Oklahoma Monthly Climate Summary

AUGUST 2012

OKLAHOMA CLIMATOLOGICAL SURVEY

According to data from the Oklahoma Mesonet, August finished one degree above normal to rank as the 53rd warmest on record and a half an inch below normal to come in as the 42nd driest. Those records date back to 1895. Despite those seemingly benign statistics, August actually had weather to suit just about all summer appetites. The month started with one of the hottest stretches the state has ever experienced, moved to mild and wet for a spell, then ended once again on the hot side. Unfortunately, that brief fall-like interlude in the middle of the month did little to quell the ongoing flash drought event that began in late spring. The U.S. Drought Monitor report released on August 28 showed 37 percent of Oklahoma mired in exceptional drought, with 90 percent portrayed in extreme-exceptional drought. The Drought Monitor's intensity scale slides from moderate-severe-extreme-exceptional, with exceptional being the worst category. To exemplify the drought's rapid advance, only 17 percent of the state was in drought at the end of May and 5 percent was in exceptional drought at the beginning of August. Vegetation that had flourished in the wet and unusually warm winter and early spring became fuel for wildfires thanks to the heat and drought. More than 100,000 acres across the state burned in early August, with one fatality east of Norman attributed to wildfire.

The end of August also brings the climatological summer to a close, and it was obviously a hot and dry one. The statewide average rainfall total during summer fell 3.7 inches below normal to rank as the 14th driest on record. The summer also ranked as the 12th warmest on record at 2.5 degrees above normal. The first eight months of the year ended as Oklahoma's warmest January-August period on record at 4.3 degrees above normal. August was the 24th month out of the last 29 to finish warmer than normal, beginning with April 2010.

AUGUST DAILY HIGHLIGHTS

AUGUST 1-2: August took off with a record-breaking temperature of 115 degrees in Kingfisher. Trailing closely behind were portions of north central Oklahoma at 114. While the majority of Oklahoma stayed near and above 110 for their maximum temperature, southwest Oklahoma experienced lower maximum temperatures huddled around 100 degrees. The minimum temperatures allowed for little relief, ranging from 66 as the lowest in Kenton to the upper 80s.

August 2012 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	115°F	Kingfisher	1
Low Temperature	50°F	Seiling	20
High Precipitation	5.70 in.	Broken Bow	--
Low Precipitation	0.46 in.	Hobart	--

August 2012 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2012)
Month (August)	81.4°F	1.0°F	53rd Warmest
Season-to-Date (Jun-August)	82.0°F	2.5°F	12th Warmest
Year-to-Date (Jan-August)	66.1°F	4.3°F	1st Warmest

Precipitation

	Average	Depart.	Rank (1895-2012)
Month (August)	2.29 in.	-0.48 in.	42nd Driest
Season-to-Date (Jun-August)	6.10 in.	-3.67 in.	14th Driest
Year-to-Date (Jan-August)	20.19 in.	-4.47 in.	30th Driest

Depart. = departure from 30-year normal

TEMPERATURE

The weather during early August was as intensely hot as nearly any in the state's history with temperatures ranging from 105-115 degrees across much of Oklahoma. August 1 became the state's 10th hottest day on record with a statewide average temperature of 93.7 degrees. That is still 1.2 degrees less than Oklahoma's hottest day on August 12, 1936. Oklahoma City tied its all-time record high temperature and broke its all-time record warm low temperature on the same day, August 3, with readings of 113 degrees and 84 degrees, respectively. The highest temperature recorded by the Oklahoma Mesonet during the month was 115 degrees from Kingfisher on August 1. On the cool side, several Mesonet stations reached a minimum temperature of 50 degrees on August 20.

AUGUST 3-4: Isolated showers and thunderstorms moved through the Panhandle and northwestern Oklahoma on the third, spreading east on the fourth. This dropped the lowest minimum temperature to 64 degrees in Kenton and Boise City and produced a peak wind gust of 61 mph in Hooker. As the front moved through on the fourth, the Panhandle's maximum temperatures dropped to the low-to-mid 80s. Statewide average maximum wind speeds jumped slightly to 15 mph, rainfall remained negligible, and maximum temperatures stayed well above 100 for the bulk of Oklahoma. Conditions became favorable for the wildfires that broke out across central Oklahoma.

AUGUST 5-9: A slight rainy period continued for much of Oklahoma as a cold front moved through, carrying thunderstorms along the way. As the front moved south-southeast, over an inch of rain was recorded in Foraker, Blackwell, and Hinton, with nearly two inches accumulating in Webbers Falls and McAlester on the eighth. The top two wind gusts associated with the storms were recorded in Butler and Lane, measuring at 66 and 69 mph, respectively. Although maximum temperatures remained above 100 for the majority of Oklahoma, the panhandle experienced a drop in minimum and maximum temperatures, ranging from 57 to 85.

AUGUST 10: Succeeding the previous storms, maximum temperatures cooled down into the double-digits. The highest temperature recorded was only 97 at a few southwestern Mesonet sites. Following the downward trend, minimum temperatures fell into the 50s, with Goodwell and Hooker bringing in the lowest minimum temperatures at 55. Statewide wind speeds averaged between 5 and 10 mph, gusting between 20 and 25 mph occasionally. Overall, it was a generally mild and clear day.

AUGUST 11-16: During this six-day period, numerous cold fronts, showers, and thunderstorms swept across the state. While southern Oklahoma witnessed the most severe weather with multiple reports of damaging winds and hail, very few areas were lucky enough to receive more than a half an inch of rain. The top two wind gusts got called in at 70 mph in Kemp on the 12th and 75 mph in Tulsa on the 16th. Not too far away, 2.50 and 1.75 inch hail was reported in Caney and Tishomingo, respectively. Despite the gloomy weather, highs were still able to reach over 100 in the panhandle, northern Oklahoma, and the very southern extent of Oklahoma. Most cities; however, only made it into the 90s. The lowest maximum temperature was recorded on the 14th with Woodward and May Ranch only hitting 75. Even though the lows remained in the 60s for most areas, Nowata and Bristow reported the days' lowest temperature of 52 degrees.

AUGUST 17-19: Temperatures adjusted to the multiple cold fronts and scattered showers and thunderstorms that moved through Oklahoma, summiting to only 96 in Tishomingo. For this three-day period, highs averaged in the 80s for the majority of the state and lows averaged in the 60s. Regarding the lowest maximum and minimum temperatures during this same period, Boise City and Beaver got as cool as 54 on the 17th and 19th, and Broken Bow only got as warm as 72 on the 19th. Numerous lines of precipitation and thunderstorms tracked southeast, originating in various portions of Oklahoma. Antlers and Mt. Herman accumulated the highest daily precipitation amounts for the month, bringing in 3.9 and 3.12 inches. Other rainfall amounts ranged from a little less than a quarter of an inch to over an inch, with some areas in southeast Oklahoma even bringing in over two inches. Although average wind speeds remained relatively calm, thunderstorm wind gusts of 62 and 55 were noted in Broken Bow and Talihina.

AUGUST 20-22: Apart from a shortly visited rain event in west and southwest Oklahoma in the early morning of the 21st, skies remained relatively clear. The only overcast region was far western Oklahoma that experienced persistent dense fog on the 22nd. Rainfall amounts remained negligible for the bulk of Oklahoma, despite the 1.01 inches that fell in Hollis on the 21st. Maximum temperatures stayed in the 80s to mid-90s. While the previous period won the award for the highest precipitation measurement this month, the 20th won the award for the lowest minimum temperature, recording only 50 degrees at Seiling, Medford, and other portions of northern Oklahoma. Wind speeds averaged from 10 to 15 mph, occasionally gusting above 25.

AUGUST 23-26: An upper-level disturbance continued to cause scattered showers and thunderstorms throughout Oklahoma. While the western one-third of the state was the first to be hit with showers on the 23rd, most remaining portions of Oklahoma were soon to follow. Rainfall amounts ranged from roughly a 1/4 of an inch to around 2 inches, primarily on the 25th and 26th. The areas that received the crux of the rainfall were central-north central and northeast Oklahoma, with Perkins and Jay both bringing in 2.72 inches. The highest maximum temperatures remained in the mid-upper 90s. The lowest minimum temperatures climbed slightly from the previous few days, bottoming out at 56 in Vinita, Wister, and Boise City. Average wind speeds were relatively high for this period, with the highest daily average wind speeds measuring 22.9 mph in Beaver, 21.6 mph in Slapout, and 20.2 mph in Goodwell on the 23rd. The 24th received the second highest average wind speeds of the month with Slapout at 19.7 mph and Cheyenne at 19.5 mph. In conjunction with the passing thunderstorms, wind gusts were reported at 70 mph in Kingfisher and 60mph in Roger Mills and Comanche on the 25th.

AUGUST 27-31: The end of the month teetered on the uneventful side for Oklahoma. Skies remained sunny to partly cloudy for much of the duration, with only a secluded portion of northeast Oklahoma receiving precipitation on the 31st. Although Miami and Jay gauged almost three-quarters of an inch, other areas that fell within the precipitation boundaries reported less than a quarter of an inch. Temperatures gradually warmed, bringing triple-digit maximum temperatures back for the onset of the holiday weekend. On the 31st, Waurika, Grady, and Walters reported the highest maximum temperature of 101 during this period. The lowest maximum temperature was 77 on that same day in Westville, Vinita, and Jay, all of which fell within the precipitation margins. Lows averaged in the 60s to low 70s. Hurricane Isaac made landfall in southeast Louisiana on the 28th, allowing for remnants to be felt in south-central and southeastern Oklahoma on the 30th and 31st when it weakened to a Tropical Storm. The only impacts generated from the latter were skies turning from sunny to partly cloudy and the wind becoming more northerly. Overall, average wind speeds fell between 5 and 10 mph for most of Oklahoma, buttressing a more pleasant period for the state.

Wind Gusts (70 mph or greater)

Speed (m.p.h.)	Location	County	Day
71	Tulsa	Tulsa	4
75	Poteau	Le Flore	8
70	Muskogee	Muskogee	8
70	Kemp	Bryan	12
70	3 SSE Kemp	Bryan	12
75	9 SSE Tulsa	Tulsa	16
70	4 ESE Hennessey	Kingfisher	25

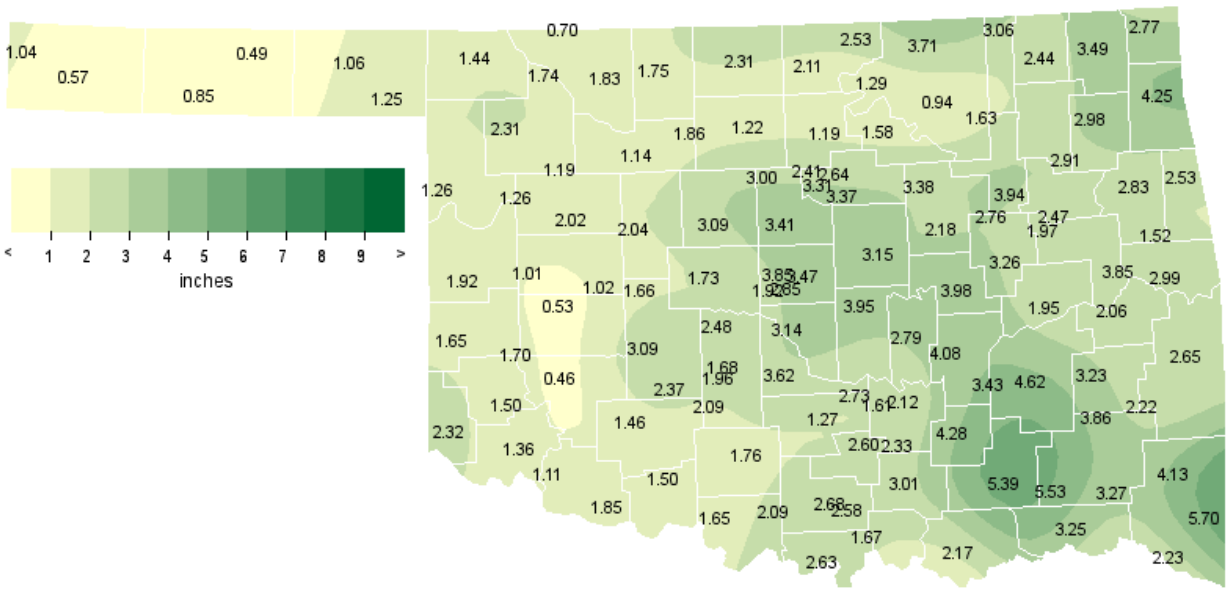
Hail (2 in. diameter or greater)

Size (in.)	Location	County	Day
2.50	Caney	Atoka	12

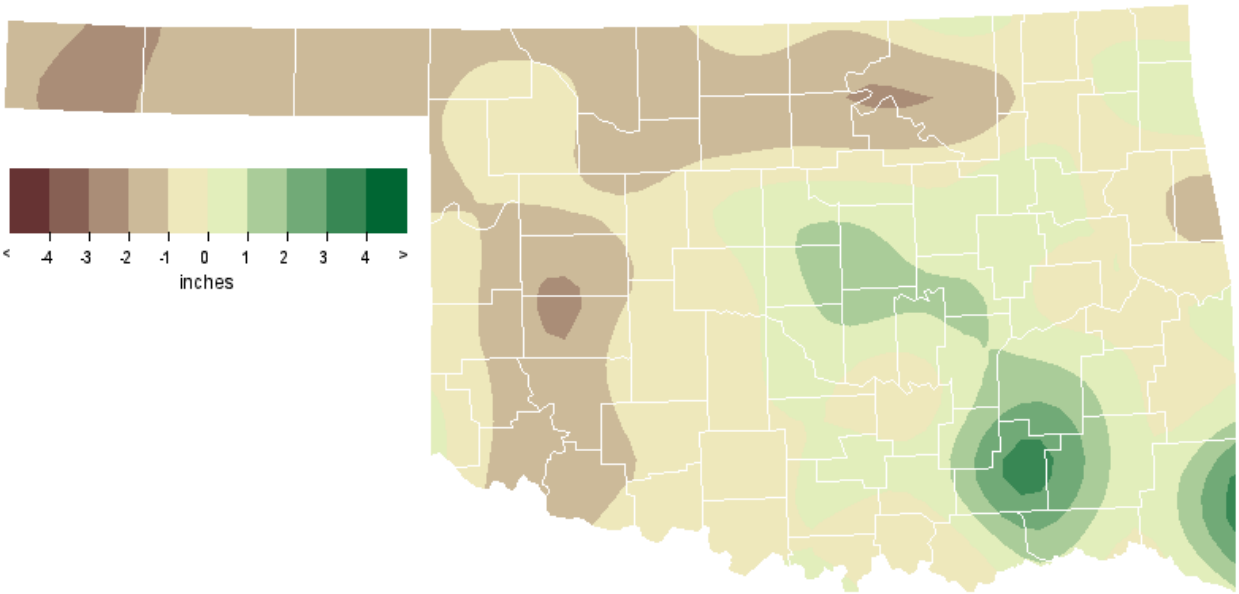
Flooding

Location	County	Day
Poteau	Le Flore	8

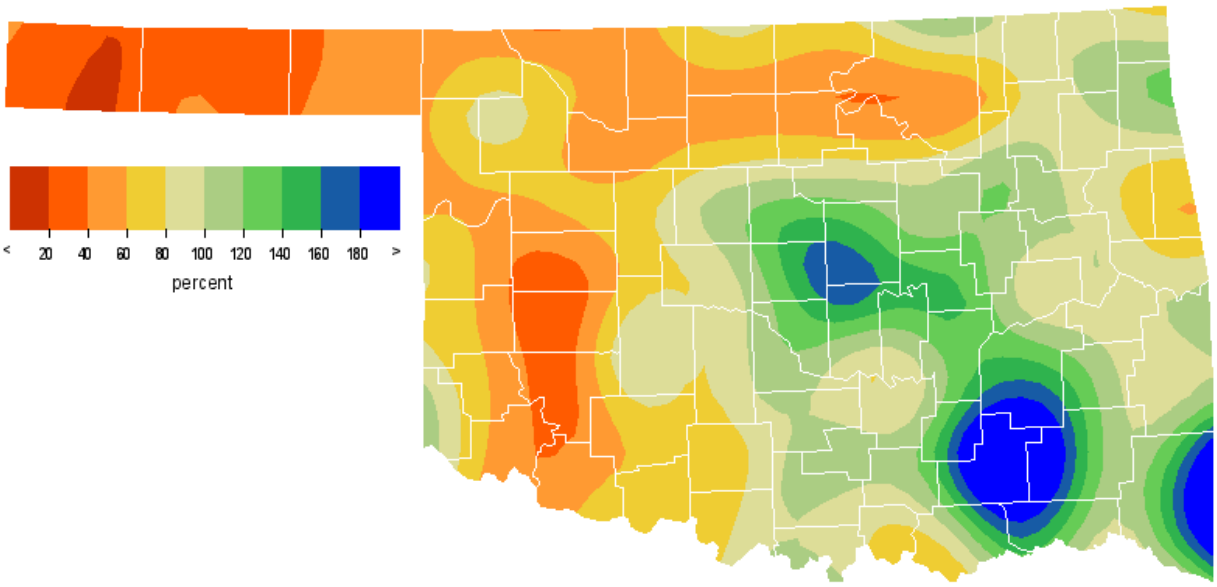
AUGUST 2012 OBSERVED PRECIPITATION



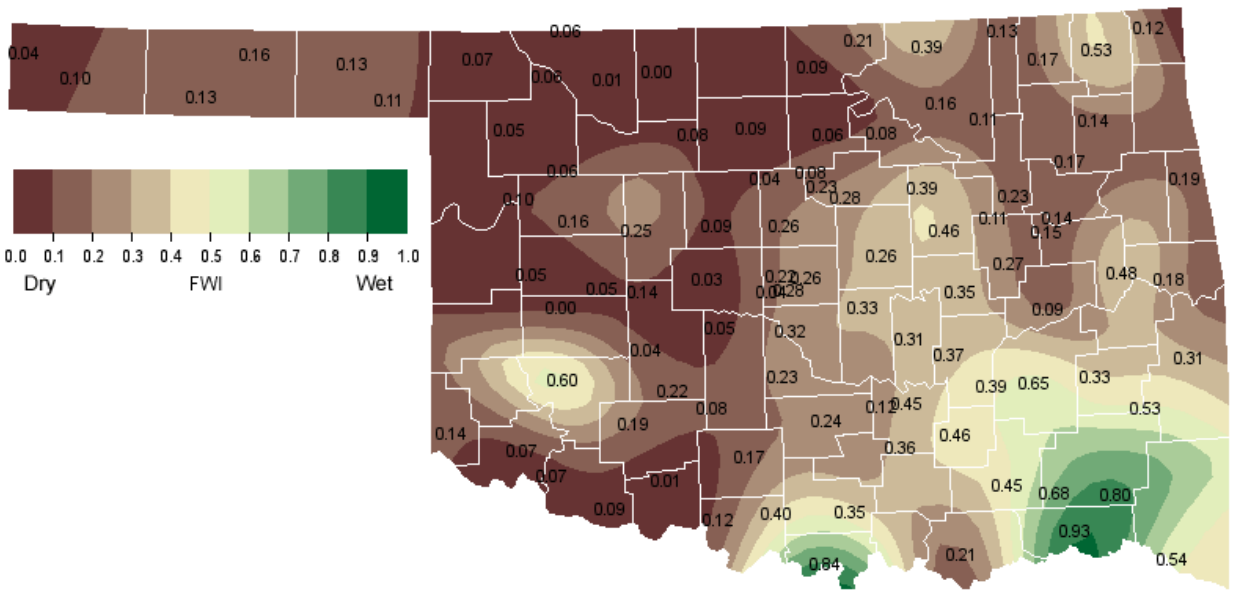
AUGUST 2012 DEPARTURE FROM NORMAL PRECIPITATION



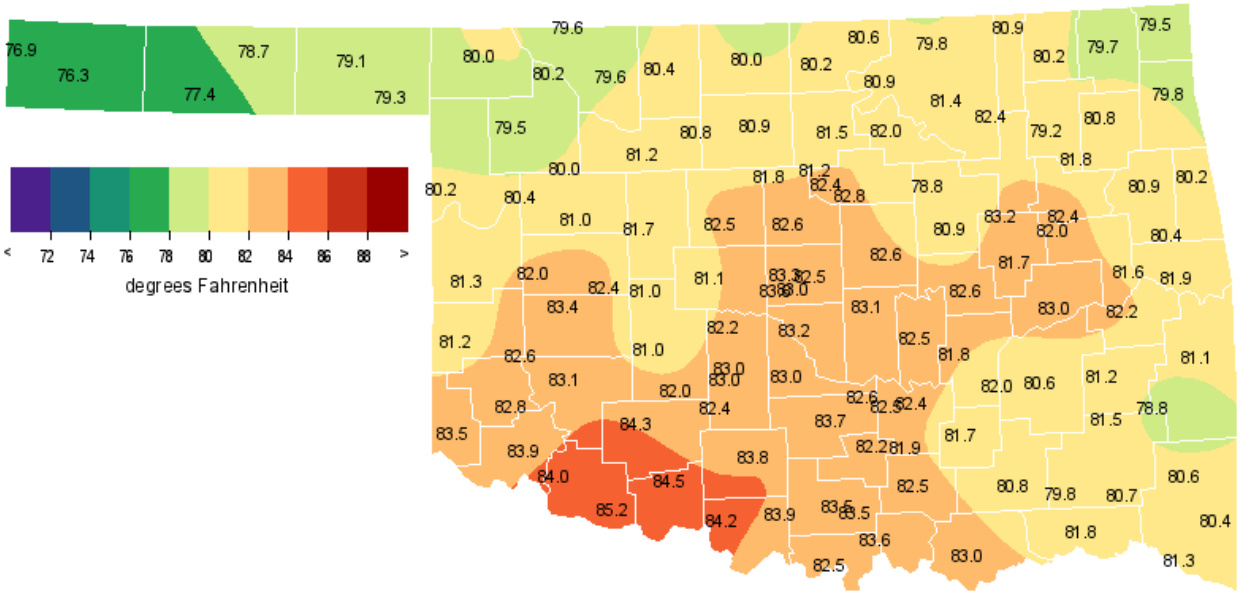
AUGUST 2012 PERCENT OF NORMAL PRECIPITATION



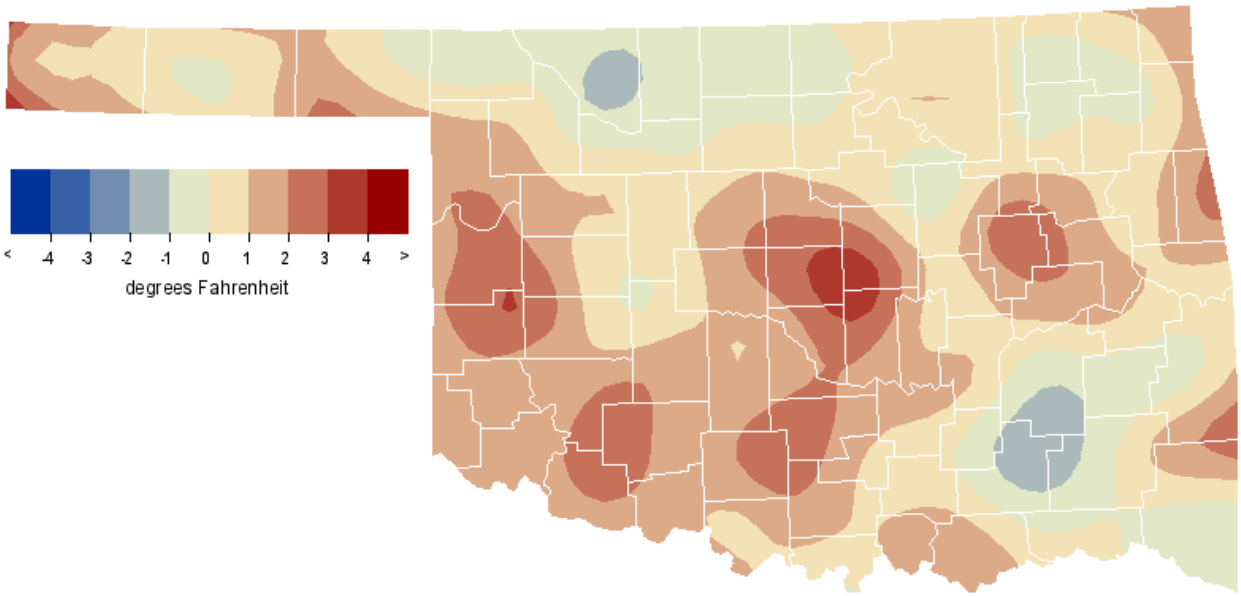
AUGUST 2012 AVERAGE SOIL MOISTURE AT 25CM



AUGUST 2012 AVERAGE TEMPERATURE



AUGUST 2012 DEPARTURE FROM NORMAL TEMPERATURE

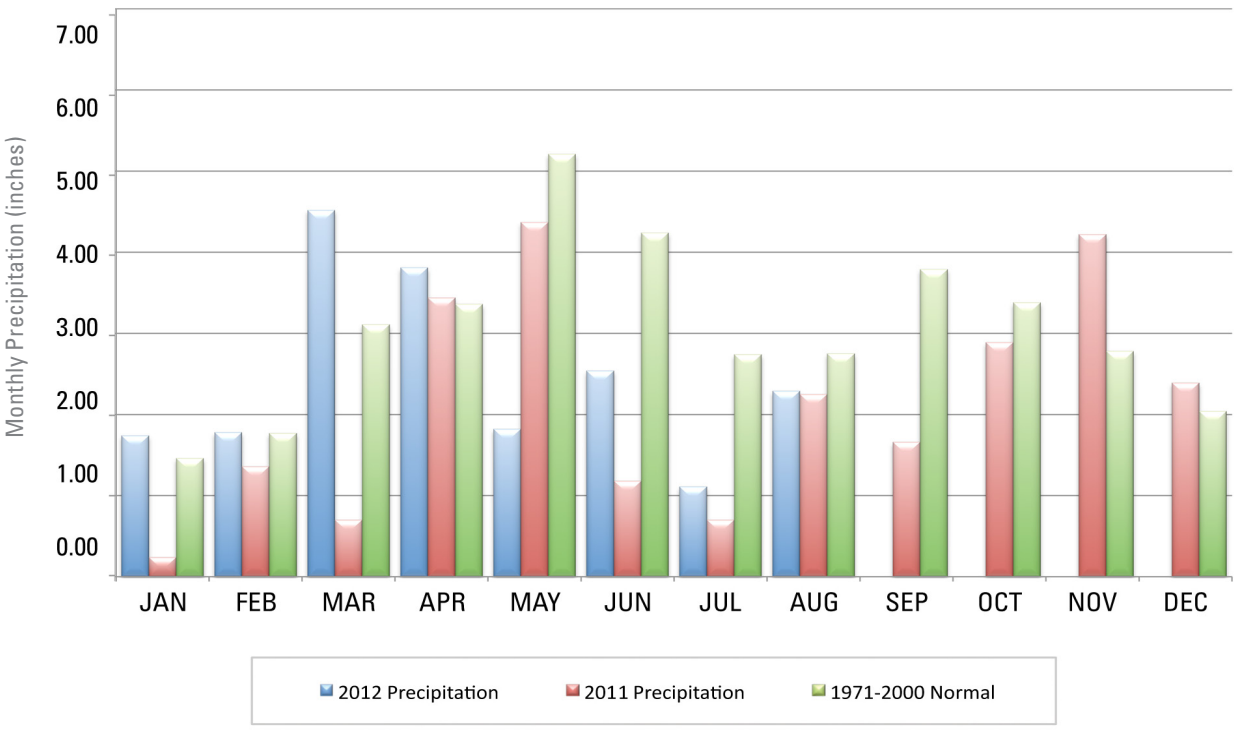


MESONET MONTHLY SUMMARY FOR AUGUST 2012

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	80.3	111	2	56	20	0	473	1.26	.56	7
Beaver	79.1	111	1	52	29	0	438	1.06	.55	7
Boise City	76.3	104	11	52	29	0	351	.57	.33	24
Buffalo	80.0	111	1	51	20	0	466	1.44	.38	25
NORTH CENTRAL										
Alva	79.6	112	1	50	20	0	451	1.83	.61	5
Blackwell	80.3	110	1	52	20	0	473	2.11	1.01	5
Breckinridge	80.9	112	1	51	20	0	492	1.22	.39	18
Cherokee	80.4	112	1	52	20	0	477	1.75	.76	5
Fairview	81.2	113	1	55	20	0	502	1.14	.43	14
Freedom	80.2	113	1	53	20	0	471	1.74	.71	18
Lahoma	80.9	112	1	56	20	0	492	1.86	.69	14
NORTHEAST										
Bixby	*****	***	***	***	***	****	****	3.94	2.31	25
Burbank	80.9	110	1	55	20	0	492	1.29	.41	17
Claremore	81.8	111	1	58	20	****	****	*****	*****	***
Copan	80.9	110	4	53	20	0	492	3.06	1.65	25
Foraker	79.9	110	4	54	20	0	461	3.71	1.89	25
Inola	81.8	111	1	59	20	0	520	2.91	1.04	26
Jay	79.8	108	2	54	20	0	459	4.25	2.72	26
Miami	79.5	109	2	52	20	0	449	2.77	.82	25
WEST CENTRAL										
Bessie	83.3	112	1	59	20	0	568	.53	.21	18
Butler	82.0	113	1	56	29	0	526	1.01	.35	6
Camargo	80.3	113	2	52	20	0	476	1.26	.65	23
Cheyenne	81.3	109	2	60	17	0	505	1.92	1.11	25
Erick	81.2	112	1	55	29	0	502	1.65	.65	7
CENTRAL										
Acme	82.4	112	1	57	22	0	539	2.09	1.07	18
Bowlegs	82.5	112	1	56	11	0	543	2.79	2.01	18
Bristow	80.8	114	1	52	11	0	490	2.18	.86	25
Lake Carl Blac	81.2	113	1	52	20	0	503	2.41	1.93	25
Chandler	82.6	113	1	60	20	0	544	3.15	1.36	25
Chickasha	83.0	113	1	58	29	0	558	1.68	.77	18
El Reno	81.0	114	3	53	20	0	497	1.73	.92	25
Guthrie	82.7	113	1	58	20	0	548	3.41	1.38	18
Kingfisher	82.5	115	1	55	20	0	543	3.09	1.86	25
Marena	82.3	113	1	58	20	0	537	3.31	2.61	25
Minco	82.2	110	1	60	20	0	533	2.48	1.22	25
Marshall	81.8	113	1	53	20	0	522	3.00	2.25	25
EAST CENTRAL										
Cookson	80.3	106	1	54	11	0	476	1.52	.42	31
Eufaula	83.0	111	1	58	11	0	559	1.95	.87	18
Haskell	81.9	112	1	58	11	0	524	1.97	.87	26
Hectorville	83.2	114	1	61	11	0	565	2.76	1.24	25
Holdenville	81.8	111	2	59	11	0	519	4.08	1.92	18
McAlester	80.6	106	1	57	29	0	484	4.62	1.89	8
Okmulgee	81.7	112	1	53	11	0	517	3.26	1.14	18
SOUTHWEST										
Altus	83.9	111	1	60	22	0	585	1.36	.51	25
Apache	82.0	110	2	59	22	0	527	2.37	.79	25
Fort Cobb	81.0	109	1	58	22	0	497	3.09	1.11	25
Grandfield	85.1	114	1	59	22	0	624	1.85	.61	14
Hinton	81.0	111	1	57	20	0	497	1.66	1.16	7
Hobart	83.1	111	2	57	22	0	562	.46	.18	14
SOUTH CENTRAL										
Ada	82.4	111	1	55	11	0	539	2.12	1.86	18
Ardmore	83.6	109	1	60	22	0	575	2.58	1.10	14
Burneyville	82.6	109	1	56	22	0	545	2.63	.81	26
Byars	82.5	110	1	60	11	0	543	2.73	1.59	18
Centrahoma	81.7	108	1	58	11	0	517	4.28	2.79	18
Durant	83.0	107	9	61	22	0	557	2.17	.91	14
Fittstown	82.0	109	1	60	22	0	526	2.33	1.84	18
Ketchum Ranch	83.9	112	1	60	22	0	585	1.76	1.60	18
Lane	80.8	106	1	59	29	0	489	5.39	2.48	18
SOUTHEAST										
Antlers	79.8	104	1	56	11	0	459	5.53	3.90	18
Antlers	*****	***	***	***	***	****	****	*****	*****	***
Broken Bow	80.4	103	5	57	23	0	477	5.70	2.87	17
Clayton	81.5	106	1	57	29	0	511	3.86	2.60	18
Cloudy	80.6	102	1	60	23	0	484	3.27	2.06	18
Hugo	81.8	103	1	62	23	0	521	3.25	1.80	18

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	77.5	105	1	54	30	0	386	.85	.34	24
Hooker	78.7	108	1	52	29	0	425	.49	.28	24
Kenton	76.9	103	1	54	31	0	370	1.04	.58	24
Slapout	79.2	110	1	56	22	0	441	1.25	.48	25
May Ranch	79.5	110	1	53	20	0	450	.70	.19	18
Medford	80.0	111	1	50	20	0	464	2.31	.97	25
Newkirk	80.5	109	4	58	20	0	480	2.53	1.66	25
Red Rock	81.6	113	1	53	20	0	513	1.19	.66	25
Seiling	80.0	113	1	50	20	0	466	1.19	.42	23
Woodward	79.5	112	2	53	20	0	449	2.31	.92	5
Nowata	80.2	111	4	50	20	0	471	2.44	1.29	25
Pawnee	81.9	112	1	57	20	0	523	1.58	.65	18
Porter	82.4	111	1	60	11	0	539	2.47	.74	26
Pryor	80.8	110	2	55	20	0	490	2.98	1.38	25
Skiatook	82.4	110	2	60	21	0	539	1.63	.91	25
Vinita	79.7	109	2	53	20	0	456	3.49	1.06	26
Wynona	81.4	111	1	56	20	0	509	.94	.25	4
Putnam	81.0	112	1	54	20	0	496	2.02	1.54	23
Retrop	82.6	111	2	62	20	0	545	1.70	.64	25
Watonga	81.7	112	1	59	20	0	518	2.04	.68	25
Weatherford	82.4	112	3	61	20	0	539	1.02	.52	25
Ninnekah	83.0	112	1	58	22	0	557	1.96	1.14	18
Norman	83.3	111	1	59	20	0	566	3.14	1.52	25
Oilton	81.4	114	1	55	11	****	****	3.38	1.57	25
OKC East	83.0	112	3	58	20	0	557	2.85	1.59	25
OKC North	83.3	111	1	61	20	0	568	3.85	2.26	25
OKC West	83.6	110	1	61	20	0	578	1.92	1.18	25
Okemah	82.6	114	1	58	11	0	547	3.98	1.48	26
Perkins	82.8	114	1	59	20	0	551	3.37	2.72	25
Shawnee	83.0	113	1	60	20	0	559	3.95	1.80	18
Spencer	82.5	112	3	57	11	0	543	3.47	2.67	25
Stillwater	*****	***	***	***	***	****	****	2.64	1.88	25
Washington	83.0	113	1	58	22	0	558	3.62	1.10	26
Sallisaw	81.9	109	1	58	20	0	525	2.99	1.11	26
Stigler	82.2	109	1	54	11	0	532	2.06	1.47	18
Stuart	82.0	109	1	61	19	0	526	3.43	1.93	18
Tahlequah	80.8	108	2	57	20	0	491	2.83	1.21	26
Webbers Falls	81.6	109	2	59	11	0	515	3.85	1.87	8
Westville	80.2	106	1	55	20	0	470	2.53	1.40	26
Hollis	83.5	111	2	59	30	0	572	2.32	1.01	21
Mangum	82.8	113	2	56	29	0	551	1.50	.51	25
Medicine Park	84.3	112	1	61	19	0	598	1.46	.67	25
Tipton	84.1	112	2	60	20	0	591	1.11	.53	25
Walters	*****	***	***	***	***	****	****	*****	*****	***
Madill	83.5	109	1	58	22	0	575	1.67	1.04	14
Newport	83.5	110	1	62	19	0	573	2.68	1.12	14
Pauls Valley	83.7	112	1	60	29	0	579	1.27	1.00	18
Ringling	84.0	111	1	60	22	0	590	2.09	1.24	18
Sulphur	82.2	109	1	59	22	0	534	2.60	1.41	18
Tishomingo	82.4	109	2	61	22	0	540	3.01	1.68	18
Vanoss	82.5	110	1	56	29	0	543	1.61	1.35	18
Waurika	84.2	112	1	59	22	0	595	1.65	.60	14
Idabel	81.3	101	5	58	23	0	507	2.23	.45	8
Mt Herman	80.6	100	9	59	20	0	485	4.13	3.12	18
Talihina	81.4	105	6	55	29	****	****	2.22	1.35	18
Wilburton	81.2	106	6	55	11	0	501	3.23	1.93	18
Wister	81.1	107	1	55	29	0	501	2.65	1.89	18

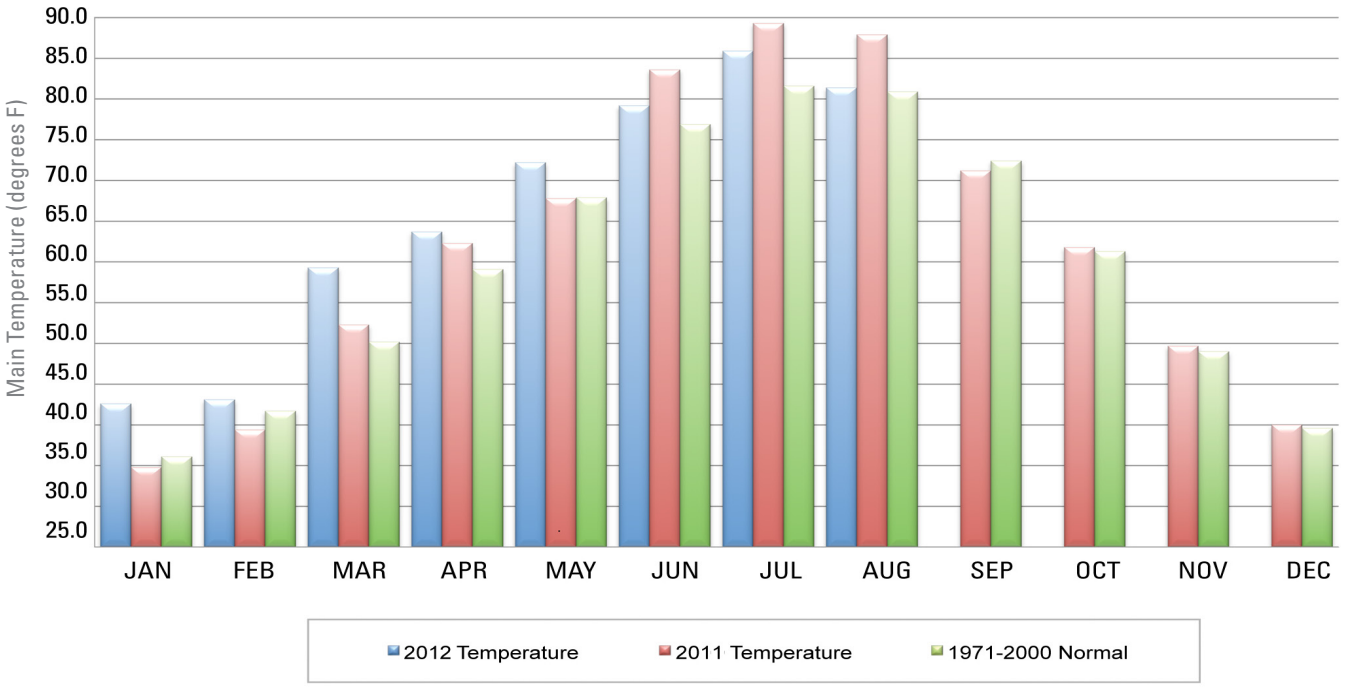
2011 AND 2012 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



August 2012 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	August-11
Panhandle	0.99	-1.51	10th Driest	5.68 (1977)	0.47 (1913)	2.01
North Central	1.68	-1.37	29th Driest	7.69 (1974)	0.09 (1913)	2.53
Northeast	2.68	-0.50	52nd Driest	8.03 (1964)	0.02 (2000)	4.74
West Central	1.46	-1.26	29th Driest	7.25 (2005)	0.05 (1913)	1.93
Central	2.89	0.26	53rd Wettest	7.21 (1906)	0.03 (2000)	2.38
East Central	2.91	0.04	58th Wettest	6.89 (1915)	0.00 (2000)	2.98
Southwest	1.70	-0.99	46th Driest	8.01 (1996)	0.00 (1913)	0.76
South Central	2.50	-0.04	52nd Wettest	8.46 (1915)	0.01 (2000)	1.22
Southeast	3.61	0.90	43rd Wettest	8.73 (1915)	0.19 (1943)	1.77
Statewide	2.29	-0.48	42nd Driest	6.54 (1906)	0.14 (2000)	2.31

2011 AND 2012 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



August 2012 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	August-11 (F)
Panhandle	78.5	0.7	55th Warmest	85.1 (2011)	71.3 (1915)	85.1
North Central	80.3	-0.4	49th Coolest	88.9 (1936)	72.3 (1915)	86.4
Northeast	80.8	1.0	53rd Warmest	88.4 (1936)	71.7 (1915)	86.0
West Central	81.8	1.6	40th Warmest	88.1 (2011)	72.9 (1915)	88.1
Central	82.4	1.4	44th Warmest	88.7 (2011)	73.1 (1915)	88.7
East Central	81.7	1.3	49th Warmest	88.0 (1936)	73.0 (1915)	88.0
Southwest	83.2	1.4	46th Warmest	91.2 (2011)	75.4 (1915)	91.2
South Central	82.8	1.0	49th Warmest	90.6 (2011)	75.5 (1915)	90.6
Southeast	80.7	0.4	58th Coolest	87.4 (2011)	74.5 (1915)	87.4
Statewide	81.4	1.0	53rd Warmest	87.9 (2011)	73.2 (1915)	87.9

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Daily High Temperature	1	Oklahoma City	112	108	1980
Daily High Temperature	1	Tulsa	112	110	2011
Daily High Minimum Tempertaure	2	Oklahoma City	82	81	2006
Daily High Temperature	2	Oklahoma City	112	110	1980
Daily High Temperature	2	Tulsa	112	112	2011
High Minimum Temperature	2	McAlester	83	82	1998
Daily High Temperature	3	Oklahoma City	113	109	2011
High All-Time Maximum Temperature	3	Oklahoma City	113	113	1936
High All-Time Minimum Temperature	3	Oklahoma City	84	83	1936
Daily High Temperature	4	Oklahoma City	109	108	2011
Daily High Temperature	4	Bartlesville	112	111	1958
Daily High Minimum Temperature	4	McAlester	83	83	2011
Daily Maximum Rainfall	8	McAlester	1.94 in.	0.89 in.	1958
Daily Low Temperature	11	Tulsa	58	58	1931
Daily Maximum Rainfall	18	McAlester	1.86 in.	0.99 in.	2007

MESONET EXTREMES FOR AUGUST 2012

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	111	1st	Beaver	51	20th	Buffalo	1.44	Buffalo	0.58	24th	Kenton
North Central	113	1st	Fairview	50	20th	Seiling	2.53	Newkirk	1.66	25th	Newkirk
Northeast	112	1st	Pawnee	50	20th	Nowata	4.25	Jay	2.72	26th	Jay
West Central	113	2nd	Camargo	52	20th	Camargo	2.04	Watonga	1.54	23rd	Putnam
Central	115	1st	Kingfisher	52	20th	Lake Carl Blackwell	3.98	Okemah	2.72	25th	Perkins
East Central	114	1st	Hectorville	53	11th	Okmulgee	4.62	McAlester	1.93	18th	Stuart
Southwest	114	1st	Grandfield	56	29th	Mangum	3.09	Fort Cobb	1.16	7th	Hinton
South Central	112	1st	Waurika	55	11th	Ada	5.39	Lane	2.79	18th	Centrahoma
Southeast	107	1st	Wister	55	11th	Wilburton	5.70	Broken Bow	3.90	18th	Antlers
Statewide	115	1st	Kingfisher	50	20th	Seiling	5.70	Broken Bow	3.90	18th	Antlers

SEPTEMBER OUTLOOK

Summer's heat fades as precipitation increases across most of Oklahoma during September. The statewide-averaged normal temperature for the month, 73.0 degrees, makes September the fourth warmest month of the year. As such, climatologists consider it the first month of the autumn transitional season. Monthly precipitation decreases in extreme northwestern portions of the state, even as the rest of the state enjoys a second rainy season. Normal monthly precipitation, averaged statewide, is 3.80 inches, an increase of more than one inch over either of the two previous months. An increasing frequency of fronts, bringing cooler air from the northern plains, leads to the lower temperatures, an effect that often isn't apparent before the middle of the month.

Freezes are uncommon in September, but stations in the extreme northwest experience a freeze before the end of September in about 10 percent of years. The earliest reported freeze is September 15, in 1993 at Freedom (28 degrees), Gage (30 degrees), and Hammon (30 degrees), and in 1947 at Kenton (31 degrees). Hot weather is most evident in the southwest. Chattanooga averages 16 days in September with a high temperature of 90 degrees or more, including four days in which the temperature reaches 100 degrees or more. Conversely, Kansas and Stilwell each average only six September days with the high temperature in the 90s. Triple digit temperatures occur only about once every third year at Miami, Kenton, and Boise City.

Statewide-averaged precipitation has varied between 0.27 inch in 1956 and 7.86 inches in 1945. Wyandotte recorded 16.82 inches in September 1945 to hold the monthly state record. The record daily precipitation at a regular reporting station is the 10.42 inches reported at Barnsdall on September 29, 1986. Snow is rare in September, But Boise City reported 4 inches for the month in 1984 and Kenton recorded 3 inches on September 17, 1971, the earliest snowfall in the state since at least 1910.

Tornadoes are slightly more frequent in September, averaging 2.1 each year, than they are during the previous two months. The most tornadoes reported in the state during September is 16 in 1992. No tornadoes were reported in the state during September in 18 of 52 years from 1950 through 2001 (the period of comprehensive records). Two people killed in Pottawattomie County on September 14, 1957 are the only tornado-related deaths recorded in September during that period.

Floods present a more common weather hazard than tornadoes in September. Residual moisture from tropical disturbances, usually from the Gulf of Mexico but occasionally from the Pacific Ocean, interacts with slow moving frontal systems in the state from time-to-time during the autumn months. Widespread heavy downpours are the typical result, frequently leading to flooding on larger rivers and streams. On other occasions, a frontal system will stall within the state and successive thunderstorms will form along the frontal boundary and follow along a narrow path, thereby producing intense rain over a limited area and causing dangerous flash flooding.

Temperature

Mean	73.0 degrees
Warmest September	1931, 79.8 degrees
Coolest September	1974, 64.7 degrees
Hottest recorded	115 degrees, Boise City, September 3, 1939 & 1947
Coldest recorded	25 degrees, Boise City, September 30, 1985
Hottest Location	Waurika, 76.8 degrees
Coolest Location	Boise City, 68.0 degrees

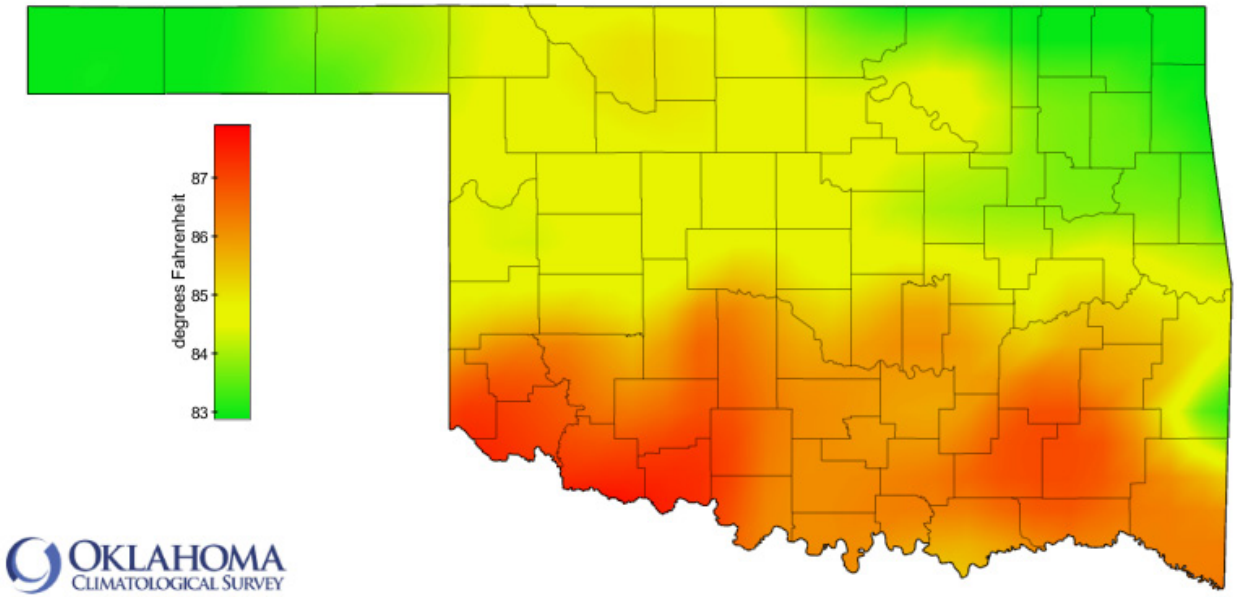
Precipitation

Mean	3.80 inches
Wettest September	1945, 7.86 inches
Driest September	1956, 0.27 inches
Wettest location	Kansas, 5.56 inches
Driest location	Regnier, 1.44 inches
Most recorded	16.82 inches, Wyandotte, 1945

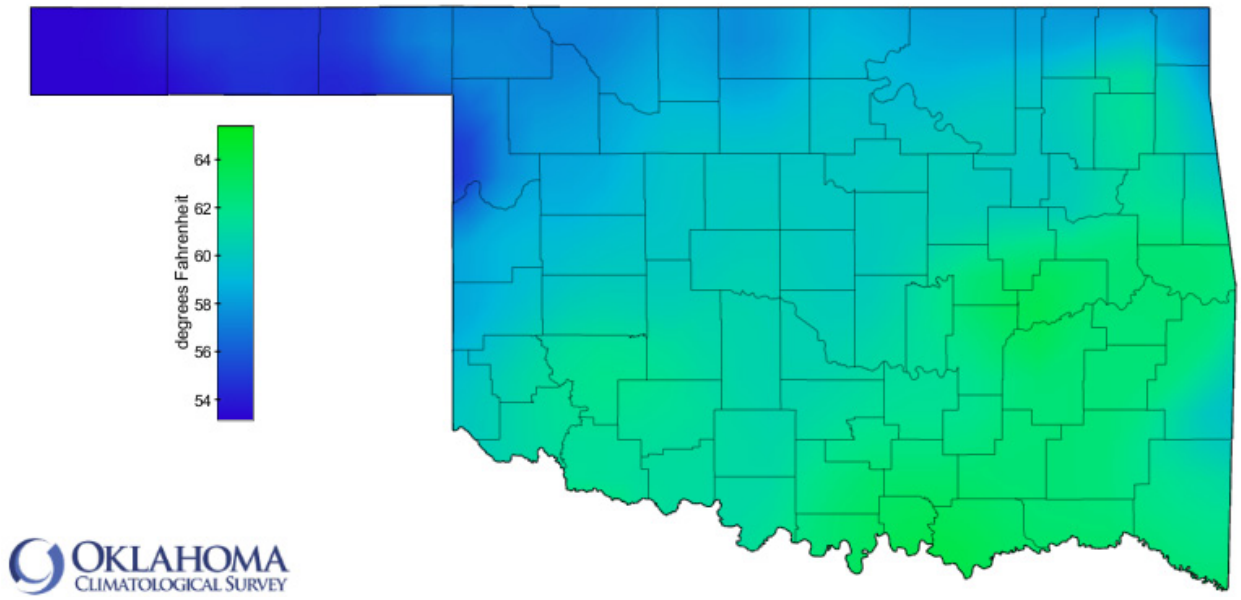
Tornadoes

Average September Tornadoes	2.0
Most	16 (1992)

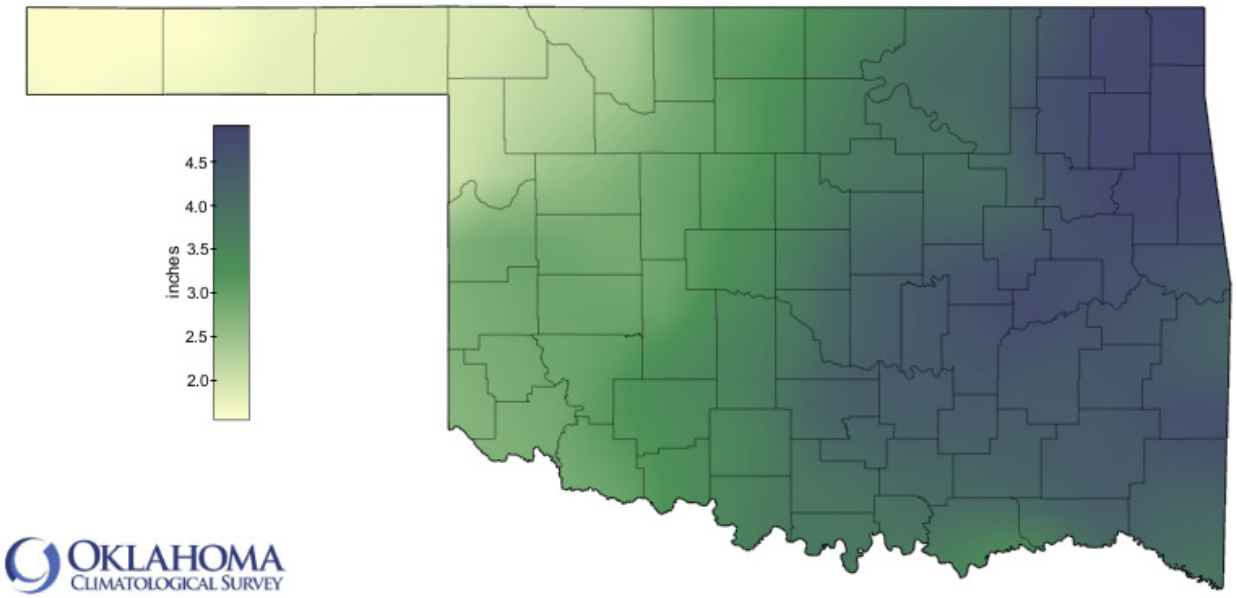
SEPTEMBER NORMAL DAILY MAXIMUM TEMPERATURE (1981-2010)



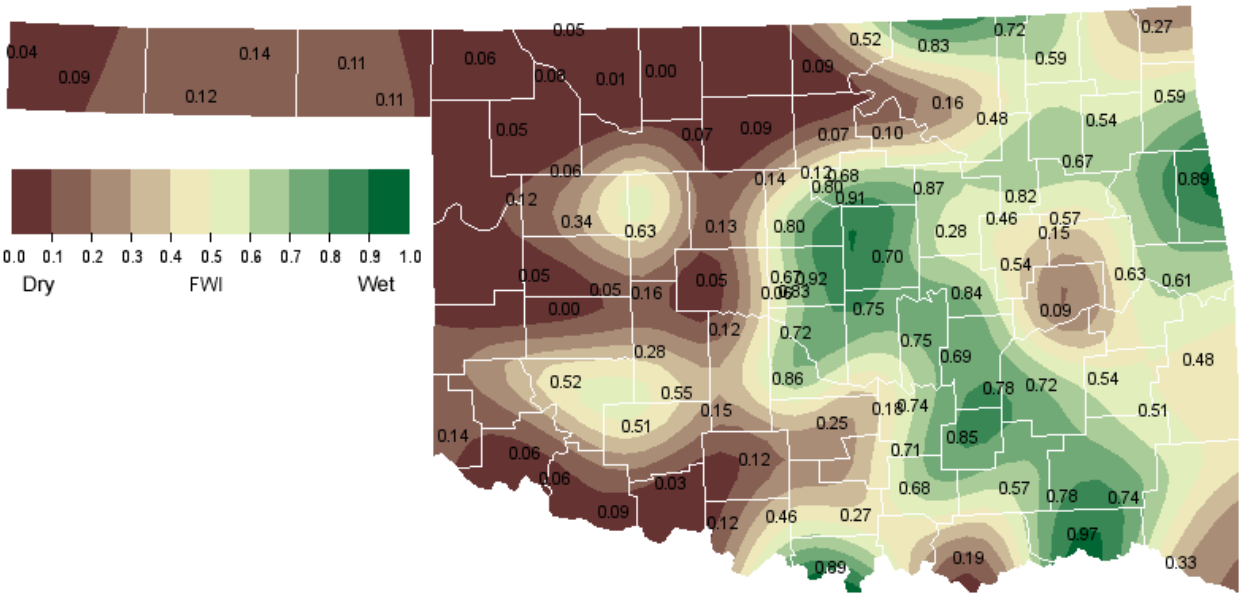
SEPTEMBER NORMAL DAILY MINIMUM TEMPERATURE (1981-2010)



SEPTEMBER NORMAL PRECIPITATION (1981-2010)



SEPTEMBER 1, 2012 SOIL MOISTURE CONDITIONS AT 25CM



SEPTEMBER 2012 DROUGHT INDICES

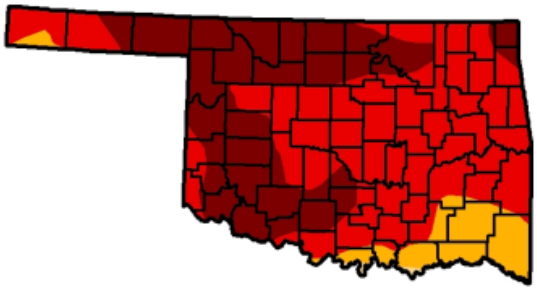
U.S. Drought Monitor

August 28, 2012
Valid 7 a.m. EST

Oklahoma

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	99.62	90.00	37.03
Last Week (08/21/2012 map)	0.00	100.00	100.00	99.62	90.11	48.10
3 Months Ago (05/29/2012 map)	27.30	72.70	16.50	11.14	3.26	0.00
Start of Calendar Year (12/27/2011 map)	14.83	85.17	78.76	50.55	27.48	3.33
Start of Water Year (09/27/2011 map)	0.00	100.00	100.00	100.00	78.97	66.42
One Year Ago (08/23/2011 map)	0.00	100.00	100.00	96.63	85.37	66.87



Intensity:

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

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

http://droughtmonitor.unl.edu

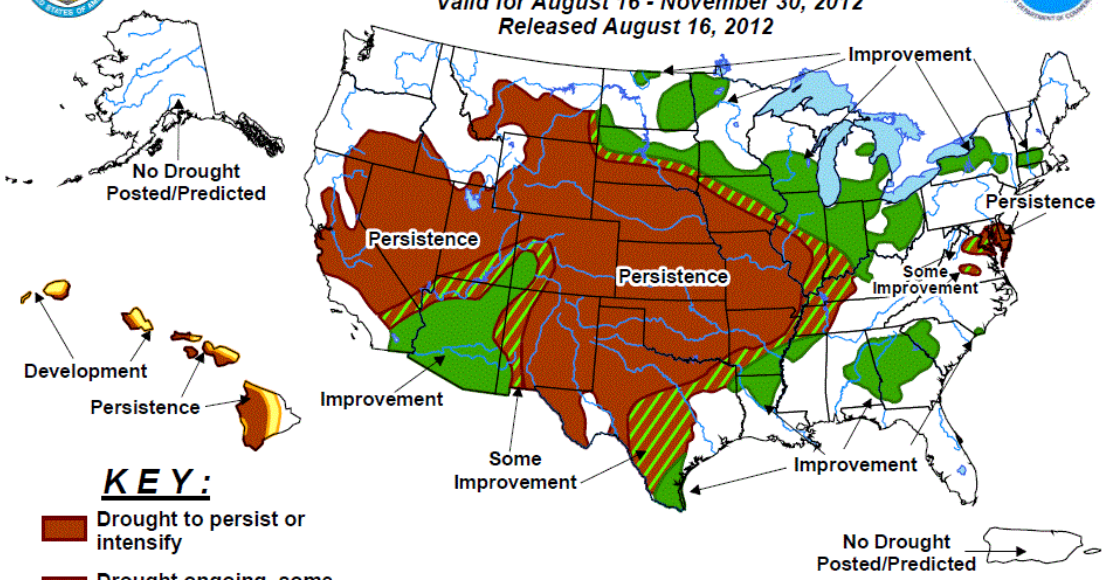
USDA · National Drought Mitigation Center

Released Thursday, August 30, 2012
Brian Fuchs, National Drought Mitigation Center

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for August 16 - November 30, 2012
Released August 16, 2012

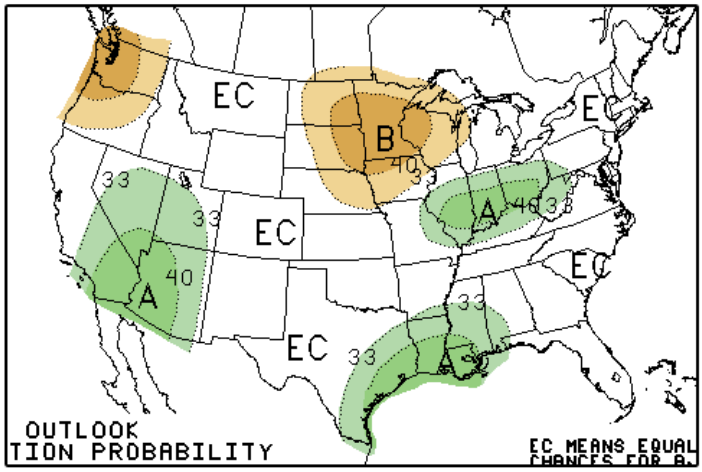


KEY:

- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

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 green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

SEPTEMBER 2012 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

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

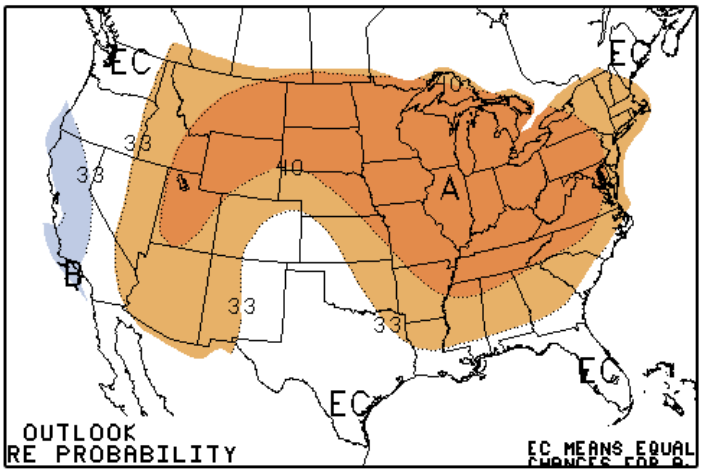
A = Above

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

B = Below

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

SEPTEMBER 2012 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

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

A = Above

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

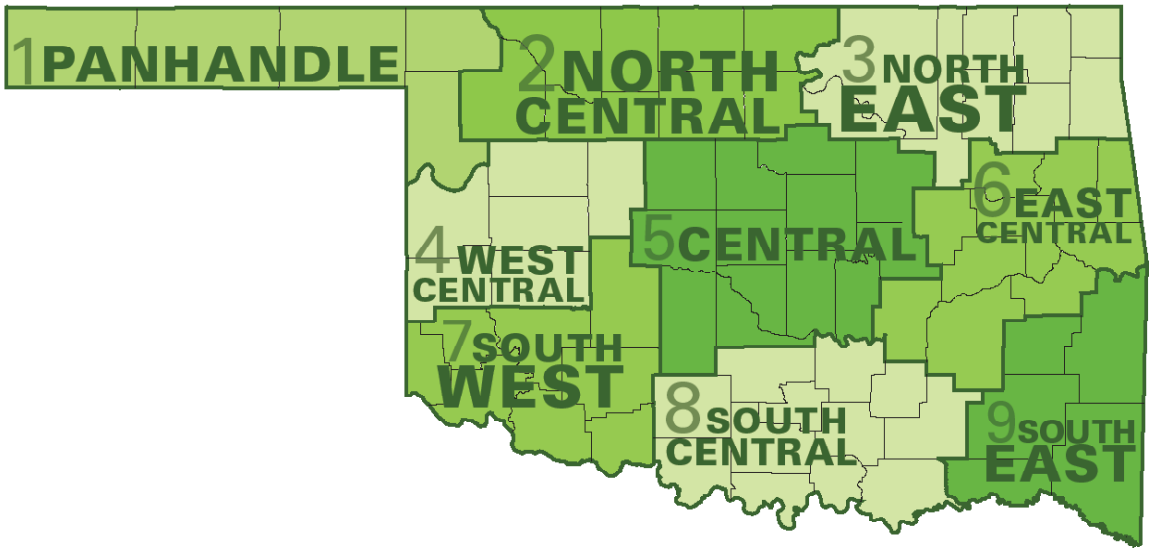
B = Below

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

SEPTEMBER CLIMATE NORMALS

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	84.5	55.6	70.1	1.86
2	84.8	59.2	72	3.13
3	84.1	60.5	72.3	4.83
4	84.7	59.5	72.1	2.95
5	84.8	61.0	72.9	4.03
6	84.5	61.3	72.9	4.88
7	86.4	61.0	73.7	3.34
8	86.2	62.3	74.3	4.27
9	85.9	60.9	73.4	4.52
Statewide	85.1	60.3	72.7	3.9

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 may 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 may 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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