

Tempered only by below normal rainfall in the north and west, heavy rains in the southeastern half of the state helped the month to rank as the 32nd wettest September on record. The southeast climate division's average rainfall total was nearly 4 inches above normal and ranked as the sixth wettest on record for that area. On the other hand, north central Oklahoma's average rainfall total was nearly 2 inches below normal and ranked as the 22nd driest on record. The heavy rains were prompted by a pair of upper-level systems that plagued the state for about 10 days in the month's middle. The first system approached from the north and combined with a front to bring heavy rains to the northeast and then the south. The second system formed to the south and meandered about the area for days, peppering the state with oddly moving southeast-to-northwest rains. Several strong cold fronts kept the state on the cool side and the month ranked as the 16th coolest on record. Severe weather was uncommon during the month, although reports of flooding were plentiful, especially in the eastern third of the state.

## PRECIPITATION

The average statewide precipitation total for September was 4.41 inches, more than a half an inch above normal. Surpluses were recorded over the entire eastern one-third of the state as well as the western Panhandle and portions of southwestern Oklahoma. A severe deficit of more than three inches occurred in north central Oklahoma; other deficits of 1-3 inches plagued northern and western areas of the state. The month's highest total of 9.93 inches was recorded by the Mesonet station at Cookson. The lowest total of 0.45 inches was recorded at Goodwell. The January-September period was the 40th wettest on record with a surplus of nearly a half of an inch.

### September 2009 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	101°F	Mangum	2
Low Temperature	36°F	Kenton	24
High Precipitation	9.93 in.	Cookson	--
Low Precipitation	0.45 in.	Goodwell	--

## TEMPERATURE

The statewide average temperature for September was 2.5 degrees below normal. Normally there would be some areas above normal despite the cool weather, but this month the entire state was officially "under the weather." East central and northeast Oklahoma led the way with average readings of 2.9 degrees below normal, ranking as the 10th- and 12th-coolest on record for those areas, respectively. The coldest reading of the month, 36 degrees, occurred at Kenton on the 24th and the warmest of 101 degrees was reported by Mangum on the second. The January-September statewide average temperature fell to 63.1 degrees, bringing it back to normal for the year thus far.

### September 2009 Statewide Statistics

#### Temperature

	Average	Depart.	Rank (1895-2009)
Month (September)	69.9°F	-2.5°F	16th Coolest
Year-to-Date (Jan-Sep)	63.1°F	0.0°F	50th Warmest

#### Precipitation

	Average	Depart.	Rank (1895-2009)
Month (September)	4.41 in.	0.60 in.	32nd Wettest
Year-to-Date (Jan-Sep)	28.92 in.	0.45 in.	40th Wettest

Depart. = departure from 30-year normal

## SEPTEMBER DAILY HIGHLIGHTS

**SEPTEMBER 1-3:** The month began with smoky skies due to favorable upper-level air patterns transporting smoke from large fires in Southern California. Temperatures rose into the 80s and 90s and a few showers were scattered about, but amounts were not heavy. Larger storms popped up overnight in Kansas and moved southeast over the state on the second. Rainfall amounts of nearly 2 inches fell in localized areas. More showers and storms formed on the third and brought rain to the southeast and the Oklahoma Panhandle. Highs during this period were mostly in the 80s and 90s with a few 70s and 100s thrown in.

**SEPTEMBER 4-7:** A calm day on the fourth preceded showers and storms along a weak frontal boundary on the fifth. The heaviest rain was in the east central region with more than 2 inches falling at Cookson. Widely scattered showers and storms were around the next couple of days, but amounts were generally less than a half of an inch. Highs throughout this period were seasonable in the 80s and 90s.

**SEPTEMBER 8-11:** An upper-level low pressure system in the Northern Plains dropped to the south on the eighth and brought the state its first bout with widespread heavy rains. Most of that heavy rain fell in the northeastern quarter of the state on the eighth and ninth and in south central Oklahoma on the 10th and 11th. The rains were occasionally accompanied by severe weather with hail and high winds being the primary culprit. Flooding was widespread in the northeast with those rains. The rains formed along a cold front that dug slowly through the state. High temperatures ranged from the 70s to the 90s and were very dependent on which side of the front a particular location was on.

**SEPTEMBER 12-18:** The state's second bout with heavy widespread rains occurred during this seven-day period due to yet another upper-level low pressure system. Most of the southern two-thirds of the state saw between 2-4 inches of rainfall during this time, with amounts approaching 7 inches in the southeast. The upper-level low formed in Texas and then meandered about the region for days, prompting rain showers that traveled from the southeast to the northwest in direction. The air was tropical during this period with lows in the 60s, although 50s and 70s were present from time to time, and highs were generally in the 70s and 80s. Sun was a scarce commodity through the 18th.

**SEPTEMBER 19-21:** The sun finally returned to full-time duty on the 19th as the upper-level low that had plagued the area for the last week moved off and weakened. Highs rose into the 70s and 80s on the 19th with the sun although a bit of rain did fall in north central Oklahoma early. Highs managed to rise into the 80s on the 20th before a cold front brought more showers and storms overnight into the 21st. Heavy rains fell in eastern Oklahoma and 13 instances of flooding were reported from those areas. Highs rose only into the 60s and 70s in the northwest after the front but climbed into the 90s in the south.

**SEPTEMBER 22-25:** The first day of autumn was fittingly cool after the cold front's passage and highs struggled to rise into the 60s. Winds were from the northwest at 10-15 mph to make for a blustery fall day. The month's first 30s were recorded during this four-day period as well. The coldest temperature of the month, 36 degrees, occurred at the Kenton Mesonet site on the 24th. High temperatures were mostly in the 70s through the 25th.

**SEPTEMBER 26-30:** September was ushered out with a very pleasant five days. Skies were sunny for the most part and very little rain fell. Highs warmed up rapidly into the 90s on the 27th with a couple of 100s in the northwest. A cold front brought some relief on the 28th with highs in the 70s. The month ended on a warm note due to another approaching upper-level system and highs reached into the upper 80s low 90s. The Oklahoma Mesonet site at Beaver reached 100 degrees on the 30th.

# SEPTEMBER 2009 SEVERE WEATHER

## Wind Gusts (70 mph or greater)

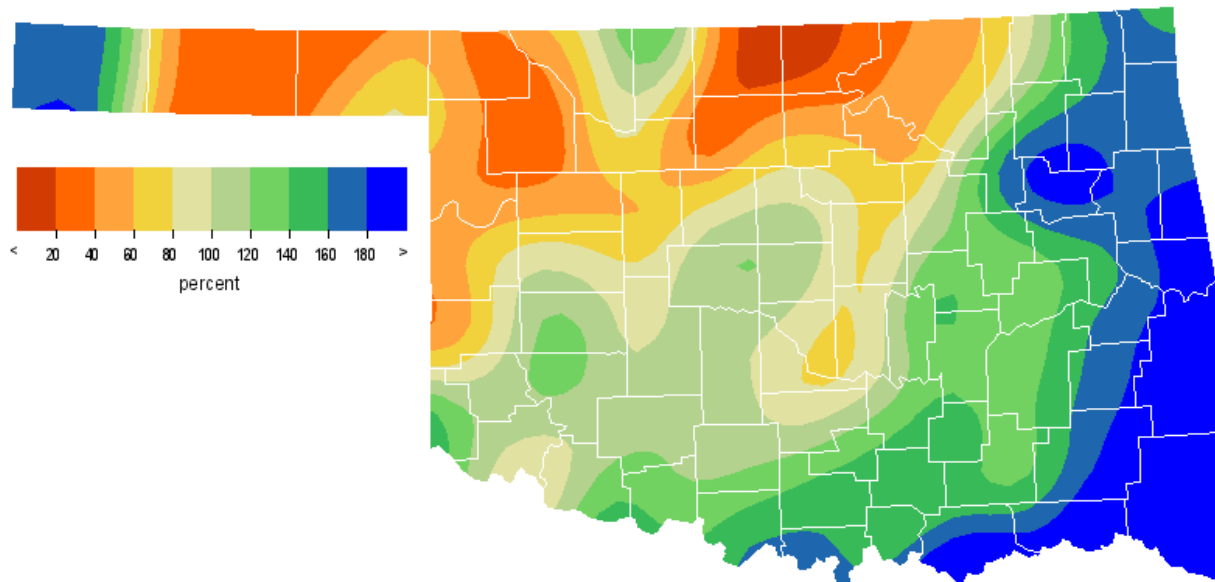
Speed (m.p.h)	Location	County	Day
70	5 W Wagoner	Wagoner	21

## Flooding

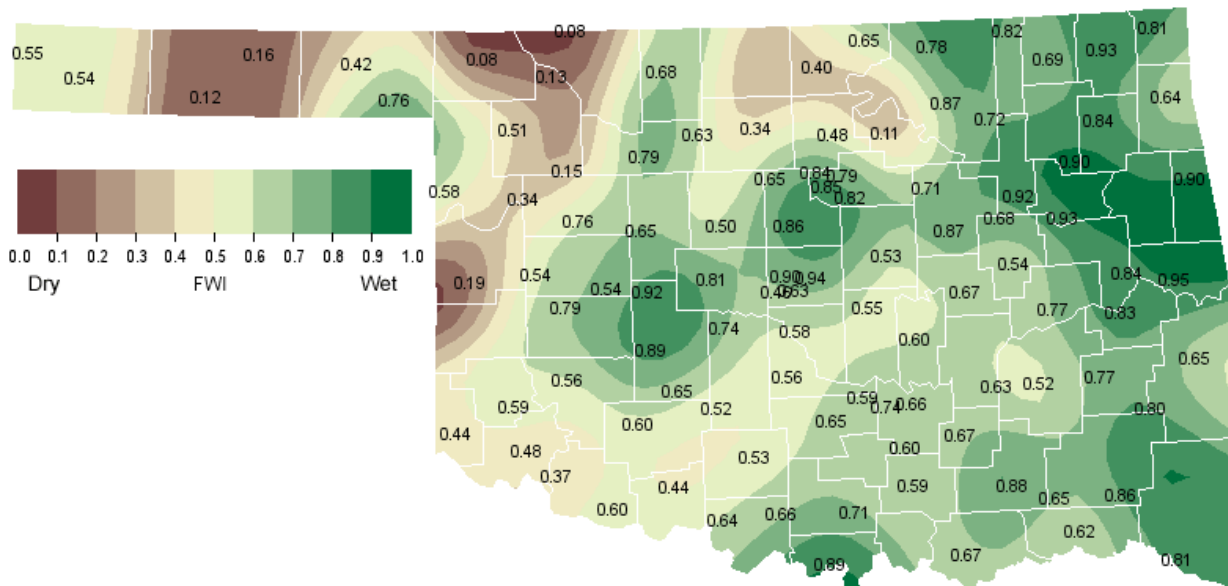
Location	County	Day
8 WNW Welch	Craig	9
Commerce	Ottawa	9
Saline	Mayes	9
6 W Jay	Delaware	9
Wainwright	Muskogee	10
Redbird	Wagoner	10
Boynton	Muskogee	10
Oktaha	Muskogee	10
5 E Lenapah	Nowata	10
4 W Porter	Wagoner	10
3 S Tahlequah	Cherokee	10
Colcord	Delaware	10
6 SE Cromwell	Hughes	21
Tulsa	Tulsa	21
1 SW Hitchita	McIntosh	21
Checotah	McIntosh	21
6 S Claremore	Rogers	21
6 N Oneta	Wagoner	21
Commerce	Ottaawa	21
Quapaw	Ottawa	21
2 E Hectorville	Okmulgee	21
Coweta	Wagoner	21
Dewar	Okmulgee	21
Wainwright	Muskogee	21
6 NE Broken Arrow	Wagoner	21



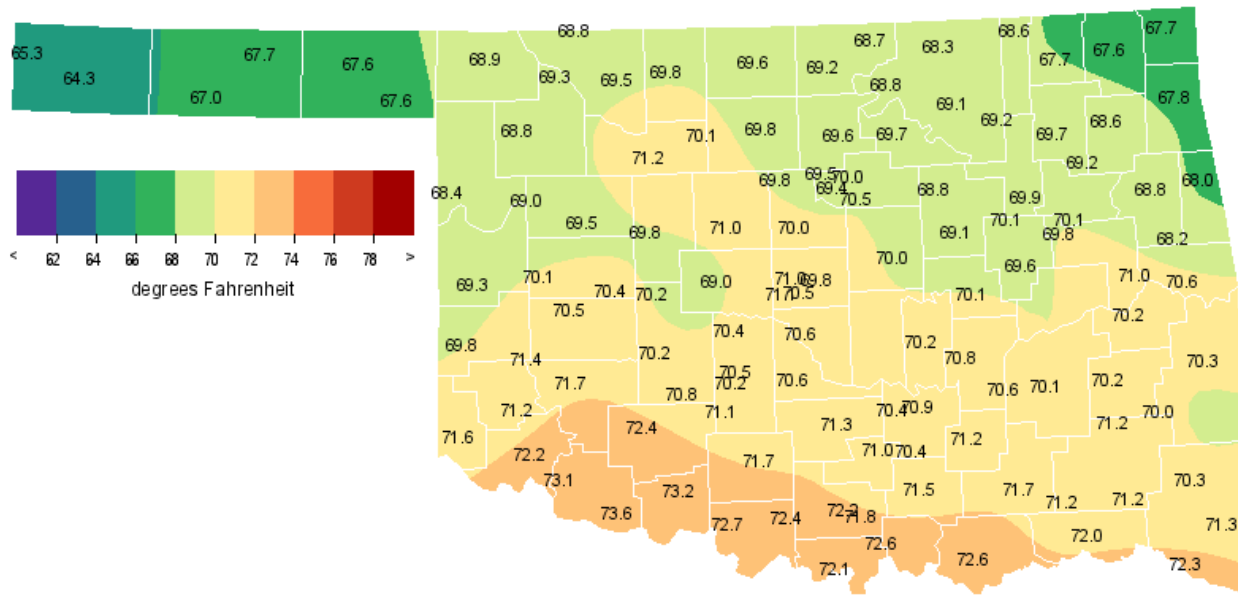
## SEPTEMBER 2009 PERCENT OF NORMAL PRECIPITATION



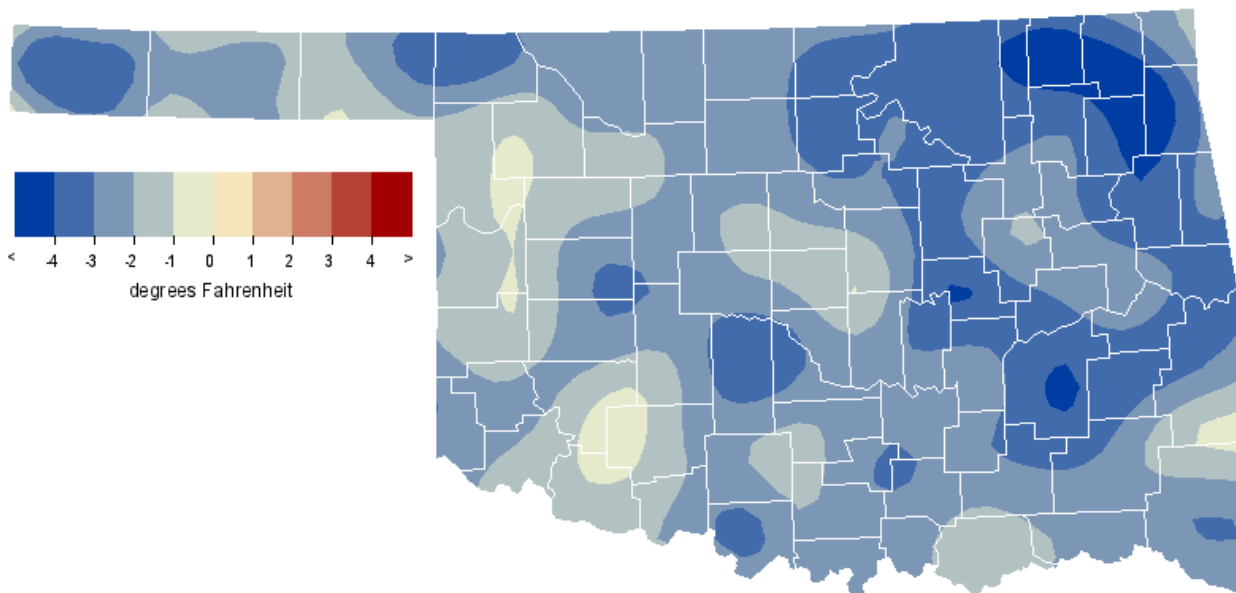
## SEPTEMBER 2009 AVERAGE SOIL MOISTURE AT 25CM



## SEPTEMBER 2009 AVERAGE TEMPERATURE



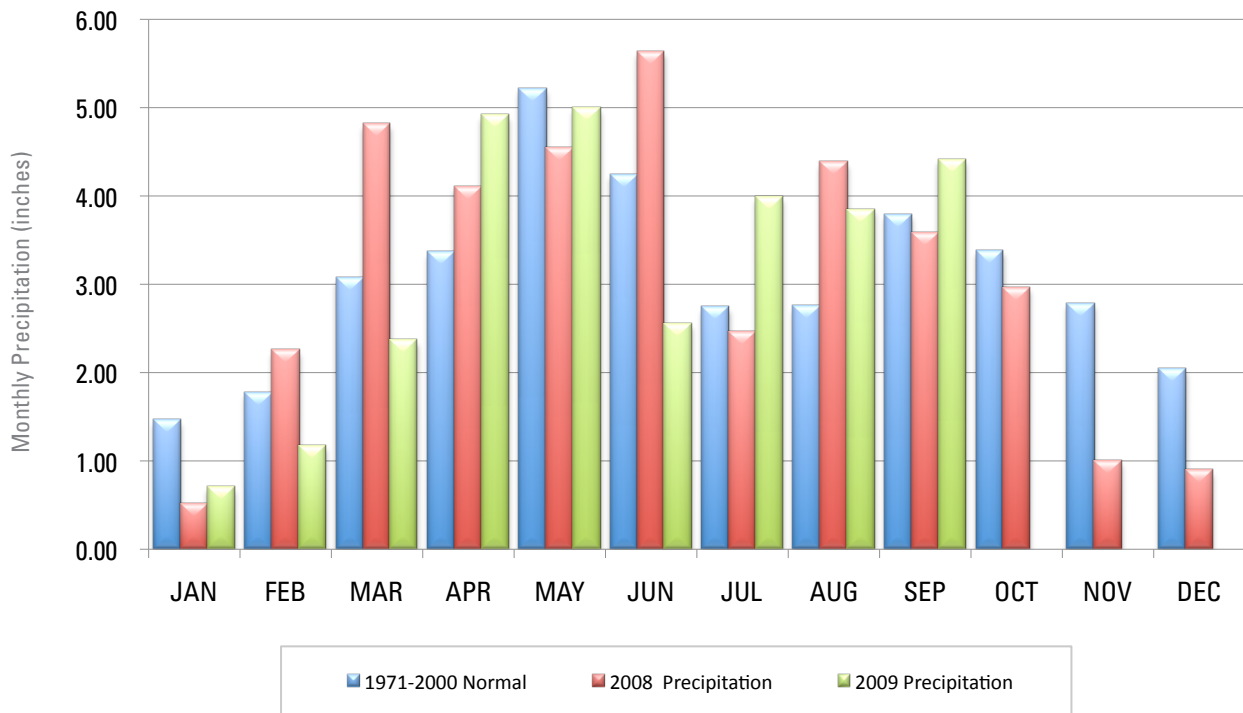
## SEPTEMBER 2009 DEPARTURE FROM NORMAL TEMPERATURE



# MESONET MONTHLY SUMMARY FOR SEPTEMBER 2009

NAME	MEAN TEMP	HIGH TEMP	LOW TEMP	DAY	DAY	HDD	CDD	TOT PPT	HIGH 24-HR	DAY	NAME	MEAN TEMP	HIGH TEMP	LOW TEMP	DAY	DAY	HDD	CDD	TOT PPT	HIGH 24-HR	DAY
<b>PANHANDLE</b>																					
Arnett	68.4	98	27	41	29	44	146	1.08	.32	11	Goodwell	67.0	96	30	38	24	69	129	.45	.39	21
Beaver	67.6	100	30	39	25	51	130	.54	.18	12	Hooker	67.7	98	30	38	24	59	139	.50	.43	21
Boise City	64.3	91	2	37	24	103	80	2.56	1.83	3	Kenton	65.3	93	1	36	24	94	102	*****	*****	***
Buffalo	68.9	99	27	38	29	43	161	.89	.47	12	Slapout	67.5	96	27	39	24	52	128	1.55	1.20	12
<b>NORTH CENTRAL</b>																					
Alva	69.5	95	27	42	29	35	170	1.97	1.43	12	May Ranch	68.8	95	27	44	23	37	150	1.82	1.16	12
Blackwell	69.2	97	27	39	29	36	162	.61	.18	1	Medford	69.6	94	27	44	29	30	168	.57	.26	12
Breckinridge	69.8	98	27	41	29	30	175	1.45	.50	12	Newkirk	68.7	95	27	43	23	33	143	.90	.27	8
Cherokee	69.9	95	27	42	29	30	176	3.90	3.54	12	Red Rock	69.6	96	27	42	29	31	170	1.33	.40	10
Fairview	71.2	97	27	42	29	22	209	2.94	2.64	12	Seiling	70.3	100	27	42	24	****	****	.71	.40	12
Freedom	69.3	97	27	44	24	34	164	.86	.65	12	Woodward	68.7	96	27	41	29	39	150	.93	.68	12
Lahoma	70.1	97	27	44	23	25	179	.51	.21	12											
<b>NORTHEAST</b>																					
Bixby	69.8	90	27	44	29	25	170	9.72	2.46	21	Nowata	67.6	88	27	38	29	46	125	4.97	1.59	21
Burbank	68.7	96	27	41	29	39	151	1.66	.61	9	Pawnee	69.6	94	27	42	29	29	167	2.26	.52	9
Claremore	69.7	90	27	44	29	22	164	7.59	3.43	21	Porter	70.1	90	8	46	29	18	171	9.07	2.62	21
Copan	68.7	92	27	40	29	35	146	3.20	1.23	8	Pryor	68.7	90	8	39	29	36	146	8.18	2.15	21
Foraker	68.3	94	27	43	29	31	129	2.06	1.07	8	Skiatook	69.3	91	27	48	29	22	150	3.73	1.24	21
Inola	69.2	89	8	42	29	30	156	9.22	2.77	21	Vinita	67.6	86	27	41	29	41	118	8.82	2.70	9
Jay	67.7	88	8	40	29	36	118	8.94	3.26	9	Wynona	69.1	93	27	44	29	30	154	3.25	1.04	8
Miami	67.6	87	21	39	29	38	116	7.66	3.06	9											
<b>WEST CENTRAL</b>																					
Bessie	70.5	95	2	47	23	19	183	4.25	2.24	12	Putnam	69.4	95	27	43	23	28	160	1.95	1.23	12
Butler	70.1	98	27	40	29	31	184	3.04	2.03	12	Retrop	71.3	99	2	44	23	17	207	2.73	1.25	12
Camargo	69.0	99	27	37	29	42	163	1.02	.38	12	Watonga	69.8	94	27	47	23	22	168	1.34	.91	12
Cheyenne	69.3	98	27	46	23	26	155	1.71	.47	12	Weatherford	70.4	96	2	45	23	19	180	3.30	1.62	13
Erick	69.7	100	2	39	29	32	173	1.56	.83	13											
<b>CENTRAL</b>																					
Acme	71.0	96	9	41	29	29	210	4.16	1.24	19	Ninnekah	70.2	95	9	43	29	31	187	3.72	1.02	17
Bowlegs	70.3	93	9	44	29	29	187	6.29	2.41	12	Norman	70.6	94	9	46	29	27	195	3.73	.67	12
Bristow	69.2	91	27	40	29	38	164	6.38	2.49	8	Oilton	68.8	93	27	38	29	41	155	2.23	.51	16
Lake Carl Blac	69.5	94	27	41	29	32	168	4.45	2.19	10	OKC E	70.5	94	27	46	29	25	191	4.33	1.85	17
Chandler	70.0	92	27	45	29	26	175	2.80	1.22	17	OKC N	71.0	94	27	49	29	15	196	4.55	1.13	10
Chickasha	70.5	95	27	42	29	29	195	3.26	.81	12	OKC W	71.1	94	27	48	29	20	203	4.57	2.02	17
El Reno	69.0	93	27	41	29	36	157	3.66	2.12	12	Okemah	70.1	93	7	45	29	27	180	7.72	2.35	12
Guthrie	69.9	93	27	45	29	23	171	3.49	.75	10	Perkins	70.5	94	27	45	29	24	188	3.43	.75	8
Kingfisher	71.0	96	27	43	29	21	202	3.39	2.24	12	Shawnee	*****	***	***	***	***	****	****	2.83	1.18	12
Marena	69.4	92	27	45	29	26	159	3.63	1.01	8	Spencer	69.7	93	27	45	29	26	168	4.80	1.68	17
Minco	70.4	93	9	48	25	21	182	4.05	1.36	17	Stillwater	70.0	95	27	42	29	30	180	3.07	.69	9
Marshall	69.9	96	27	41	29	32	178	2.10	.91	8	Washington	70.6	97	9	45	25	26	194	4.00	1.15	12
<b>EAST CENTRAL</b>																					
Cookson	68.2	87	8	39	29	38	134	9.93	2.74	5	Sallisaw	70.6	91	8	42	29	12	182	8.16	2.76	10
Eufaula	*****	***	***	***	***	****	****	6.90	2.16	12	Stigler	70.2	90	8	44	29	17	172	9.47	2.26	10
Haskell	69.8	91	8	44	29	24	169	7.37	2.27	10	Stuart	70.6	93	8	48	29	20	188	4.82	1.48	16
Hectorville	70.2	91	7	48	29	18	174	4.94	2.08	21	Tahlequah	68.7	88	8	39	29	34	145	9.24	2.92	21
Holdenville	70.7	93	8	49	29	17	189	5.84	2.18	12	Webbers Falls	71.0	91	8	44	29	12	193	6.54	1.70	21
McAlester	70.1	91	8	43	29	27	181	6.64	2.24	21	Westville	68.0	87	8	41	29	35	125	8.76	2.61	21
Okmulgee	69.6	92	8	43	29	29	167	4.79	1.36	21											
<b>SOUTHWEST</b>																					
Altus	72.2	99	27	46	29	15	232	3.34	2.16	12	Hollis	71.5	99	2	44	29	21	216	4.18	2.12	12
Apache	70.9	96	2	46	23	20	196	4.51	1.98	12	Mangum	71.2	101	2	41	29	26	212	3.79	1.85	12
Fort Cobb	70.2	94	27	45	25	28	184	2.37	.79	12	Medicine Park	72.4	99	2	50	24	10	232	3.84	2.49	12
Grandfield	73.7	100	2	49	25	8	268	4.63	2.34	12	Tipton	73.1	101	2	46	29	14	258	2.87	1.44	12
Hinton	70.1	93	7	46	23	23	176	2.92	1.50	12	Walters	73.2	99	2	45	25	18	264	4.42	1.27	13
Hobart	71.7	99	2	45	23	16	219	4.86	2.27	12											
<b>SOUTH CENTRAL</b>																					
Ada	70.9	95	9	43	29	25	201	4.60	1.45	16	Madill	72.6	96	7	48	25	19	246	6.36	2.66	10
Ardmore	71.8	95	8	49	29	16	221	5.27	2.64	12	Newport	72.3	97	9	49	25	15	233	7.21	1.85	12
Burneyville	72.0	96	8	46	29	23	233	7.13	2.92	10	Pauls Valley	71.3	96	9	46	29	23	210	3.26	.82	12
Byars	*****	***	***	***	***	****	****	3.96	1.41	12	Ringling	72.4	97	8	48	25	21	243	5.38	2.07	12
Centrahoma	71.1	94	9	45	29	22	204	7.53	2.43	21	Sulphur	71.0	95	9	43	29	29	208	7.58	1.81	12
Durant	*****	***	***	***	***	****	****	8.44	2.76	10	Tishomingo	71.4	96	7	48	29	22	215	5.63	1.54	21
Fittstown	70.4	94	9	46	29	25	186	8.62	2.39	12	Vanoss	70.4	95	8	43	29	28	189	3.96	1.50	16
Ketchum Ranch	71.7	96	9	47	25	20	221	4.43	1.03	12	Waurika	72.7	97	9	46	25	20	250	4.65	2.21	12
Lane	71.7	94	9	46	29	15	215	6.04	1.60	12											
<b>SOUTHEAST</b>																					
Antlers	71.3	95	9	42	29	18	206	6.03	1.71	21	Idabel	72.4	92	9	48	29	4	224	9.66	2.28	16
Broken Bow	71.3	92	27	45	29	8	196	7.95	1.90	21	Mt Herman	70.4	89	7	45	29	15	177	9.89	2.40	16
Clayton	71.2	93	7	45	29	14	199	8.76	1.93	16	Talihina	70.0	91	7	44	29	15	166	9.31	2.42	16
Cloudy	71.2	91	9	45	29	12	198	8.32	2.11	21	Wilburton	70.2	91	8	43	29	19	176	7.60	1.62	12
Hugo	72.1	91	7	49	29	5	218	7.91	1.52	21	Wister										

## 2008 AND 2009 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL

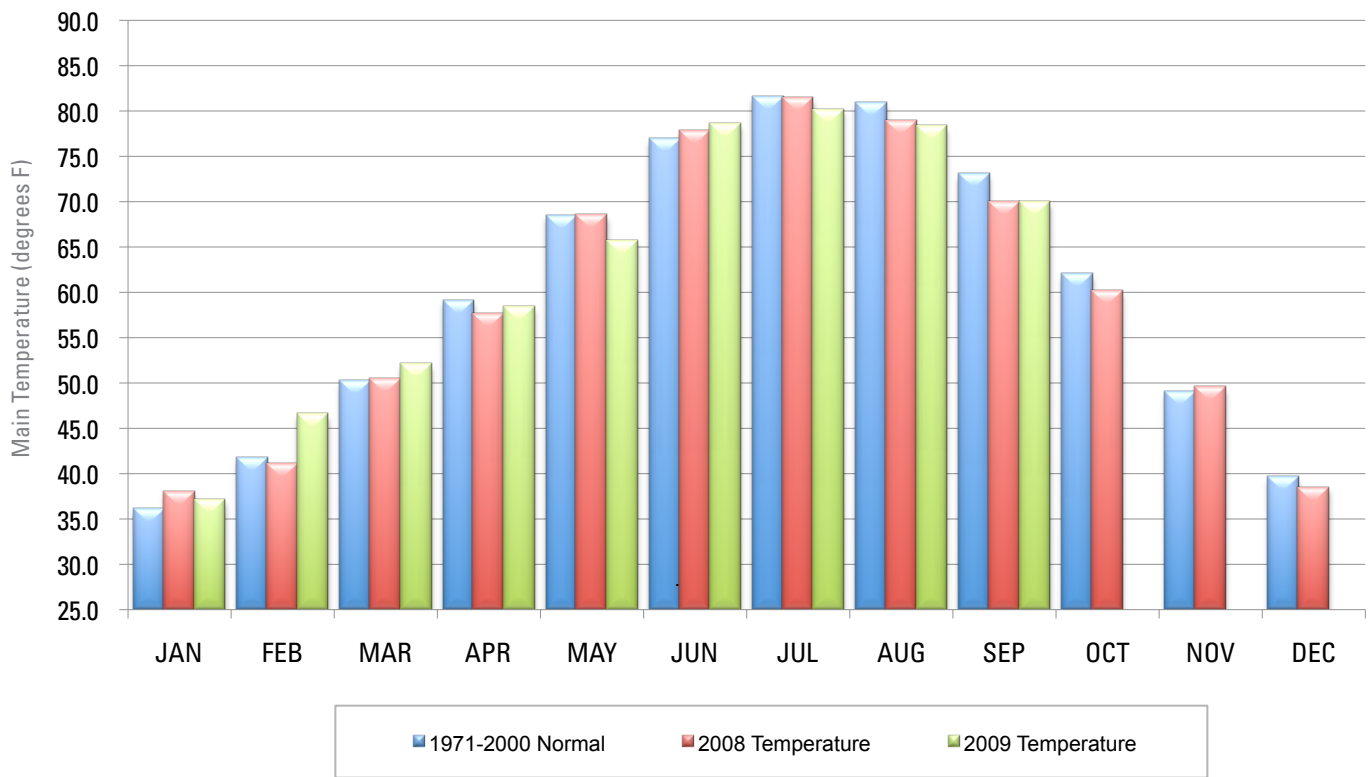


## September 2009 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Sep-08
Panhandle	1.08	-0.80	29th Driest	4.57 (1985)	0.05 (1956)	1.02
North Central	1.42	-1.71	22nd Driest	7.08 (1945)	0.04 (2000)	6.08
Northeast	6.02	1.24	27th Wettest	12.42 (1986)	0.13 (1948)	4.65
West Central	2.32	-0.71	57th Driest	8.64 (1986)	0.02 (2000)	3.52
Central	4.03	-0.08	44th Wettest	10.68 (1945)	0.19 (1956)	2.06
East Central	7.18	2.22	17th Wettest	10.40 (1970)	0.23 (1948)	5.57
Southwest	3.79	0.40	29th Wettest	8.68 (1936)	0.00 (1898)	1.50
South Central	5.89	1.55	27th Wettest	9.98 (1936)	0.00 (1909)	1.91
Southeast	8.49	3.92	6th Wettest	11.75 (1974)	0.29 (1948)	5.85
Statewide	4.41	0.60	32nd Wettest	7.86 (1945)	0.27 (1956)	3.48



## 2008 AND 2009 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



### September 2009 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Sep-08 (F)
Panhandle	67.1	-2.3	17th Coolest	76.2 (1931)	62.4 (1974)	67.2
North Central	69.5	-2.6	21st Coolest	80.8 (1931)	64.0 (1974)	69.0
Northeast	68.8	-2.9	12th Coolest	79.1 (1931)	63.4 (1974)	69.4
West Central	70.0	-1.9	28th Coolest	80.4 (1931)	64.4 (1974)	69.1
Central	70.1	-2.7	19th Coolest	81.3 (1931)	65.0 (1974)	70.2
East Central	69.8	-2.9	10th Coolest	80.5 (1939)	65.1 (1974)	71.2
Southwest	71.8	-1.9	26th Coolest	81.2 (1931)	66.4 (1974)	71.1
South Central	71.7	-2.4	19th Coolest	81.3 (1998)	66.3 (1974)	71.2
Southeast	71.0	-2.1	19th Coolest	81.2 (1939)	65.9 (1974)	69.7
Statewide	69.9	-2.5	16th Coolest	79.8 (1931)	64.7 (1974)	69.8

## RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Daily Rainfall	21	Tulsa	4.42 inches	3.50 inches	1902

## MESONET EXTREMES FOR SEPTEMBER 2009

Climate Division	High Temp (F)			Low Temp (F)			High Monthly Rainfall (inches)		High Daily Rainfall (inches)		
	Day	Station	Day	Station	Day	Station	Station	Day	Station		
Panhandle	100	30th	Beaver	36	24th	Kenton	2.6	Boise City	1.8	3rd	Boise City
North Central	98	27th	Breckinridge	39	29th	Blackwell	3.9	Cherokee	3.5	12th	Cherokee
Northeast	96	27th	Burbank	38	29th	Nowata	9.7	Bixby	3.4	21st	Claremore
West Central	100	2nd	Erick	37	29th	Camargo	4.3	Bessie	2.2	12th	Bessie
Central	97	9th	Washington	38	29th	Oilton	7.7	Okemah	2.5	8th	Bristow
East Central	93	8th	Holdenville	39	29th	Tahlequah	9.9	Cookson	2.9	21st	Tahlequah
Southwest	101	2nd	Mangum	41	29th	Mangum	4.9	Hobart	2.5	12th	Medicine Park
South Central	97	9th	Newport	43	29th	Vanoss	8.6	Fittstown	2.9	10th	Burneyville
Southeast	95	9th	Antlers	42	29th	Antlers	9.9	Mt Herman	3.3	16th	Wister
Statewide	101	2nd	Mangum	36	24th	Kenton	9.9	Cookson	3.5	12th	Cherokee

# 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

<b>Mean</b>	62.0 degrees
<b>Warmest October</b>	1963, 70.7 degrees
<b>Coollest October</b>	1925, 55.3 degrees
<b>Warmest location</b>	Waurika, 66.3 degrees
<b>Coollest location</b>	Turpin, 56.6 degrees
<b>Hottest recorded</b>	110 degrees, Waukomis, October 2, 1898
<b>Coldest recorded</b>	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.

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.

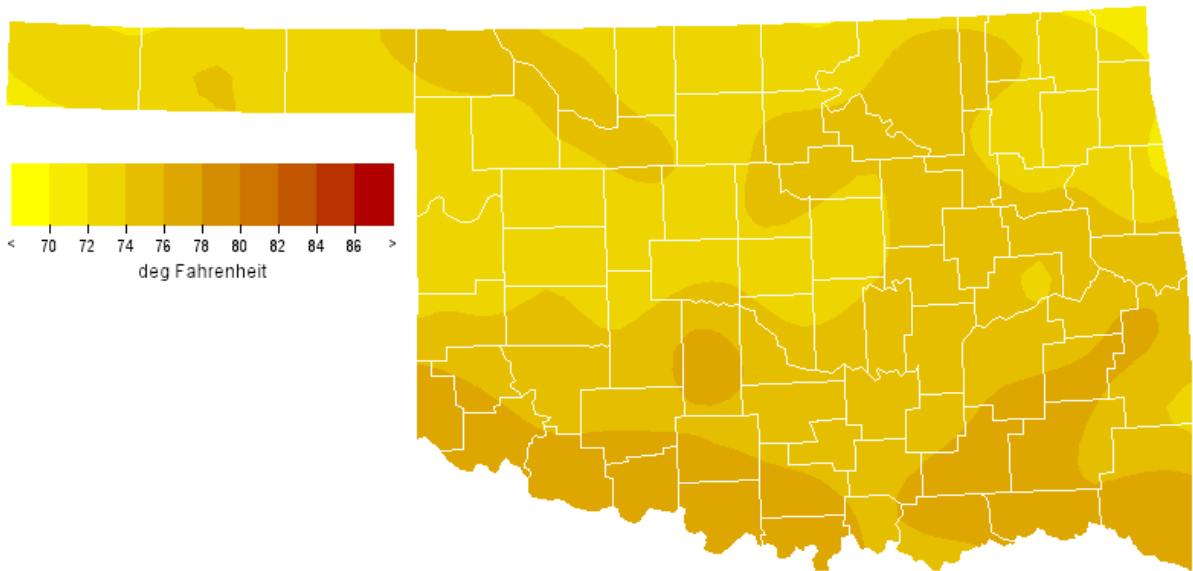
## Precipitation

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

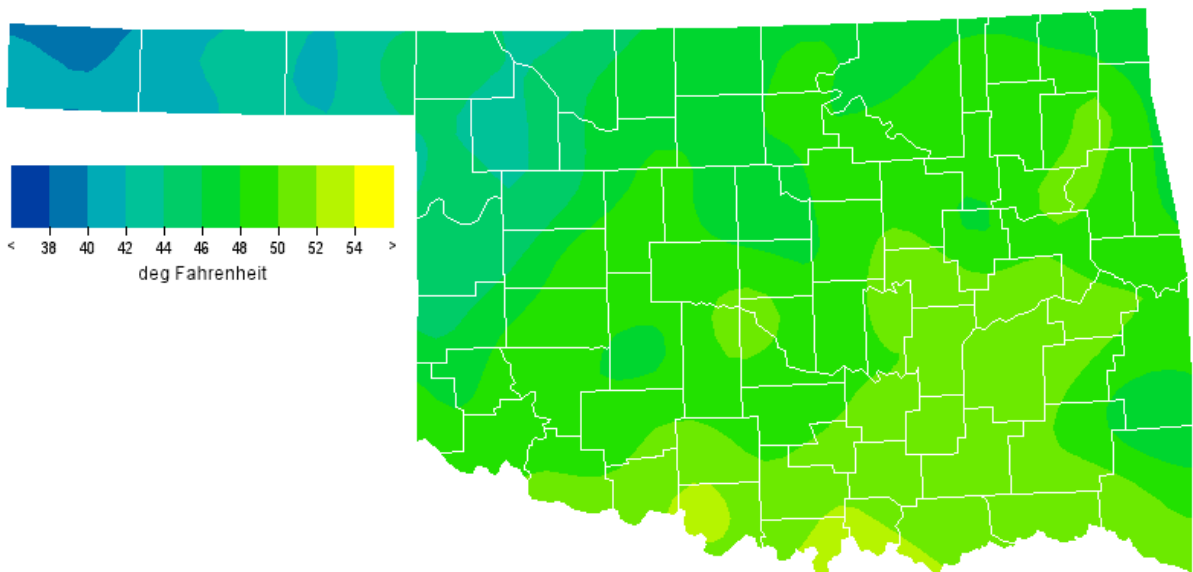
## Tornadoes

<b>Average October Tornadoes</b>	2
<b>Most</b>	27 (1998)

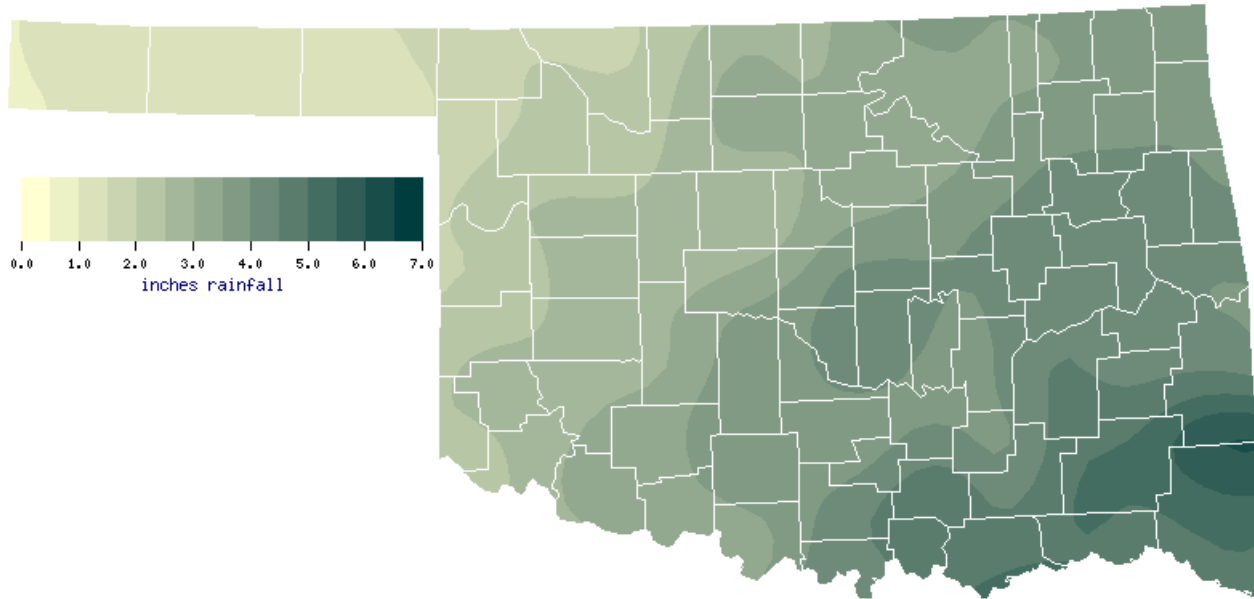
## OCTOBER NORMAL DAILY MAXIMUM TEMPERATURE (1971-2000)



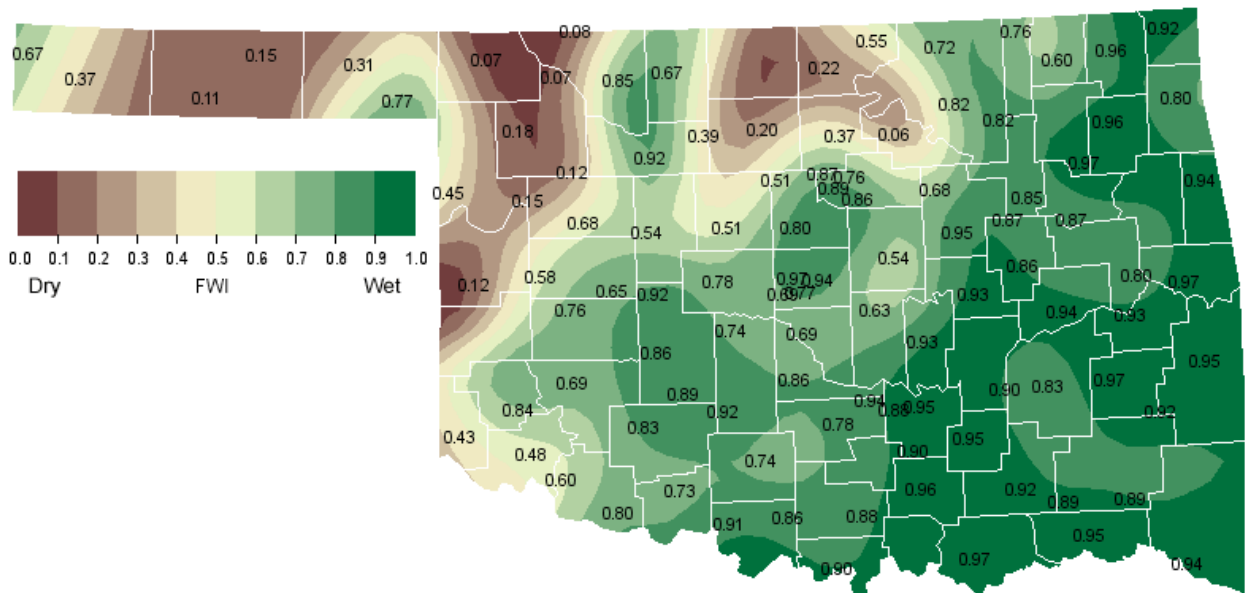
## OCTOBER NORMAL DAILY MINIMUM TEMPERATURE (1971-2000)



## OCTOBER NORMAL PRECIPITATION (1971-2000)



## OCTOBER 1, 2009 SOIL MOISTURE CONDITIONS AT 25CM



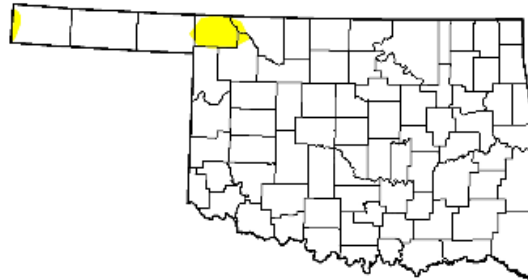
# OCTOBER 2009 DROUGHT INDICES

## U.S. Drought Monitor Oklahoma

September 29, 2009  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	98.0	2.0	0.0	0.0	0.0	0.0
Last Week (09/22/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0
3 Months Ago (07/07/2009 map)	36.5	63.5	27.1	0.0	0.0	0.0
Start of Calendar Year (01/06/2009 map)	41.6	58.4	12.0	3.4	0.0	0.0
Start of Water Year (10/07/2008 map)	84.4	15.6	5.0	3.5	0.0	0.0
One Year Ago (09/30/2008 map)	83.3	16.7	5.4	3.5	0.0	0.0



Intensity:

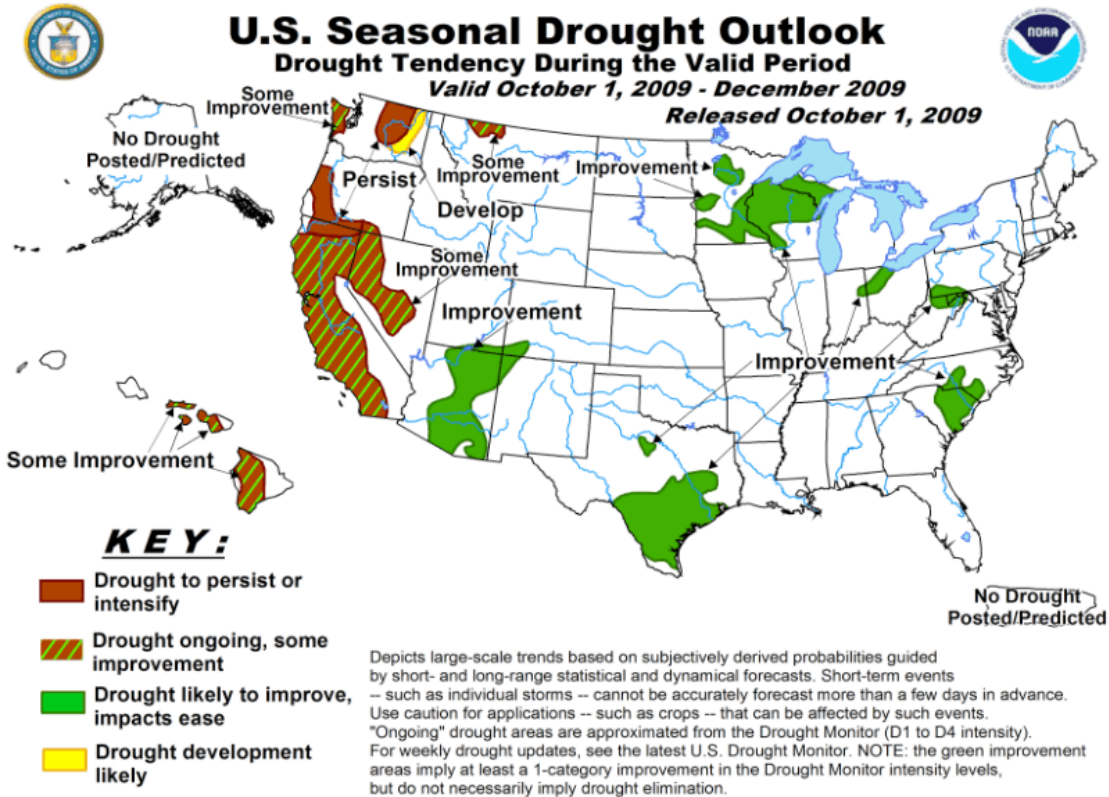
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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

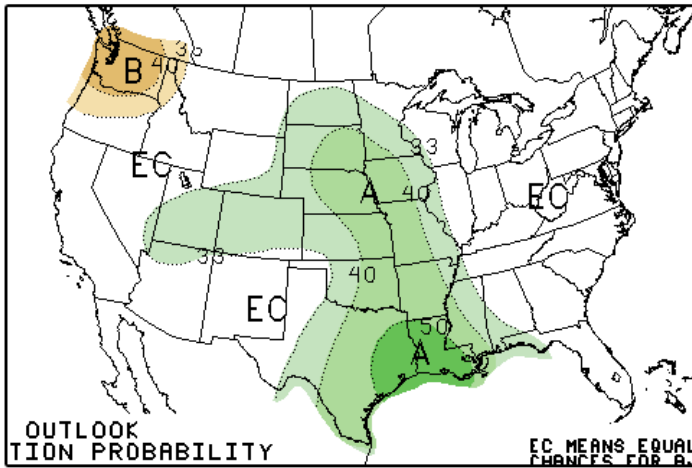


Released Thursday, October 1, 2009  
Author: D. Miskus, JAWF/CPC/NOAA

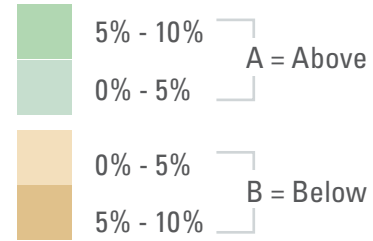
<http://drought.unl.edu/dm>



## OCTOBER 2009 U.S. PRECIPITATION FORECAST

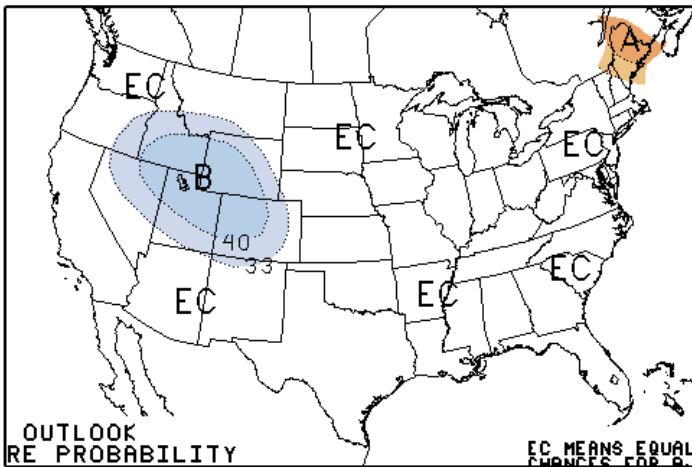


Percent Likelihood of Above or Below Average Precipitation\*

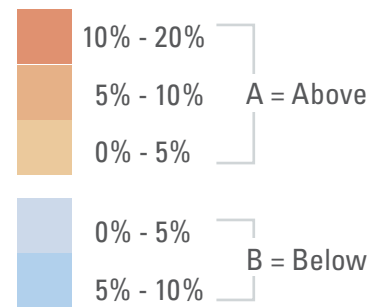


\*EC indicates no forecasted anomalies due to lack of model skill.

## OCTOBER 2009 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures\*

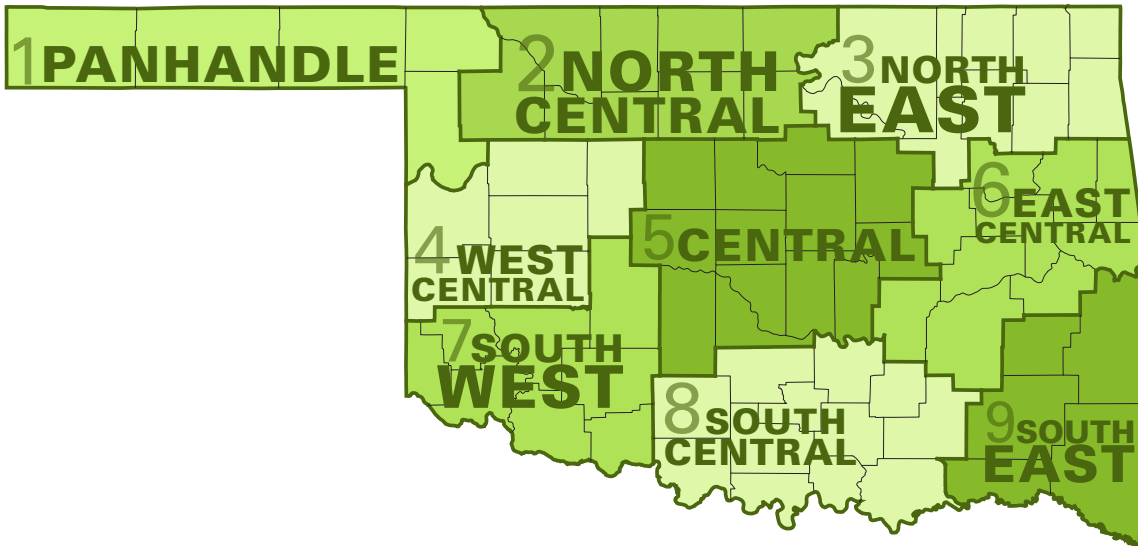


\*EC indicates no forecasted anomalies due to lack of model skill.

## 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](http://www.cpc.ncep.noaa.gov/products/OUTLOOKS_index.html)

### CLIMATE CALENDARS AND OTHER LOCAL WEATHER AND CLIMATE INFORMATION

Oklahoma Climatological Survey:

<http://climate.mesonet.org> or <http://climate.ok.gov/>



Oklahoma Climatological Survey is the State Climate Office for Oklahoma

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