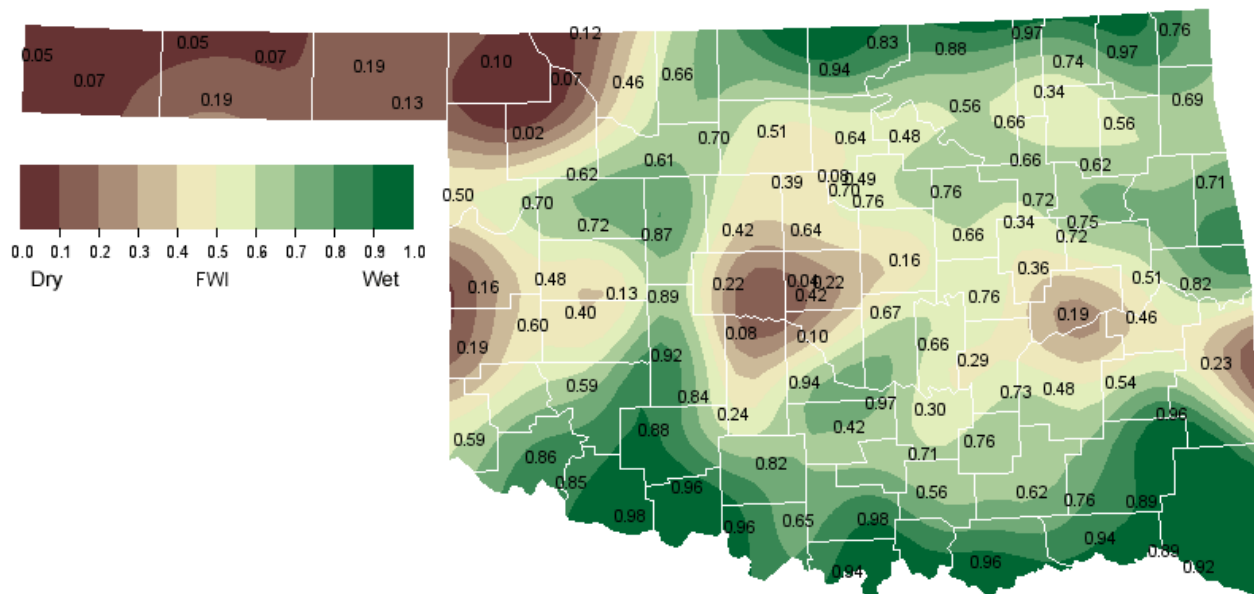
NOVEMBER 2016 DEPARTURE FROM NORMAL PRECIPITATION



NOVEMBER 2016 PERCENT OF NORMAL PRECIPITATION



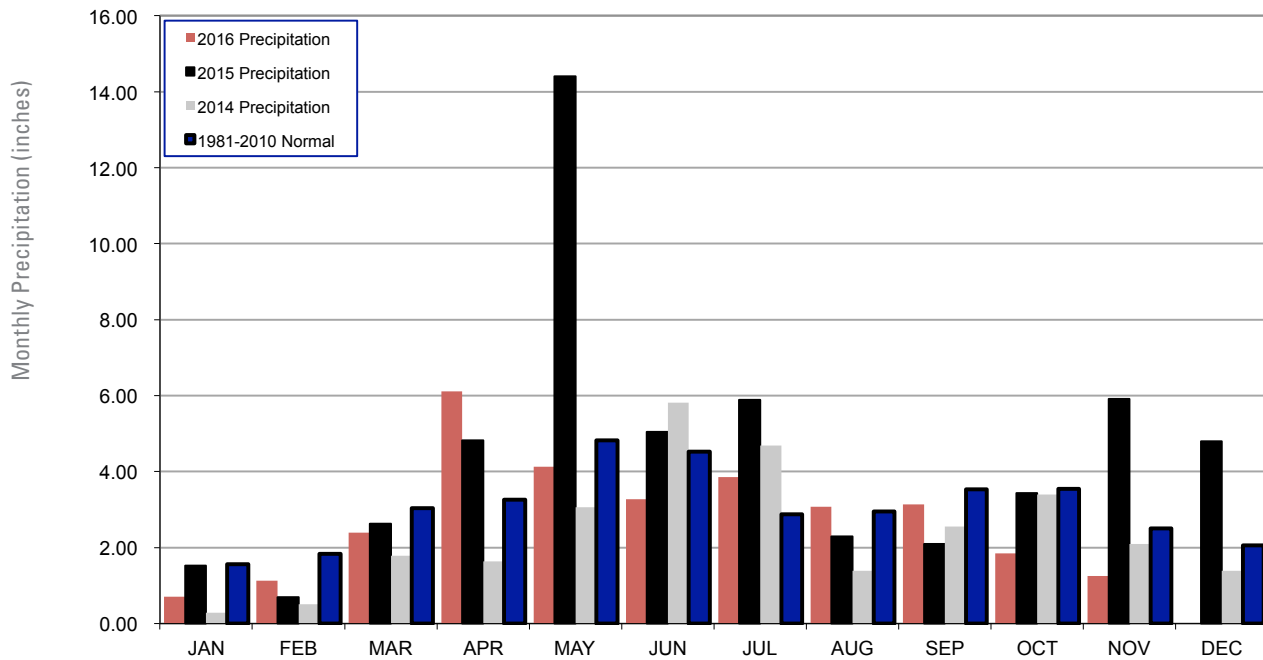
NOVEMBER 2016 AVERAGE SOIL MOISTURE AT 25CM



MESONET MONTHLY SUMMARY FOR NOVEMBER 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	53.4	87	16	21	19	351	4	.47	.41	7	Goodwell	49.6	85	16	14	19	462	0	.02	.02	22
Beaver	50.7	89	16	12	19	429	0	.21	.19	7	Hooker	49.2	87	16	12	19	475	0	.04	.03	6
Boise City	47.4	81	16	16	19	529	0	.78	.71	6	Kenton	46.7	84	16	13	29	548	0	.83	.78	6
Buffalo	51.1	90	16	17	19	****	****	.29	.22	7	Slapout	52.5	89	16	18	19	378	2	.39	.38	7
Eva	47.9	85	16	13	19	512	0	.34	.31	6											
NORTH CENTRAL																					
Alva	53.0	87	16	19	19	373	14	.59	.49	6	May Ranch	53.7	87	16	22	19	346	7	1.19	.68	6
Blackwell	53.8	87	16	21	19	361	24	.18	.09	6	Medford	53.1	84	1	20	19	372	16	.41	.24	7
Breckinridge	54.1	85	16	22	26	347	21	.64	.25	8	Newkirk	54.3	85	16	24	19	342	22	.16	.05	7
Cherokee	53.5	85	16	23	19	361	15	.87	.80	6	Red Rock	54.6	88	16	21	19	340	27	.14	.04	7
Fairview	54.4	85	1	24	19	337	19	.97	.91	6	Seiling	53.2	85	16	20	19	367	14	.48	.41	6
Freedom	52.5	87	16	19	19	****	****	1.22	.83	6	Woodward	53.8	88	16	19	19	349	13	.46	.24	7
Lahoma	53.8	84	16	23	19	353	17	.34	.25	6											
NORTHEAST																					
Bixby	54.9	85	2	25	20	331	28	.99	.46	7	Pawnee	55.3	86	16	25	26	316	26	.62	.36	2
Burbank	54.2	87	16	24	26	351	27	.22	.12	7	Porter	55.8	84	2	25	20	304	26	.75	.42	22
Copan	53.5	81	1	27	19	367	21	1.33	.52	7	Pryor	53.4	83	2	21	20	377	29	1.04	.46	8
Foraker	54.2	85	16	25	19	349	25	.38	.29	7	Skiatook	55.7	83	16	26	19	304	25	.46	.18	22
Inola	53.5	83	2	22	20	368	23	.57	.25	22	Talala	53.9	83	2	24	19	355	21	1.14	.55	7
Jay	54.0	82	16	24	26	354	25	1.61	.58	3	Tulsa	56.2	84	2	29	20	296	31	1.90	1.10	7
Miami	53.6	81	1	25	20	365	23	1.57	1.28	7	Vinita	52.6	81	2	24	20	395	22	2.99	2.24	3
Nowata	52.3	82	2	22	20	406	24	.85	.41	7	Wynona	54.8	86	16	25	26	331	25	.67	.34	7
WEST CENTRAL																					
Bessie	55.1	83	1	23	19	309	12	.72	.43	6	Erick	53.6	86	1	21	19	352	9	.91	.28	5
Butler	54.1	86	1	20	19	340	13	.54	.38	6	Putnam	53.9	84	15	22	19	345	12	.54	.39	6
Camargo	52.2	86	1	18	19	397	12	.50	.28	6	Watonga	54.7	82	1	26	19	326	18	1.27	1.21	6
Cheyenne	54.9	85	1	23	19	321	19	.65	.20	6	Weatherford	54.6	82	1	22	19	327	14	.75	.52	6
Elk City	55.3	85	15	26	19	303	11	.70	.25	6											
CENTRAL																					
Acme	55.6	83	1	22	19	299	17	1.09	.39	7	Ninnekah	55.8	84	1	24	26	295	20	3.16	2.13	2
Bowlegs	55.3	85	16	24	26	310	19	.39	.13	22	Norman	56.5	84	16	25	26	275	20	.48	.25	2
Bristow	54.0	85	2	20	26	356	25	1.73	1.58	7	Oilton	53.8	86	16	21	26	359	23	.61	.35	7
Lake Carl Blac	54.4	88	16	20	26	344	27	.38	.21	2	OKC East	55.9	84	16	26	26	294	22	.78	.53	2
Chandler	56.2	85	16	25	26	287	24	.88	.69	7	OKC North	57.4	85	16	28	19	252	25	1.06	.85	2
Chickasha	54.8	84	1	22	26	323	17	2.75	2.40	2	Okemah	55.4	83	2	24	20	313	25	1.23	.50	7
El Reno	54.0	86	16	21	19	347	17	.59	.31	6	Perkins	56.1	85	1	26	26	295	27	2.18	1.83	2
Guthrie	56.3	85	16	25	19	286	25	.59	.23	2	Shawnee	55.9	81	2	26	26	292	19	1.63	.85	7
Kingfisher	54.4	85	16	23	26	338	21	.65	.32	6	Spencer	56.9	85	16	26	19	269	27	.80	.49	7
Marena	55.8	88	16	25	19	302	26	.47	.31	2	Stillwater	55.4	86	16	23	26	314	27	.87	.67	2
Minco	55.7	84	16	26	19	295	15	.65	.37	6	Washington	56.5	84	1	27	26	275	20	2.50	2.27	2
Marshall	54.7	86	16	22	19	335	26	.54	.33	7											
EAST CENTRAL																					
Cookson	54.5	82	16	24	20	340	25	.81	.54	28	Sallisaw	55.5	87	16	23	20	307	22	1.28	.74	28
Eufaula	56.9	85	16	27	20	272	29	.45	.15	22	Stigler	55.3	88	16	21	20	319	29	1.07	.57	28
Haskell	54.6	84	2	23	20	333	21	.53	.31	22	Stuart	56.8	83	16	25	20	269	24	.94	.47	28
Hectorville	56.8	85	16	27	26	281	34	.86	.43	7	Tahlequah	53.9	83	16	23	20	359	26	.55	.22	7
Holdenville	56.6	83	2	27	19	274	22	.71	.36	7	Webbers Falls	55.8	86	2	24	20	304	27	.99	.51	28
McAlester	56.3	85	16	23	20	287	25	1.20	.56	28	Westville	54.7	82	16	24	20	334	25	.58	.19	22
Okmulgee	54.7	86	16	21	20	338	30	.44	.21	22											
SOUTHWEST																					
Altus	56.0	85	1	26	19	282	12	2.29	1.49	2	Hollis	55.3	86	1	24	19	303	11	1.68	.92	2
Apache	55.4	83	1	24	19	301	13	1.31	.63	6	Mangum	54.7	86	1	23	19	321	11	2.24	1.37	2
Fort Cobb	54.4	84	16	23	19	****	****	1.49	1.02	6	Medicine Park	57.6	83	1	31	19	241	18	2.14	1.10	6
Grandfield	57.4	87	1	28	19	248	19	1.83	.74	2	Tipton	55.6	84	1	24	19	293	12	1.30	.57	2
Hinton	54.8	84	1	22	19	323	16	1.48	1.22	6	Walters	57.0	85	1	29	19	253	14	1.24	.59	7
Hobart	55.1	83	1	23	19	311	13	1.77	.68	6											
SOUTH CENTRAL																					
Ada	56.4	83	16	25	26	280	21	.57	.32	8	Lane	56.7	84	16	22	20	271	22	3.13	1.60	28
Ardmore	****	***	***	***	***	****	****	2.13	.46	2	Madill	58.0	84	16	28	20	230	21	3.37	1.37	28
Burneyville	57.9	85	16	27	20	237	23	3.60	1.00	7	Newport	58.3	86	2	30	19	226	26	2.12	.57	2
Byars	57.3	83	2	28	19	255	23	1.00	.63	8	Pauls Valley	57.4	85	2	27	26	251	23	.68	.30	8
Centrahoma	56.3	84	16	24	20	286	24	1.39	.40	28	Ringling	57.6	84	16	29	19	240	18	1.80	.65	7
Durant	58.7	86	16	28	20	****	****	2.77	1.46	28	Sulphur	56.3	83	16	26	30	280	20	1.50	.77	2
Fittstown	56.1	82	16	26	26	285	18	1.46	.51	28	Tishomingo	56.6	83	16	26	20	270	19	2.04	.90	7
Ketchum Ranch	57.1	83	1	29	19	255	17	1.73	.90	2	Waurika	57.9	85	16	29	19	234	21	1.90	.72	2
SOUTHEAST																					
Antlers	55.6	84	1	22	20	297	16	2.42	1.11	28	Mt Herman	56.1	81	16	27	20	286	21	4.28	2.01	22
Broken Bow	55.3	85	16	24	20	304	13	4.27	2.34	28	Talihina	56.0	86	16	21	20	301	30	2.24	1.24	28
Clayton	56.4	84	16	22	20	281	23	2.03	1.34	28	Valliant	57.1	86	16	23	20	260	24	4.93	2.10	28
Cloudy	56.2	83	16	24	20	281	18	2.82	1.48	28	Wilburton	56.2	85	16	23	20	290	26	1.24	.89	28
Hugo	58.1	84	1	27	20	231	25	3.49	1.97	28	Wister	54.4	89	16	19	20	340	22	1.94	1.15	28
Idabel	57.1	86	16	25	20	259	22	4.62	2.71	28											

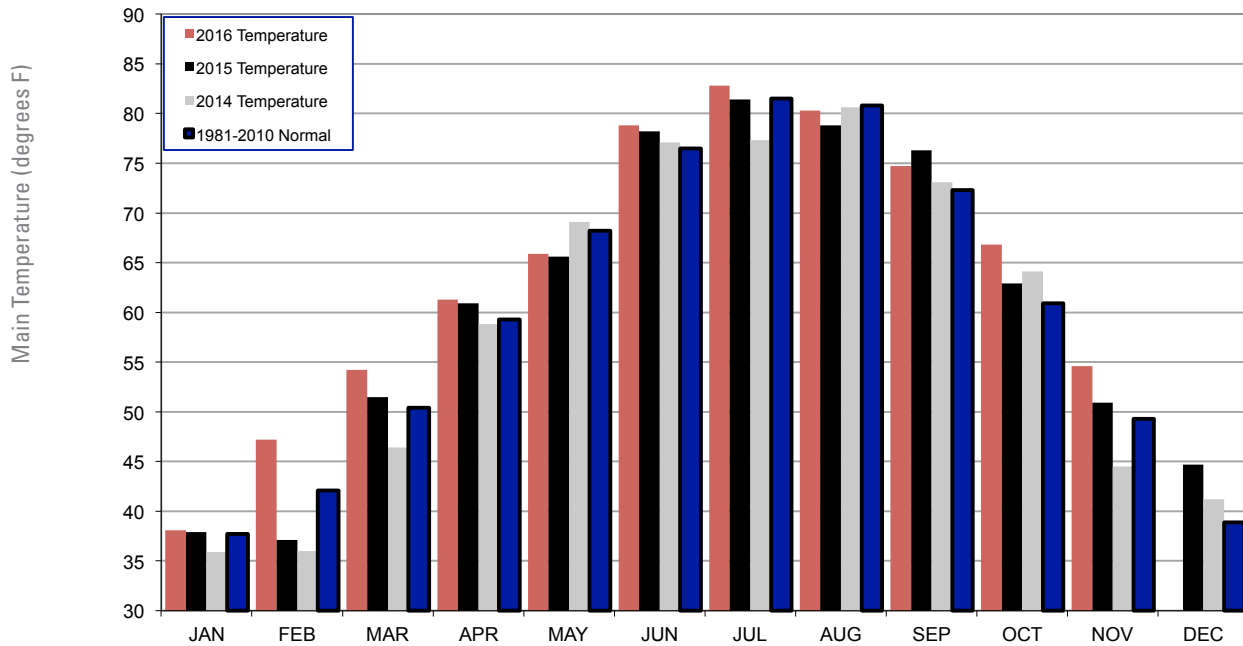
2014, 2015 AND 2016 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



November 2016 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Nov-15 (inches)
Panhandle	0.37	-0.46	47th Driest	4.08 (1909)	0.00 (1921)	1.88
North Central	0.59	-1.14	35th Driest	6.61 (1964)	0.00 (1910)	3.77
Northeast	1.07	-2.08	27th Driest	7.04 (1992)	0.05 (1910)	6.89
West Central	0.73	-0.76	50th Driest	6.96 (1909)	0.00 (1949)	3.18
Central	1.13	-1.28	39th Driest	6.56 (1992)	0.01 (1955)	5.72
East Central	0.80	-3.08	14th Driest	9.86 (1946)	0.32 (1910)	8.61
Southwest	1.73	0.02	45th Wettest	6.63 (2004)	0.00 (1949)	4.28
South Central	1.95	-0.94	58th Driest	8.87 (1902)	0.07 (1949)	8.07
Southeast	3.12	-1.53	57th Driest	12.58 (2015)	0.40 (1910)	12.58
Statewide	1.25	-1.26	41st Driest	6.04 (2015)	0.13 (1949)	6.04

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



November 2016 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Nov-15 (F)
Panhandle	49.6	4.6	4th Warmest	51.5 (1999)	35.5 (1929)	46.2
North Central	53.5	6.4	2nd Warmest	54.5 (1999)	39.0 (1929)	50.3
Northeast	54.2	5.3	4th Warmest	56.4 (1999)	41.1 (1929)	51.3
West Central	54.3	6.3	2nd Warmest	54.8 (1999)	39.4 (1929)	49.8
Central	55.5	5.7	3rd Warmest	57.1 (1999)	42.0 (1929)	51.8
East Central	55.6	4.8	6th Warmest	58.9 (1909)	43.3 (1929)	53.3
Southwest	55.4	4.9	3rd Warmest	56.7 (1999)	42.4 (1929)	51.8
South Central	57.1	4.8	6th Warmest	58.6 (1999)	43.5 (1929)	53.7
Southeast	56.2	4.6	7th Warmest	58.3 (1909)	43.7 (1929)	54.6
Statewide	54.6	5.3	3rd Warmest	56.1 (1999)	41.1 (1929)	51.4

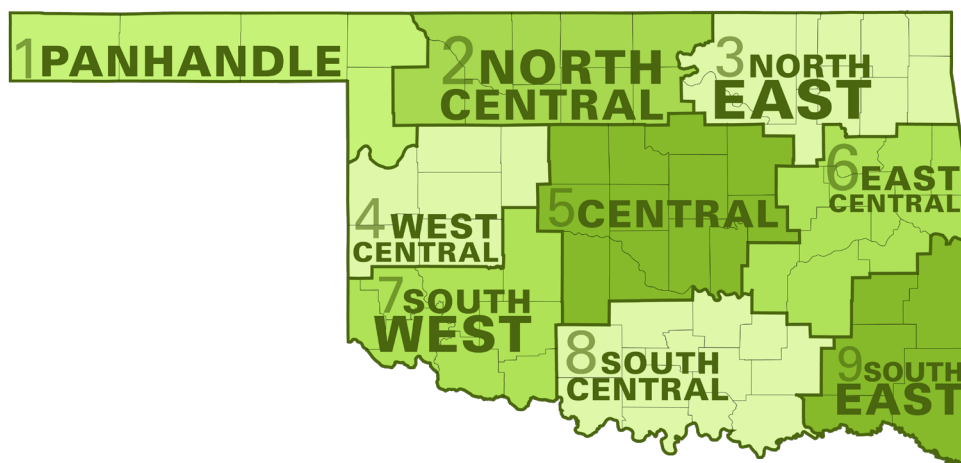
RECORD EVENT REPORTS NOVEMBER 2016

Description	Day	Location	Record	Previous Record	Year
Daily high maximum temperature	1	Oklahoma City	83	83	1893, 1916
Daily high minimum temperature	1	McAlester	71	68	1983
Daily high maximum temperature	2	Oklahoma City	84	84	2012
Daily high minimum temperature	2	Tulsa	70	65	1983
Daily high maximum temperature	16	Oklahoma City	86	82	1941
Daily high maximum temperature	16	McAlester	86	80	1963
Daily high maximum temperature	16	Tulsa	84	83	1963
Daily high maximum temperature	17	Tulsa	80	80	1969
Daily high maximum temperature	17	Bartlesville	80	80	1969
Daily high minimum temperature	17	McAlester	62	62	1971

MESONET EXTREMES FOR NOVEMBER 2016

Climate Division	High Temp (F)			Low Temp (F)			High Monthly Rainfall (inches)		High Daily Rainfall (inches)		
	Day	Station	Day	Day	Station	Station	Day	Station			
Panhandle	90	16th	Buffalo	12	19th	Hooker	0.83	Kenton	0.78	6th	Kenton
North Central	88	16th	Red Rock	19	19th	Freedom	1.22	Freedom	0.91	6th	Fairview
Northeast	87	16th	Burbank	21	20th	Pryor	2.99	Vinita	2.24	3rd	Vinita
West Central	86	1st	Butler	18	19th	Camargo	1.27	Watonga	1.21	6th	Watonga
Central	88	16th	Lake Carl Blackwell	20	26th	Bristow	3.16	Ninnekah	2.40	2nd	Chickash
East Central	88	16th	Stigler	21	20th	Stigler	1.28	Sallisaw	0.74	28th	Sallisaw
Southwest	87	1st	Grandfield	22	19th	Hinton	2.29	Altus	1.49	2nd	Altus
South Central	86	16th	Durant	22	20th	Lane	3.60	Burneyville	1.60	28th	Lane
Southeast	89	16th	Wister	19	20th	Wister	4.93	Valliant	2.71	28th	Idabel
Statewide	90	16th	Buffalo	12	19th	Hooker	4.93	Valliant	2.71	28th	Idabel

Oklahoma Climate Divisions

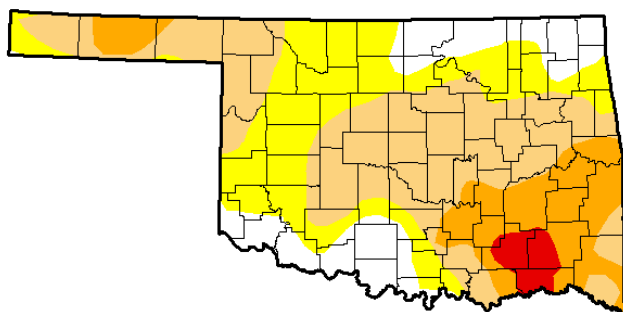


U.S. Drought Monitor Oklahoma

November 29, 2016

(Released Thursday, Dec. 1, 2016)

Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	15.59	84.41	56.94	18.48	2.80	0.00
Last Week <i>11/22/2016</i>	30.20	69.80	47.61	18.55	3.48	0.00
3 Months Ago <i>8/30/2016</i>	52.00	48.00	14.06	0.30	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>9/27/2015</i>	57.82	42.18	19.04	3.05	0.00	0.00
One Year Ago <i>12/1/2015</i>	85.81	14.19	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:
Richard Heim
NCEI/NOAA



<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>