

# OKLAHOMA MONTHLY CLIMATE SUMMARY

## DECEMBER 2003



Oklahoma Climatological Survey

### Overview

Although it finished as the 22<sup>nd</sup> warmest December since record-keeping began in 1892, the month still furnished the state with the first significant frozen precipitation of the winter season. The snowfall occurred in two separate storm systems only three days apart, the first of which struck on the 9<sup>th</sup>, and the second only three days later on the 12<sup>th</sup>. The wintry blast on the 9<sup>th</sup> came one day after the state experienced widespread temperatures in the 70s, including a record high temperature of 72 degrees at Oklahoma City. Northeast Oklahoma bore the brunt of the first storm, with nearly 10 inches falling in several areas. The second storm was just as potent, dropping a foot of snow in Grant County. Despite the moisture associated with the frozen precipitation, however, the month's statewide-averaged rainfall was still deficient enough to rank as the 37<sup>th</sup> driest in the state's history.

### Precipitation

Buoyed by snowmelt, the northeast was the lone region to finish with above normal precipitation for the month, although the surplus was less than one-tenth of an inch. The rest of the state finished below normal, topped by the southeast, which fell almost 2.5 inches below normal, distinguishing the month as the 17<sup>th</sup> driest since 1895 for that region. Overall, the statewide-averaged precipitation total fell just under an inch below the established normal. The dry ending to 2003 only added to a deficit which began in the year's first month. December marked the ninth month during 2003 with below normal precipitation, and increased the year's deficit to over 9 inches, the 17<sup>th</sup> driest annual tally in the record-books.

### Temperature

The statewide-averaged temperature in December was significantly above normal – over 3 degrees – to rank as the 22<sup>nd</sup> warmest in the last 112 years. As with the precipitation trend, the temperature trend was consistent throughout the year, albeit in the opposite direction. For the eighth month out of the last 12, the statewide-averaged temperature finished nearly a degree above normal to rank as the 29<sup>th</sup> warmest on record.

### December Daily Highlights

**December 1-4:** The year's final month began on a pleasant note, with sunny skies and seasonable temperatures. The winds kicked up from the south, however, a feature which would become commonplace throughout the month. An upper-level disturbance on the third brought showers to the northeastern region of the state. Amounts were generally two-thirds of an inch or less. Dense fog on the fourth reduced visibilities to less than one-half of a mile before dissipating later in the day.

**December 5-8:** A strong cold front entered the state on the fifth, accompanied by strong northerly winds and frigid temperatures. Kenton reached a bone-chilling 14 degrees that night. Temperatures never rose past the 40s on the fifth and sixth before strong southerly winds returned, along with unseasonably warm temperatures. High temperatures soared into the 60s and 70s on the seventh, 15-20 degrees above normal. The only drawback to the pleasant weather was the strong winds, with gusts of over 40 mph. The eighth saw the southern half of the state experiencing record high temperatures, while their northern neighbors were preparing for the state's first significant winter storm of the season. Oklahoma City set a record high of 72 degrees, and similar temperatures were commonplace throughout southern Oklahoma. The northern portions of the state remained in the 40s and 50s behind a weak cold front.

#### December 2003 Statewide Extremes

Description	Extreme	Station	Date
High Temperature	78°F	Waurika	December 8th
Low Temperature	3°F	Cherokee	December 14th
High Precipitation	3.61 in.	Vinita	
Low Precipitation	0.04 in.	Altus	

**December 9-12:** A second but more powerful front moved through the state on the ninth, bringing the state's first real bout of winter weather. While accumulations in northwestern and north central Oklahoma generally ranged from 1 to 3 inches, winds with gusts of up to 50 mph drifted the snow 2 to 3 feet high. Accumulations in the northeast were much more significant. Tulsa received up to 8.5 inches in localized areas, with nearly 10 inches in Osage County. Thunderstorms rumbled through central Oklahoma ahead of the front with heavy rainfall and pea-sized hail. The skies had cleared by the next morning, but the winds continued howling overnight before finally calming the afternoon of the 10<sup>th</sup>. Four days after the first winter storm, another powerful system moved in from the west on the 12<sup>th</sup>. North central sections bore the brunt of this storm, with 8-12 inches of snow falling in Grant, Kay, Garfield, and Noble Counties. Freezing rain started the show in central sections, before finally turning to snow. The south received mainly rainfall, with reports of one-half to three-quarters of an inch being common.

**December 12-21:** The next nine days were rather anti-climactic following the twin winter storms of the previous four days. Lows remained 10-15 degrees colder over the snowpack in the north before melting. Temperatures elsewhere rose into the 60s and 70s, modulated down into the upper 40s and 50s by occasional cold fronts. Strong southwesterly winds, gusting to nearly 60 mph on the 15<sup>th</sup>, created a dust storm reminiscent of the Dust Bowl era. Visibilities in southwestern Oklahoma dropped to less than 2 miles, and a reddish-brown haze fell over points east of there. Reports of reddish-brown film of dust on cars came from as far away as Chicago. After another frontal passage, strong southerly winds returned on the 21<sup>st</sup>, bumping temperatures once again into the upper 60s and 70s. Arnett had a high of 77 degrees on that day, shattering the old record of 77 degrees, set in 1937.

**December 22-31:** The remainder of the month was much like the previous nine days, with warm days and cold nights being interspersed with brief bouts of cooler air. Showers and thunderstorms associated with the frontal passages occurred on the 22<sup>nd</sup>, 27<sup>th</sup>, and 28<sup>th</sup>, mainly in eastern sections. Nearly an inch fell in localized areas on the 22<sup>nd</sup>, and a little over an inch fell on the 27<sup>th</sup> and the early morning hours of the 28<sup>th</sup>. Far from a winter wonderland, Christmas Day saw temperatures in the upper 50s and 60s, and southerly winds of 15-25 mph, with gusts to 35 mph. The month's final day was very pleasant, with warm, moist air being borne northward on moderate southerly winds.

### Record Event Reports

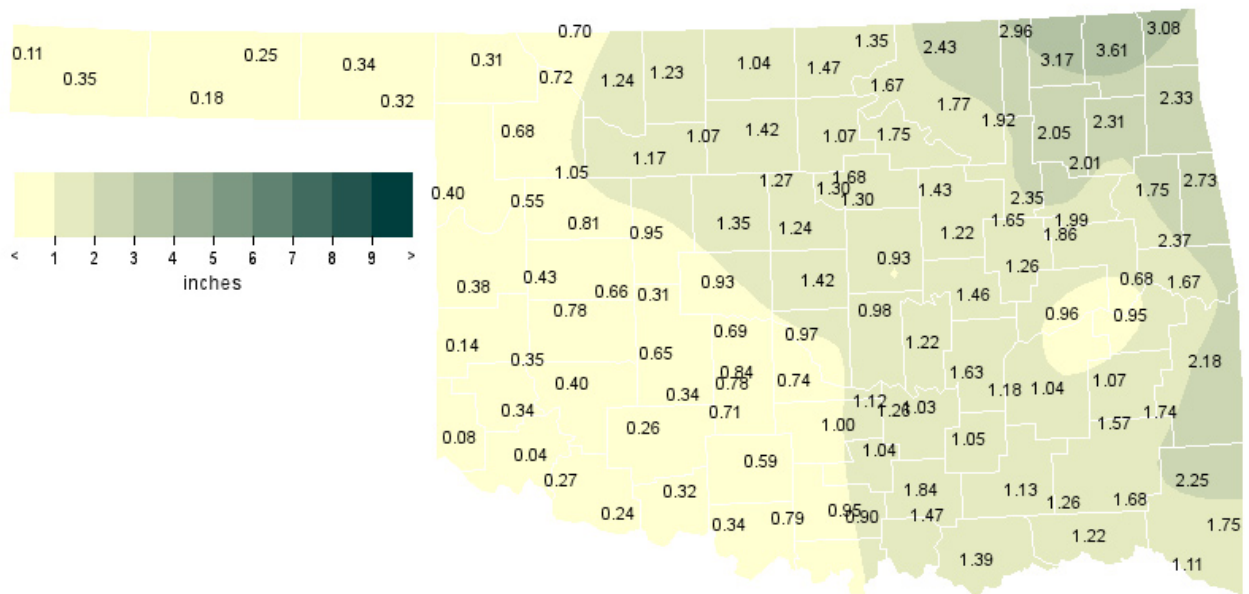
Description	Day	Location	Record	Previous Record	Year
High Temperature	8	Oklahoma City	72 degrees	71 degrees	1970
Daily Snowfall	12	Oklahoma City	1.2 inches	1.1 inches	1958

<b>December 2003 Statewide Statistics</b>			
<b>Temperature</b>			
	Average	Depart.	Rank (1892-2003)
Month (December)	42.2°F	3.2°F	22nd Warmest
Year-to-Date (Jan-Dec)	60.4°F	0.8°F	29th Warmest
<b>Precipitation</b>			
	Total	Depart.	Rank (1892-2003)
Month (December)	1.12 in.	-0.90 in.	37th Driest
Year-to-Date (Jan-Dec)	27.41 in.	-9.28 in.	17th Driest
Depart. = Departure from 30-year normal			

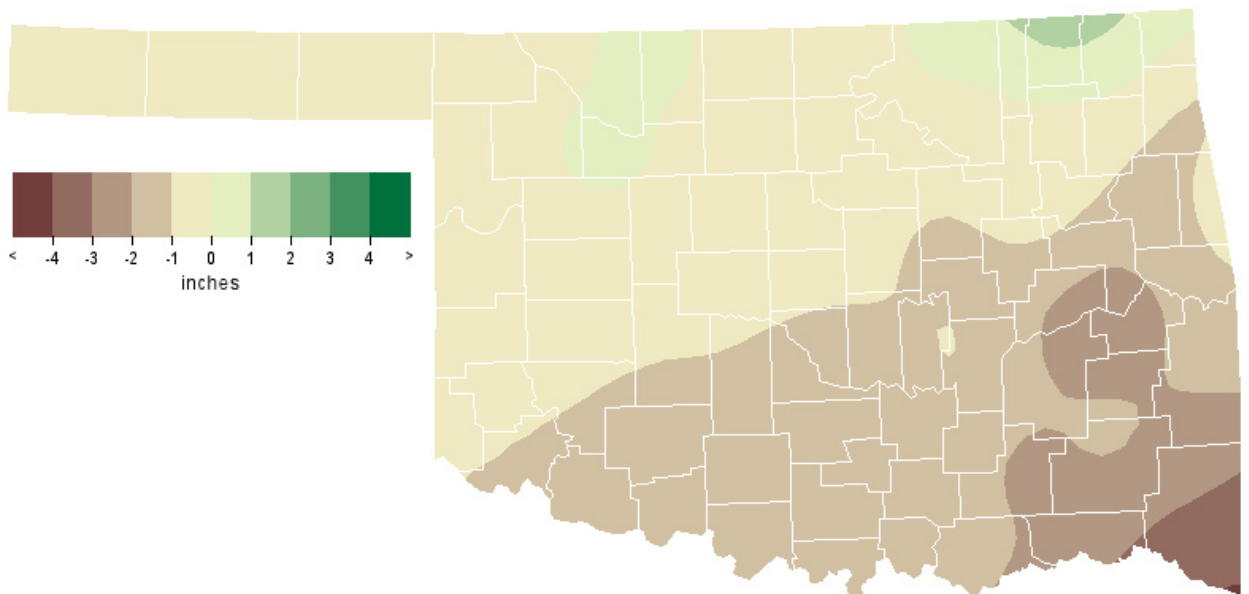
### December 2003 Severe Weather

No significant severe weather reported in the state.

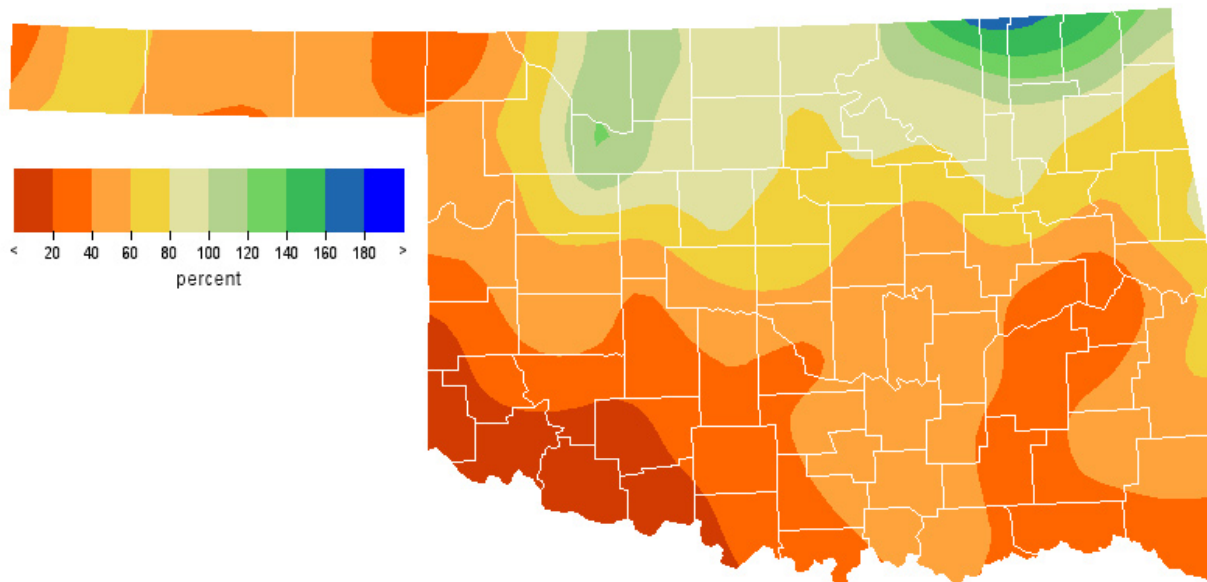
## December 2003 Observed Precipitation



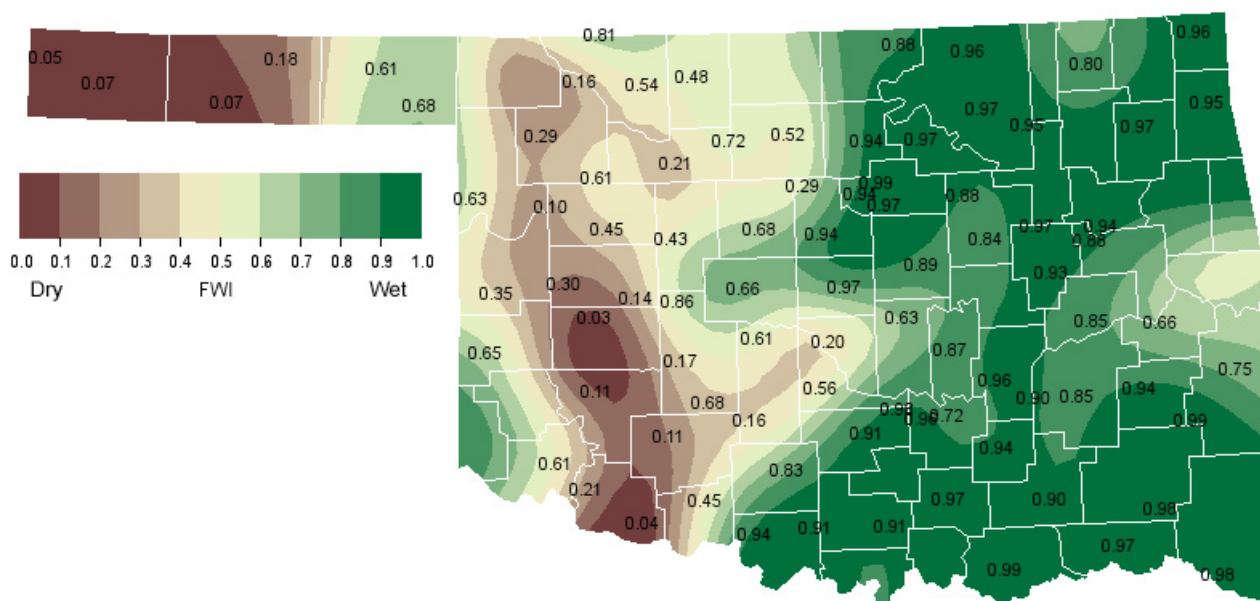
## December 2003 Departure from Normal Precipitation



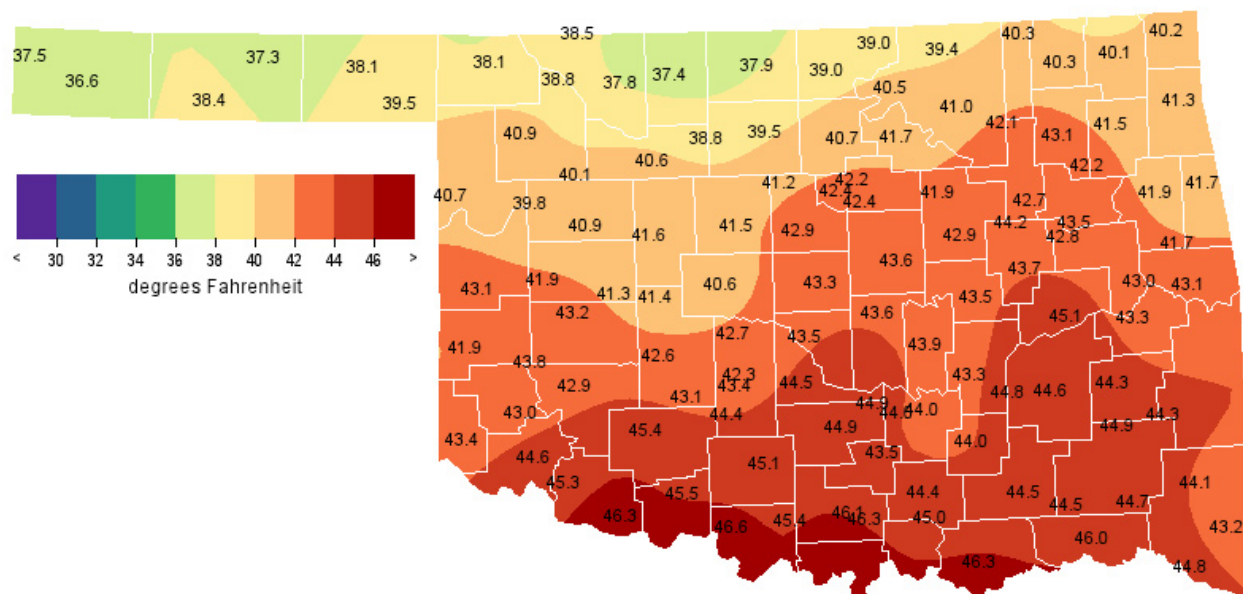
## December 2003 Percent of Normal Precipitation



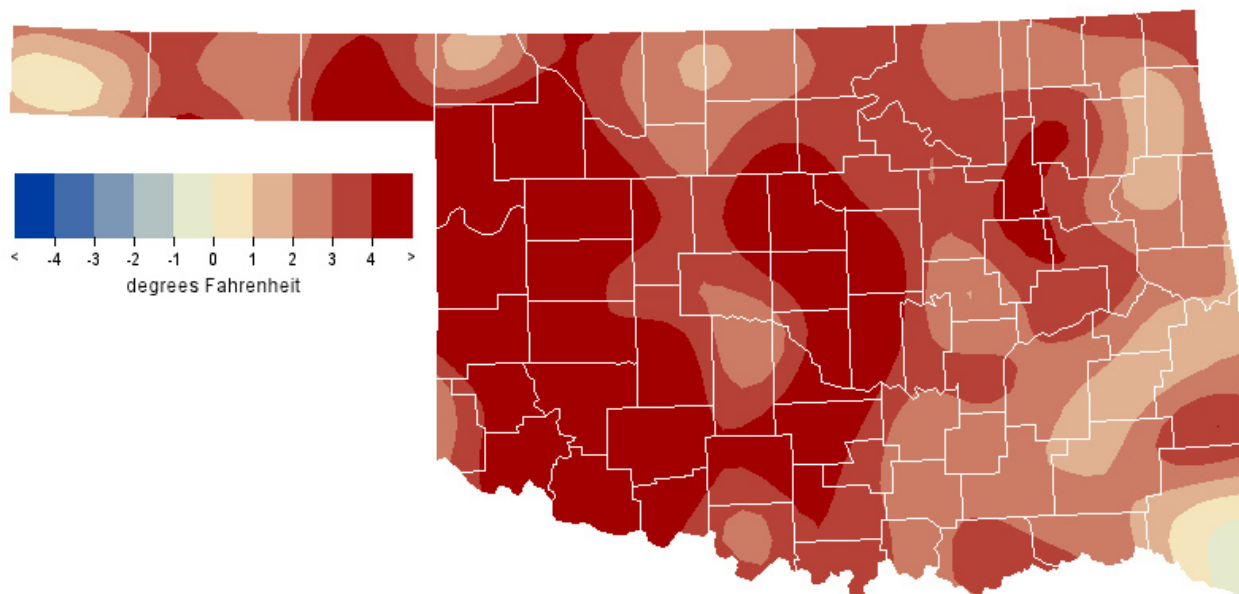
## December 2003 Average Soil Moisture at 25cm



## December 2003 Average Temperature



## December 2003 Departure from Normal Temperature





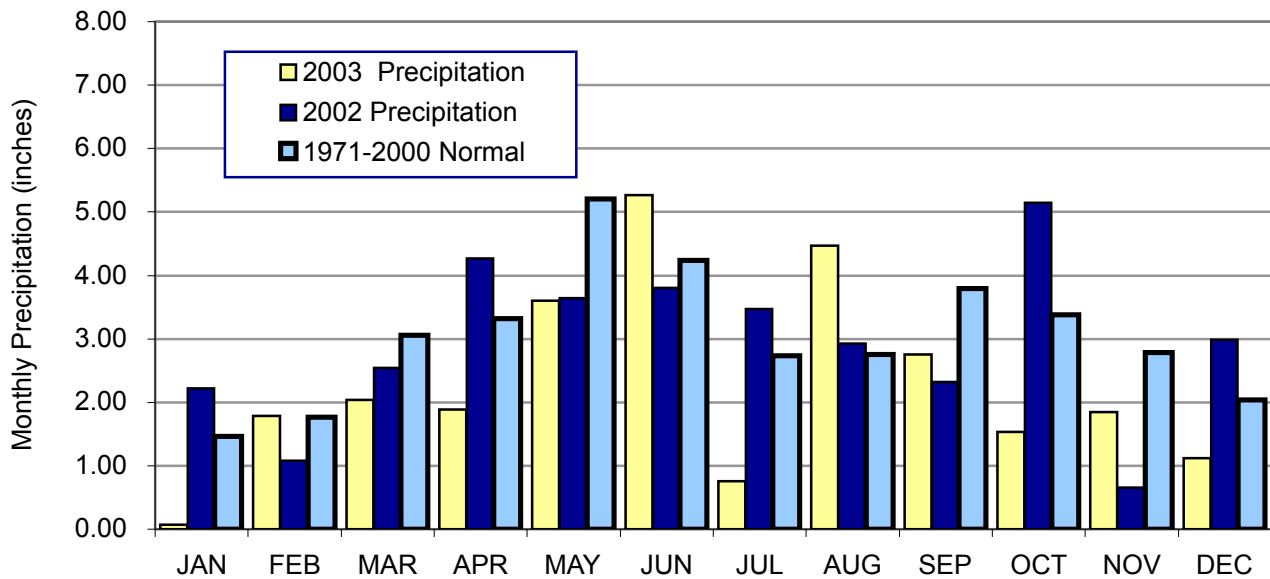
# Mesonet Monthly Summary for December 2003

NAME	MEAN HIGH			LOW			TOT HIGH			NAME	MEAN HIGH			LOW			TOT HIGH				
	TEMP	TEMP	DAY	TEMP	DAY	HDD	CDD	PPT	24-HR		DAY	TEMP	TEMP	DAY	TEMP	DAY	HDD	CDD	PPT	24-HR	DAY
<b>PANHANDLE</b>																					
Arnett	40.7	77	21	13	6	752	0	.40	.29	22	Goodwell	38.4	72	7	12	29	824	0	.18	.09	13
Beaver	38.1	73	26	11	29	832	0	.34	.21	14	Hooker	37.3	72	7	7	13	859	0	.25	.14	13
Boise City	36.6	73	7	10	29	880	0	.35	.23	22	Kenton	37.5	74	7	4	29	853	0	.11	.05	22
Buffalo	38.1	71	30	11	14	833	0	.31	.16	14	Slapout	39.5	71	7	15	13	791	0	.32	.16	10
<b>NORTH CENTRAL</b>																					
Blackwell	39.0	66	27	13	13	805	0	1.47	.48	15	Medford	38.0	66	27	8	13	838	0	1.04	.62	15
Breckenridge	39.6	65	27	12	13	787	0	1.42	.77	15	Newkirk	39.0	63	27	16	11	807	0	1.35	.56	15
Cherokee	37.4	65	27	3	14	856	0	1.23	.56	15	Red Rock	40.7	66	27	16	11	752	0	1.07	.32	14
Fairview	40.7	65	21	11	14	754	0	1.17	.56	15	Seiling	40.1	70	8	13	6	771	0	1.05	.54	22
Freedom	38.8	66	26	11	13	813	0	.72	.28	14	Woodward	40.9	72	8	16	13	747	0	.68	.25	14
Lahoma	38.8	65	27	13	13	814	0	1.07	.62	15	Alva	37.8	65	26	6	14	842	0	1.24	.38	9
May Ranch	38.4	65	26	16	13	823	0	.70	.32	15											
<b>NORTHEAST</b>																					
Bixby	42.8	67	15	18	11	689	0	2.35	.80	9	Pryor	41.4	64	15	17	11	731	0	2.31	.86	27
Burbank	40.5	63	21	14	11	760	0	1.67	.57	15	Skiatook	42.1	65	15	17	11	711	0	1.92	.53	27
Copan	40.3	61	15	15	11	766	0	2.96	.71	22	Vinita	40.1	63	27	13	11	773	0	3.61	.90	22
Foraker	39.4	63	21	10	11	794	0	2.43	.69	15	Wynona	40.9	63	21	10	11	747	0	1.77	.47	9
Jay	41.3	64	15	13	11	735	0	2.33	.55	27	Porter	43.5	67	15	20	11	666	0	1.99	.69	9
Miami	40.2	63	15	10	11	769	0	3.08	.79	27	Inola	42.2	65	15	18	11	707	0	2.01	.73	27
Nowata	40.2	62	27	13	11	769	0	3.17	.71	27	Claremore	43.1	66	15	17	11	680	0	2.05	.76	27
Pawnee	41.7	64	15	16	11	722	0	1.75	.69	27											
<b>WEST CENTRAL</b>																					
Bessie	43.2	71	8	18	6	676	0	.78	.23	12	Putnam	40.9	69	8	15	6	746	0	.81	.31	14
Butler	41.9	74	8	11	6	717	0	.43	.18	13	Retrop	43.4	76	8	17	6	****	****	.35	.15	13
Camargo	39.7	69	8	11	6	786	0	.55	.24	22	Watonga	41.6	71	8	18	6	727	0	.95	.58	14
Cheyenne	43.1	70	21	19	12	680	0	.38	.22	22	Weatherford	41.2	69	8	16	6	737	0	.66	.34	14
Erick	41.9	75	8	12	6	717	0	.14	.08	13											
<b>CENTRAL</b>																					
Bowlegs	43.9	71	8	19	11	655	0	1.22	.59	27	Okemah	43.5	68	8	20	11	665	0	1.46	.75	27
Bristow	42.9	68	8	17	11	685	0	1.22	.56	27	Perkins	42.4	71	8	20	6	702	0	1.30	.60	27
Chandler	43.6	70	8	18	6	663	0	.93	.30	9	Shawnee	43.7	70	8	20	6	661	0	.98	.42	12
Chickasha	42.3	74	8	14	6	703	0	.84	.66	12	Spencer	43.3	71	8	17	6	672	0	1.42	.55	14
El Reno	40.6	72	8	14	6	757	0	.93	.66	14	Stillwater	42.2	70	8	19	6	706	0	1.68	.51	27
Guthrie	42.9	73	8	18	6	684	0	1.24	.67	14	Washington	44.4	75	8	19	6	638	0	.74	.56	12
Kingfisher	41.5	73	8	15	6	730	0	1.35	.50	14	Ninnekah	43.4	75	8	16	6	669	0	.78	.68	12
Marena	42.4	71	8	19	6	700	0	1.30	.63	14	Acme	44.3	76	8	14	6	640	0	.71	.60	12
Minco	42.7	71	8	20	12	692	0	.69	.61	14	Norman	43.5	73	8	18	6	667	0	.97	.48	12
Oilton	41.9	69	8	15	11	716	0	1.43	.36	9	Marshall	41.2	69	8	15	6	738	0	1.27	.37	14
<b>EAST CENTRAL</b>																					
Calvin	43.4	70	8	18	11	671	0	1.63	.73	27	Stigler	43.4	69	8	18	11	670	0	.95	.47	27
Cookson	41.7	62	22	15	11	722	0	2.37	1.12	9	Stuart	44.8	69	8	22	11	626	0	1.18	.67	27
Eufaula	45.1	68	8	22	11	617	0	.96	.68	27	Tahlequah	41.9	63	9	17	11	717	0	1.75	.74	27
Haskell	42.9	66	15	21	11	685	0	1.86	.88	9	Webbers Falls	43.0	68	9	18	11	681	0	.68	.43	27
McAlester	44.6	70	8	18	11	633	0	1.04	.59	27	Westville	41.7	62	8	18	11	722	0	2.73	1.07	9
Okmulgee	43.6	69	15	19	11	662	0	1.26	.54	27	Hectorville	44.1	68	8	19	11	647	0	1.65	.49	9
Sallisaw	43.1	67	8	19	11	678	0	1.67	.59	9											
<b>SOUTHWEST</b>																					
Altus	44.6	75	8	16	6	633	0	.04	.04	13	Medicine Park	45.3	76	8	23	6	609	0	.26	.12	12
Fort Cobb	42.1	69	21	18	6	****	****	.65	.43	12	Tipton	45.3	78	8	16	6	610	0	.27	.17	12
Hinton	41.5	71	8	17	6	729	0	.31	.15	9	Walters	45.6	78	8	20	17	602	0	.32	.31	12
Hobart	42.9	69	8	16	6	685	0	.40	.19	13	Apache	43.2	74	8	17	6	677	0	.34	.16	14
Hollis	43.4	76	8	13	6	671	0	.08	.06	13	Grandfield	46.2	76	8	19	6	583	0	.24	.23	12
Mangum	43.0	76	8	11	6	681	0	.34	.22	13											
<b>SOUTH CENTRAL</b>																					
Ada	43.9	71	8	18	11	653	0	1.03	.59	12	Pauls Valley	44.9	75	8	21	11	623	0	1.00	.64	12
Ardmore	46.2	73	22	24	17	582	0	.90	.77	12	Ringling	45.5	75	8	19	6	605	0	.79	.76	12
Burneyville	45.3	74	22	16	11	610	0	.53	.43	12	Sulphur	43.4	70	8	17	17	669	0	1.04	.69	12
Byars	44.9	72	8	20	6	624	0	1.12	.66	12	Tishomingo	44.5	69	8	21	17	****	****	1.84	1.13	27
Centrahoma	43.9	70	8	16	11	653	0	1.05	.55	27	Waurika	46.6	78	8	21	14	571	0	.34	.33	12
Durant	46.3	70	8	22	11	579	0	1.39	.83	12	Vanoss	44.0	71	8	18	11	652	0	1.26	.78	12
Ketchum Ranch	45.1	76	8	20	6	618	0	.59	.53	12	Bee	45.1	70	22	19	11	****	****	1.47	.77	27
Lane	44.5	70	8	19	11	636	0	1.13	.58	12	Newport	46.0	73	8	21	6	588	0	.95	.88	12
Madill	45.8	72	22	20	6	596	0	1.42	.76	27											
<b>SOUTHEAST</b>																					
Antlers	44.6	72	8	16	11	633	0	1.26	.54	12	Mt Herman	44.1	69	8	20	11	648	0	2.25	.46	12
Clayton	44.8	70	8	19	11	625	0	1.57	.39	9	Talihina	44.4	70	8	18	11	639	0	1.74	.63	28
Cloudy	44.7	70	8	20	11	629	0	1.68	.60	12	Wilburton	44.2	69	8	18	17	644	0	1.07	.37	27
Hugo	46.0	70	8	23	11	****	****	1.22	.60	12	Wister	****	***	***	***	***	****	****	2.18	.77	22
Idabel	44.7	72	8	17	11	628	0	1.11	.47	12	Broken Bow	43.2	71	8	17	11	677	0	1.75	.56	12

## December 2003 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Dec-02
Panhandle	0.28	-0.42	36th Driest	2.55 (1913)	0.00 (1922)	1.18
North Central	1.09	-0.21	48th Wettest	4.55 (1913)	0.00 (1922)	1.51
Northeast	2.36	0.08	35th Wettest	6.72 (1984)	0.16 (1950)	3.51
West Central	0.56	-0.58	42nd Driest	4.03 (1932)	0.00 (1908)	2.07
Central	1.12	-0.89	49th Driest	6.67 (1984)	0.00 (1908)	2.63
East Central	1.52	-1.46	34th Driest	8.95 (1987)	0.21 (1908)	5.12
Southwest	0.30	-1.08	23rd Driest	4.94 (1991)	0.00 (1908)	2.64
South Central	1.06	-1.47	32nd Driest	7.01 (1932)	0.07 (1950)	4.28
Southeast	1.58	-2.49	17th Driest	12.76 (1971)	0.25 (1917)	5.84
Statewide	1.12	-0.90	37th Driest	4.98 (1984)	0.10 (1950)	3.14

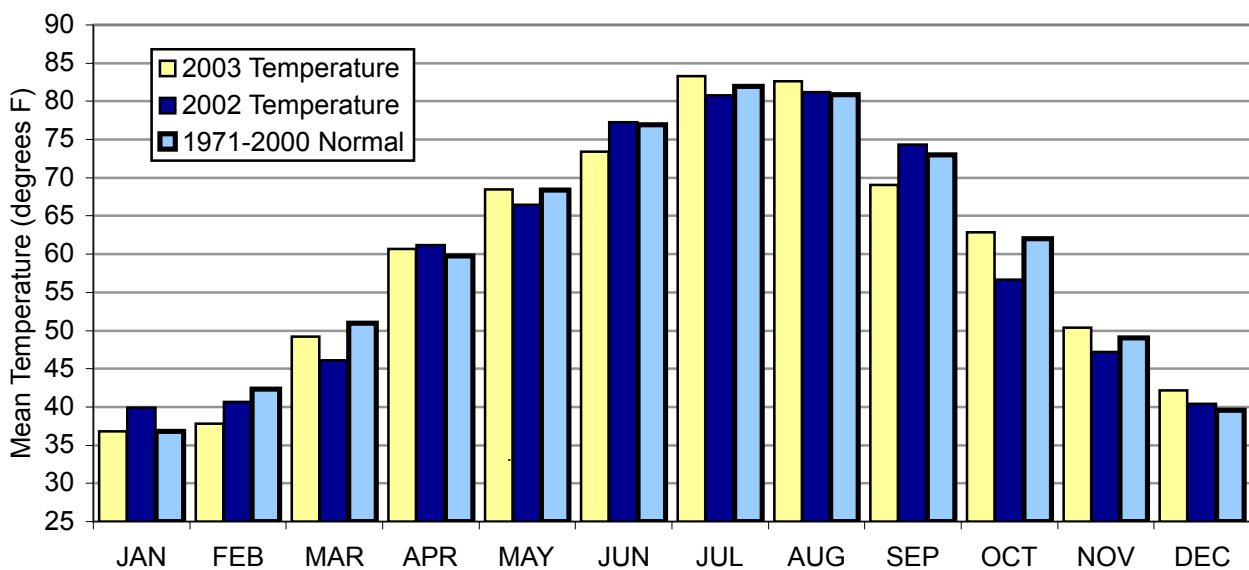
## 2002 and 2003 Statewide Precipitation Monthly Totals vs. Normal



## December 2003 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Dec-02 (F)
Panhandle	38.3	3.3	19th Warmest	41.6 (1933)	22.6 (1983)	35.3
North Central	39.2	2.7	29th Warmest	43.7 (1965)	21.9 (1983)	37.2
Northeast	41.3	3.1	24th Warmest	45.1 (1931)	24.3 (1983)	40.1
West Central	41.9	4.5	10th Warmest	44.2 (1965)	24.0 (1983)	38.1
Central	42.8	3.5	16th Warmest	46.4 (1965)	25.3 (1983)	41.4
East Central	43.3	2.7	27th Warmest	47.6 (1933)	27.4 (1983)	43.0
Southwest	44.0	4.2	7th Warmest	46.7 (1965)	27.5 (1983)	41.4
South Central	45.0	2.9	26th Warmest	48.5 (1965)	29.2 (1983)	42.9
Southeast	44.5	2.1	34th Warmest	50.7 (1984)	30.7 (1983)	42.7
Statewide	42.2	3.2	22nd Warmest	45.4 (1965)	25.8 (1983)	40.2

## 2002 and 2003 Statewide Temperature Monthly Averages vs. Normal





## Mesonet Extremes for December 2003

Climate Division	High Temp			Low Temp			High Monthly Rainfall		High Daily Rainfall		
	(F)	Day	Station	(F)	Day	Station	(inches)	Station	(inches)	Day	Station
Panhandle	77	21st	Arnett	4	29th	Kenton	0.40	Arnett	0.29	22nd	Arnett
North Central	72	8th	Woodward	3	14th	Cherokee	1.47	Blackwell	0.77	15th	Breckenridge
Northeast	67	15th	Porter	10	11th	Wynona	3.61	Vinita	0.90	22nd	Vinita
West Central	76	8th	Retrop	11	6th	Camargo	0.95	Watonga	0.58	14th	Watonga
Central	76	8th	Acme	14	6th	Chickasha	1.68	Stillwater	0.75	27th	Okemah
East Central	70	8th	Calvin	15	11th	Cookson	2.73	Westville	1.12	9th	Cookson
Southwest	78	8th	Tipton	11	6th	Mangum	0.65	Fort Cobb	0.43	12th	Fort Cobb
South Central	78	8th	Waurika	16	11th	Centrahoma	1.84	Tishomingo	1.13	27th	Tishomingo
Southeast	72	8th	Idabel	16	11th	Antlers	2.25	Mt Herman	0.77	22nd	Wister
Statewide	78	8th	Waurika	3	14th	Cherokee	3.61	Vinita	1.13	27th	Tishomingo

# 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.

## Temperature

Mean: 36.8 degrees  
Warmest December: 1923, 47.5 degrees  
Coolest December: 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

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.

## 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

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.

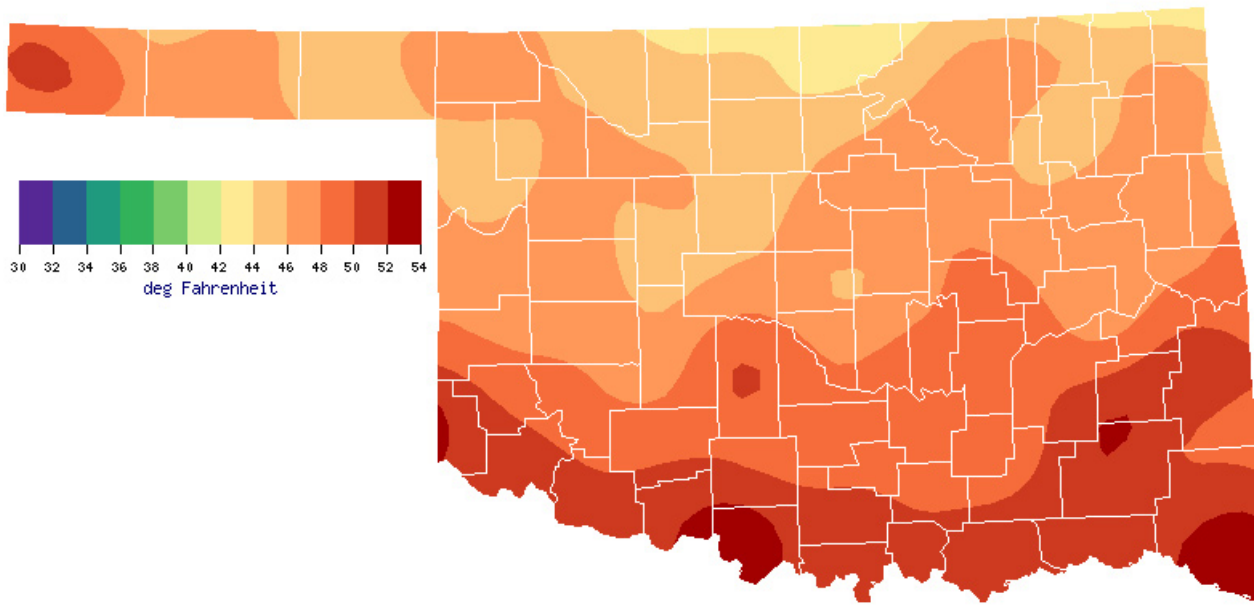
## Tornadoes

Average January Tornadoes: 0.2  
Most: 4 (1967)

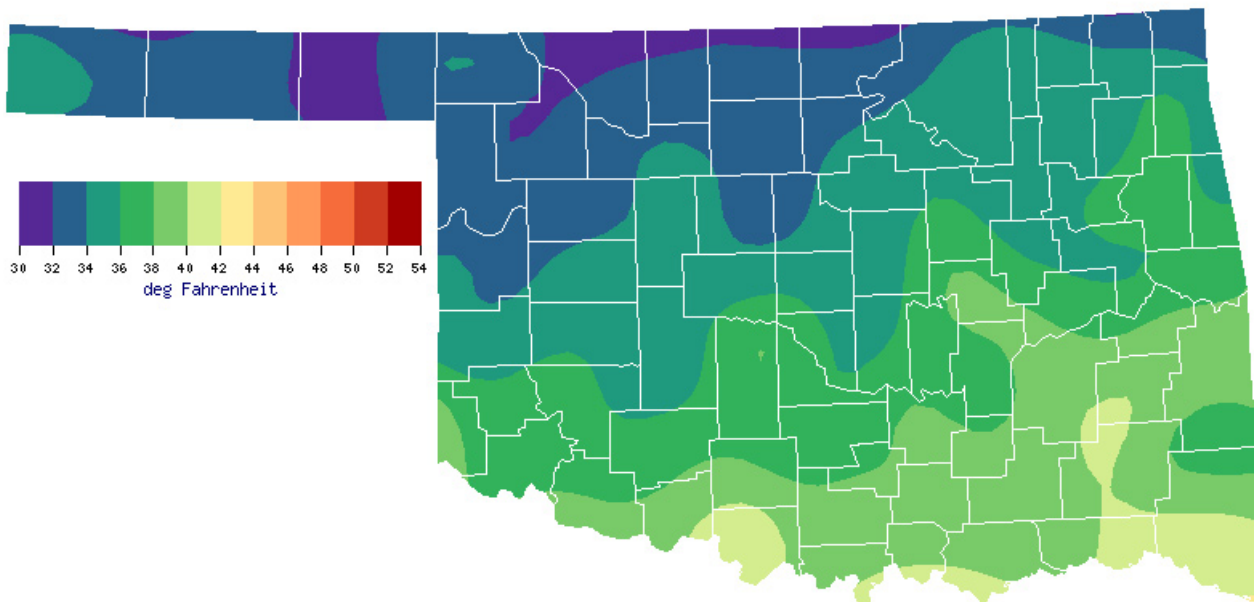
Snowfall records are not as reliable as those for temperature and total precipitation (which includes water obtained from melted snow), but the greatest January snowfalls appear to have been recorded in 1905, 1930, 1949, 1988, 1990, and 2001. Statewide information is somewhat sketchy regarding the 1905 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 16<sup>th</sup>.

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.

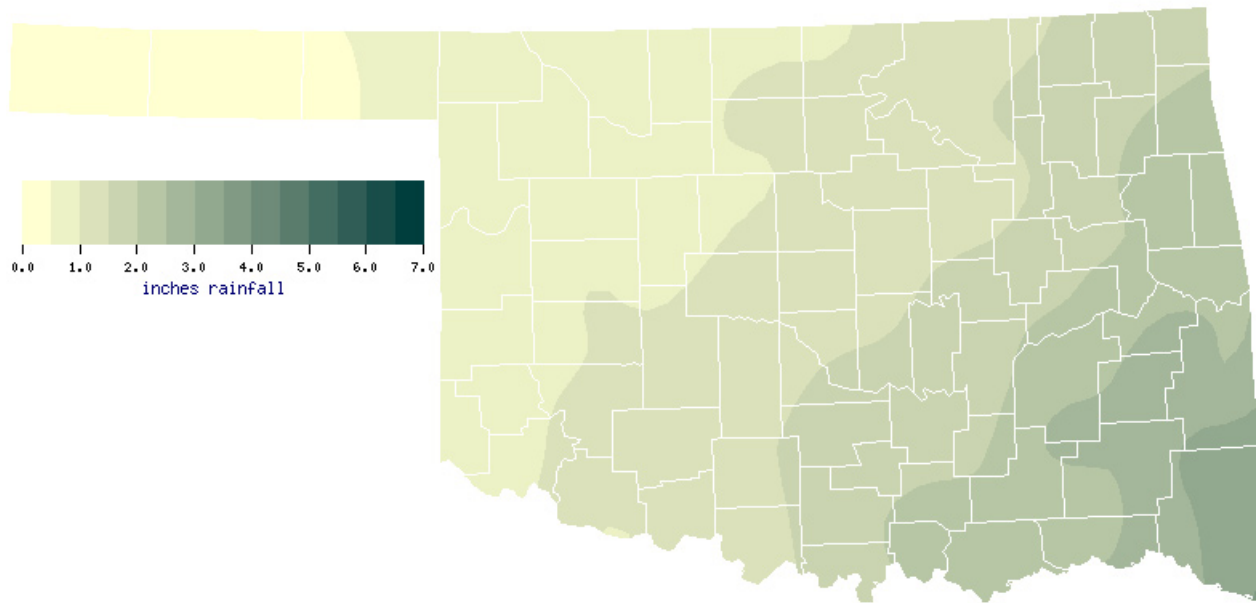
**January Normal Monthly Maximum Temperature (1971-2000)**



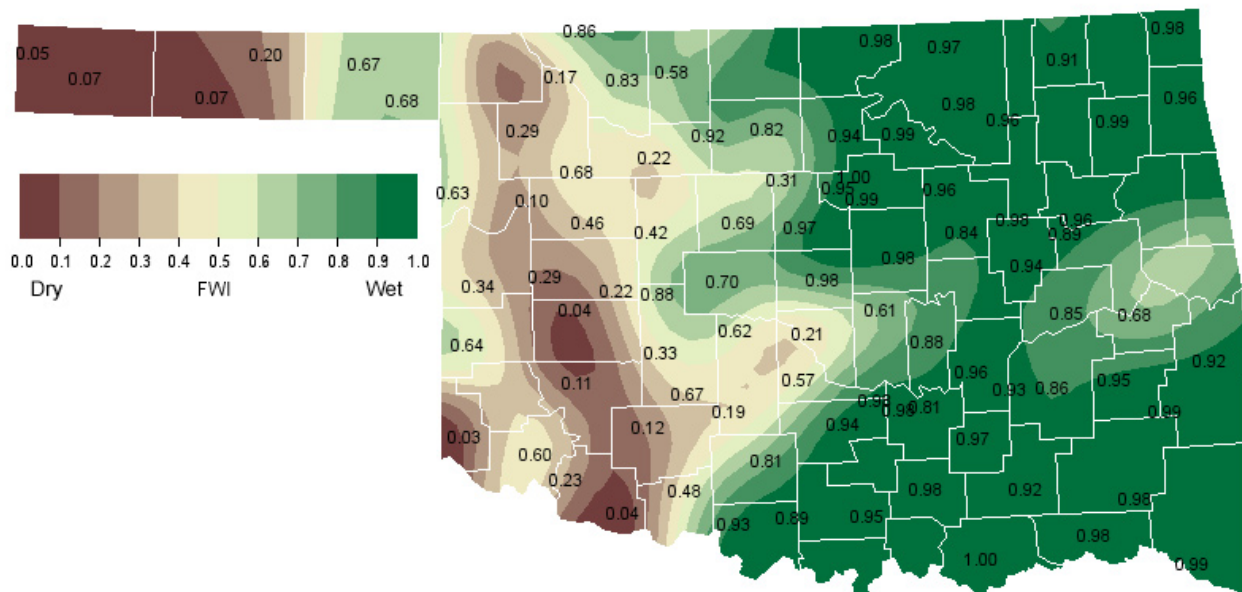
**January Normal Monthly Minimum Temperature (1971-2000)**



## January Normal Precipitation (1971-2000)



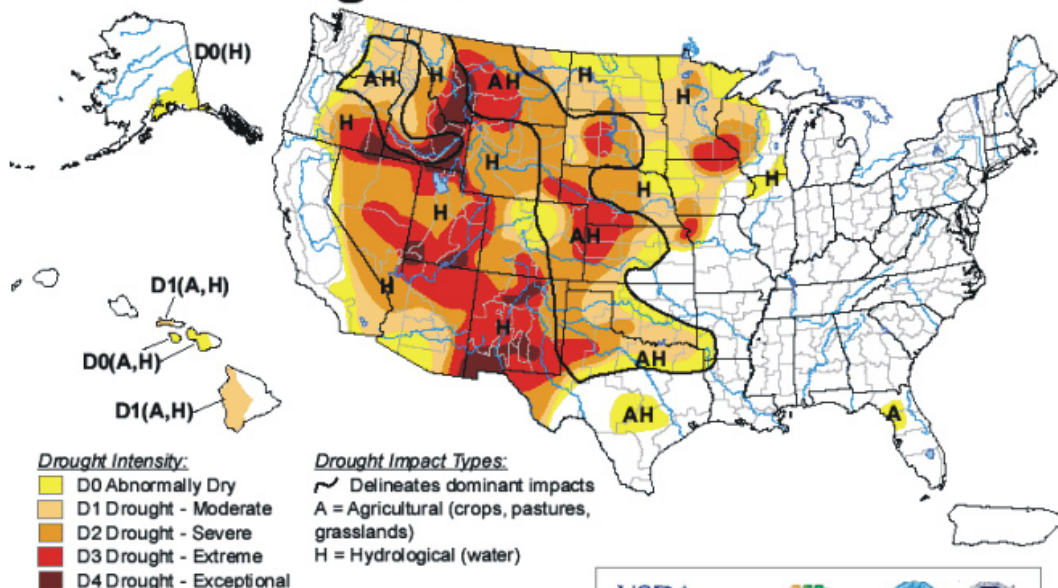
## January 1, 2004 Soil Moisture Conditions at 25cm





# U.S. Drought Monitor

December 30, 2003  
Valid 7 a.m. EST



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

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

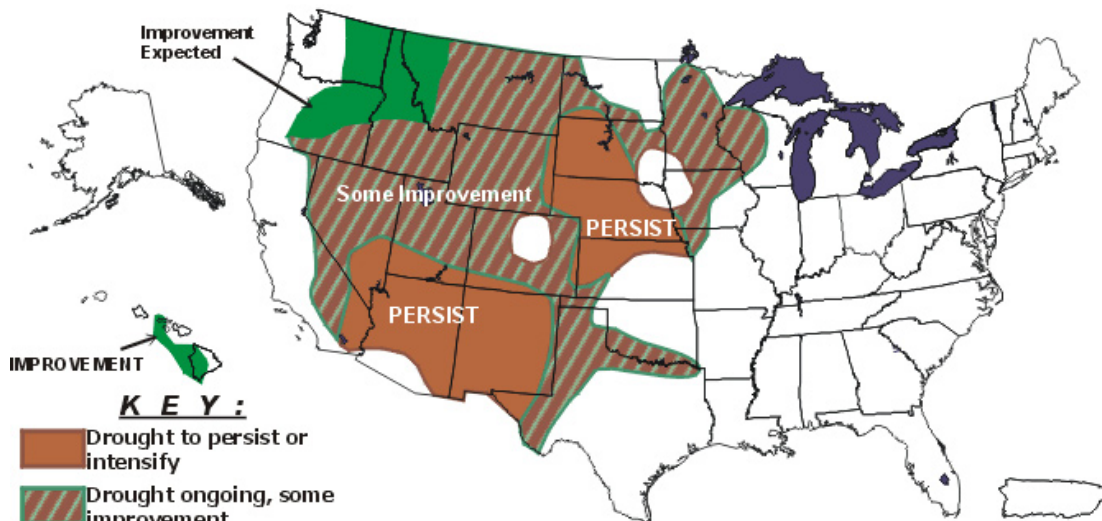


Released Wednesday, December 31, 2003  
Authors: Rich Tinker, NOAA/NWS/NCEP/CPC



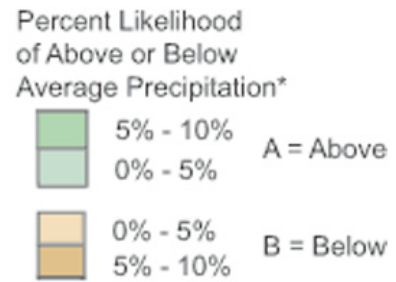
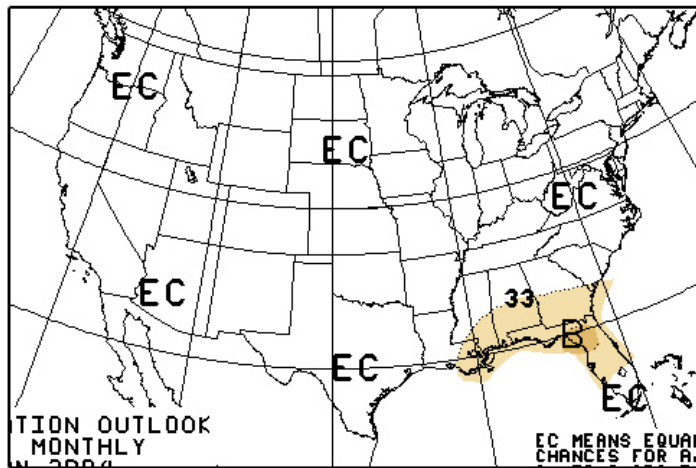
## U. S. Seasonal Drought Outlook

Through March 2004  
Released December 18, 2003



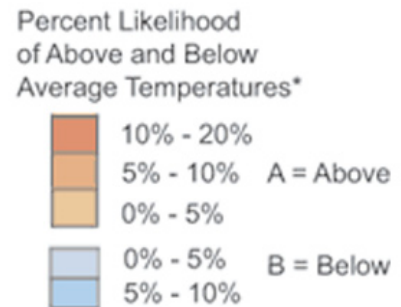
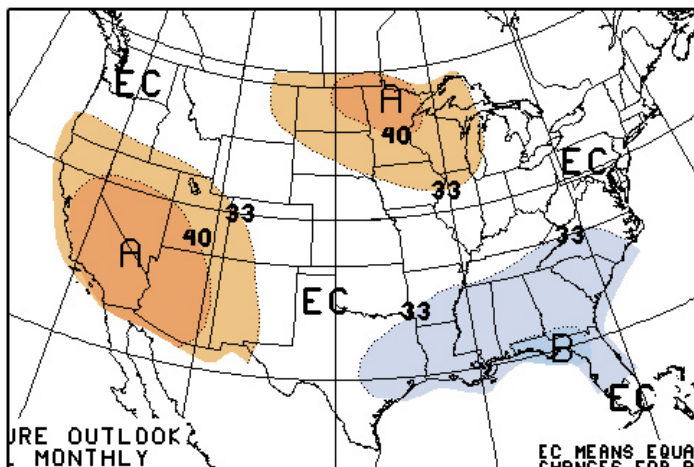
Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schematically approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text.

## January 2003 U.S. Precipitation Forecast



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

## January 2003 U.S. Temperature Forecast



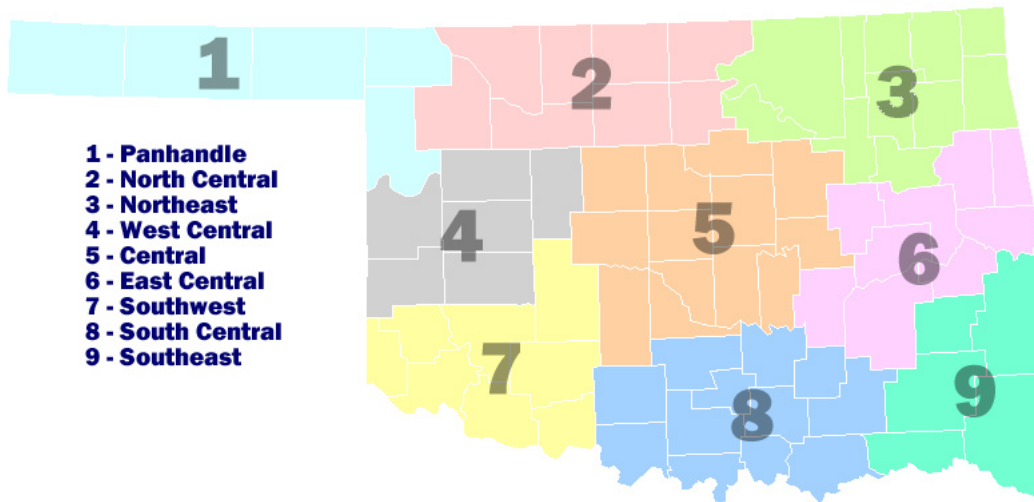
\*EC indicates no forecasted anomalies due to lack of model skill.



## 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](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](mailto:ocs@ou.edu)) or telephone (405/325-2541)



## **Oklahoma Climatological Survey**

Oklahoma Climatological Survey is the State  
Climate Office for Oklahoma

Dr. Ken C. Crawford, Director and State  
Climatologist

### **Editor**

Gary D. McManus, Climatologist

### **Contributors**

Gary D. McManus

Mark A. Shafer, Director of Climate  
Information

Derek S. Arndt, Assistant State Climatologist  
Howard Johnson, Associate State  
Climatologist (Ret.)

### **Design**

Stdrovia Blackburn, Visual Communications  
Specialist

### **For more information, contact:**

Oklahoma Climatological Survey  
The University of Oklahoma  
100 East Boyd Street, Suite 1210  
Norman, OK 73019-1012

tel: 405-325-2541

fax: 405-325-2550

e-mail: [ocs@ou.edu](mailto:ocs@ou.edu)

<http://www.ocs.ou.edu>