Oklahoma Monthly Climate Summary

FEBRUARY 2013

OKLAHOMA CLIMATOLOGICAL SURVEY

Winter roared back into Oklahoma during February, providing significant drought relief to much of the state while dumping as much as three feet of snow in the northwest. According to preliminary data from the Oklahoma Mesonet, the statewide average precipitation total for February was 3.03 inches, 1.27 inches above normal. That would rank the month as the 13th wettest February since records began in 1895, although melting snow in the northwest could push that mark higher. Radar estimates indicate 2-6 inches of liquid equivalent precipitation fell across the state during the month. February was the wettest month in Oklahoma since April 2012, which had a statewide average of 3.81 inches. A statewide average deficit of more than 12 inches still exists since the beginning of last May, the beginning point of this second round of drought that has persisted since October 2010. The deficit since that point is nearly 25 inches. Not only was the month wetter than normal, it was also cooler than normal. According to the Mesonet, the statewide average temperature finished at 40.7 degrees, 1 degree below normal – only the seventh month out of the last 35 to accomplish that feat. The winter period of December 2012-February 2013 ranked as the 30th warmest at 1.9 degrees above normal and 35th wettest at 0.6 inches above normal.

The month's last storm system was also its most powerful. Severe thunderstorms, hail, freezing rain and snow pounded the state on Feb. 24-26. Strong winds of over 50 mph whipped the snow, often accompanied by thunder, into drifts as high as 10 feet that paralyzed much of northwestern Oklahoma. More than 36,000 electrical customers were left without power thanks to ice-coated power lines and trees, and nearly all highways across extreme northwestern Oklahoma were shut down as roads drifted shut. The heavy, wet snow crumpled awnings and in some cases, roofs. One fatality was attributed to a roof collapse at a private residence in Woodward. The snow totals were extreme, and in some cases, possibly record-breaking. The preliminary February snowfall total of 42.5 inches from the small Ellis County town of Arnett would break the state's all-time snowfall record for any month if it verifies. That mark currently stands at 39.5 inches from Buffalo, set in February 1971. Alva, to the northeast in Woods County, recorded a preliminary total of 35.6 inches.

The month began with 92 percent of the state depicted in at least extreme drought by the U.S. Drought Monitor, and 40 percent considered to be in exceptional drought. The Drought Monitor's intensity scale slides from moderate-severe-extreme-exceptional, with exceptional being the worst category. The latest report released on Feb. 28 portrays remarkable improvement with only 12 percent of the state in exceptional drought. The amount in at least extreme drought dropped to 62 percent. The state had not seen a lower percentage of exceptional drought since the end of last July when the level was at five percent. Only the Panhandle and far southwestern Oklahoma remain in exceptional drought. Most of eastern Oklahoma dropped from extreme to severe drought thanks to improving drought impacts. Soil moisture data from the Oklahoma Mesonet show saturated soils down to 24 inches across the eastern half of the state, with similar conditions in the topsoils across all of Oklahoma.

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February 2013 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	75°F	Waurika, Anters	17, 18
Low Temperature	-2°F	Hooker	22
High Precipitation	4.61 in.	Fairview	
Low Precipitation	0.26 in.	Kenton	--

February 2013 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2013)
Month (February)	40.7°F	-1.0°F	55th Coolest
Season-to-Date (Dec-Feb)	40.7°F	1.9°F	29th Warmest
Year-to-Date (Jan-Feb)	40.2°F	1.4°F	43rd Warmest

Precipitation

	Average	Depart.	Rank (1895-2013)
Month (February)	3.04 in.	1.28 in.	13th Wettest
Season-to-Date (Dec-Feb)	5.82 in.	0.59 in.	35th Wettest
Year-to-Date (Jan-Feb)	4.89 in.	1.68 in.	16th Wettest

Depart. = departure from 30-year normal

FEBRUARY DAILY HIGHLIGHTS

FEBRUARY 1-3: Although the beginning of February kicked off with a cold front, it quickly made way for a rallying warm trend. Highs ranged from 39 to 59 on the first and climbed up into the 54 to 69 range by the third. Minimum temperatures were in the teens and 20s on Friday and increased by 5 to 10 degrees on Saturday and again on Sunday. Skies were mostly clear and wind speeds averaged between 5 and 10 mph.

FEBRUARY 4: The day started off with short-lived, scattered thunderstorms and rain developing ahead of a cold front. As the day progressed, lingering showers pushed east out of southeast Oklahoma. Although most areas of Oklahoma remained dry, just over a quarter-inch of rain fell in Talihina, Wilburton, and Wister. Highs ranged from 51 in Broken Bow to 72 in Burneyville; lows fell between 27 and 50. Wind speeds gusted to 42 in Acme, but averaged between 5 and 10 mph.

FEBRUARY 5: Dense fog crept into south central, southeastern and central Oklahoma in the early morning of the fifth. Despite overcast skies in south central OK, the state was mostly clear. Temperatures were only slightly cooler with maximums anywhere between 57 (Stuart) and 70 (Talihina) degrees and minimums between 20 (Hooker) and 48 (Madill) degrees. Wind speeds were very light for most of the state, measuring less than 10 mph.

FEBRUARY 6-7: Fog was present on both days, accompanied by scattered showers and a few thunderstorms on the seventh. The fog was so dense that visibility fell close to zero at times. Rainfall amounts were generally under two tenths of an inch in southeast Oklahoma on the sixth, but increased to as much as half an inch in east-central Oklahoma on the seventh. Maximum temperatures were fairly warm, ranging from 50 in Kenton to 74 in southern parts of the state. Minimums had a low end of 25 and an upper end of 54. Thunderstorm winds got pretty gusty, measuring as high as 48 in Weatherford. Although average wind speeds were between 5 and 15 mph, some areas in eastern OK jumped to just under 20 mph for their daily average.

FEBRUARY 8-10: Maximum temperatures dropped drastically on the eighth, but gradually increased by a few degrees each day. Highs that initially ranged from 46 (Newkirk and Foraker) to 63 (Broken Bow) crept up to 67 in southeast Oklahoma by the 10th. Lows averaged in the 30s and 40s. Light, scattered rain that dropped 0.41 inches (Butler) and 0.33 inches (Retrop) on the ninth turned into heavier rain and storms on the following day. Southeast Oklahoma received anywhere between half an inch in Antlers, Idabel and Wister to 0.91 inches in Lane. Average wind speeds were 5-15 mph on the eighth and strengthened to 10-20 mph on the ninth and 10th.

FEBRUARY 11-15: Increasing cloudiness on the 11th was a foretoken for upcoming precipitation. Widespread showers and isolated thunderstorms visited portions of southern Oklahoma, while snow fell in the northwest and mixed precipitation moved into north-central and south-central Oklahoma on the 12th. Snowfall ranged from trace amounts to 5 inches in Erick. Further south, both Acme and Mangum measured 1.06 inches of rainfall. The days that followed had trace amounts of precipitation from lingering drizzle and light snow. The highest maximum temperatures were in the 50s and 60s, except on the 12th when they only reached into the mid-upper 40s. Minimum temperatures varied from 13 degrees in the panhandle to the upper 30s in the southeast. Dense, freezing fog sat over areas of central Oklahoma on the 13th as lows were below freezing. Average wind speeds were relatively calm from the 11th-14th, measuring less than 10 mph. On the 15th, wind speeds jumped slightly to 5-15 mph. Despite the fairly calm speeds, however, gusts got as high as 44 mph in Minco on the 14th and 40 mph in Medicine Park on the 15th.

FEBRUARY 16-17: Despite an unpleasant morning of dense, freezing fog in portions of western Oklahoma, weather conditions improved with warming temperatures. Maximum temperatures climbed as high as 65 (Buffalo) on the 16th and 75 (Waurika) on the 17th — highs that were well above seasonal norms. A drastic jump occurred in the lowest maximum observed temperatures, changing from 38 to 65 in the northeast during this two-day period. Lows ranged from the teens to the upper 30s. Average wind speeds were between 5 and 10 mph on the 16th and between 10 and 20 mph on the 17th.

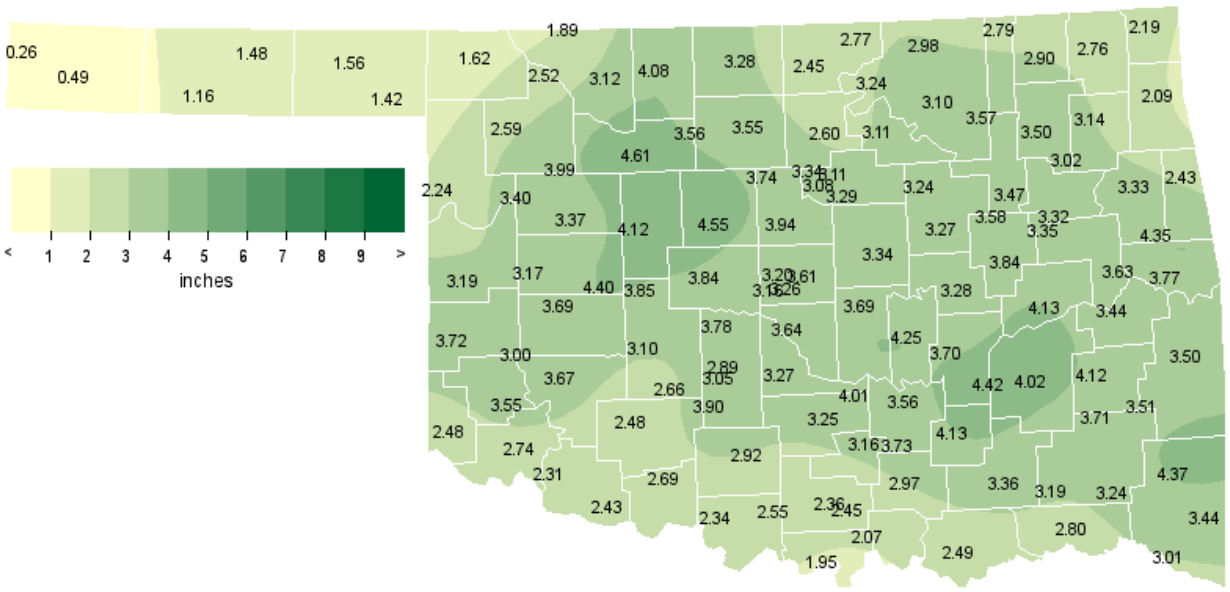
FEBRUARY 18-21: After a warm and dry couple of days, precipitation returned to the state in full force. Rain and severe thunderstorms developed in the eastern half of the state, dumping over a quarter inch of precipitation in Wister and Mt. Herman on the 18th. On the 20th, precipitation fell as snow in northern and central OK and a mix of rain, snow, and sleet in the northeast. Amounts of 1.40 inches and 1.27 inches were recorded in Byars and McAlester, respectively. A wintry mix continued on the 21st with some areas receiving snow totals as high as 8 inches (Woodward) and rainfall totals up to 1.01 inches (Claremore). Maximum temperatures were all over the place. Although the lowest maximums stayed in the 30s and 40s, the highest maximums were in the 70s (18th), 60s (19th), 40s (20th), and 50s (21st). Minimum temperatures got as low as 2 degrees in Hooker and as high as 47 degrees in the southeast. Areas with a lot of snow pack tended to keep temperatures cool. Average wind speeds were generally less than 20 mph on the 18th and 20th, and less than 15 mph on the 19th and 21st. Winds gusts were pretty high at times with one report hitting 50 mph in Camargo on the 18th.

FEBRUARY 22-23: Snowpack kept temperatures cool in the northwest once again, allowing the highest maximum temperatures to occur in the southeast. Broken Bow recorded the warmest temperature for the state on both days (51 on the 22nd and 55 on the 23rd). Minimum temperatures ranged from -2 in Hooker to 31 in Idabel. Despite light snow falling in the southwest, new precipitation accumulations were negligible. Wind speeds were calm, averaging less than 10 mph.

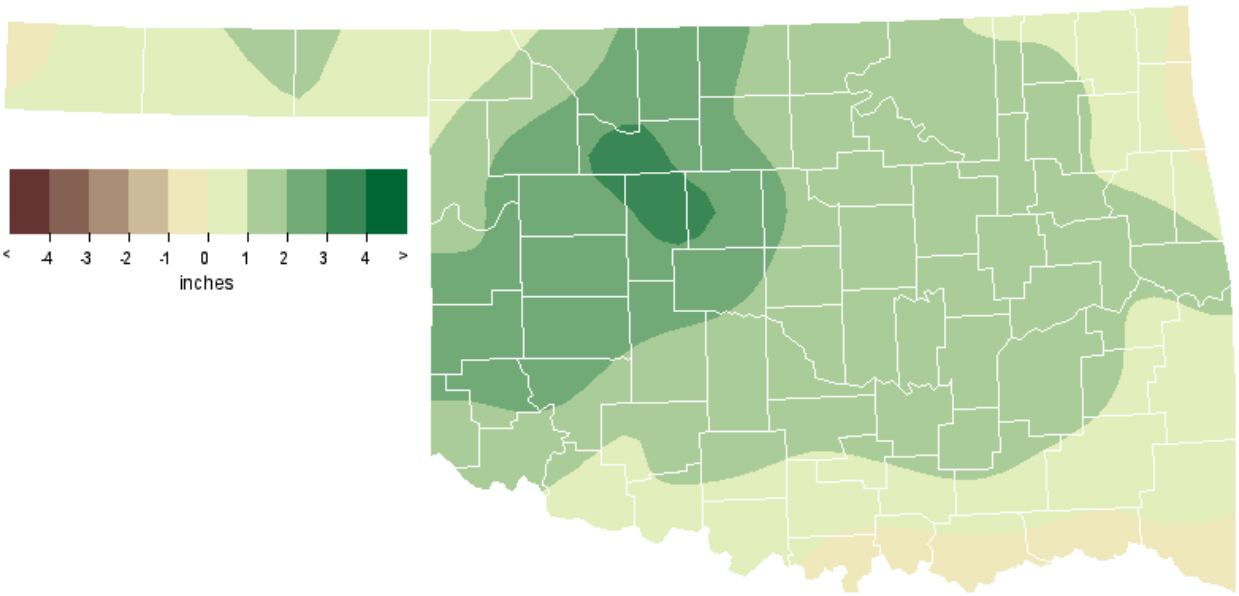
FEBRUARY 24-25: A strong cold front moved through Sunday afternoon, which set the stage for precipitation and a drop in temperatures. Highs hit 68 in Waurika ahead of the front and only 33 in the panhandle behind it. By Monday, the entire state felt the effects of this passing frontal boundary with the warmest temperatures only measuring in the low-mid 50s. Minimums averaged in the 20s and 30s. Rain and isolated thunderstorms occurred on both days. Although as much as 0.73 and 0.72 inches of rain fell in northern portions of the state on Sunday, Monday was hit hard with multiple types of precipitation and blizzard conditions. Heavy snowfall and rainfall accumulations were seen statewide with Woodward measuring over 13 inches of snow, and Oklahoma City and McAlester reaching a new daily rainfall accumulation records (OKC = 0.8 inches; McAlester = 0.46inches).The combination of 20-30 mph maximum wind speeds and heavy snow reduced visibility below a quarter mile at times. Peak wind gusts were as high as 69 mph in Hobart and 65 mph in Mangum on the 24th, as well as 5 2mph in Minco on the 25th.

FEBRUARY 26-28: February ended on a sunny note for the state as precipitation ended overnight on the 26th and skies cleared. Contrary to the 55 degree highs in the southeast, the coolest maximum temperatures were in the 30s in the snow-packed areas of the northwest and portions of the northeast. On all three days, low temperatures ranged from the teens (14 in Goodwell on the 26th) to the 30s (37 in Madill on the 26th). Winds were breezy, averaging from 10-15 mph on the 26th and 27th, and just over 10 mph on the 28th. Numerous gusts were reported in the 30s and 40s.

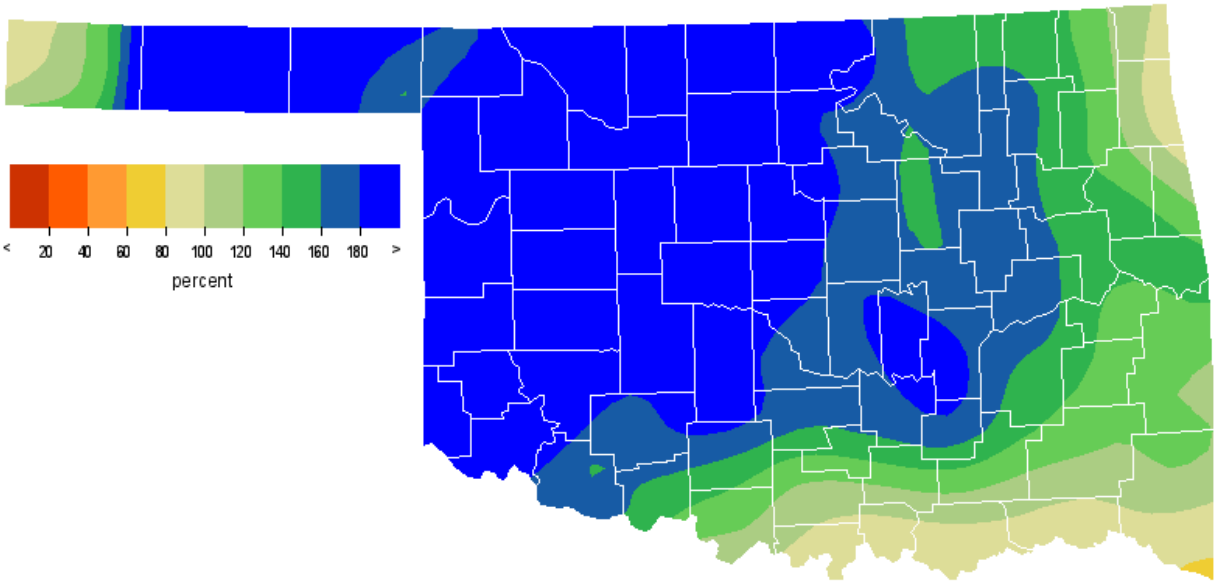
FEBRUARY 2013 OBSERVED PRECIPITATION



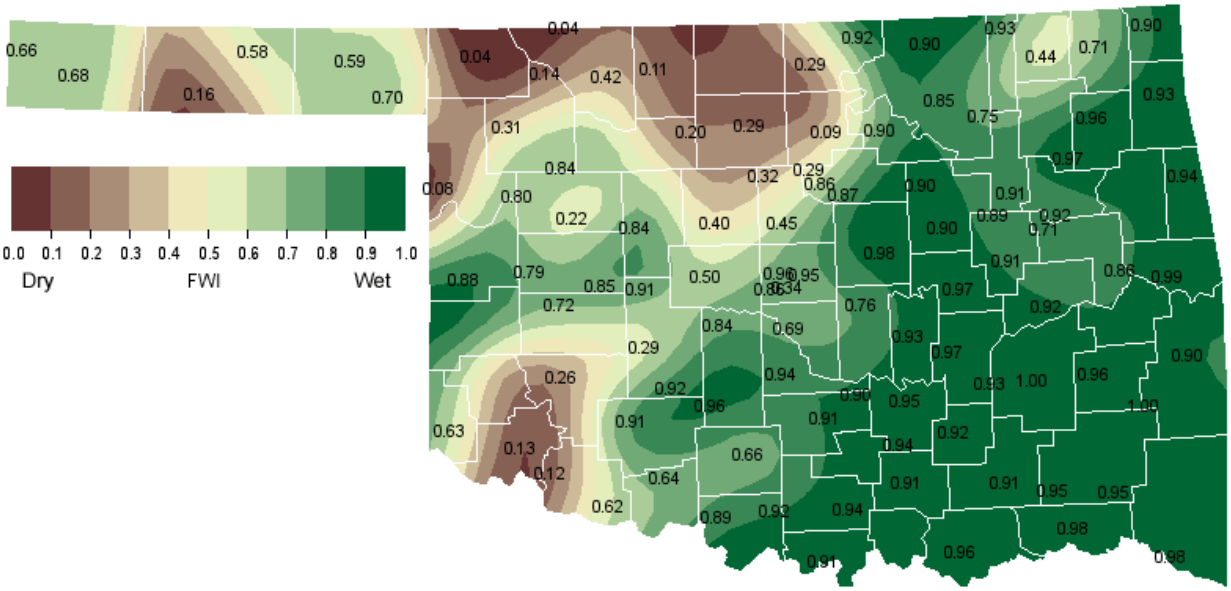
FEBRUARY 2013 DEPARTURE FROM NORMAL PRECIPITATION



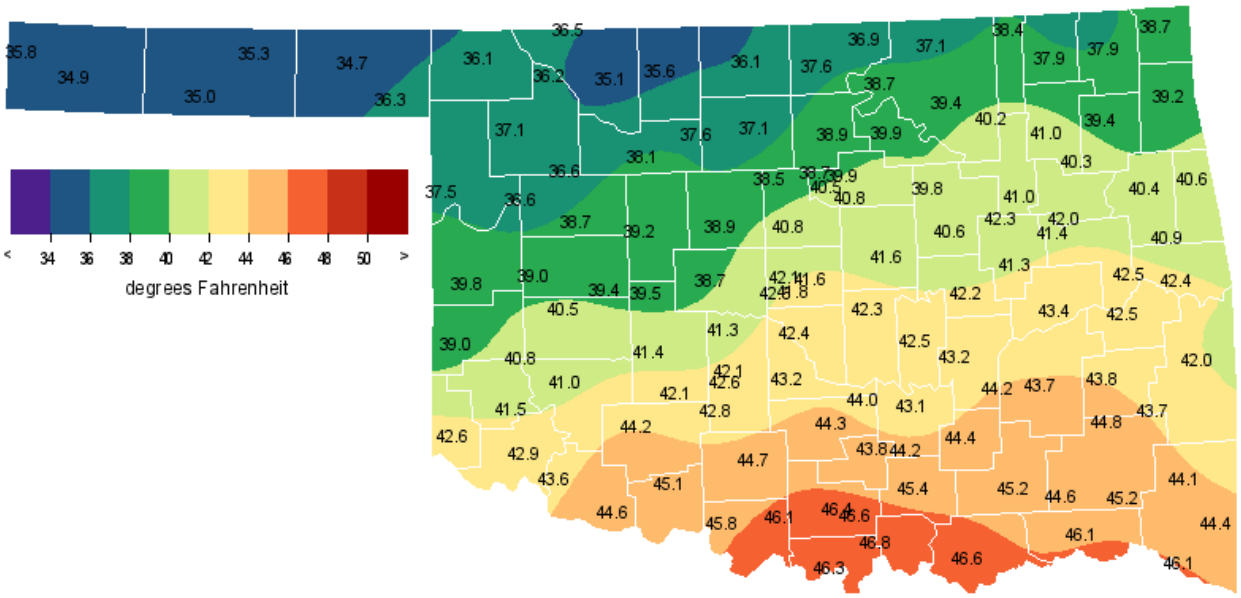
FEBRUARY 2013 PERCENT OF NORMAL PRECIPITATION



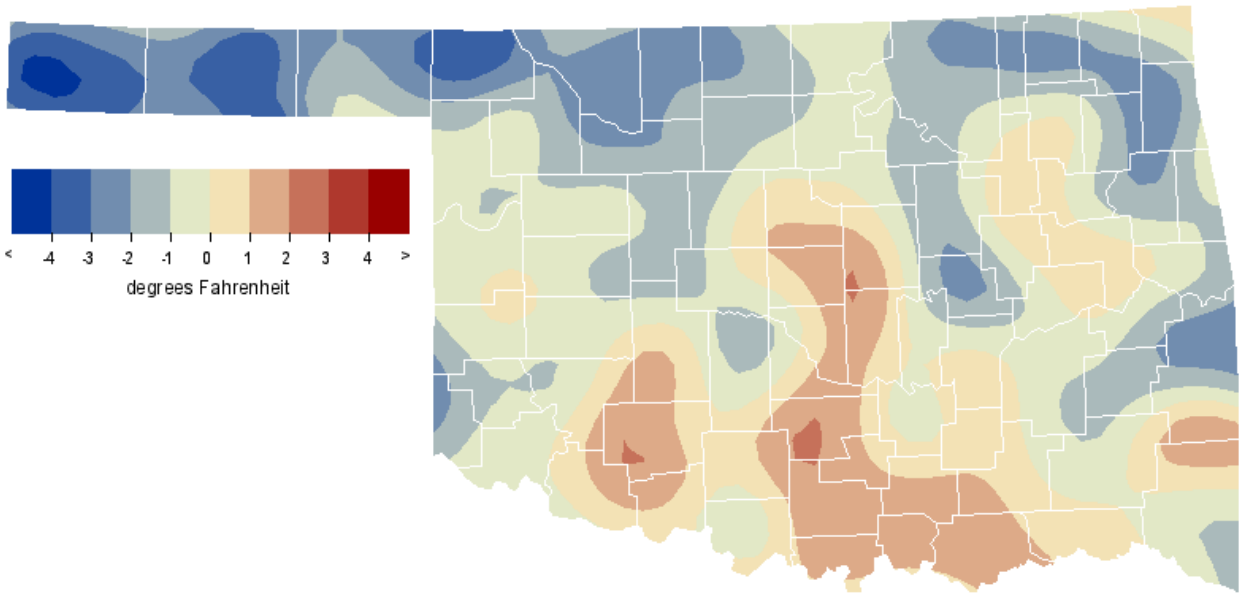
FEBRUARY 2013 AVERAGE SOIL MOISTURE AT 25CM



FEBRUARY 2013 AVERAGE TEMPERATURE



FEBRUARY 2013 DEPARTURE FROM NORMAL TEMPERATURE

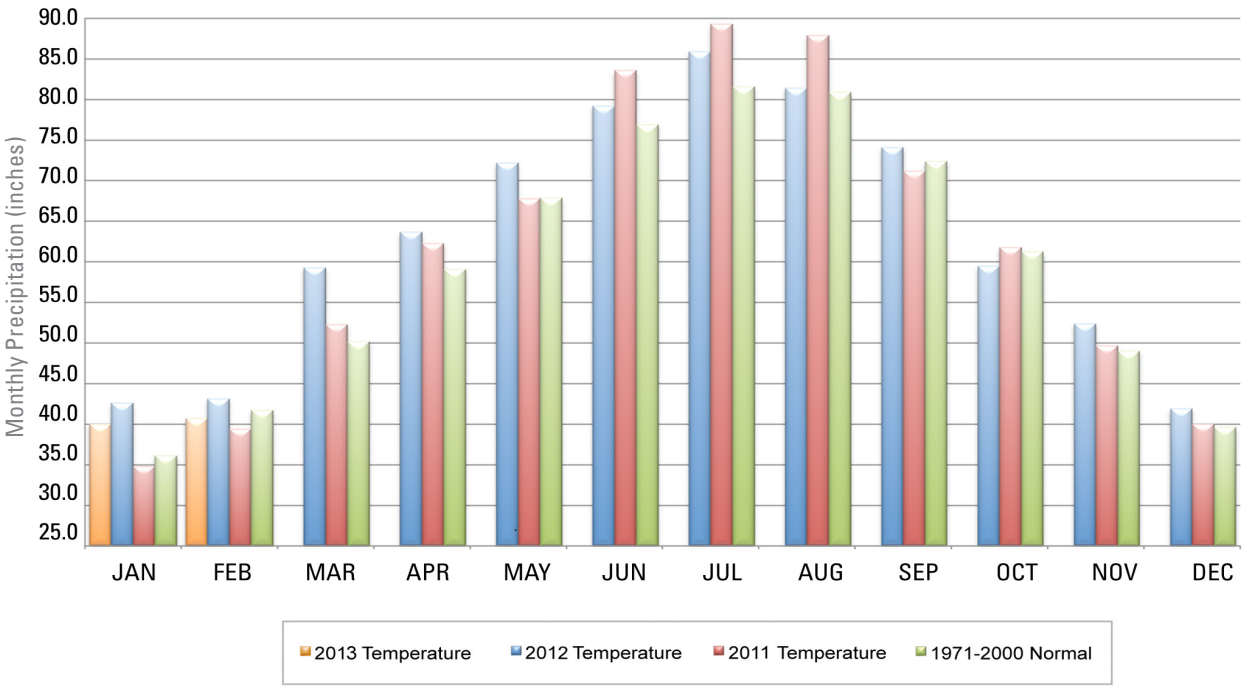


MESONET MONTHLY SUMMARY FOR FEBRUARY 2013

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	37.5	69	17	9	22	770	0	2.24	.43	23
Beaver	35.9	72	17	1	22	****	****	1.56	.41	23
Boise City	34.9	68	17	10	19	842	0	.49	.25	22
Buffalo	36.1	72	17	2	23	810	0	1.62	.35	23
NORTH CENTRAL										
Alva	35.0	72	17	2	23	841	0	3.12	.84	25
Blackwell	37.6	72	17	14	22	768	0	2.45	.53	25
Breckinridge	37.2	69	17	13	16	778	0	3.55	1.17	25
Cherokee	35.6	71	17	3	23	822	0	4.08	1.45	25
Fairview	38.0	70	17	12	22	755	0	4.61	1.67	25
Freedom	36.1	71	17	3	22	810	0	2.52	.72	24
Lahoma	37.5	70	17	13	1	770	0	3.56	1.58	25
NORTHEAST										
Bixby	41.0	68	17	18	1	672	0	3.47	1.33	25
Burbank	38.6	71	17	14	1	738	0	3.24	.62	26
Claremore	40.9	69	17	15	1	674	0	3.50	1.15	25
Copan	38.4	67	17	14	1	745	0	2.79	1.15	25
Foraker	37.1	70	17	13	1	782	0	2.98	.69	25
Inola	40.3	67	17	16	1	691	0	3.02	.93	25
Jay	39.2	67	6	12	1	723	0	2.09	.70	25
Miami	38.7	67	6	13	1	737	0	2.19	.59	25
WEST CENTRAL										
Bessie	40.5	68	17	18	1	687	0	3.69	1.14	25
Butler	39.0	68	17	15	1	728	0	3.17	.62	25
Camargo	36.7	66	17	8	22	794	0	3.40	.60	24
Cheyenne	39.8	66	17	14	22	704	0	3.19	.53	23
Erick	39.0	69	17	13	1	729	0	3.72	.58	21
CENTRAL										
Acme	42.8	71	17	19	1	622	0	3.90	1.06	12
Bowlegs	42.4	70	17	17	23	632	0	4.25	1.23	25
Bristow	40.5	69	17	17	23	685	0	3.27	1.03	25
Lake Carl Blac	38.8	73	17	15	23	734	0	3.34	.98	25
Chandler	41.7	71	17	17	1	652	0	3.34	1.04	25
Chickasha	42.0	71	17	20	1	644	0	2.89	.88	25
El Reno	38.6	70	17	12	1	738	0	3.84	1.38	25
Guthrie	40.7	71	17	17	1	680	0	3.94	1.40	25
Kingfisher	38.9	70	17	18	1	730	0	4.55	1.79	25
Marena	40.5	72	17	15	1	687	0	3.08	.99	25
Minco	41.2	69	17	19	1	666	0	3.78	1.57	25
Marshall	38.6	71	17	16	1	740	0	3.74	1.39	25
EAST CENTRAL										
Cookson	41.0	67	17	15	1	673	0	4.35	1.44	25
Eufaula	43.5	68	17	20	1	603	0	4.13	.91	25
Haskell	41.4	68	17	17	1	662	0	3.35	1.09	25
Hectorville	42.3	69	17	16	1	636	0	3.58	1.32	25
Holdenville	43.3	69	17	19	1	608	0	3.70	.98	20
McAlester	43.7	70	17	20	1	595	0	4.02	1.27	20
Okmulgee	41.3	70	17	17	1	663	0	3.84	1.49	25
SOUTHWEST										
Altus	42.9	73	6	18	1	618	0	2.74	.86	25
Apache	42.2	71	17	19	1	639	0	2.66	.94	25
Fort Cobb	41.4	71	17	17	1	660	0	3.10	1.22	25
Grandfield	44.6	74	6	22	1	570	0	2.43	.78	12
Hinton	39.5	68	17	18	22	714	0	3.85	1.76	25
Hobart	41.0	71	17	16	1	673	0	3.67	1.41	25
SOUTH CENTRAL										
Ada	43.1	71	17	18	1	612	0	3.56	1.07	20
Ardmore	46.5	72	7	21	1	517	0	2.45	.78	12
Burneyville	46.3	74	7	22	23	524	0	1.95	.80	12
Byars	44.0	71	17	19	23	587	0	4.01	1.40	20
Centrahoma	44.4	70	17	21	1	578	0	4.13	1.05	20
Durant	46.6	72	18	24	1	516	0	2.49	.78	12
Fittstown	44.2	69	17	20	1	583	0	3.73	1.06	20
Ketchum Ranch	44.7	72	17	20	1	569	0	2.92	.82	20
Lane	45.3	74	18	23	1	553	0	3.36	.91	10
SOUTHEAST										
Antlers	44.5	75	18	21	23	573	0	3.19	.86	12
Antlers	*****	***	***	***	***	****	****	*****	*****	***
Broken Bow	44.5	74	18	24	23	574	0	3.44	.71	25
Clayton	44.8	71	18	20	1	566	0	3.71	.81	12
Cloudy	45.2	72	18	26	1	555	0	3.24	.74	20
Hugo	46.2	74	18	26	23	527	0	2.80	.85	20

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	35.1	70	6	-1	22	838	0	1.16	.32	22
Hooker	35.3	71	6	-2	22	830	0	1.48	.54	20
Kenton	35.8	69	17	13	19	818	0	.26	.09	12
Slapout	36.2	71	17	5	22	806	0	1.42	.32	23
May Ranch	36.5	72	17	7	22	799	0	1.89	.58	24
Medford	36.1	71	17	10	22	809	0	3.28	1.13	25
Newkirk	36.9	70	17	11	22	786	0	2.77	.64	24
Red Rock	38.9	73	17	14	1	730	0	2.60	.62	25
Seiling	36.6	66	5	6	22	796	0	3.99	.75	25
Woodward	37.1	69	17	11	22	782	0	2.59	.36	24
Nowata	37.9	66	17	13	1	758	0	2.90	1.10	25
Pawnee	39.9	72	17	16	1	702	0	3.11	.95	25
Porter	42.0	68	17	17	1	643	0	3.32	1.11	25
Pryor	39.4	68	17	15	1	718	0	3.14	.99	25
Skiatook	40.2	68	17	14	1	695	0	3.57	1.22	25
Vinita	37.9	67	6	13	1	758	0	2.76	.93	21
Wynona	39.4	70	17	13	1	717	0	3.10	.99	25
Putnam	38.7	66	5	13	1	736	0	3.37	.69	25
Retrop	40.8	70	17	16	1	678	0	3.00	.41	21
Watonga	39.2	67	17	16	1	723	0	4.12	1.74	25
Weatherford	39.4	66	17	17	13	716	0	4.40	1.75	25
Ninnekah	42.5	71	17	19	1	629	0	3.05	.94	25
Norman	42.4	71	17	19	1	634	0	3.64	1.29	25
Oilton	39.7	71	17	18	1	708	0	3.24	1.12	25
OKC East	41.9	71	17	19	1	647	0	3.26	1.03	25
OKC North	42.0	71	17	17	1	643	0	3.20	1.18	25
OKC West	42.5	71	17	20	22	629	0	3.16	1.02	25
Okemah	42.2	68	17	17	1	639	0	3.28	1.18	25
Perkins	40.8	71	17	18	1	678	0	3.29	1.10	25
Shawnee	42.3	70	17	18	1	636	0	3.69	1.16	25
Spencer	41.6	70	17	18	1	654	0	3.61	1.23	25
Stillwater	39.9	73	17	18	23	704	0	3.11	.97	25
Washington	43.2	71	17	19	1	610	0	3.27	1.00	20
Sallisaw	42.5	70	17	19	1	630	0	3.77	.80	25
Stigler	42.5	69	17	20	1	630	0	3.44	.63	25
Stuart	44.2	69	17	19	1	581	0	4.42	1.00	25
Tahlequah	40.4	67	17	15	1	688	0	3.33	.81	21
Webbers Falls	42.5	69	17	19	1	630	0	3.63	.88	25
Westville	40.6	65	17	16	1	683	0	2.43	.51	25
Hollis	42.6	72	17	17	1	627	0	2.48	.90	12
Mangum	41.5	73	17	11	1	659	0	3.55	1.06	12
Medicine Park	44.2	71	17	20	1	583	0	2.48	.80	25
Tipton	43.5	74	6	19	1	601	0	2.31	.80	12
Walters	*****	***	***	***	***	****	****	*****	*****	***
Madill	46.8	74	7	23	1	509	0	2.07	.72	12
Newport	46.4	72	17	22	1	522	0	2.36	.84	12
Pauls Valley	44.4	73	17	20	1	578	0	3.25	1.17	20
Ringling	46.1	72	7	21	1	530	0	2.55	.72	12
Sulphur	43.9	69	17	21	1	591	0	3.16	.99	20
Tishomingo	45.4	70	17	22	1	550	0	2.97	.84	20
Vanoss	*****	***	***	***	***	****	****	*****	*****	***
Waurika	45.8	75	17	21	1	536	0	2.34	.67	12
Idabel	46.1	74	18	26	23	528	0	3.01	.62	20
Mt Herman	44.1	68	5	24	23	585	0	4.37	.91	20
Talihina	43.7	70	5	20	1	598	0	3.51	1.08	20
Wilburton	43.8	69	18	20	1	594	0	4.12	.97	20
Wister	42.0	69	18	19	23	645	0	3.50	.56	21

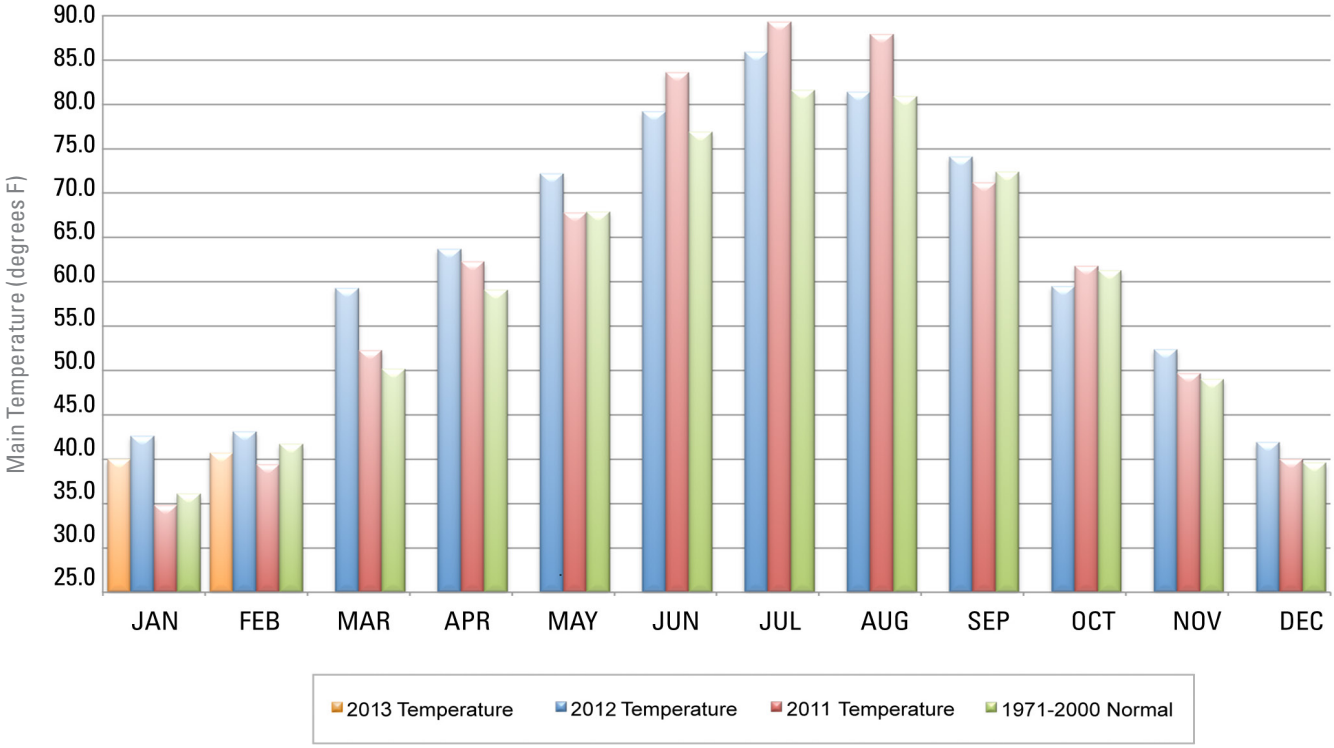
2011, 2012 AND 2013 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



February 2013 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Feb-12
Panhandle	1.28	0.64	20th Wettest	2.94 (1911)	0.00 (1896)	2.12
North Central	3.15	1.93	6th Wettest	4.10 (1911)	0.00 (1904)	3.23
Northeast	3.01	1.03	16th Wettest	5.80 (1985)	0.10 (1963)	2.03
West Central	3.56	2.42	2nd Wettest	3.64 (1997)	0.00 (1904)	1.40
Central	3.49	1.63	8th Wettest	5.08 (1938)	0.00 (1904)	1.60
East Central	3.69	1.26	25th Wettest	9.15 (1938)	0.00 (1895)	1.87
Southwest	2.91	1.58	7th Wettest	3.89 (1997)	0.00 (1902)	0.78
South Central	2.96	0.75	30th Wettest	7.66 (1938)	0.02 (1902)	1.43
Southeast	3.49	0.35	43rd Wettest	10.12 (1945)	0.36 (1895)	2.39
Statewide	3.04	1.28	13th Wettest	4.66 (1938)	0.18 (1996)	1.88

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



February 2013 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Feb-12
Panhandle	35.7	-2.6	42nd Coolest	47.5 (1954)	23.1 (1899)	39.8
North Central	36.9	-2.4	43rd Coolest	49.6 (1954)	22.4 (1899)	40.0
Northeast	39.4	-1.0	59th Coolest	49.8 (1976)	25.6 (1899)	42.8
West Central	39.2	-1.4	50th Coolest	51.0 (1954)	23.8 (1905)	41.1
Central	41.2	-0.7	60th Coolest	51.6 (1976)	26.2 (1899)	43.7
East Central	42.2	-0.6	59th Warmest	52.1 (1976)	28.7 (1899)	44.4
Southwest	42.6	-0.5	59th Warmest	52.5 (1954)	26.8 (1905)	44.4
South Central	45.2	0.4	50th Warmest	53.6 (1976)	30.0 (1905)	46.3
Southeast	44.5	-0.2	57th Warmest	52.6 (1976)	31.4 (1899)	45.8
Statewide	40.7	-1.0	55th Coolest	50.7 (1954)	26.6 (1899)	43.1

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Daily Precipitation Accumulation	25	Oklahoma City	0.8 inches	0.74 inches	1936
Daily Maximum Rainfall	25	McAlester	0.46 inches	0.36 inches	1998

MESONET EXTREMES FOR FEBRUARY 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	72	17th	Buffalo	-2	22nd	Hooker	2.24	Arnett	0.54	20th	Hooker
North Central	73	17th	Red Rock	2	23rd	Alva	4.61	Fairview	1.67	25th	Fairview
Northeast	72	17th	Pawnee	12	1st	Jay	3.57	Skiatook	1.33	25th	Bixby
West Central	70	17th	Retrop	8	22nd	Camargo	4.40	Weatherford	1.75	25th	Weatherford
Central	73	17th	Lake Carl Blackwell	12	1st	El Reno	4.55	Kingfisher	1.79	25th	Kingfisher
East Central	70	17th	Okmulgee	15	1st	Cookson	4.42	Stuart	1.49	25th	Okmulgee
Southwest	74	6th	Grandfield	11	1st	Mangum	3.85	Hinton	1.76	25th	Hinton
South Central	75	17th	Waurika	18	1st	Ada	4.13	Centrahoma	1.40	20th	Byars
Southeast	75	18th	Antlers	19	23rd	Wister	4.37	Mt Herman	1.08	20th	Talihina
Statewide	75	18th	Antlers	-2	22nd	Hooker	4.61	Fairview	1.79	25th	Kingfisher

MARCH OUTLOOK

The retreat of winter and the onset of spring progress across Oklahoma during March, but the change of season is not smooth. Despite the generally moderating climate, winter intrudes from time-to-time, especially in the first half of the month, bringing with it some frigid weather and, occasionally, some frighteningly heavy snowstorms. By the end of the month, spring is typically in full sway, including occasional full participation in the severe thunderstorm season.

As befits a transitional month, March is Oklahoma's fifth coolest month. The statewide-average normal monthly temperature of 51.0 degrees is compiled from a collection of station-specific normals that range from 45.1 degrees in the panhandle at Goodwell to 55.7 degrees at Ardmore in south central Oklahoma. Monthly averages of statewide temperatures have included a maximum of 59.6 degrees in 2012 and a minimum of 37.6 degrees in 1915. Normal daily maximum temperatures are bounded by southerly Waurika's 68.8 degrees and northerly Arnett's 59.3. Extremes of normal daily minimum temperatures are found in the panhandle at Boise City, 29.8 degrees, and in the south at Ardmore, 43.8 degrees.

Temperature

Mean	51.0 degrees
Warmest Location	55.7 degrees, Ardmore
Coolest Location	45.1 degrees, Goodwell
Warmest March	2012, 59.6 degrees
Coolest March	1915, 37.6 degrees
Hottest recorded	104 degrees, Frederick, March 27, 1971
Coldest recorded	-18 degrees, Hooker, March 7, 1920 Kenton, March 1, 1922 & March 6, 1948

Normal statewide-averaged precipitation in March is 3.06 inches, ranking March as the state's 6th wettest month. The extreme monthly statewide averages of March precipitation are 7.46 inches in 1973 and 0.38 inches in 1971. Southeastern Oklahoma's Smithville carries the title of wettest station in March with a normal precipitation total of 5.52 inches. The least normal March precipitation in the state, 1.05 inches, belongs to Regnier in the northwestern panhandle. The northeastern Oklahoma town of Kansas holds the apparent record for the wettest March in the state with a reported 13.37 inches of rain in 1973.

Snow does not come every March, but when it does it comes in bunches. Boise City averages 6.6 inches of snow during the month, the greatest average snowfall among the state's reporting locations. Stations in the state's southern half generally average less than half-an-inch of snow during March. Snowstorms have dropped as much as 20 inches of snow on northern parts of Oklahoma several times. In 1988, Cherokee (29.5 inches), Laverne (27.5 inches), and Waynoka (25 inches) all reported monthly totals of over 2 feet of snow. Gate recorded 27 inches in March 1969 and Vinita noted 24 inches in March 1970. Both the 1988 and 1970 totals are additionally notable as most of the snow was reported on St. Patrick's Day. Beaver reported substantial snow in March 1912 to complete the state's seasonal snowfall record (winter of 1911/12) of 87.3 inches. A late-season snowstorm struck the panhandle in 1926, as Boise City reported 16 inches of snow on the 30th. Another late-season blizzard struck the northwest in 2009 with 26 inches being reported at both Woodward and Freedom.

The state has averaged 3.7 tornadoes each March since 1950. The actual number has ranged from none (16 times in 55 years, including 2002) to 17 in 1991. Two deadly March tornadoes, each killing 10, were at Gowen on March 13, 1922 and Lenna on March 25, 1948. Two other notable tornadoes struck the Oklahoma City area, including Will Rogers Airport and Tinker Air Force Base, on March 20th and 25th in 1948. The first tornado caused over $10 million in property damage, much of it to military aircraft. Damage from the second was $6 million. On the 25th, Air Force meteorologists recognizing the similarity of conditions to those of the 20th, issued what is now accepted to be the first successful and scientific forecast of a tornado.

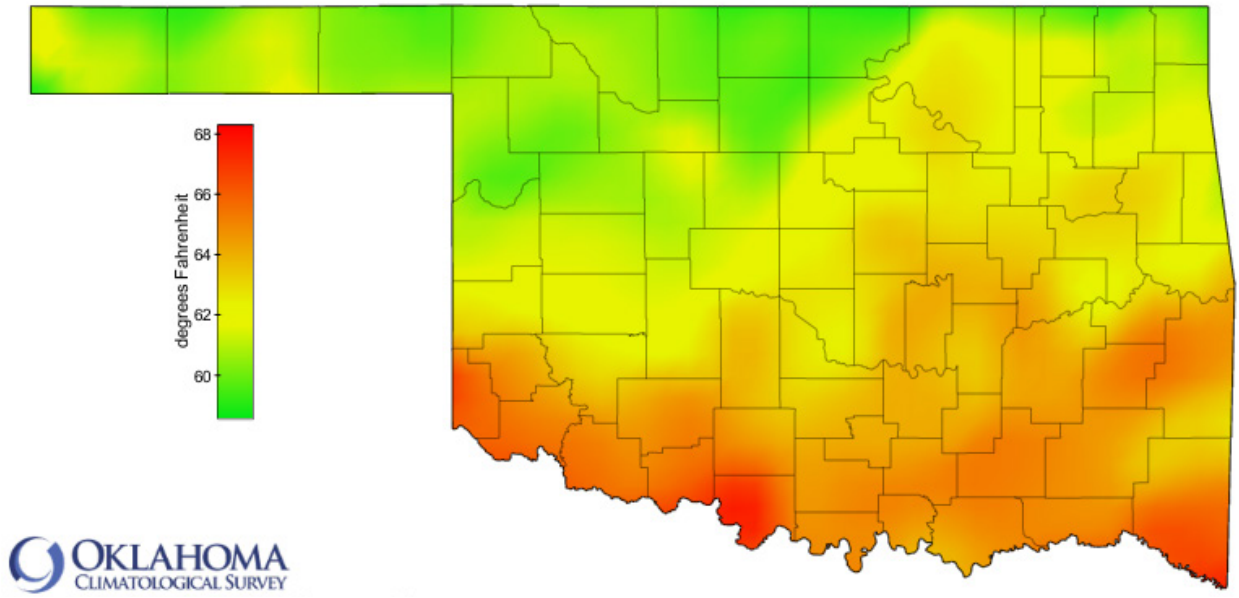
Precipitation

Mean	3.06 inches
Wettest March	1973, 7.46 inches
Driest March	1971, 0.38 inches
Wettest location	Smithville, 5.52 inches
Driest location	Regnier, 1.05 inches
Most recorded	13.37 inches, Kansas, 1973

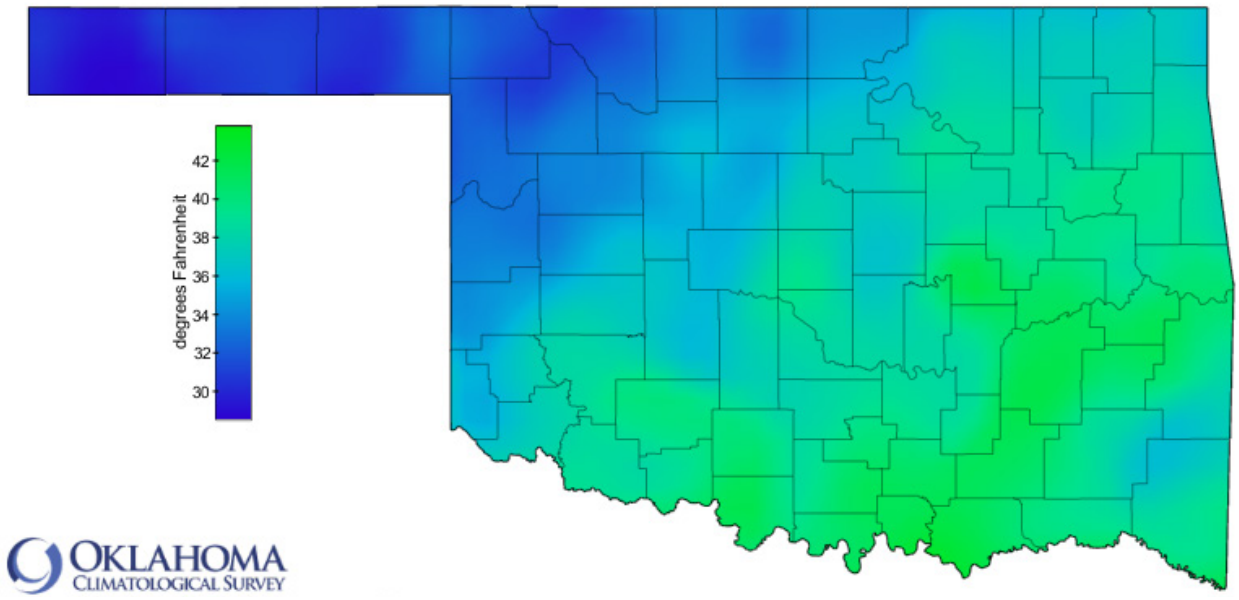
Tornadoes

Average March Tornadoes	4.0
Most	17 (1991)

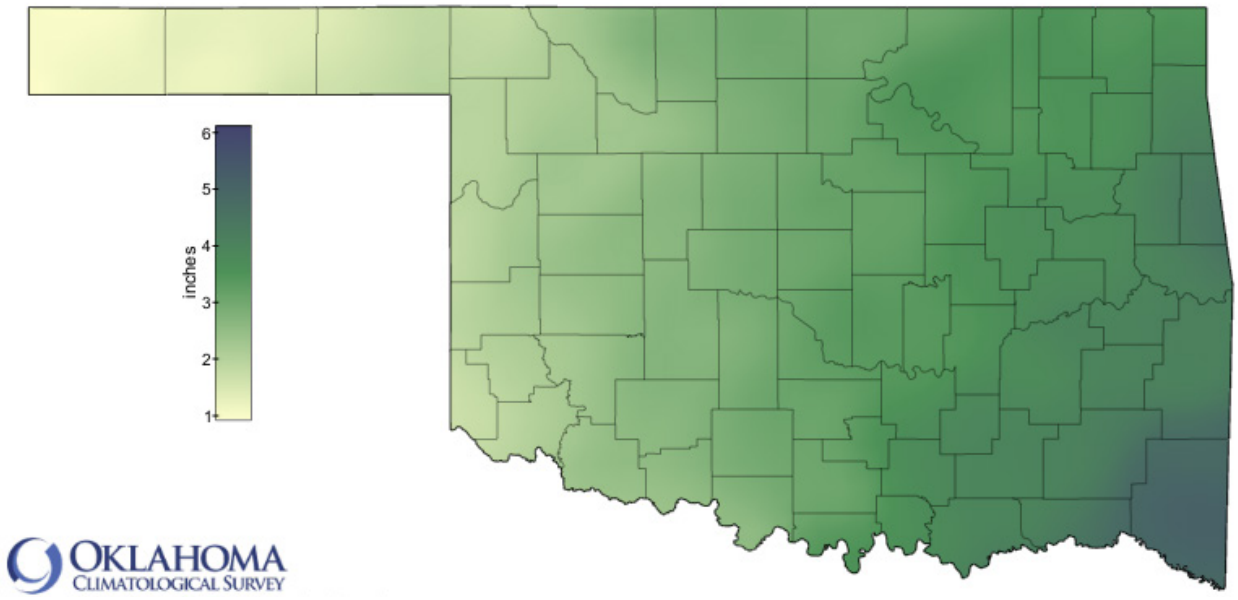
MARCH NORMAL DAILY MAXIMUM TEMPERATURE (1981-2010)



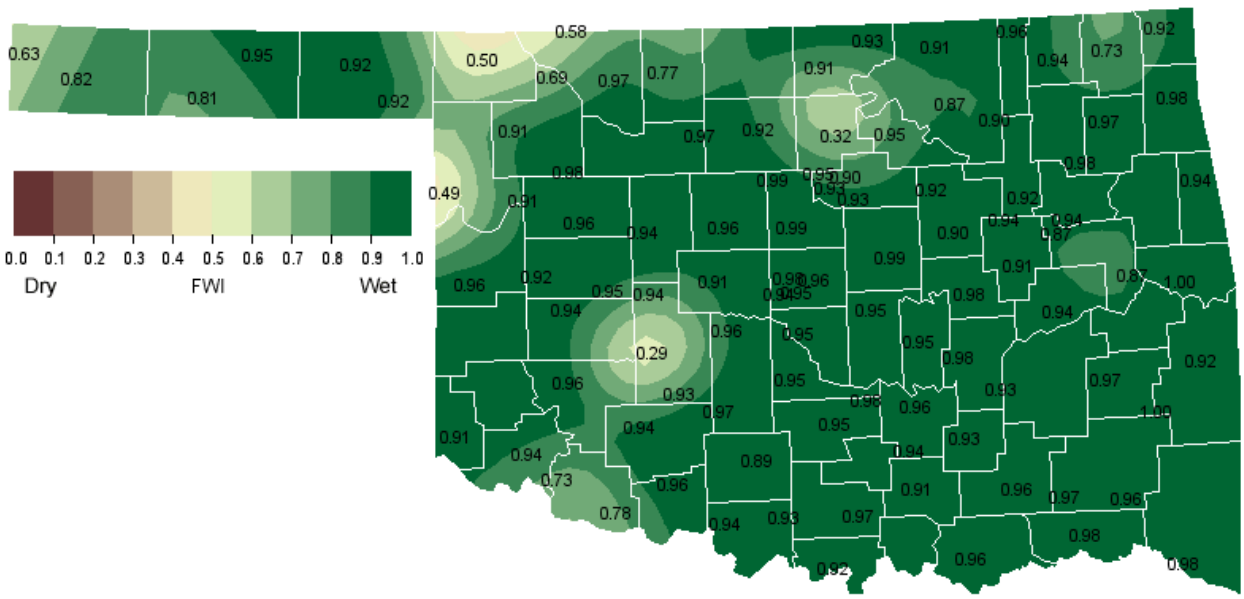
MARCH NORMAL DAILY MINIMUM TEMPERATURE (1981-2010)



MARCH NORMAL PRECIPITATION (1981-2010)



MARCH 1, 2013 SOIL MOISTURE CONDITIONS AT 25CM



MARCH 2013 DROUGHT INDICES

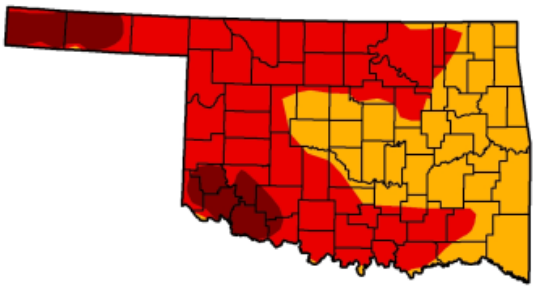
U.S. Drought Monitor

March 5, 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	100.00	100.00	61.65	9.54
Last Week (02/26/2013 map)	0.00	100.00	100.00	100.00	61.65	11.80
3 Months Ago (12/04/2012 map)	0.00	100.00	100.00	99.64	90.56	34.56
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 (02/28/2012 map)	24.91	75.09	66.46	41.79	19.03	3.78



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

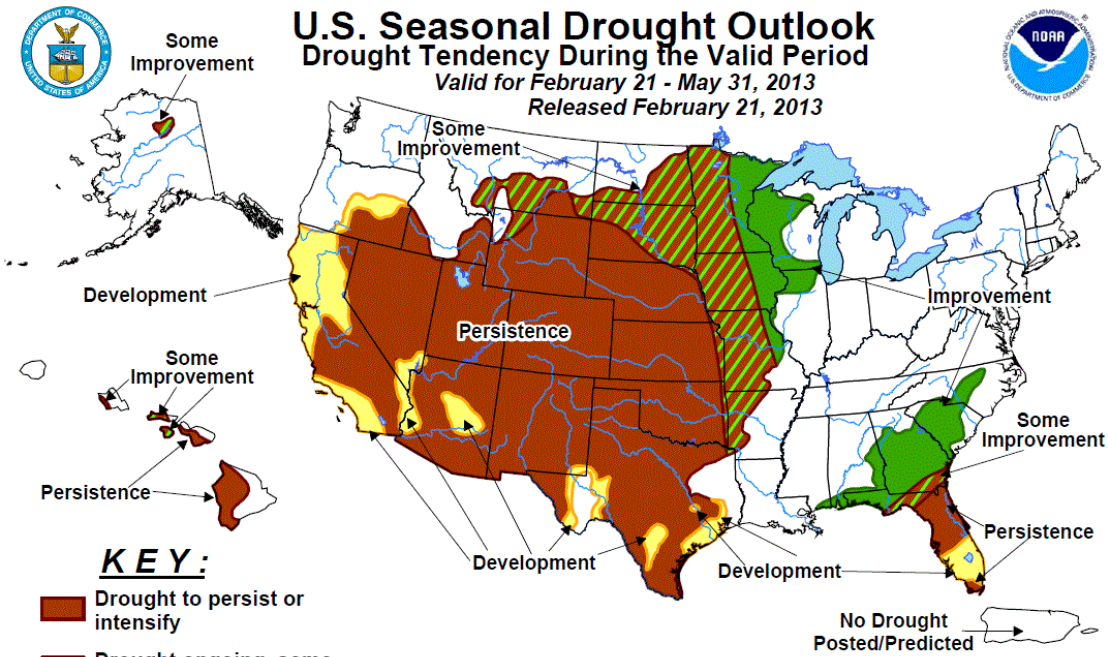
USDA · National Drought Mitigation Center

Released Thursday, March 7, 2013
Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for February 21 - May 31, 2013
Released February 21, 2013

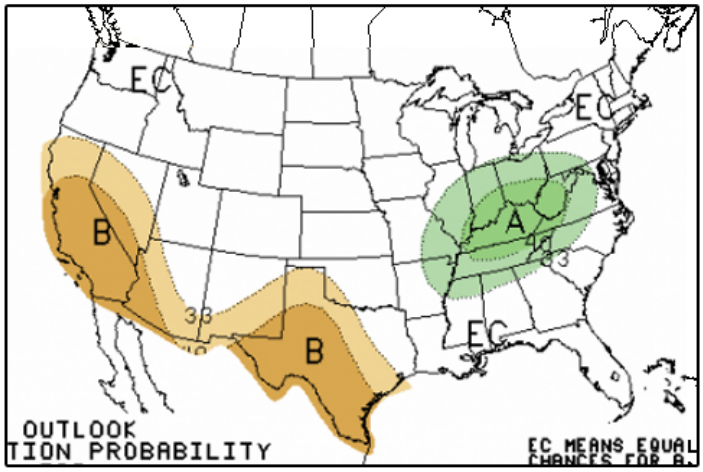


KEY:

- 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.

MARCH 2013 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

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

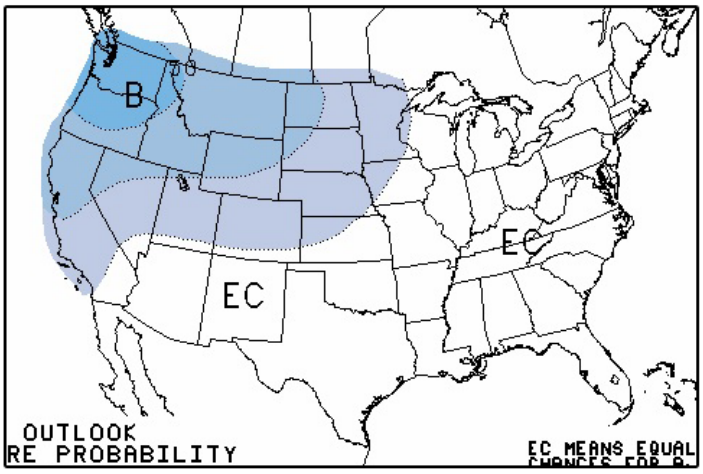
A = Above

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

B = Below

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

MARCH 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%

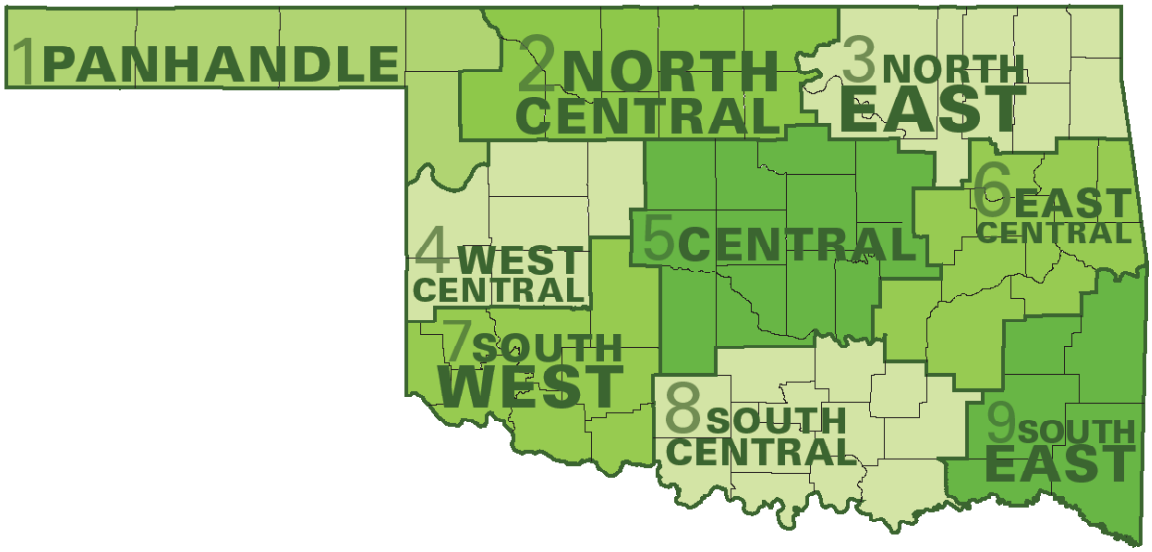
B = Below

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

MARCH CLIMATE NORMALS

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	61.5	31.6	46.5	1.58
2	60.4	33.7	47.1	2.67
3	62.5	37.9	50.2	3.61
4	61.7	34.7	48.2	2.29
5	62.6	37.6	50.2	3.15
6	63.3	39.6	51.5	3.99
7	64.5	37.0	50.8	2.29
8	64.9	40.0	52.5	3.50
9	65.5	39.9	52.7	4.45
Statewide	62.9	37.0	50.0	3.16

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

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