OKLAHOMA MONTHLY CLIMATE SUMMARY
SEPTEMBER 2004

Oklahoma Climatological Survey

Overview

September was a stark contrast to the previous three months as the weather once again seemed contrary to the calendar. One of the coolest, wettest summers on record gave way to the 12th driest and 43rd warmest September since record-keeping began in 1892. The lack of significant rainfall was not as disastrous to the agricultural community as it could have been, given the ample summer rainfall. The timing, however, just as winter wheat was beginning to be sown, was not ideal. One of the few benefits of the quiet month was the lack of any significant severe weather. Most of the thunderstorms the state experienced during the month were more rain producers than severe weather threats. To punctuate the sometimes-misleading nature of statistics, the year-to-date statewide-averaged precipitation finished exactly normal, despite the driest May and 4th wettest summer on record, and a drier-than-average September.

Precipitation

Perhaps the oddest component of September precipitation was the area with the highest totals. The Panhandle was the leader in average precipitation for the month, and the lone section of the state to finish above normal, albeit barely. Other areas, such as south central and central, were among the ten driest in history for those regions. Five regions finished more than three inches below normal as well. Some areas in central and south central Oklahoma were particularly hard hit. The Mesonet site at Byars failed to record any precipitation for the month, while Bee, Newport, and Pauls Valley could not muster even a quarter of an inch of precipitation. For the year, the northwestern half of the state appears to be in good shape precipitation-wise. West central and the Panhandle are enjoying their 13th and 19th wettest January-September periods on record, respectively. The southeast is not faring quite so well, however. Its deficit stands at 5.29 inches of rainfall thus far, the 29th driest January-September on record for that section of the state. Impacts were beginning to be realized by the month's end. State officials issued a red flag fire alert on the 29th for 23 counties in the southeastern corner of Oklahoma.

Temperature

September's statewide-averaged temperature ended a little more than one degree above normal. Statistically, that ranked the month as the 43rd warmest September on record. Virtually the entire state was above normal. The only exceptions were Cimarron County in the Panhandle and portions of far eastern Oklahoma. Most of central and western Oklahoma was one-to-three degrees above normal. The year-to-date temperature was just barely above normal, and was the 45th warmest such period on record.

September 2004 Statewide Extremes

Description	Extreme	Station	Date
High Temperature	102ºF	Buffalo	September 17th
Low Temperature	37ºF	Kenton	September 23rd
High Precipitation	2.88 in.	Hooker	
Low Precipitation	0.00 in.	Byars	

September Daily Highlights

September 1-4: The onset of September was a bit cooler than normal, and rain was quite sparse over the month's first four days. The nights were mild, with temperatures falling into the 50s and 60s. High temperatures were generally in the low-mid 80s to the low 90s. A weak upper-level disturbance on the 2nd triggered a few showers and thunderstorms, but the activity was not widespread. The Oklahoma Mesonet site at Burneyville recorded over eight-tenths inches of rain, but that total was localized. Another bout of showers occurred in the Panhandle on the 4th, but amounts there were less than a half of an inch.

September 5-6: This period experienced one of the few instances of widespread rainfall activity for the month. A cold front entered the northwest during the afternoon of the 5th, generating showers and thunderstorms as the activity gradually traversed the state from northwest to southeast over the next 24 hours. Wynona and Skiatook received over an inch of rain on the 5th. The heaviest rain fell overnight on the 5th and into the 6th, however. The Antlers Mesonet site recorded well over two inches of rainfall on the 6th. Temperatures dropped

considerably behind the front, accompanied by strong northerly winds. Lows ahead of the front remained in the 60s and 70s, but behind the front, temperatures managed to drop into the low-mid 50s. Winds were quite gusty from the south ahead of the air mass, allowing temperatures to reach into the low 90s before the front cooled temperatures into the 70s and 80s.

September 7-13: High pressure built in from the north following the front, ushering in cooler and drier weather. Lows in the 40s and 50s were common on the 7th, 8th, and 9th. Highs were 5-15 degrees below normal as well, remaining in the 70s and 80s. Temperatures finally moderated into more seasonable values beginning on the 10th. Highs reached into the triple digits on the 12th at Hooker, while 90s were the norm elsewhere from the 10th-13th. Winds were gusty from the south in the latter part of the period, stirred up by a low pressure trough which formed in the lee of the Rockies.

September 14-16: Humidity returned overnight on the 14th, borne along on the gusty southerly winds, giving fuel to a few showers and thunderstorms in the northwest. Those amounts were insignificant, but showers later formed in Texas and moved north into southern sections of the state. Locales in Johnston, Marshall, and Bryan Counties reported well over an inch of rainfall from this activity. A weak cold front the following day helped more showers form in the northwest, but as with the earlier activity in the area, amounts remained light. The front made its way south on the 16th and more storms fired ahead of it. A few isolated areas in north central and central Oklahoma reported more than an inch of rainfall. Temperatures were not greatly affected by the cold front, however. High temperatures remained in the 80s and 90s, quite seasonable for that point on the calendar.

September 17-20: The weather turned downright hot for the first couple of days of this four-day period. The muggy weather produced lows in the 70s, and the clear skies and southerly winds allowed high temperatures to return above the century mark once again. Triple-digit temperatures were widespread in the northern one-third of the state on the 17th. Drier, cooler air on the 19th dropped temperatures into the 70s and 80s on the 19th, although the southern edge of the state still reached into the mid-90s. Tahlequah only managed a cool 68 degrees for a high on the 19th. The 20th followed suit, and temperatures for the most part remained in the 80s.

September 21-24: This period was marked by a strong cold front that cooled the state considerably, while providing the month's best rain chances for some sections of the state. The northwest was the focus for showers and thunderstorms on the 21st; the Mesonet sites at Goodwell and Arnett both received more than an inch of precipitation. Kenton and Goodwell in the Panhandle had high temperatures of 55 degrees on the 22nd. The rain lingered in the Panhandle and northwestern Oklahoma, along with the cold front, on the 22nd. Hooker received over 2.5 inches of rainfall, while most of the Mesonet sites in the Panhandle recorded more than an inch. The cold front made slow progress through the state, finally reaching southern Oklahoma and the 23rd. Southwestern Oklahoma was the focus for this round of precipitation, with one-to-two inches being commonly found in the region. High temperatures throughout this period depended on which side of the cold front the area was on. Areas behind the front were predominantly in the 60s and 70s, while ahead of the front, 80s were the norm.

September 25-30: The month's final six days were more befitting of late September. High temperatures were generally in the 70s and 80s, while lows dropped into the 40s and 50s. A few showers popped up from time to time, but in all, the weather was dry and seasonable. This period was a very pleasant precursor to fall, and a sign that summer had lived its final days.

September 2004 Statewide Statistics

Temperature

	Average	Depart.	Rank (1892-2004)
Month (September)	73.6ºF	1.2ºF	43rd Warmest
Year-to-Date (Jan-Sep)	63.1ºF	0.1ºF	45th Warmest

Precipitation

	Total	Depart.	Rank (1892-2004)
Month (September)	1.23 in.	-2.58 in.	12th Driest
Year-to-Date (Jan-Sep)	28.47 in.	0.00 in.	41th Wettest

Depart. = Departure from 30-year normal

September 2003 Severe Weather

Significant Tornadoes (F2 or greater)

No significant tornadoes reported in the state

Hail (2 inches in diameter or greater)

No significant hail reported in the state

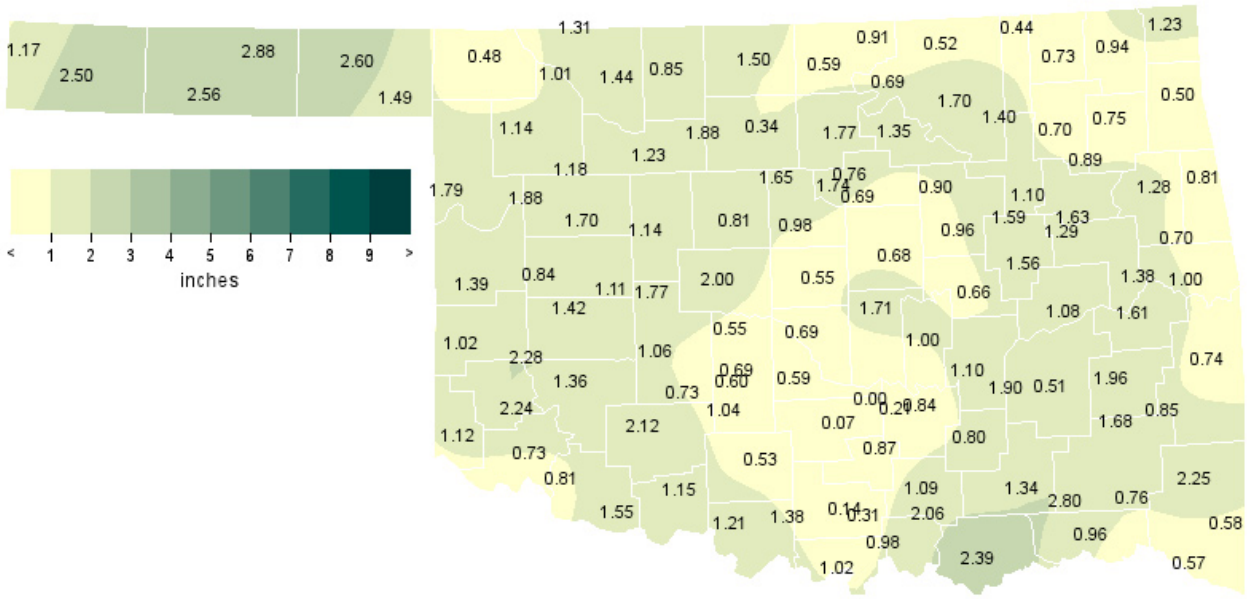
Wind Gusts (70 mph or greater)

No significant wind gusts reported in the state

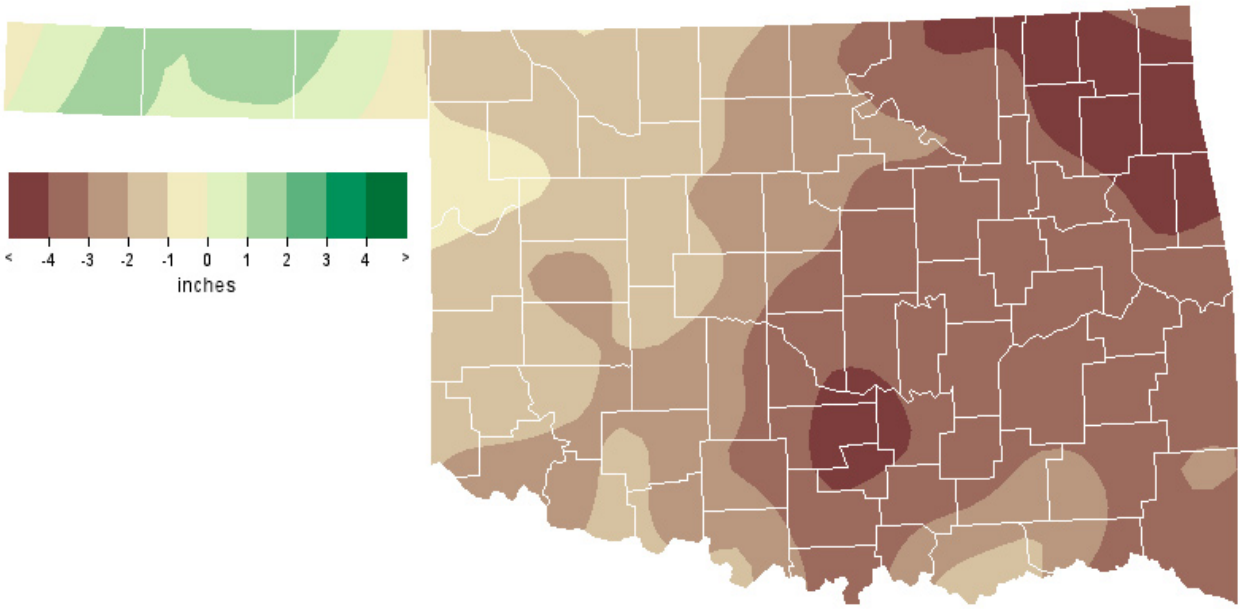
Flooding

No significant floods reported in the state

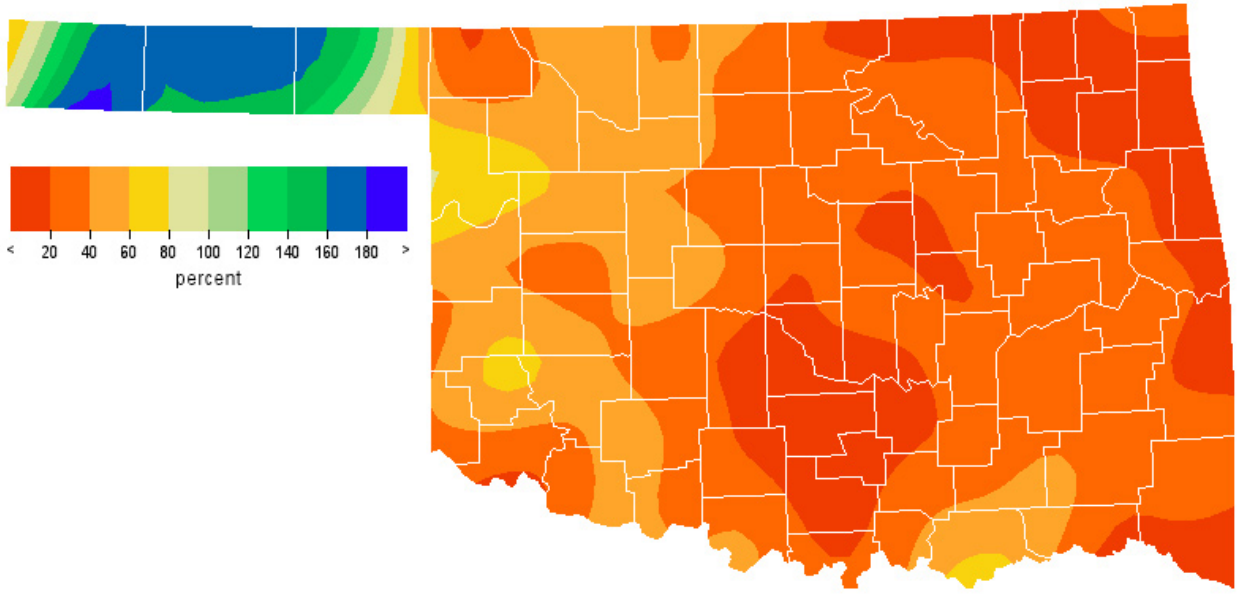
September 2004 Observed Precipitation



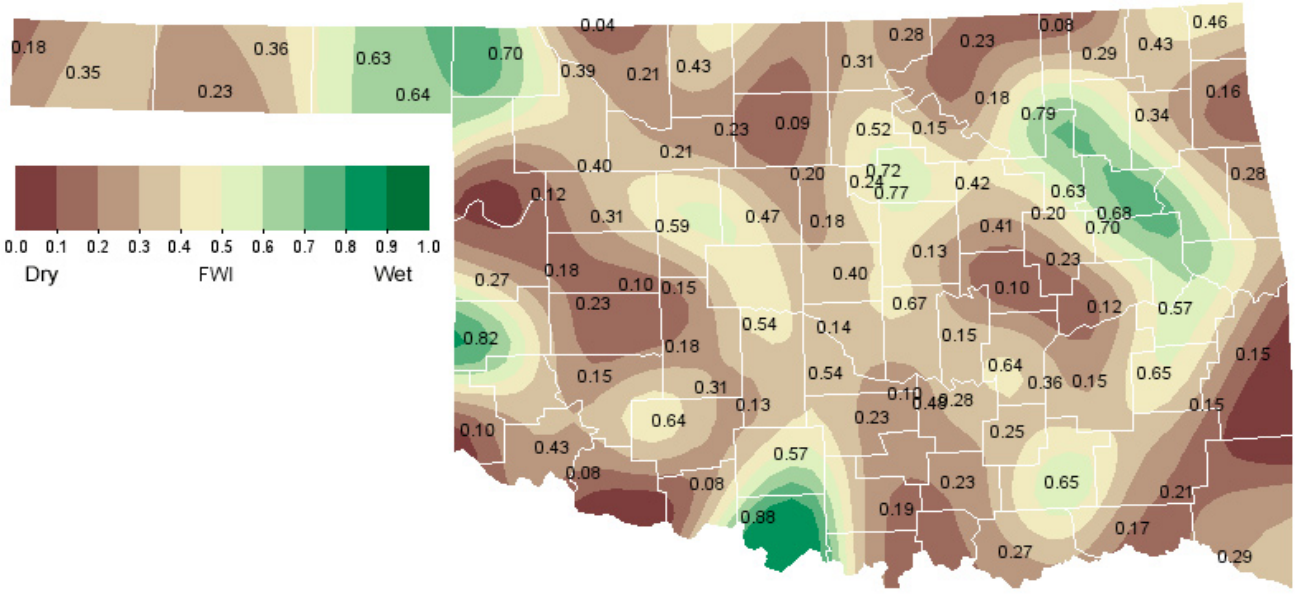
September 2004 Departure from Normal Precipitation



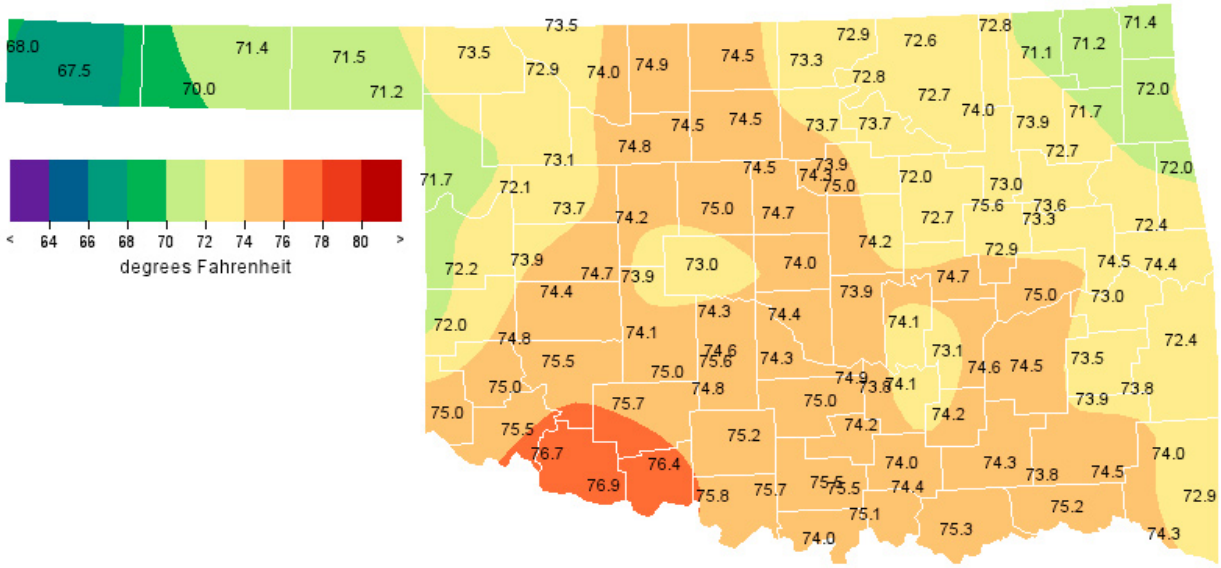
September 2004 Percent of Normal Precipitation



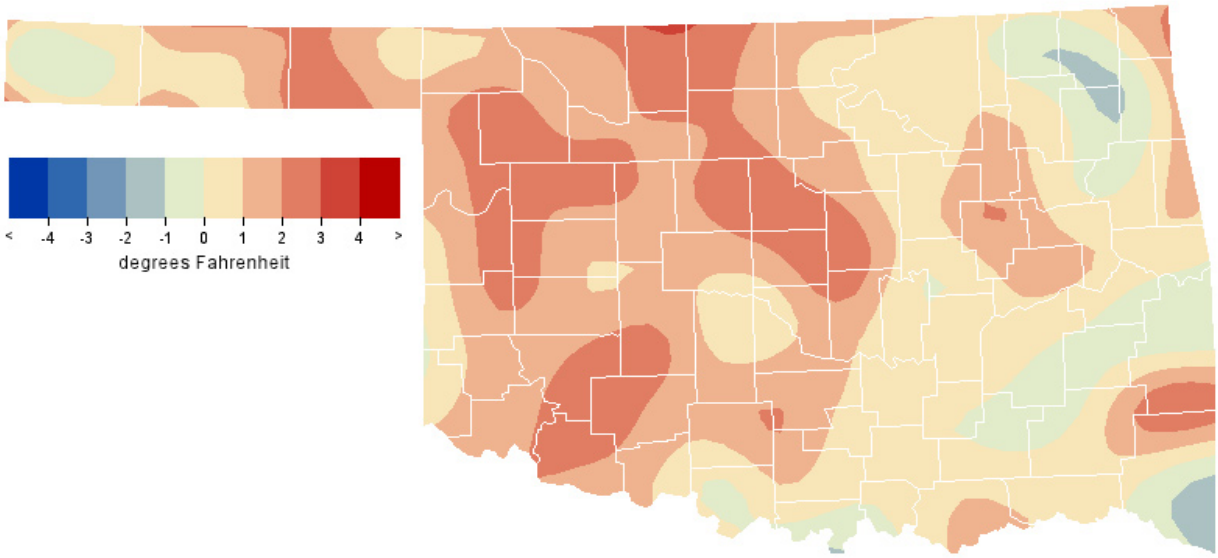
September 2004 Average Soil Moisture at 25cm



September 2004 Average Temperature



September 2004 Departure from Normal Temperature



Mesonet Monthly Summary for September 2004

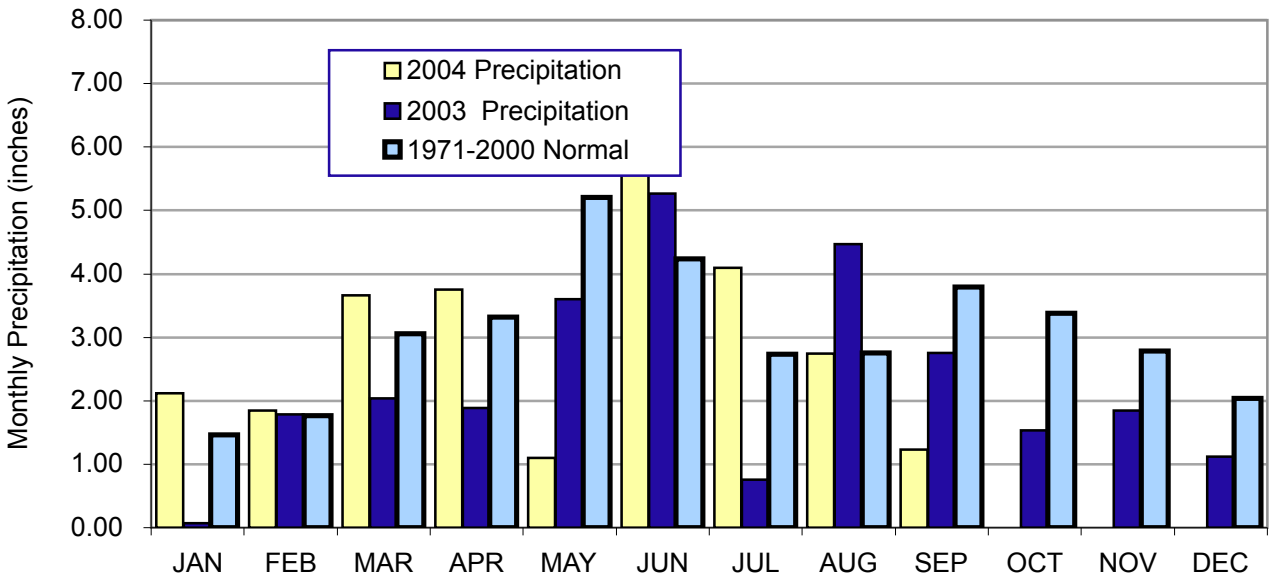
NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	71.6	98	17	48	9	3	202	1.79	1.02	21
Beaver	71.5	101	17	44	23	18	213	2.60	1.82	22
Boise City	67.5	97	17	40	23	52	129	2.50	.75	24
Buffalo	73.6	102	17	48	24	2	259	.48	.25	22
NORTH CENTRAL										
Blackwell	73.3	96	17	48	24	0	249	.59	.48	5
Breckenridge	74.4	99	17	47	9	0	283	.34	.33	23
Cherokee	74.9	102	17	49	9	0	296	.85	.36	23
Fairview	74.8	102	17	47	9	0	295	1.23	.71	23
Freedom	72.9	100	17	49	9	3	239	1.01	.60	22
Lahoma	74.5	101	17	53	9	0	284	1.88	1.27	23
May Ranch	73.5	100	17	50	23	5	258	1.31	.73	22
NORTHEAST										
Bixby	73.0	94	17	50	28	0	241	1.10	1.09	6
Burbank	72.9	96	17	49	9	0	236	.69	.30	5
Copan	72.9	94	18	49	9	0	236	.44	.40	5
Foraker	72.6	94	18	48	8	1	227	.52	.34	5
Jay	71.9	92	17	45	8	5	212	.50	.47	6
Miami	71.4	90	19	46	29	5	198	1.23	.94	6
Nowata	71.1	92	18	47	28	3	184	.73	.51	5
Pawnee	73.6	96	17	50	9	0	259	1.35	.82	16
WEST CENTRAL										
Bessie	74.4	99	17	51	9	0	283	1.42	.52	30
Butler	73.9	99	17	45	9	0	266	.84	.71	23
Camargo	72.1	99	17	47	10	2	216	1.88	.83	22
Cheyenne	72.2	96	17	51	23	1	218	1.39	1.09	22
Erick	72.0	98	17	45	9	6	216	1.02	.67	22
CENTRAL										
Bowlegs	74.1	97	17	49	9	0	272	1.00	.93	6
Bristow	72.7	96	17	45	9	2	231	.96	.35	6
Chandler	74.2	96	17	49	9	0	275	.68	.56	5
Chickasha	74.6	99	17	47	9	0	289	.69	.22	5
El Reno	73.0	97	17	40	9	6	246	2.00	.97	16
Guthrie	74.7	96	17	50	9	0	292	.98	.51	16
Kingfisher	75.0	99	17	45	9	0	300	.81	.65	23
Marena	74.3	96	17	52	9	0	279	1.74	1.45	16
Minco	74.2	97	17	53	8	0	277	.55	.34	23
Oilton	72.3	96	17	44	8	****	****	.90	.50	16
EAST CENTRAL										
Calvin	73.1	94	17	50	9	0	244	1.10	.94	6
Cookson	72.4	93	17	44	8	5	226	.70	.61	6
Eufaula	75.3	95	17	53	28	****	****	1.08	.95	6
Haskell	73.4	94	18	50	8	0	251	1.29	1.16	6
McAlester	74.5	96	17	51	9	0	284	.51	.47	6
Okmulgee	72.9	94	17	49	8	1	238	1.56	1.32	6
Sallisaw	74.4	94	17	48	28	****	****	1.00	.75	6
SOUTHWEST										
Altus	75.5	98	17	48	9	0	314	.73	.55	23
Fort Cobb	74.0	96	17	49	9	0	269	1.06	.82	23
Hinton	73.8	99	17	48	9	0	265	1.77	.82	5
Hobart	75.5	99	17	47	9	0	314	1.36	1.19	23
Hollis	75.0	100	17	49	9	0	299	1.12	.96	23
Mangum	74.9	101	17	43	9	0	298	2.24	2.04	23
SOUTH CENTRAL										
Ada	74.1	96	17	49	9	1	274	.84	.80	6
Burneyville	73.9	96	17	46	8	0	269	1.02	.82	2
Byars	74.9	97	17	51	8	0	297	.00	.00	1
Centrahoma	74.1	96	17	47	9	0	274	.80	.48	6
Durant	75.2	95	17	55	9	****	****	2.39	1.48	14
Ketchum Ranch	75.2	97	17	51	8	0	307	.53	.28	30
Lane	74.4	94	17	51	9	0	281	1.34	.53	24
Madill	75.1	95	17	51	9	0	304	.98	.80	14
Pauls Valley	75.0	99	17	50	9	0	300	.07	.07	30
SOUTHEAST										
Antlers	73.7	96	17	48	9	0	262	2.80	2.36	6
Clayton	73.9	95	17	50	9	0	267	1.68	1.51	6
Cloudy	74.5	97	17	51	9	0	285	.76	.43	6
Hugo	75.3	97	17	54	8	****	****	.96	.64	6
Idabel	74.3	97	17	49	9	0	280	.57	.27	5

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	70.0	99	17	43	23	30	180	2.56	1.49	21
Hooker	71.4	101	17	43	23	20	212	2.88	2.51	22
Kenton	68.0	97	17	37	23	57	148	1.17	.52	21
Slapout	71.2	101	17	46	23	10	197	1.49	1.02	22
Medford	74.4	100	17	49	9	0	283	1.50	.86	23
Newkirk	72.9	93	17	51	24	0	237	.91	.86	5
Red Rock	73.7	96	17	48	9	0	262	1.77	1.01	16
Seiling	73.1	98	17	47	9	0	244	1.18	.51	5
Woodward	*****	***	***	***	***	****	****	.99	.67	22
Alva	74.3	102	17	47	9	****	****	1.44	1.02	22
Pryor	71.6	92	18	49	28	2	201	.75	.68	6
Skiatook	73.9	92	18	54	29	0	268	1.40	1.33	5
Vinita	71.2	91	17	47	29	4	189	.94	.43	6
Wynona	72.7	92	18	51	28	0	231	1.70	1.34	5
Porter	73.7	92	17	52	8	0	260	1.63	1.55	6
Inola	72.7	93	17	49	8	1	233	.89	.70	6
Claremore	73.9	93	17	50	8	0	266	.70	.42	6
Putnam	73.6	99	17	50	9	0	259	1.70	1.35	23
Retrop	74.9	99	17	51	9	0	296	2.28	1.74	23
Watonga	74.2	98	17	53	9	0	276	1.14	.80	23
Weatherford	74.7	99	17	53	9	0	290	1.11	.69	23
Okemah	74.7	97	17	51	9	0	291	.66	.47	6
Perkins	75.0	97	17	48	9	0	299	.69	.55	16
Shawnee	73.9	96	17	50	8	1	269	1.71	1.69	6
Spencer	74.0	95	17	47	8	2	271	.55	.25	5
Stillwater	73.9	96	17	46	9	0	266	.76	.52	16
Washington	74.3	97	17	51	9	0	280	.59	.41	30
Ninnekah	75.5	100	17	46	9	0	315	.60	.32	30
Acme	74.8	99	17	43	9	2	298	1.04	.72	30
Norman	74.4	97	17	48	9	0	283	.69	.37	5
Marshall	74.4	96	17	47	9	0	283	1.65	.60	16
Stigler	73.0	95	17	50	9	0	241	1.61	1.17	6
Stuart	74.6	96	17	54	8	0	289	1.90	1.00	6
Tahlequah	*****	***	***	***	***	****	****	1.28	1.02	6
Webbers Falls	74.5	95	17	48	28	0	285	1.38	1.33	6
Westville	72.1	91	17	49	8	2	214	.81	.79	6
Hectorville	75.6	95	17	54	8	0	317	1.59	1.10	6
Medicine Park	75.7	97	17	56	9	0	321	2.12	1.10	6
Tipton	76.7	101	17	46	9	0	350	.81	.48	30
Walters	76.5	100	17	49	9	0	344	1.15	.72	30
Apache	75.0	98	17	50	9	0	301	.73	.37	23
Grandfield	76.9	101	17	50	9	0	357	1.55	.66	24
Ringling	75.8	99	17	50	9	****	****	1.38	.66	24
Sulphur	74.2	96	17	51	9	0	276	.87	.40	6
Tishomingo	74.0	95	17	53	9	0	271	1.09	.68	6
Waurika	75.7	99	17	49	9	0	321	1.21	.90	30
Vanoss	73.9	97	17	46	9	0	266	.21	.19	6
Bee	74.4	93	17	49	9	0	282	2.06	1.69	14
Newport	75.8	98	17	53	8	****	****	.14	.09	30
Ardmore	75.5	96	17	53	9	0	314	.31	.26	24
Mt Herman	73.9	96	17	49	8	0	268	2.25	1.47	6
Talihina	73.8	98	17	47	9	0	264	.85	.51	6
Wilburton	73.5	95	17	48	28	1	255	1.96	1.74	6
Wister	72.4	97	18	46	9	1	222	.74	.72	6
Broken Bow	72.9	96	17	50	9	0	236	.58	.46	6

September 2004 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Sep-03
Panhandle	1.93	0.05	37th Wettest	4.57 (1985)	0.05 (1956)	2.56
North Central	1.17	-1.96	17th Driest	7.08 (1945)	0.04 (2000)	2.64
Northeast	0.97	-3.81	11th Driest	12.42 (1986)	0.13 (1948)	3.72
West Central	1.42	-1.61	24th Driest	8.64 (1986)	0.02 (2000)	2.39
Central	0.96	-3.15	8th Driest	10.68 (1945)	0.19 (1956)	3.58
East Central	1.22	-3.74	10th Driest	10.40 (1970)	0.23 (1948)	3.58
Southwest	1.33	-2.06	27th Driest	8.68 (1936)	0.00 (1898)	0.87
South Central	0.90	-3.44	8th Driest	9.98 (1936)	0.00 (1909)	4.91
Southeast	1.31	-3.26	14th Driest	11.75 (1974)	0.29 (1948)	4.42
Statewide	1.23	-2.58	12th Driest	7.86 (1945)	0.27 (1956)	3.24

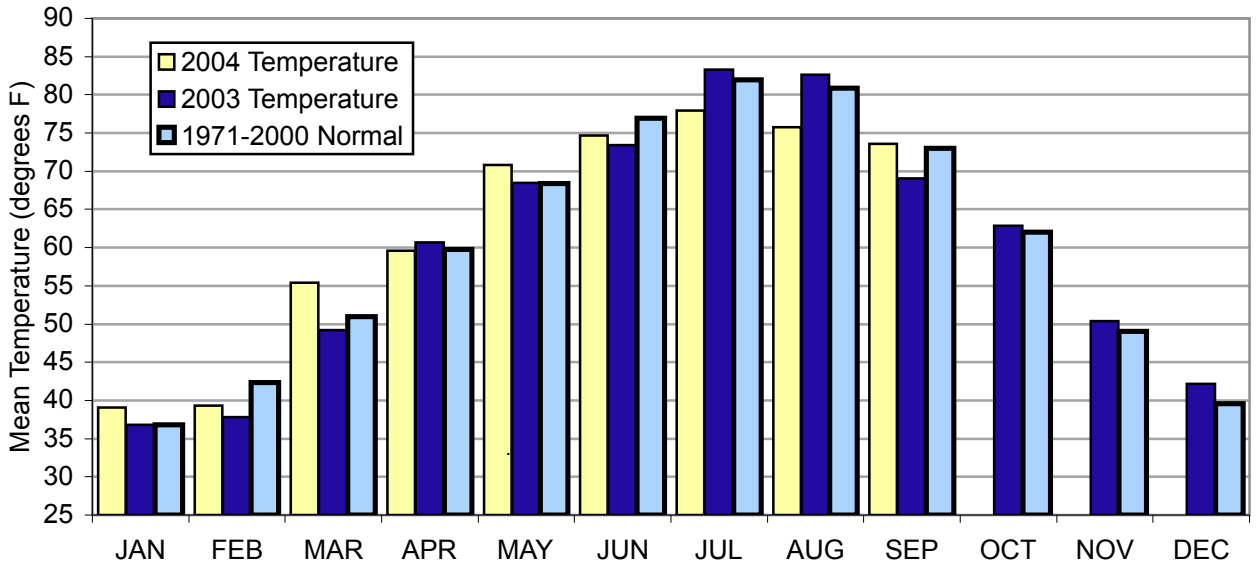
2003 and 2004 Statewide Precipitation Monthly Totals vs. Normal



September 2004 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Sep-03 (F)
Panhandle	70.6	1.2	40th Warmest	76.2 (1931)	62.4 (1974)	66.6
North Central	73.9	1.8	34th Warmest	80.8 (1931)	64.0 (1974)	67.9
Northeast	72.6	0.9	51st Warmest	79.1 (1931)	63.4 (1974)	67.7
West Central	73.6	1.7	35th Warmest	80.4 (1931)	64.4 (1974)	68.5
Central	74.2	1.4	39th Warmest	81.3 (1931)	65.0 (1974)	68.9
East Central	73.8	1.1	52nd Warmest	80.5 (1939)	65.1 (1974)	69.6
Southwest	75.4	1.7	33rd Warmest	81.2 (1931)	66.4 (1974)	70.9
South Central	74.8	0.7	55th Coolest	81.3 (1998)	66.3 (1974)	70.3
Southeast	73.8	0.7	48th Coolest	81.2 (1939)	65.9 (1974)	69.6
Statewide	73.6	1.2	43rd Warmest	79.8 (1931)	64.7 (1974)	68.8

2003 and 2004 Statewide Temperature Monthly Averages vs. Normal



Mesonet Extremes for September 2004

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	102	17th	Buffalo	37	23rd	Kenton	2.88	Hooker	2.51	22nd	Hooker
North Central	102	17th	Cherokee	47	9th	Breckenridge	1.88	Lahoma	1.27	23rd	Lahoma
Northeast	96	17th	Pawnee	45	8th	Jay	1.70	Wynona	1.55	6th	Porter
West Central	99	17th	Butler	45	9th	Erick	2.28	Retrop	1.74	23rd	Retrop
Central	100	17th	Ninnekah	40	9th	El Reno	2.00	El Reno	1.69	6th	Shawnee
East Central	96	17th	McAlester	44	8th	Cookson	1.90	Stuart	1.33	6th	Webbers Falls
Southwest	101	17th	Mangum	43	9th	Mangum	2.24	Mangum	2.04	23rd	Mangum
South Central	99	17th	Ringling	46	8th	Burneyville	2.39	Durant	1.69	14th	Bee
Southeast	98	17th	Talihina	46	9th	Wister	2.80	Antlers	2.36	6th	Antlers
Statewide	102	17th	Buffalo	37	23rd	Kenton	2.88	Hooker	2.51	22nd	Hooker

October Climatological 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: 1974, 65.4 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.

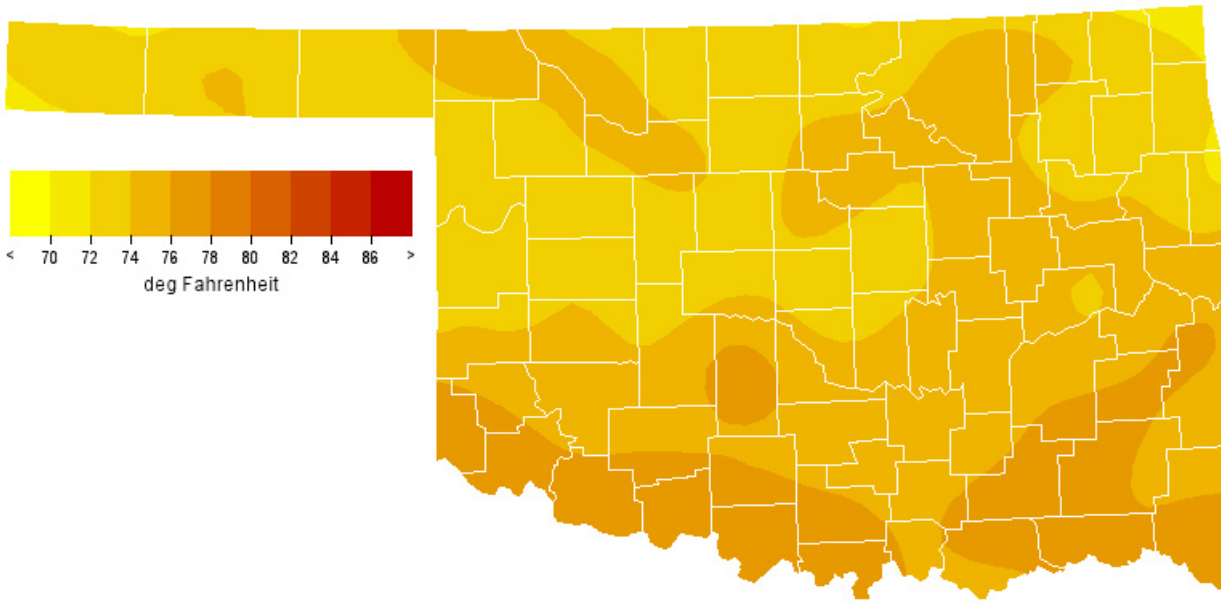
Precipitation
Mean: 3.38 inches
Wettest year: 1941, 11.32 inches
Driest year: 1917 and 1952, 0.14 inches
Wettest location: Smithville, 6.22 inches
Driest location: Kenton, 0.99 inches
Most recorded: 25.80 inches, Madill, 1981

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.

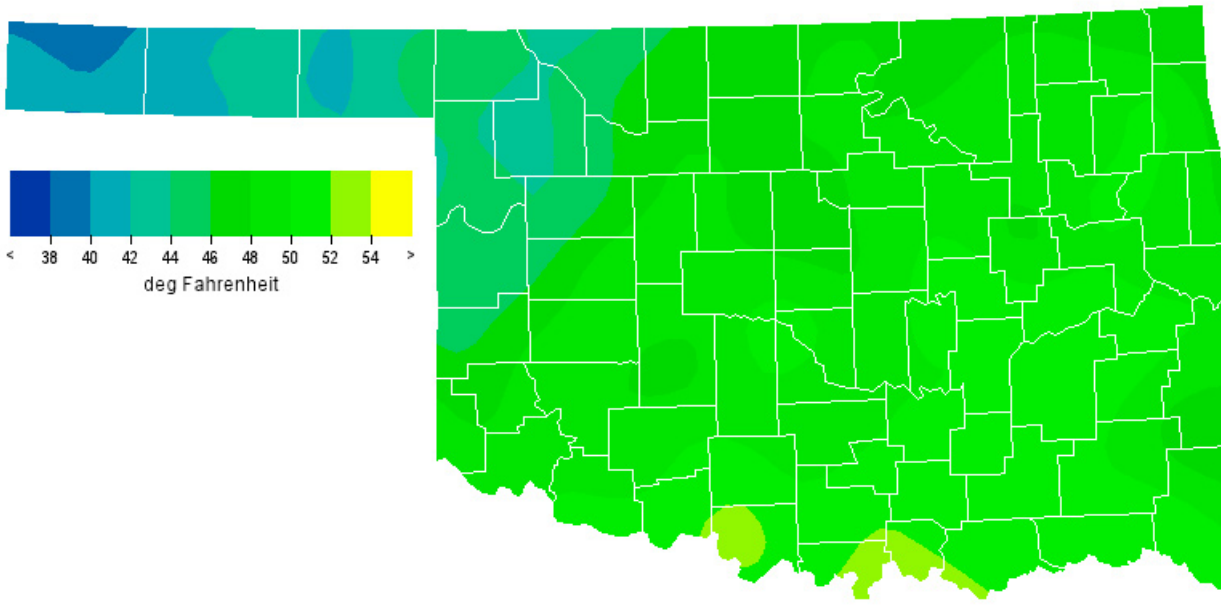
Severe thunderstorms, apart from the floods, historically have been little more than footnotes in October for most of the state's history. However, recent occurrences have altered that notion somewhat. Reasonably comprehensive and well-documented tornado records in the state date from 1950. During those 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.

Tornadoes
Average October Tornadoes: 2
Most: 27 (1998)

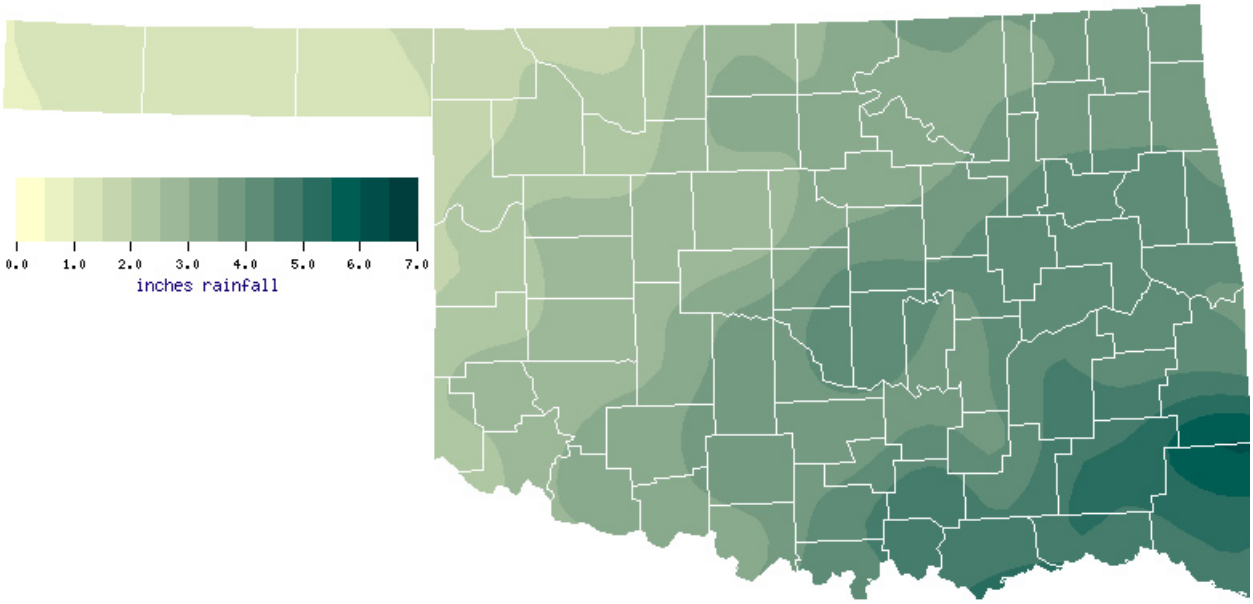
October Normal Monthly Maximum Temperature (1971-2000)



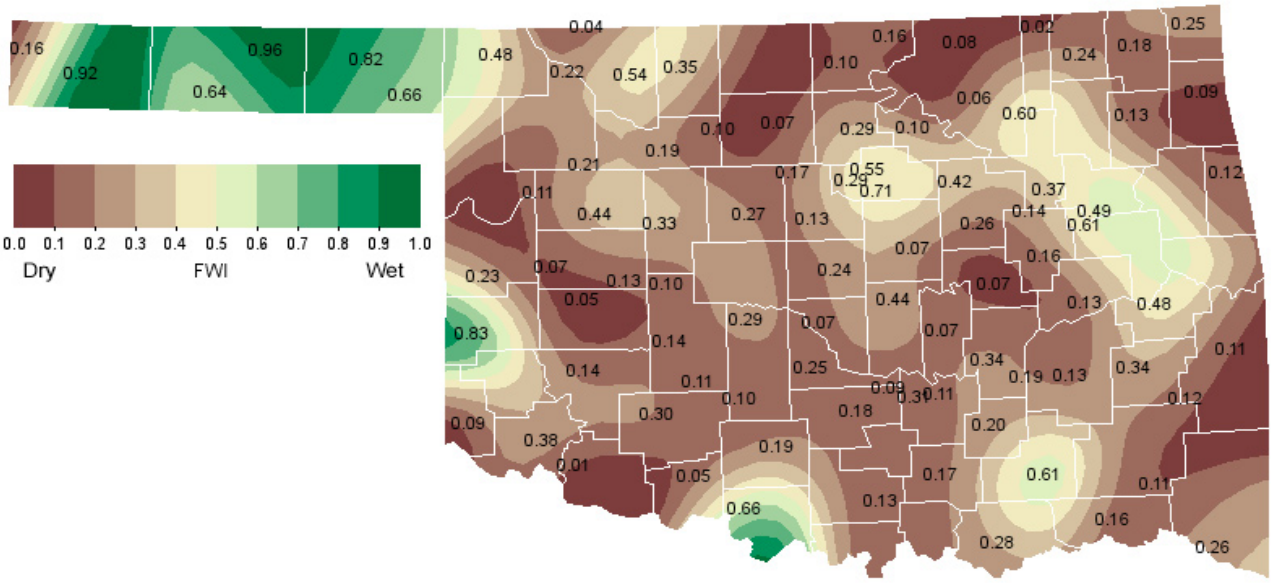
October Normal Monthly Minimum Temperature (1971-2000)



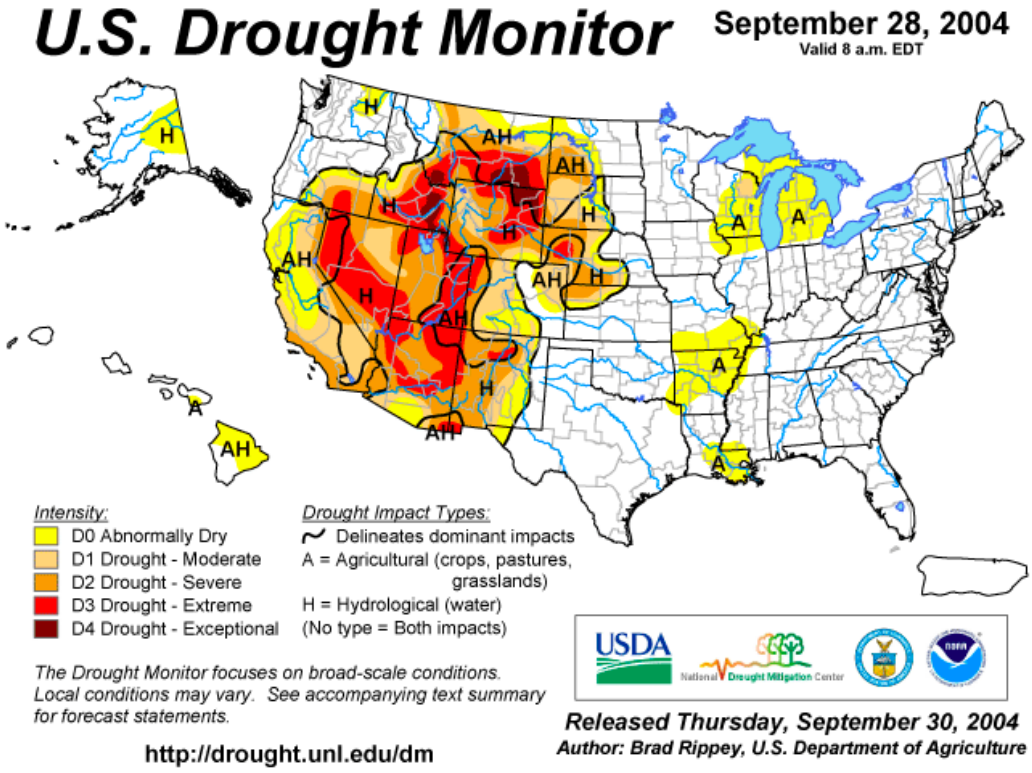
October Normal Precipitation (1971-2000)

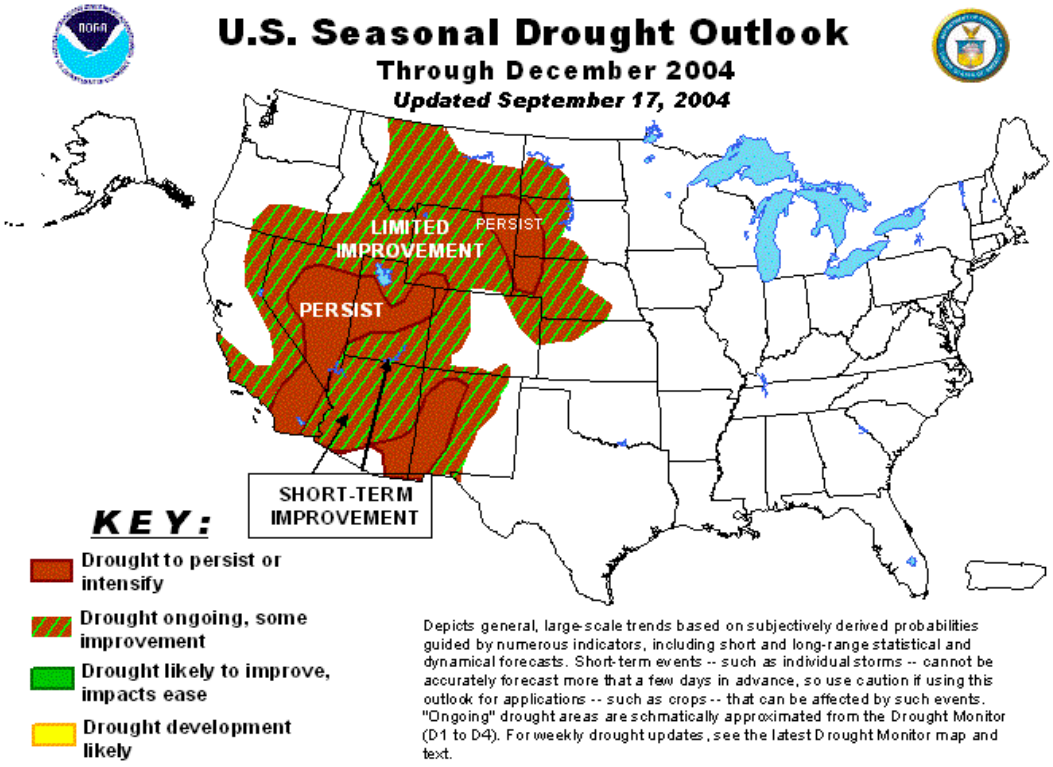


October 1, 2004 Soil Moisture Conditions at 25cm

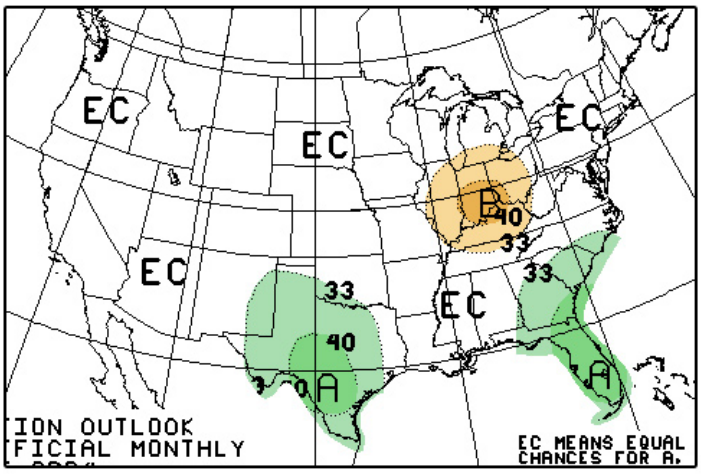


October 2004 Drought Indices





October 2004 U.S. Precipitation Forecast



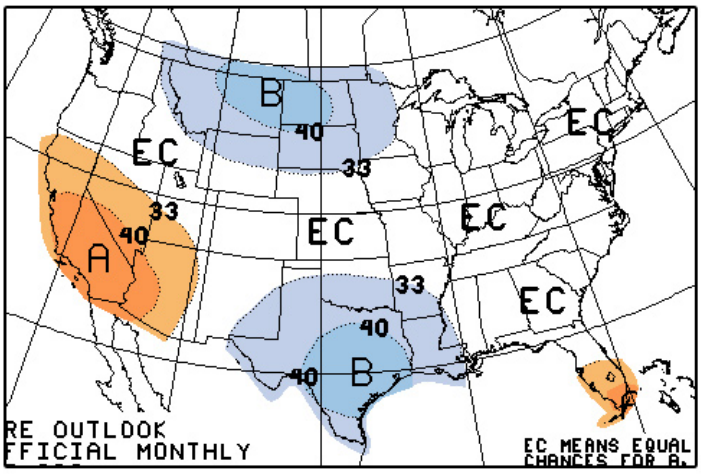
Percent Likelihood
of Above or Below
Average Precipitation*

5% - 10%
0% - 5%
A = Above

0% - 5%
5% - 10%
B = Below

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

October 2004 U.S. Temperature Forecast



Percent Likelihood
of Above and Below
Average Temperatures*

10% - 20%
5% - 10%
0% - 5%
A = Above

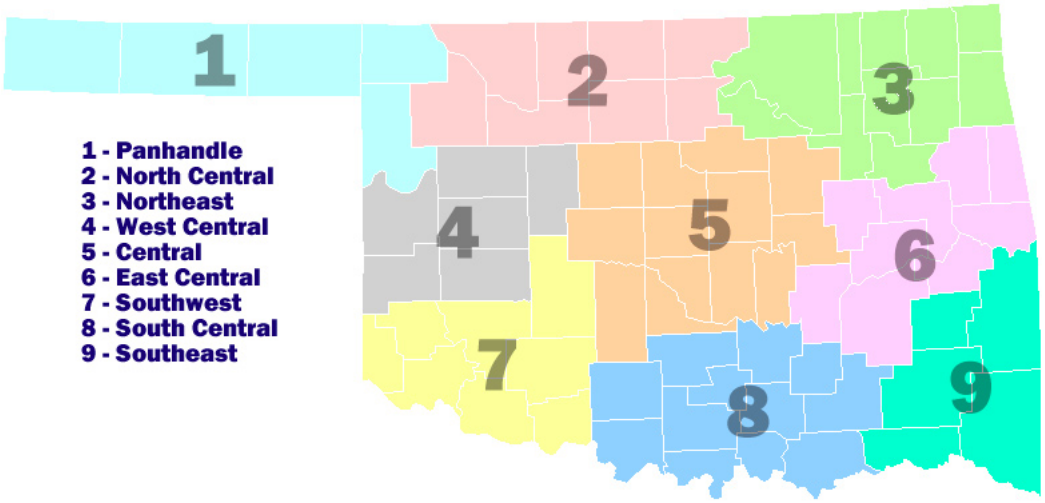
0% - 5%
5% - 10%
B = Below

*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.ocs.ou.edu or
http://www.ocs.ou.edu/
E-mail (ocs@ou.edu) or telephone (405/325-2541)

Oklahoma Climatological Survey

Oklahoma Climatological Survey is the State Climate Office for Oklahoma

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