Oklahoma Monthly Climate Summary

AUGUST 2011

OKLAHOMA CLIMATOLOGICAL SURVEY

August put the final touches on the momentous 2011 summer. The statewide average temperature was 87.7 degrees, 7.3 degrees above normal and the warmest August on record for Oklahoma. The previous record was 87.2 degrees from 1936. The precipitation total across the state was a bit better thanks to heavy rains in the northeastern corner of the state. That average statewide total was 2.25 inches, about a half of an inch below normal and the 42nd driest August on record. The state's climatological summer – June 1 through August 31 – ended with a statewide average of 86.8 degrees, obliterating the previous state record of 85.2 degrees from the summer of 1934. The January-August statewide average temperature was propelled to the third warmest on record at 64.8 degrees, 2.9 degrees above normal. The precipitation total was even worse, ranked second driest with 14.16 inches, 10.5 inches below normal.

August 2011 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	115°F	Wilburton, Wister	3
Low Temperature	55°F	Lake Carl Albert	26
High Precipitation	6.55 in.	Inola	--
Low Precipitation	0.01 in.	Tipton	--

PRECIPITATION

August saw relief for some but a continuation of desperate times for others. The northeastern quarter of the state led the way with 4-6 inches of drought-relieving rainfall. Much of the state saw at least 1-2 inches but high temperatures and sunny skies made short work of that moisture. As for the southwest and parts of south central Oklahoma, they were left high and dry once again. The Oklahoma Mesonet site at Tipton saw a miserable one-hundredth of an inch of rain during the month.

TEMPERATURE

Southwest Oklahoma, the area hit hardest by the drought and heat, had an average temperature of 91 degrees, 9.2 degrees above normal. That tops the previous warmest August for that region by nearly 3 degrees. The average high temperature for the month in that corner of the state was 105 degrees. The statewide average high temperature through the summer was 100.5 degrees, topped by southwestern Oklahoma's average high of 104 degrees.

AUGUST DAILY HIGHLIGHTS

AUGUST 1-8: While this eight-day period was dangerously hot with highs in the 110s over much of the state, there were also chances for storms thanks to a cool front and subsequent outflow boundaries. Oklahoma City set or tied record highs on five of the eight days and warmest minimums on two days. Tulsa also set or tied record highs on seven days. The rain was much needed but it also came with unwanted severe weather, mostly in the form of high winds. Damage and injuries were reported from the White Water amusement park in Oklahoma City on the third due to strong winds. The Lahoma Mesonet site recorded a wind gust of 96 mph on the eighth. There were numerous reports of winds between 70 and 80 mph during this period. Rainfall totals were mostly under an inch, although there were a few amounts of nearly 1.5 inches scattered about the state. The state's highest temperature of the month, 115 degrees, was recorded on the third at Wilburton and Wister.

August 2011 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2011)
Month (August)	87.7°F	7.3°F	1st Warmest
Season-to-Date (Jun-Aug)	86.8°F	7.2°F	1st Warmest
Year-to-Date (Jan-Aug)	64.8°F	2.9°F	3rd Warmest

Precipitation

	Average	Depart.	Rank (1895-2011)
Month (August)	2.25 in.	-0.52 in.	42nd Driest
Season-to-Date (Jun-Aug)	4.13 in.	-5.64 in.	3rd Driest
Year-to-Date (Jan-Aug)	14.16 in.	-10.50 in.	2nd Driest

Depart. = departure from 30-year normal

AUGUST 9-13: An unusually strong front clashed with the warm air over Oklahoma and produced several days of beneficial rainfall over the state. Unfortunately, the storms came with some stout severe weather. An EF2 tornado that destroyed three mobile homes near Locust Grove killed one person and injured two others. The tornado was on the ground for 5 miles. Up to 6 inches of rain was reported in northeast Oklahoma

during this period and another 3-4 inches fell just southwest of Oklahoma City. Most of the state received at least some rainfall, although southwestern Oklahoma was left largely dry through this period.

AUGUST 14-19: This six-day period was not quite as hot as the previous few weeks, but hot nonetheless by normal summer standards. Highs were mostly in the 90s and 100s, although a cold front on the 16th cooled things done a bit in the north. The front also kicked off a few showers and storms, with some of those becoming severe. As was the norm during August, the severe weather mostly took the form of severe winds.

AUGUST 20-24: A cold front and outflow boundaries were the focus for a few storms. The cold front separated warmer air to the south from relatively cooler air to the north. Even the cooler north had highs mostly in the 90s. Highs rose into the 100s elsewhere. Rainfall amounts were very light with the showers and storms. Once again there were reports of strong winds with some of the storms.

AUGUST 25-31: The last seven days of the month were extremely hot with very little rainfall. Highs were predominantly in the 100s. Wildfire conditions were quite high throughout the state.

AUGUST 2011 SEVERE WEATHER

Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Day
77	7 SSE Red Rock	Noble	3
72	1 E Mooreland	Woodward	3
81	2 E Mooreland	Woodward	3
76	2 S Alva	Woods	3
73	2 NNW Perkins	Payne	6
70	4 N Broken Bow	Tulsa	6
75	Okeene	Blaine	8
96	1 WSW Lahoma	Major	8
70	Vance Air Force Base	Garfield	8
73	4 SSE Billings	Noble	8
80	2 NNW Stillwater	Payne	8
70	Kingfisher	Kingfisher	8
72	2 NNW Stillwater	Payne	8
70	2 S Weatherford	Custer	8
71	6 N Oklahoma City	Oklahoma	8
80	3 SW Haskell	Muskogee	8
70	7 W Beaver	Beaver	9
70	Chouteau	Mayes	10
70	Lindsay	Garvin	12
78	4 WNW Bessie	Washita	21

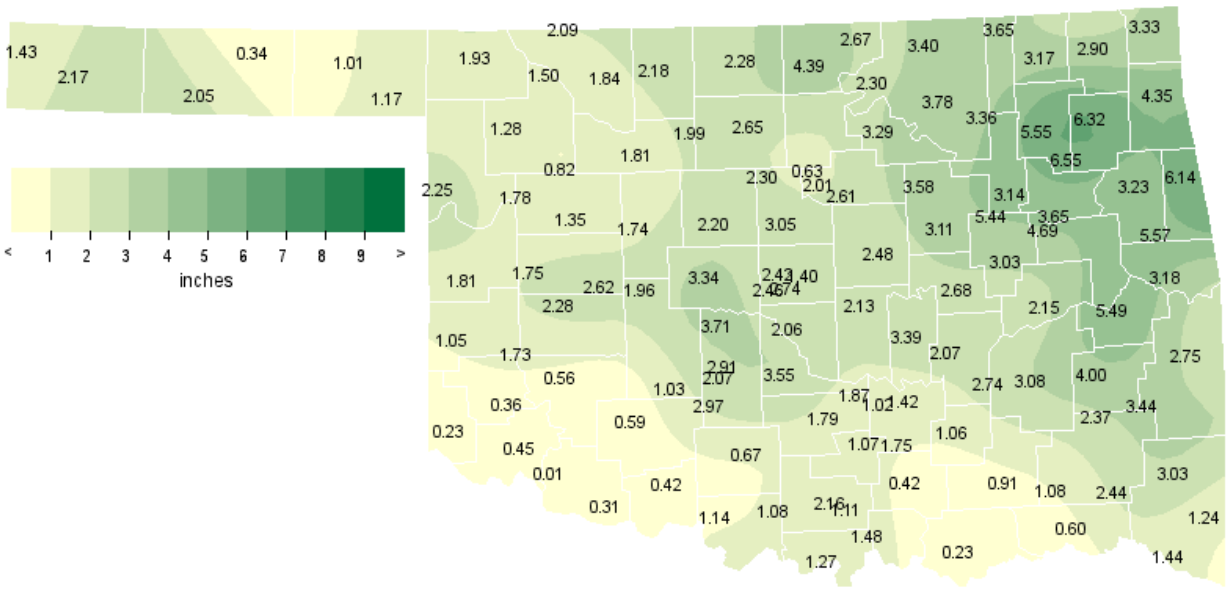
Significant Tornadoes (EF2 or greater)

EF-rating	County	Day
2	Mayes/Cherokee	10

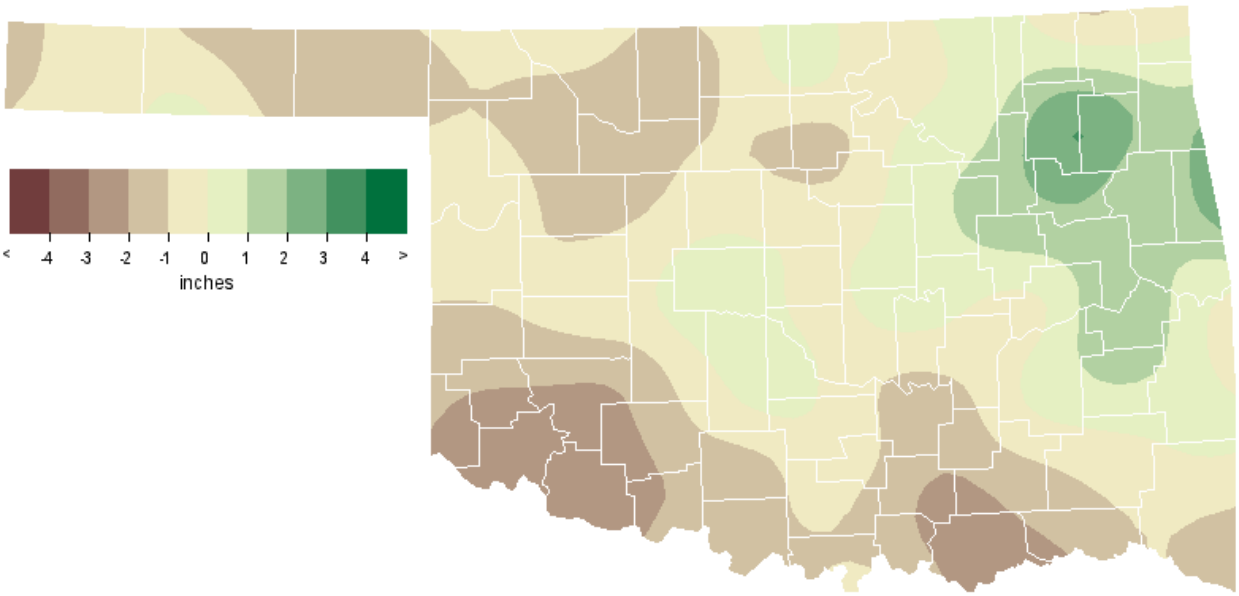
Flooding

Location	County	Day
Pryor	Mayes	12

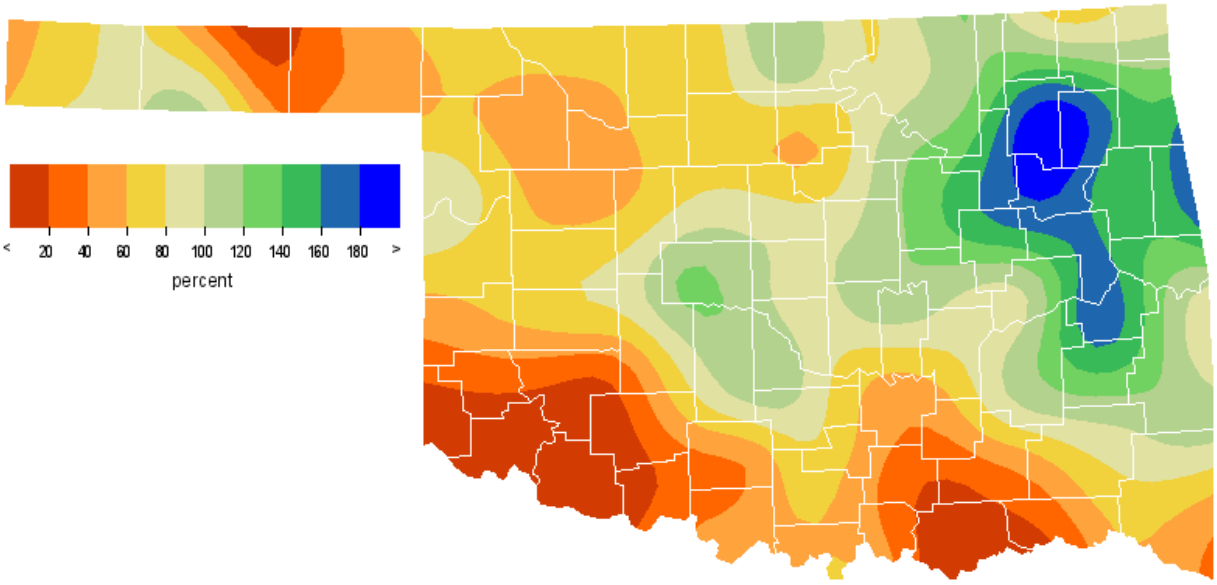
AUGUST 2011 OBSERVED PRECIPITATION



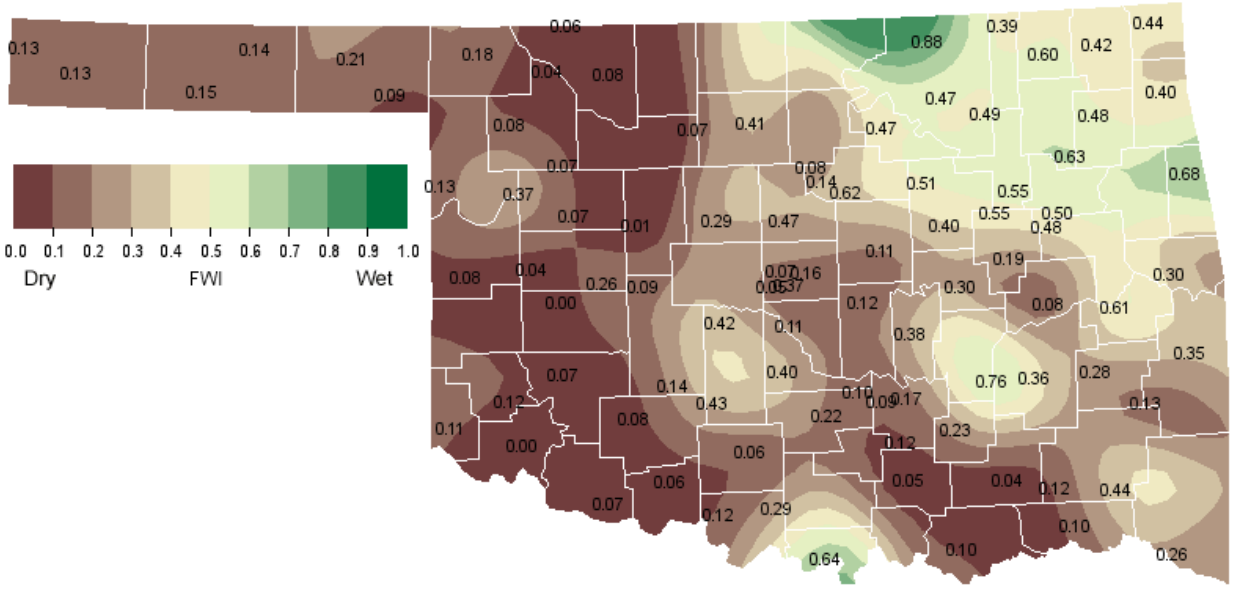
AUGUST 2011 DEPARTURE FROM NORMAL PRECIPITATION



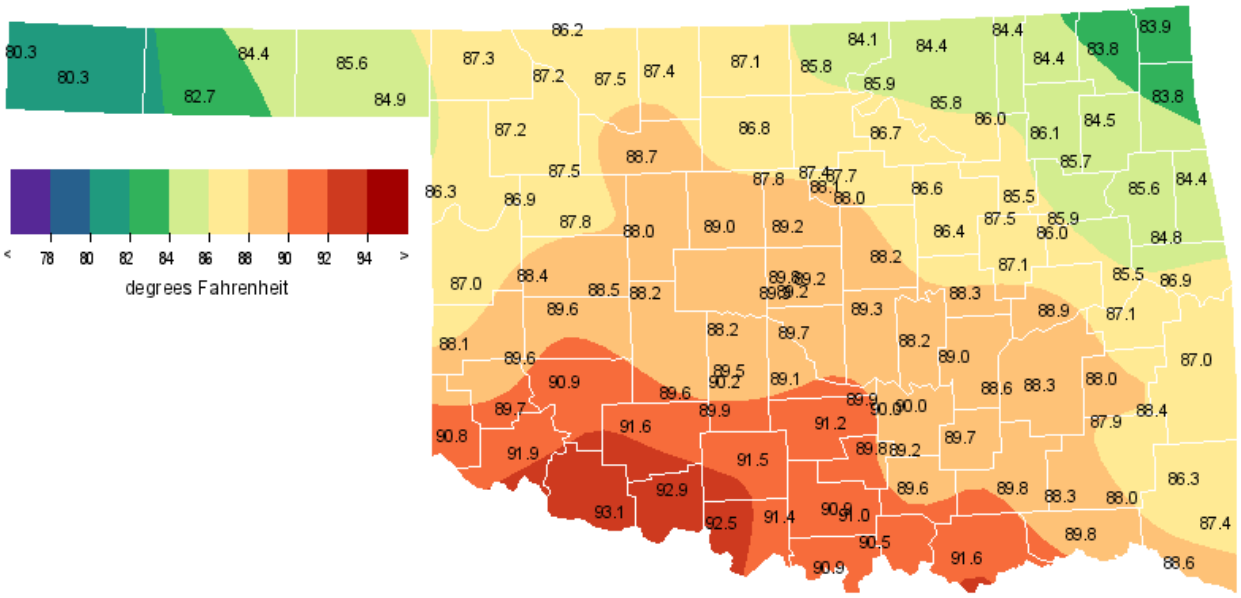
AUGUST 2011 PERCENT OF NORMAL PRECIPITATION



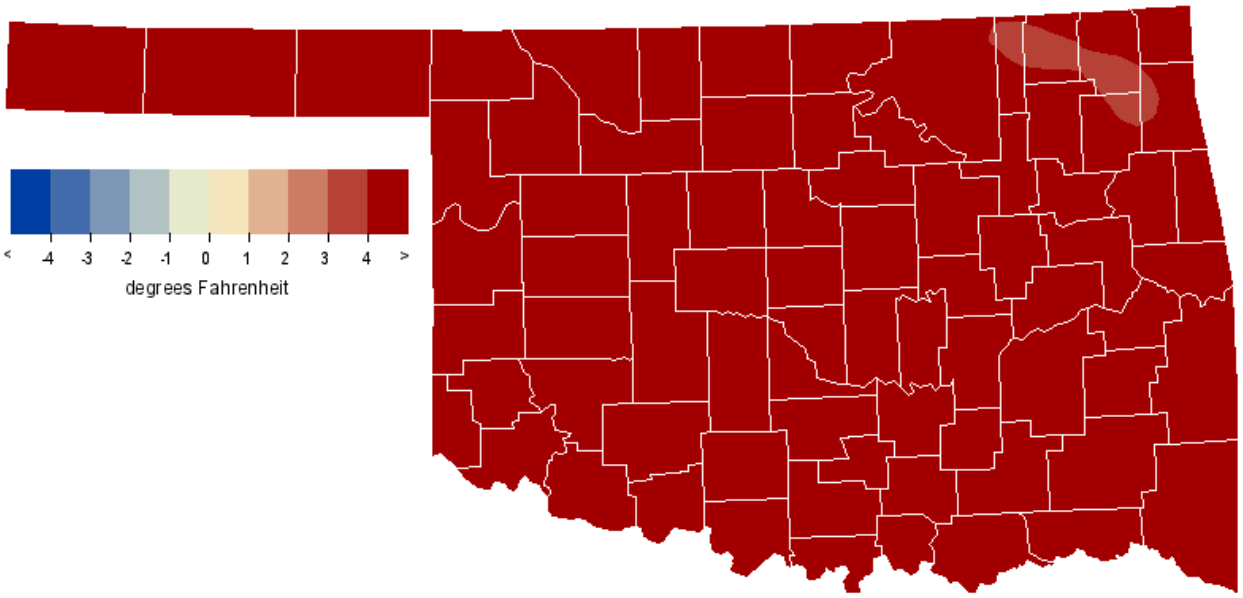
AUGUST 2011 AVERAGE SOIL MOISTURE AT 25CM



AUGUST 2011 AVERAGE TEMPERATURE



AUGUST 2011 DEPARTURE FROM NORMAL TEMPERATURE

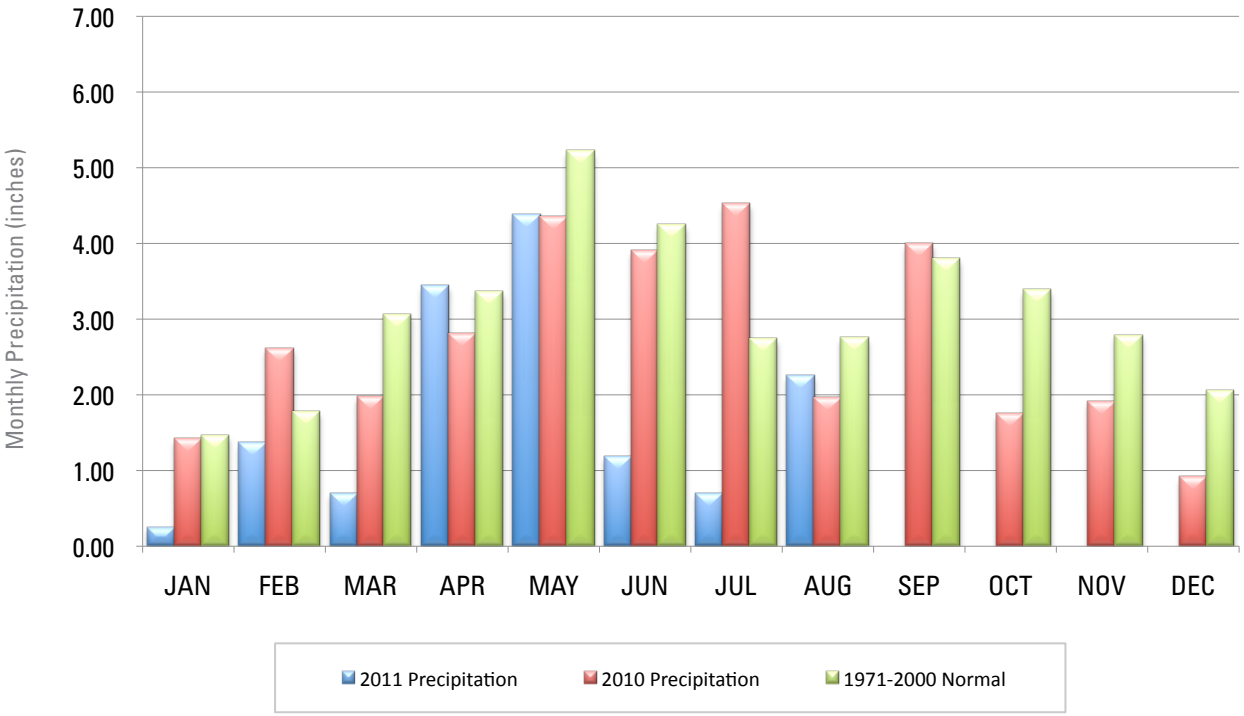


MESONET MONTHLY SUMMARY FOR AUGUST 2011

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	86.3	109	2	63	26	0	659	2.25	.91	7
Beaver	85.6	110	24	63	26	0	638	1.01	.29	5
Boise City	80.2	101	31	60	9	0	472	2.17	.71	5
Buffalo	87.3	112	2	60	26	0	690	1.93	.60	5
NORTH CENTRAL										
Alva	87.5	112	2	60	26	0	697	1.84	1.01	11
Blackwell	85.8	112	2	60	26	0	645	4.39	2.52	12
Breckinridge	86.7	111	24	59	26	0	674	2.65	1.45	11
Cherokee	87.4	111	2	60	26	0	694	2.18	.87	19
Fairview	88.7	112	2	61	26	0	735	1.81	1.02	12
Freedom	87.2	112	2	63	26	0	689	1.50	.41	5
Lahoma	*****	***	***	***	***	****	****	1.99	.91	11
NORTHEAST										
Bixby	85.5	112	3	63	26	0	637	3.14	2.03	10
Burbank	85.9	112	2	58	26	0	649	2.30	.94	10
Claremore	86.2	112	5	62	26	0	656	5.55	3.19	12
Copan	84.4	111	2	57	26	0	601	3.65	1.94	12
Foraker	84.4	112	2	57	26	0	603	3.40	1.77	12
Inola	85.8	113	2	64	26	0	644	6.55	3.57	10
Jay	83.8	111	2	63	26	0	584	4.35	2.58	12
Miami	83.8	110	2	58	26	0	584	3.33	1.19	12
WEST CENTRAL										
Bessie	89.6	111	5	67	26	0	764	2.28	.92	12
Butler	88.4	111	5	63	26	0	725	1.75	.97	12
Camargo	86.9	111	24	58	26	0	678	1.78	1.13	11
Cheyenne	87.0	108	24	66	26	0	682	1.81	.71	6
Erick	88.2	111	8	64	27	0	718	1.05	.66	12
CENTRAL										
Acme	89.9	111	3	66	26	0	773	2.97	1.20	17
Bowlegs	88.2	112	3	65	26	0	719	3.39	2.56	11
Bristow	86.4	113	3	61	26	0	662	3.11	1.08	10
Lake Carl Blac	87.4	113	24	55	26	0	694	.63	.25	11
Chandler	88.2	111	3	65	26	0	719	2.48	.92	10
Chickasha	89.5	111	5	64	26	0	759	2.91	1.43	12
El Reno	87.1	112	5	58	26	****	****	3.34	1.59	11
Guthrie	89.2	111	5	64	26	0	749	3.05	.87	12
Kingfisher	89.0	113	5	58	26	0	744	2.20	1.05	8
Marena	88.1	113	3	62	26	0	717	2.01	.55	22
Minco	88.2	110	5	66	26	0	719	3.71	1.28	11
Marshall	87.8	111	5	57	26	0	707	2.30	1.05	12
EAST CENTRAL										
Cookson	84.9	112	3	63	15	0	615	5.57	1.04	10
Eufaula	88.8	114	3	68	28	0	739	2.15	.63	10
Haskell	86.0	113	3	64	26	0	650	4.69	1.72	10
Hectorville	87.5	114	3	66	26	0	697	5.44	2.04	10
Holdenville	89.0	111	3	66	26	0	743	2.07	1.14	10
McAlester	88.1	112	3	67	28	0	717	3.08	1.21	11
Okmulgee	87.1	114	3	64	26	0	684	3.03	1.24	10
SOUTHWEST										
Altus	91.9	112	30	69	13	0	835	.45	.28	12
Apache	89.6	109	6	66	13	0	763	1.03	.60	12
Fort Cobb	88.8	110	5	68	13	****	****	.20	.10	13
Grandfield	93.1	112	3	69	13	0	871	.31	.19	13
Hinton	88.2	110	5	65	26	0	719	1.96	.80	12
Hobart	90.9	111	5	68	13	0	803	.56	.53	12
SOUTH CENTRAL										
Ada	90.0	113	3	67	26	0	776	1.42	.71	11
Ardmore	91.0	111	3	70	12	0	805	1.11	.94	11
Burneyville	90.9	113	3	69	15	0	802	1.27	.67	11
Byars	89.9	110	2	68	11	0	773	1.87	1.15	13
Centrahoma	89.7	112	3	69	12	0	765	1.06	.58	25
Durant	91.6	111	3	71	12	0	825	.23	.15	13
Fittstown	89.2	111	3	68	11	0	751	1.75	1.26	11
Ketchum Ranch	91.6	111	3	67	13	0	824	.67	.39	13
Lane	89.7	112	3	71	12	0	767	.91	.44	11
SOUTHEAST										
Antlers	88.3	112	3	67	28	0	723	1.08	.96	11
Antlers	*****	***	***	***	***	****	****	*****	*****	***
Broken Bow	87.4	111	3	66	28	0	695	1.24	.60	21
Clayton	87.9	112	3	65	28	0	709	2.37	1.08	11
Cloudy	88.0	113	3	69	12	0	712	2.44	1.07	11
Hugo	89.7	111	3	71	12	0	766	.60	.21	29

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	82.7	105	24	62	9	0	549	2.05	.67	11
Hooker	84.4	109	24	62	9	0	601	.34	.11	5
Kenton	80.4	101	7	59	25	0	476	1.43	.43	16
Slapout	84.9	109	2	63	26	0	616	1.17	.54	19
May Ranch	86.2	110	2	65	13	0	658	2.09	.57	3
Medford	87.1	111	2	59	26	0	686	2.28	.86	12
Newkirk	84.1	106	2	60	26	0	592	2.67	1.33	10
Red Rock	87.6	113	2	58	26	****	****	2.06	.82	8
Seiling	87.5	112	24	58	26	0	696	.82	.28	24
Woodward	87.2	110	24	61	26	0	688	1.28	.68	12
Nowata	84.3	111	2	56	26	0	598	3.17	1.74	12
Pawnee	86.7	111	2	60	26	0	672	3.29	1.33	10
Porter	85.9	113	3	64	26	0	648	3.65	1.55	10
Pryor	84.5	111	3	61	26	0	606	6.32	3.93	12
Skiatook	86.0	112	2	64	13	0	652	3.36	2.17	10
Vinita	83.8	111	2	58	26	0	583	2.90	1.53	12
Wynona	85.8	112	2	61	26	0	645	3.78	2.43	10
Putnam	87.8	110	2	67	9	0	707	1.35	.92	12
Retrop	89.6	110	5	68	27	0	764	1.73	.84	12
Watonga	88.0	111	24	66	26	0	713	1.74	.52	24
Weatherford	88.5	109	5	67	26	0	727	2.62	1.00	12
Ninnekah	90.2	111	3	67	26	0	781	2.07	1.02	12
Norman	89.7	110	2	67	26	0	766	2.06	.79	13
Oilton	86.5	114	3	56	26	0	668	3.58	1.42	10
OKC East	89.2	110	2	63	26	0	751	2.74	1.89	11
OKC North	89.7	111	5	67	26	0	767	2.42	.91	11
OKC East	89.3	108	2	68	11	0	754	2.46	.81	3
Okemah	88.3	114	3	66	26	0	724	2.68	1.21	10
Perkins	88.0	112	2	62	26	0	714	2.61	1.14	6
Shawnee	89.2	112	2	64	26	0	752	2.13	.68	7
Spencer	89.2	110	5	65	26	0	751	1.40	.37	11
Stillwater	87.7	111	2	59	26	0	703	*****	*****	***
Washington	89.2	111	3	67	11	0	751	3.55	1.88	13
Sallisaw	86.9	113	3	67	28	0	678	3.18	.82	8
Stigler	87.1	114	3	68	28	0	685	5.49	1.99	12
Stuart	88.7	111	3	68	11	0	734	2.74	1.43	10
Tahlequah	85.7	112	3	64	27	0	640	3.23	1.28	10
Webbers Falls	85.4	111	3	67	28	0	633	*****	*****	***
Westville	84.3	111	3	64	15	0	599	6.14	3.13	10
Hollis	90.8	111	30	69	13	0	799	.23	.16	12
Mangum	89.6	111	5	65	27	0	764	.36	.19	12
Medicine Park	91.6	109	5	67	13	0	825	.59	.30	13
Tipton	92.7	111	28	69	13	0	858	.01	.01	13
Walters	92.9	112	4	69	13	0	863	.42	.42	13
Madill	90.5	112	3	71	13	0	790	1.48	.83	16
Newport	90.9	111	3	70	12	0	802	2.16	1.65	11
Pauls Valley	91.1	112	3	69	11	0	810	1.79	.87	13
Ringling	91.4	111	3	70	13	0	818	1.08	.86	11
Sulphur	89.8	110	3	69	11	0	768	1.07	.55	11
Tishomingo	89.6	112	3	69	12	0	763	.42	.28	11
Vanoss	90.0	111	3	67	26	0	776	1.02	.55	11
Waurika	92.5	112	9	68	13	0	852	1.14	.79	13
Idabel	88.6	111	3	69	28	0	731	1.44	.89	11
Mt Herman	86.3	110	3	66	28	0	660	3.03	1.36	3
Talihina	88.4	114	3	66	28	0	726	3.44	.88	29
Wilburton	88.0	115	3	67	28	0	713	4.00	1.17	11
Wister	86.9	115	3	63	28	0	680	2.75	.76	12

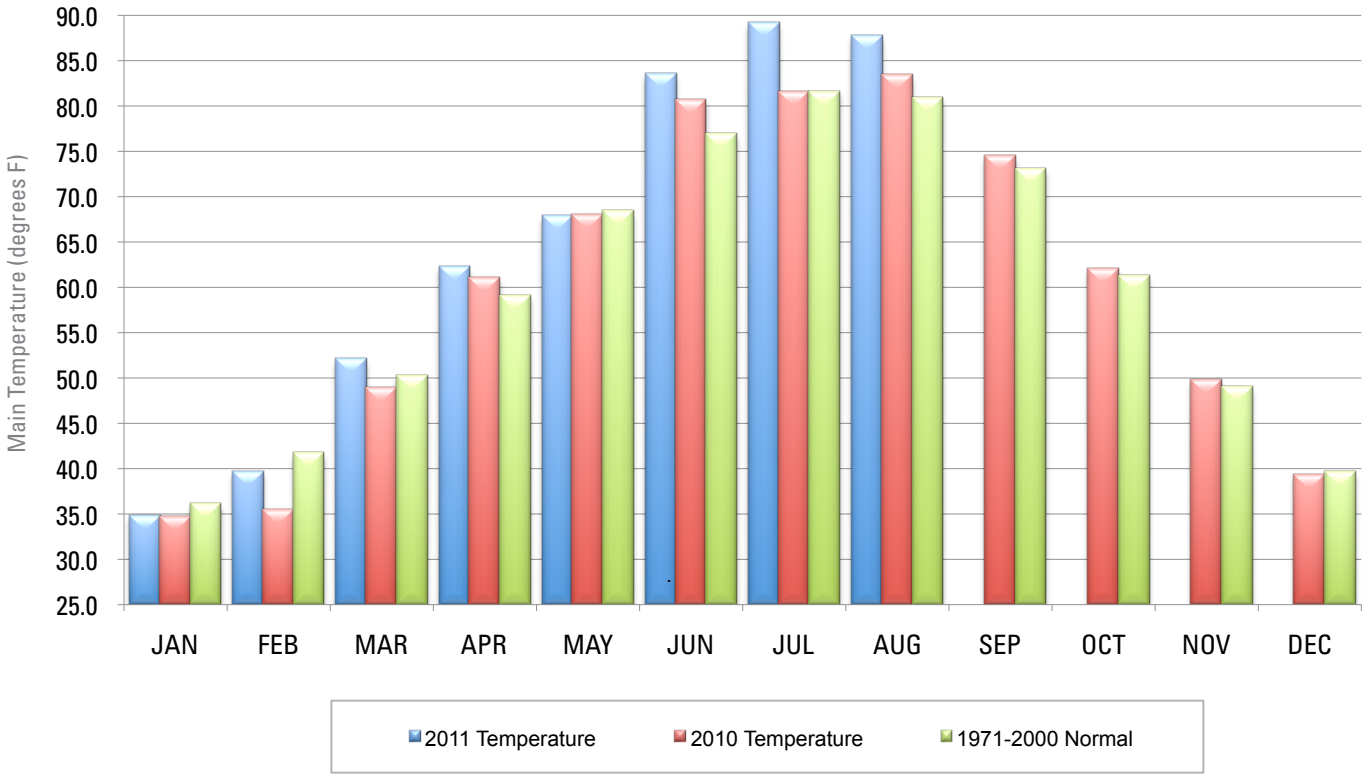
2010 AND 2011 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



August 2011 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Aug-10
Panhandle	0.95	-1.57	12th Driest	9.79 (1950)	0.37 (1935)	1.83
North Central	1.09	-1.89	15th Driest	9.06 (1950)	0.13 (1983)	4.73
Northeast	1.21	-1.95	27th Driest	9.31 (1959)	0.00 (1914)	5.16
West Central	0.55	-1.58	12th Driest	7.21 (1950)	0.05 (1936)	5.82
Central	0.61	-1.96	7th Driest	10.17 (1950)	0.16 (1980)	4.77
East Central	0.59	-2.39	8th Driest	10.15 (1950)	0.17 (1930)	4.37
Southwest	0.18	-2.00	4th Driest	7.35 (2010)	0.03 (1980)	7.35
South Central	0.31	-2.23	6th Driest	8.45 (1950)	0.08 (1998)	3.81
Southeast	0.76	-2.82	7th Driest	13.02 (1950)	0.00 (1930)	4.11
Statewide	0.70	-2.04	4th Driest	9.26 (1950)	0.41 (1980)	4.60

2010 AND 2011 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



August 2011 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Aug-10 (F)
Panhandle	84.0	6.2	1st Warmest	83.1 (1983)	71.3 (1915)	81.0
North Central	86.9	6.2	3rd Warmest	88.9 (1936)	72.3 (1915)	82.5
Northeast	85.1	5.3	7th Warmest	88.4 (1936)	71.7 (1915)	83.9
West Central	88.2	8.0	1st Warmest	87.4 (1936)	72.9 (1915)	83.2
Central	88.6	7.6	1st Warmest	88.3 (1936)	73.1 (1915)	84.1
East Central	86.9	6.5	3rd Warmest	88.0 (1936)	73.0 (1915)	85.4
Southwest	91.0	9.2	1st Warmest	88.1 (1952)	75.4 (1915)	85.0
South Central	90.6	8.8	1st Warmest	87.6 (1934)	75.5 (1915)	85.5
Southeast	88.0	7.7	1st Warmest	87.3 (1943)	74.5 (1915)	84.8
Statewide	87.7	7.3	1st Warmest	87.2 (1936)	73.2 (1915)	83.9

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Daily Maximum Temperature	1	Tulsa	110	110	1923
Daily Maximum Temperature	1	McAlester	108	107	1998
Highest Minimum Temperature	1	Tulsa	86	86	1980
Daily Maximum Temperature	2	Tulsa	112	108	1980
Daily Maximum Temperature	2	McAlester	110	108	1998
Highest Minimum Temperature	2	Tulsa	87	84	1980
Daily Maximum Temperature	2	McAlester	111	108	1998
Daily Maximum Temperature	3	Oklahoma City	109	106	2008
Highest Minimum Temperature	3	Oklahoma City	81	80	1994
Daily Maximum Temperature	3	McAlester	113	105	2008
Daily Maximum Temperature	3	Tulsa	112	110	1923
Daily Maximum Temperature	4	Oklahoma City	108	106	2008
Daily Maximum Temperature	4	Tulsa	113	110	1923
Daily Maximum Temperature	4	McAlester	108	106	1956
Highest Minimum Temperature	4	McAlester	83	80	1956
Daily Maximum Temperature	5	Oklahoma City	110	106	1964
Daily Maximum Temperature	5	Tulsa	111	110	1964
Daily Maximum Temperature	5	McAlester	110	109	1956
Daily Maximum Temperature	5	Tulsa	112	110	1964
Highest Minimum Temperature	5	Tulsa	86	83	2008
Highest Minimum Temperature	5	McAlester	83	80	1962
Daily Maximum Temperature	6	Oklahoma City	110	107	1951
Highest Minimum Temperature	6	Oklahoma City	81	80	1980
Daily Maximum Temperature	6	Tulsa	109	109	1956
Highest Minimum Temperature	6	McAlester	83	82	1962
Highest Minimum Temperature	7	McAlester	79	79	2000
Daily Maximum Temperature	8	Oklahoma City	108	107	1970
Daily Rainfall	10	Tulsa	3.44	2.19	1979
Daily Maximum Temperature	19	McAlester	105	105	1993
Daily Maximum Temperature	20	Oklahoma City	105	105	1911
Daily Maximum Temperature	23	Oklahoma City	106	105	1980
Daily Maximum Temperature	23	McAlester	103	103	2010
Daily Maximum Temperature	23	McAlester	105	103	2010
Daily Maximum Temperature	24	Oklahoma City	108	107	1922
Highest Minimum Temperature	24	Oklahoma City	78	78	1936
Daily Maximum Temperature	24	Tulsa	108	107	1936
Daily Maximum Temperature	27	Oklahoma City	105	104	2000
Daily Maximum Temperature	28	Oklahoma City	108	103	2000
Highest Minimum Temperature	28	Oklahoma City	80	80	1988
Highest Minimum Temperature	30	Oklahoma City	80	78	1947
Daily Maximum Temperature	31	Oklahoma City	105	104	2000

MESONET EXTREMES FOR JULY 2011

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	113	9th	Buffalo	60	3rd	Boise City	3.66	Kenton	1.65	13th	Kenton
North Central	114	9th	Freedom	66	8th	Blackwell	5.58	Newkirk	3.96	13th	Newkirk
Northeast	109	24th	Claremore	68	9th	Vinita	2.68	Foraker	2.24	13th	Foraker
West Central	111	9th	Bessie	66	5th	Camargo	1.55	Weatherford	1.55	25th	Weatherford
Central	113	9th	Kingfisher	66	2nd	Washington	1.49	Oklahoma City West	1.25	30th	Marshall
East Central	109	24th	Eufaula	66	5th	Cookson	1.36	Stuart	1.22	24th	Stuart
Southwest	112	9th	Altus	67	4th	Mangum	0.74	Hinton	0.65	12th	Hinton
South Central	110	9th	Ketchum Ranch	67	1st	Tishomingo	0.95	Tishomingo	0.74	29th	Ringling
Southeast	109	24th	Wilburton	63	1st	Wister	2.01	Clayton	1.02	28th	Mt Herman
Statewide	114	9th	Freedom	60	3rd	Boise City	5.58	Newkirk	3.96	13th	Newkirk

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.

Temperature

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

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

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

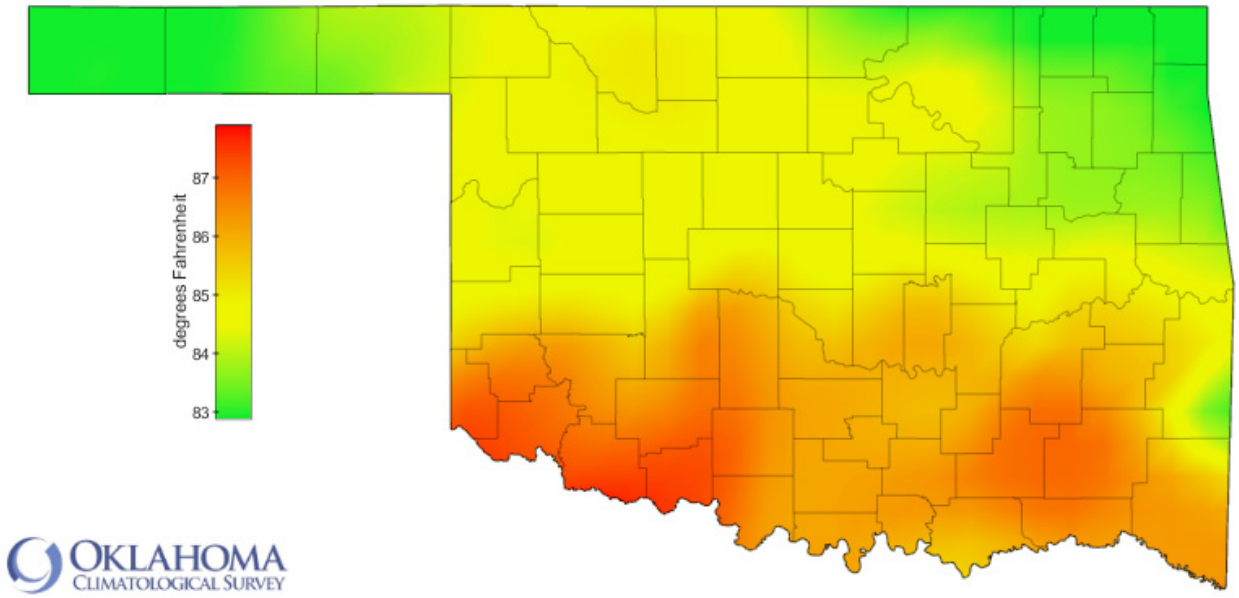
Tornadoes

Average September Tornadoes	2.0
Most	16 (1992)

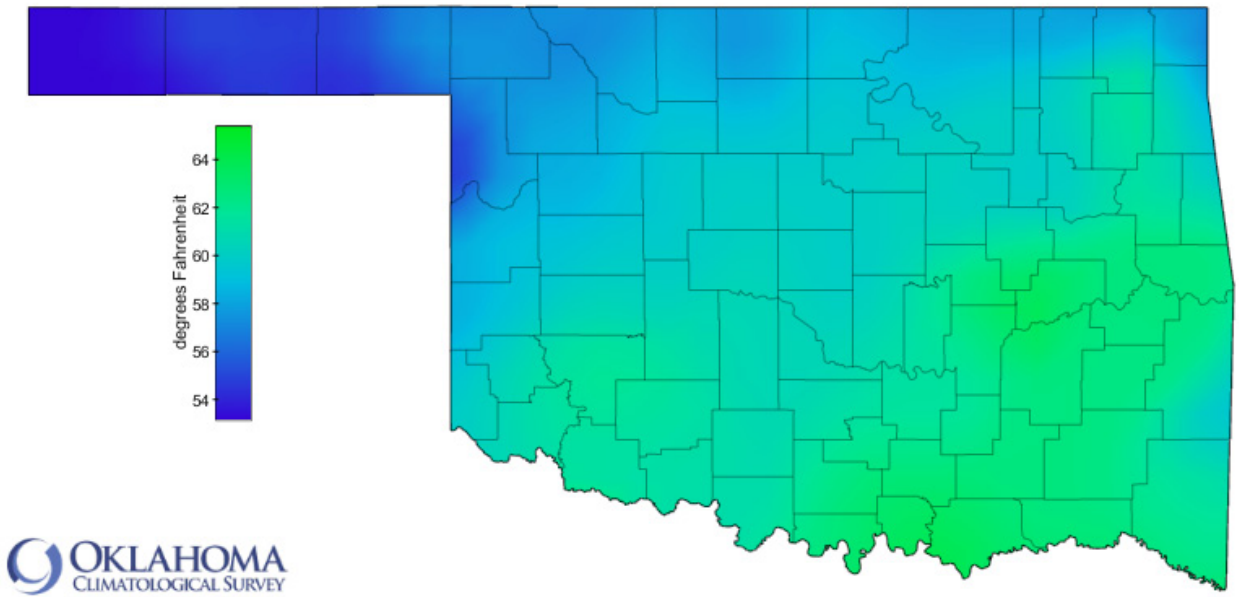
(the period of comprehensive records). Two people killed in Pottawattomie County on September 14, 1957 are the only tornado-related deaths recorded in September during that period.

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 each other along a narrow path, thereby producing intense rain over a limited area and causing dangerous flash flooding.

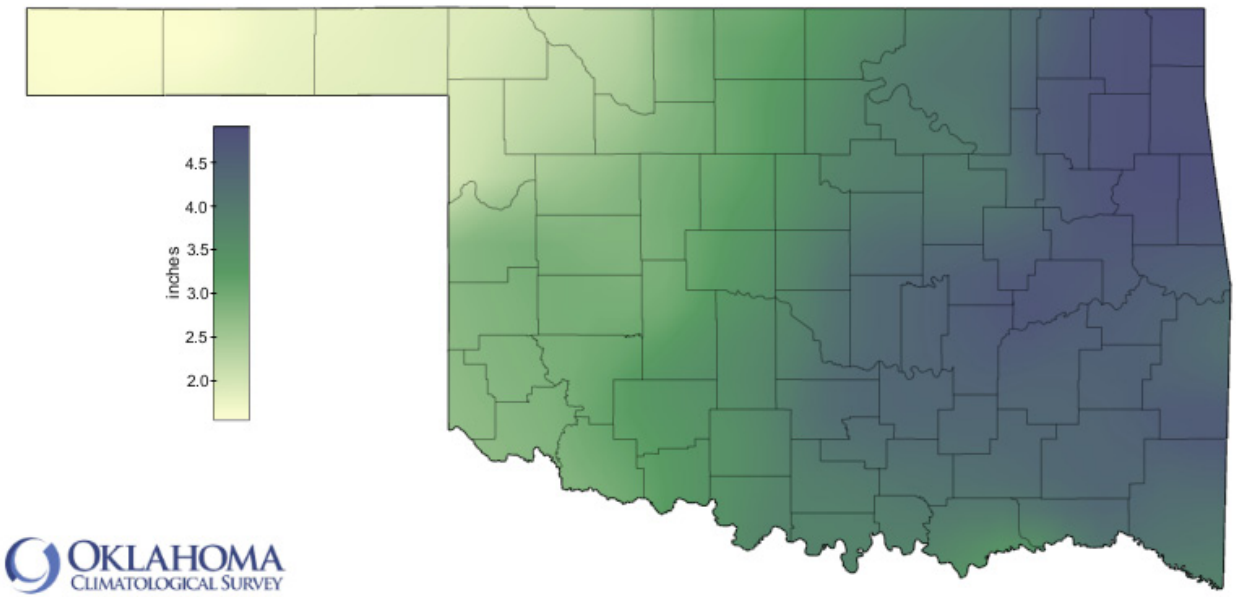
SEPTEMBER NORMAL DAILY MAXIMUM TEMPERATURE (1981-2010)



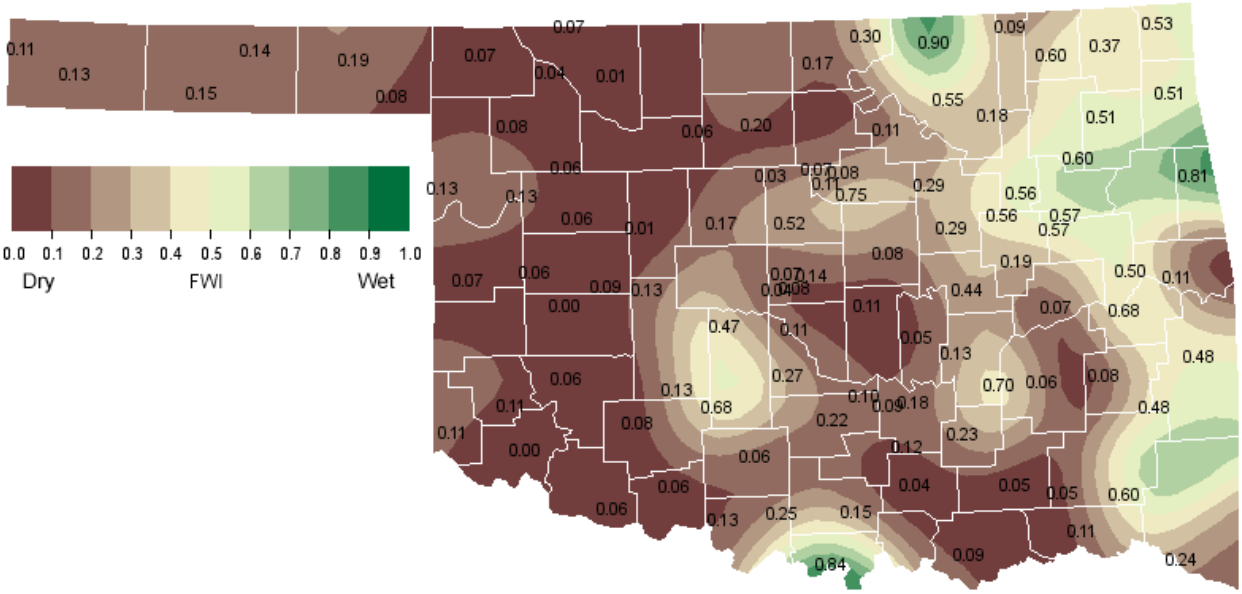
SEPTEMBER NORMAL DAILY MINIMUM TEMPERATURE (1981-2010)



SEPTEMBER NORMAL PRECIPITATION (1981-2010)



SEPTEMBER 1, 2011 SOIL MOISTURE CONDITIONS AT 25CM



SEPTEMBER 2011 DROUGHT INDICES

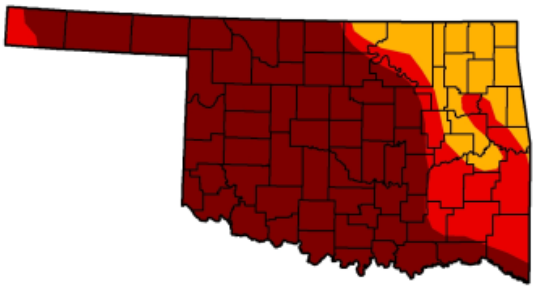
U.S. Drought Monitor

September 6, 2011
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	100.00	85.44	69.15
Last Week (08/30/2011 map)	0.00	100.00	100.00	96.64	85.37	69.15
3 Months Ago (06/07/2011 map)	22.11	77.89	59.26	42.32	33.11	9.90
Start of Calendar Year (12/28/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00
Start of Water Year (09/28/2010 map)	66.28	33.72	4.21	0.00	0.00	0.00
One Year Ago (08/31/2010 map)	42.29	57.71	36.20	0.00	0.00	0.00



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://drought.unl.edu/dm

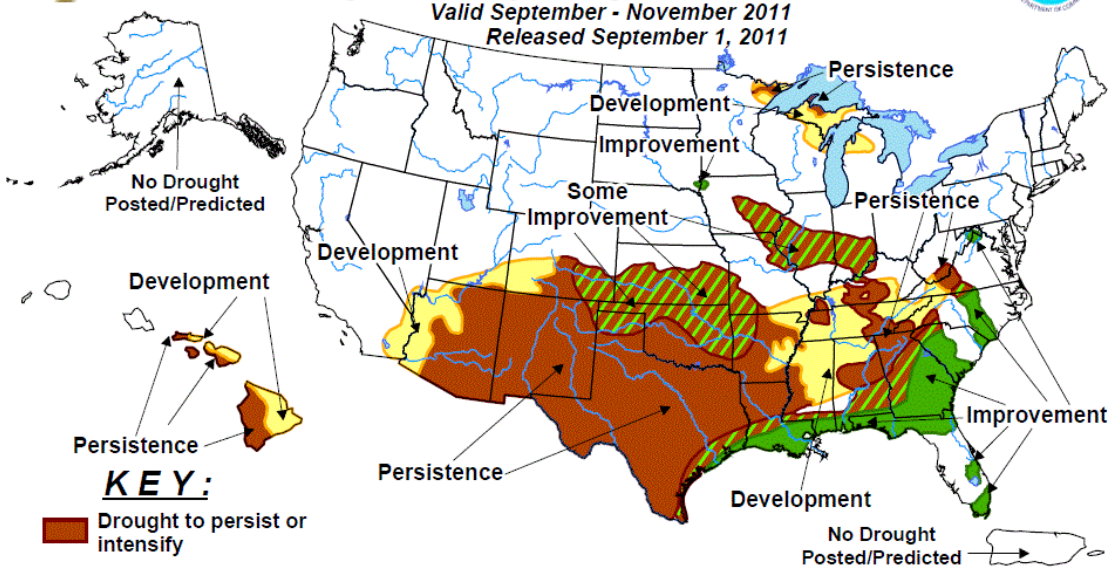
USDA · National Drought Mitigation Center

Released Thursday, September 8, 2011
National Drought Mitigation Center,

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid September - November 2011
Released September 1, 2011

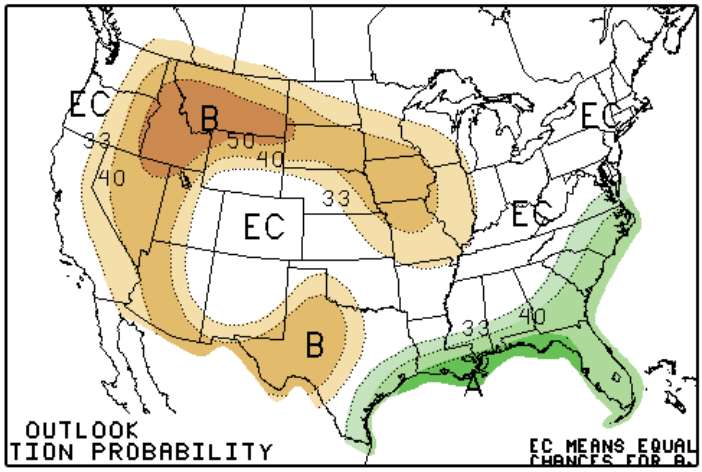


KEY:

- 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 2011 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

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

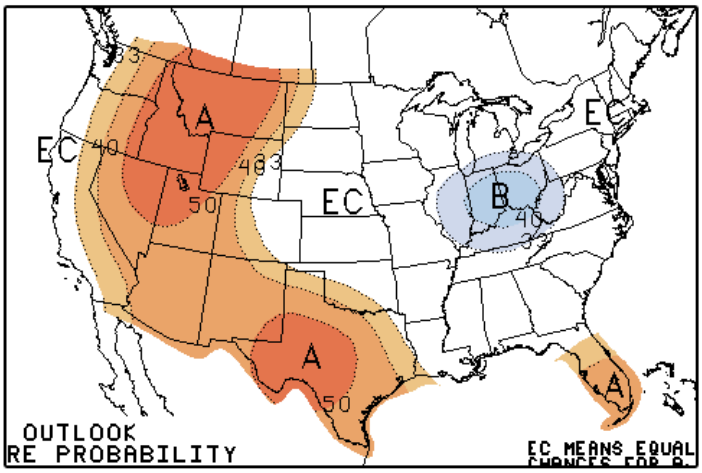
A = Above

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

B = Below

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

SEPTEMBER 2011 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

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

A = Above

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

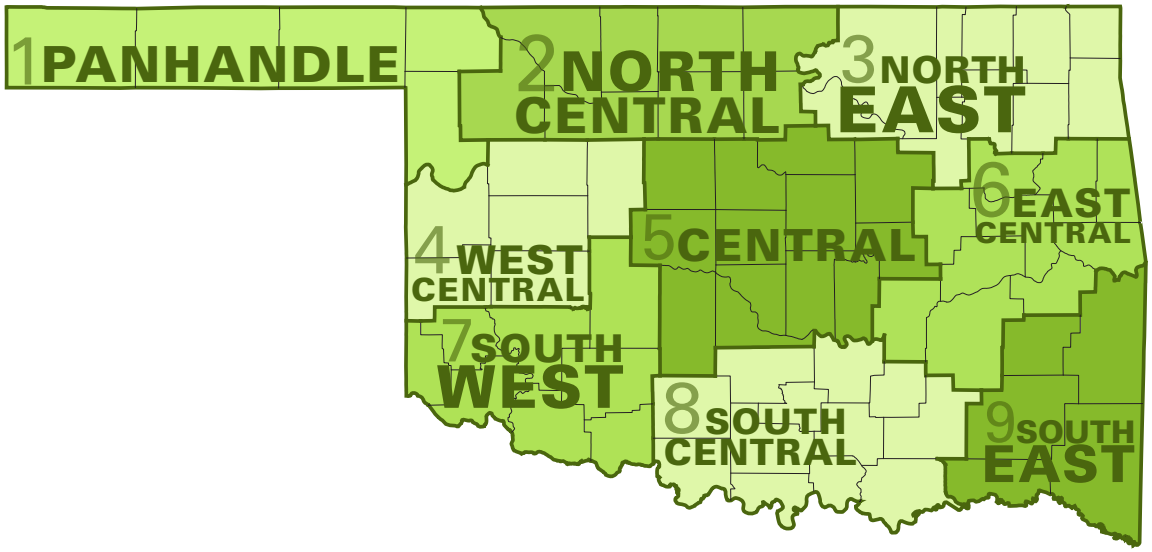
B = Below

*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

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