Oklahoma Monthly Climate Summary

MARCH 2013

OKLAHOMA CLIMATOLOGICAL SURVEY

The wet conditions of February failed to translate into March, but the cooler than normal weather continued virtually uninterrupted. According to data from the Oklahoma Mesonet, the month's statewide average temperature was 47.7 degrees, 2.5 degrees below normal and the 45th coolest March since records began in 1895. The two months together accomplished a relatively rare feat of late, becoming first consecutive months to finish below normal in Oklahoma since January and February 2011. This March stands in stark contrast to last year's record-breaking version, which ended at 59.6 degrees, 9.4 degrees above normal. Thanks to a late-month taste of spring storminess, the statewide average rainfall total climbed to 1.5 inches for the month, which fell about 1.6 inches below normal and ranked as the 33th driest on record. The first three months of the year came out fairly close to normal for both precipitation and temperature. The statewide average January-March temperature finished at 42.8 degrees, a tenth of a degree above normal, while the precipitation total of 6.44 inches was a tenth of an in above normal as well.

March 2013 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	88°F	(Several)	15
Low Temperature	11°F	Alva	2
High Precipitation	6.10 in.	Wister	--
Low Precipitation	0.04 in.	Tipton	--

That late burst of springtime weather also came with a fair amount of severe weather. Reports of hail from the size of marbles to tennis balls came in from across the state on the 29th and 30th. Hail covered the ground and actually drifted in some parts of the state. At least one tornado was confirmed to have touched down late on the 30th in Sequoyah County near Sallisaw, damaging a home and downing power poles. More localized severe weather struck southern Oklahoma on the ninth and northern Oklahoma saw up to 3 inches of snow on the 24th.

The cooler than normal weather kept drought from spreading or intensifying, although drought impacts continued to be felt statewide. Data from the USDA's National Agricultural Statistics Service indicate 49 percent of the state's topsoils were rated as either "adequate" or "surplus" for moisture, meaning 51 percent were rated as "short" or "very short." Subsoils have not fared quite so well given the long-term nature of this drought. The subsoils were rated at 88 percent "short" or "very short" and only 12 percent were rated as "adequate." State pasture and range conditions were rated 70 percent "very poor" or "poor," with only 25 percent rated as "fair" and 5 percent rated as "good." Approximately 10 percent of the state was covered by Exceptional drought according to the latest U.S. Drought Monitor report, down from 35 percent three months ago. The entire state has remained in at least Moderate drought since July 2012. The Drought Monitor's intensity scale slides from Moderate-Severe-Extreme-Exceptional, with exceptional being the worst category.

March 2013 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2013)
Month (March)	47.7°F	-2.5°F	45th Coolest
Year-to-Date (Jan-Mar)	42.8°F	0.1°F	51st Warmest

Precipitation

	Average	Depart.	Rank (1895-2013)
Month (March)	1.54 in.	-1.57 in.	33rd Driest
Year-to-Date (Jan-Mar)	6.44 in.	0.12 in.	41st Wettest

Depart. = departure from 30-year normal

MARCH DAILY HIGHLIGHTS

MARCH 1-7: Teeter-tottering of daily temperatures appeared to be the norm for the month of March. The highest maximum temperatures fluctuated back and forth between the 50s, 60s, and 80s during the first week. The lowest maximum temperatures were a little more persistent, measuring in the 30s and 40s from the first through the sixth. The seventh was a bit of an oddball, however, as the lowest maximum temperature was reported at 61 degrees in Westville. Minimum temperatures were as cool as 11 degrees in Alva on the second and as warm as 52 degrees in Hugo on the fourth. Snow pack in northwest Oklahoma played a prevalent role in keeping temperatures cool. Average wind speeds were fairly gusty with an upper end of about 20 mph. Peak wind gusts

were as high as 63 mph in Medicine Park on the fourth and 56 mph in Medicine Park, Minco, and Waurika on the fifth. Rainfall throughout the state remained negligible.

MARCH 8-10: Rain moved into the picture as a cold front pushed through the state. While the rain was fairly light on the eighth, showers and thunderstorms drastically increased precipitation amounts on the ninth with areas in the northwest measuring nearly 2 inches. In the midst of the thunderstorms, hail as large as 2.5 inches in diameter was reported in Jefferson County. Lingering showers and drizzle left as much as 1.3 (Hugo) and 1.23 (Cloudy) inches of precipitation in the southeast. The highest maximum temperatures fell down into the low 70s and 60s. The lowest maximum temperatures ranged from 36 in Boise City (March 10) to 59 in Kenton (March 9). Minimum temperatures ranged from 18 in Goodwell (March 10) to 56 in Centrahoma (March 9). Average wind speeds generally stayed between 10 and 25 mph. Wind gusts were reported as high as 48 mph in Kenton on the eighth, 58 in Boise City on the ninth, and 61 mph in Hooker on the 10th.

MARCH 11-15: Following the previous rainy period, the week of the 11th through the 15th panned out nicely for most of Oklahoma. A warming trend ensued with high maximum temperatures gradually increasing from 69 in Hollis on the 11th to 88 in multiple western Oklahoma cities on the 15th. A daily high temperature record was tied in Tulsa at 84 degrees on Friday the 15th. The lowest maximum temperatures ramped up from 46 in Westville on Monday to 77 in Mt. Herman and Stuart on Friday. Average minimum temperatures increased from the 20s and 30s early in the week to the 40s and 50s by the end of the week. Despite a tiny blip of drizzle in far northern and northeast Oklahoma on the 12th, skies remained relatively clear. Statewide average wind speeds were generally less than 10 mph from the 11th-13th, but averaged slightly higher on the 14th and 15th at 5-15 mph. A few portions of Oklahoma had maximum wind speeds in the 20s for all five days.

MARCH 16-18: A cold front made its way through Oklahoma, producing a wide range of temperatures, cloudy skies, and precipitation. There was a lot of variation in maximum temperatures ahead of and behind the front on the 16th. Maximum temperatures only reached the upper 50s in the panhandle, but climbed into the 80s in south-central and southwestern OK on Saturday. The warmest highs fell into the 70s on the 17th and 60s on the 18th. The range of daily minimum temperatures shifted from a range of 36-60 degrees on the 16th to 25-45 degrees on the 18th once the front moved all the way through. Rainfall amounts were anywhere between trace amounts to a couple tenths of an inch in north-central, northeast, and southeast portions of Oklahoma. Hail was associated with isolated thunderstorms near Pushmataha and Le Flore Counties on the 18th. Average wind speeds generally stayed between 5 and 15mph during this three-day period, but slightly exceeded 15mph in north-central and west-central Oklahoma on the 16th. Peak wind gusts measured as high as 47mph in Medicine Park (16th), 47 mph in Kenton (17th), and 44 mph in Boise City (18th).

MARCH 19-20: The weather was rain free, gusty, and slightly cooler than normal. Maximum temperatures ranged from the upper 40s and low 50s in the north to the mid-60s in the south. Minimum temperatures were anywhere from 39 in Hugo to 17 in Boise City. Average wind speeds were between 5-10 mph on the 19th and 5-15 mph on the 20th. Multiple cities had wind gusts in the 30s and 40s.

MARCH 21-24: Not a day went by during this period without some portion of Oklahoma receiving precipitation. A stalled frontal boundary brought mixed precipitation types to the eastern one-third of the state on the 21st. By the 22nd and 23rd, the central one-third of Oklahoma was receiving light rain and southeast Oklahoma was feeling the effect of weak thunderstorms. The northwest portion of the state was experiencing a mix of light rain and snow by the 23rd, and by the 24th, the northeast had snow accumulations between 2-3 inches. Rainfall amounts were over a third of an inch in Cookson on the 22nd and as high as .62 inches in Antlers on the 23rd. The highest maximum temperatures were reported at 81 degrees in Altus, Mangum, and Tipton on the 21st, but dropped into the 50s during the following three days. The lowest maximum temperatures were in the 30s and 40s. Minimum temperatures ranged from 12 in Kenton to 47 in south-central Oklahoma. Average wind speeds were predominantly between 10-20 mph on the 21st and 24th, and 5-15mph on the 22nd and 23rd. On all four days, there were peak wind gusts in the 40s in the eastern half of the state.

MARCH 25-28: Despite a few scattered flurries in extreme northeast Oklahoma on the 25th and light rain in extreme north Oklahoma on the 26th, skies were mainly clear. Unseasonably cool maximum temperatures were reported in the 50s on the 25th, but gradually warmed into the high 70s by the 28th. Following a similar warming trend, the lowest maximum temperatures increased from 35 degrees in Westville to 67 degrees in Boise City. Minimum temperatures averaged in the teens and 20s on the 25th and 26th, and the 30s and 40s on the 27th and 28th. Average wind speeds managed to waiver between 5 and 15 mph the majority of the time; however, calm winds prevailed in southeast Oklahoma on the 26th.

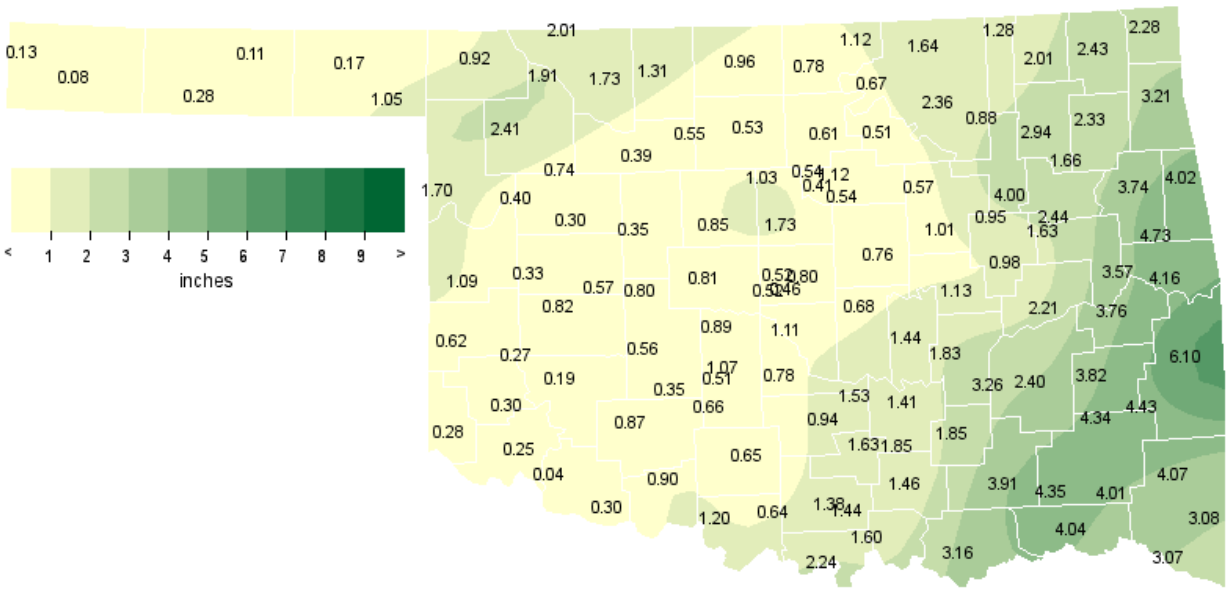
MARCH 29-31: The last few days in March ended with rain and thunderstorms for most of the state. Although northwest portions didn't receive as much precipitation as the rest of the region, it was blanketed by dense fog on the 29th, which reduced visibility to less than one sixteenth of a mile. Observations of thunderstorm hail greater than 2 inches in diameter were reported in Canadian (29th), Logan (29th), Comanche (30th), Atoka (30th), Muskogee (30th), and Cleveland (31st) Counties. A tornado was spotted in Sequoyah

County on the 30th as storms increased in severity through the night. Rainfall amounts were as high as 2.90 inches in Bixby on the 29th, 1.82 inches in Claremore on the 30th, and 1.22 inches in Wister on the 31st. Average wind speeds tended to stay below 15 mph. Peak thunderstorm wind gusts, however, were in the 40s on the 29th and 30th, and as high as 63 mph in Altus on the 31st. Maximum temperatures were in the 60s, 70s, and low 80s. Fairview had the warmest temperature of 83 degrees on the 30th. Minimum temperatures were fairly warm, ranging from 32 in Kenton to 60 in Durant.

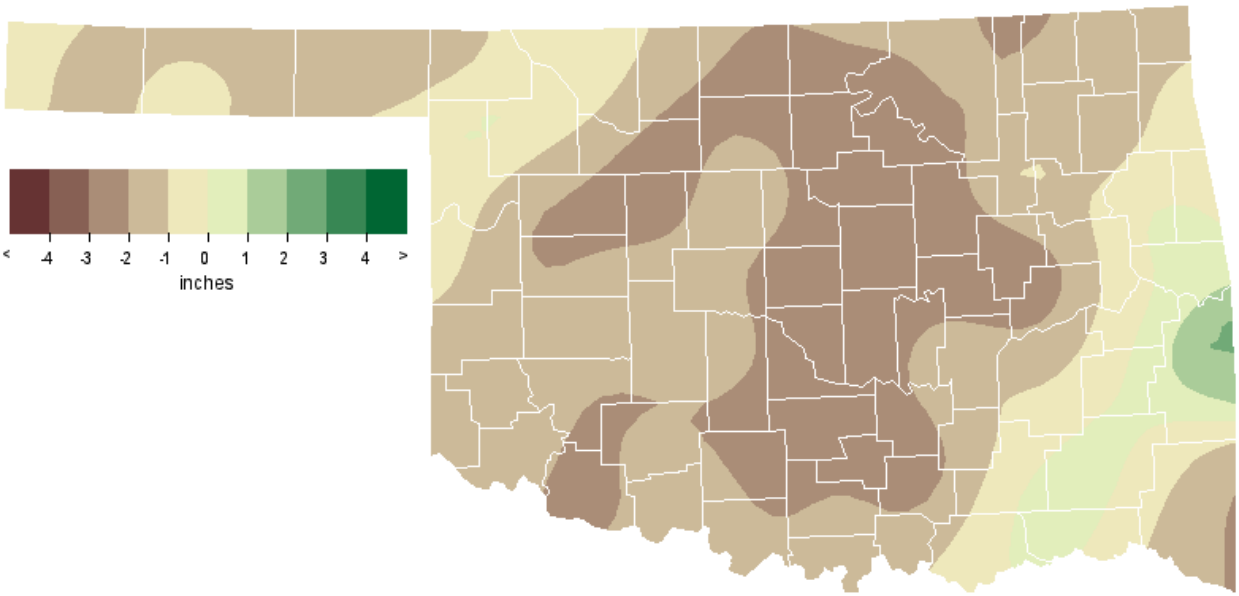
Hail
(2 inches in diameter or greater)

Size (in.)	Location	County	Day
2.50	4 N Terral	Jefferson	9
2.50	5 NNE El Reno	Canadian	29
2.25	7 NNE El Reno	Canadian	29
2.50	Lovell	Logan	29
2.30	1 ENE Cache	Comanche	30
2.50	3 SSE Wardville	Atoka	30
2.50	Muskogee	Muskogee	30
2.00	2 WSW Norman	Cleveland	31

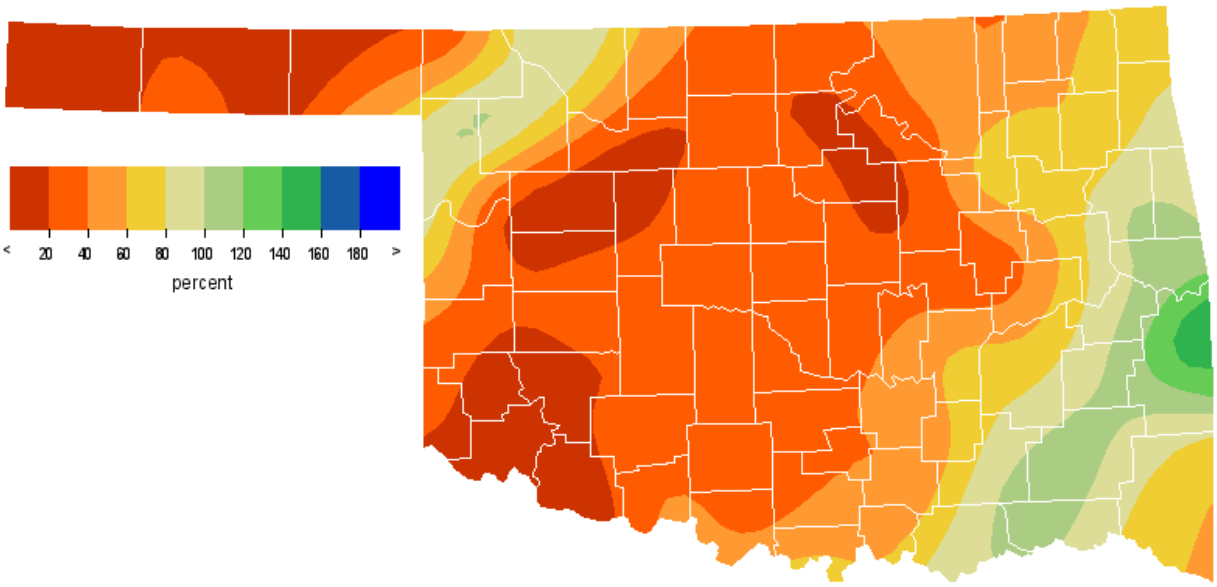
MARCH 2013 OBSERVED PRECIPITATION



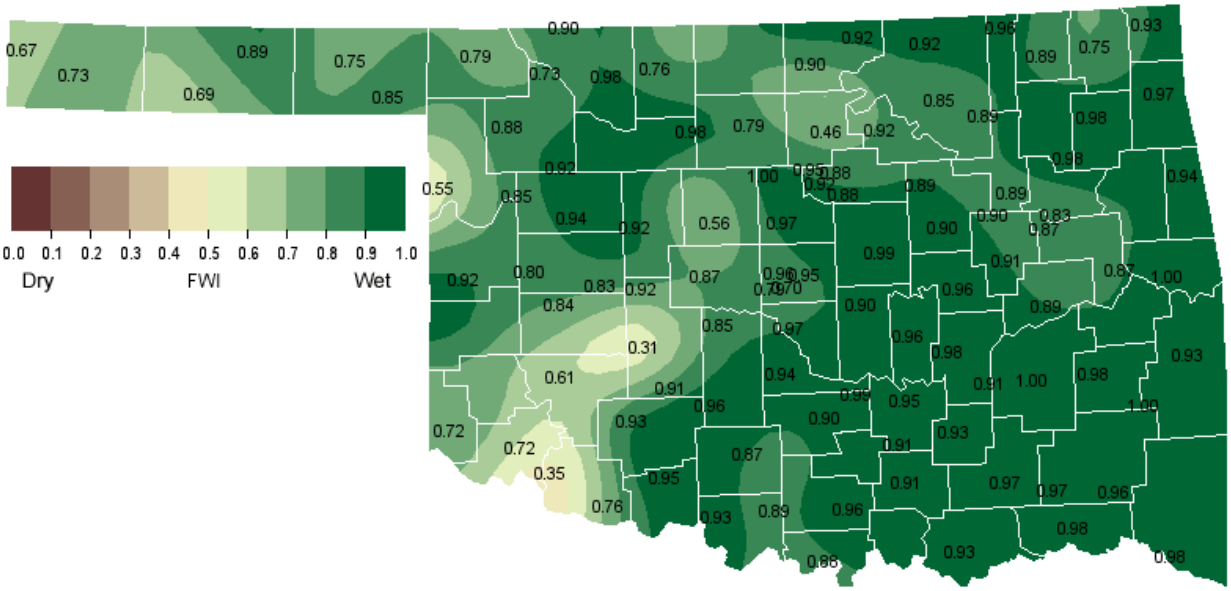
MARCH 2013 DEPARTURE FROM NORMAL PRECIPITATION



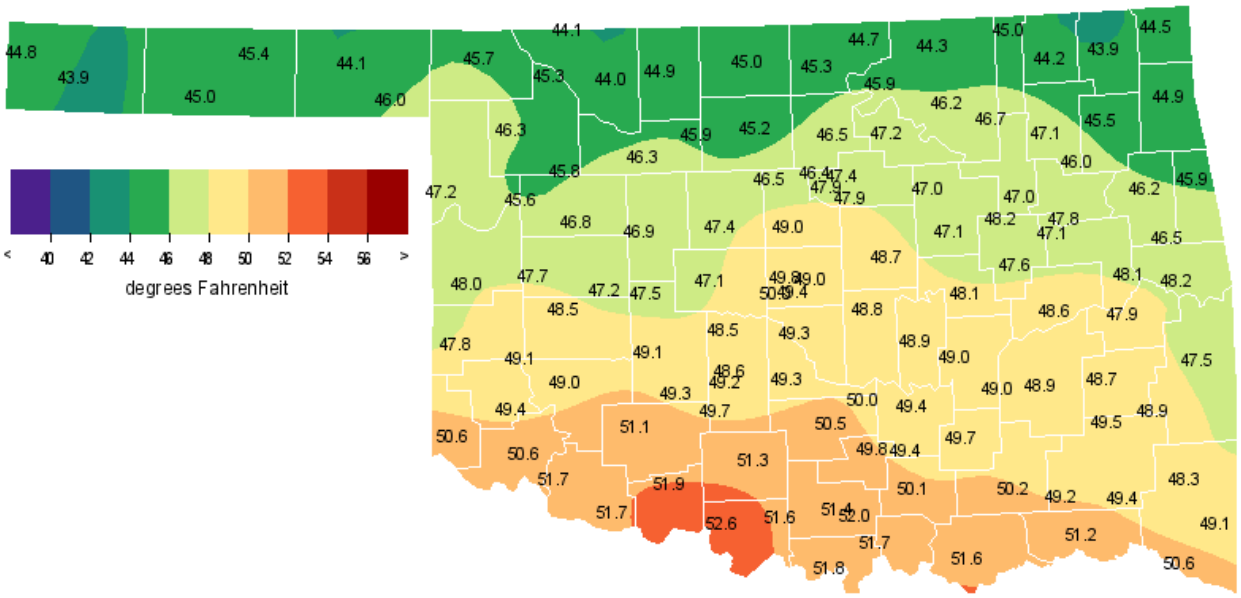
MARCH 2013 PERCENT OF NORMAL PRECIPITATION



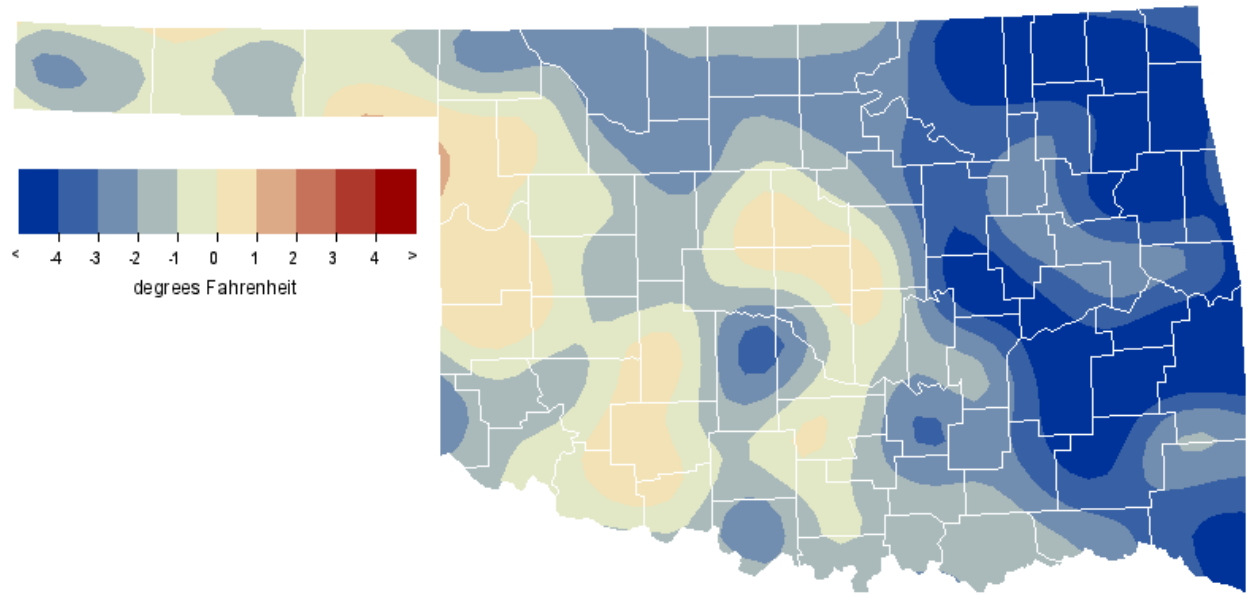
MARCH 2013 AVERAGE SOIL MOISTURE AT 25CM



MARCH 2013 AVERAGE TEMPERATURE



MARCH 2013 DEPARTURE FROM NORMAL TEMPERATURE

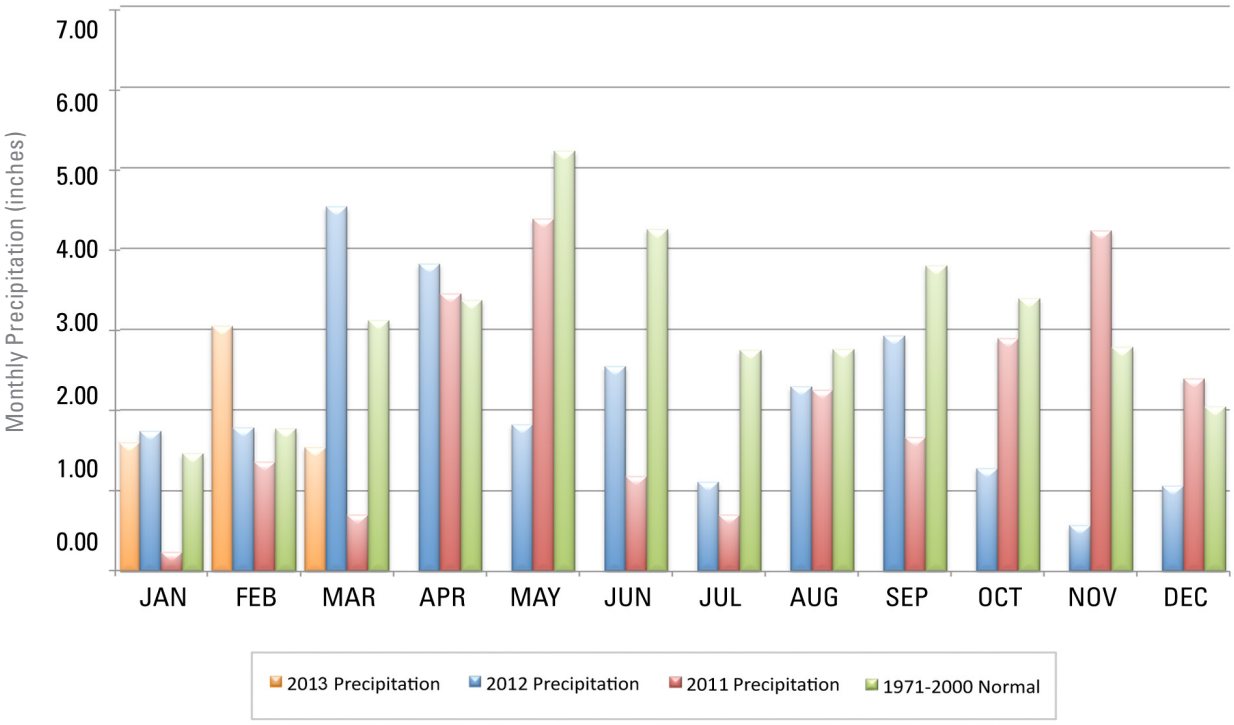


MESONET MONTHLY SUMMARY FOR MARCH 2013

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	47.1	87	15	15	26	554	0	1.70	1.03	9
Beaver	45.5	88	15	12	26	****	****	.17	.09	24
Boise City	43.8	81	15	13	5	656	0	.08	.05	24
Buffalo	45.8	87	15	17	26	597	0	.92	.54	9
NORTH CENTRAL										
Alva	44.0	88	15	11	2	651	0	1.73	1.15	9
Blackwell	45.3	81	15	17	26	613	1	.78	.34	9
Breckinridge	45.2	80	15	16	26	615	0	.53	.29	9
Cherokee	44.8	86	15	14	2	625	0	1.31	.89	9
Fairview	46.2	87	15	21	2	583	1	.39	.10	23
Freedom	45.4	85	15	17	26	608	0	1.91	1.61	9
Lahoma	45.8	84	15	19	26	596	1	.55	.18	22
NORTHEAST										
Bixby	47.0	82	15	21	26	558	0	4.00	2.90	29
Burbank	45.9	81	15	18	26	593	1	.67	.32	9
Claremore	47.1	83	15	21	26	555	2	2.94	1.82	30
Copan	45.0	81	15	21	26	621	0	1.28	.53	30
Foraker	44.3	81	15	16	2	643	0	1.64	.60	30
Inola	46.0	82	15	22	26	589	0	1.66	.66	9
Jay	44.8	79	15	20	26	627	1	3.21	.87	30
Miami	44.5	78	15	22	6	637	0	2.28	.80	9
WEST CENTRAL										
Bessie	48.5	82	15	19	26	511	0	.82	.62	31
Butler	47.7	86	15	14	26	536	0	.33	.16	31
Camargo	45.6	88	15	14	26	601	0	.40	.26	9
Cheyenne	47.9	85	15	21	26	530	0	1.09	.54	9
Erick	47.7	85	15	13	26	536	0	.62	.35	9
CENTRAL										
Acme	49.7	81	15	13	26	478	4	.66	.60	9
Bowlegs	48.9	81	15	21	26	505	6	1.44	.82	9
Bristow	47.1	83	15	17	26	557	1	1.01	.65	9
Lake Carl Blac	46.4	83	15	17	6	578	0	.54	.25	9
Chandler	48.6	83	15	19	26	514	6	.76	.45	9
Chickasha	48.6	82	15	16	26	508	0	1.07	.57	31
El Reno	47.0	83	15	16	26	557	0	.81	.34	9
Guthrie	48.9	82	15	19	26	505	7	1.73	1.28	29
Kingfisher	47.3	82	15	14	26	549	2	.85	.43	29
Marena	47.9	83	15	20	6	534	3	.41	.16	30
Minco	48.5	81	15	20	26	511	0	.89	.49	31
Marshall	46.6	82	15	16	26	571	0	1.03	.40	9
EAST CENTRAL										
Cookson	46.5	79	15	20	26	575	2	4.73	1.71	9
Eufaula	48.6	79	15	25	26	511	3	2.21	.91	9
Haskell	47.1	81	15	22	26	556	0	1.63	.60	9
Hectorville	48.3	83	15	22	26	523	5	.95	.39	9
Holdenville	49.0	80	15	22	26	499	2	1.83	.64	31
McAlester	48.8	81	15	21	26	509	5	2.40	.68	29
Okmulgee	47.6	82	15	19	26	544	4	.98	.68	9
SOUTHWEST										
Altus	50.6	84	15	18	26	448	0	.25	.25	9
Apache	49.3	82	15	18	26	488	0	.35	.28	9
Fort Cobb	49.0	82	15	17	26	495	1	.56	.28	31
Grandfield	51.7	86	15	19	26	419	6	.30	.24	9
Hinton	47.5	80	30	17	26	543	1	.80	.49	31
Hobart	49.0	82	15	16	26	497	0	.19	.12	9
SOUTH CENTRAL										
Ada	49.4	81	15	17	26	491	7	1.41	.59	31
Ardmore	52.0	81	15	24	26	412	9	1.44	.89	9
Burneyville	51.8	82	15	19	26	419	9	2.24	1.04	9
Byars	49.9	81	15	23	2	472	5	1.53	.55	31
Centrahoma	49.6	79	16	18	26	480	4	1.85	.55	29
Durant	51.6	83	4	24	26	422	6	3.16	1.40	9
Fittstown	49.4	79	15	20	26	486	2	1.85	.56	9
Ketchum Ranch	51.3	83	16	19	26	430	6	.65	.52	9
Lane	50.2	81	4	24	26	464	4	3.91	1.68	9
SOUTHEAST										
Antlers	49.1	82	4	20	26	493	1	4.35	1.14	9
Antlers	*****	***	***	***	***	****	****	*****	*****	***
Broken Bow	49.0	80	16	23	3	497	0	3.08	.90	31
Clayton	49.5	80	15	25	3	487	6	4.34	1.35	9
Cloudy	49.4	79	16	24	26	483	0	4.01	1.23	10
Hugo	51.2	81	4	25	2	434	7	4.04	1.30	10

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	44.9	84	15	16	24	622	0	.28	.11	24
Hooker	45.3	84	15	13	26	610	0	.11	.05	24
Kenton	44.8	82	15	12	24	627	0	.13	.09	24
Slapout	46.0	87	15	14	26	590	1	1.05	.55	9
May Ranch	44.1	88	15	19	2	649	2	2.01	1.53	9
Medford	45.0	82	15	17	26	623	2	.96	.54	31
Newkirk	44.7	81	15	17	2	630	1	1.12	.45	9
Red Rock	46.5	82	15	17	6	574	1	.61	.24	9
Seiling	45.8	87	15	14	26	596	1	.74	.52	9
Woodward	46.3	86	15	17	26	582	3	2.41	1.92	9
Nowata	44.2	83	15	19	6	645	0	2.01	1.32	30
Pawnee	47.2	83	15	18	26	555	4	.51	.14	22
Porter	47.8	81	15	23	26	535	0	2.44	.66	9
Pryor	45.5	81	15	22	26	605	0	2.33	.90	30
Skiatook	46.7	83	15	20	2	570	4	.88	.20	30
Vinita	43.9	80	15	18	26	653	0	2.43	.95	30
Wynona	46.2	83	15	21	26	585	1	2.36	1.42	29
Putnam	46.7	84	15	17	26	568	0	.30	.14	9
Retrop	49.1	85	15	20	26	493	0	.27	.18	9
Watonga	46.8	80	30	20	26	565	0	.35	.16	9
Weatherford	47.1	80	30	21	11	555	0	.57	.28	9
Ninnekah	49.2	82	15	17	26	493	3	.51	.32	9
Norman	49.3	82	15	20	26	492	4	1.11	.61	31
Oilton	47.0	84	15	16	26	561	4	.57	.31	9
OKC East	49.4	82	15	20	26	492	8	.46	.28	9
OKC North	49.7	82	15	23	2	481	8	.52	.23	31
OKC West	50.0	82	15	24	2	472	7	.52	.33	31
Okemah	48.1	81	15	18	26	524	2	1.13	.50	9
Perkins	47.9	82	15	20	26	532	2	.54	.26	30
Shawnee	48.8	80	15	23	26	507	6	.68	.47	9
Spencer	49.0	81	15	21	6	505	9	.80	.48	9
Stillwater	47.4	84	15	20	6	548	1	1.12	.72	29
Washington	49.3	81	15	21	26	489	2	.78	.31	9
Sallisaw	48.2	83	15	23	26	521	0	4.16	1.25	9
Stigler	48.0	80	15	24	6	536	7	3.76	1.81	9
Stuart	49.0	77	15	23	2	496	1	3.26	1.36	30
Tahlequah	46.2	80	15	19	26	584	1	3.74	1.28	30
Webbers Falls	48.1	81	15	25	26	525	1	3.57	1.00	29
Westville	45.9	79	15	22	2	594	1	4.02	1.60	9
Hollis	50.6	88	15	18	26	446	0	.28	.20	9
Mangum	49.4	85	15	15	26	485	0	.30	.17	9
Medicine Park	51.1	83	15	24	26	435	4	.87	.55	9
Tipton	51.6	86	15	15	26	421	6	.04	.04	9
Walters	*****	***	***	***	***	****	****	*****	*****	***
Madill	51.7	80	15	20	26	419	6	1.60	.76	9
Newport	51.4	82	15	22	2	427	6	1.38	.65	9
Pauls Valley	50.5	83	15	20	26	457	8	.94	.41	31
Ringling	51.6	83	15	21	25	418	3	.64	.48	9
Sulphur	49.8	80	15	17	26	476	5	1.63	.84	31
Tishomingo	50.1	79	15	19	26	463	3	1.46	.64	31
Vanoss	*****	***	***	***	***	****	****	*****	*****	***
Waurika	52.5	87	16	20	26	399	12	1.20	.86	29
Idabel	50.6	80	16	22	26	446	0	3.07	1.26	30
Mt Herman	48.4	77	16	22	26	516	1	4.07	1.20	10
Talihina	48.9	80	15	21	26	502	4	4.43	1.08	10
Wilburton	48.7	80	15	21	26	510	4	3.82	1.79	9
Wister	47.5	80	15	21	26	546	3	6.10	1.61	30

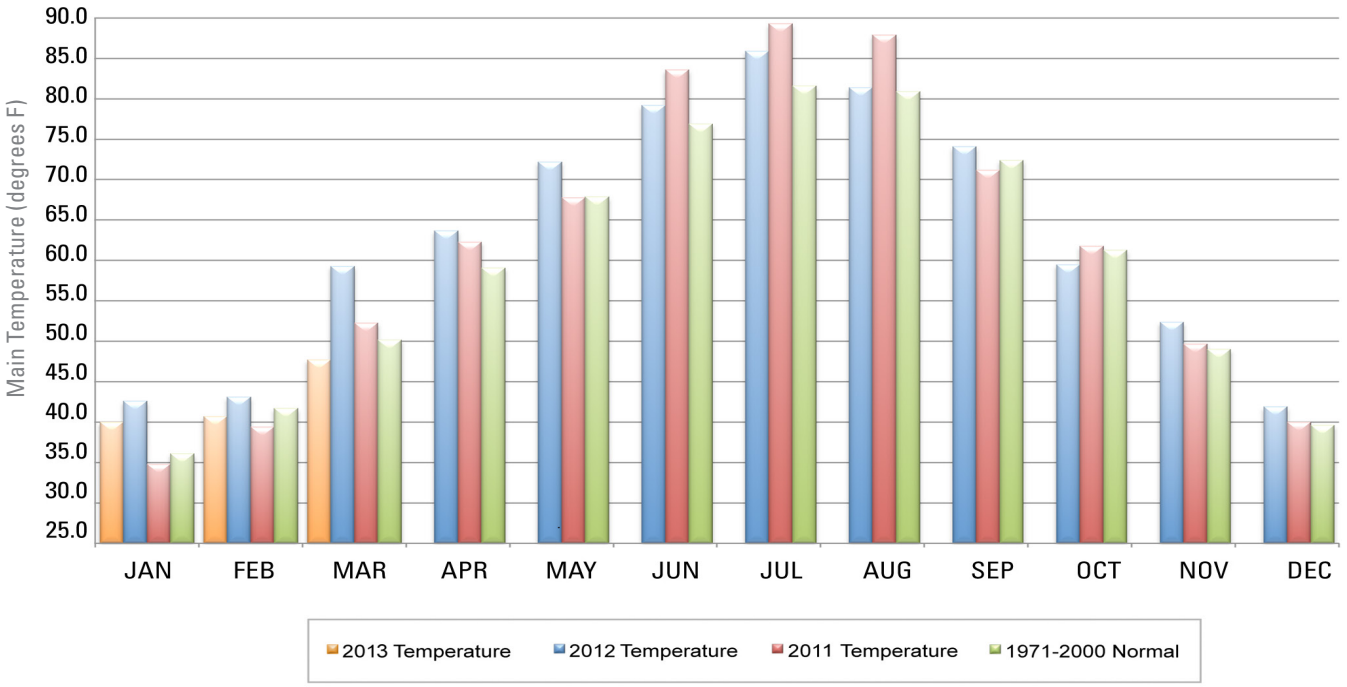
2011, 2012, AND 2013 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



March 2013 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Mar-12
Panhandle	0.62	-1.01	45th Driest	5.84 (1973)	0.00 (1895)	2.94
North Central	1.16	-1.52	40th Driest	8.18 (1973)	0.00 (1936)	3.19
Northeast	2.04	-1.63	40th Driest	9.79 (1973)	0.00 (1900)	6.24
West Central	0.53	-1.87	25th Driest	7.24 (1973)	0.00 (1895)	2.69
Central	0.83	-2.41	18th Driest	7.88 (1990)	0.00 (1900)	4.71
East Central	2.86	-1.23	55th Driest	10.63 (1945)	0.46 (1911)	5.80
Southwest	0.44	-1.82	17th Driest	5.52 (1973)	0.00 (1940)	3.48
South Central	1.68	-1.87	33rd Driest	8.46 (1945)	0.20 (1950)	5.40
Southeast	4.13	-0.35	56th Wettest	12.38 (1945)	0.81 (2011)	6.36
Statewide	1.54	-1.57	33rd Driest	7.46 (1973)	0.38 (1971)	4.57

2011, 2012, AND 2013 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



March 2013 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Mar-12 (F)
Panhandle	44.6	-1.7	54th Coolest	57.7 (2012)	32.9 (1915)	57.7
North Central	45.3	-2.9	36th Coolest	58.2 (2012)	35.3 (1915)	58.2
Northeast	45.7	-3.9	32nd Coolest	59.9 (2012)	37.3 (1960)	59.9
West Central	47.5	-1.4	54th Coolest	58.2 (2012)	35.8 (1915)	58.2
Central	48.4	-2.1	50th Coolest	60.5 (2012)	37.7 (1915)	60.5
East Central	47.8	-3.7	30th Coolest	60.5 (2012)	39.2 (1915)	60.5
Southwest	50.2	-1.3	58th Coolest	59.6 (2012)	38.2 (1915)	59.6
South Central	50.8	-2.2	47th Coolest	61.1 (1907)	40.4 (1915)	61.0
Southeast	49.2	-3.6	28th Coolest	61.5 (1907)	42.0 (1915)	60.3
Statewide	47.7	-2.5	45th Coolest	59.6 (2012)	37.6 (1915)	59.6

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Daily High Temperature	15	Tulsa	84	84	1921

MESONET EXTREMES FOR MARCH 2013

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	88	15th	Beaver	12	26th	Beaver	1.70	Arnett	1.03	9th	Arnett
North Central	88	15th	Alva	11	2nd	Alva	2.41	Woodward	1.92	9th	Woodward
Northeast	83	15th	Claremore	16	2nd	Foraker	4.00	Bixby	2.90	29th	Bixby
West Central	88	15th	Camargo	13	26th	Erick	1.09	Cheyenne	0.62	31st	Bessie
Central	84	15th	Stillwater	13	26th	Acme	1.73	Guthrie	1.28	29th	Guthrie
East Central	83	15th	Hectorville	19	26th	Tahlequah	4.73	Cookson	1.81	9th	Stigler
Southwest	88	15th	Hollis	15	26th	Mangum	0.90	Walters	0.55	9th	Medicine Park
South Central	87	16th	Waurika	17	26th	Ada	3.91	Lane	1.68	9th	Lane
Southeast	82	4th	Antlers	20	26th	Antlers	6.10	Wister	1.79	9th	Wilburton
Statewide	88	15th	Alva	11	2nd	Alva	6.10	Wister	2.90	29th	Bixby

APRIL OUTLOOK

April is the first full month of spring- the season of newly green trees and grass, redbud trees in bloom, and wildflowers aplenty. Baseball, romance, and pollen permeate the air, creating the dizzying mixture of joy and misery that marks the season. Most of April features exceedingly pleasant weather, much like that on April 22, 1889. According to the weather report submitted by the observer at Fort Reno, the day of the first great land run featured a high temperature of 80 degrees Fahrenheit, sandwiched between overnight lows of 46 and 54 degrees. Winds were northeasterly and light. Clouds were few.

April is the state's 5th wettest and 7th warmest month, establishing it clearly as part of the spring transition season. The statewide-averaged normal precipitation, based on the 30-year record compiled from 1971 through 2000, is 3.32 inches. The average monthly temperature, compiled from observations over the same period, is 59.8 degrees.

Temperature

Mean	59.8 degrees
Warmest Location	63.9 degrees, Waurika
Coolest Location	54.0 degrees, Boise City
Warmest April	1954, 65.4 degrees
Coolest April	1983, 54.0 degrees
Hottest recorded	106 degrees, Mangum, April 12, 1972
Coldest recorded	7 degrees, Hooker, April 4, 1979

Precipitation generally increases from southeast to northwest. Monthly normal precipitation for individual stations ranges from 1.36 inches at Oklahoma's driest observing station, Regnier (in the northwestern panhandle), to 5.19 inches at Daisy, on the western edge of southeastern Oklahoma's Ouachita Mountains. A statewide–averaged precipitation of 8.50 inches rates 1942 as the wettest April in the state's annals. The driest April, statewide, was in 1989 when the state's reporting stations received an average of just 0.58 inch for the month. The greatest April precipitation at any reporting station was 17.78 inches recorded at Okemah in 1945. Snowfall is rare in April, except in the panhandle. Boise City averages 2.5 inches of snow during April. Goodwell reported 17 inches of snow during April 1988, and Fargo received 14 inches during that month in 1973.

Normal monthly temperatures decrease from south to north. Waurika is the state's warmest location during April with a normal temperature of 63.9 degrees. Boise City ranks as the coolest site with a monthly average temperature of 54 degrees. Normal daily maximum temperatures range from 77 degrees at Waurika to 67.8 degrees at Newkirk. Normal daily minimum temperatures range from Waurika's 50.7 degrees to Boise City's 37.3. Temperatures drop below the freezing mark an average of nearly 8 times during April at Kenton, but freezes are uncommon across most of the main body of the state. Except in the panhandle, any sub-freezing temperatures after mid-April would constitute a late freeze and would be harmful to plants, especially fruit or pecan trees. Southwestern Oklahoma experiences temperatures in the 90s an average of three times each April. Hot and cold do manage to creep in, however. On April 12, 1972, Mangum recorded a high temperature of 106 degrees, the highest of the 15 temperature reports of 102 degrees or more across the state that day. Conversely, Hooker's daily minimum temperature on April 4, 1979 was 7 degrees, thereby establishing the other extreme temperature for the month.

Precipitation

Mean	3.32 inches
Wettest April	1942, 8.50 inches
Driest April	1989, 0.58 inches
Wettest location	Daisy, 5.19 inches
Driest location	Regnier, 1.36 inches
Most recorded	17.78 inches, Okemah, 1945

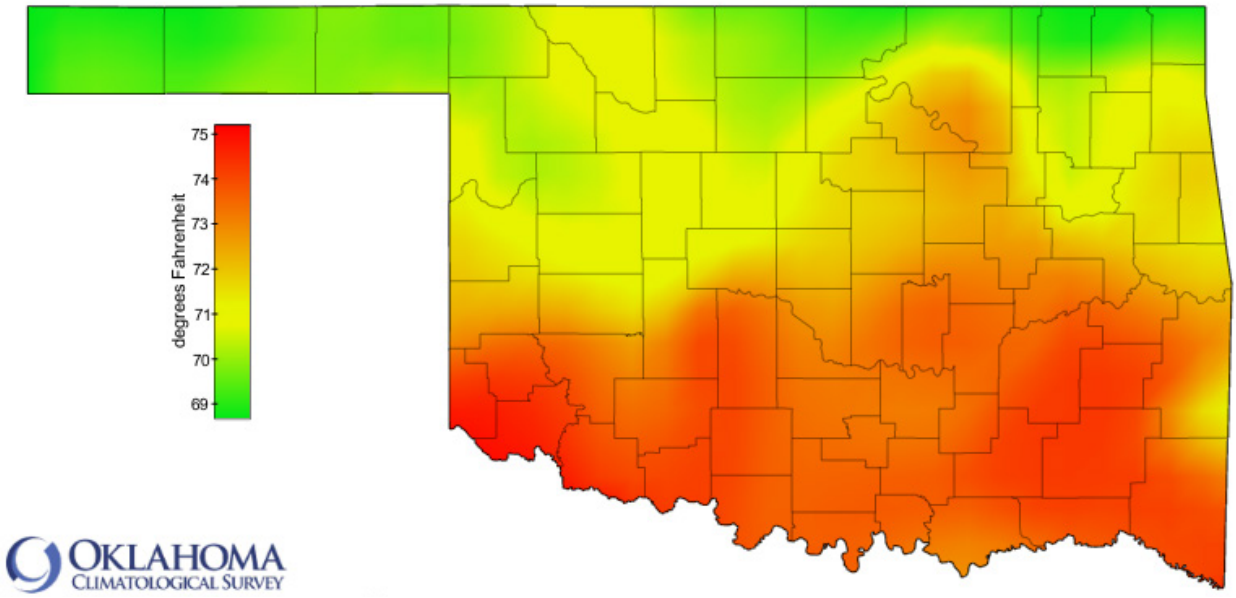
Tornadoes

Average April Tornadoes	11.7
Most	53 (2012)

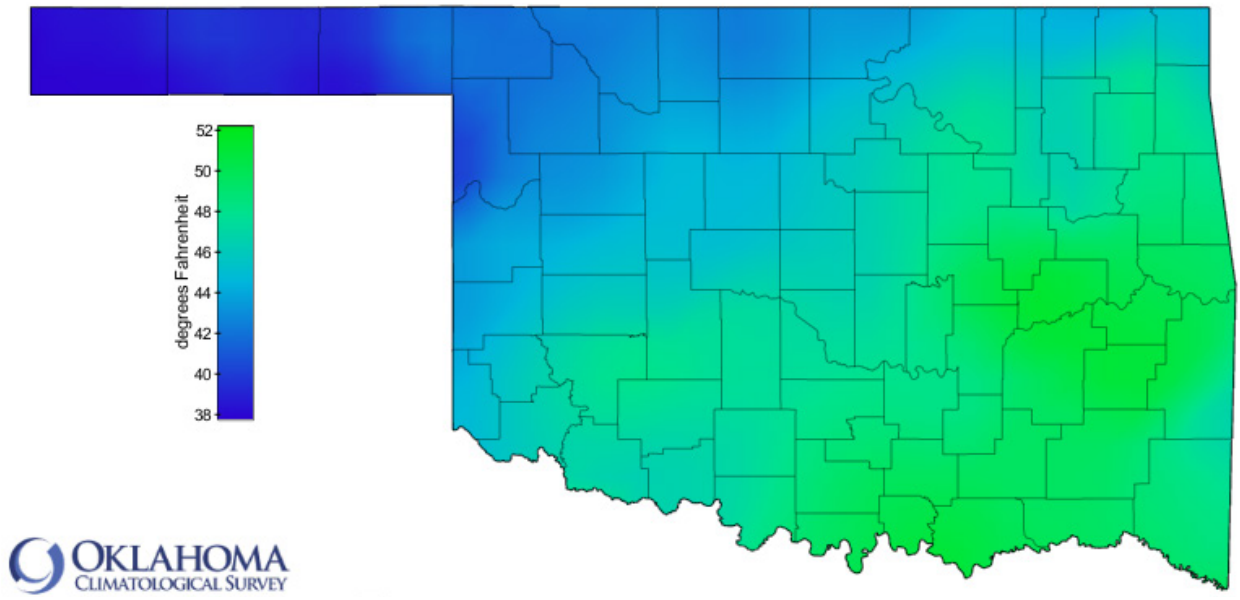
Spring brings with it Oklahoma's noted severe weather season. April is Oklahoma's windiest month and ranks second among the 12 months in the number of tornadoes observed across the state. The state has averaged 10.7 tornadoes each April since 1950, a monthly average exceeded only by May. Eight years of wind observations from the statewide Oklahoma Mesonet have revealed an average April wind speed, statewide, of 10.6 miles per hour, which barely edges March for windiest month honors. South winds prevail in most areas, although passing cold fronts are still capable of turning winds to northerly for a day or so at a time.

Comprehensive records of tornado occurrence are available from 1950 to the present. A total of 579 tornadoes are listed as having struck within Oklahoma during April from 1950 through 2003. Forty of those tornadoes were reported in 1957, easily the most of any April during the period.

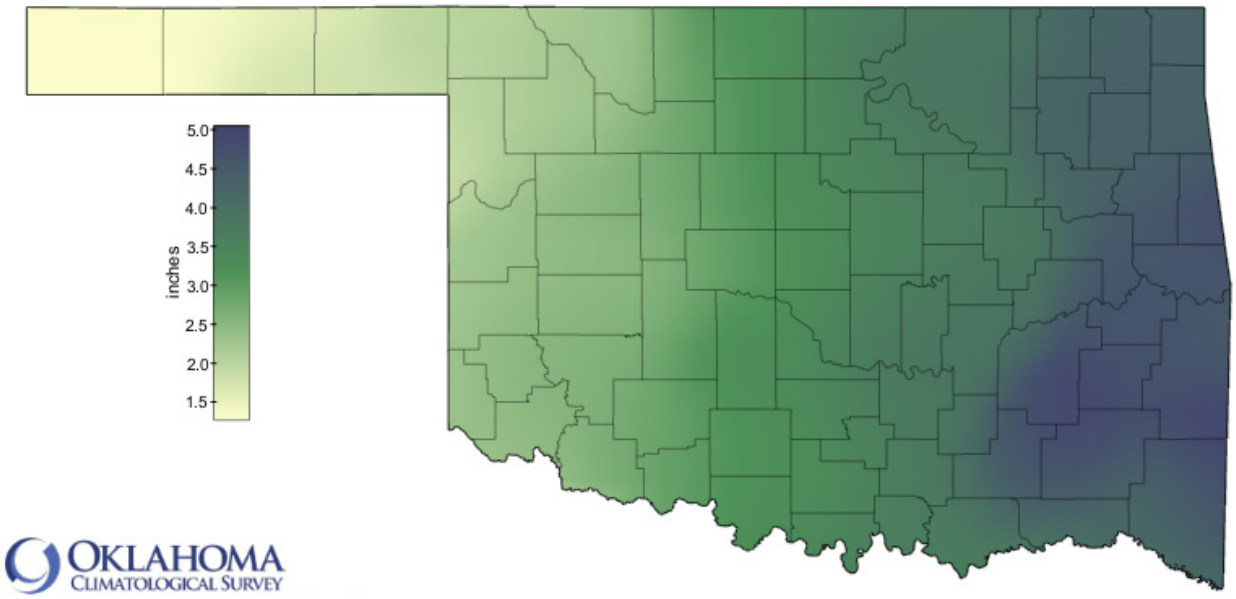
APRIL NORMAL DAILY MAXIMUM TEMPERATURE (1981-2010)



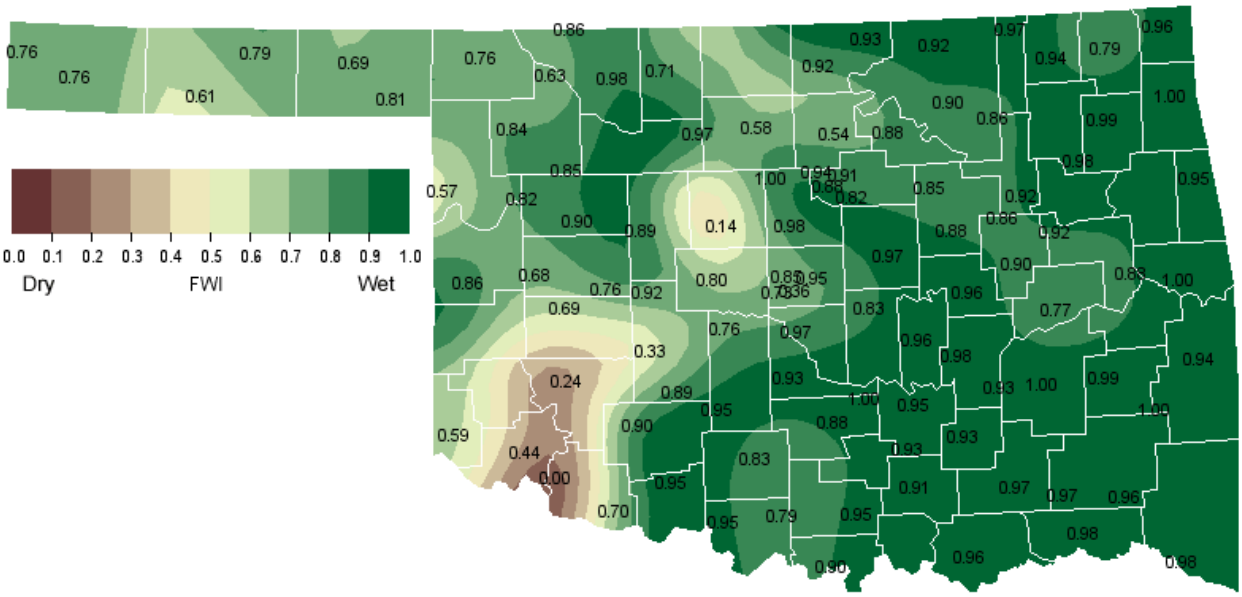
APRIL NORMAL DAILY MINIMUM TEMPERATURE (1981-2010)



APRIL NORMAL PRECIPITATION (1981-2010)



APRIL 1, 2013 SOIL MOISTURE CONDITIONS AT 25CM



APRIL 2013 DROUGHT INDICES

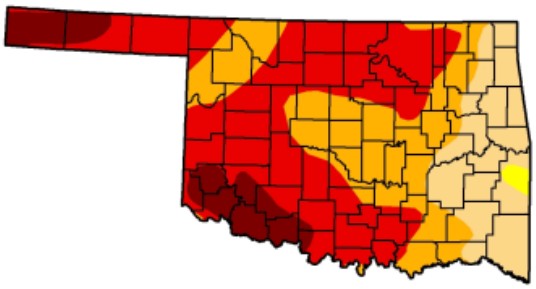
U.S. Drought Monitor

April 2, 2013
Valid 7 a.m. EST

Oklahoma

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.30	80.68	52.97	9.90
Last Week (03/26/2013 map)	0.00	100.00	100.00	83.07	53.07	9.90
3 Months Ago (01/01/2013 map)	0.00	100.00	100.00	100.00	94.89	37.06
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	100.00	94.89	37.06
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	99.98	95.33	42.09
One Year Ago (03/27/2012 map)	66.48	33.52	23.64	11.88	4.97	1.05



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

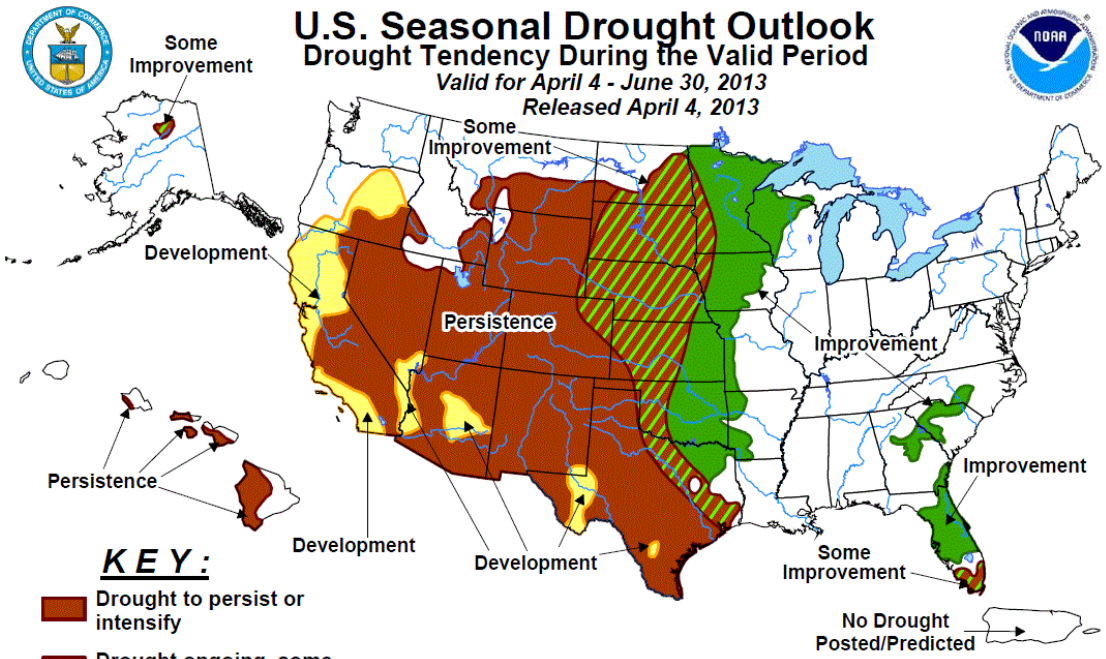
USDA · National Drought Mitigation Center

Released Thursday, April 4, 2013
National Drought Mitigation Center,

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for April 4 - June 30, 2013
Released April 4, 2013

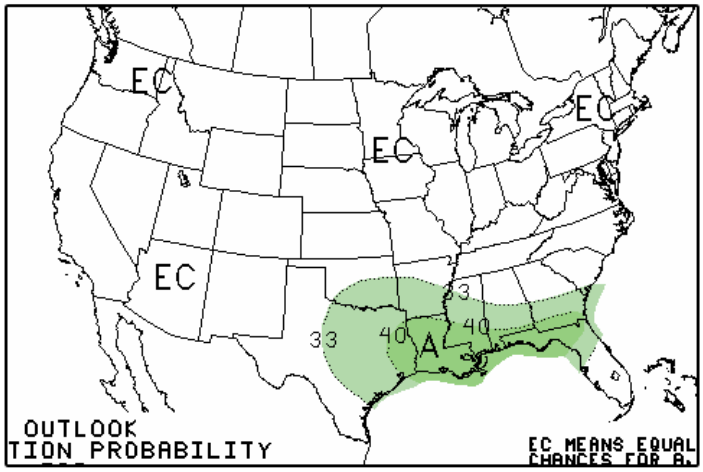


KEY:

- **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.

APRIL 2013 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

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

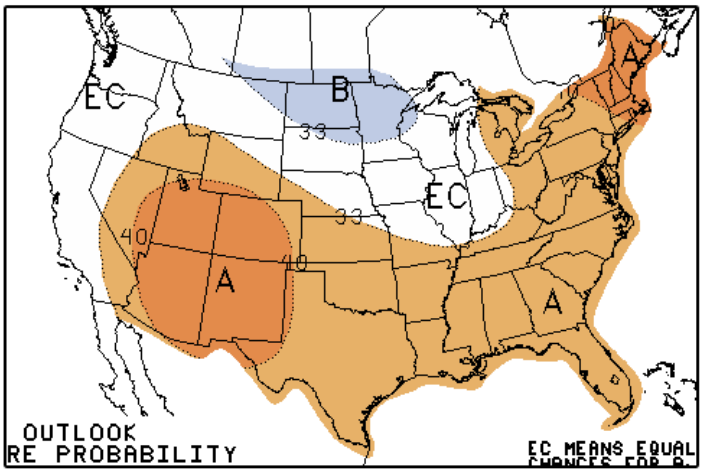
A = Above

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

B = Below

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

APRIL 2013 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

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

A = Above

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

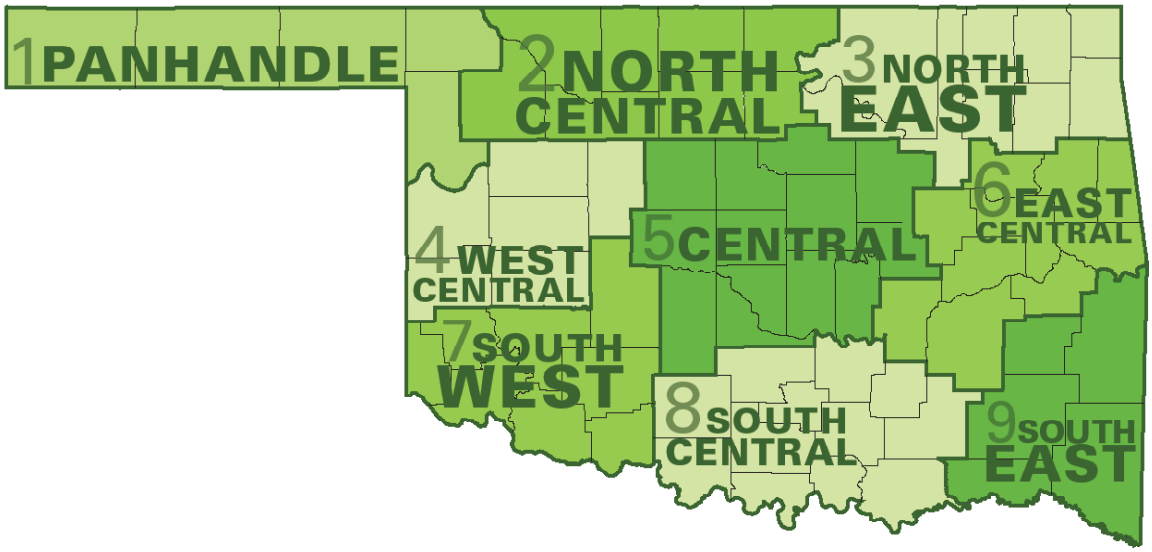
B = Below

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

APRIL CLIMATE NORMALS

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	70.7	40.5	55.6	1.81
2	70.2	43.6	56.9	2.95
3	72.1	47.1	59.6	3.92
4	71.0	44.3	57.7	2.48
5	71.9	47.2	59.6	3.47
6	72.3	48.3	60.3	4.24
7	73.6	46.4	60.0	2.66
8	73.5	48.9	61.2	3.74
9	73.7	47.8	60.8	4.46
Statewide	72.1	46.2	59.2	3.41

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

Oklahoma Climatological Survey is the State Climate Office for Oklahoma

Dr. Kevin Kloesel Director
Dr. Renee McPherson State Climatologist

EDITOR
Gary D. McManus Associate State Climatologist

CONTRIBUTORS
Gary D. McManus
Dr. Mark A. Shafer Director of Climate Services
Howard Johnson Associate State Climatologist (Ret.)
Monica Deming Service Climatologist

DESIGN
Ada Shih Graphic Designer
Lacie Webb Graphic Designer Student Assistant

For more information, contact:
Oklahoma Climatological Survey
The University of Oklahoma
120 David L. Boren Blvd., Suite 2900
Norman, OK 73072-7305

TEL: 405-325-2541
FAX: 405-325-2550
E-MAIL: ocs@ou.edu