OKLAHOMA MONTHLY CLIMATE SUMMARY
NOVEMBER 2004

Oklahoma Climatological Survey

Overview

November was an exciting month, meteorologically speaking. In addition to becoming the 8th wettest November on record, the month also came complete with tornadoes, snowstorms, flooding rainfall, and enough gray skies to make Oklahomans wish they lived in sunny London. The rains came early and often, with enough warm, moist air from points south thrown in to generate a few robust bouts with severe weather. The six tornadoes which dropped from the sky on the 10th were the most in a single day since 14 struck the state on May 29th. Tornadoes are not unheard of this late in the year. The month has averaged nearly two tornadoes per year since 1950, although these twisters were the first in November since five struck the state in 1999. November's record for tornadoes stands at 12, which occurred in 1958. The state's first big snowfall occurred early in the morning on the 24th, with northwestern Oklahoma getting a nice layer of measurable snow – up to four inches in some isolated locales. The one thing the month's weather was bereft of was sunshine. The large storm systems which set up to the west of Oklahoma kept the state socked in much of the time. According to data from the Oklahoma Mesonet, only 35% of possible sunshine made it to the surface, the lowest such amount in the environmental network's eleven year history. While that made for a rather dreary month, the cloud cover also acted as a thermal blanket, and the month's low temperatures were often well above what is normally expected for November. That, along with several bouts of warm air from the Gulf of Mexico, helped the month finish well over a degree above normal.

Precipitation

While nearly the entire state received ample precipitation, the western and southeastern sections saw the greatest totals, on average. Statistically speaking, southwestern Oklahoma had the wettest November on record for that section of the state, at nearly 4.5 inches above normal. The Panhandle and west central regions were close behind with their 2nd wettest Novembers on record. The Panhandle was well over two inches above normal, on average, while the west central area was just over four inches greater than normal. Northeast and east central Oklahoma fared the worst, by region, although those areas still received enough precipitation to finish with the 28th and 18th wettest Novembers on record, respectively. The statewide-average, therefore, fared quite well at more than two inches above normal for the month. That surplus continues a trend for 2004, becoming the 8th month out of eleven thus far with above normal precipitation. The January-November statewide-averaged precipitation now exhibits a surplus of more than four inches, which is good enough for the 11th wettest such period on record. Nearly the entire state has a surplus for the year-to-date period, the exception being southeastern Oklahoma, which has a deficit of more than an inch. In contrast, west central has a surplus of more than eight inches, the 6th wettest such period on record for that section of the state.

November 2004 Statewide Extremes

Description	Extreme	Station	Date
High Temperature	84ºF	Foraker	November 6th
Low Temperature	4ºF	Boise City	November 30th
High Precipitation	9.50 in.	Cloudy	
Low Precipitation	2.35 in.	Kenton	

Temperature

The statewide-averaged temperature for November was over a degree above normal, but that only ranked the month as the 42nd warmest November since record-keeping began in 1892. Southeastern Oklahoma was nearly four degrees above normal, yet only ranked as the 23rd warmest November on record for that area. The Panhandle region was the lone area to finish colder than normal, its more than one degree shortfall ranked the month as the 35th coolest on record. For the year-to-date thus far, the statewide-averaged temperature still remains above normal, albeit by less than half of a degree. Still, that excess ranked the January-November period as the 36th warmest on record.

November Daily Highlights

November 1-3: Widespread showers and thunderstorms greeted the new month on the 1st. The rain was quite heavy in the eastern half of the state with the east central section experiencing amounts generally between two and three inches. The Wilburton Mesonet site recorded over three inches of rainfall, with Stigler and Tahlequah nearly matching that total. Flooding was reported in several locations due to the torrential downpours, while hailstones of one inch in diameter were reported in Cotton, Kiowa and Tillman counties with the storms in the southwestern section of the state. Hail to the size of golfballs fell in Tulsa and Creek counties on the 1st, along with 60 mph winds. Mostly cloudy skies were the norm throughout this cool, damp period. Light rain and drizzle seemed present consistently, with occasional bouts of heavier precipitation scattered across the area. The heavier precipitation shifted to the western half of the state on the 2nd and 3rd, with amounts between one-half and one inch being the norm on both days. Highs reached near 60 degrees in the southern portions of the state on both the 1st and 2nd, but the entire state cooled down to the 30s and 40s behind a strong cold front on the 3rd. Winds were from the north throughout the period.

November 4-9: Fair skies and light winds dominated this pleasant stretch of the month. Following the strong cold front on the 3rd, high pressure built into the area at the surface. After a cool beginning, the temperatures began to climb into the 60s and 70s statewide, and even reached 80 degrees at Walters on the 7th. With the light winds, and following the precipitation at the beginning of the month, fog was a frequent visitor in the early-morning hours. Cloud cover increased on the 9th as an upper level low approached from the west. Highs still climbed into the 60s and 70s, although the winds increased as well from the southeast at 10-20 mph.

November 10-12: Showers and storms returned overnight on the 10th in advance of the upper level disturbance near the Four Corners area. An approaching cold front on the 10th kicked up winds from the south overnight at 15-25 mph. That allowed temperatures to hover in the 40s and 50s for an unseasonably warm night. The moisture borne on those southerly winds fed severe storms which developed along the cold front. Severe thunderstorms formed in central Oklahoma, dropping six tornadoes, according to unofficial tallies. The storms spawned three weak tornadoes in northeastern Oklahoma County before traveling into Lincoln County, where three more twisters formed. Most of the tornadoes were weak, being rated F0 intensity, with the remaining two rated at F1. The longest-lived twister traveled on the ground for three miles north of Chandler. This F1 twister was on the ground for seven minutes. The majority of damage done by the tornadoes was to trees, power lines, and outbuildings, although three homes were heavily damaged northwest of Chandler. About 2200 people were left without power by the storms. In addition to the tornadoes, hail and high winds accompanied the storms, with several reports of hail to the size of quarters in central and northeastern Oklahoma. Once the cold front moved through overnight on the 11th, temperatures fell into the 30s and 40s, and the winds kicked up from the north, gusting at over 40 mph at times. Wind chills fell into the 20s and 30s during this time period. The high temperatures were actually in the morning on the 11th. Low clouds and patchy drizzle soured the 12th, although temperatures did remain above the freezing mark, in the upper 30s and low 40s. High temperatures rebounded that day into the upper 40s and low 50s.

November 13-18: This six-day period was marked by seasonable temperatures, gray skies, heavy rainfall, and very little sunshine. A large upper-level storm once again approached from the southwest on the 13th, generating showers in western sections, with widespread cloudiness elsewhere. The heaviest rainfall occurred on the 15th as a series of upper-level disturbances traveled outwards from the large upper-level storm. Rainfall amounts greater than two inches were common across the southwestern corner, but the entire state received precipitation. The remainder of the period saw plenty of fog and showers, with highs in the 50s and 60s being common, and very mild low temperatures in the 40s and 50s.

November 19-24: Skies finally cleared on the 19th, and highs in the 50s and 60s with light winds accompanied the sunshine. A weak cold front moved in overnight, however, becoming stationary across southern Oklahoma. Showers and thunderstorms formed along the front, with a few of the storms exceeding severe limits. Large hail was reported with the storms in Greer, Jackson, and Harmon counties. A couple of days with widespread drizzle and light rain passed when more severe storms struck on the 23rd in the south, embedded in a large area of moderate rain. A few instances of nickel-to-quarter sized hail were reported in Choctaw and Pushmataha counties, along with a report of a power pole downed by severe winds near Rattan in Pushmataha County. The upper-level storm that generated all the precipitation finally moved over and away from the state on the 24th, but not before providing northern Oklahoma with the state's first snowfall of the season. Several locations in the northwest reported snowfall of up to four inches, with other amounts commonly in the one-two inch range. The far-western Panhandle town of Keyes reported four inches on the ground early on the 24th.

November 25-30: Thanksgiving morning on the 25th saw the first freeze for most of the state, which prompted freeze warnings to be issued by the National Weather Service. Northwestern sections had already seen freezing temperatures, so they were excluded from the warning. Winds increased out of the southwest to 10-20 mph as the day wore on, however, and temperatures had rebounded into the 50s and 60s across the state, along with mostly sunny skies. The warmth lasted for yet another day, with high temperatures 10-15 degrees above normal on the 26th. Burneyville reached a toasty 75 degrees for the warmest temperature on that day. A strong cold front moved across the state on the 27th, bring cloudy skies and colder weather. Northwesterly winds gusting into the 40s dropped wind chills into the 20s and 30s. A strong storm system over the western United States streamed cloudiness over the state on the 28th, and winds increased from the south at 15-30 mph, with some gusts over 40 mph. Highs were near normal for the day in the 40s and 50s. Another strong cold front plunged into the state on the 29th, generating rain showers ahead of the front and snow showers behind. Harper, Woods, and Woodward counties reported one-three inches had fallen by nightfall, with another inch falling overnight into the 30th. The month ended fittingly, with gray skies, light rain, and drizzle over much of the state. Temperatures managed to rise into the 30s and 40s, but northerly winds at 10-20 mph dropped wind chill values into the teens and 20s across much of the area.

November 2004 Statewide Statistics

Temperature

	Average	Depart.	Rank (1892-2004)
Month (November)	49.8ºF	1.5ºF	42nd Warmest
Season-to-Date (Sep-Nov)	62.2ºF	1.6ºF	32nd Warmest
Year-to-Date (Jan-Nov)	61.9ºF	0.4ºF	36th Warmest

Precipitation

	Total	Depart.	Rank (1892-2004)
Month (November)	5.16 in.	2.34 in.	8th Wettest
Season-to-Date (Sep-Nov)	11.63 in.	1.62 in.	19th Wettest
Year-to-Date (Jan-Nov)	38.87 in.	4.20 in.	11th Wettest

Depart. = Departure from 30-year normal

November 2004 Severe Weather

Significant Tornadoes (F2 or greater)

No tornadoes of F2 strength or greater were reported in the state during November

Hail (2 inches in diameter or greater)

No hail greater than 2 inches in diameter was reported in the state during November

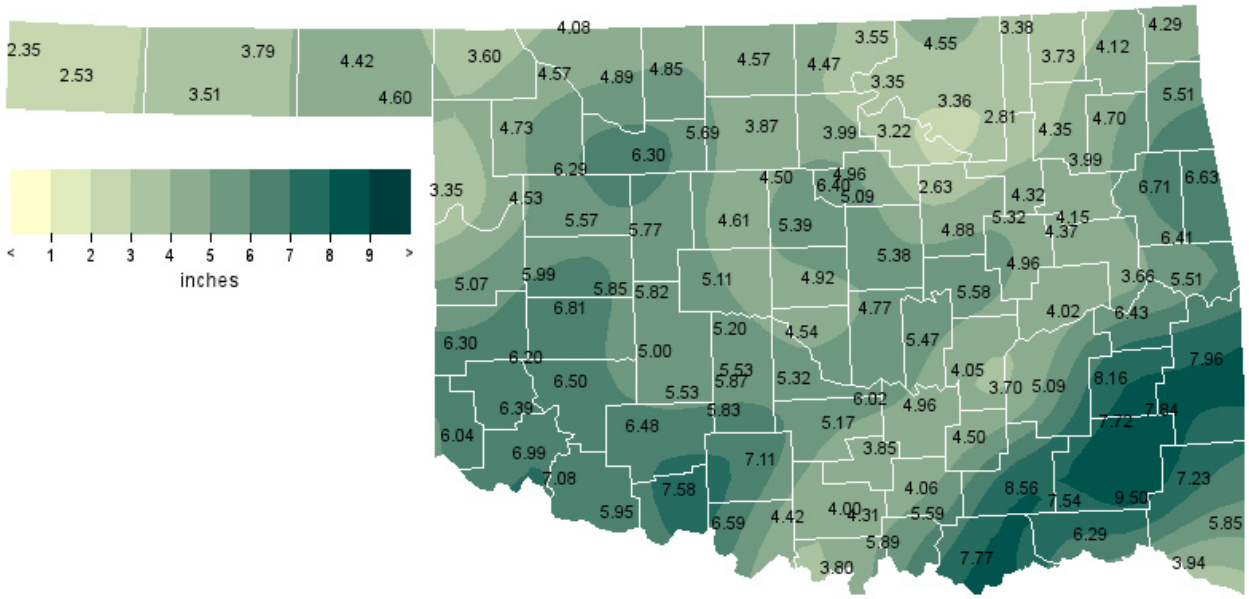
Wind Gusts (70 mph or greater)

No wind gusts greater than 70 mph were reported in the state during November

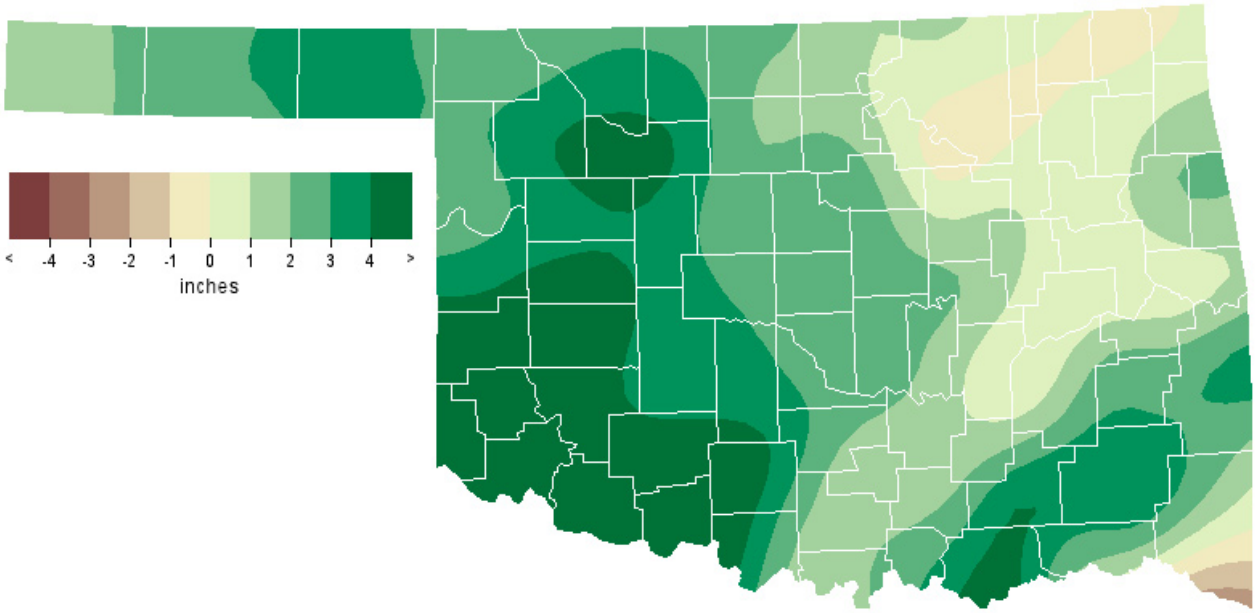
Flooding

Location	County	Date
2 E Wardville	Atoka	11/01/04
Tahlequah	Cherokee	11/01/04
Stigler	Haskell	11/01/04
Muskogee	Muskogee	11/01/04
McAlester	Pittsburg	11/01/04
5 W Haileyville	Pittsburg	11/01/04
8 E Wagoner	Cherokee	11/01/04
Stilwell	Adair	11/01/04
Pierce	McIntosh	11/01/04

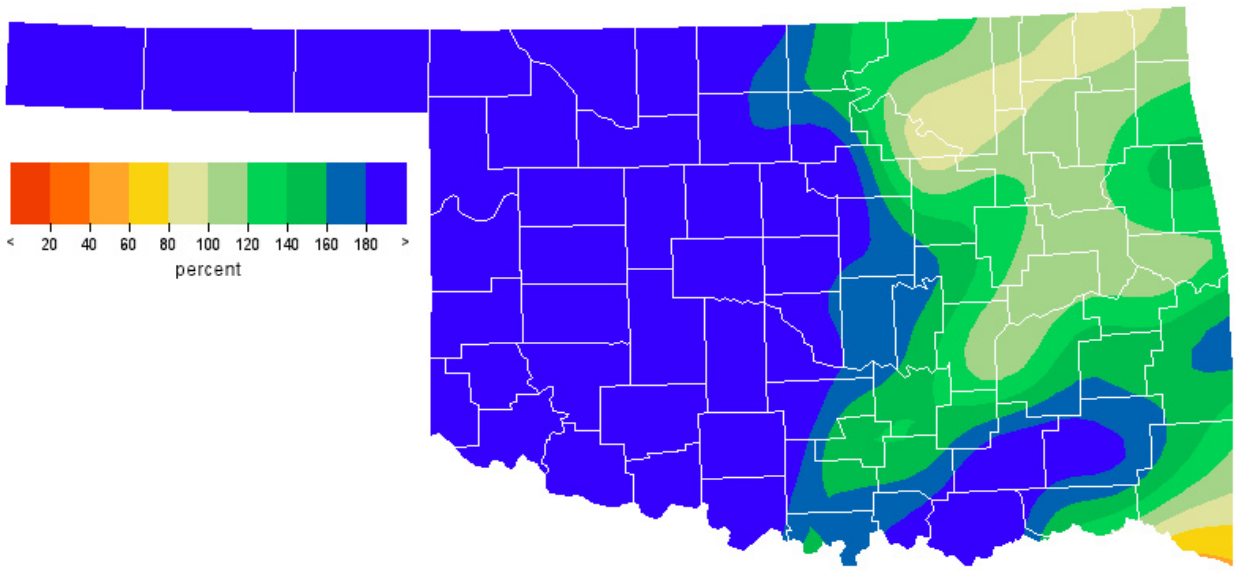
November 2004 Observed Precipitation



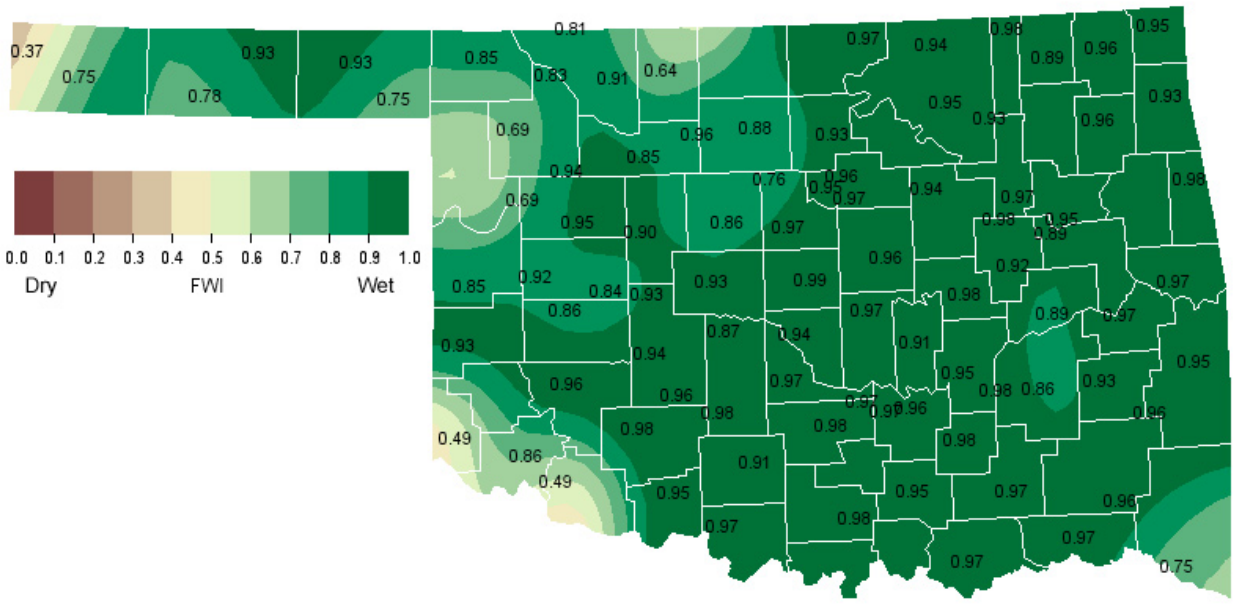
November 2004 Departure from Normal Precipitation



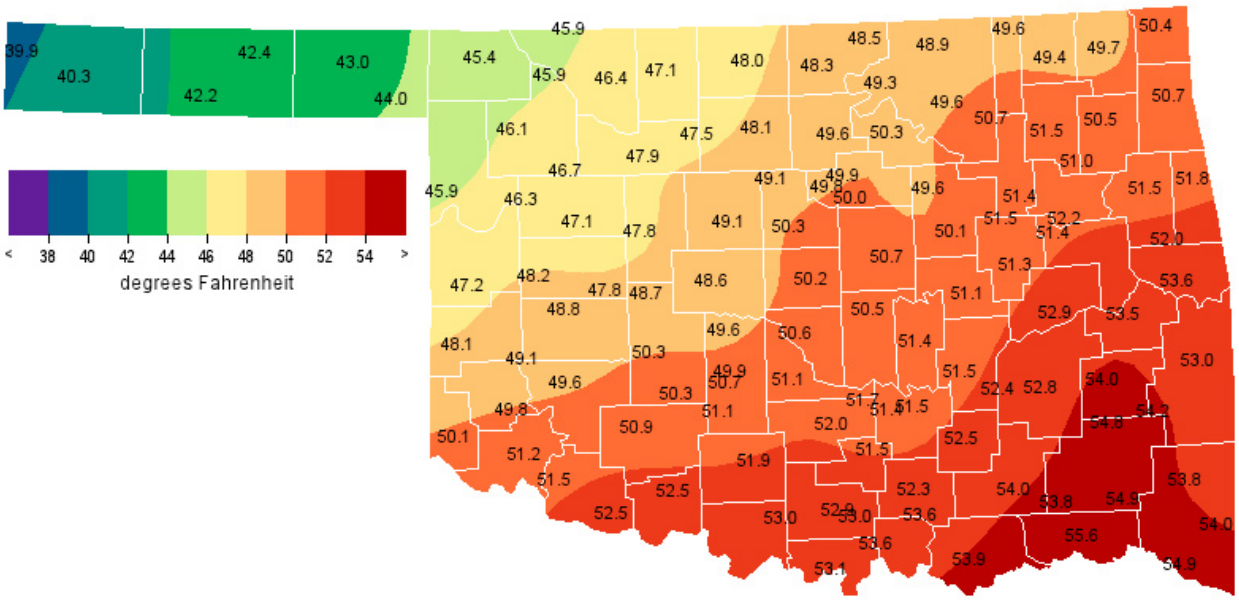
November 2004 Percent of Normal Precipitation



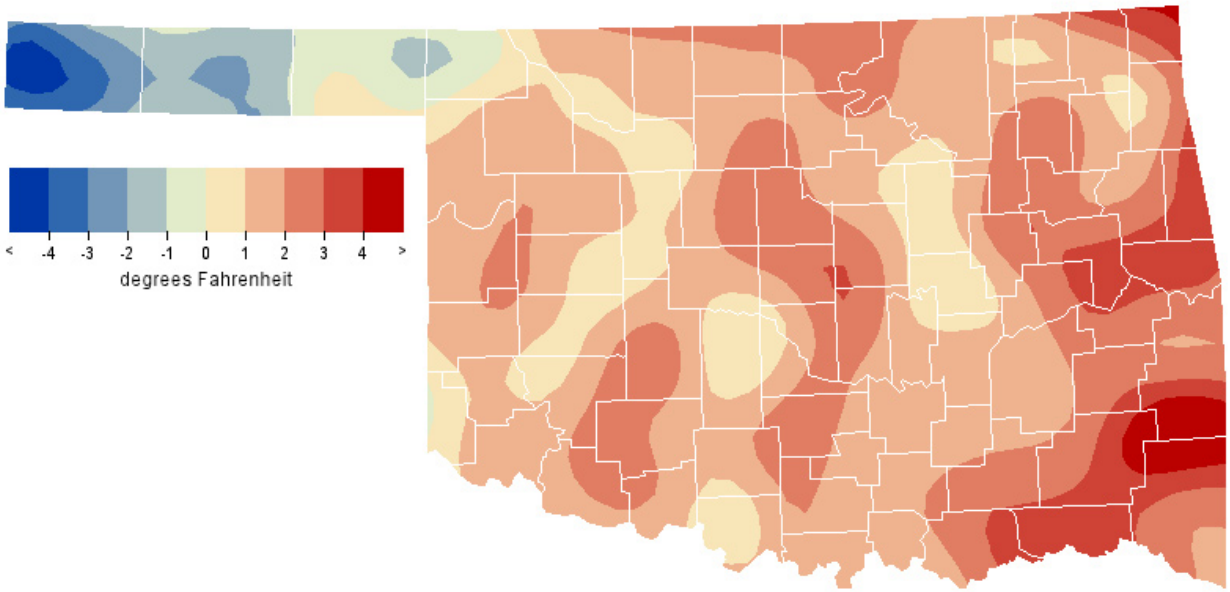
November 2004 Average Soil Moisture at 25cm



November 2004 Average Temperature



November 2004 Departure from Normal Temperature



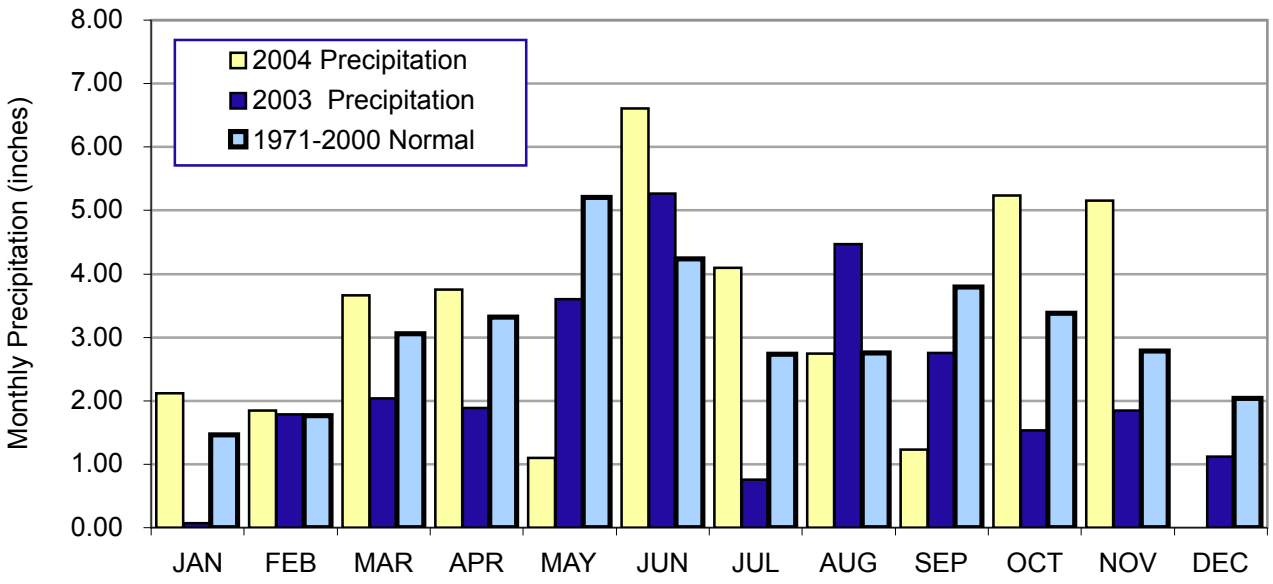
Mesonet Monthly Summary for November 2004

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	45.9	80	6	17	30	573	0	3.35	1.07	23
Beaver	43.1	78	6	9	30	657	0	4.42	1.28	1
Boise City	40.4	80	5	4	30	738	0	2.53	.66	23
Buffalo	45.3	80	6	14	30	590	0	3.60	.96	23
Goodwell	42.2	80	5	8	30	683	0	3.51	.94	20
Hooker	42.0	79	6	9	30	****	****	3.79	.87	20
Kenton	39.9	80	5	7	30	752	0	2.35	.57	9
Slapout	44.0	78	6	13	30	630	0	4.60	.91	1
NORTH CENTRAL										
Blackwell	48.3	79	7	25	30	501	0	4.47	1.27	10
Breckenridge	48.1	76	7	24	30	506	0	3.87	.75	10
Cherokee	47.1	77	6	25	30	536	0	4.85	1.09	10
Fairview	47.8	76	6	27	30	****	****	6.29	1.45	17
Freedom	45.8	80	6	18	30	576	0	4.57	1.30	23
Lahoma	47.5	75	6	24	30	525	0	5.69	1.36	17
May Ranch	45.8	81	6	21	30	575	0	4.08	.96	10
Medford	48.1	76	7	27	30	507	0	4.57	1.06	10
Newkirk	48.5	79	6	26	30	494	0	3.55	1.01	10
Red Rock	49.6	80	7	23	30	463	0	3.99	.74	3
Seiling	46.7	79	6	22	30	550	0	6.29	1.25	17
Woodward	46.1	81	6	18	30	566	0	4.73	1.12	23
Alva	46.7	81	6	24	30	****	****	4.50	1.16	17
NORTHEAST										
Bixby	51.4	78	7	25	30	407	0	4.32	1.12	21
Burbank	49.2	81	7	24	30	473	0	3.16	.92	10
Copan	49.4	83	6	25	30	****	****	3.38	.78	3
Foraker	48.9	84	6	23	30	483	0	4.55	1.11	10
Jay	50.6	79	6	25	30	432	0	5.51	1.13	10
Miami	50.4	75	6	27	25	438	0	4.29	.92	1
Nowata	49.3	78	6	25	30	****	****	3.73	.90	23
Pawnee	50.3	81	6	26	30	441	0	3.22	.68	3
Pryor	50.4	76	7	26	30	437	0	4.70	.83	29
Skiatook	50.7	80	6	27	30	430	0	2.81	.72	3
Vinita	49.7	77	6	24	30	458	0	4.12	.87	10
Wynona	49.7	81	6	25	30	458	0	3.36	.86	3
Porter	52.3	79	7	28	30	382	0	4.15	.73	21
Inola	51.0	78	7	24	30	420	0	3.99	.65	10
Claremore	51.5	80	7	28	30	406	0	4.35	.80	29
WEST CENTRAL										
Bessie	48.8	74	6	25	30	487	0	6.81	1.42	3
Butler	48.2	78	6	22	30	503	0	5.99	1.48	20
Camargo	46.3	78	6	21	30	562	0	4.53	.86	23
Cheyenne	47.2	79	6	20	30	535	0	5.07	.84	3
Erick	48.1	80	6	22	30	506	0	6.30	1.16	20
Putnam	47.0	78	6	23	30	539	0	5.57	1.12	17
Retrop	49.1	74	6	25	30	478	0	6.20	1.74	15
Watonga	47.8	77	6	27	30	516	0	5.77	1.53	17
Weatherford	47.9	71	6	26	30	514	0	5.85	1.54	17
CENTRAL										
Bowlegs	51.3	79	7	26	30	410	0	5.47	1.56	17
Bristow	50.1	77	6	23	30	447	0	4.88	1.57	21
Chandler	50.7	79	7	26	30	430	0	5.38	1.25	17
Chickasha	49.9	76	7	25	30	453	0	5.53	1.20	15
El Reno	48.5	76	6	21	30	494	0	5.11	1.24	17
Guthrie	50.4	76	6	27	30	439	0	5.39	1.04	3
Kingfisher	48.9	74	6	23	30	****	****	4.61	1.13	17
Marena	49.6	77	7	25	30	****	****	6.40	1.74	1
Minco	49.5	73	7	27	30	****	****	5.20	1.12	15
Oilton	49.6	79	6	21	30	463	0	2.63	.70	3
Okemah	51.1	78	7	25	30	416	0	5.58	.95	3
Perkins	50.0	76	6	27	30	451	0	5.09	.91	10
Shawnee	50.4	77	7	27	30	437	0	4.77	1.36	17
Spencer	50.2	77	7	27	30	443	0	4.29	.82	15
Stillwater	49.9	77	7	23	30	453	0	4.96	1.03	1
Washington	51.0	78	7	28	30	420	0	5.32	1.07	17
Ninnekah	50.6	76	7	26	30	431	0	5.87	1.27	15
Acme	51.1	78	7	27	30	416	0	5.83	1.19	15
Norman	50.5	77	7	27	30	435	0	3.67	.93	15
Marshall	49.2	76	7	25	30	475	0	4.50	1.09	17
EAST CENTRAL										
Calvin	51.5	77	6	25	30	404	0	4.05	1.05	17
Cookson	52.0	82	7	24	30	391	0	6.41	2.23	1
Eufaula	52.9	76	7	29	30	363	0	4.02	1.25	1
Haskell	51.4	76	7	27	30	408	0	4.37	.90	21
McAlester	52.7	78	7	26	30	369	0	5.09	2.04	1
Okmulgee	51.3	77	6	25	30	411	0	4.96	.91	10
Sallisaw	53.5	79	7	27	30	****	****	5.51	1.83	1
Stigler	53.4	82	7	28	30	347	0	6.43	2.88	1
Stuart	52.4	78	7	28	30	378	0	3.70	.80	17
Tahlequah	51.5	81	7	25	25	405	0	6.71	2.88	1
Webbers Falls	53.2	81	7	27	30	****	****	3.65	1.94	1
Westville	51.7	78	7	25	25	398	0	6.63	2.66	1
Hectorville	51.5	77	7	28	30	406	0	5.32	2.19	21
SOUTHWEST										
Altus	51.1	77	6	29	30	418	0	6.99	2.67	15
Fort Cobb	50.3	75	6	26	30	442	0	5.00	1.54	15
Hinton	48.7	74	6	28	30	490	0	5.82	1.50	17
Hobart	49.6	72	7	27	30	461	0	6.50	2.32	15
Hollis	50.2	78	7	25	30	445	0	6.04	2.11	15
Mangum	49.8	76	7	25	30	456	0	6.39	2.28	15
Medicine Park	50.9	76	7	28	30	424	0	6.48	1.79	15
Tipton	51.5	78	6	29	4	406	0	7.08	2.58	15
Walters	52.4	80	7	30	30	377	0	7.58	1.85	2
Apache	50.3	73	7	29	30	441	0	5.53	1.59	15
Grandfield	52.5	76	6	31	30	376	0	5.95	1.65	15
SOUTH CENTRAL										
Ada	51.5	77	7	26	30	406	0	4.96	1.49	17
Burneyville	53.1	80	6	27	25	356	0	3.80	1.18	17
Byars	51.6	77	7	30	30	401	0	6.02	1.41	20
Centrahoma	52.6	79	7	24	30	373	0	4.50	1.71	17
Durant	54.0	78	6	29	30	330	0	7.77	1.55	29
Ketchum Ranch	51.9	80	7	29	30	393	0	7.11	1.29	15
Lane	54.0	79	7	27	30	331	0	8.56	2.62	1
Madill	53.6	80	6	29	25	343	0	5.89	2.03	17
Pauls Valley	51.9	78	7	28	30	392	0	5.17	1.03	17
Ringling	53.2	79	7	29	30	****	****	4.23	.92	17
Sulphur	51.5	79	7	24	30	404	0	3.85	1.72	17
Tishomingo	52.3	79	6	25	30	381	0	4.06	1.48	17
Waurika	*****	***	***	***	***	****	****	6.59	1.35	2
Vanoss	51.9	78	7	27	25	****	****	*****	*****	***
Bee	53.8	79	7	29	30	****	****	5.59	1.58	17
Newport	52.9	79	7	30	30	****	****	4.00	1.43	17
Ardmore	53.0	78	7	30	30	359	0	4.31	1.95	17
SOUTHEAST										
Antlers	53.8	81	7	25	30	335	0	7.54	1.96	29
Clayton	54.7	80	7	28	30	309	0	7.72	1.77	23
Cloudy	55.0	81	7	29	30	****	****	9.50	1.82	23
Hugo	55.5	78	7	31	30	284	0	6.29	1.85	23
Idabel	54.9	83	7	27	25	303	1	3.94	1.22	23
Mt Herman	53.8	81	7	27	30	337	0	7.23	2.10	23
Talihina	54.2	83	7	26	30	324	0	7.84	2.10	29
Wilburton	54.1	80	7	26	30	328	0	8.16	3.12	1
Wister	52.9	83	7	27	30	363	0	7.96	2.03	29
Broken Bow	53.9	79	7	26	30	332	0	5.85	1.67	23

November 2004 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Nov-03
Panhandle	3.52	2.48	2nd Wettest	4.07 (1909)	0.00 (1897)	0.54
North Central	4.76	2.68	5th Wettest	6.48 (1964)	0.00 (1910)	0.61
Northeast	3.99	0.37	28th Wettest	7.37 (1994)	0.00 (1904)	2.50
West Central	5.79	4.06	2nd Wettest	6.62 (1964)	0.00 (1897)	0.40
Central	5.10	2.29	8th Wettest	6.88 (1931)	0.00 (1910)	1.27
East Central	5.14	0.84	18th Wettest	10.16 (1996)	0.20 (1914)	3.63
Southwest	6.31	4.58	1st Wettest	5.73 (1992)	0.00 (1897)	1.08
South Central	5.41	2.31	10th Wettest	7.62 (1902)	0.00 (1903)	3.03
Southeast	7.20	2.13	10th Wettest	13.16 (1946)	0.00 (1903)	5.32
Statewide	5.16	2.34	8th Wettest	5.72 (1909)	0.14 (1910)	1.99

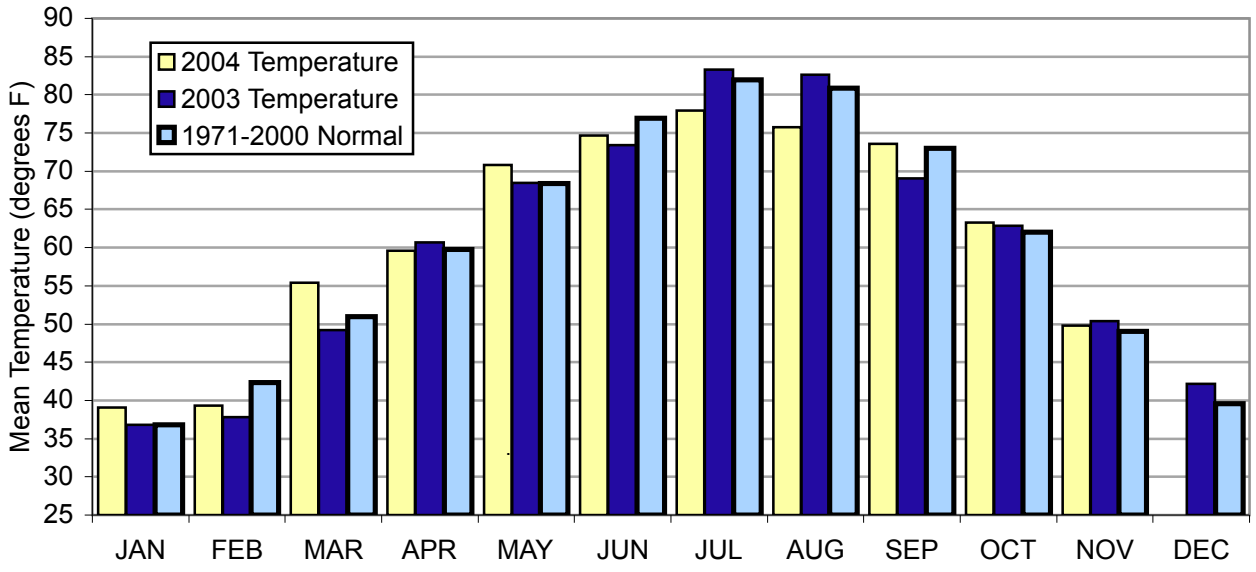
2003 and 2004 Statewide Precipitation Monthly Totals vs. Normal



November 2004 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Nov-03 (F)
Panhandle	42.9	-1.1	35th Coolest	51.4 (1999)	36.0 (1929)	44.8
North Central	47.4	1.1	50th Warmest	54.5 (1999)	39.0 (1929)	46.5
Northeast	50.3	2.3	28th Warmest	56.4 (1999)	40.9 (1929)	50.0
West Central	47.8	1.0	52nd Warmest	54.7 (1999)	39.7 (1929)	47.3
Central	50.2	1.4	44th Warmest	56.8 (1999)	41.3 (1929)	50.3
East Central	52.2	2.3	28th Warmest	57.8 (1999)	43.4 (1929)	53.2
Southwest	50.7	1.5	43rd Warmest	56.3 (1999)	42.1 (1929)	50.9
South Central	52.6	1.6	41st Warmest	58.3 (1927)	44.1 (1929)	53.6
Southeast	54.3	3.6	23rd Warmest	58.9 (1909)	44.1 (1976)	54.4
Statewide	49.8	1.5	42nd Warmest	56.0 (1999)	41.3 (1929)	50.1

2003 and 2004 Statewide Temperature Monthly Averages vs. Normal



Mesonet Extremes for November 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	80	5th	Boise City	4	30th	Boise City	4.60	Slapout	1.28	1st	Beaver
North Central	81	6th	May Ranch	18	30th	Woodward	6.30	Fairview	1.45	17th	Fairview
Northeast	84	6th	Foraker	23	30th	Foraker	5.51	Jay	1.13	10th	Jay
West Central	80	6th	Erick	20	30th	Cheyenne	6.81	Bessie	1.74	15th	Retrop
Central	79	6th	Oilton	21	30th	Oilton	6.40	Marena	1.74	1st	Marena
East Central	82	7th	Stigler	24	30th	Cookson	6.71	Tahlequah	2.88	1st	Stigler
Southwest	80	7th	Walters	25	30th	Mangum	7.58	Walters	2.67	15th	Altus
South Central	80	6th	Burneyville	24	30th	Sulphur	8.56	Lane	2.62	1st	Lane
Southeast	83	7th	Idabel	25	30th	Antlers	9.50	Cloudy	3.12	1st	Wilburton
Statewide	84	6th	Foraker	4	30th	Boise City	9.50	Cloudy	3.12	1st	Wilburton

December Climatological Outlook

NORMAN - The winter month of December is Oklahoma's second coldest and third driest month. Overnight freezes are the rule, particularly in northern portions of the state, and winter storms often provide the state with snow and ice that create more havoc than the precipitation totals they provide are worth.

The statewide-averaged monthly mean temperature in December is 39.6 degrees. The range of mean temperature from south-to-north is greater than 10 degrees Fahrenheit, ranging from 44.2 degrees at Waurika to 33.5 degrees at Turpin. Since 1892, the historical range of December statewide-averaged mean temperature is from a low of 25.8 degrees in 1983 to a high of 45.4 degrees, achieved in 1965. Normal daily maximum temperatures for the month range from 45.2 degrees at Newkirk to 56.0 degrees at Waurika. Normals of daily minimum temperatures vary from 19.7 degrees at Beaver to 33.9 degrees at Okemah. The state's recorded December temperature extremes are 92 degrees at Ardmore on December 30, 1951 and 18 degrees below zero (-18) at Perry on December 22, 1989.

Temperature
Mean: 39.6 degrees
Warmest December: 1933 and 1965, 46.5 degrees
Coolest December: 1983, 26.5 degrees
Warmest location: Waurika, 44.2 degrees
Coolest location: Turpin, 33.5 degrees
Hottest recorded: 92 degrees, Ardmore, December 30, 1951
Coldest recorded: -19 degrees, Goodwell, December 12, 1932

December precipitation, including rain and melted snow or sleet, when averaged statewide, accumulates only to a depth of 2.04 inches. The historical range of statewide-averaged monthly precipitation is from 0.10 inch in 1950 to 4.98 inches in 1984.The range of normal precipitation, increasing from the northwest to the southeast, is from 0.34 inch at Goodwell to 5.19 inches at Smithville. The extreme southeastern corner of the state received a record-breaking soaking in December 1971, exemplified by the 18.13 inches recorded at Bear Mountain Tower in Western McCurtain County, which established the state record for December precipitation at a given station. The state record for daily precipitation during December (11.34 inches) was established at the same location on December 10, 1971.

Snow is common in the northwestern portions of the state by late December. Boise City averages 6.1 inches of snow per December. Stations in the far southern portions of the state generally average less than one-half inch of snow during December. Records for snowfall extremes were set at Beaver. That panhandle city, while en route to a state-record seasonal snowfall of 87 inches, received 35 inches of snow in December 1911, including 22 inches reported on the 19th. From 1911 forward, sufficient snow has been on the ground on Christmas morning for large portions of the state to declare a "White Christmas" in seventeen different years. Most snowy Christmases have occurred in the state's northwestern half, but other areas of the state have also been affected from time-to-time.

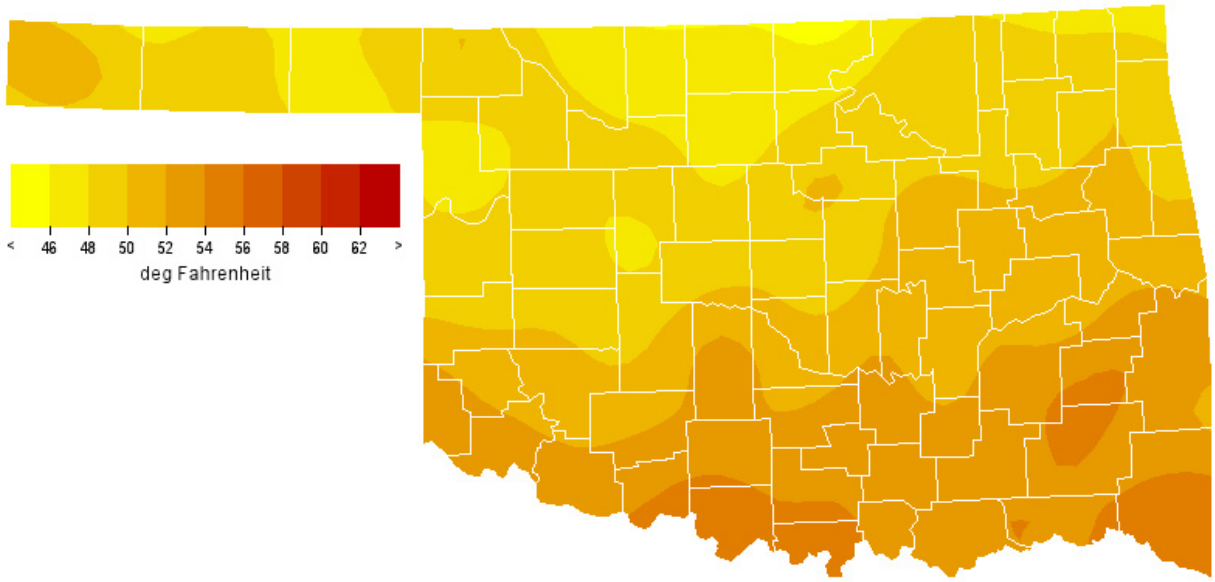
Precipitation
Mean: 2.04 inches
Wettest year: 1984, 4.98 inches
Driest year: 1980, 0.07 inches
Wettest location: Smithville, 5.19 inches
Driest location: Goodwell, 0.34 inches
Most recorded: 18.13 inches, Bear Mountain Tower, 1971

An unfortunate by-product of developing winter storms is the presence of sleet or freezing rain. Major ice storms spread across much of the state, beginning on Christmas Day in 1987 and, again, in 2000. Those two storms left 114,000 and 175,000 customers, respectively, without power for several days. A similar storm in mid-December 1937 left extensive damage to power and telephone lines in central and northern Oklahoma. For many late December travelers, the winter storms that seem inevitable during the week between Christmas and New Year's Day sometimes appear to have become something of an Oklahoma tradition. Other major ice storms struck Oklahoma during the Decembers of 1897, 1916, 1924, 1969, 1972, and 1998.

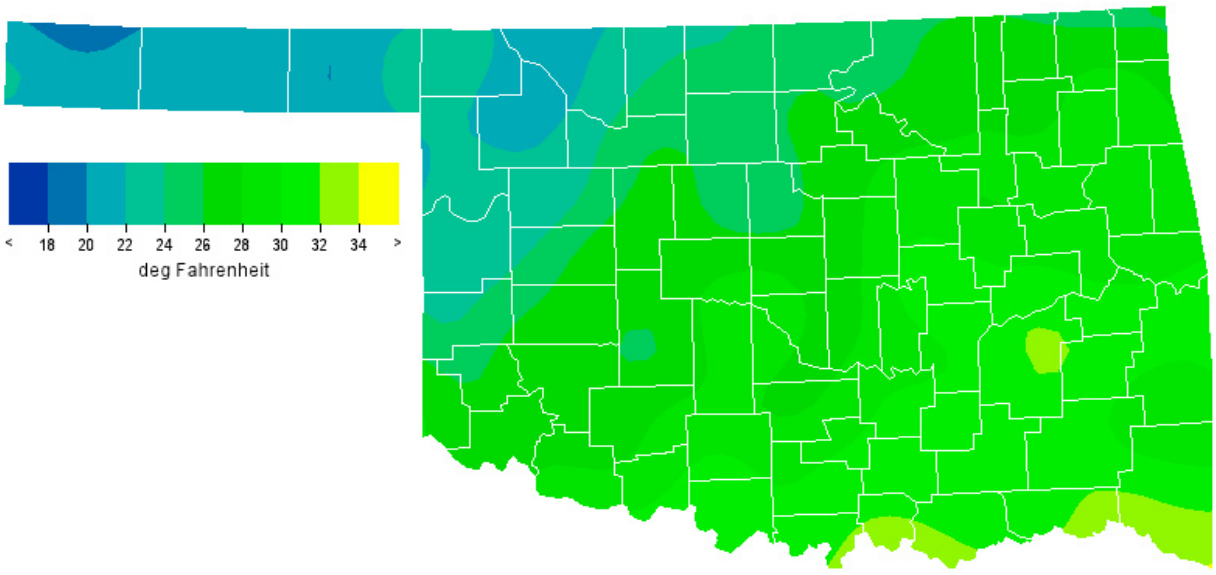
Tornadoes are not a regular December feature. Only 22, occurring in seven different years, are included in the comprehensive database that begins in 1950. Four tornadoes were reported in Oklahoma during each of 1971, 1975, and 1982.

Tornadoes
Average December Tornadoes: 0.4
Most: 4 (1982)

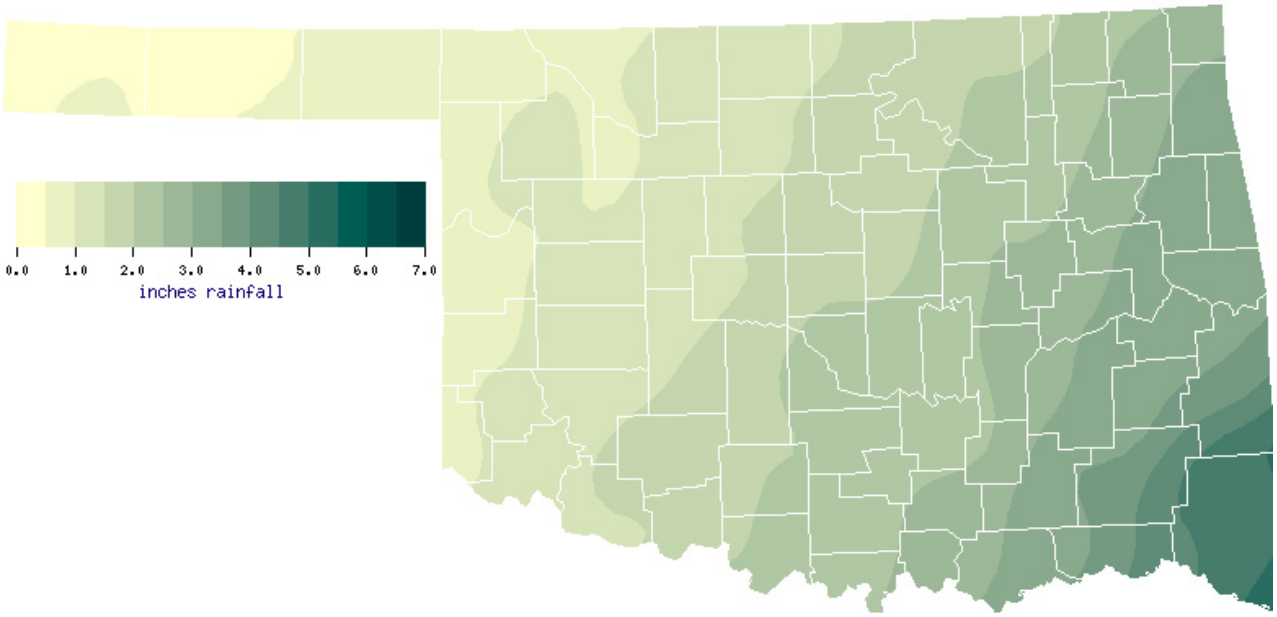
December Normal Monthly Maximum Temperature (1971-2000)



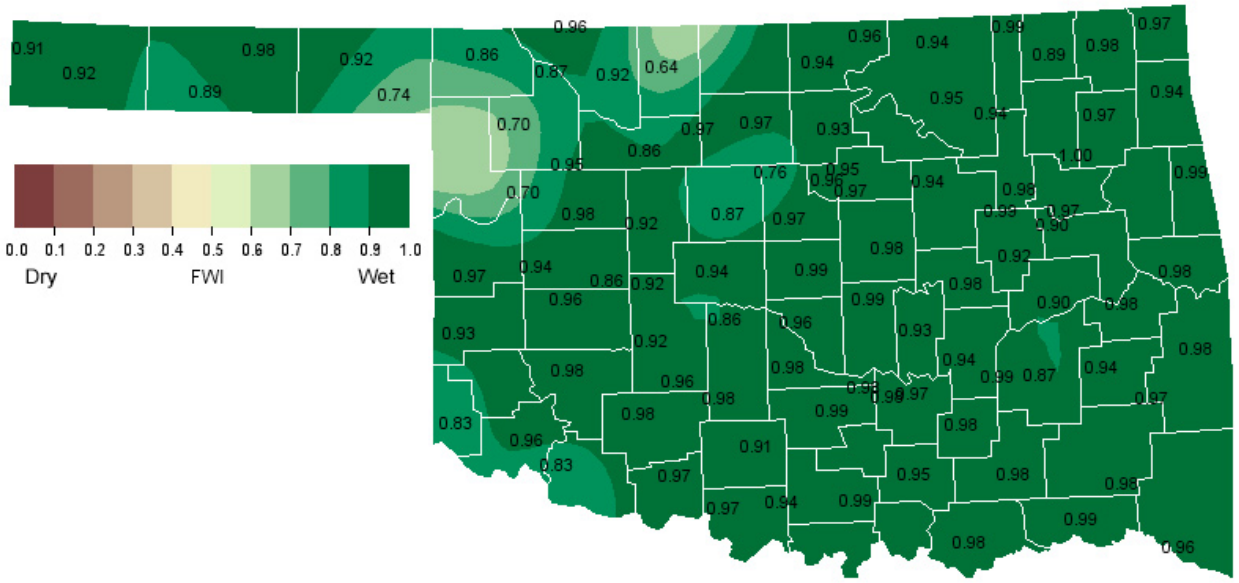
December Normal Monthly Minimum Temperature (1971-2000)



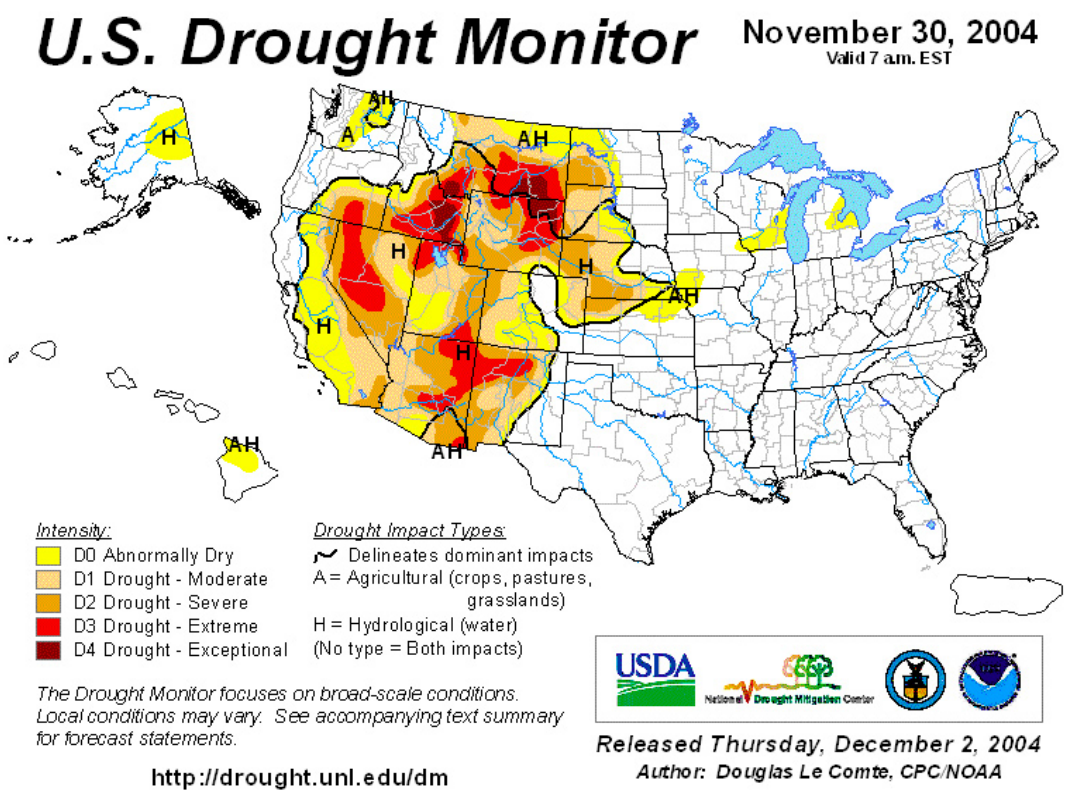
December Normal Precipitation (1971-2000)

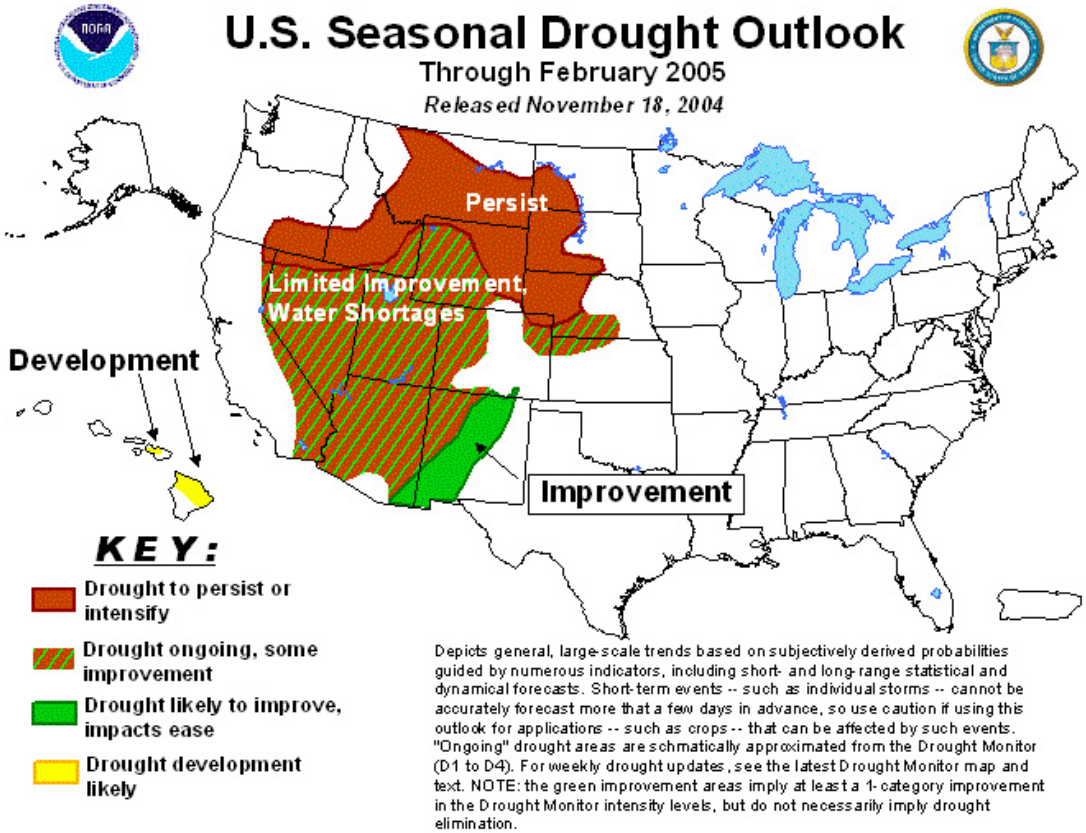


December 1, 2004 Soil Moisture Conditions at 25cm

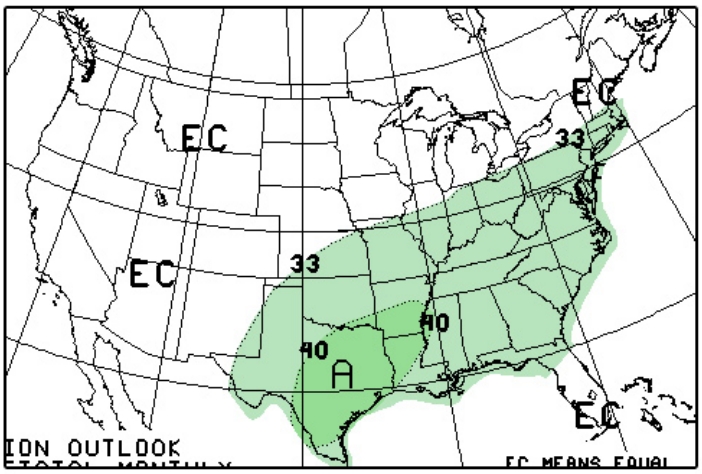


December 2004 Drought Indices





December 2004 U.S. Precipitation Forecast



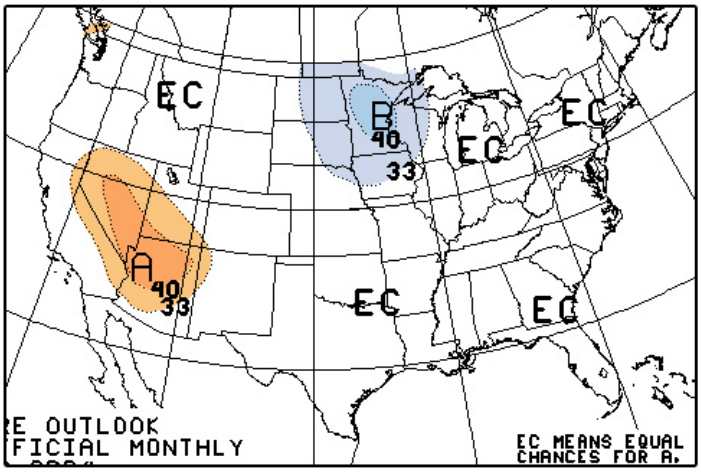
Percent Likelihood of Above or Below Average Precipitation*

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

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

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

December 2004 U.S. Temperature Forecast



Percent Likelihood of Above and Below Average Temperatures*

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

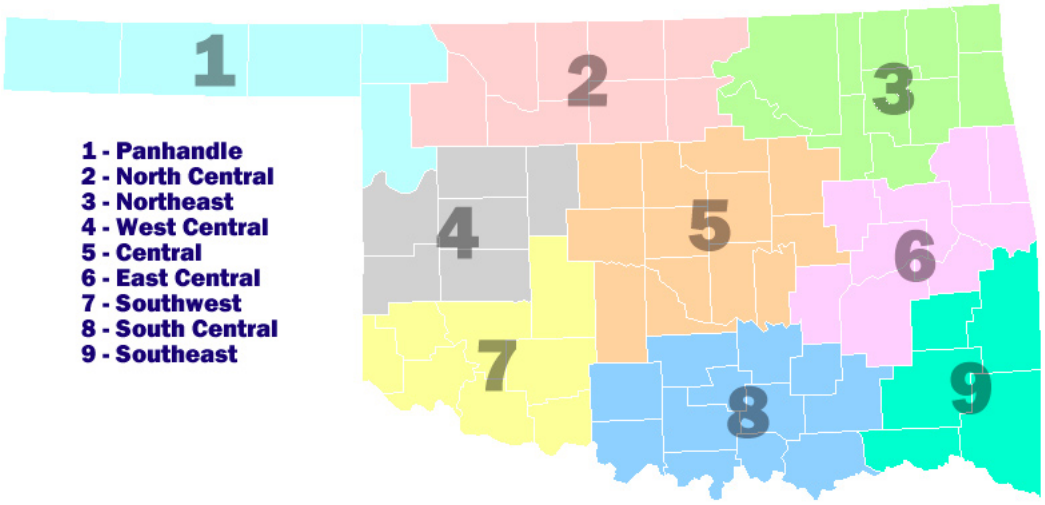
0% - 5%
5% - 10%
B = Below

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

December Climate Normals

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	49.2	21.7	35.5	0.68
2	47.2	23.9	35.6	1.30
3	49.4	27.8	38.6	2.29
4	48.8	25.3	37.1	1.11
5	50.2	28.0	39.1	1.98
6	51.2	30.0	40.6	3.01
7	51.6	27.1	39.4	1.39
8	53.3	30.4	41.9	2.54
9	53.9	30.7	42.3	4.21
Statewide	50.5	27.3	38.9	2.14

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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