Oklahoma Monthly Climate Summary

NOVEMBER 2011

OKLAHOMA CLIMATOLOGICAL SURVEY

With Oklahoma experiencing one of its most severe droughts on record, an extended period of above normal rainfall was desperately needed. Fortunately, that is exactly what occurred as Oklahoma enjoyed its 12th wettest November since records began in 1895. According to preliminary data from the Oklahoma Mesonet, the month finished more than an inch above normal with a statewide average of 4.22 inches. Combined with September and October, the climatological fall season still came up a bit short with an average of 8.61 inches across the state, 1.4 inches below normal. The month was also a bit on the mild side at 1.2 degrees above normal, the state's 52nd warmest November on record. Oklahoma's summer, officially the hottest since 1895 for any state, propelled the January-November period to the fifth warmest on record at 2.3 degrees above normal. November was not without fireworks to go along with all the rain. The most powerful tornado ever tracked in Oklahoma, at least since accurate statistics began in 1950, struck near the town of Tipton. The EF-4 rated violent tornado destroyed an agricultural research station and the Tipton Mesonet site before dissipating. At least 10 tornadoes touched down during the month according to preliminary National Weather Service reports.

November 2011 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	84°F	Burneyville	13
Low Temperature	17°F	Multiple	--
High Precipitation	11.05 in.	Oilton	--
Low Precipitation	0.79 in.	Goodwell	--

PRECIPITATION

Significant long-term precipitation shortfalls remain across much of Oklahoma. The January-November statewide average finished at 22.67 inches, 12 inches below normal, to rank as the ninth driest such period on record. The western half of the state remained the hardest hit during that period with average deficits ranging from 10 inches in the Panhandle and the northwest to 15 inches in the southwest. South central Oklahoma's deficit was still a whopping 18 inches even after the recent rains. For western and south central areas of the state, the January-November period was one of the top-three driest since 1895. The Oklahoma Mesonet site at Hooker has recorded less than 5 inches of rain for the year thus far. The lowest annual total for any location in Oklahoma dating back to the late 1800s is Regnier's 6.53 inches from 1956. Twelve Mesonet sites in far western Oklahoma have recorded less than 10 inches of rainfall for the year, with another 13 reporting 15 inches or less.

TEMPERATURE

The warm November combined with September and October to allow a warmer than normal fall finish, but just mildly so. The statewide average temperature for fall was 60.9 degrees, 0.2 degrees above normal and a middle of the pack ranking. Generally, the eastern side of the state was a bit cooler than normal and the western side a bit warmer than normal.

NOVEMBER DAILY HIGHLIGHTS

NOVEMBER 1-5: The first day of November was pleasantly warm with lows in the 50s and highs in the 70s. A strong cold front that night changed the weather dramatically. Winds gusting to over 40 mph ushered in a 20-30 degree drop in temperatures. Lows by the morning of the third ranged from the teens to the 30s. All of the state had dropped below freezing by the fourth. Temperatures began to rebound that afternoon with highs mostly in the 60s. A strong upper-level storm approaching from the west kicked up strong southerly winds on the fifth and brought warm weather back to the state. Highs rose into the 60s and 70s.

November 2011 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2011)
Month (November)	49.7°F	1.4°F	49th Warmest
Season-to-Date (Sep-Nov)	60.9°F	0.2°F	57th Warmest
Year-to-Date (Jan-Nov)	63.8°F	2.3°F	5th Warmest

Precipitation

	Average	Depart.	Rank (1895-2011)
Month (November)	4.22 in.	1.40 in.	12th Wettest
Season-to-Date (Sep-Nov)	8.61 in.	-1.40 in.	55th Wettest
Year-to-Date (Jan-Nov)	22.67 in.	-12.00 in.	9th Driest

Depart. = departure from 30-year normal

NOVEMBER 6-8: A powerful storm system moved toward the state from the west and brought with it some classic springtime severe weather. Strong southerly winds brought lots of moisture up from the Gulf of Mexico as a cold front entered western Oklahoma and stalled. A warm front pushed into southern Oklahoma, kicking off a line of storms. Those storms continually re-intensified in south central Oklahoma and moved to the northeast, dumping more than 6 inches of rain in Ringling. The storms continued into the next morning before another round of storms fired up in northwest Texas on the afternoon of the seventh and moved into southwestern Oklahoma. Those storms became tornadic in southwestern Oklahoma. The first tornado was a monster EF-4 tornado, the first of its kind to touch down during an Oklahoma November, which struck the OSU Agronomy Research Station near Tipton. The station was demolished, as was the Oklahoma Mesonet site at Tipton. Nine other tornadoes touched down according to preliminary tornado counts. A 92 mph wind gust was measured at Burns Flat on the seventh. Several other reports of wind gusts greater than 70 mph were noted that day, as well as hail to the size of tennis balls near Snyder. By evening, the tornado activity had died down and a squall line had formed, dumping heavy rain over central Oklahoma. More than 5 inches fell in El Reno. The storms continued into the next morning in eastern Oklahoma. By the time the storm system exited to the east, more than 7 inches had fallen in south central Oklahoma, with 4-6 inches widespread from there through the northeast. Another 3-5 inches fell in west central Oklahoma.

NOVEMBER 9-13: This five-day period was uneventful and pleasant. Lows started in the 20s and 30s and highs rose into the 50s and 60s. By the 11th, the approach of an upper-level storm system from the west brought strong southerly winds and warmer weather. Highs on the 13th rose into the 70s and 80s, 15-20 degrees above normal. Winds gusted to over 40 mph ahead of a cold front entering the northwest.

NOVEMBER 14-16: A cold front slowly crept into the northwest corner of the state early on the 14th. Lows were in the 50s and 60s ahead of the front and 40s and 50s behind it. Light rain and drizzle developed with the front that afternoon and continued into the next day with the arrival of a larger upper-level storm from the west. Highs rose into the 60s and 70s ahead of the front as it continued to sink south while winds gusted from the north at over 35 mph behind the front. The showers continued into early the next morning on the 16th before moving east out of Oklahoma. Lows dropped into the 30s and 40s, and highs only managed to rise into the 40s and 50s that day. Rainfall totals were extremely light across most of the state except for far southeastern Oklahoma where amounts were 2-3 inches.

NOVEMBER 17-19: Southerly winds returned very quickly on the 17th, gusting to 20 mph. High temperatures rose into the 50s after lows in the teens and 20s. Another strong storm system approaching from the west kicked up southerly winds and allowed for a warm up over the next couple of days. By the 19th, highs were into the 70s and 80s ahead of a strong cold front entering the northwest. Temperatures plummeted into the 30s and 40s by that evening behind the front.

NOVEMBER 20-21: A two-day period of very nice rain over much of the state started with a large upper-level storm system moving in from the west. A cold front accompanied the storm system and kicked off showers and storms early on the 20th. By the time the storm system exited the state the next day, more than 6 inches of rain had fallen across southeastern Oklahoma with other amounts between 1-2 inches over the northwestern two-thirds. The western Panhandle saw very little in the way of precipitation. Highs during these two days were mostly in the 30s and 40s after lows in the 20s and 30s.

NOVEMBER 22-26: Low clouds and drizzle greeted the state early on the 22nd. Lows dropped into the 30s and 40s and highs rose into the 50s. A nice warm up occurred over the next couple of days before another strong storm system hit the state on the 26th. An accompanying strong cold front entered the northwest late on the 25th and cleared the state the next day. The showers and storms the front set off provided one last dose of rain for the month. The northeastern quarter of the state saw close to 1.5 inches of rain but amounts across the rest of the state were generally less than in inch.

NOVEMBER 27-30: A very seasonable end to the month, the final four days had lows in the 20s and highs in the 50s under mostly clear skies.

NOVEMBER 2011 SEVERE WEATHER

Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Day
2.00	1 N Snyder	Kiowa	7

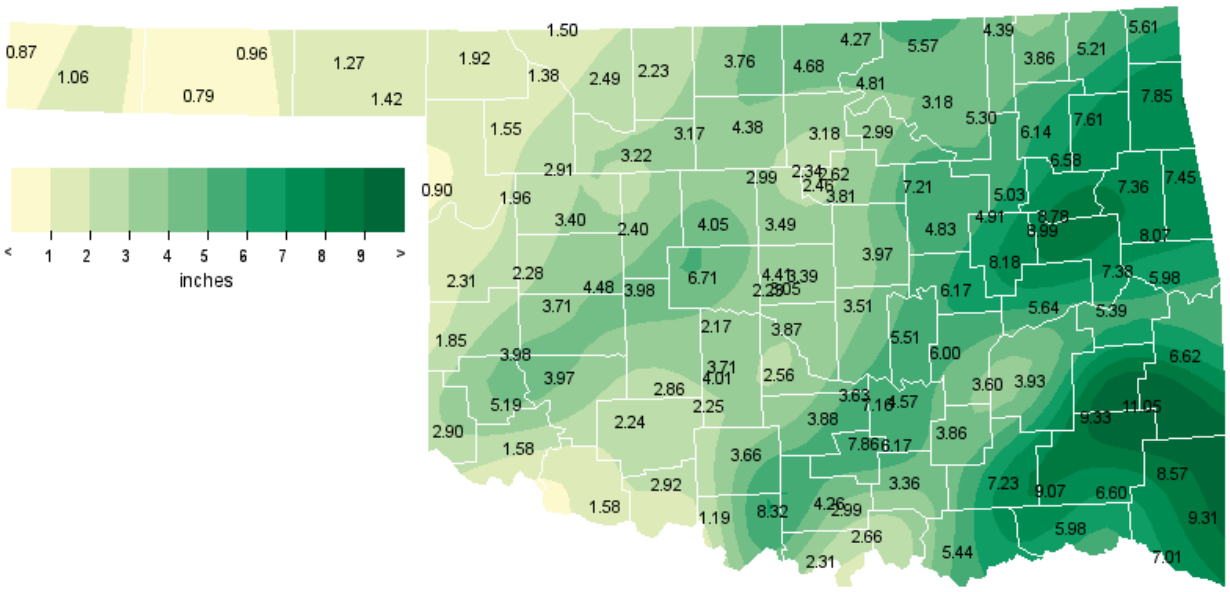
Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Day
70	10 S Snyder	Tillman	7
92	Burns Flat	Washita	7
72	Altus Air Force Base	Jackson	7
81	2 NNW Perkins	Payne	7
70	Norman	Cleveland	7
77	6 N Tishomingo	Johnston	8

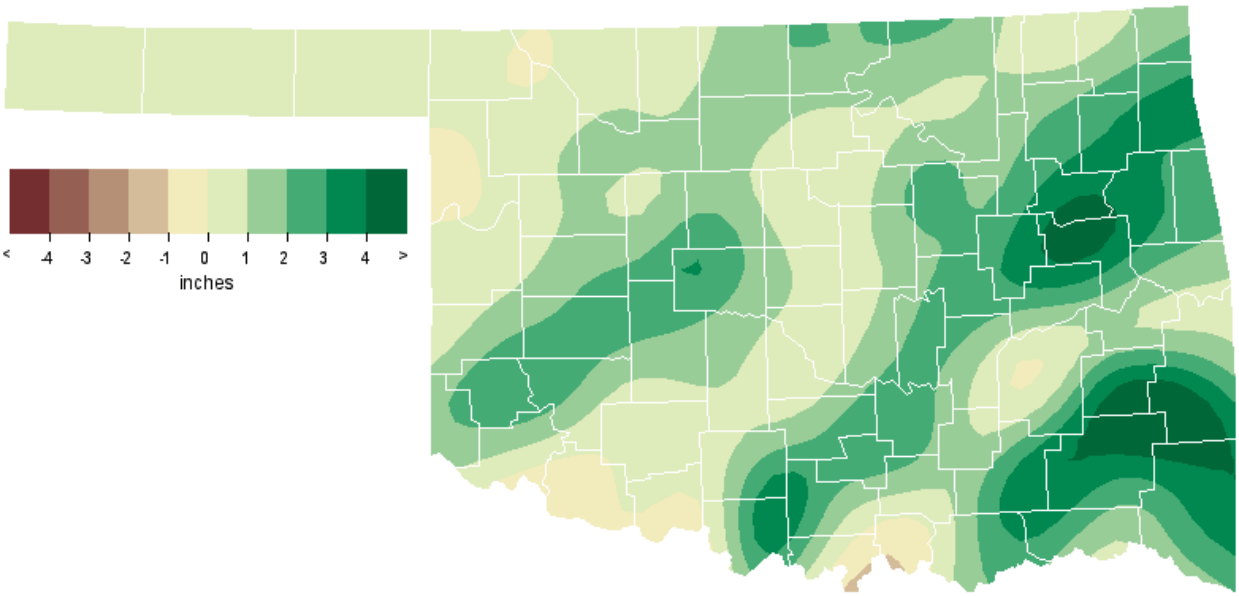
Flooding

Location	County	Day
Healdton	Carter	6
Ringling	Jefferson	6
Sulphur	Murray	7
Turner Falls	Murray	7
Davis	Murray	7
Muskogee	Muskogee	8
2 E Morris	Okmulgee	8
2 ENE Farris	Atoka	21
Nashoba	Pushmataha	21
3 NW Nashoba	Pushmataha	21
Talihina	LeFlore	21
8 SW Hodgen	LeFlore	21
Octavia	LeFlore	21

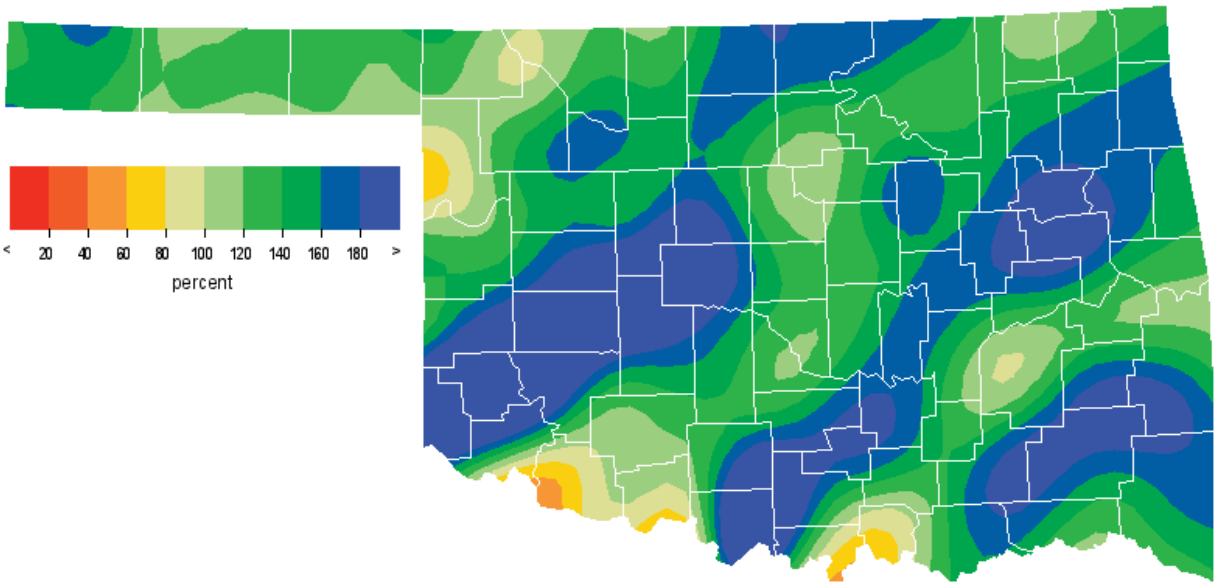
NOVEMBER 2011 OBSERVED PRECIPITATION



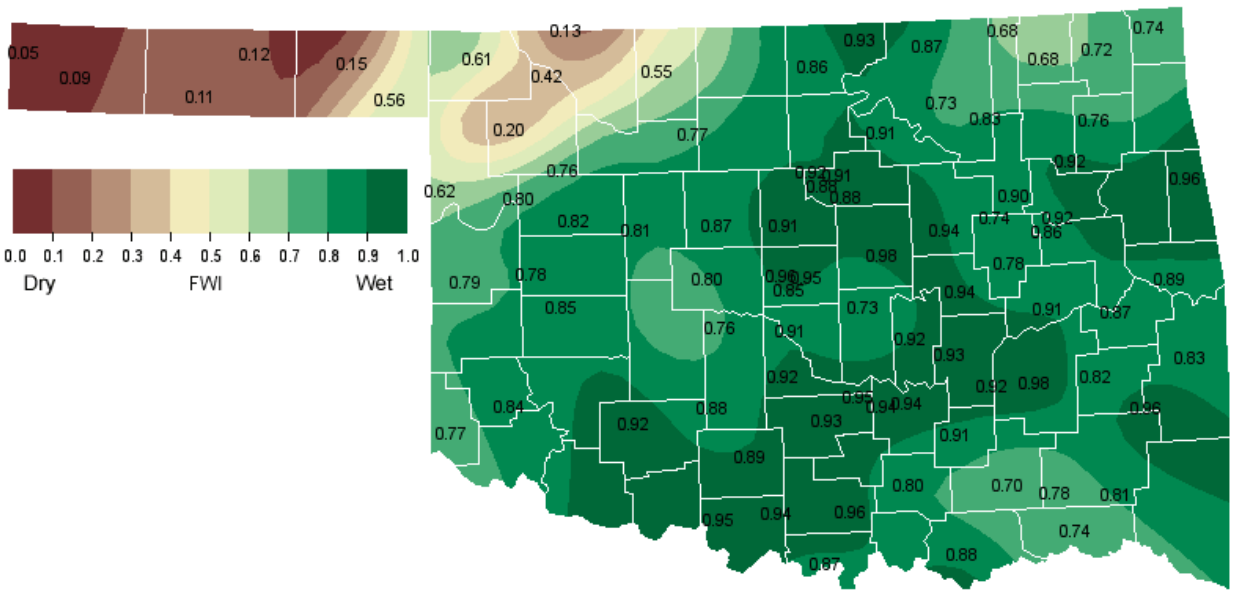
NOVEMBER 2011 DEPARTURE FROM NORMAL PRECIPITATION



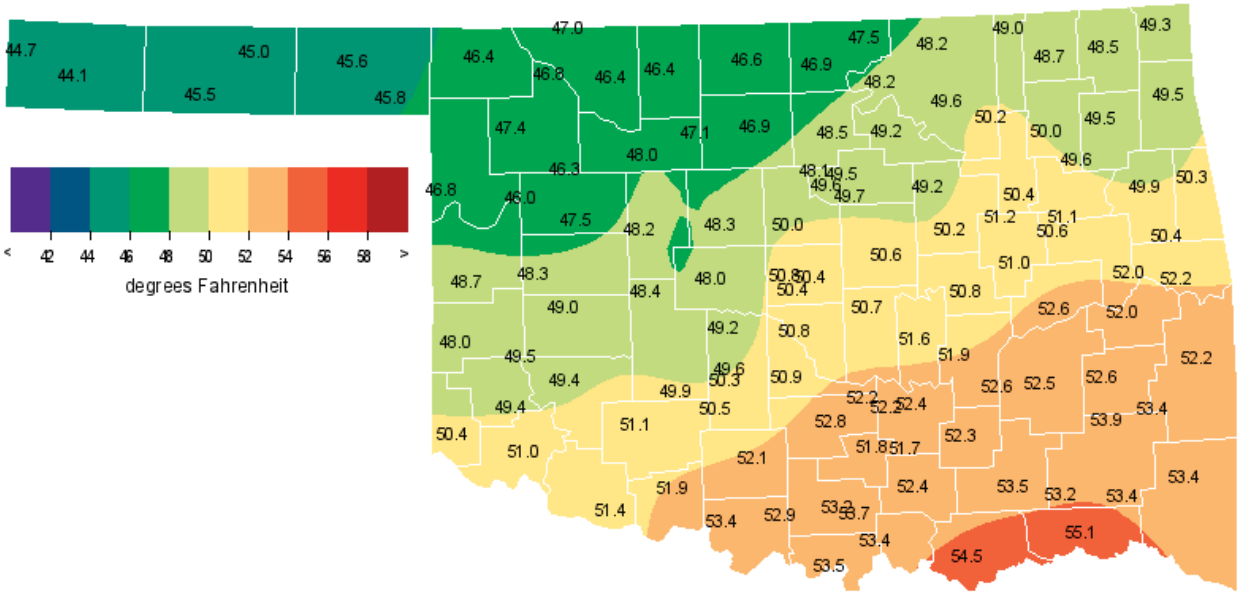
NOVEMBER 2011 PERCENT OF NORMAL PRECIPITATION



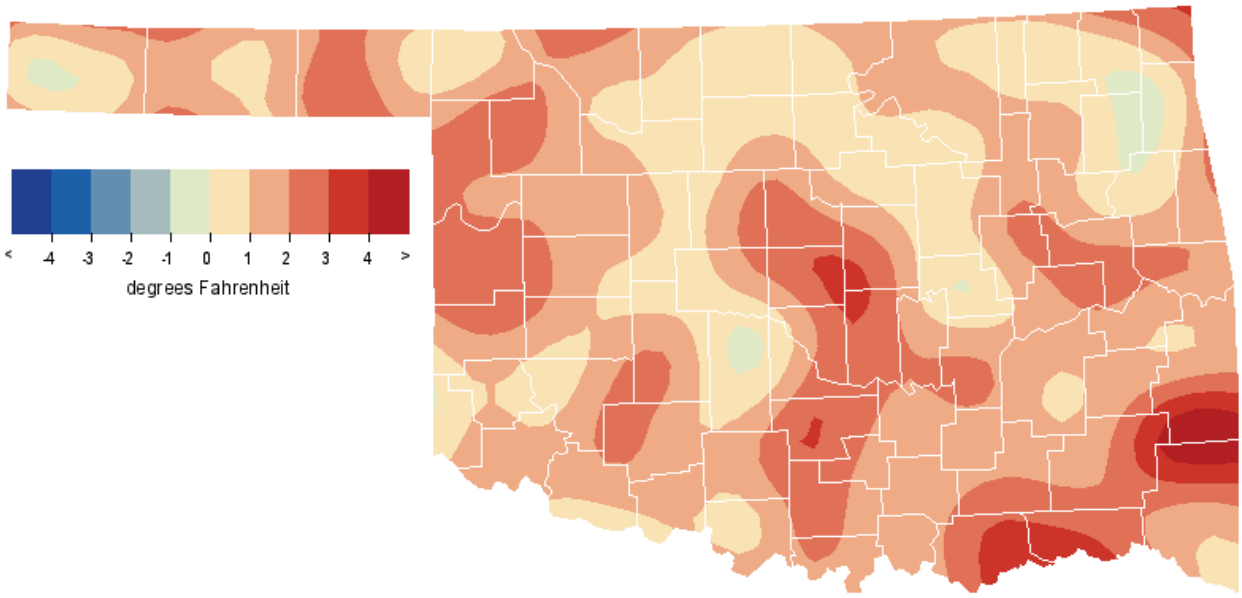
NOVEMBER 2011 AVERAGE SOIL MOISTURE AT 25CM



NOVEMBER 2011 AVERAGE TEMPERATURE



NOVEMBER 2011 DEPARTURE FROM NORMAL TEMPERATURE

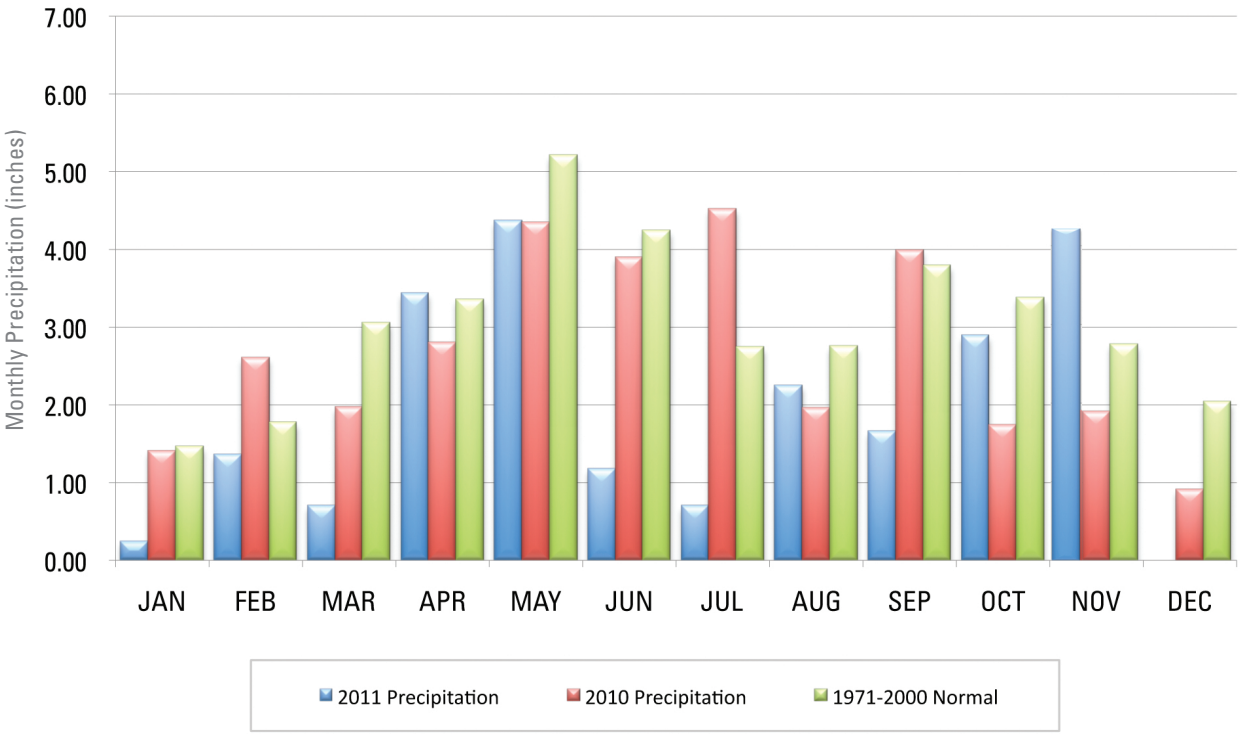


MESONET MONTHLY SUMMARY FOR NOVEMBER 2011

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	46.8	80	1	18	17	546	0	.90	.33	21
Beaver	45.6	77	12	17	17	583	0	1.27	.45	7
Boise City	44.1	76	1	19	3	627	0	1.06	.56	8
Buffalo	46.4	80	1	21	17	559	0	1.92	1.00	7
NORTH CENTRAL										
Alva	46.4	78	12	20	4	557	0	2.49	1.06	21
Blackwell	46.9	76	1	21	28	543	0	4.50	3.07	7
Breckinridge	46.9	74	1	21	4	543	0	4.38	3.00	7
Cherokee	46.4	77	1	19	17	557	0	2.23	.85	21
Fairview	48.1	76	1	25	28	507	1	3.22	1.86	7
Freedom	46.7	80	1	20	17	548	1	1.38	.45	21
Lahoma	47.1	76	1	25	17	537	0	3.17	1.90	7
NORTHEAST										
Bixby	50.5	78	13	25	30	440	4	5.03	1.67	8
Burbank	48.2	77	1	21	28	505	0	4.81	3.09	7
Claremore	50.0	77	13	22	28	455	5	6.14	2.28	8
Copan	48.9	77	1	20	28	483	1	4.39	1.98	7
Foraker	48.2	78	1	21	28	505	0	5.57	3.58	7
Inola	49.6	77	1	22	30	464	3	6.58	1.78	8
Jay	49.5	74	13	21	30	468	2	7.85	2.61	8
Miami	49.4	76	1	20	30	473	4	5.61	2.59	8
WEST CENTRAL										
Bessie	49.0	79	13	25	17	483	2	3.71	2.55	7
Butler	48.4	79	13	21	17	504	5	2.28	1.02	7
Camargo	46.0	80	12	17	17	569	0	1.96	.90	21
Cheyenne	48.7	77	12	26	17	491	0	2.31	1.14	7
Erick	48.0	78	13	19	17	512	1	1.85	.99	21
CENTRAL										
Acme	50.5	80	13	21	17	440	5	2.25	1.01	21
Bowlegs	51.6	81	13	21	28	409	8	5.51	2.00	8
Bristow	50.2	80	13	18	28	451	8	4.83	1.55	8
Lake Carl Blac	48.1	77	1	17	28	509	2	2.34	1.17	7
Chandler	50.5	80	13	21	28	440	6	3.97	1.18	21
Chickasha	49.6	78	13	21	28	464	2	3.71	1.53	7
El Reno	48.1	78	13	20	4	510	2	6.71	5.03	7
Guthrie	50.0	76	7	22	28	454	3	3.49	2.28	7
Kingfisher	48.3	76	7	21	4	502	0	4.05	2.79	7
Marena	49.6	76	1	21	28	464	4	2.46	1.08	7
Minco	49.3	79	13	25	17	474	2	2.17	.68	21
Marshall	48.6	76	1	21	4	****	****	2.99	1.87	7
EAST CENTRAL										
Cookson	50.3	78	13	19	28	446	5	8.07	2.81	8
Eufaula	52.6	81	13	27	28	382	10	5.64	2.07	7
Haskell	50.6	81	13	24	30	438	7	8.99	3.55	8
Hectorville	51.3	79	13	24	28	418	5	4.91	1.48	8
Holdenville	51.9	81	13	23	28	399	6	6.00	2.55	8
McAlester	52.5	80	13	22	28	389	15	3.93	1.60	21
Okmulgee	51.0	82	13	21	28	429	8	8.18	3.94	8
SOUTHWEST										
Altus	51.0	80	13	25	30	422	1	1.58	.89	7
Apache	50.0	79	13	24	17	452	1	2.86	1.15	7
Fort Cobb	*****	***	***	***	***	****	****	2.87	1.88	7
Grandfield	51.4	80	13	25	28	412	4	1.58	.78	8
Hinton	48.4	77	13	25	17	498	0	3.98	2.55	7
Hobart	49.3	79	13	24	17	470	0	3.97	1.84	21
SOUTH CENTRAL										
Ada	52.4	82	13	22	28	388	10	4.57	1.66	7
Ardmore	53.8	83	13	27	28	358	21	2.99	1.75	21
Burneyville	53.5	84	13	21	28	371	28	2.31	1.79	21
Byars	52.2	80	13	24	28	393	10	3.63	1.35	8
Centrahoma	52.3	82	13	20	28	395	14	3.86	2.11	21
Durant	54.6	81	15	27	28	337	24	5.44	3.69	21
Fittstown	51.7	80	13	24	28	407	7	6.17	1.94	7
Ketchum Ranch	52.1	80	13	23	28	396	8	3.66	3.16	8
Lane	53.4	81	13	24	28	366	20	7.23	4.06	21
SOUTHEAST										
Antlers	53.1	82	15	23	28	378	22	9.07	3.43	21
Antlers	*****	***	***	***	***	****	****	*****	*****	***
Broken Bow	53.6	81	20	24	28	****	****	9.03	3.19	21
Clayton	53.8	81	14	26	30	354	19	9.33	4.16	21
Cloudy	53.5	80	13	27	30	365	19	6.60	3.19	21
Hugo	55.0	82	13	28	28	329	29	5.98	2.82	21

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	45.5	76	12	20	17	586	0	.79	.44	8
Hooker	45.0	76	1	20	17	600	0	.96	.43	25
Kenton	44.6	77	1	17	3	612	0	.87	.46	25
Slapout	45.7	79	1	22	17	578	0	1.42	.60	7
May Ranch	47.0	78	1	24	17	540	0	1.50	.56	7
Medford	46.6	76	1	22	4	552	0	3.76	1.83	7
Newkirk	47.5	76	1	21	28	526	1	4.27	2.82	7
Red Rock	48.5	77	1	19	28	497	1	3.18	1.88	7
Seiling	46.3	79	12	20	4	560	0	2.91	1.06	21
Woodward	47.4	78	1	23	17	529	0	1.55	.52	21
Nowata	48.7	76	13	18	28	492	2	3.86	1.04	26
Pawnee	49.2	78	19	19	28	477	3	2.99	1.31	7
Porter	51.2	80	13	25	28	422	6	8.78	3.26	8
Pryor	49.4	76	13	21	30	472	4	7.61	2.17	8
Skiatook	50.1	77	19	23	28	450	4	5.30	2.60	7
Vinita	48.5	77	1	21	30	498	2	5.21	1.59	8
Wynona	49.6	78	1	22	28	467	5	3.18	.89	21
Putnam	47.5	76	13	24	17	528	2	3.40	2.09	7
Retrop	49.5	81	13	25	17	468	2	3.98	2.45	7
Watonga	48.2	73	1	26	17	504	0	2.40	1.25	7
Weatherford	48.0	76	13	25	17	****	****	*****	*****	***
Ninnekah	50.2	80	13	22	4	445	2	4.01	1.61	7
Norman	50.8	79	13	24	28	432	7	3.87	1.41	21
Oilton	49.3	77	19	17	28	477	5	7.21	4.72	7
OKC East	50.4	78	13	22	28	442	4	3.05	1.35	7
OKC North	50.8	78	13	26	28	430	5	4.41	2.62	7
OKC South	50.1	79	13	25	28	****	****	2.23	.94	21
Okemah	50.8	80	13	23	30	430	5	6.17	2.23	8
Perkins	49.7	76	1	21	28	462	3	3.81	2.14	7
Shawnee	50.7	77	13	24	28	432	4	3.51	1.14	8
Spencer	50.4	78	13	23	28	443	6	3.39	1.51	7
Stillwater	49.4	77	1	20	28	473	5	2.62	1.08	7
Washington	50.9	79	13	26	17	427	4	2.56	.96	7
Sallisaw	52.2	82	13	23	30	394	11	5.98	2.18	21
Stigler	52.1	81	13	24	30	398	10	5.39	2.00	21
Stuart	52.5	80	13	26	28	382	9	3.60	1.32	21
Tahlequah	50.0	76	13	22	28	456	5	7.36	3.38	8
Webbers Falls	52.0	80	13	26	30	399	8	7.38	2.94	8
Westville	50.3	75	13	25	17	445	3	7.45	3.92	8
Hollis	50.5	81	13	24	17	436	0	2.90	2.09	21
Mangum	49.4	81	13	22	4	468	0	5.19	2.51	7
Medicine Park	51.2	79	13	28	17	416	1	2.24	.89	21
Tipton	*****	***	***	***	***	****	****	*****	*****	***
Walters	51.9	80	13	23	28	397	4	2.92	1.52	7
Madill	53.4	82	13	21	28	371	22	2.66	2.07	21
Newport	53.3	82	13	27	28	369	17	4.26	2.11	21
Pauls Valley	52.8	82	13	24	28	379	12	3.88	1.59	8
Ringling	52.9	80	13	25	28	375	12	8.32	6.25	6
Sulphur	51.8	79	13	19	28	408	11	7.86	3.85	7
Tishomingo	52.4	81	13	25	28	390	12	3.36	1.71	21
Vanoss	52.3	81	13	22	28	395	13	7.16	2.41	6
Waurika	53.4	82	13	24	28	365	16	1.19	.51	8
Idabel	54.3	81	13	25	28	****	****	7.00	2.54	21
Mt Herman	53.4	79	14	25	28	367	18	8.57	3.41	21
Talihina	53.4	79	13	25	30	365	16	11.05	4.52	21
Wilburton	52.6	81	13	22	28	392	21	*****	*****	***
Wister	52.2	81	13	23	30	402	19	6.62	2.77	21

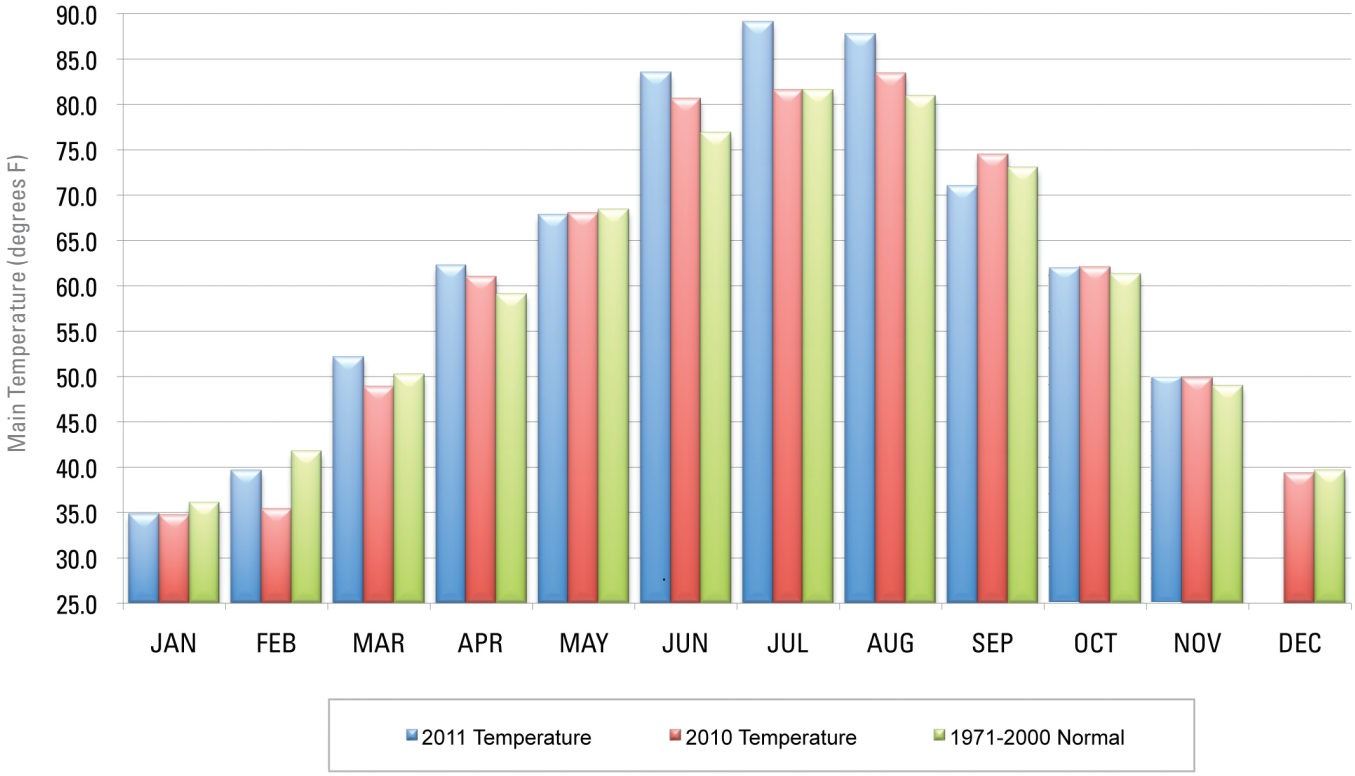
2010 AND 2011 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



November 2011 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Nov-10
Panhandle	1.15	0.11	33rd Wettest	4.07 (1909)	0.00 (1897)	1.70
North Central	2.98	0.90	20th Wettest	6.48 (1964)	0.00 (1910)	2.17
Northeast	5.53	1.91	15th Wettest	7.37 (1994)	0.00 (1904)	2.38
West Central	2.93	1.20	16th Wettest	6.62 (1964)	0.00 (1897)	2.29
Central	3.80	0.99	19th Wettest	6.88 (1931)	0.00 (1910)	1.39
East Central	6.38	2.08	10th Wettest	10.16 (1996)	0.20 (1914)	1.96
Southwest	3.02	1.29	14th Wettest	6.61 (2004)	0.00 (1897)	1.24
South Central	4.62	1.52	19th Wettest	7.62 (1902)	0.00 (1903)	1.48
Southeast	8.17	3.10	9th Wettest	13.16 (1946)	0.00 (1903)	2.44
Statewide	4.22	1.40	12th Wettest	6.12 (2004)	0.14 (1910)	1.87

2010 AND 2011 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



November 2011 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Nov-10 (F)
Panhandle	45.5	1.5	48th Warmest	51.4 (1999)	36.0 (1929)	46.0
North Central	47.1	0.8	56th Coolest	54.5 (1999)	39.0 (1929)	47.1
Northeast	49.4	1.4	47th Warmest	56.4 (1999)	40.9 (1929)	51.4
West Central	48.1	1.4	52nd Warmest	54.7 (1999)	39.7 (1929)	48.4
Central	50.0	1.2	52md Warmest	56.8 (1999)	41.3 (1999)	50.9
East Central	51.5	1.6	42nd Warmest	57.8 (1999)	43.4 (1929)	52.3
Southwest	50.3	1.1	54th Warmest	56.3 (1999)	42.1 (1929)	50.9
South Central	52.8	1.8	44th Warmest	58.3 (1927)	44.1 (1929)	53.2
Southeast	53.4	2.7	33rd Warmest	58.9 (1909)	44.1 (1976)	52.4
Statewide	49.7	1.4	49th Warmest	56.0 (1999)	41.3 (1929)	50.3

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Daily Maximum Rainfall	8	Tulsa	1.63	1.45	1977
High Minimum Termperature	14	Tulsa	62	62	1989

MESONET EXTREMES FOR NOVEMBER 2011

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	1st	Arnett	17	17th	Beaver	1.92	Buffalo	1.00	7th	Buffalo
North Central	80	1st	Freedom	19	28th	Red Rock	4.68	Blackwell	3.07	7th	Blackwell
Northeast	80	13th	Porter	18	28th	Nowata	8.78	Porter	3.58	7th	Foraker
West Central	81	13th	Retrop	17	17th	Camargo	4.48	Weatherford	3.17	7th	Weatherford
Central	81	13th	Bowlegs	17	28th	Oilton	7.21	Oilton	5.03	7th	El Reno
East Central	82	13th	Okmulgee	19	28th	Cookson	8.99	Haskell	3.94	8th	Okmulgee
Southwest	81	13th	Mangum	22	4th	Mangum	5.19	Mangum	2.55	7th	Hinton
South Central	84	13th	Burneyville	19	28th	Sulphur	8.32	Ringling	6.25	6th	Ringling
Southeast	82	13th	Hugo	22	28th	Wilburton	11.05	Talihina	4.52	21st	Talihina
Statewide	84	13th	Burneyville	17	28th	Oilton	11.05	Talihina	6.25	6th	Ringling

DECEMBER OUTLOOK

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

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.

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.

Precipitation

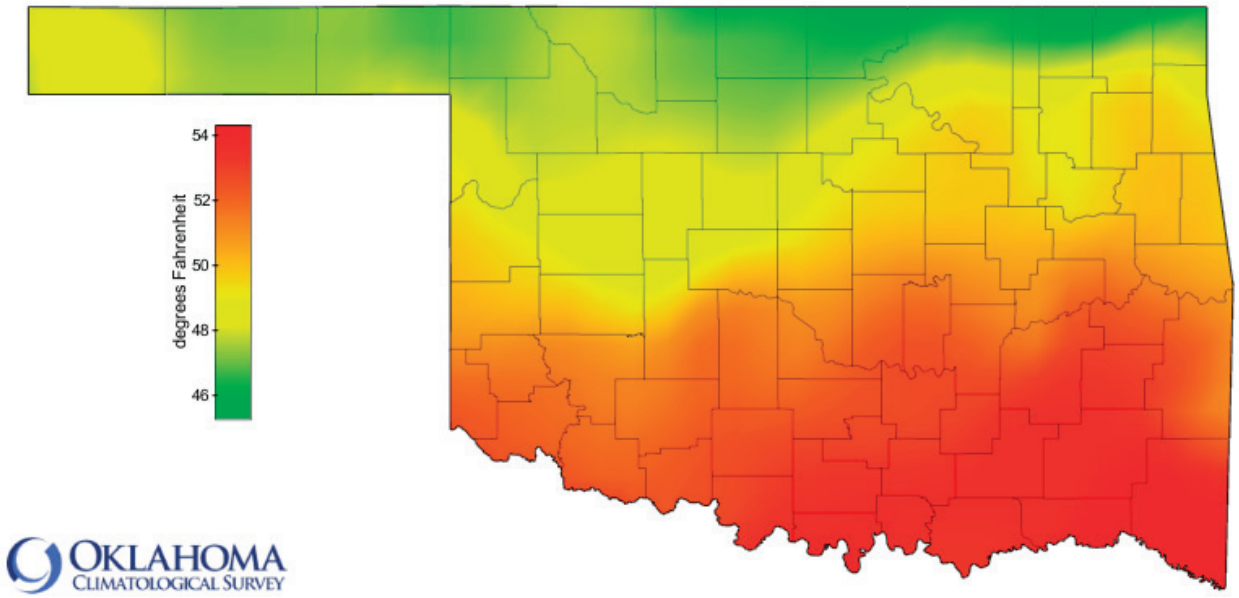
Mean	2.04 inches
Wettest year	1984, 4.98 inches
Driest year	1980, 0.07 inches
Wettest location	Smithville, 5.19 inches
Driest location	Goodwell, 0.34 inches
Most recorded	18.13 inches, Bear Mountain Tower, 1971

Tornadoes

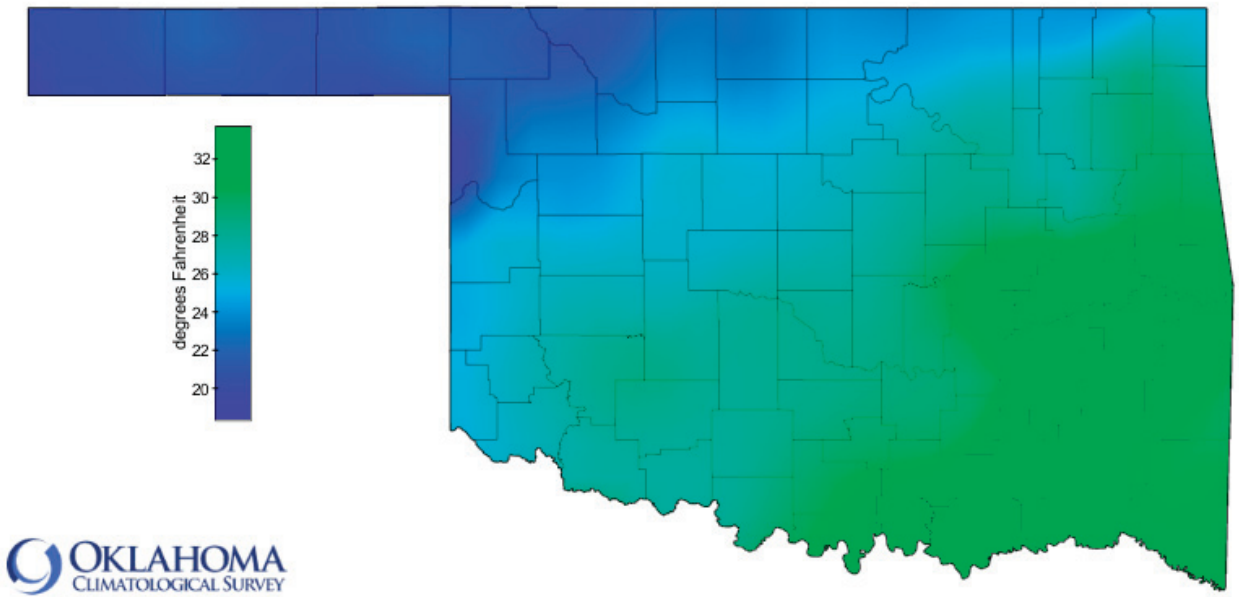
Average Decembert Tornadoes	0.4
Most	4 (1982)

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.

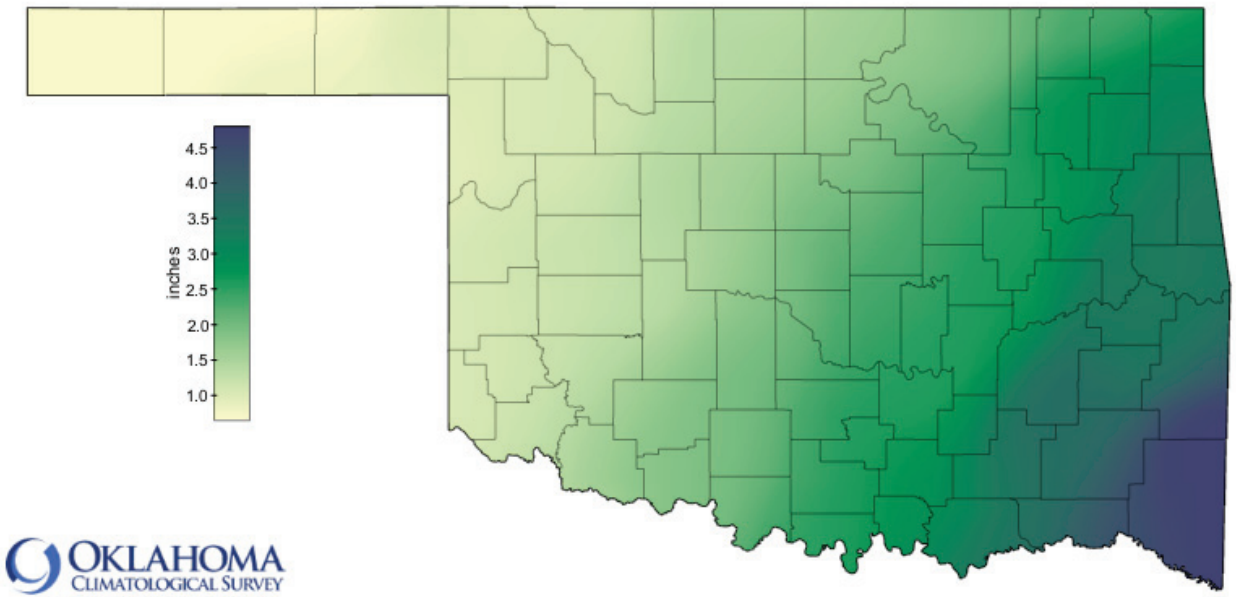
DECEMBER NORMAL DAILY MAXIMUM TEMPERATURE (1981-2010)



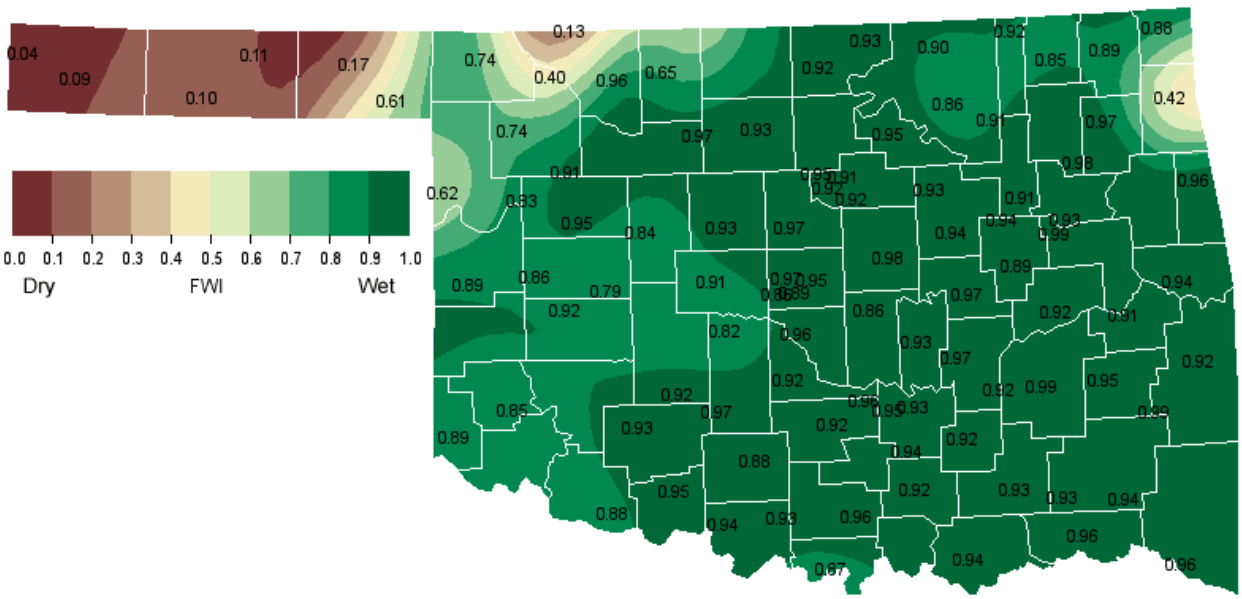
DECEMBER NORMAL DAILY MINIMUM TEMPERATURE (1981-2010)



DECEMBER NORMAL PRECIPITATION (1981-2010)



DECEMBER 1, 2011 SOIL MOISTURE CONDITIONS AT 25CM



DECEMBER 2011 DROUGHT INDICES

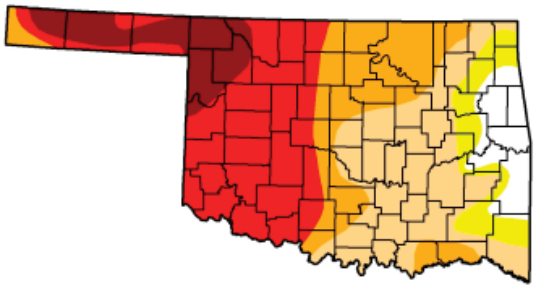
U.S. Drought Monitor

November 29, 2011
Valid 7 a.m. EST

Oklahoma

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	7.33	92.67	85.70	59.58	39.92	10.27
Last Week (11/22/2011 map)	5.10	94.90	88.74	63.43	42.33	14.43
3 Months Ago (08/30/2011 map)	0.00	100.00	100.00	96.64	85.37	69.15
Start of Calendar Year (12/28/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00
Start of Water Year (09/27/2011 map)	0.00	100.00	100.00	100.00	78.97	66.42
One Year Ago (11/23/2010 map)	47.48	52.52	3.13	0.00	0.00	0.00



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.

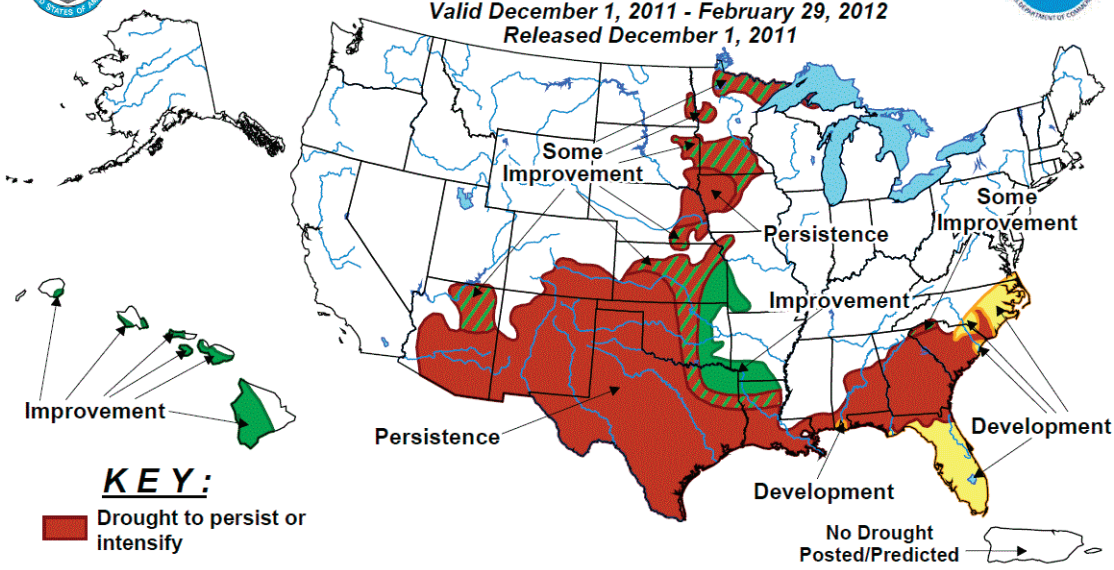
http://droughtmonitor.unl.edu

Released Thursday, December 1, 2011
David Miskus, NOAA/NWS/NCEP/Climate Prediction Center

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid December 1, 2011 - February 29, 2012
Released December 1, 2011

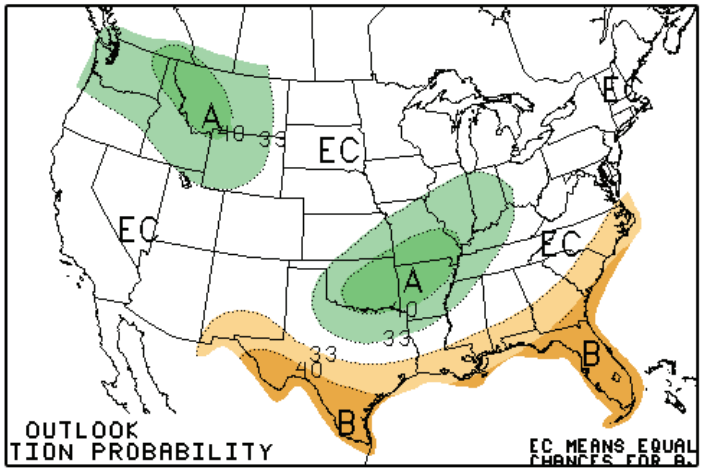


KEY:

- 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.

DECEMBER 2011 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

- 5% - 10%
- 0% - 5%

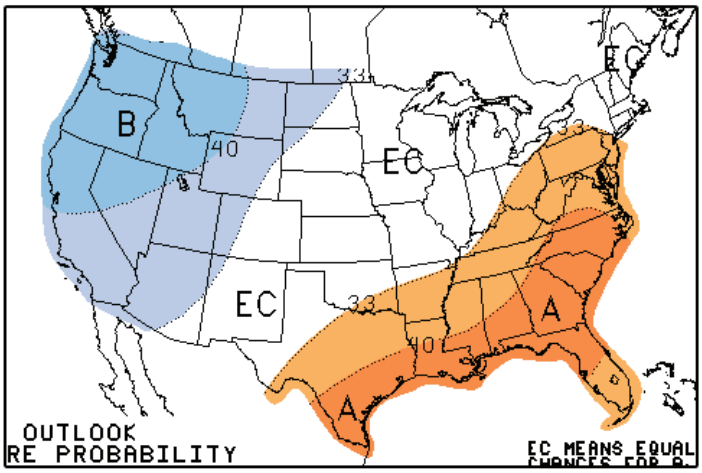
A = Above

- 0% - 5%
- 5% - 10%

B = Below

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

DECEMBER 2011 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

- 10% - 20%
- 5% - 10%
- 0% - 5%

A = Above

- 0% - 5%
- 5% - 10%

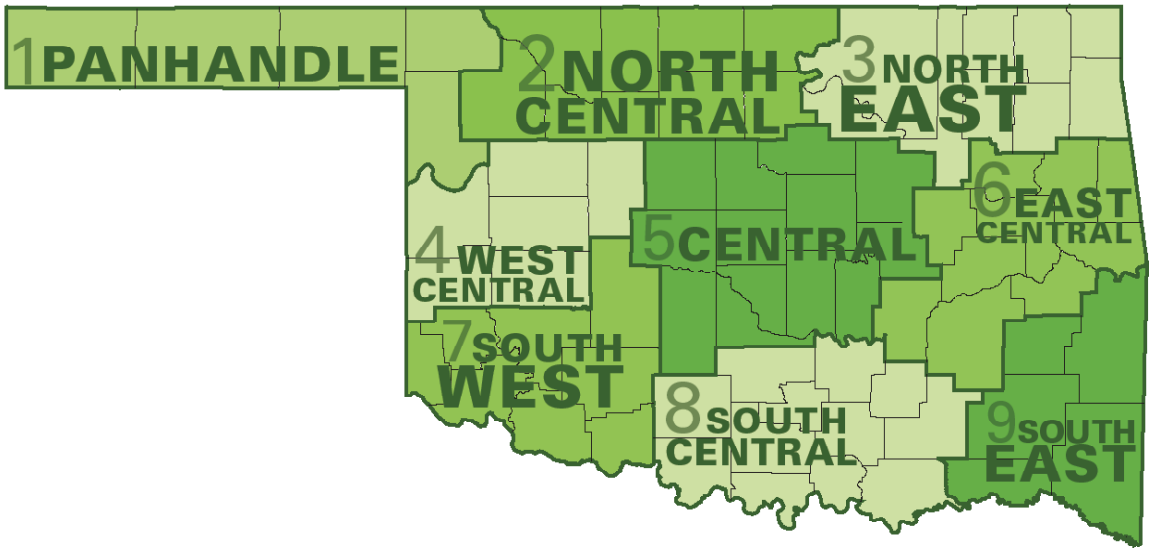
B = Below

*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.mesonet.org or http://climate.ok.gov/

OKLAHOMA CLIMATOLOGICAL SURVEY

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