## Oklahoma Monthly Climate Summary

# **JANUARY 2011**



The month was dry and cold, as Januaries are prone to be in Oklahoma, and its historical rankings reflect those traits. Drought conditions continued to spread thanks to a statewide average precipitation total of less than a quarter of an inch. That amounts to a deficit of more than an inch for the month and the sixth driest January on record since 1895. The statewide average temperature fell 1.3 degrees below normal to rank as the 33rd coldest January on record. Very little snow fell, although a couple of storms provided decent amounts for a few areas. Broken Bow and Ponca City both reported 5 inches of snow for the month. Very little in the way of traditional severe weather occurred, although high winds and low relative humidity combined at times to produce wildfires, especially late in the month when conditions were warmer.

#### **PRECIPITATION**

The stingy skies during January continued a problem seen since early fall, and the December-January period looked equally bleak with a deficit of over 2 inches, the fifth driest such period on record. Northeastern- through central-Oklahoma were particularly dry over those two months, ranked as the secondand third-driest on record for those areas, respectively. The Mesonet station at Broken Bow led the state's precipitation totals with 1.47 inches for January. Many, many stations were relatively dry for the entire month, although Tipton won the actual prize with a total of 0.02 inches.

#### **January 2011 Statewide Extremes**

Description	Extreme	Station	Day
High Temperature	78°F	Fairview, Butler, Oilton 28, 28, 29	15; 20
Low Temperature	-8°F	Hooker	11
High Precipitation	1.47 in.	Broken Bow	
Low Precipitation	0.20 in.	Tipton	

#### **TEMPERATURE**

The lack of moisture during the month did not come with a similar lack of cold air. Several powerful cold fronts kept the state in an arctic deep freeze, interspersed with a few days of spring-like warmth. The highest temperature recorded by

the Mesonet was 78 degrees at both Fairview and Butler on the 28th and Oilton on the 29th. Oklahoma City and Tulsa tied record highs on the 29th with 76 degrees and McAlester did the same with 74 degrees that same day. The month's low temperature of -8 degrees occurred at Hooker on the eighth.

#### JANUARY DAILY HIGHLIGHTS

JANUARY 1-8: The first eight days of the month were monumentally uneventful. The tranquility was disrupted by a weak cold front on the fourth. Other than that, the days were marked with mild temperatures to go along with cold mornings, as is the norm for January. No precipitation fell in the state during this period.

JANUARY 9-10: A break in the monotonous January weather came complete with snow and freezing drizzle. The heaviest precipitation fell on the ninth with 3-5 inches of snow in the southeast. Another couple of inches fell in that area on the 10th as well, in addition to some light snow along the Kansas border. Temperatures were customary for wintery weather with highs in the 20s and 30s and lows in the teens.

#### **January 2011 Statewide Statistics**

Temperature

	Average	Depart.	Rank (1895-2011)
Month (January)	34.8°F	-1.3°F	33rd Coolest
Season-to- Date (Dec-Jan)	37.0°F	-0.6°F	36th Coolest

#### Precipitation

	Average	Depart.	Rank (1895-2011)
Month (January)	0.24 in.	-1.21 in.	6th Driest
Season-to-Date (Dec-Jan)	1.17 in.	-2.30 in.	5th Driest

Depart. = departure from 30-year normal

JANUARY 11-17: This weeklong period began on the frigid side with lows briefly touching down below zero and highs that struggled to reach freezing. In some cases, high temperatures were suppressed by the previous period's snow and remained in the teens. The month's low temperature of -8 degrees occurred at Hooker on the eighth. A gradual warm-up occurred until some high temperatures reached the 60s by the 15th.

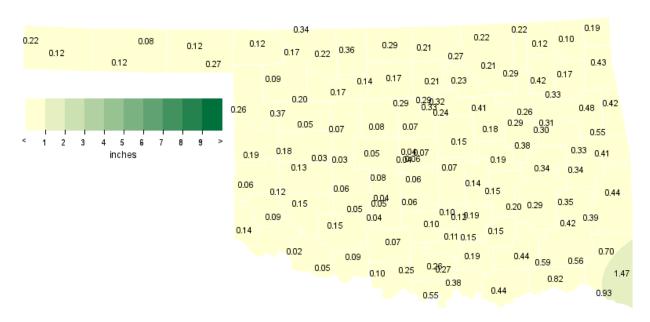
A weak cold front moved through the state on the 16th and brought a bit of light rain to the southeast. Other than that, the state remained mostly dry through the period.

JANUARY 18-22: Another cold front cooled the state down on the 18th and triggered a few light showers in western Oklahoma. Low temperatures on the 18th fell into the 20s north of the front to the 40s south of the front. Highs were also split along the front, from the 30s in the north to the 50s in the south. Some light snow fell on the 19th and 20th before moving out of the state. A gradual warm-up occurred with the return of southerly winds on the 21st. By the 22nd, high temperatures had returned to the 50s and 60s. The low humidity and southerly winds gusting to over 40 mph created high fire danger.

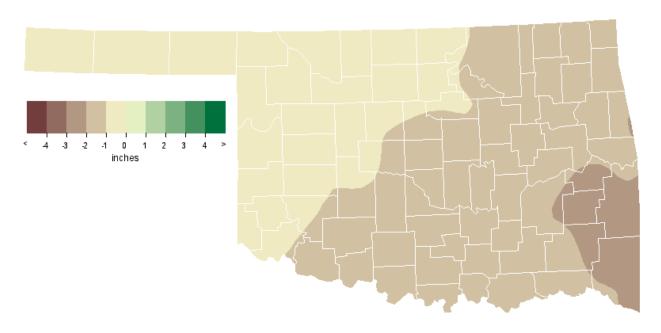
JANUARY 23-29: This period started with a series of cold fronts, bringing shots of reinforcing frigid air. Some light rain and snow gave the southwest a bit of moisture on the 25th. Temperatures began to increase by the 26th and 27th until record-setting warmth arrived on the 28th and 29th. Oklahoma City, McAlester and Tulsa all tied previous record highs on the 29th. Temperatures rose into the 70s with the month's high of 78 degrees at Fairview and Butler on the 28th and again at Oilton on the 29th. A cold front inched into northwestern Oklahoma late on the 29th. Low relative humidities and strong southerly winds combined to produce more than 20 wildfires that evening.

JANUARY 30-31: The warm weather disappeared guickly with a cold front and an approaching storm system. A shower in McCurtain County brought over a half of an inch of rain before the cold front exited the state. Lows on the 31st were in the single digits in the Panhandle to near 50 in the southeast. Freezing precipitation was beginning to break out late on the 31st in southwestern Oklahoma

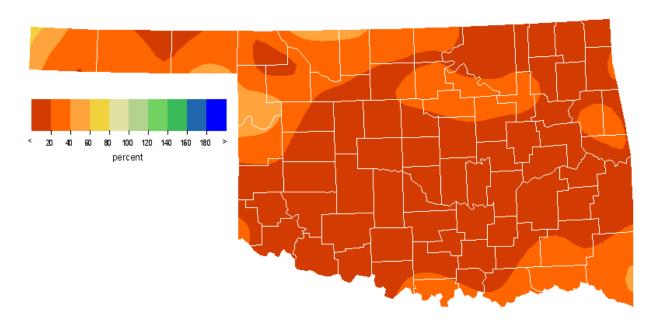
## **JANUARY 2011 OBSERVED PRECIPITATION**



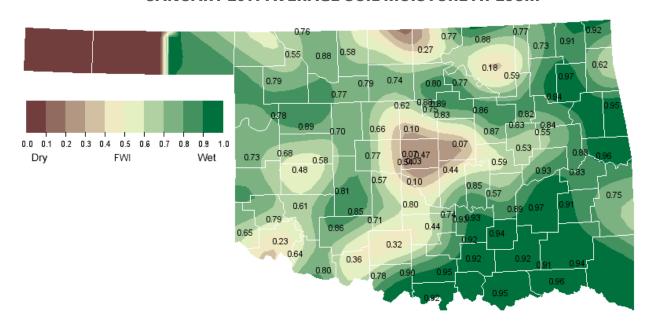
## **JANUARY 2011 DEPARTURE FROM NORMAL PRECIPITATION**



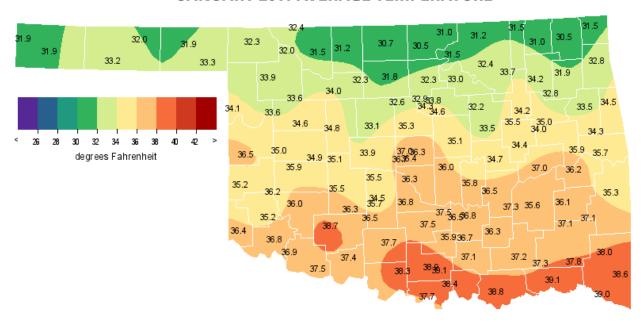
## **JANUARY 2011 PERCENT OF NORMAL PRECIPITATION**



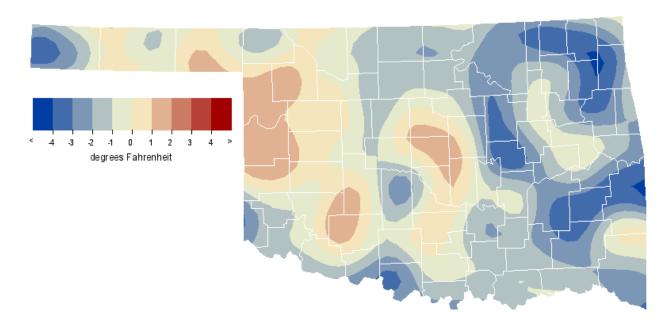
## **JANUARY 2011 AVERAGE SOIL MOISTURE AT 25CM**



## **JANUARY 2011 AVERAGE TEMPERATURE**



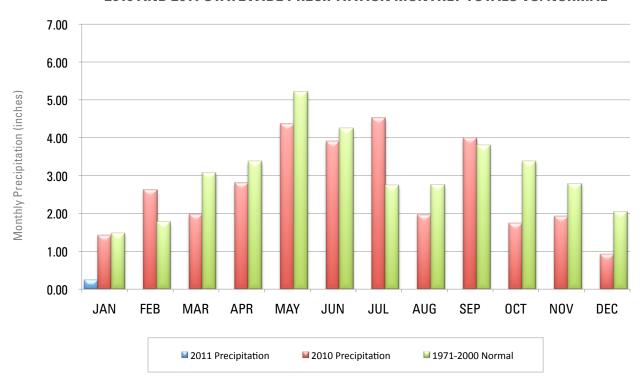
## **JANUARY 2011 DEPARTURE FROM NORMAL TEMPERATURE**



## **MESONET MONTHLY SUMMARY FOR JANUARY 2011**

NAME	MEAN TEMP		DAY	LOW TEMP	DAY	HDD	CDD		HIGH 24-HR	DAY	NAME	MEAN TEMP		DAY	LOW TEMP	DAY	HDD	CDD	TOT PPT	HIGH 24-HR	DAY
PANHANDLE Arnett Beaver Boise City Buffalo	34.0 31.6 31.6 32.1	75 75 69 75	29 29 29 29	4 - 4 - 6 - 2	11 11 11 11		0 0 0	.26 .12 .12	.19 .06 .06		Goodwell Hooker Kenton Slapout	33.0 31.8 31.7 33.2	73 73 68 74	29 28 28 29	-5 -8 -3 -2		992 1029 1033 987	0 0 0	.12 .08 .22 .27	.04 .04 .12 .12	20 20 17 18
NORTH CENTRAL Alva Blackwell Breckinridge Cherokee Fairview Freedom Lahoma	31.4 30.3 31.6 31.0 33.8 31.9 32.1	75 74 75 75 78 75 76	29 29 28 29 28 29 28	1 0 2 -1 5 0 5	12 13 12 12 11	1042 1075 1035 1055 967 1026 1019	0 0 0 0 0	.22 .21 .17 .36 .17 .17	.16 .13 .12 .23 .07 .09	13 13 13 20 13	May Ranch Medford Newkirk Red Rock Seiling Woodward	32.2 30.5 30.8 32.2 33.4 33.7	73 74 74 76 76 75	29 29 29 29 28 29	0 -1 -1 -3 5	12 12 13 11	1016 1069 1059 1018 981 970	0 0 0 0	.34 .29 ***** .21 .20	.13 .18 ***** .09 .08	13 13 *** 13 20 13
NORTHEAST Bixby Burbank Claremore Copan Foraker Inola Jay Miami	34.1 31.3 34.1 31.3 31.0 32.7 32.7 31.3	76 76 76 75 76 76 75	29 29 29 29 29 29 29	7 1 6 3 3 5 3 2	13 12 12 12 13 13	958 1045 959 1046 1054 1001 1000 1044	0 0 0 0 0 0	.26 .27 .42 .22 .22 .33 .43	.11 .17 .16 .08 .08 .18 .28	20 14 22	Nowata Pawnee Porter Pryor Skiatook Vinita Wynona	30.9 32.7 34.8 31.8 33.5 30.4 32.2	76 77 75 74 76 74	29 29 29 29 29 29	2 4 7 5 5 1 4	13 13 12 12 13	1057 1001 936 1030 977 1073 1017	0 0 0 0 0 0	.12 .23 .32 .17 .29 .10	.04 .09 .18 .07 .18 .04	10 13 22 22 22 22 22 13
WEST CENTRAL Bessie Butler Camargo Cheyenne Erick	35.7 34.9 33.4 36.3 35.0	76 78 76 75 77	28 28 28 28 28	8 7 5 5	11 11 11 11	908 934 979 888 931	0 0 0 0	.13 .18 .37 .19	.10 .14 .19 .12	21	Putnam Retrop Watonga Weatherford	34.4 36.1 34.6 34.8	76 76 75 75	28 28 28 28	7 7 7 5	11 11 11 11	949 896 943 937	0 0 0	.05 .12 .07	.03 .05 .04	21 18 21 11
CENTRAL Acme Bowlegs Bristow Lake Carl Blac Chandler Chickasha El Reno Guthrie Kingfisher Marena Minco Marshall	36.3 35.7 33.3 32.6 34.9 34.3 33.7 35.0 32.8 34.0 35.3 32.4	75 77 76 76 76 76 76 76 75 76	28 29 29 28 29 28 28 28 28 29 28	7 8 5 3 8 6 5 8 5 7 5	2 13 13 13 2 12 12 13 13 13 13	932 952 971 931 998 961 920	0 0 0 0 0 0 0 0	.04 .14 .18 .29 .15 .04 .05 .07 .08 .33	.02 .09 .06 .13 .11 .01 .02 .06 .05 .15	21 22 21 21 9 10 21 21 21 21	Ninnekah Norman Oilton OKC East OKC North OKC West Okemah Perkins Shawnee Spencer Stillwater Washington	35.5 36.0 32.1 36.1 36.7 36.4 34.6 34.4 35.8 36.0 33.6 36.6	77 76 78 75 76 75 76 77 75 77	28 28 29 28 29 29 29 29 29 29 29	7 10 4 10 9 10 7 7 9 9 7	2 11 13 13 11 11 21 13 12 13 13 13	913 898 1021 896 877 886 943 950 905 898 975 881	0 0 0 0 0 0 0 0	.05 .06 .41 .06 .04 .04 .19 .24 .07 .07	.02 .04 .24 .03 .03 .03 .09 .11 .06 .04	21 21 22 21 21 21 21 22 21 21 21 21
EAST CENTRAL Cookson Eufaula Haskell Hectorville Holdenville McAlester Okmulgee	34.3 36.8 33.9 35.4 36.4 35.6 34.3	73 75 76 77 75 74 76	29 29 29 29 29 29	5 11 6 9 10 7 5	13 13 13 12 12 13 13	952 873 965 918 888 913 952	0 0 0 0 0 0	.56 .35 .31 .29 .19 .29	.28 .11 .18 .19 .08 .09	21 22 22	Sallisaw Stigler Stuart Tahlequah Webbers Falls Westville	35.6 36.0 37.2 33.4 35.7 34.4	76 75 74 74 75 73	29 29 28 29 29	9 10 9 4 10 5	13 21 13 20 13	911 898 862 980 908 948	0 0 0 0 0	.41 .34 .20 .52 .33 .43	.15 .14 .08 .30 .09	20 20 21 22 17 22
SOUTHWEST Altus Apache Fort Cobb Grandfield Hinton Hobart	36.5 36.0 35.3 37.5 34.9 35.8	77 75 75 76 75 74	28 28 28 29 28 28	9 9 8 9 7 9	11	882 898 919 854 933 907	0 0 0 0 0 0	***** .05 .06 .05 .03	***** .03 .03 .02 .01	10 9 11	Hollis Mangum Medicine Park Tipton Walters	36.3 34.9 38.5 36.7 37.2	76 76 74 77 76	28 28 28 28 28	7 5 11 8 10	11 2 11 11	889 933 823 876 861	0 0 0 0	.14 .09 .15 .02	.04 .03 .07 .01	9 25 18 9 18
SOUTH CENTRAL Ada Ardmore Burneyville Byars Centrahoma Durant Fittstown Ketchum Ranch Lane	36.6 39.1 37.7 37.3 36.1 38.6 36.6 37.5 37.1	76 75 77 75 76 75 75 75	29 29 29 29 29 29 28 29	15 10	2 11 13 12 13 21	879 804 846 859 896 817 880 852 864	0 0 0 0 0 0	.22 .28 .86 .10 .15 .51 .16	.05 .10 .31 .05 .06 .16 .05	14 31 21 20 14 14 20	Madill Newport Pauls Valley Ringling Sulphur Tishomingo Vanoss Waurika	38.4 38.9 37.4 38.2 35.9 36.9 36.4	75 76 76 76 74 75 75	29 29 29 29 29 29 29	12 13 12 12 9 12 7	11 11 21 12	824 808 855 829 903 870 886 ****	0 0 0 0 0 0	.44 .26 .10 .52 .12 .20 .15	.11 .10 .05 .27 .02 .06	9 11
SOUTHEAST Antlers Broken Bow Clayton Cloudy Hugo	37.3 38.6 37.0 37.8 39.0	76 75 74 73 74	29 29 29 29 29			859 819 868 844 805	0 0 0 0	.61 1.49 .42 .63 .89	.19 .55 .17 .14	20 20	Idabel Mt Herman Talihina Wilburton Wister	39.0 37.9 37.0 36.0 35.3	75 73 73 75 76	29 28 29 29 29	10 11 9 7 7	13 13	805 840 868 900 920	0 0 0 0	1.04 .78 .39 .35	.28 .21 .11 .12	

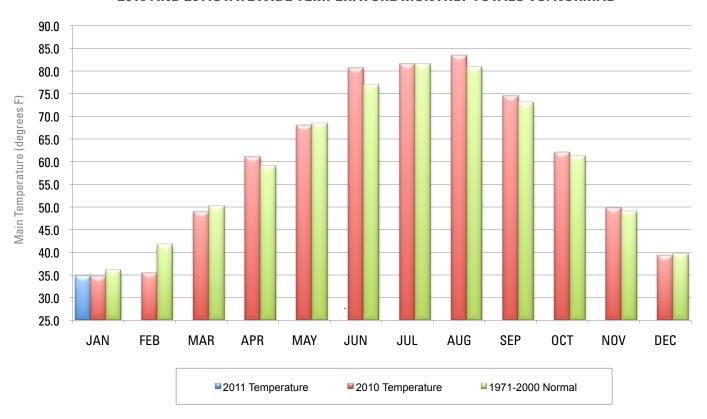
### 2010 AND 2011 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



## **January 2011 Mesonet Precipitation Comparison**

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Jan-10
Panhandle	0.16	-0.36	30th Driest	1.92 (2005)	0.01 (1904)	1.01
North Central	0.21	-0.72	17th Driest	4.43 (1949)	0.00 (1912)	0.77
Northeast	0.25	-1.32	10th Driest	6.01 (1949)	0.01 (1986)	2.12
West Central	0.13	-0.75	15th Driest	4.08 (1949)	0.00 (1912)	1.93
Central	0.14	-1.23	7th Driest	6.18 (1949)	0.00 (1912)	1.84
East Central	0.34	-1.79	8th Driest	7.99 (1932)	0.04 (1986)	2.41
Southwest	0.08	-0.98	12th Driest	4.89 (1949)	0.00 (1902)	0.83
South Central	0.23	-1.67	9th Driest	6.85 (1932)	0.00 (1909)	1.85
Southeast	0.67	-2.14	7th Driest	11.08 (1932)	0.11 (2003)	3.37
Statewide	0.24	-1.21	6th Driest	5.23 (1949)	0.04 (1986)	1.76

### 2010 AND 2011STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



## **January 2011 Mesonet Temperature Comparison**

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Jan-10 (F)
Panhandle	32.6	-0.4	43rd Coolest	42.7 (2006)	19.5 (1930)	32.6
North Central	32.1	-1.4	35th Coolest	44.6 (2006)	19.4 (1930)	32.0
Northeast	32.5	-2.1	28th Coolest	46.0 (2006)	21.3 (1940)	31.0
West Central	35.2	0.2	49th Coolest	46.2 (2006)	20.8 (1930)	34.2
Central	35.0	-1.2	35th Coolest	47.4 (2006)	22.5 (1930)	35.2
East Central	35.4	-1.9	25th Coolest	47.8 (2006)	24.8 (1940)	37.3
Southwest	36.5	-1.0	38th Coolest	47.8 (1923)	24.2 (1930)	37.4
South Central	37.5	-1.6	27th Coolest	49.5 (1923)	27.0 (1930)	38.1
Southeast	37.5	-2.1	19th Coolest	49.4 (1952)	28.3 (1979)	36.9
Statewide	34.8	-1.3	33rd Coolest	46.4 (2006)	23.5 (1930)	34.9

## **RECORD EVENT REPORTS**

Description	Day	Location	Record	Previous Record	Year
Maximum Temperature	29	Oklahoma City	76	76	1911
Maximum Temperature	29	Tulsa	76	76	1947
Maximum Temperature	29	McAlester	74	74	2002

## **MESONET EXTREMES FOR JANUARY 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	75	29th	Buffalo	-8	11th	Hooker	0.27	Slapout	0.19	18th	Arnett
North Central	78	28th	Fairview	-1	12th	Newkirk	0.36	Cherokee	0.23	13th	Cherokee
Northeast	77	29th	Pawnee	1	13th	Burbank	0.43	Jay	0.28	22nd	Jay
West Central	78	28th	Butler	5	11th	Camargo	0.37	Camargo	0.19	21st	Camargo
Central	78	29th	Oilton	3	13th	Lake Carl Blackwell	0.41	Oilton	0.24	22nd	Oilton
East Central	77	29th	Hectorville	4	20th	Tahlequah	0.55	Cookson	0.30	22nd	Tahlequah
Southwest	77	28th	Altus	5	2nd	Mangum	0.15	Hobart	0.08	18th	Hobart
South Central	77	29th	Burneyville	7	13th	Vanoss	0.55	Burneyville	0.25	9th	Burneyville
Southeast	76	29th	Antlers	7	13th	Wister	1.47	Broken Bow	0.55	30th	Broken Bow
Statewide	78	28th	Fairview	-8	11th	Hooker	1.47	Broken Bow	0.55	30th	Broken Bow

# FEBRUARY OUTLOOK

February is the warmest of the Oklahoma's three winter months, a product of the combination of gradually lengthening days - often heralding an illusory approach of spring - and the very real existence of the continuing winter. Recorded temperatures in Oklahoma during the second month of the year traverse a range of 126 degrees Fahrenheit, from 99 degrees at Arapaho on February 24, 1918 to -27 degrees at Vinita on February 13, 1905. The latter thermometer reading is tied as the state's all-time lowest temperature. Oklahoma's normal monthly temperature, based on data obtained from 1971 through 2000, is 42.3 degrees. Monthly values of normal daily maximum temperatures across the state range between 60.3 degrees along the Red River at Waurika and 49.5 degrees at Newkirk near the state's northern border. Normal daily minimum temperatures vary between 34.4 degrees at Waurika and 22.0 degrees in the Panhandle at Beaver. The monthly mean temperatures for February, compiled as a statewide average since 1892, have varied between a high of 50.7 degrees in 1954 and a low of 26.6 degrees in both 1899 and 1905.

Temperature

Mean	42.3 degrees
Warmest February	1954, 51.8 degrees
Coolest February	1899, 27.9 degrees
Hottest recorded	99 degrees, Arapaho, February 24, 1918
Coldest recorded	-27 degrees, Vinita, February 13, 1905
Hottest recorded	92 degrees, Cloud Chief, January 31, 1911
Coldest recorded	-27 degrees, Watts, January 18, 1930

Of all the other months, only January has a normal precipitation lower, when averaged statewide, than February's 1.77 inches. Southeastern Oklahoma's Idabel possesses the state's greatest precipitation normal during February at 3.60 inches. Kenton, in the shadow of Black Mesa, gains distinction as the state's driest reporting station during February with a normal total of 0.33 inch. The February statewide-averaged precipitation varies substantially, being bounded by a low of 0.18 inch attained 1996 and a high of, 4.66 inches in 1938. In contrast to the many stations that have suffered through

February precipitation voids, Tuskahoma was treated to an excessive 13.21 inches during February 1945. Snow is an important part of the precipitation picture in northwestern Oklahoma. Helena and Woodward both average about 4.7 inches of snow during February, compared to less than one-half inch at stations in southeastern Oklahoma.

Oklahoma's extreme snowstorm of record was the blizzard of February 21-23, 1971. This blizzard buried northwestern Oklahoma under as much as three feet of snow, not accounting for drifts. Buffalo was the hardest hit, reporting 23 inches of snow on the 21st and a state-record snow depth of 36 inches by the morning of the 24th. The snow was driven by winds 30 to 50 miles per hour, producing drifts as high as 20 feet. Military cargo planes were used to airdrop hay to cattle stranded in the far-flung pastures of the region. Losses to agriculture were estimated at \$2.1 million (1971 dollars). Lost livestock included approximately 11,000 cattle, 3,500 hogs, and 1,000 sheep. Buffalo reported a total of 39.5 inches of snow during the month (a state record for all months).

## **Precipitation**

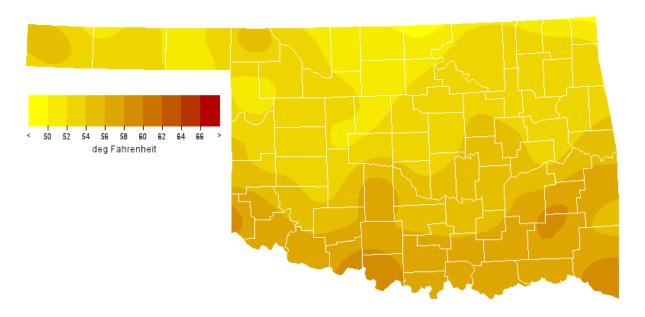
Mean	1.77 inches
Wettest February	1938, 6.44 inches
Driest February	1947 and 1996, 0.20 inches
Wettest location	Idabel, 3.60 inches
<b>Driest location</b>	Kenton, 0.33 inches
Most recorded	13.21 inches, Tuskahoma, 1945

#### **Tornadoes**

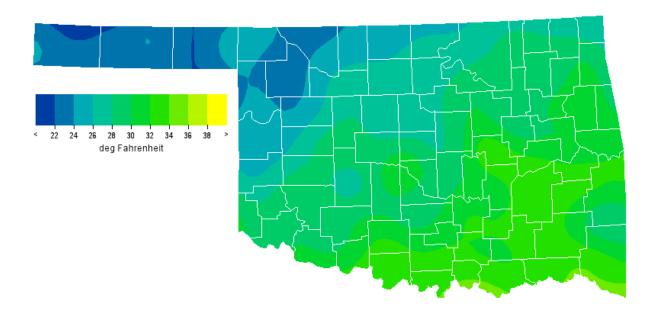
Average February Tornadoes	0.8
Most	6 (1975)

Tornadoes are not generally considered a February phenomenon, but a total of 44 February tornadoes have been recorded across the state since 1950, including six in 1975. Three people were killed on February 22, 1975, bringing the confirmed total of February tornado deaths in the state to nine, according to storm-by-storm death tolls compiled by Thomas P. Grazulis and published in the book "Significant Tornadoes: 1880-1989."

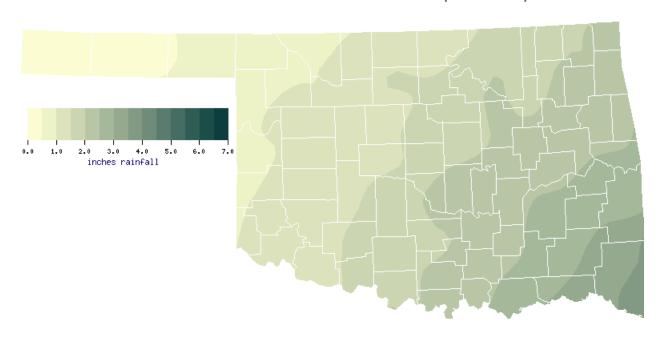
## **FEBRUARY NORMAL DAILY MAXIMUM TEMPERATURE (1971-2000)**



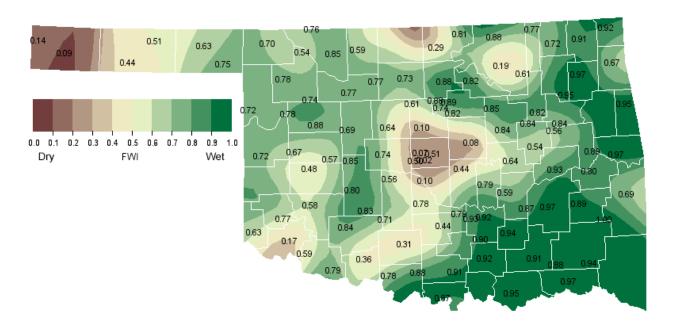
## **FEBRUARY NORMAL DAILY MINIMUM TEMPERATURE (1971-2000)**



## **FEBRUARY NORMAL PRECIPITATION (1971-2000)**



## **FEBRUARY 1, 2011 SOIL MOISTURE CONDITIONS AT 25CM**



## **FEBRUARY 2011 DROUGHT INDICES**

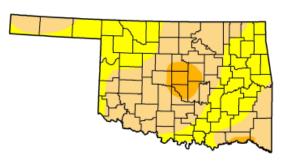
## U.S. Drought Monitor

## February 1, 2011

Valid 7 a.m. ES1

# Oklahoma Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.36	99.64	57.77	5.51	0.00	0.00
Last Week (01/25/2011 map)	0.36	99.64	54.35	5.51	0.00	0.00
3 Months Ago (11/02/2010 map)	47.71	52.29	5.66	0.00	0.00	0.00
Start of Calendar Year (12/28/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00
Start of Water Year (09/28/2010 map)	66.28	33.72	4.21	0.00	0.00	0.00
One Year Ago (01/26/2010 map)	100.00	0.00	0.00	0.00	0.00	0.00



#### Intensity:





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

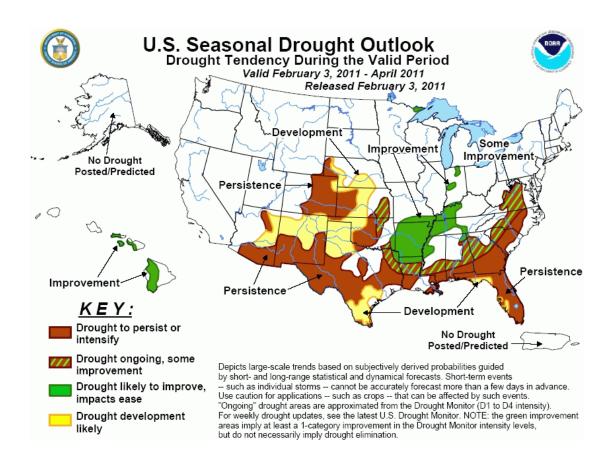
## USDA C



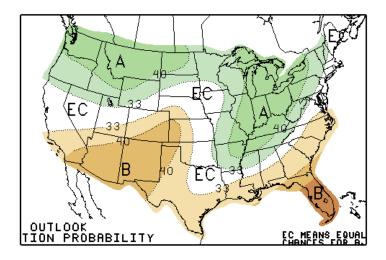


Released Thursday, February 3, 2011 R. Heim/L. Love-Brotak, NCDC/NOAA

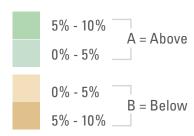
#### http://drought.unl.edu/dm



## **FEBRUARY 2011 U.S. PRECIPITATION FORECAST**

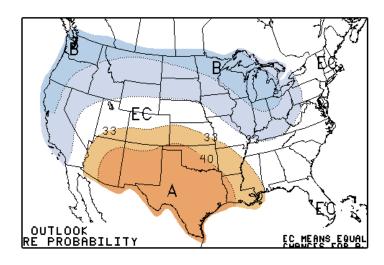


Percent Likelihood of Above or Below Average Precipitation\*

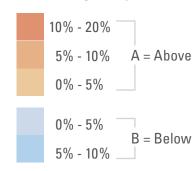


\*EC indicates no forecasted anomalies due to lack of model skill.

### FEBRUARY 2011 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures\*



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

## **FEBRUARY CLIMATE NORMALS**

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	53.3	23.8	38.6	0.64
2	51.4	25.1	38.3	1.23
3	52.9	28.8	40.9	1.96
4	53.2	26.9	40.1	1.09
5	53.9	29.2	41.6	1.77
6	54.4	31.2	42.8	2.35
7	55.9	29.0	42.5	1.36
8	56.8	31.9	44.4	2.21
9	57.3	31.9	44.6	3.13
Statewide	54.2	28.7	41.5	1.82

## **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: <a href="http://aa.usno.navy.mil/data">http://aa.usno.navy.mil/data</a>

#### **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 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.)

#### DESIGN

Stdrovia Blackburn Graphic Design Manager Ada Shih Graphic Designer

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

WEBSITE: http://climate.ok.gov