OKLAHOMA MONTHLY CLIMATE SUMMARY
DECEMBER 2008

OKLAHOMA CLIMATOLOGICAL SURVEY

December was a month of extremes. It was cool and dry – 48th coolest and 30th driest on record – but the true extremes were exhibited by the variability contained within those rankings. Cold fronts and strong south winds alternated as the state's main weather producers, which set the stage for several record-setting weather systems. Three cold weather records and six warm weather records were set during December. A two-day stretch of drastic temperature changes in Tulsa exemplified the Jekyll-Hyde nature of the month's climate. First, Tulsa broke the highest maximum temperature record on the 14th with a high of 75 degrees, and then tied the lowest maximum temperature record the following day with a frigid high of 19 degrees. Several instances of gusty southerly winds prior to strong cold fronts produced similar but non-record setting results. As in November, a rare tornado was spotted during the month when a twister touched down near Broken Arrow close to midnight on December 8. That tornado was only the 23rd reported December touchdown since 1950 in the state. Preliminary data indicates 77 tornadoes touched down in 2008, well above the 1950-2007 average of 53. The temperature and precipitation data for January-December indicate 2008 ranked as the 51st coolest and 34th wettest year in Oklahoma since 1895.

Precipitation

So few rain chances left the state high and dry for most of the month and propelled the final statewide average total to a deficit of more than an inch. In fact, all areas of the state were significantly dry, especially in the southwestern half. South central Oklahoma had a deficit of nearly 2 inches which ranked as the 16th driest December on record for that area. The Panhandle had a paltry average of 0.11 inches and ranked the area as the 18th driest on record. The Oklahoma Mesonet site at Wister recorded the most precipitation for December with 3.25 inches while Putnam and Tipton brought up the rear with no precipitation reported at all. The yearly totals were a bit brighter for parts of the state and par for the course for others. The January-December average for the northeast of more than 55 inches ranked as the 5th wettest year for that area of the state, a surplus of over 13 inches. On the other side of the coin lies south central Oklahoma which ended with a deficit of nearly 10 inches, the 28th driest year for that region. Overall, the state recorded a little more than 37 inches on average, a surplus of less than an inch. The Oklahoma Mesonet site at Jay recorded the most precipitation during 2008 with a total of 67.8 inches. The Kenton Mesonet site recorded the least at 12.5 inches.

December 2008 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	79ºF	Antlers, Ketchum Ranch, Waurika, (Tipton)	26, (14)
Low Temperature	2ºF	Kenton	15
High Precipitation	3.25 in.	Wister	
Low Precipitation	0.00 in.	Putnam, Tipton	

Temperature

The western half of the state was warmer than normal and the eastern half was just the opposite. Statewide, the average temperature for December was a half of a degree cooler than normal. The Panhandle and west central Oklahoma were about half of a degree above normal while the northeast and east central sections were over a degree below normal. The highest recorded temperature for the month was 79 degrees at Antlers, Ketchum Ranch, Waurika, and Tipton. The lowest temperature was 2 degrees at Kenton. For the year, the statewide average was two-tenths of a degree below normal. The highest temperature recorded by the Oklahoma Mesonet in 2008 was 110 degrees at Freedom on August 4 and the lowest temperature was -4 degrees at Boise City on January 17.

December Daily Highlights

December 1-7: December started out cold with a few light snow showers scattered about on the first and highs in the 30s and 40s. Strong northerly winds gusting to 30 mph helped drop wind chills into the teens and 20s. The state remained dry through the seventh and temperatures fluctuated around a cold front passage on the third. High temperatures managed to rise into the 60s and 70s by the seventh due to strong southerly winds ahead of an approaching storm system.

December 8-9: Moisture increased with the strong southerly winds as surface and upper-level low pressure systems approached from the west on the eighth. Low temperatures

were in the 40s and 50s and high temperatures made it into the 70s. Light rain started early in the afternoon and became heavier into the evening. Storms reached severe levels in some areas with one-inch hail and strong winds gusting to over 60 mph. An EF1-rated twister touched down near Broken Arrow late on the eighth, destroying a mobile home and a barn. As the temperatures plunged, the rain changed to snow into the ninth in northern Oklahoma. Most reports had snow depths at 2 inches or less, but more than 3 inches was reported in Grant County and 4 inches fell in Major County. Scattered areas of freezing rain and drizzle fell farther to the south. Highs only rose into the 20s in northern Oklahoma, with 40s in the south.

December 10-14: High pressure at the surface made for a cold start the morning of the 10th. Low temperatures fell into the teens and 20s with a few single-digit lows scattered about the snow-covered areas of the northwest. High temperatures struggled into the 30s and 40s that afternoon. Temperatures warmed up through the 13th and highs that day reached into the 60s and 70s. An approaching cold front on the 14th kicked up strong winds from the south which allowed temperatures to soar into record territory. Tulsa set a record high temperature of 75 degrees on the 14th. The highest temperature of the month, 79 degrees, was first recorded at Tipton and Waurika that afternoon. The cold front roared through the state, rapidly dropping temperatures in its wake. By later that night, temperatures had fallen into the single digits in the northwest. A few spotty showers in the southeast provided some very light precipitation.

December 15-17: Possibly the strongest cold front since last January passed through the state and dropped temperatures into the single digits in the northwest. Combine that with gusty winds of about 30 mph and that area was also blessed with below-zero winds chills. Temperatures were about 30 degrees below normal, and McAlester, Oklahoma City and Tulsa all set records for coldest maximum temperatures on the 15th. The state's lowest recorded temperature of 2 degrees occurred at Kenton that morning. The cold weather hung around through the 17th, accompanied by light snow, freezing drizzle, and sleet.

December 18-23: Southerly flow returned late on the 18th and temperatures around midnight were in the 40s and 50s with dense fog. A center of surface low pressure in Kansas moved to the east and switched winds in Oklahoma to a westerly direction. The drying west winds cooled the air. Lows dropped into the 20s and 30s where the air had dried but remained in the 50s and 60s where the moisture hung around. A strong cold front on the 20th cooled the state once again. Single-digit lows returned to the northwest through the 22nd before teens prevailed on the 23rd. Strong southerly winds on that day, gusting to 50 mph, brought moisture and freezing drizzle into the state which made for slippery travel conditions. Clearing skies in the far western sections of the state allowed temperatures to rise into the 50s and 60s, but cool weather prevailed elsewhere with highs in the 30s and 40s.

December 24-27: A cold front overnight on the 24th generated light showers in southeastern Oklahoma and dropped temperatures from the 40s into the 20s. High pressure at the surface meant light winds and plenty of sunshine later that afternoon. Highs ranged from the 30s in the north to 50s in the south. Moisture returned on southerly winds kicked up by an approaching storm system on the 26th. The southerly winds, gusting to 40 mph, also brought record high temperatures. McAlester, Muskogee, Oklahoma City, and Tulsa all set highest maximum temperature records on the 26th, and Oklahoma City also set a record for highest minimum temperature as well. A dryline and cold front passed through the state overnight on the 27th and kicked off a round of storms, some of which exceeded severe limits. Scattered wind damage and golfball size hail were reported with the storms. Temperatures rose into the 60s and 70s ahead of the front but plummeted into the 30s and 40s following the front's passage.

December 28-31: As the upper-level storm system exited on the 28th, high pressure at the surface moved in. Lows were in the teens and 20s and high temperatures rebounded into the 50s. The weather warmed up for a couple of days with highs on the 30th in the 60s and 70s. A cold front ruined the nice weather and brought the state back to seasonable levels on the 31st. Lows were in the teens and 20s and highs were in the 30s and 40s.

December 2008 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2008)
Month (December)	38.5ºF	-0.5ºF	48th Coolest
Year-to-Date (Jan-Dec)	59.4ºF	-0.2ºF	21st Coolest

Precipitation

	Total	Depart.	Rank (1895-2008)
Month (December)	0.89 in.	-1.13 in.	30th Driest
Year-to-Date (Jan-Dec)	37.14 in.	0.45 in.	34th Wettest

Depart. = Departure from 30-year normal

December 2008 Severe Weather

Significant Tornadoes (EF2 or greater)

No significant tornadoes were reported in the state.

Hail (2 inches in diameter or greater)

No significant hail events were reported in the state.

Wind Gusts (70 mph or greater)

No significant wind events were reported in the state.

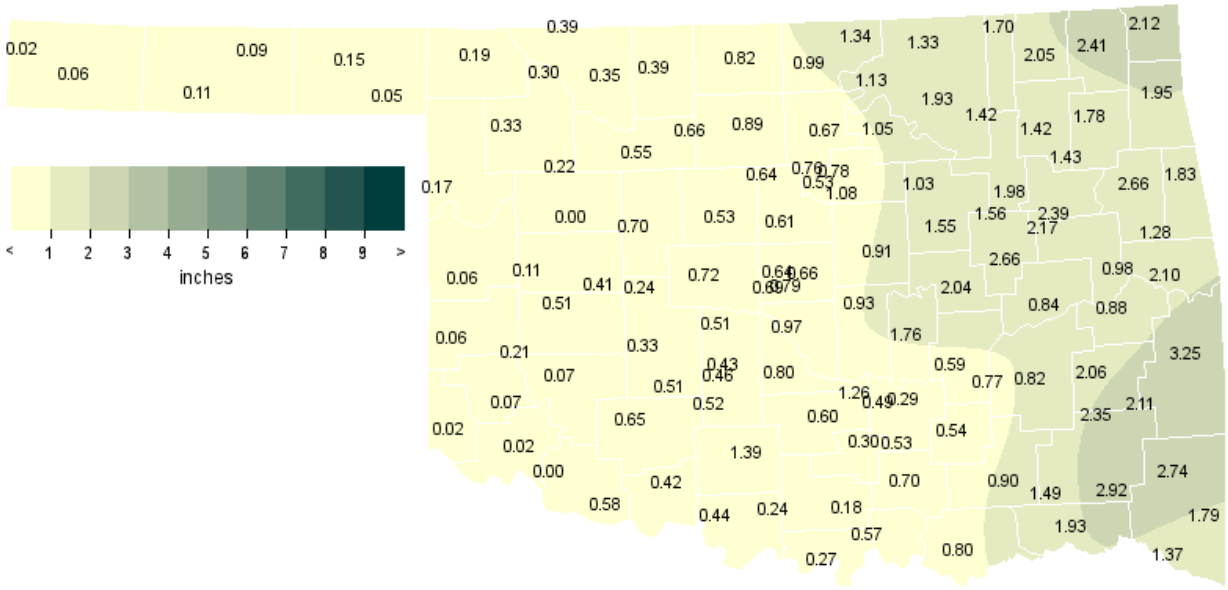
Flooding

No significant flooding events were reported in the state.

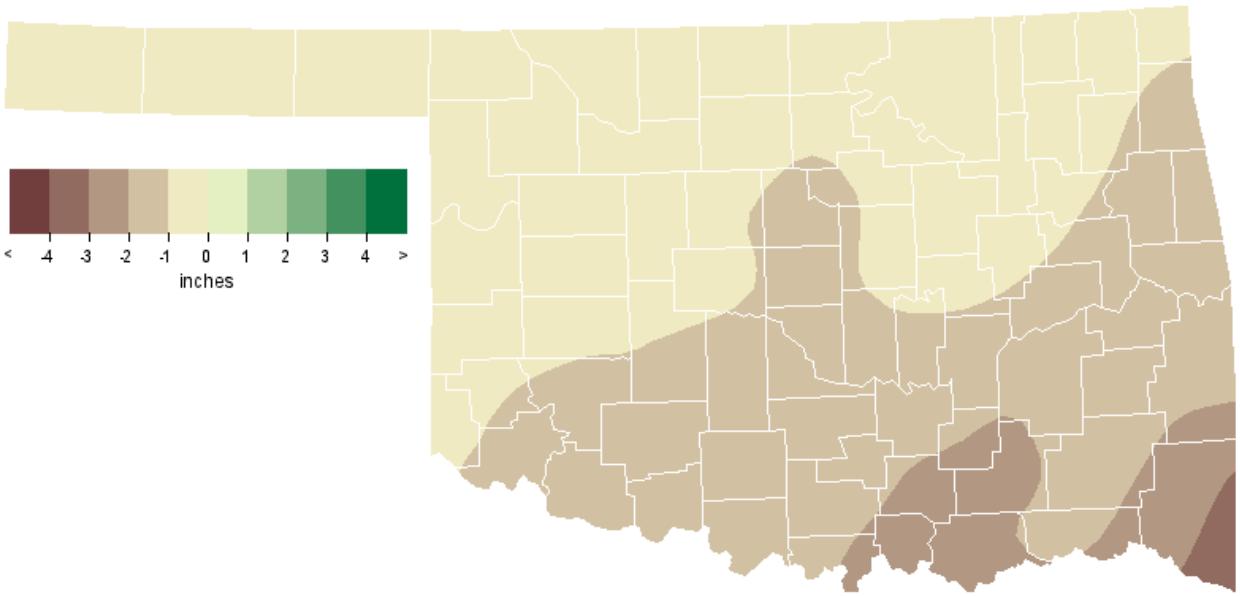
Record Event Reports

Description	Day	Location	Record	Previous Record	Year
Highest Maximum Temperature	14	Tulsa	75 degrees	74 degrees	1933
Lowest Maximum Temperature	15	McAlester	24 degrees	30 degrees	1989
Lowest Maximum Temperature (tied)	15	Tulsa	19 degrees	19 degrees	1951
Lowest Maximum Temperature	15	Oklahoma City	18 degrees	19 degrees	1901
Highest Maximum Temperature	26	McAlester	76 degrees	72 degrees	1993
Highest Maximum Temperature	26	Muskogee	76 degrees	69 degrees	1971
Highest Maximum Temperature	26	Oklahoma City	76 degrees	74 degrees	2005
Highest Minimum Temperature	26	Oklahoma City	60 degrees	56 degrees	1936
Highest Maximum Temperature	26	Tulsa	76 degrees	69 degrees	1971

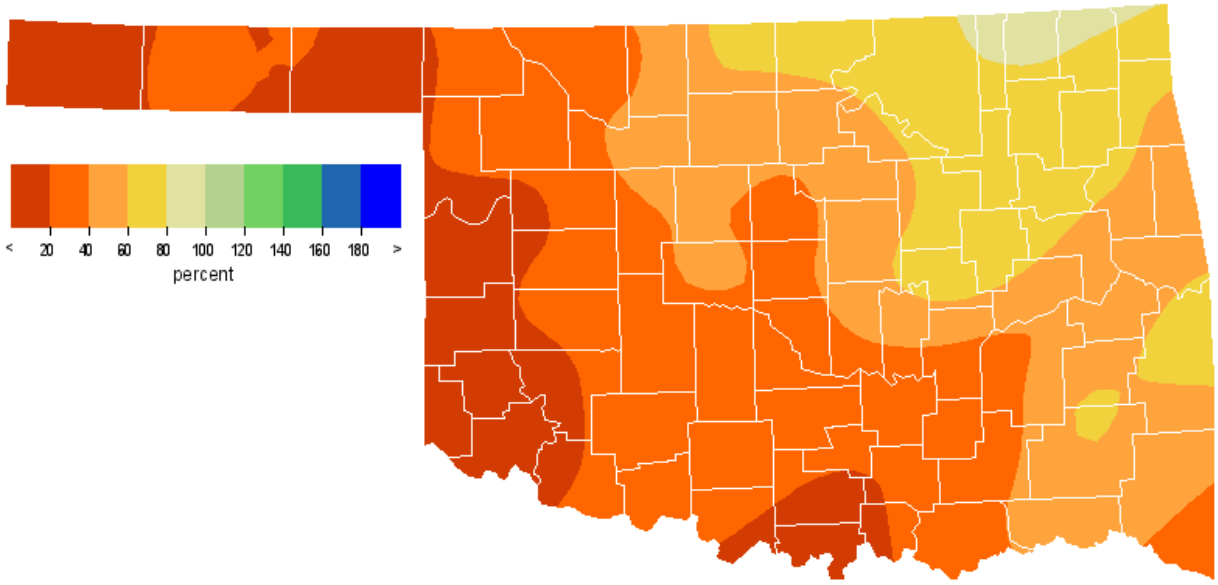
December 2008 Observed Precipitation



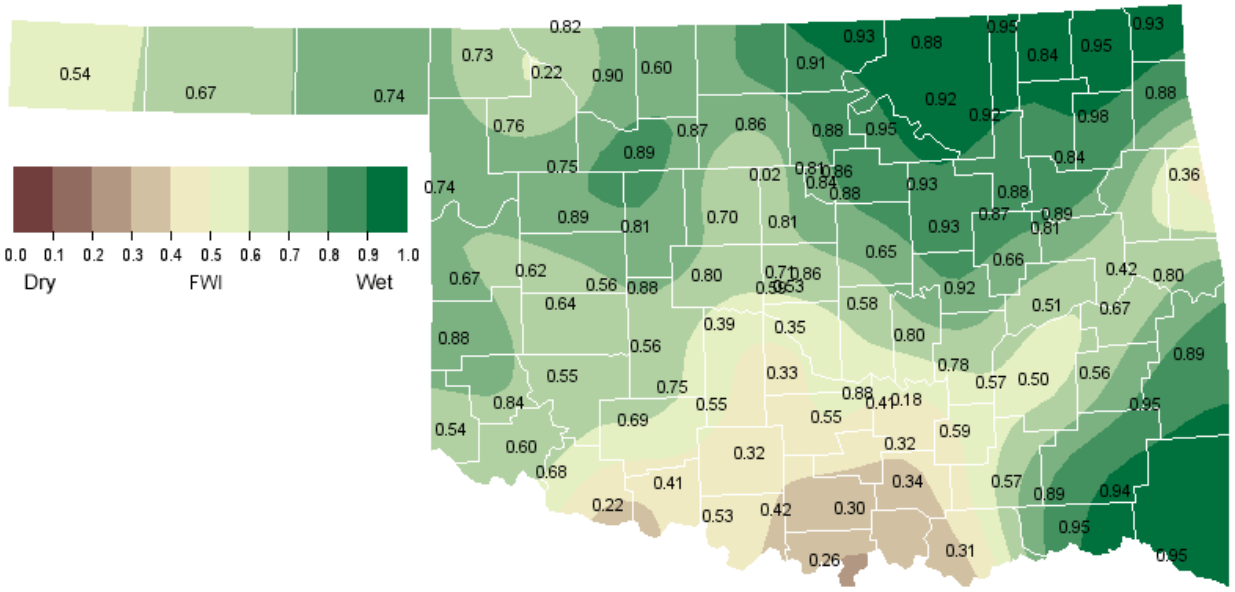
December 2008 Departure from Normal Precipitation



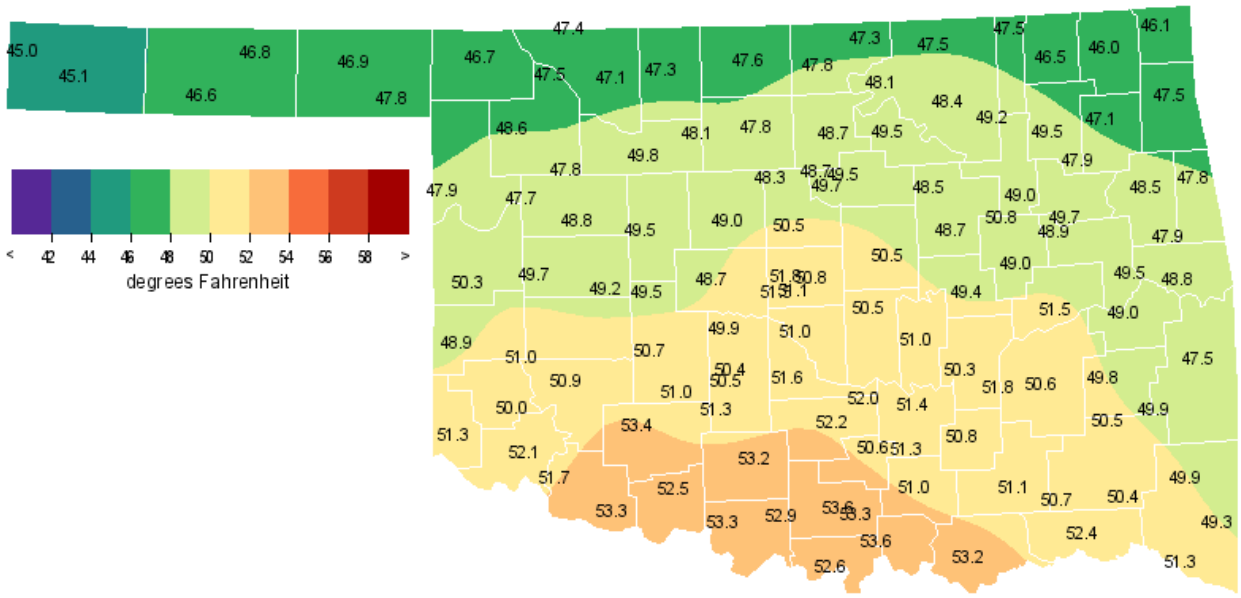
December 2008 Percent of Normal Precipitation



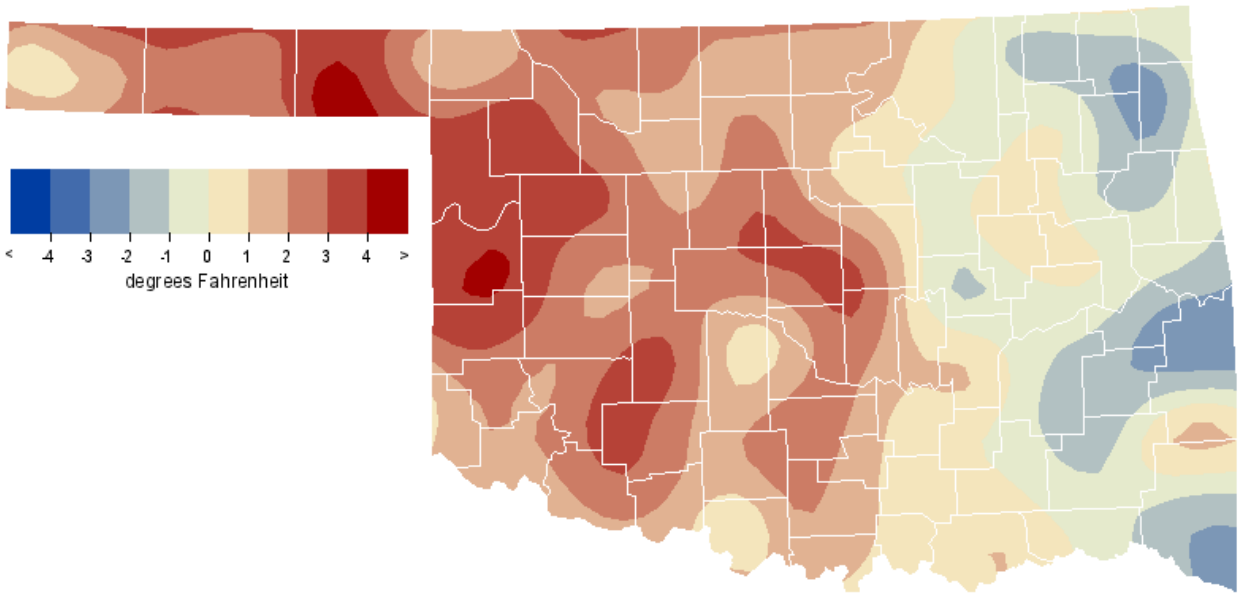
December 2008 Average Soil Moisture at 25cm



December 2008 Average Temperature



December 2008 Departure from Normal Temperature



Mesonet Monthly Summary for December 2008

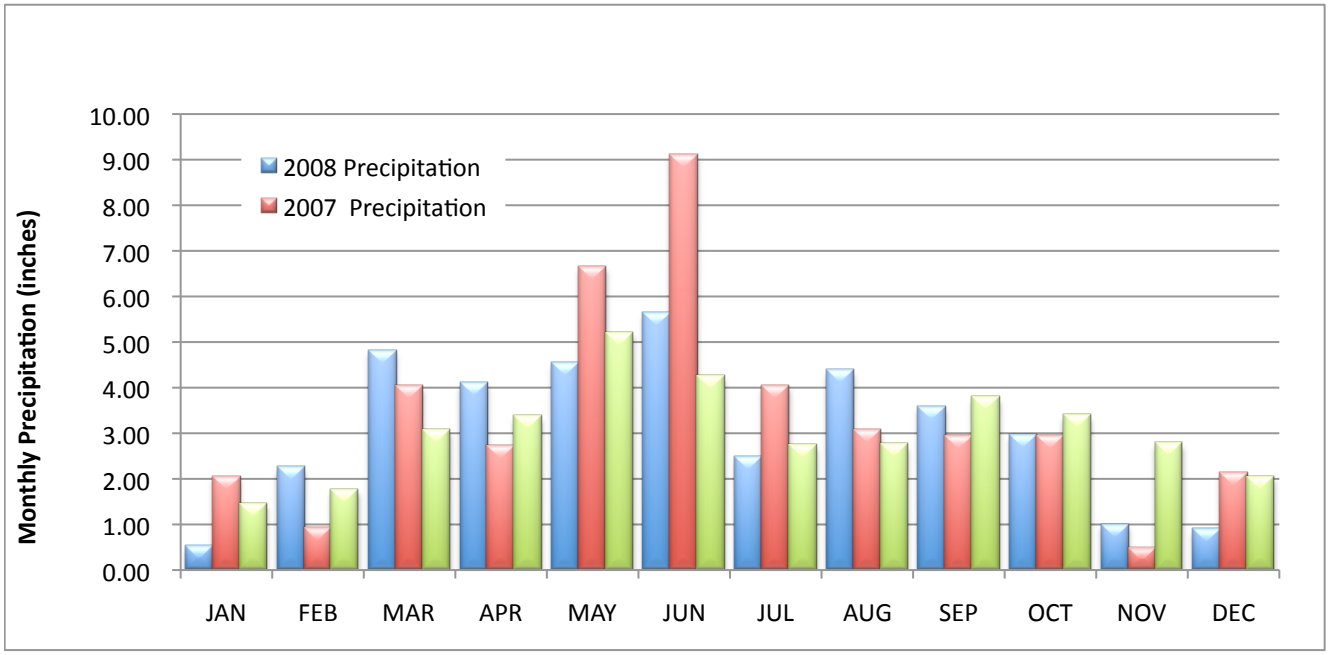
NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	36.9	77	8	6	21	872	0	*****	.11	8
Beaver	35.4	74	2	3	10	917	0	.15	.13	10
Boise City	34.6	69	30	3	15	941	0	.06	.06	10
Buffalo	35.4	75	8	6	21	919	0	.19	.13	10
NORTH CENTRAL										
Alva	35.3	74	8	8	21	921	0	.35	.13	18
Blackwell	35.3	73	26	7	21	921	0	.99	.69	27
Breckinridge	35.9	74	26	8	21	901	0	.89	.64	27
Cherokee	34.8	72	26	8	10	935	0	.39	.16	18
Fairview	37.6	74	26	9	21	848	0	.55	.22	11
Freedom	35.7	77	8	5	21	909	0	.30	.13	18
Lahoma	35.8	73	26	9	21	906	0	.66	.49	27
NORTHEAST										
Bixby	38.6	76	26	10	21	817	0	1.98	1.18	27
Burbank	36.1	76	26	3	22	898	1	1.13	.80	27
Claremore	38.1	74	26	7	22	833	0	1.42	.69	27
Copan	35.8	74	26	6	21	905	0	1.70	1.00	27
Foraker	35.3	74	26	4	21	920	0	1.33	.86	27
Inola	37.6	76	26	7	22	850	0	1.43	.71	27
Jay	37.2	71	26	4	22	862	0	1.95	.91	27
Miami	36.3	71	26	5	22	889	0	2.12	1.26	27
WEST CENTRAL										
Bessie	38.6	75	26	10	21	818	0	.51	.43	27
Butler	37.8	75	30	9	21	844	0	.11	.08	8
Camargo	*****	***	***	***	***	****	****	*****	*****	***
Cheyenne	38.4	75	8	8	21	825	0	.06	.04	8
Erick	37.9	76	8	10	21	841	0	.06	.06	8
CENTRAL										
Acme	39.9	76	14	10	21	777	0	.52	.50	27
Bowlegs	39.7	77	26	10	21	787	2	1.76	.98	8
Bristow	38.0	77	26	8	22	839	2	1.55	.76	27
Lake Carl Blac	37.5	77	26	5	22	857	3	.76	.65	27
Chandler	39.0	76	26	8	21	807	2	.91	.74	27
Chickasha	39.3	76	26	11	21	797	1	.43	.40	27
El Reno	37.6	74	26	6	22	849	0	.72	.64	27
Guthrie	38.9	76	26	8	21	812	3	.61	.46	27
Kingfisher	*****	***	***	***	***	****	****	.53	.49	27
Marena	38.2	77	26	7	22	836	3	.53	.41	27
Minco	38.3	74	26	9	21	829	0	.51	.38	27
Marshall	37.1	76	26	6	22	867	2	.64	.59	27
EAST CENTRAL										
Calvin	39.6	77	26	11	21	787	1	.59	.50	27
Cookson	38.1	73	26	4	22	835	0	1.28	.77	27
Eufaula	40.4	76	26	10	21	762	1	.84	.57	27
Haskell	38.3	77	26	8	22	827	0	2.17	.84	9
Hectorville	39.2	76	26	8	21	801	1	1.56	.97	27
McAlester	40.6	76	26	12	21	757	1	.82	.57	27
Okmulgee	39.1	77	26	9	22	804	2	2.66	1.14	8
SOUTHWEST										
Altus	40.7	78	14	13	21	752	0	.02	.01	8
Apache	39.1	77	14	9	21	802	0	.51	.45	27
Fort Cobb	39.1	77	14	11	21	802	0	.33	.28	27
Grandfield	41.4	78	14	13	21	730	0	.58	.56	27
Hinton	38.3	74	26	9	21	829	0	.24	.24	27
Hobart	39.0	77	14	11	21	806	0	.07	.03	27
SOUTH CENTRAL										
Ada	40.3	77	26	11	21	765	1	.29	.25	27
Ardmore	42.3	77	26	14	21	708	4	.18	.12	27
Burneyville	41.9	78	26	13	21	719	4	.27	.22	27
Byars	40.6	76	26	10	21	758	3	1.26	.77	27
Centrahoma	40.1	77	26	11	22	774	1	.54	.30	27
Durant	42.7	78	26	15	21	692	2	.80	.25	8
Fittstown	40.4	76	26	11	21	764	1	.53	.37	27
Ketchum Ranch	41.3	79	26	13	21	738	3	1.39	.70	27
Lane	41.2	78	26	15	21	739	0	.90	.56	27
SOUTHEAST										
Antlers	41.2	79	26	15	22	739	0	1.49	.55	27
Broken Bow	42.4	74	3	18	22	700	0	1.79	.58	27
Clayton	41.6	75	26	13	22	727	0	2.35	.87	27
Cloudy	41.5	76	26	16	22	729	0	2.92	1.26	27
Hugo	42.6	78	26	17	21	693	0	1.93	.73	27

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	35.9	74	2	4	21	902	0	.11	.11	10
Hooker	35.2	74	2	4	21	923	0	.09	.09	10
Kenton	34.9	69	2	2	15	934	0	.02	.02	10
Slapout	36.0	74	8	3	21	900	0	.05	.05	10
May Ranch	35.6	76	8	5	21	911	0	.39	.20	10
Medford	35.1	73	26	8	21	927	0	.82	.51	27
Newkirk	34.9	73	26	6	21	934	0	1.34	.86	27
Red Rock	36.9	77	26	6	21	871	1	.67	.51	27
Seiling	36.4	73	8	7	21	887	0	.22	.08	8
Woodward	37.1	77	8	6	21	866	0	.33	.19	8
Nowata	35.9	71	14	5	21	902	0	2.05	1.14	27
Pawnee	37.6	78	26	6	22	852	2	1.05	.81	27
Porter	38.5	76	26	7	22	821	0	2.39	1.01	27
Pryor	36.9	73	26	6	22	872	0	1.78	.90	27
Skiatook	37.5	74	26	7	21	852	0	1.42	.72	27
Vinita	35.7	72	26	4	21	908	0	2.41	1.06	27
Wynona	36.6	74	26	6	22	879	0	1.93	.92	8
Putnam	36.7	72	26	8	21	877	0	.00	.00	1
Retrop	39.3	77	26	10	21	796	0	.21	.17	27
Watonga	37.4	73	26	7	21	856	0	.70	.59	27
Weatherford	37.7	73	26	8	21	848	0	.41	.36	27
Ninnekah	39.4	75	26	10	21	796	1	.46	.41	27
Norman	39.7	76	26	10	21	788	3	.97	.90	27
Oilton	37.6	76	26	4	22	850	1	1.03	.82	27
OKC East	39.6	76	26	10	21	789	3	.79	.65	27
OKC North	40.1	76	26	9	21	775	3	.64	.59	27
OKC West	40.3	76	26	10	21	770	3	.69	.66	27
Okemah	39.0	76	26	9	21	806	1	2.04	.94	8
Perkins	38.7	77	26	8	22	818	3	1.08	.70	27
Shawnee	39.3	75	26	8	21	800	2	.93	.49	8
Spencer	39.5	76	26	7	22	794	2	.66	.52	27
Stillwater	38.4	77	26	9	21	828	3	.78	.65	27
Washington	39.7	76	26	11	21	787	3	.80	.51	27
Sallisaw	39.2	76	26	10	22	799	0	2.10	1.34	27
Stigler	39.7	77	26	8	22	784	0	.88	.25	9
Stuart	40.5	77	26	11	21	760	1	.77	.50	27
Tahlequah	38.5	73	26	7	22	822	0	2.66	1.08	9
Webbers Falls	39.4	78	26	11	22	794	0	.98	.63	27
Westville	37.7	71	26	5	22	846	0	1.83	.61	27
Hollis	40.2	77	26	12	21	769	0	.02	.01	8
Mangum	38.9	77	14	11	21	808	0	.07	.03	27
Medicine Park	40.7	77	14	11	21	752	0	.65	.51	27
Tipton	40.7	79	14	13	21	754	0	.00	.00	1
Walters	41.2	78	14	12	21	739	0	.42	.39	27
Madill	42.6	77	26	14	21	699	4	.57	.49	27
Newport	*****	***	***	***	***	****	****	*****	*****	***
Pauls Valley	40.8	77	26	13	21	754	4	.60	.44	27
Ringling	41.6	78	26	14	21	728	4	.24	.21	27
Sulphur	39.9	77	26	11	21	781	3	.30	.25	27
Tishomingo	40.4	77	26	13	21	763	1	.70	.47	27
Vanoss	40.2	77	26	10	21	773	3	.49	.46	27
Waurika	42.3	79	26	14	21	705	3	.44	.31	27
Idabel	43.2	78	26	20	22	675	0	1.37	.50	27
Mt Herman	41.5	70	14	14	22	729	0	2.74	.81	27
Talihina	41.1	75	26	12	22	****	****	2.11	1.42	27
Wilburton	40.3	74	26	10	22	765	0	2.06	1.66	27
Wister	40.4	78	26	12	22	764	2	3.25	2.12	27

December 2008 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Dec-07
Panhandle	0.11	-0.59	18th Driest	3.75 (2006)	0.00 (1922)	1.17
North Central	0.61	-0.69	38th Driest	4.55 (1913)	0.00 (1922)	1.82
Northeast	1.74	-0.54	56th Driest	6.72 (1984)	0.16 (1950)	2.50
West Central	0.26	-0.88	27th Driest	4.03 (1932)	0.00 (1908)	1.44
Central	0.85	-1.16	35th Driest	6.67 (1984)	0.00 (1908)	2.17
East Central	1.47	-1.51	37th Driest	8.95 (1987)	0.21 (1908)	2.49
Southwest	0.26	-1.12	22nd Driest	4.94 (1991)	0.00 (1908)	1.29
South Central	0.59	-1.94	16th Driest	7.01 (1932)	0.07 (1950)	2.13
Southeast	2.20	-1.87	33rd Driest	12.76 (1971)	0.23 (2005)	4.35
Statewide	0.89	-1.13	30th Driest	4.98 (1984)	0.10 (1950)	2.13

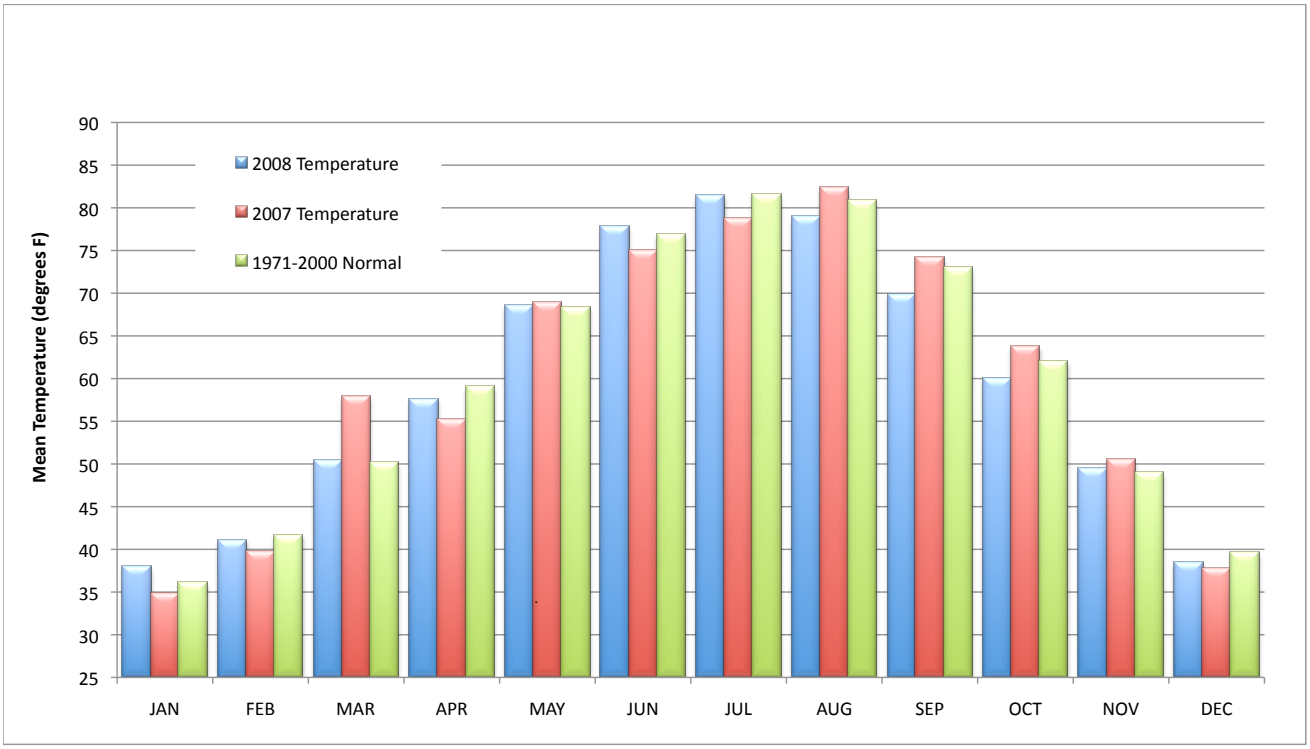
2007 and 2008 Statewide Precipitation Monthly Totals vs. Normal



December 2008 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Dec-07 (F)
Panhandle	35.5	0.5	56th Warmest	41.6 (1933)	22.6 (1983)	32.5
North Central	35.9	-0.6	40th Coolest	43.7 (1965)	21.9 (1983)	34.3
Northeast	36.9	-1.3	41st Coolest	45.1 (1931)	24.3 (1983)	36.5
West Central	38.0	0.6	56th Coolest	44.2 (1965)	24.0 (1983)	36.2
Central	38.9	-0.4	51st Coolest	46.4 (1965)	25.3 (1983)	37.8
East Central	39.3	-1.3	38th Coolest	47.6 (1933)	27.4 (1983)	40.2
Southwest	40.0	0.2	52nd Coolest	46.7 (1965)	27.5 (1983)	38.7
South Central	41.2	-0.9	38th Coolest	48.5 (1965)	29.2 (1983)	41.7
Southeast	41.6	-0.8	41st Coolest	50.7 (1984)	30.7 (1983)	43.9
Statewide	38.5	-0.5	48th Coolest	45.4 (1965)	25.8 (1983)	37.9

2007 and 2008 Statewide Temperature Monthly Averages vs. Normal



Mesonet Extremes for December 2008

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	77	8th	Arnett	2	15th	Kenton	0.19	Buffalo	0.13	10th	Beaver
North Central	77	8th	Woodward	5	21st	May Ranch	1.34	Newkirk	0.86	27th	Newkirk
Northeast	78	26th	Pawnee	3	22nd	Burbank	2.41	Vinita	1.26	27th	Miami
West Central	77	26th	Retrop	7	21st	Watonga	0.70	Watonga	0.59	27th	Watonga
Central	77	26th	Stillwater	4	22nd	Oilton	2.04	Okemah	0.98	8th	Bowlegs
East Central	78	26th	Webbers Falls	4	22nd	Cookson	2.66	Okmulgee	1.34	27th	Sallisaw
Southwest	79	14th	Tipton	9	21st	Hinton	0.65	Medicine Park	0.56	27th	Grandfield
South Central	79	26th	Waurika	10	21st	Vanoss	1.39	Ketchum Ranch	0.77	27th	Byars
Southeast	79	26th	Antlers	10	22nd	Wilburton	3.25	Wister	2.12	27th	Wister
Statewide	79	26th	Waurika	2	15th	Kenton	3.25	Wister	2.12	27th	Wister

January Climatological Outlook

The weather in Oklahoma during January, Oklahoma's coldest and driest month, is marked by many and rapid variations. Cold fronts move through the state on a regular basis, bringing air from colder regions of the earth, but cold weather rarely lasts for more than a few days at a time. The north or northwest winds that spread the colder air typically give way to a day or so of calm and sunshine, followed by a return to the prevailing southerly winds which dominate the state's weather throughout the year. The state is located within the range of the winter meandering of the jet stream. Oklahoma's proximity to both the warm waters of the Gulf of Mexico to the southeast and the mountain barrier to the west enhances the potential for the development of winter storms beneath the jet. The Gulf provides moisture and is a source of thermal energy that interacts with the areas of low pressure, which are initiated under the jet stream east of the mountains. This interaction often results in the development of winter storms. Many of the winter storms in the eastern half of the country are born in Oklahoma.

Precipitation
Mean: 1.46 inches
Wettest year: 1949, 5.23 inches
Driest year: 1986, 0.04 inches
Wettest location: Broken Bow, 3.49 inches
Driest location: Goodwell, 0.29 inches
Most recorded: 13.85 inches, Smithville, 1950

According to National Weather Service cooperative network data from 1971 through 2000, the statewide-averaged normal temperature for the month is 36.8 degrees. Normal temperatures across Oklahoma range from 41.9 degrees at Waurika in the south to 30.7 degrees at Turpin in the eastern panhandle. Normal daily maximum temperatures vary between 54.0 degrees at Waurika, near the Red River at Oklahoma's southern border, down to 41.9 degrees at Newkirk, near the state's northern border. Normal daily minimum temperatures range from 30.8 degrees at Okemah to 16.7 degrees at Turpin. The coldest January temperature ever recorded in the state is -27 degrees, recorded at Watts on January 18, 1930. At the other extreme, Cloud Chief reported a daily maximum temperature of 92 degrees on January 31, 1911. The warmest and coldest Januarys, averaged statewide, were 47.5 degrees in 1923 and 24.9 degrees in 1930, respectively.

Oklahoma's normal monthly precipitation during January, averaged across the state, is 1.46 inches. Normal monthly precipitation for the month ranges from 3.49 inches in the southeast at Broken Bow to 0.29 inch in the panhandle at Goodwell. Most of the precipitation falls as rain, although snow, sleet, and freezing rain are all observed. The statewide-averaged normal snowfall (including sleet) is 2.4 inches, most of which falls in the northern half of the state. The panhandle town of Boise City averages 7.0 inches of snow during January. On average, snowfalls of at least one inch occur on 2.5 January days at Boise City. The wettest January in the state's weather record is 1949, when the statewide average was 5.23 inches. The driest January was 1986, when the state's rain gauges collected an average of only 0.04 inches of precipitation. Smithville was deluged with 13.85 inches of precipitation during January 1950.

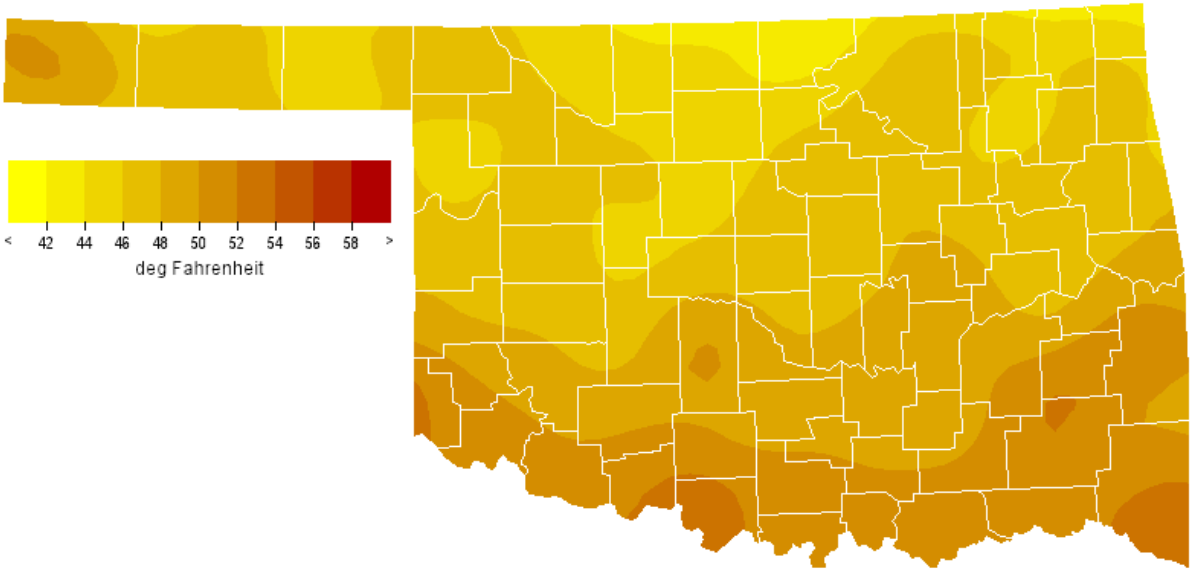
Temperature
Mean: 36.8 degrees
Warmest January: 1923 , 47.5 degrees
Coolest January: 1930, 24.9 degrees
Warmest location: Waurika, 41.9 degrees
Coolest location: Turpin, 30.7 degrees
Hottest recorded: 92 degrees, Cloud Chief, January 31, 1911
Coldest recorded: -27 degrees, Watts, January 18, 1930

Snowfall records are not as reliable as those for temperature and total precipitation (which includes water obtained from melted snow), but the greatest January snowfalls appear to have been recorded in 1905, 1930, 1949, 1988, 1990, and 2001. Statewide information is somewhat sketchy regarding the 1905 event, but it is known that Fort Reno recorded a cumulative depth of 24.5 inches of snow over the course of the month. In January 1930, noted above for its extreme cold, 25.0 inches of snow fell at Jefferson, and the state's reporting stations averaged 11.7 inches for the month. The reported January 1949 snowfall totals include 30.1 inches at Union City and 25.3 inches at Ponca City. In 1988, most of the state was blanketed by 10 inches of snow (16 to 18 inches in some locales) in a major snowstorm that came on the heels of an ice storm during the previous month. Goodwell reported 16 inches on snow on January 19, 1990, accumulating 18 inches over a two-day period, in a snowstorm whose Oklahoma extent was mainly confined to the panhandle. The state record for January monthly snowfall is 32.7 inches, set at Kenton in 2001. Nearly half of that total (16 inches) was reported on the 16th.

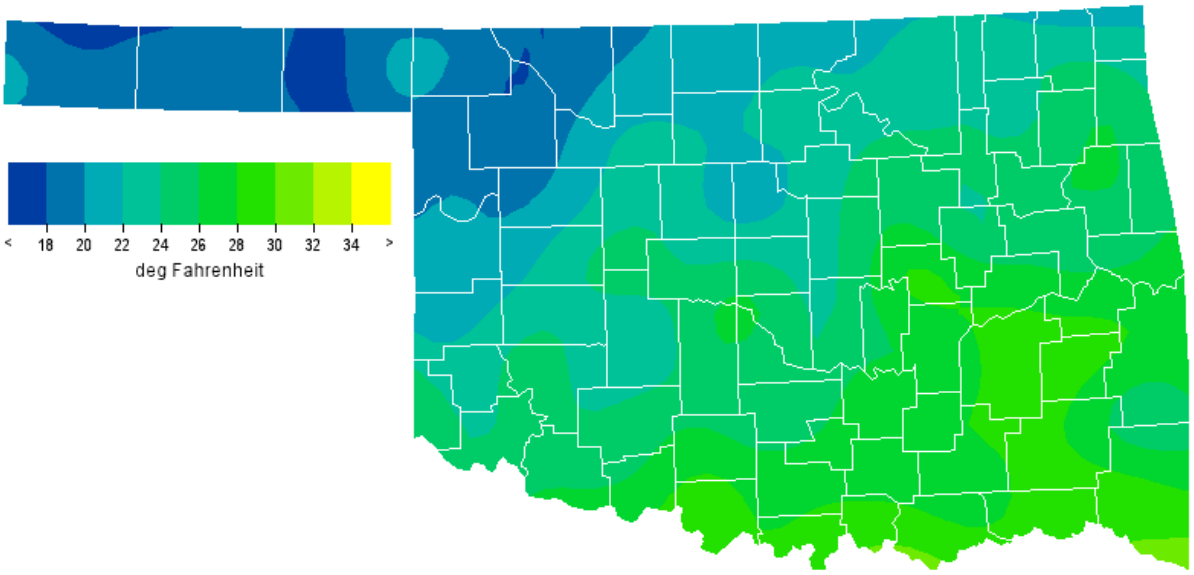
Tornadoes are not usually a part of the January weather in Oklahoma, but the month is not immune to them. Reasonably reliable counts of tornadoes in the state are available since 1950. During that time, 12 tornadoes have occurred during January, including 4 each in 1957 and 1967. On January 4, 1917, an F3 tornado (severe damage, estimated wind speeds of 158-206 miles per hour) struck a Choctaw boarding school at Vireton (13 miles northeast of McAlester), killing 16 students and injuring 10 others.

Tornadoes
Average January Tornadoes: 0.2
Most: 4 (1967)

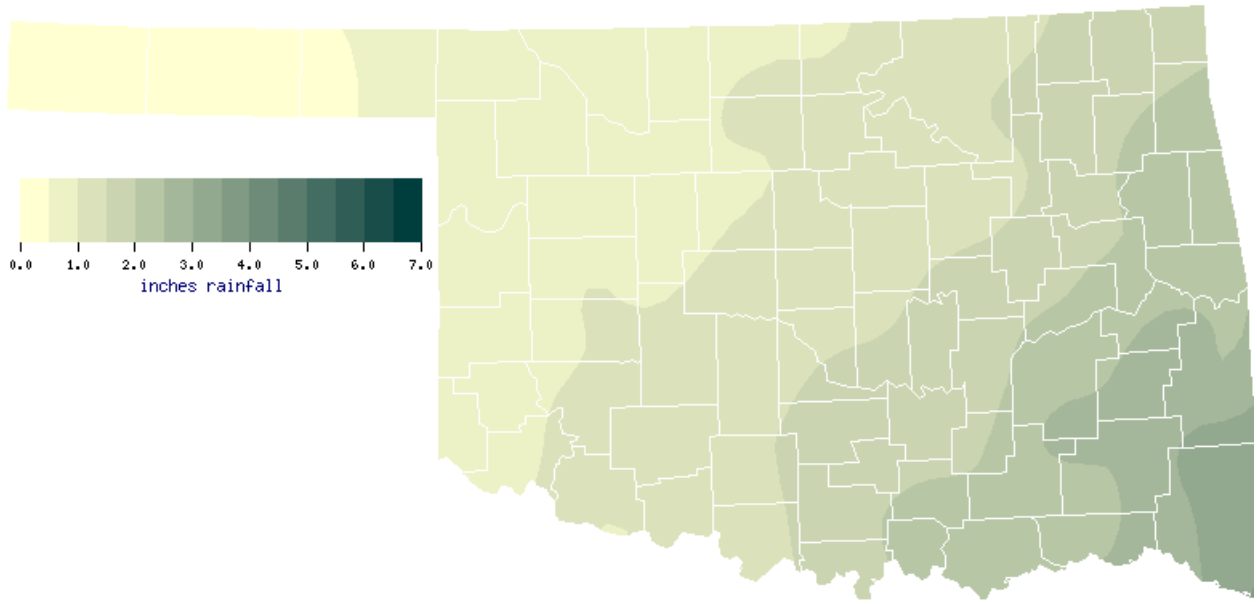
January Normal Daily Maximum Temperature (1971-2000)



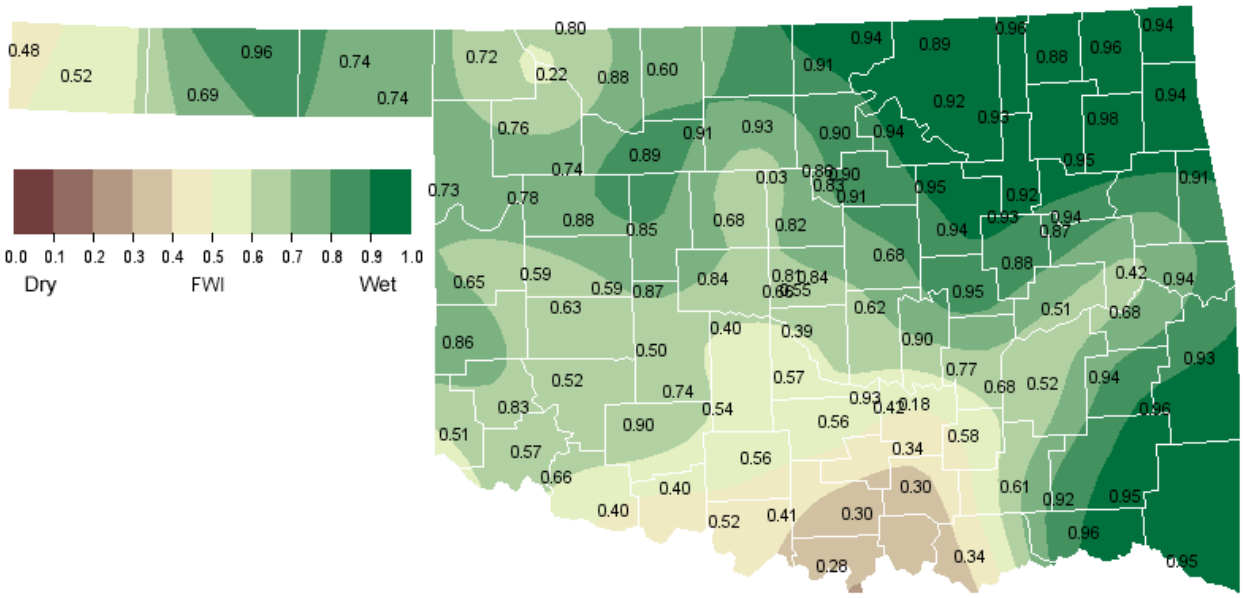
January Normal Daily Minimum Temperature (1971-2000)



January Normal Precipitation (1971-2000)



January 1, 2009 Soil Moisture Conditions at 25cm



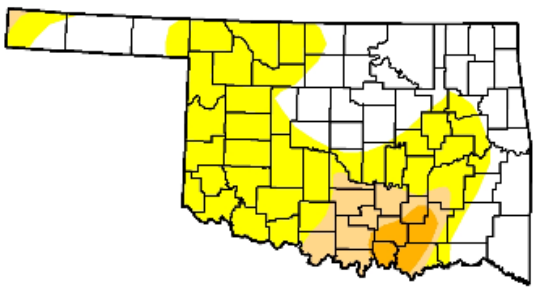
January 2009 Drought Indices

U.S. Drought Monitor
Oklahoma

December 30, 2008
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	41.6	58.4	12.0	3.4	0.0	0.0
Last Week (12/23/2008 map)	5.5	94.5	23.8	4.4	0.0	0.0
3 Months Ago (10/07/2008 map)	84.4	15.6	5.0	3.5	0.0	0.0
Start of Calendar Year (01/01/2008 map)	83.4	16.6	7.1	0.0	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 (01/01/2008 map)	83.4	16.6	7.1	0.0	0.0	0.0



Intensity:

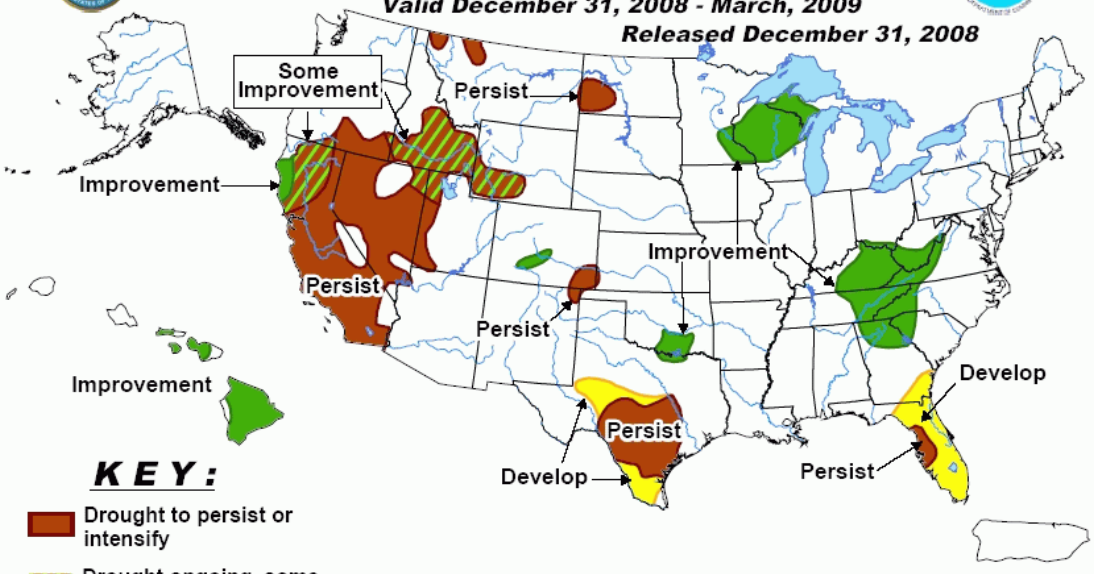
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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

http://drought.unl.edu/dm

Released Wednesday, December 31, 2008
Author: Brian Fuchs, National Drought Mitigation Center

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid December 31, 2008 - March, 2009
Released December 31, 2008

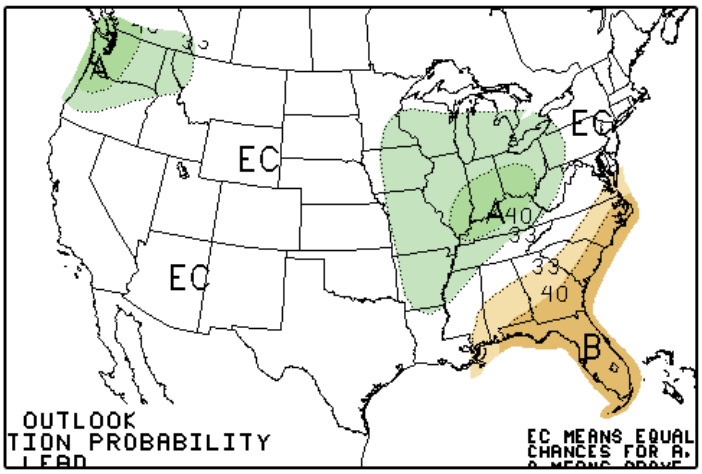


KEY:

- 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.

January 2009 U.S. Precipitation Forecast



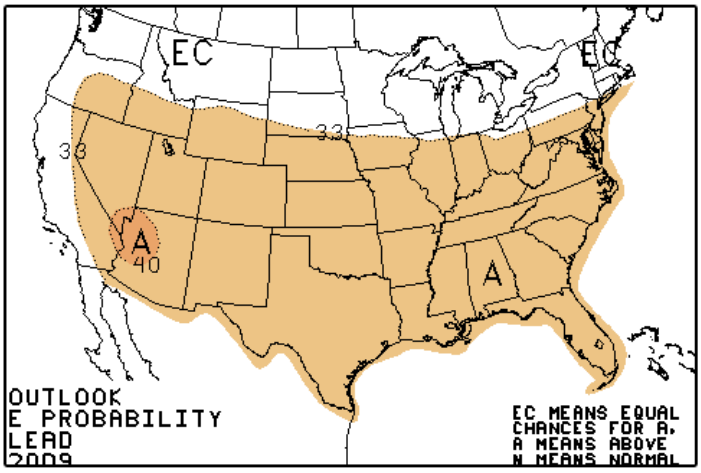
Percent Likelihood of Above or Below Average Precipitation*

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

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

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

January 2009 U.S. Temperature Forecast



Percent Likelihood of Above and Below Average Temperatures*

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

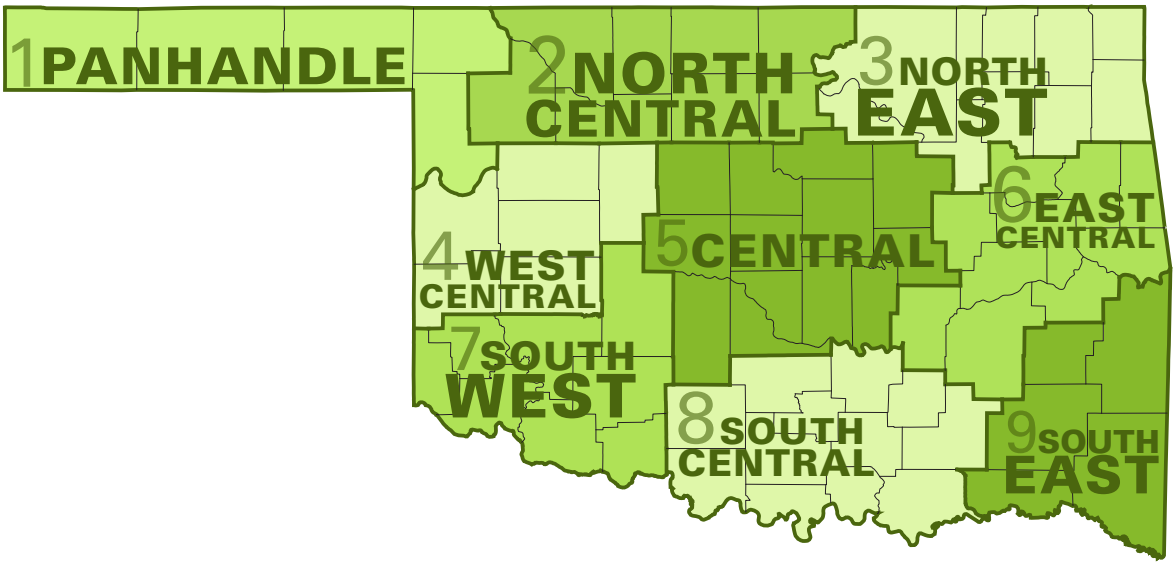
0% - 5%
5% - 10%
B = Below

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

January Climate Normals

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	47.3	19.2	33.3	0.51
2	44.7	20.5	32.6	0.95
3	46.3	24.0	35.2	1.58
4	46.9	22.4	34.6	0.83
5	47.5	24.5	36.0	1.33
6	48.0	26.4	37.2	2.10
7	49.7	24.2	37.0	1.08
8	50.4	27.2	38.8	1.91
9	51.3	27.7	39.5	2.81
Statewide	47.9	24.1	36.0	1.51

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

OKLAHOMA CLIMATOLOGICAL SURVEY

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