Oklahoma Monthly Climate Summary

SEPTEMBER 2010

OKLAHOMA CLIMATOLOGICAL SURVEY

Oklahoma's penchant for warmer-than-normal months continued during September and depending on location, either too much or too little rain accompanied that warmth. The September statewide average temperature according to the Oklahoma Mesonet was 74.5 degrees. That marks September as the 29th warmest since 1895, 2.1 degrees above normal. While the statewide average rainfall of 3.99 inches ranks as the 36th wettest on record at 0.18 inches above normal, much of the state was actually quite dry during the month. Four of the last six months have been warmer than normal across the state, and the January-September statewide average now stands at 63.3 degrees. That is the 42nd warmest such period on record at 0.3 degrees above normal. On the precipitation side, the year stands at nearly an inch below normal with a statewide average of 27.51 inches, the 53rd wettest January-September on record. Severe weather reared its ugly head several times, including three weak tornadoes – one of which resulted in an injury. One fatality was recorded when a vehicle was swept from a road into a rain-swollen creek during the heavy rains of Hermine.

PRECIPITATION

Very heavy rainfall from the remnants of Tropical Storm Hermine provided some rather gaudy totals in southern and east central Oklahoma. Sallisaw received over 10 inches from the storm to help it finish as the wettest spot in the state with 14.97 inches. That propelled east central Oklahoma to finish with its eighth wettest September with an average of 8.37 inches, 3.41 inches above normal. Moisture was much less plentiful in the northwestern half of the state where totals fell to less than 20 percent of normal in some locations. The Oklahoma Mesonet station at Goodwell barely wet its rain gauge with a meager 0.2 inches. Twenty-five Mesonet stations recorded less than 2 inches of rainfall for the month. Oklahoma City was 0.39 inches below normal with a total of 3.59 inches.

September 2010 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	105°F	Beaver, Erick	6, 10
Low Temperature	36°F	Oilton	27
High Precipitation	14.97 in.	Sallisaw	--
Low Precipitation	0.20 in.	Goodwell	--

TEMPERATURE

The warmth during the month was much more widespread with only a small portion of northeastern Oklahoma ending up below normal. Much of the western half of the state finished 3-4 degrees above normal. The average high temperature across the state was 86.4 degrees, more than a degree above normal. The average low was more than 2 degrees above normal at 62.7 degrees. Grandfield had the highest average monthly temperature at 78 degrees while Kenton was on the cool side at 70.7 degrees. The highest temperature recorded by the Mesonet was 105 degrees at Beaver twice and once at Erick. The prize for the coldest spot in the state was won by Oilton with a chilly 36 degrees on the 27th. Oklahoma City was 2.8 degrees above normal for the month with an average of 76 degrees.

September 2010 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2010)
Month (September)	74.5°F	2.1°F	29th Warmest
Year-to-Date (Jan-Sep)	63.3°F	0.3F	42nd Warmest

Precipitation

	Average	Depart.	Rank (1895-2010)
Month (September)	3.99 in.	0.18 in.	36th Wettest
Year-to-Date (Jan-Sep)	27.51 in.	-0.96 in.	53rd Wettest

Depart. = departure from 30-year normal

SEPTEMBER DAILY HIGHLIGHTS

SEPTEMBER 1-2: Showers and storms associated with an upper-level low-pressure system and surface cold front brought severe weather and heavy rainfall to the state. Lots of wind damage was reported on the first in western Oklahoma and in central and eastern Oklahoma on the second. A 75-mph wind gust was reported west of Edmond on the second. More than 4 inches of rain fell in south central and northeastern Oklahoma over the two-day period. Northwestern Oklahoma went largely without rainfall. The strong cold front that swept through the state on the second dropped temperatures and left drier air in its wake.

SEPTEMBER 3-6: The third was very pleasant with highs in the 70s and 80s after a cool start. The low humidity allowed temperatures to dip into the 40s and 50s over much of Oklahoma. An approaching storm system quickly switched the winds back around to a southerly direction and the temperatures responded in kind. Wind gusts approached 40-50 mph in western Oklahoma ahead of the storm and brought a return of moisture. By the sixth, temperatures had soared back into the 90s and 100s as a cold front entered the northwest, kicking up a few showers. Tropical Storm Hermine made landfall to the southeast and added to the return of moisture to the state. Beaver reached 105 degrees on the fifth and sixth for the month's highest temperature, as measured by the Oklahoma Mesonet.

SEPTEMBER 7-9: A cold front and the remnants of Tropical Storm Hermine mingled over the state to produce prodigious amounts of rainfall over this three-day period. The southeastern half of the state saw rainfall amounts between 3-6 inches in general, but areas in east central saw amounts of nearly a foot. The Oklahoma Mesonet station at Stigler recorded 11.2 inches of rainfall during the period and Sallisaw saw 10.4 inches. Flash flooding was prevalent in that area. One fatality was reported near Stilwell when a vehicle was swept from the road into a flooded creek. Southern Oklahoma saw three tornadoes due to the tropical storm's remnants. The tornadoes were weak, although one injury was reported near Colbert due to an overturned truck. The remnants of Hermine slowly moved off to the northeast on the ninth leaving a very sultry day. Late sunshine pushed highs into the 80s and 90s over much of the state.

AUGUST 10-16: This seven-day period began hot and muggy as a cold front approached from the north. Strong southerly winds allowed temperatures to soar into the 90s and 100s across much of the state. The cold front brought showers and storms on the 11th and ushered in drier air. High temperatures were much more palatable in the 80s and 90s following the front. The next several days saw several disturbances move across the state, generating showers and storms. Winds gusts of up to 70 mph were reported on both the 13th and 15th, and tennis ball size hail was reported near Woodward on the 16th. Heavy rain fell at times with the storms, especially in the northeastern corner of the state. Nearly 4 inches was reported in that area. Erick reached 105 degrees on the 10th to tie for the highest temperature for the month.

SEPTEMBER 17-22: Astronomical summer ended on a warm note, and this six-day period enjoyed the status until the end. Warm and humid conditions began each morning before yielding to hot afternoons. Temperatures rose into the upper-80s and low-90s throughout, the lone exception being the intrusion of a shallow cold front on the 19th. Temperatures cooled temporarily during its visit.

SEPTEMBER 23-25: The last significant rainfall of the month occurred during this period courtesy of a cold front and a moist air mass. Strong southerly winds, gusting to over 40 mph on the 23rd, kept the moisture from the Gulf flowing and the cold front set the trigger. Most of the state saw at least a half of an inch, with some locales seeing nearly 2 inches. Highs during this period were mostly in the 80s, although low temperatures fell into the 50s on the 25th.

SEPTEMBER 26-30: Clear skies and dry air allowed for strong radiational cooling and maximum afternoon heating to end the month. Lows in the 40s and 50s gave way to highs in the 80s, with even a few 90s in the northwest. A cold front on the month's final day dropped the weather into an Autumnal mood with highs in the 70s for the most part.

SEPTEMBER 2010 SEVERE WEATHER

Hail (2 inches in diameter or greater)

Speed (m.p.h)	Location	County	Day
2.5	1 SE Woodward	Woodward	16

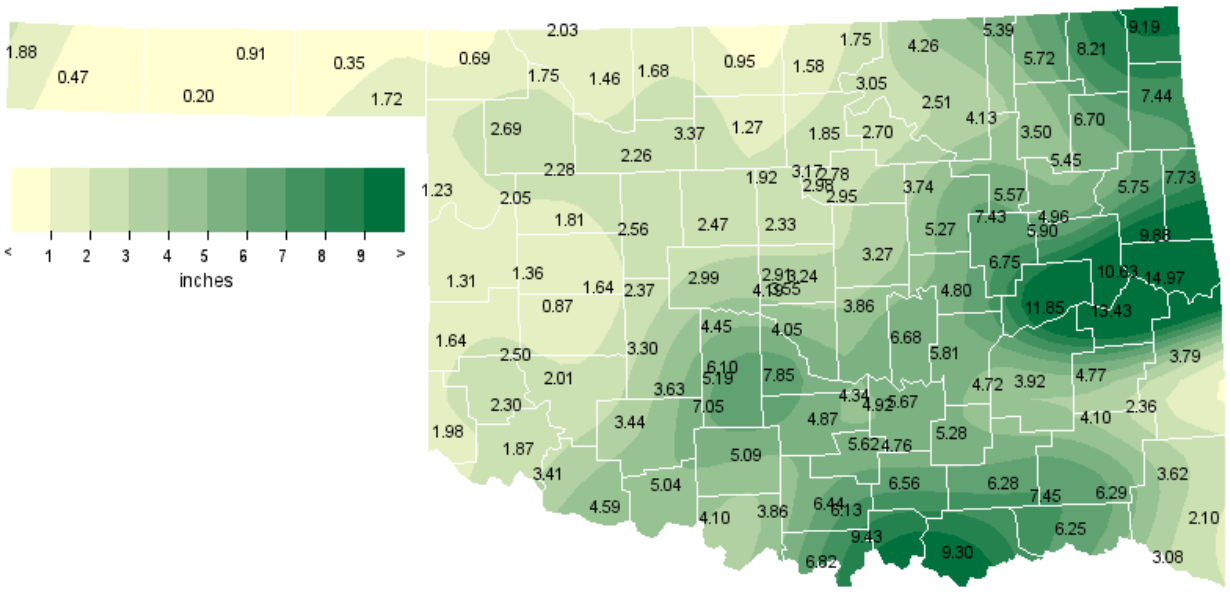
Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Day
75	6 W Edmond	Oklahoma	2
70	9 NNW Willow	Beckham	13
70	Drummond	Garfield	15

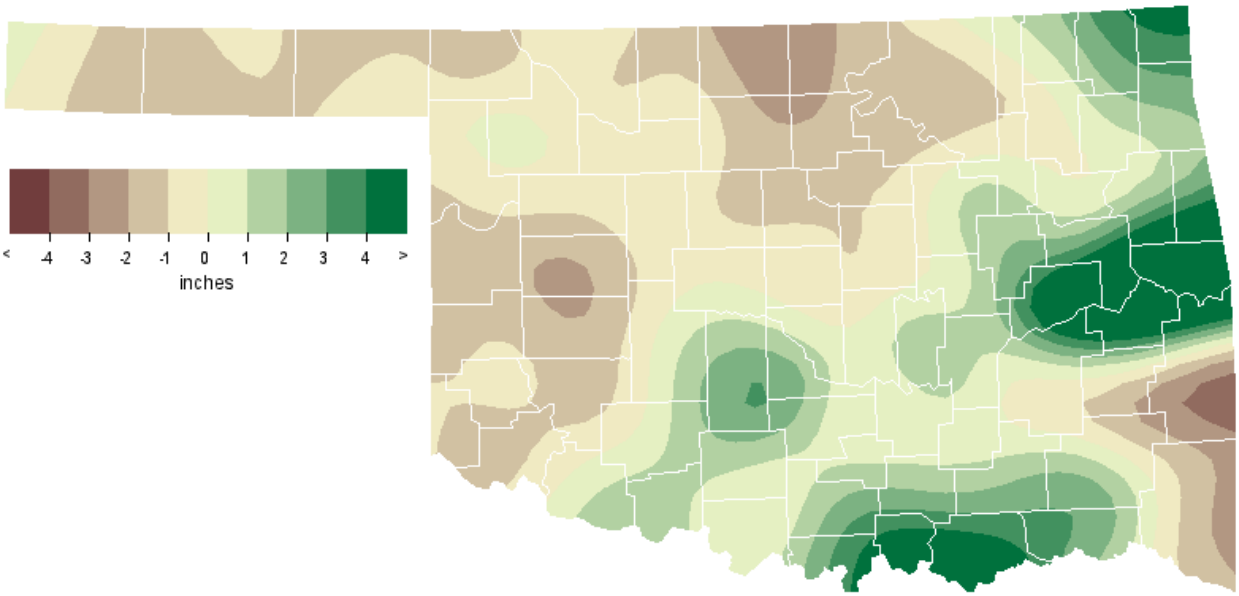
Flooding

Location	County	Day
3 SW Purcell	McClain	8
3 SW Payne	McClain	8
2 NW Jenks	Tulsa	9
3 NNE Bixby	Tulsa	9
Eufaula	McIntosh	9
Canadian	Pittsburg	9
Enterprise	Haskell	9
Vian	Sequoyah	9
Sallisaw	Sequoyah	9
Stigler	Haskell	9
Porum	Muskogee	9
7 S Stilwell	Adair	9
2 S Etowah	Cleveland	13

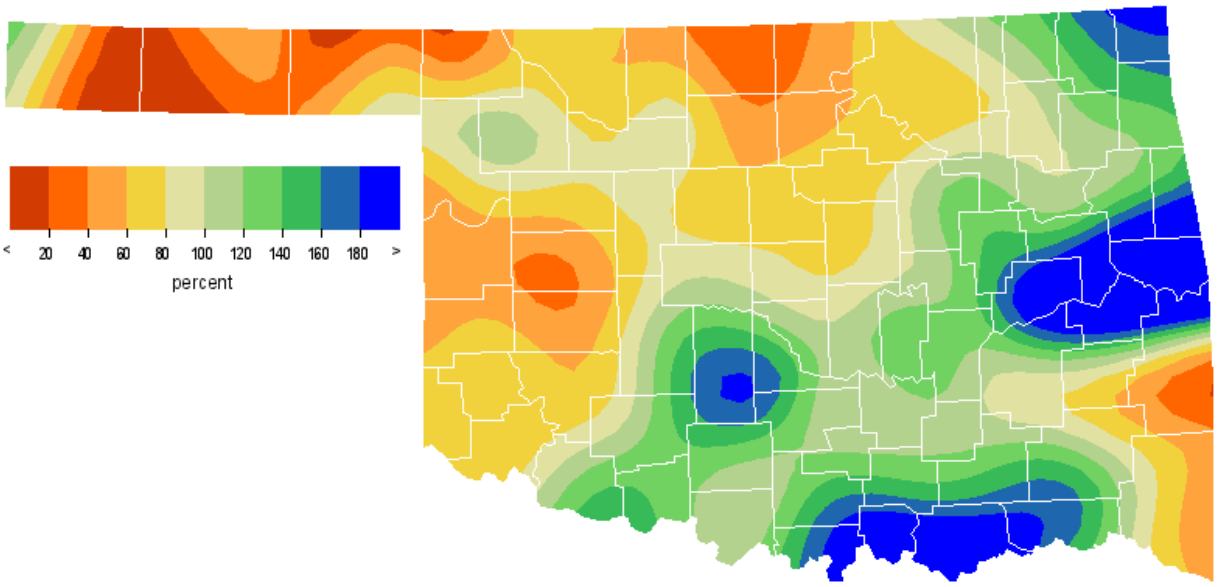
SEPTEMBER 2010 OBSERVED PRECIPITATION



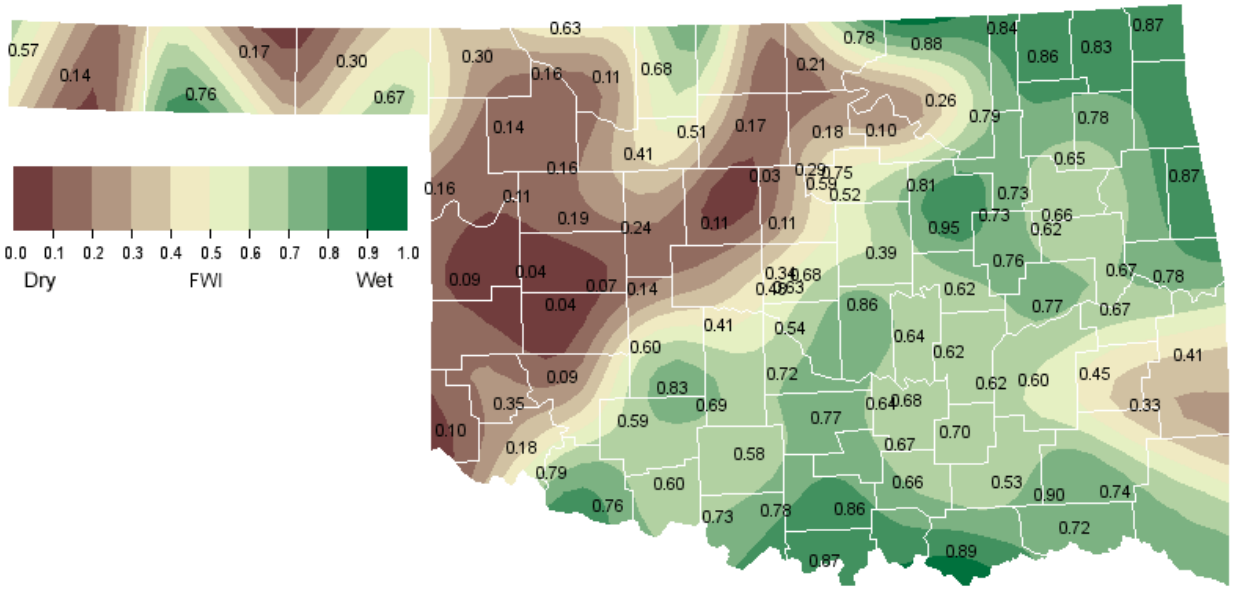
SEPTEMBER 2010 DEPARTURE FROM NORMAL PRECIPITATION



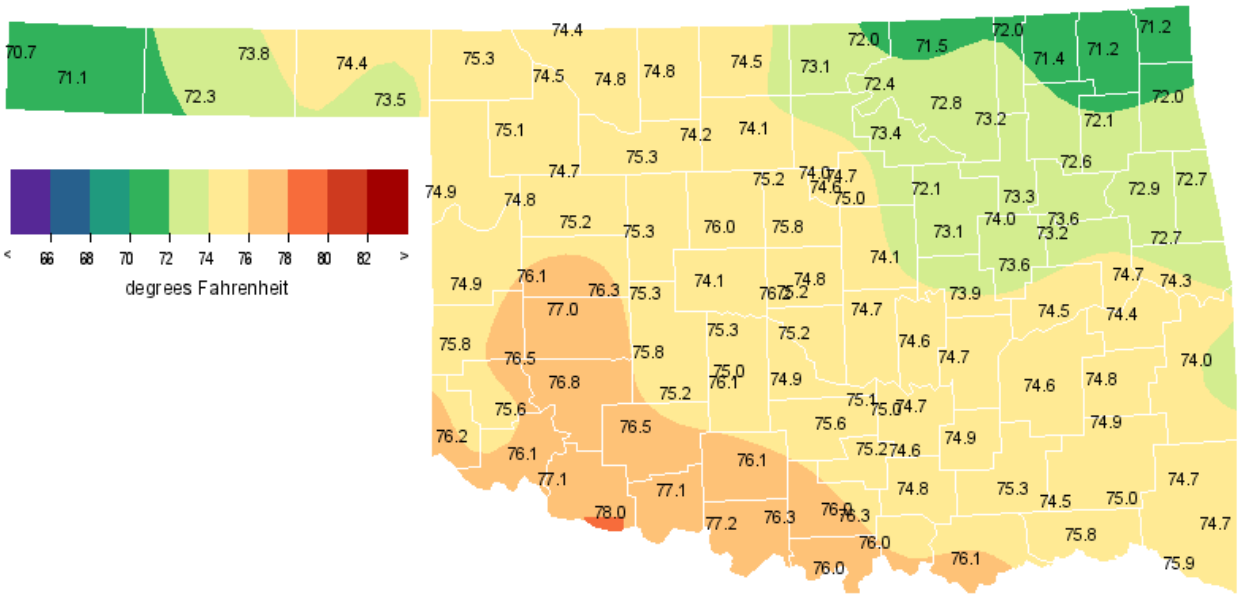
SEPTEMBER 2010 PERCENT OF NORMAL PRECIPITATION



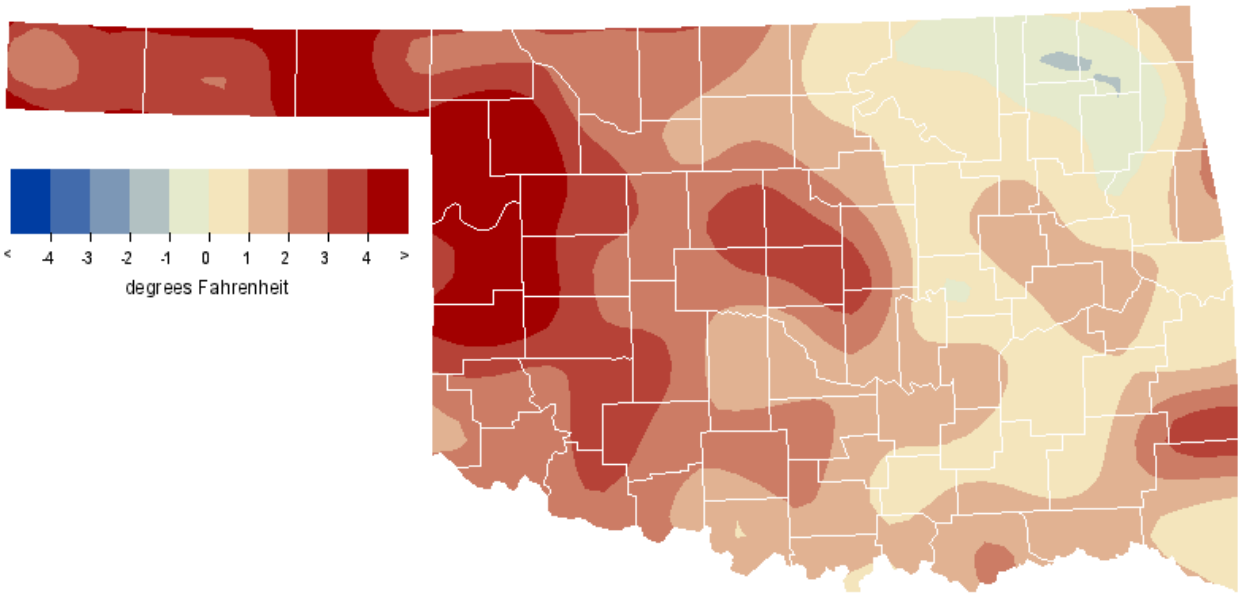
SEPTEMBER 2010 AVERAGE SOIL MOISTURE AT 25CM



SEPTEMBER 2010 AVERAGE TEMPERATURE



SEPTEMBER 2010 DEPARTURE FROM NORMAL TEMPERATURE

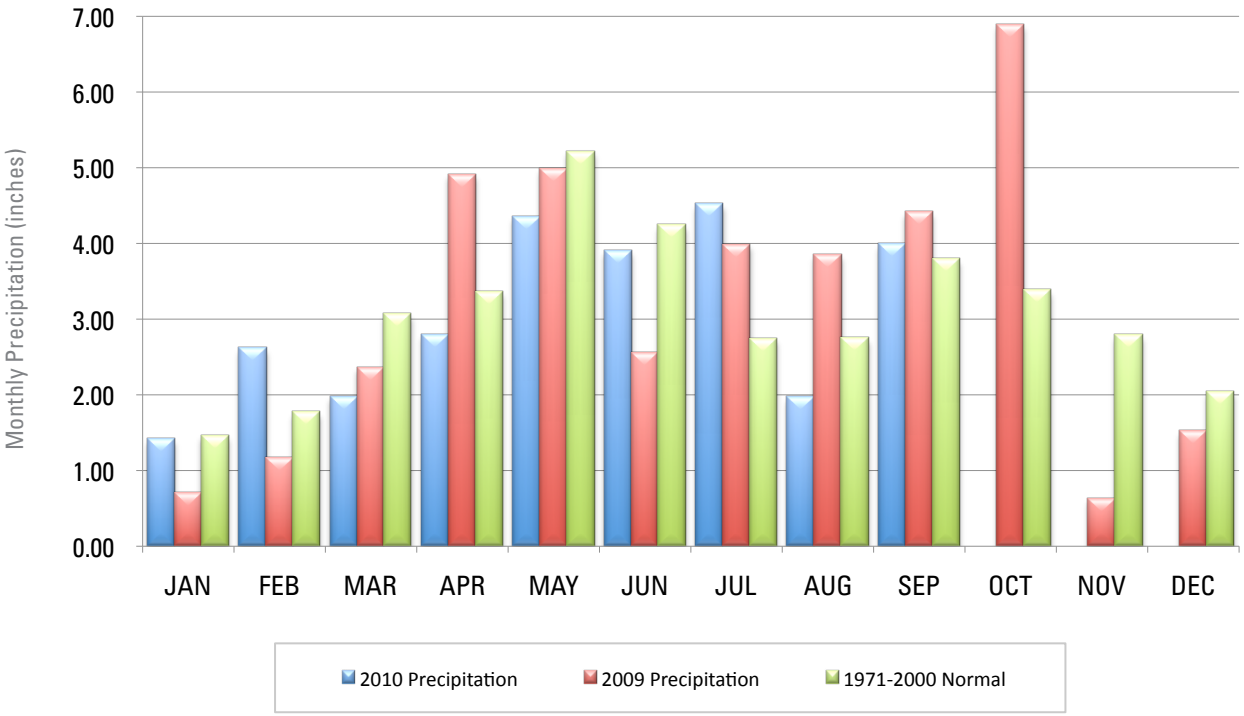


MESONET MONTHLY SUMMARY FOR SEPTEMBER 2010

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	74.9	102	15	45	27	8	306	1.23	.44	16
Beaver	74.4	105	6	43	26	7	288	.35	.24	23
Boise City	71.2	99	5	44	26	11	196	.47	.40	23
Buffalo	75.3	102	6	45	27	6	314	.69	.34	23
NORTH CENTRAL										
Alva	74.9	101	15	44	27	9	306	1.46	.77	23
Blackwell	73.1	94	6	41	27	16	260	1.58	.71	8
Breckinridge	74.1	94	18	41	27	14	287	1.27	.76	8
Cherokee	74.8	101	15	46	27	9	303	1.68	1.16	23
Fairview	75.3	100	1	45	27	7	317	2.26	.77	8
Freedom	74.5	103	15	46	27	8	292	1.75	.61	16
Lahoma	74.2	95	1	46	27	10	286	3.37	1.01	1
NORTHEAST										
Bixby	73.2	94	2	44	27	16	263	5.57	1.91	8
Burbank	72.3	93	2	41	27	18	238	3.05	1.29	14
Claremore	38.1	98	2	***	9	15	268	2.61	1.57	8
Copan	72.0	93	10	43	27	22	232	5.39	.91	13
Foraker	71.6	91	6	42	27	19	217	4.26	1.30	13
Inola	72.6	97	2	44	27	19	248	5.45	1.57	8
Jay	72.0	97	2	41	27	30	239	7.44	1.45	9
Miami	71.2	92	2	42	27	26	212	9.19	4.01	1
WEST CENTRAL										
Bessie	76.9	100	1	47	27	5	363	.87	.50	8
Butler	76.2	103	10	45	27	5	340	1.36	1.01	23
Camargo	74.9	101	2	44	27	8	305	2.05	.76	8
Cheyenne	74.9	97	10	47	27	8	305	1.31	.61	23
Erick	75.8	105	10	45	27	6	329	1.64	.67	23
CENTRAL										
Acme	*****	***	***	***	***	****	****	7.05	5.10	8
Bowlegs	74.6	96	2	46	27	12	299	6.68	5.19	8
Bristow	73.0	95	2	42	27	21	260	5.27	2.90	8
Lake Carl Blac	74.0	97	2	41	27	14	284	3.17	1.52	8
Chandler	74.1	93	2	44	27	12	285	3.27	2.45	8
Chickasha	75.0	95	2	44	27	10	311	6.10	3.20	8
El Reno	74.1	96	2	40	27	17	290	2.99	1.53	12
Guthrie	75.8	98	2	43	27	12	336	2.33	1.55	8
Kingfisher	76.1	97	2	45	27	9	341	2.47	1.45	8
Marena	74.5	96	2	43	27	13	299	2.98	1.81	8
Minco	75.4	97	2	46	27	10	321	4.45	1.79	12
Marshall	75.2	97	2	42	27	13	318	1.92	1.11	8
EAST CENTRAL										
Cookson	72.7	93	6	41	27	27	259	9.88	4.81	9
Eufaula	74.5	93	6	47	27	11	297	11.85	3.54	9
Haskell	73.3	95	2	44	27	17	265	5.90	1.79	8
Hectorville	74.0	95	2	46	27	13	284	7.43	2.10	8
Holdenville	74.6	94	2	44	27	14	302	5.81	4.94	8
McAlester	74.6	93	6	46	28	16	303	3.92	1.56	9
Okmulgee	73.5	96	2	44	27	18	274	6.75	2.23	8
SOUTHWEST										
Altus	76.1	95	10	45	27	3	335	1.87	.66	8
Apache	75.1	95	2	44	27	9	312	3.63	1.72	8
Fort Cobb	75.8	97	1	44	27	8	331	3.30	1.33	12
Grandfield	78.0	100	1	46	27	3	394	4.59	2.36	8
Hinton	75.3	97	2	43	27	11	319	2.37	.82	12
Hobart	76.9	100	1	43	27	6	363	2.01	1.19	8
SOUTH CENTRAL										
Ada	74.7	95	2	43	27	14	305	5.67	4.22	8
Ardmore	76.3	93	14	49	27	7	346	6.13	4.01	8
Burneyville	76.0	94	14	45	27	8	339	6.82	4.09	8
Byars	75.0	91	6	45	27	13	313	4.34	3.18	8
Centrahoma	75.0	93	6	46	4	12	310	5.28	2.77	8
Durant	76.1	93	19	49	27	9	342	9.30	4.19	1
Fittstown	74.6	92	6	46	27	12	299	4.76	2.86	8
Ketchum Ranch	76.1	94	2	46	27	8	340	5.09	3.49	8
Lane	75.4	93	6	48	28	9	320	6.28	1.56	9
SOUTHEAST										
Antlers	74.4	94	6	44	27	16	298	7.45	2.51	14
Broken Bow	74.7	98	19	43	28	10	300	2.10	1.20	7
Clayton	74.8	95	19	46	28	14	309	4.10	1.53	1
Cloudy	75.0	94	19	47	28	10	309	6.29	2.77	7
Hugo	75.8	94	6	48	27	10	333	6.25	2.05	8

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	72.4	99	6	42	27	8	230	.20	.11	23
Hooker	73.7	104	5	45	27	4	266	.91	.90	23
Kenton	70.7	96	5	44	3	11	181	1.88	1.36	22
Slapout	73.5	101	5	45	26	6	262	1.72	1.06	23
May Ranch	74.3	102	15	47	26	8	288	2.03	1.17	23
Medford	74.4	97	6	41	27	13	295	.95	.54	23
Newkirk	72.0	91	6	42	27	16	227	1.75	.68	10
Red Rock	*****	***	***	***	***	****	****	1.85	.87	8
Seiling	74.7	99	1	43	27	8	299	2.28	1.01	8
Woodward	75.0	103	15	47	26	8	309	2.69	1.77	16
Nowata	71.4	94	2	41	27	31	223	5.72	1.37	13
Pawnee	73.5	94	2	41	27	14	268	2.70	1.05	8
Porter	73.6	94	2	45	27	15	273	4.96	1.90	8
Pryor	72.1	93	10	43	27	24	238	6.70	1.34	8
Skiatook	73.2	92	2	45	27	15	260	4.13	1.28	8
Vinita	71.2	93	2	42	27	27	213	8.21	1.72	14
Wynona	72.8	93	6	41	27	18	252	2.51	.69	8
Putnam	75.1	98	1	45	27	8	312	1.81	.80	8
Retrop	76.5	101	10	48	27	4	349	2.50	1.47	13
Watonga	75.3	96	1	47	27	9	319	2.56	1.18	8
Weatherford	76.2	100	1	46	27	7	344	1.64	.85	8
Ninnekah	76.1	98	2	45	27	10	343	5.19	3.54	8
Norman	75.1	95	2	44	27	10	314	4.05	2.27	8
Oilton	72.1	93	2	36	27	28	241	3.74	1.40	8
OKC East	75.2	96	2	44	27	11	318	3.55	1.66	8
OKC North	76.2	97	2	47	27	****	****	2.91	1.58	8
OKC West	76.1	96	2	49	27	8	342	4.19	1.71	8
Okemah	73.9	96	2	45	27	15	282	4.80	3.15	8
Perkins	75.0	96	6	43	27	13	313	2.95	2.12	8
Shawnee	74.7	93	2	43	27	13	304	3.86	3.24	8
Spencer	74.8	95	2	41	27	15	308	3.24	2.22	8
Stillwater	74.7	96	2	42	27	13	305	2.78	1.61	8
Washington	74.9	96	2	45	27	11	306	7.85	4.89	8
Sallisaw	74.3	95	6	46	27	13	294	14.97	8.09	9
Stigler	74.4	96	6	47	4	13	294	13.43	7.11	9
Stuart	*****	***	***	***	***	****	****	4.72	2.57	8
Tahlequah	72.9	93	2	43	27	21	259	5.75	1.16	24
Webbers Falls	74.6	96	6	48	27	11	300	10.63	5.38	9
Westville	72.6	93	6	44	27	24	253	7.73	2.45	9
Hollis	76.3	100	1	45	27	3	341	1.98	.73	8
Mangum	75.5	100	10	41	27	8	324	2.30	1.02	13
Medicine Park	76.5	97	1	47	27	5	351	3.44	2.71	8
Tipton	77.0	100	1	45	27	4	365	3.41	1.62	2
Walters	77.1	99	2	46	27	6	368	5.04	3.09	8
Madill	76.0	92	14	46	27	9	339	9.43	4.67	8
Newport	76.0	93	10	47	27	8	338	6.44	3.80	8
Pauls Valley	75.5	93	2	46	27	9	326	4.87	2.52	8
Ringling	76.3	93	14	46	27	7	347	3.86	2.10	8
Sulphur	75.2	92	6	45	27	11	316	5.62	3.59	8
Tishomingo	74.8	91	11	46	27	11	305	6.56	3.36	8
Vanoss	74.9	95	2	45	4	12	310	4.92	3.52	8
Waurika	77.3	99	2	46	27	6	374	4.10	2.96	8
Idabel	75.9	96	19	45	28	9	337	3.08	1.14	2
Mt Herman	74.6	95	19	43	27	16	305	3.62	.98	8
Talihina	*****	***	***	***	***	****	****	2.36	1.04	7
Wilburton	74.8	95	6	44	27	17	312	4.77	1.21	9
Wister	74.0	96	6	43	28	16	286	3.79	1.86	14

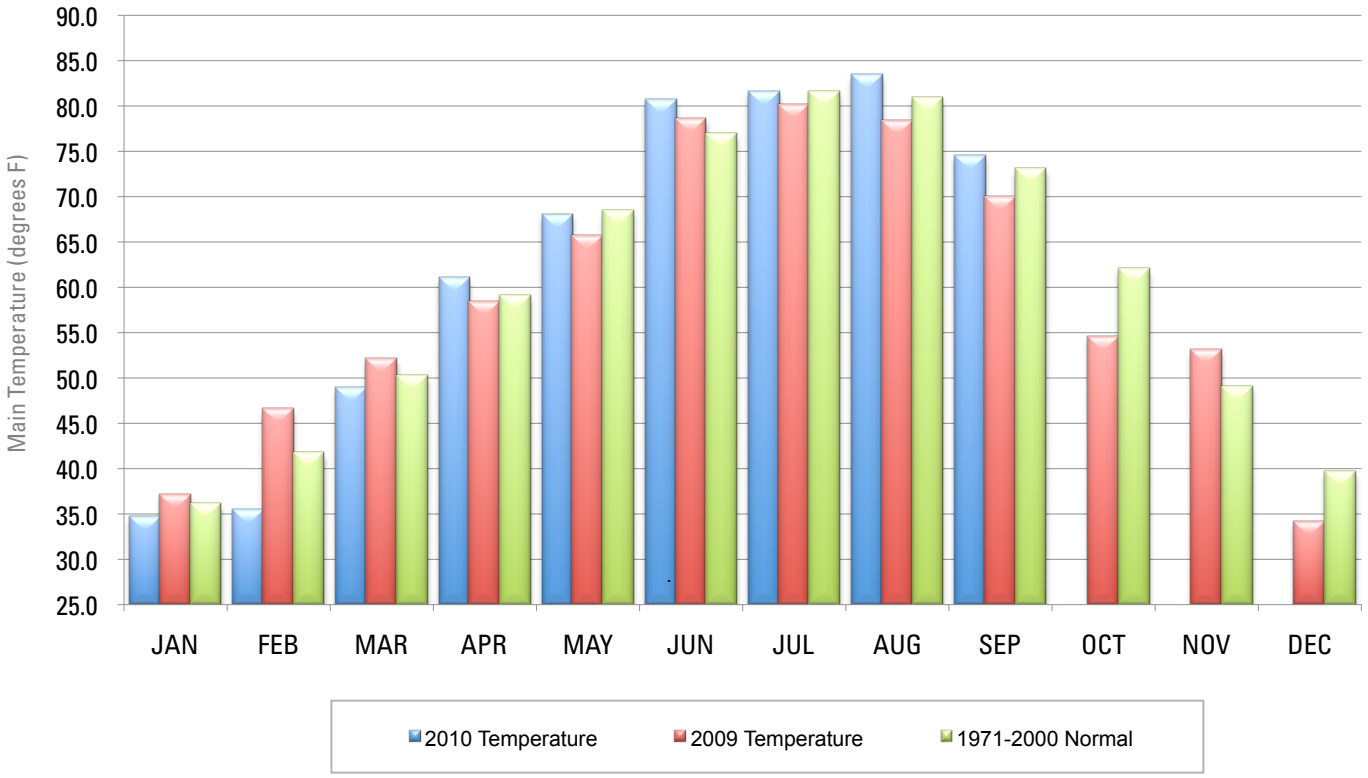
2009 AND 2010 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



September 2010 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Sep-09
Panhandle	0.93	-0.95	25th Driest	4.57 (1985)	0.05 (1956)	1.08
North Central	1.92	-1.21	37th Driest	7.08 (1945)	0.04 (2000)	1.42
Northeast	5.25	0.47	39th Wettest	12.42 (1986)	0.13 (1948)	6.02
West Central	1.75	-1.28	39th Driest	8.64 (1986)	0.02 (2000)	2.32
Central	4.07	-0.04	43rd Wettest	10.68 (1945)	0.19 (1956)	4.03
East Central	8.37	3.41	8th Wettest	10.40 (1970)	0.23 (1948)	7.18
Southwest	3.09	-0.30	45th Wettest	8.68 (1936)	0.00 (1898)	3.79
South Central	5.85	1.51	28th Wettest	9.98 (1936)	0.00 (1909)	5.89
Southeast	4.38	-0.19	43rd Wettest	11.75 (1974)	0.29 (1948)	8.49
Statewide	3.99	0.18	36th Wettest	7.86 (1945)	0.27 (1956)	4.41

2009 AND 2010 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



September 2010 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Sep-09 (F)
Panhandle	73.2	3.8	11th Warmest	76.2 (1931)	62.4 (1974)	67.1
North Central	74.3	2.2	31st Warmest	80.8 (1931)	64.0 (1974)	69.5
Northeast	72.3	0.6	56th Warmest	79.1 (1931)	63.4 (1974)	68.8
West Central	75.8	3.9	15th Warmest	80.4 (1931)	64.4 (1974)	70.0
Central	74.8	2.0	30th Warmest	81.3 (1931)	65.0 (1974)	70.1
East Central	73.9	1.2	53rd Warmest	80.5 (1939)	65.1 (1974)	69.8
Southwest	76.3	2.6	24th Warmest	81.2 (1931)	66.4 (1974)	71.8
South Central	75.6	1.5	39th Warmest	81.3 (1998)	66.3 (1974)	71.7
Southeast	74.9	1.8	43rd Warmest	81.2 (1939)	65.9 (1974)	71.0
Statewide	74.5	2.1	29th Warmest	79.8 (1931)	64.7 (1974)	69.9

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Minimum Temperature	4	McAlester	48	49	1974

MESONET EXTREMES FOR SEPTEMBER 2010

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	105	6th	Beaver	42	27th	Goodwell	1.88	Kenton	1.36	22nd	Kenton
North Central	103	15th	Freedom	41	27th	Blackwell	3.37	Lahoma	1.77	16th	Woodward
Northeast	97	2nd	Jay	41	27th	Burbank	9.19	Miami	4.01	1st	Miami
West Central	105	10th	Erick	44	27th	Camargo	2.56	Watonga	1.47	13th	Retrop
Central	98	2nd	Guthrie	36	27th	Oilton	7.85	Washington	5.19	8th	Bowlegs
East Central	96	6th	Stigler	41	27th	Cookson	14.97	Sallisaw	8.09	9th	Sallisaw
Southwest	100	10th	Mangum	41	27th	Mangum	5.04	Walters	3.09	8th	Walters
South Central	99	2nd	Waurika	43	27th	Ada	9.43	Madill	4.67	8th	Madill
Southeast	98	19th	Broken Bow	43	28th	Broken Bow	7.45	Antlers	2.77	7th	Cloudy
Statewide	105	6th	Beaver	36	27th	Oilton	14.97	Sallisaw	8.09	9th	Sallisaw

OCTOBER OUTLOOK

October typically brings Oklahoma some of its most pleasant weather. Days are usually pleasantly warm and nights typically are refreshingly cool. On the occasions that the weather does turn nasty, however, the result too often is flood, as October seems to be a favored time for extreme precipitation events. The year's tenth month is Oklahoma's 6th warmest and 4th wettest, according to the most recently compiled statewide normals. From 1971 through 2000, the period from which current normals of temperature and precipitation were calculated, Oklahoma's October average temperature was 62.0 degrees Fahrenheit and the average reporting station received a monthly precipitation of 3.38 inches.

Temperature

Mean	62.0 degrees
Warmest October	1963, 70.7 degrees
Coolest October	1925, 55.3 degrees
Warmest location	Waurika, 66.3 degrees
Coolest location	Turpin, 56.6 degrees
Hottest recorded	110 degrees, Waukomis, October 2, 1898
Coldest recorded	6 degrees, Kenton, October 30, 1993

October is given to wide extremes of precipitation. The larger monthly figures are usually impacted by one or two very large events. Remnants of tropical storms or hurricanes, usually from the Gulf of Mexico, but occasionally originating in the Pacific Ocean, occasionally bring widespread heavy rains to the state during October. At other times, mid-latitude storm systems have stalled over the state and, taking advantage of moisture borne from the Gulf by the prevailing southerly winds, produced prodigious amounts of rain. In many other years, October is virtually without rain. Monthly precipitation totals include a statewide-averaged high of 11.32 inches in 1941, the largest total ever recorded for Oklahoma (any month), and a low of 0.14 inch, attained in 1952. The remnants of Hurricane Norma provided enough rain over a three-day period in October 1981 to give Madill the greatest monthly precipitation total (25.80 inches) ever recorded at a recognized reporting station in Oklahoma (all months). A thoroughly extra-tropical thunderstorm system inundated Enid with 15.68 inches of rain in about 12 hours (12 inches in just 3 hours) on October 11, 1973. That total, reported the following morning, is the state's greatest 24-hour precipitation in any month, as measured at an official reporting station.

The normal precipitation pattern across Oklahoma in October returns to its familiar configuration with eastern stations receiving substantially more rainfall than those in the west. Normal monthly precipitation across the state during October ranges from 6.22 inches at Smithville to 0.99 inches at Kenton. Snowfall is not common during October, but Regnier, Kenton, and Boise City each average receiving about one inch of snow during the month. Those averages were inflated by a freak snowstorm on October 25 and 26, 1997 that dropped 15 inches of snow on Kenton. As many as 15,000 head of cattle across the panhandle died during that snowstorm.

Precipitation

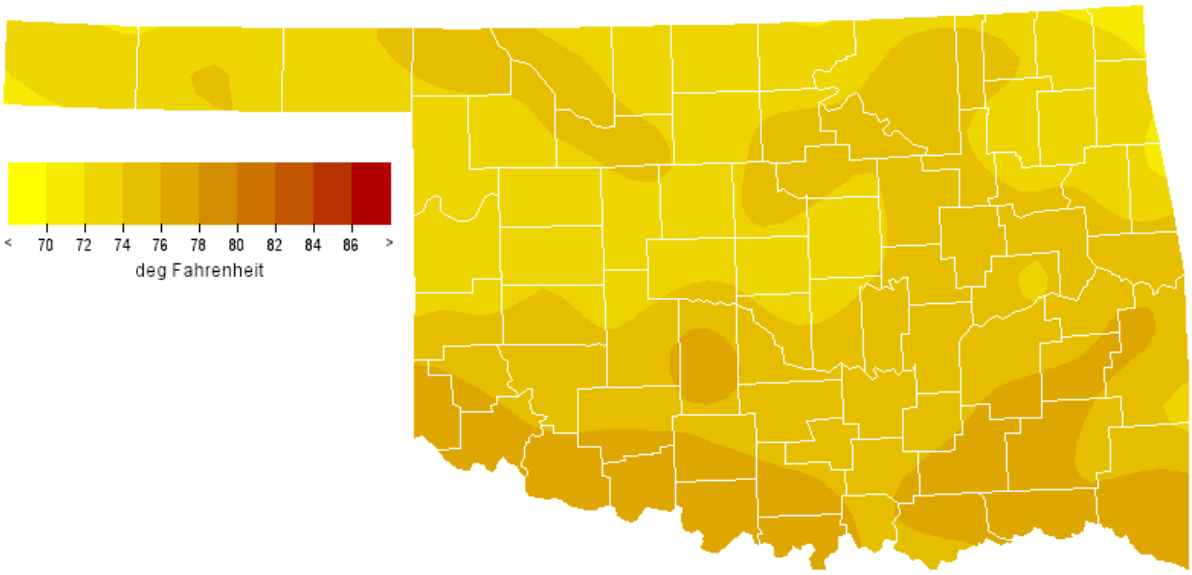
Mean	3.38 inches
Wettest year	1941, 11.32 inches
Driest year	1917 and 1952, 0.14 inches
Wettest location	Smithville, 6.22 inches
Driest location	Kenton, 0.99 inches
Most recorded	25.80 inches, Madill, 1981

Tornadoes

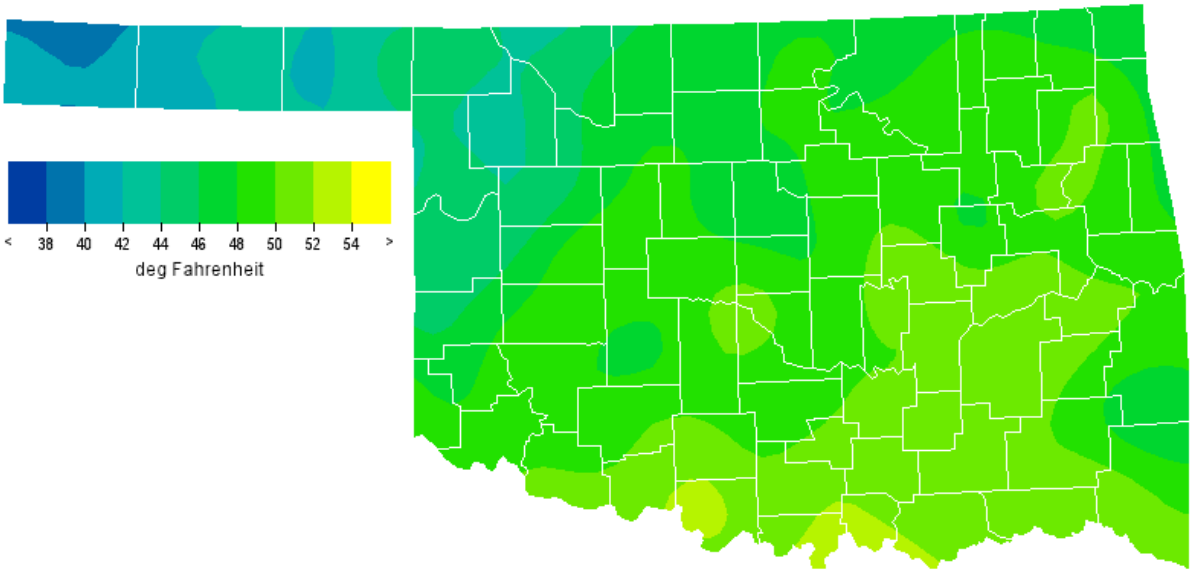
Average October Tornadoes	2
Most	27 (1998)

Severe thunderstorms, apart from the floods, historically have been little more than footnotes in October for most of the state's history. However, recent occurrences have altered that notion somewhat. Reasonably comprehensive and well-documented tornado records in the state date from 1950. During those 54 years, 123 October tornadoes have been identified in Oklahoma, an average of 2.3 per year. There were no October tornadoes reported during 23 of those years. However, 25 tornadoes were reported in the state on October 4, 1998 and 19 more were reported on October 9, 2001. Those two days account for over one-third of the tornadoes reported (and confirmed) within the state in October during that 54-year period. The state's monthly total of 27 tornadoes during October 1998 represents the most tornadoes ever reported within any state during an October.

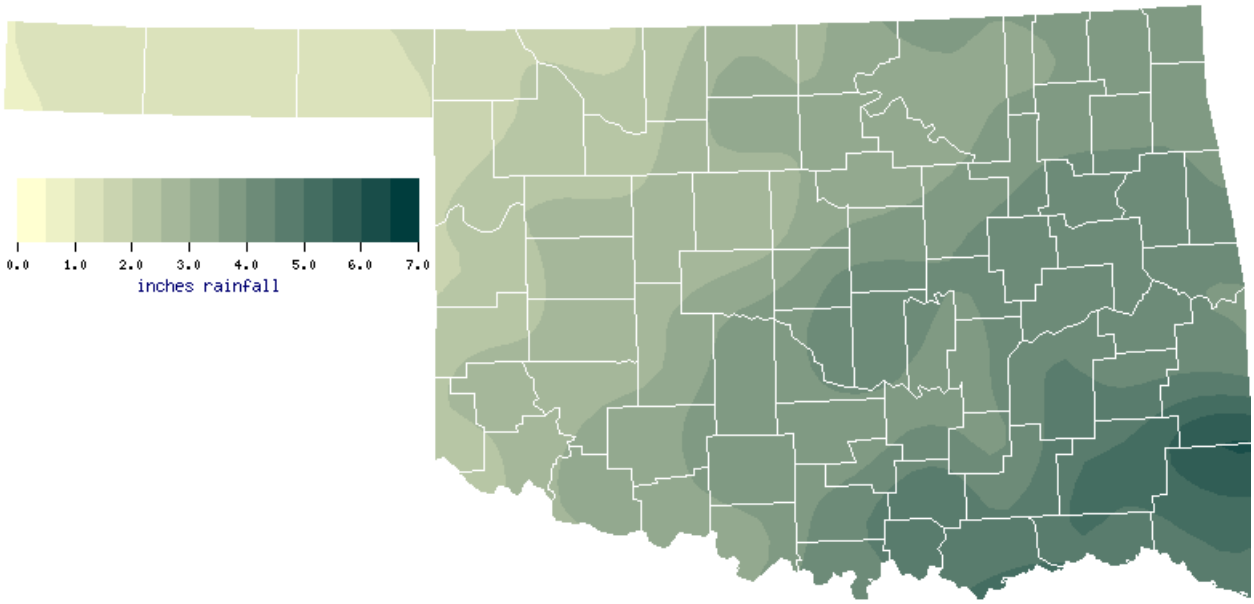
OCTOBER NORMAL DAILY MAXIMUM TEMPERATURE (1971-2000)



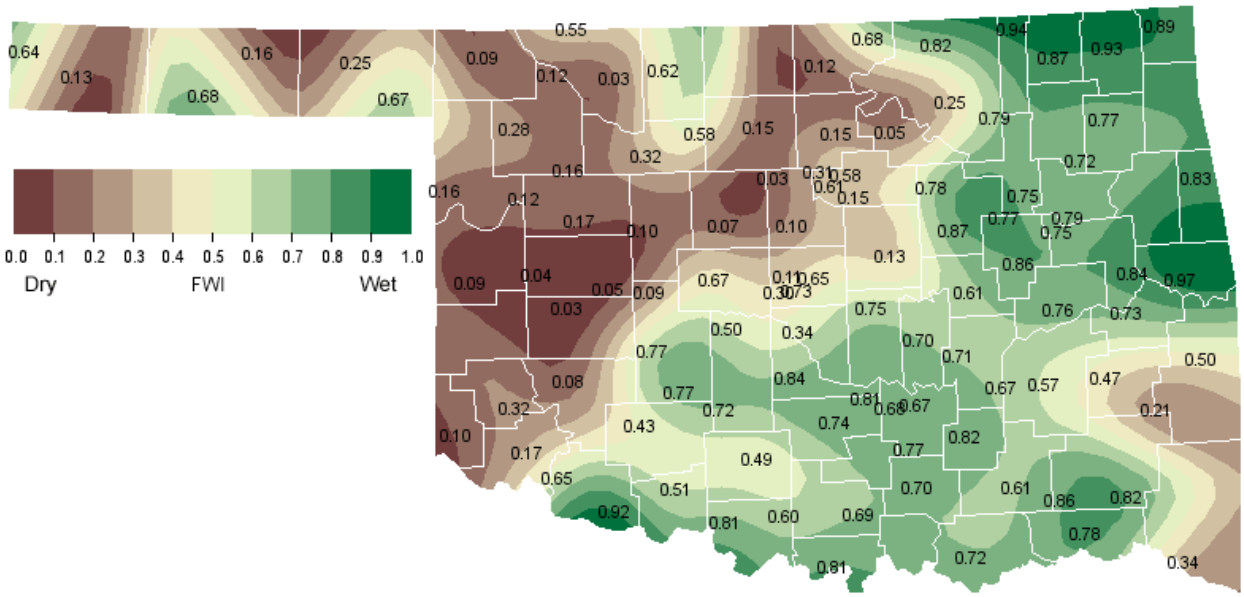
OCTOBER NORMAL DAILY MINIMUM TEMPERATURE (1971-2000)



OCTOBER NORMAL PRECIPITATION (1971-2000)



OCTOBER 1, 2010 SOIL MOISTURE CONDITIONS AT 25CM



OCTOBER 2010 DROUGHT INDICES

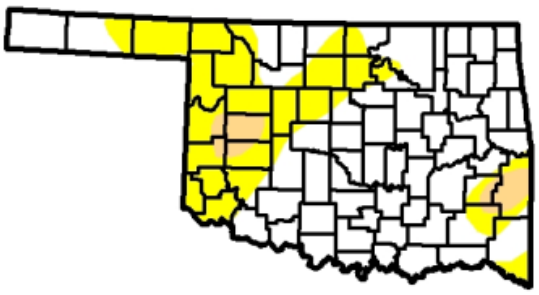
U.S. Drought Monitor

Oklahoma

October 5, 2010
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	66.3	33.7	4.2	0.0	0.0	0.0
Last Week (09/28/2010 map)	66.3	33.7	4.2	0.0	0.0	0.0
3 Months Ago (07/13/2010 map)	92.8	7.2	4.7	0.0	0.0	0.0
Start of Calendar Year (01/05/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (10/05/2010 map)	66.3	33.7	4.2	0.0	0.0	0.0
One Year Ago (10/06/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0



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, October 7, 2010

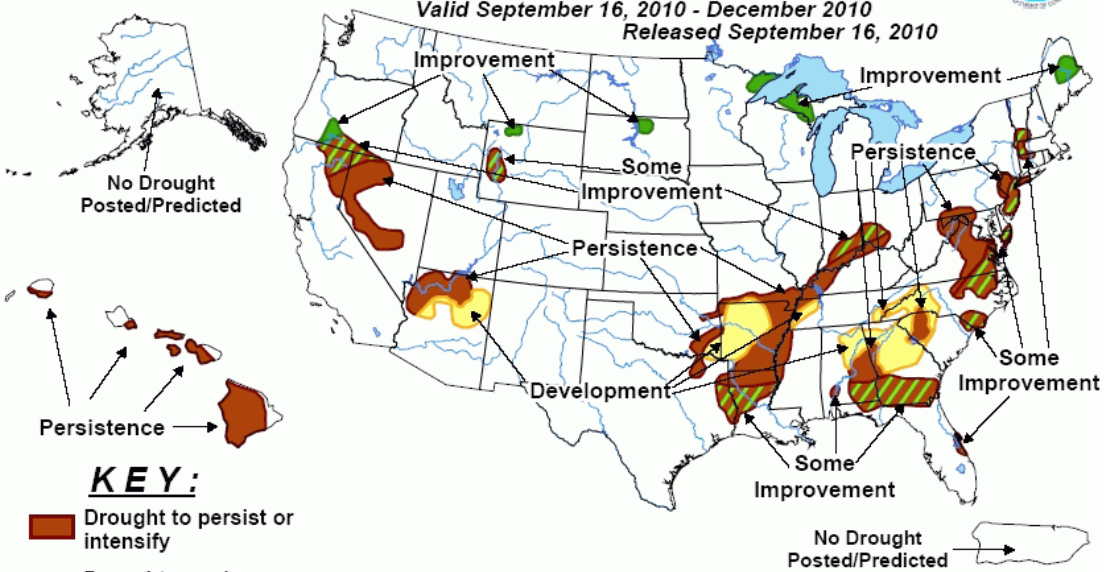
Author: Laura Edwards, Western Regional Climate Center

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid September 16, 2010 - December 2010

Released September 16, 2010

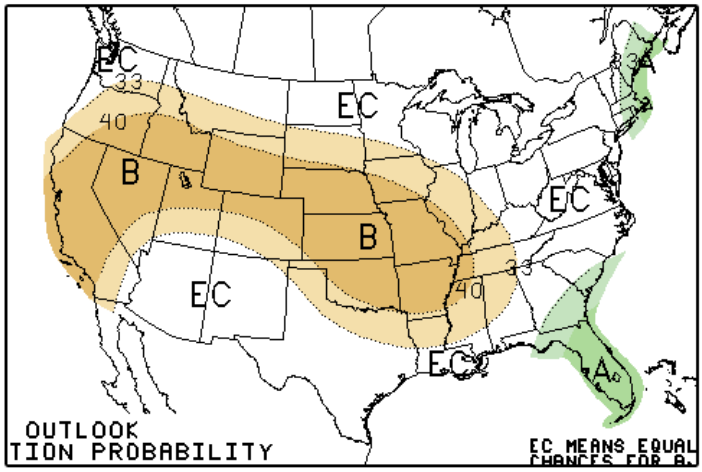


KEY:

- 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.

OCTOBER 2010 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

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

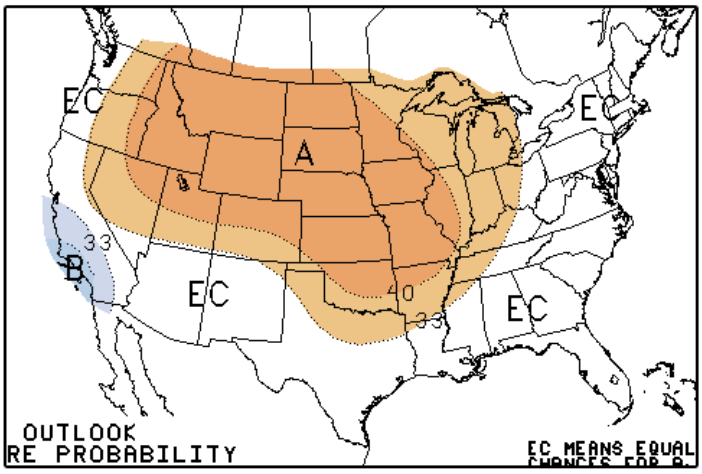
A = Above

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

B = Below

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

OCTOBER 2010 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

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

A = Above

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

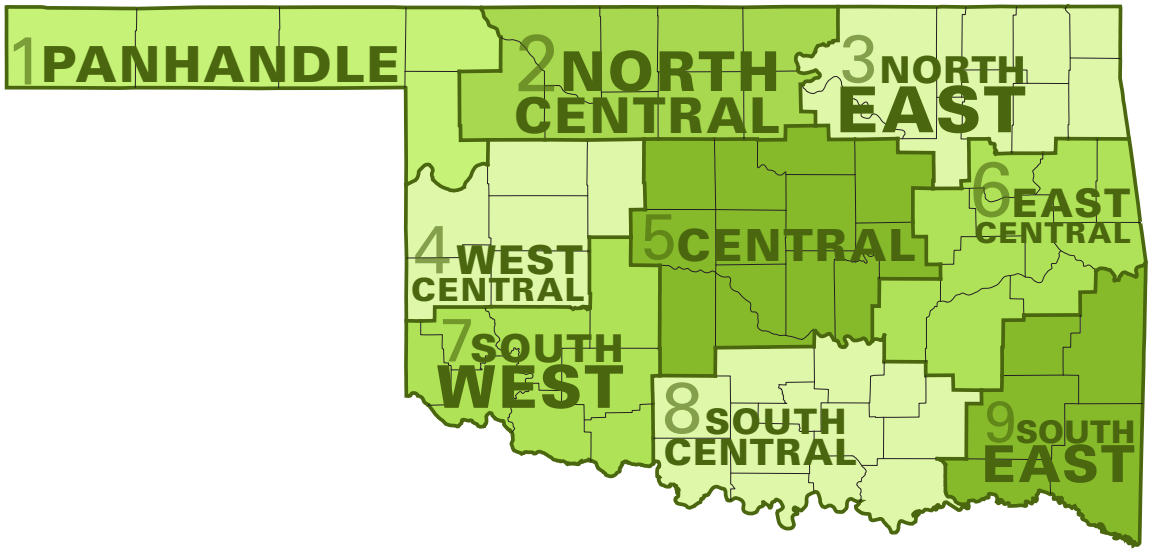
B = Below

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

OCTOBER CLIMATE NORMALS

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	73.70	42.90	58.30	1.49
2	73.50	46.50	60.00	2.66
3	73.80	48.70	61.30	3.62
4	73.70	47.20	60.50	2.47
5	74.40	49.30	61.80	3.64
6	74.50	50.00	62.30	4.19
7	75.80	48.90	62.30	2.99
8	76.10	50.80	63.50	4.17
9	76.10	49.50	62.80	4.98
Statewide	74.60	48.30	61.50	3.48

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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