

# OKLAHOMA MONTHLY CLIMATE SUMMARY

## JANUARY 2008



With tornadoes and snow both being reported, January seemed to be quite the exciting month. The truth of the matter, however, is that the tornadoes were weak and the significant snowfall was confined to the extreme northern edge of the state. In the end, January ended up as warm and dry with not a lot of excitement thrown in, ranked as the 47th warmest and 16th driest on record. The month seemed windy, and the increased fire danger seems to confirm that suspicion. The only area with appreciable moisture was east central through northeastern Oklahoma where a band of more than three inches of liquid precipitation was recorded by the Oklahoma Mesonet.

### Precipitation

While all areas of the state were dry – save for parts of eastern Oklahoma – many Oklahoma Mesonet sites recorded less than a quarter of an inch of precipitation. In fact, three sites recorded no precipitation at all. The extreme fringes of the state in the west and south were parched throughout the month, continuing dry conditions that began in early fall. The statewide average precipitation was nearly an inch below normal.

### Temperature

The month was nearly two degrees above normal statewide with the southeast being the only section of the state below normal. Temperatures ranged from a high of 81 degrees recorded at Butler on the 28th to a low of -4 degrees recorded at Boise City on the 17th. Ten records were set during the month of January, all related to warm temperatures. McAlester tied its warmest minimum temperature for all of January with a 65-degree low temperature on the seventh.

Description	Extreme	Station	Date
High Temperature	81°F	Alva Butler	Jan. 28 Jan. 28
Low Temperature	-4°F	Boise City	Jan. 17
High Precipitation	3.56 in.	Haskell	
Low Precipitation	0.00 in.	Altus Cherokee Freedom	

### January Daily Highlights

**January 1-6:** A cold start to the month finally gave way to some warm weather by the fourth. After highs in the 30s and 40s for a few days, strong southerly winds kicked in on the fourth which allowed temperatures to increase into the 50s and 60s. The winds got out of hand the next couple of days, however, gusting to over 45 mph. The temperatures skyrocketed on the fifth and sixth. Oklahoma City set record highs both days, 72 degrees on the fifth and 75 degrees on the sixth, and temperatures around the state were 15-20 degrees above normal. Unfortunately, the high temperatures and winds exacerbated wildfire conditions and several large fires ignited on the sixth.

**January 7-8:** The only real severe weather during January came on the seventh as a dry line moved into western Oklahoma. Thunderstorms fired in the afternoon and marched across the state. Three weak tornadoes touched down in the northeast with little damage being reported. Up to two-inch hail was reported in the northeast and thunderstorm winds across the state gusted to over 60 mph. A 74 mph wind gust was reported by the Adair Mesonet site. Heavy rains were also a problem as flash flooding was widespread in east central parts of the state. A wide swath of three-inch rains fell in that area. The cold front continued to move across the state on the eighth. Highs that day were much more suitable for winter in the 40s and 50s, which together with the strong winds produced wind chills in the 30s.

**January 9-15:** The weather calmed considerably following the severe episode on the seventh. The winds were still fairly strong for the next seven days and temperatures moderated into the 50s and 60s for the most part. Skies were mostly clear throughout this period.

**January 16-20:** A strong cold front greeted the day on the 16th. Temperatures dropped into the 20s and 30s behind the front with some light freezing drizzle to add travel problems to the cold weather. Lows plummeted on the 17th. The Boise City Mesonet site recorded a low temperature of -4 degrees, the coldest measured temperature of the month. Several other northwestern sites were below freezing as well, with single digits and teens scattered across the rest of the state. Temperatures recovered into the 30s later that day. The weather remained seasonable, if not below normal, through the 20th.

**January 21-27:** Another cold front on the 21st generated a round of light freezing drizzle as it collided with milder and more humid air from the Gulf. The cold front meant more seasonable weather for the next few days until temperatures began to moderate on the 25th. A few 60s were recorded in the southern parts of the state, but a few 30s remained in the extreme north. Highs increased on the 26th and 27th into the 60s and 70s.

**January 28-31:** An approaching upper-level storm system on the 28th kicked winds up from the south at 35 mph as moisture surged in from the south as well. A fast-moving cold front on the 29th set the stage for a bit of snow in the northwest and winds gusted to over 55 mph behind the front. A few winds of 60 mph were recorded by the Oklahoma Mesonet in northwestern Oklahoma. The 30th was clear and mild with highs in the 50s and 60s. More strong winds with gusts to over 50 mph popped up in the northwest. A final cold front was in store for the month's final day with snow and strong winds. The heaviest snow was confined to the extreme northern edge of the state where 5-8 inches fell in localized areas. Lesser amounts of 1-3 inches fell near I-40, while southern Oklahoma was left out of the snowy weather.

<b>January 2008 Statewide Statistics</b>			
<b>Temperature</b>			
	<b>Average</b>	<b>Depart.</b>	<b>Rank (1895-2008)</b>
Month (Jan)	38°F	1.9°F	47th Warmest
Season-to-Date (Dec-Jan)	37.9°F	0.4°F	51st Coolest
<b>Precipitation</b>			
	<b>Total</b>	<b>Depart.</b>	<b>Rank (1895-2008)</b>
Month (Jan)	0.52 in.	-0.93 in.	16th Driest
Season-to-Date (Dec-Jan)	2.65 in.	-0.82 in.	40th Driest
Depart. = Departure from 30-year normal			

## January 2008 Severe Weather

### Significant Tornadoes (EF2 or greater)

No significant tornadoes were reported in the state.

### Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Day
2	Tahlequah	Cherokee	7

### Wind Gusts (70 mph or greater)

Speed (m.p.h.)	Location	County	Day
74	5 S Adair	Mayes	8

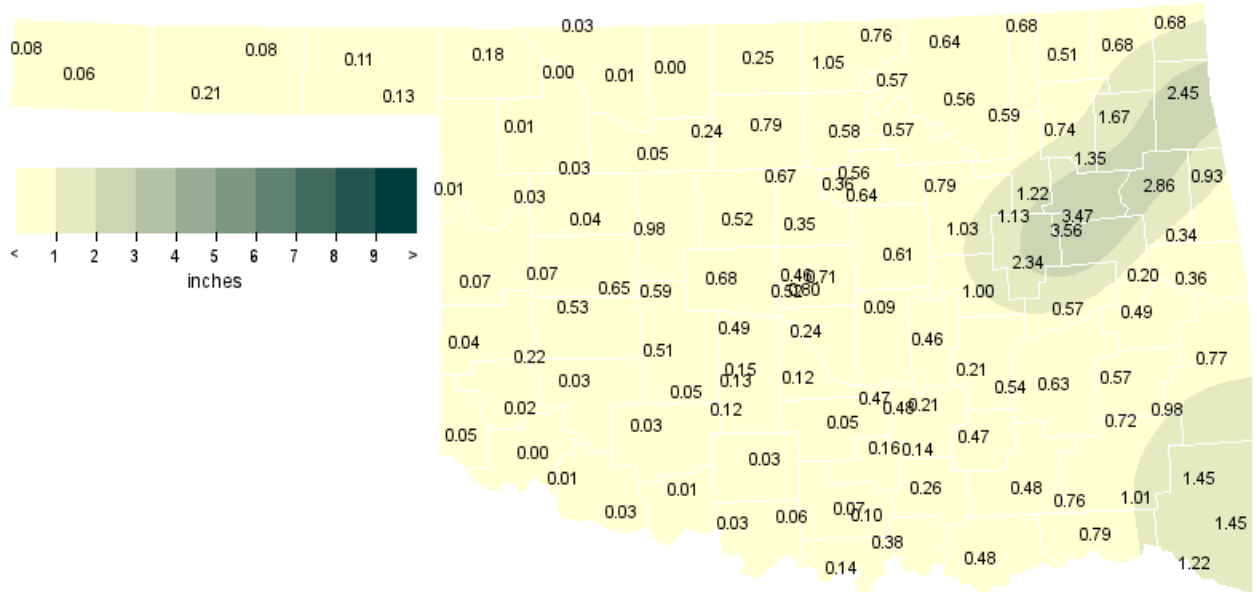
### Flooding

Location	County	Day
4 SE Peggs	Cherokee	7
Weleetka	Okfuskee	7
3 SW Peggs	Cherokee	7
5 E Hulbert	Cherokee	7
4 W Okay	Wagoner	7
10 N Proctor	Adair	7
Jamesville	Muskogee	7
2 N Henryetta	Okmulgee	7
2 W Eram	Okmulgee	7
Colcord	Delaware	7

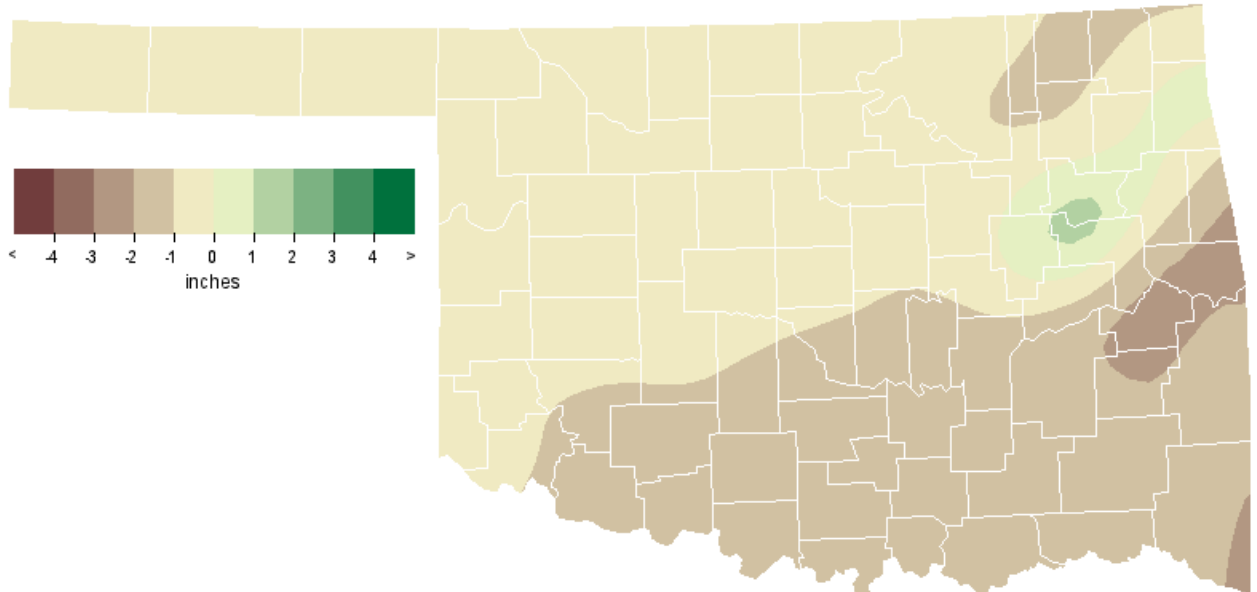
### Record Event Reports

Description	Day	Location	Record	Previous Record	Year
Warmest Maximum Temperature	5	Oklahoma City	72 F	71 F	1927
Warmest Minimum Temperature (Tie)	5	Oklahoma City	48 F	48 F	1948
Warmest Maximum Temperature (Tie)	5	McAlester	72 F	72 F	1989
Warmest Minimum Temperature	6	Oklahoma City	57 F	52 F	1907
Warmest Maximum Temperature	6	Oklahoma City	75 F	68 F	1921
Warmest Maximum Temperature	6	Tulsa	74 F	69 F	1907
Warmest Maximum Temperature	6	McAlester	74 F	69 F	1965
Warmest Maximum Temperature	7	McAlester	76 F	74 F	1965
Warmest Jan. Min. Temperature (Tie)	7	McAlester	65 F	65 F	2004
Warmest Minimum Temperature	7	McAlester	65 F	59 F	1965

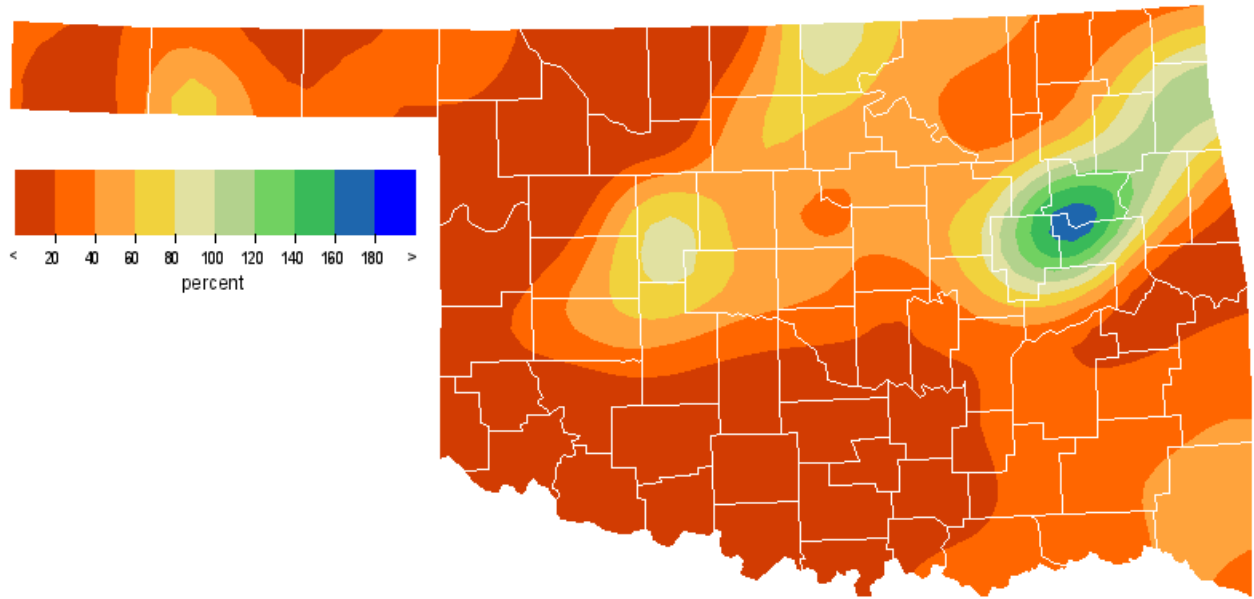
### January 2008 Observed Precipitation



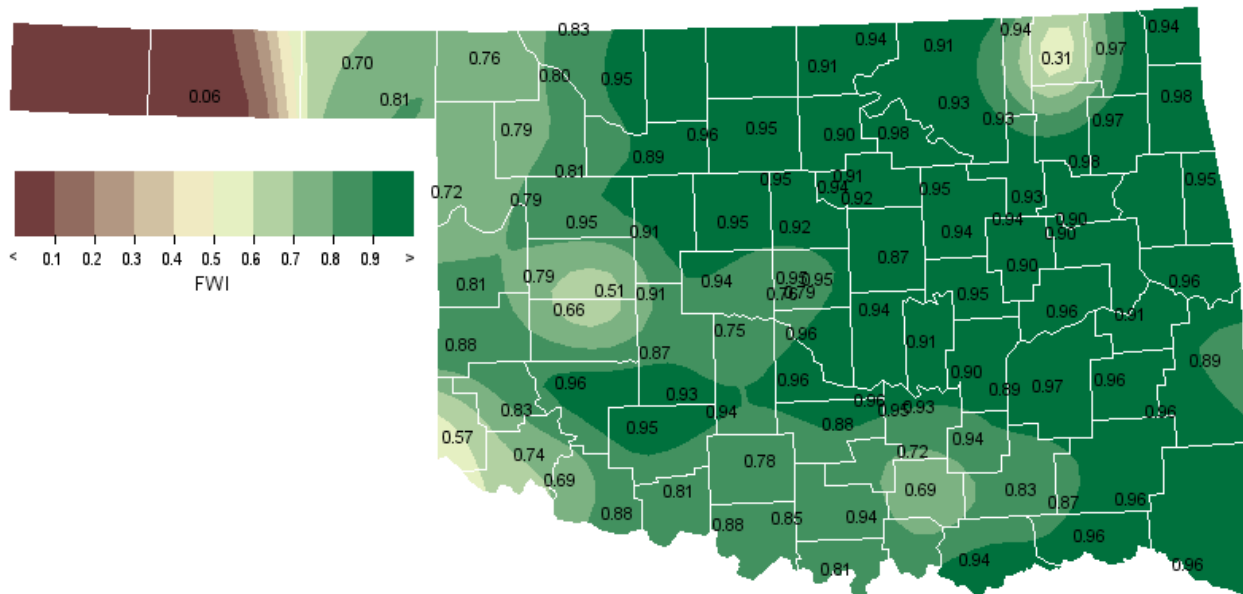
### January 2008 Departure from Normal Precipitation



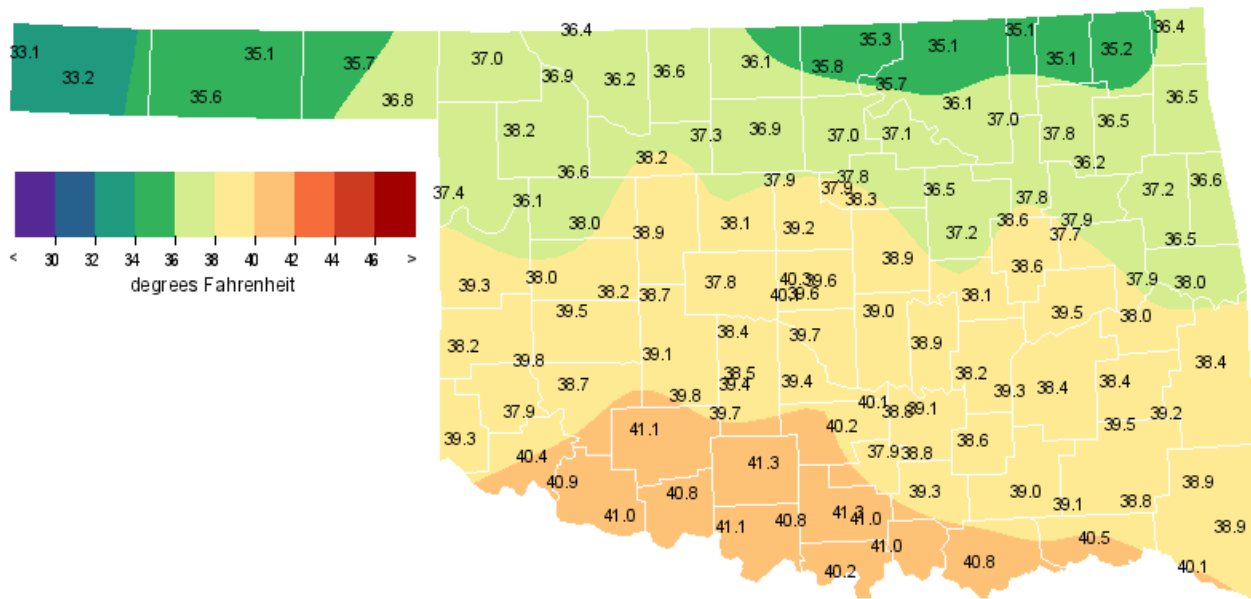
## January 2008 Percent of Normal Precipitation



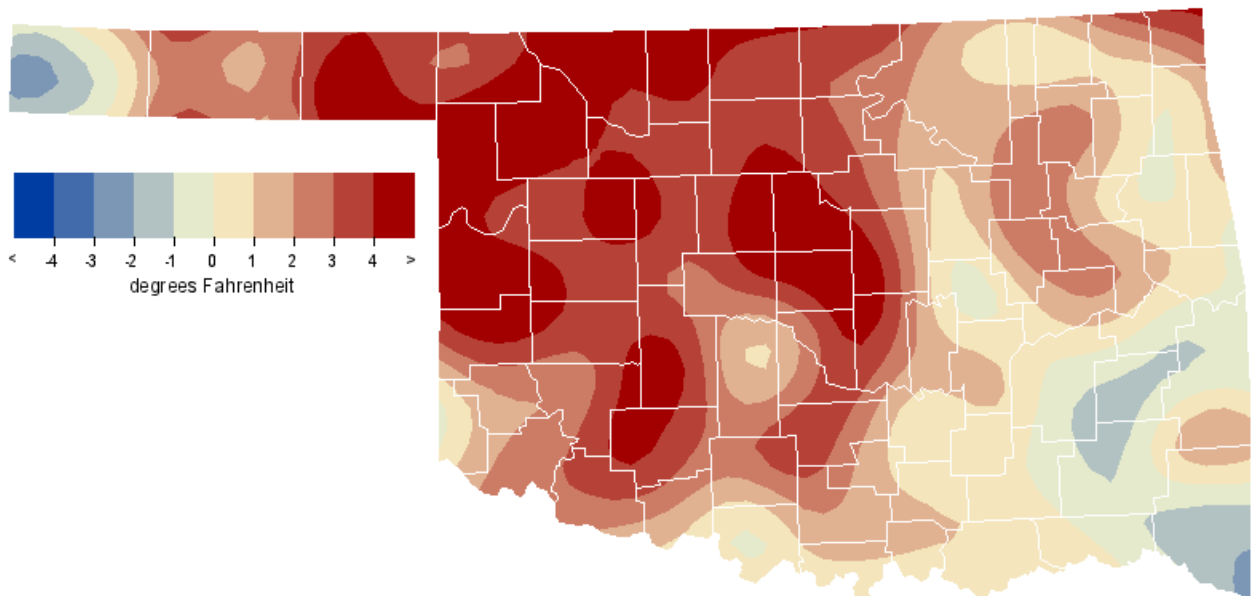
## January 2008 Average Soil Moisture at 25cm



### January 2008 Average Temperature



### January 2008 Departure from Normal Temperature

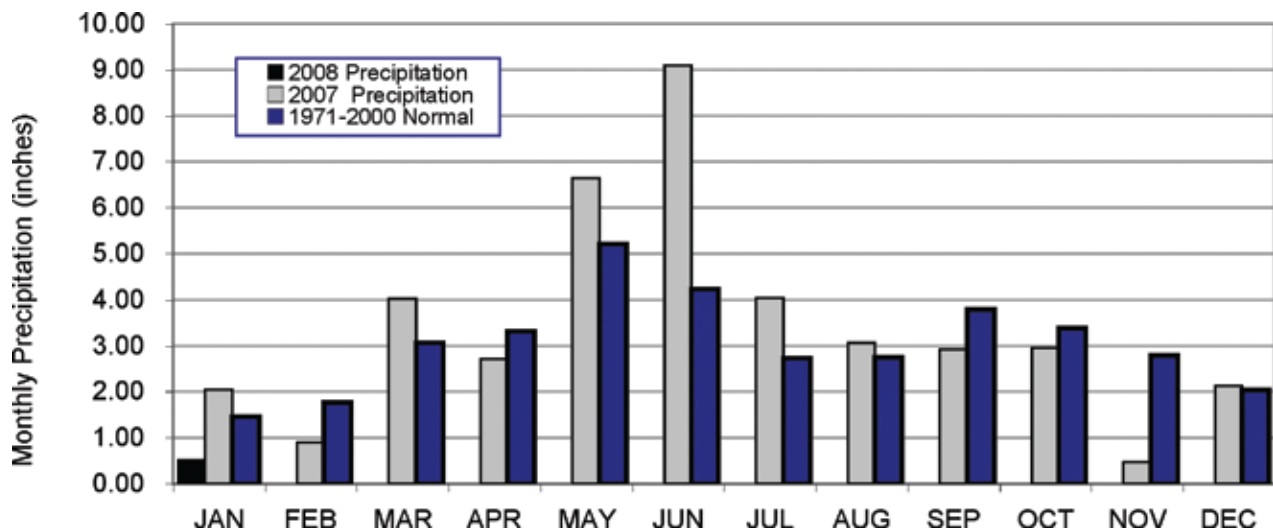




## January 2008 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Jan-07
Panhandle	0.11	-0.41	15th Driest	1.64 (1939)	0.01 (1904)	0.66
North Central	0.29	-0.64	27th Driest	4.43 (1949)	0.00 (1912)	0.88
Northeast	1.09	-0.48	44th Driest	6.01 (1949)	0.01 (1986)	2.11
West Central	0.29	-0.59	34th Driest	4.08 (1949)	0.00 (1912)	0.72
Central	0.50	-0.87	28th Driest	6.18 (1949)	0.00 (1912)	1.81
East Central	1.09	-1.04	30th Driest	7.99 (1932)	0.04 (1986)	3.36
Southwest	0.12	-0.94	15th Driest	4.89 (1949)	0.00 (1902)	1.45
South Central	0.24	-1.66	9th Driest	6.85 (1932)	0.00 (1909)	2.63
Southeast	0.97	-1.84	15th Driest	11.08 (1932)	0.11 (2003)	5.21
Statewide	0.52	-0.93	16th Driest	5.23 (1949)	0.04 (1986)	2.05

## 2007 and 2008 Statewide Precipitation: Monthly Totals vs. Normal

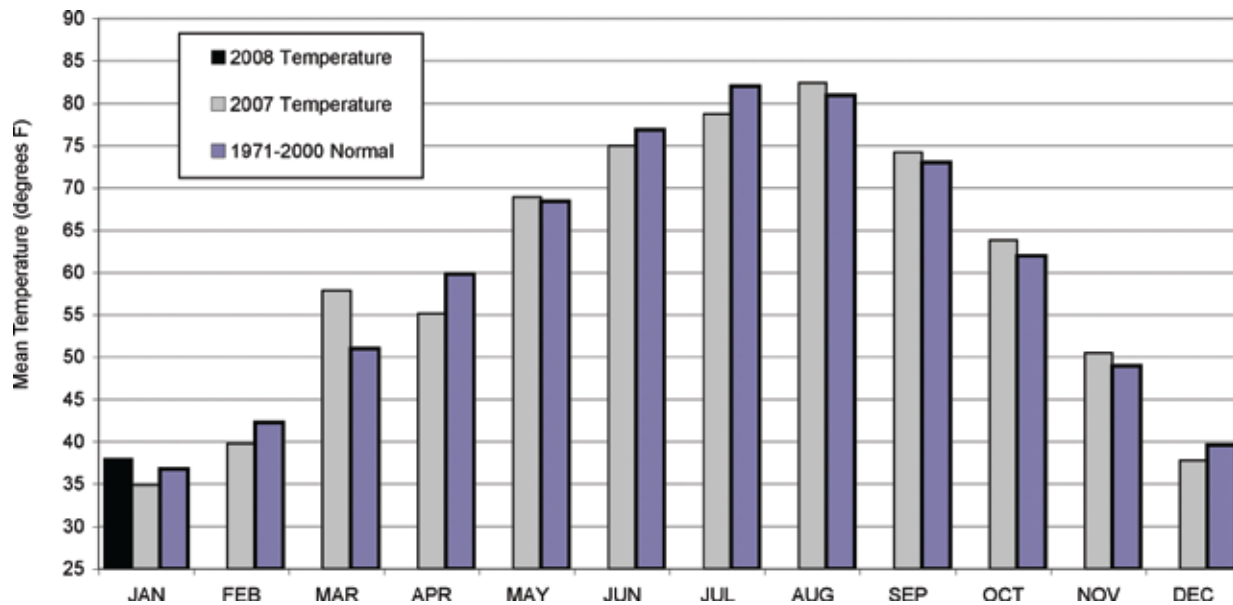




## January 2008 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Jan-07 (F)
Panhandle	35.5	2.5	42nd Warmest	42.6 (1953)	19.5 (1930)	29.2
North Central	36.7	3.2	37th Warmest	45.2 (2006)	19.4 (1930)	32.7
Northeast	36.4	1.8	50th Warmest	46.0 (2006)	21.3 (1940)	34.1
West Central	38.4	3.4	34th Warmest	46.4 (2006)	20.8 (1930)	34.0
Central	38.7	2.5	37th Warmest	47.4 (2006)	22.5 (1930)	35.4
East Central	38.0	0.7	51st Coolest	47.7 (1933)	24.8 (1940)	36.4
Southwest	39.8	2.3	43rd Warmest	47.8 (1923)	24.2 (1930)	36.2
South Central	40.0	0.9	54th Coolest	49.5 (1923)	27.0 (1930)	37.7
Southeast	39.2	-0.4	38th Coolest	49.4 (1952)	28.3 (1979)	38.6
Statewide	38.0	1.9	47th Warmest	46.6 (2006)	23.5 (1930)	34.8

## 2007 and 2008 Statewide Temperature: Monthly Averages vs. Normal



## Mesonet Extremes for January 2008

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
	Panhandle	76	28th	Buffalo	-4	17th	Boise City	0.21	Goodwell	0.13	7th
North Central	81	28th	Alva	2	31st	Seiling	1.05	Blackwell	0.74	7th	Breckinridge
Northeast	76	6th	Burbank	6	24th	Foraker	3.47	Porter	2.75	7th	Porter
West Central	81	28th	Butler	7	31st	Camargo	0.98	Watonga	0.96	7th	Watonga
Central	76	6th	Washington	9	23rd	Oilton	1.03	Bristow	0.84	8th	Bristow
East Central	76	6th	Sallisaw	9	23rd	Cookson	3.56	Haskell	2.63	7th	Haskell
Southwest	80	6th	Mangum	7	19th	Mangum	0.59	Hinton	0.54	7th	Hinton
South Central	79	6th	Waurika	10	18th	Sulphur	0.48	Vanoss	0.42	7th	Byars
Southeast	77	6th	Idabel	9	20th	Wister	1.45	Broken Bow	0.57	8th	Mt Herman
Statewide	81	28th	Butler	-4	17th	Boise City	3.56	Haskell	2.75	7th	Porter

## February Climatological Outlook

NORMAN - 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.

### 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  
Driest location: Kenton, 0.33 inches  
Most recorded: 13.21 inches, Tuskahoma, 1945

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.

### 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

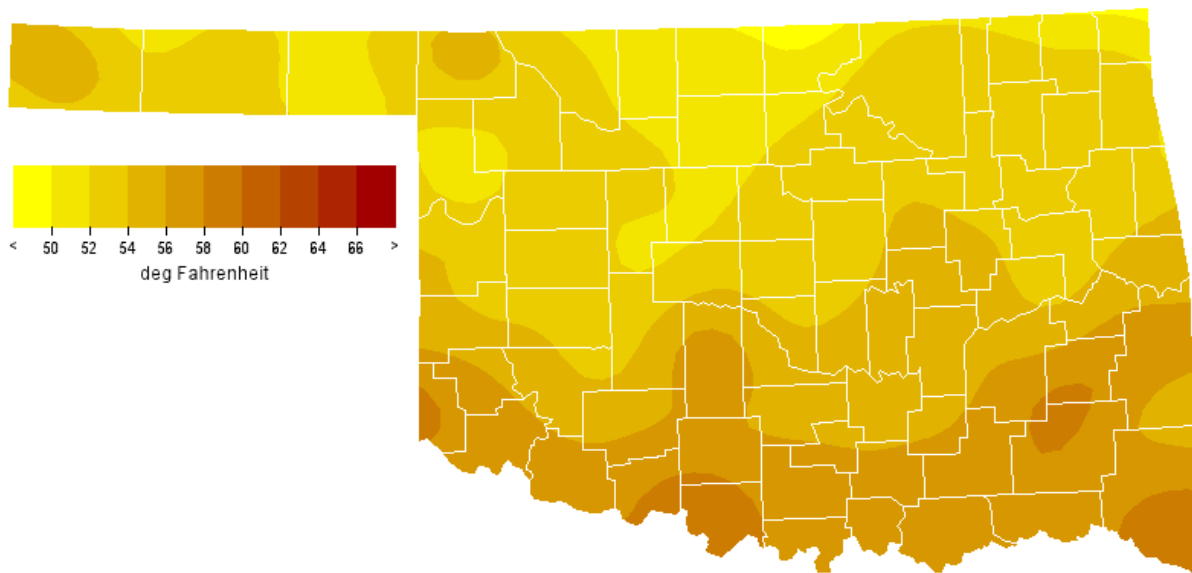
Oklahoma's extreme snowstorm of record was the blizzard of February 21-23, 1971. This blizzard buried northwestern Oklahoma under as much as three feet of snow, not accounting for drifts. Buffalo was the hardest hit, reporting 23 inches of snow on the 21st and a state-record snow depth of 36 inches by 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).

### Tornadoes

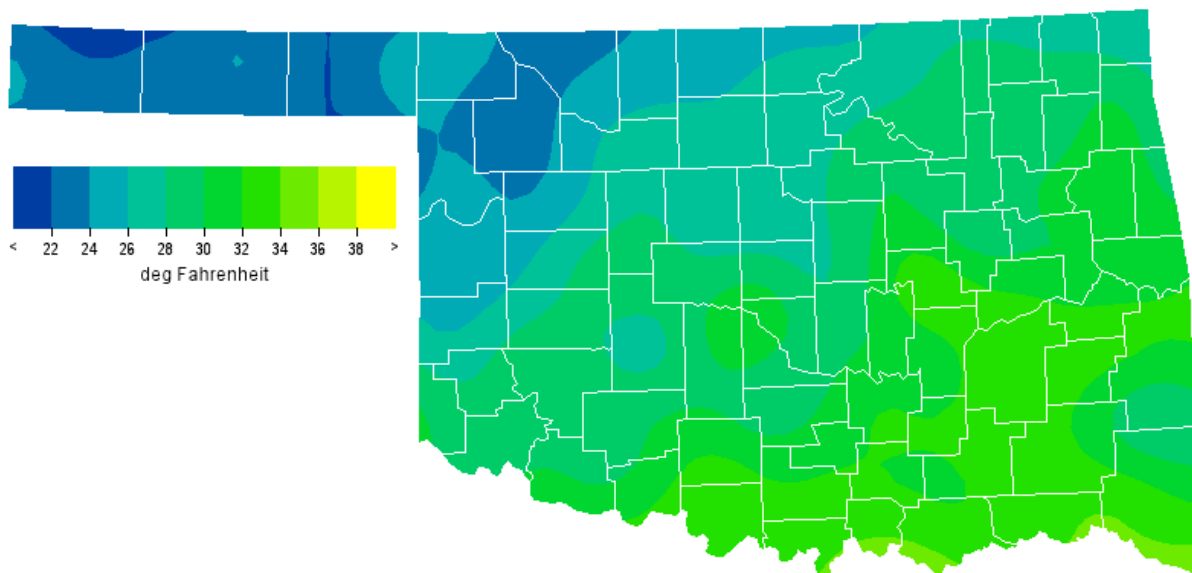
Average February Tornadoes: 0.8  
Most: 6 (1975)

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."

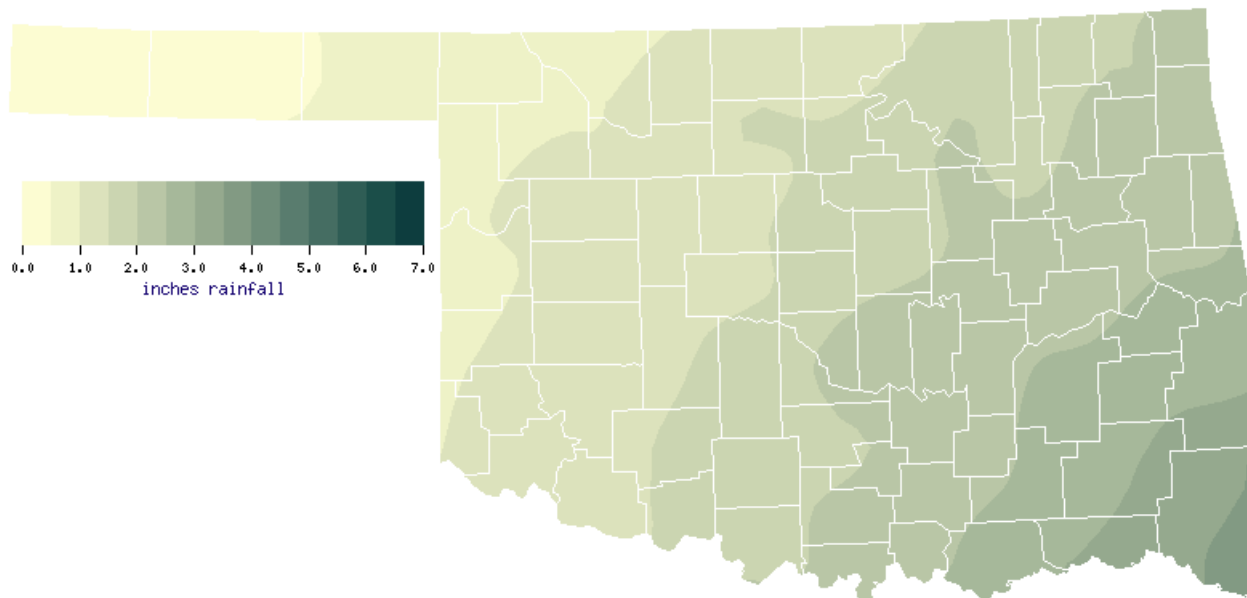
## February Normal Daily Maximum Temperature (1971-2000)



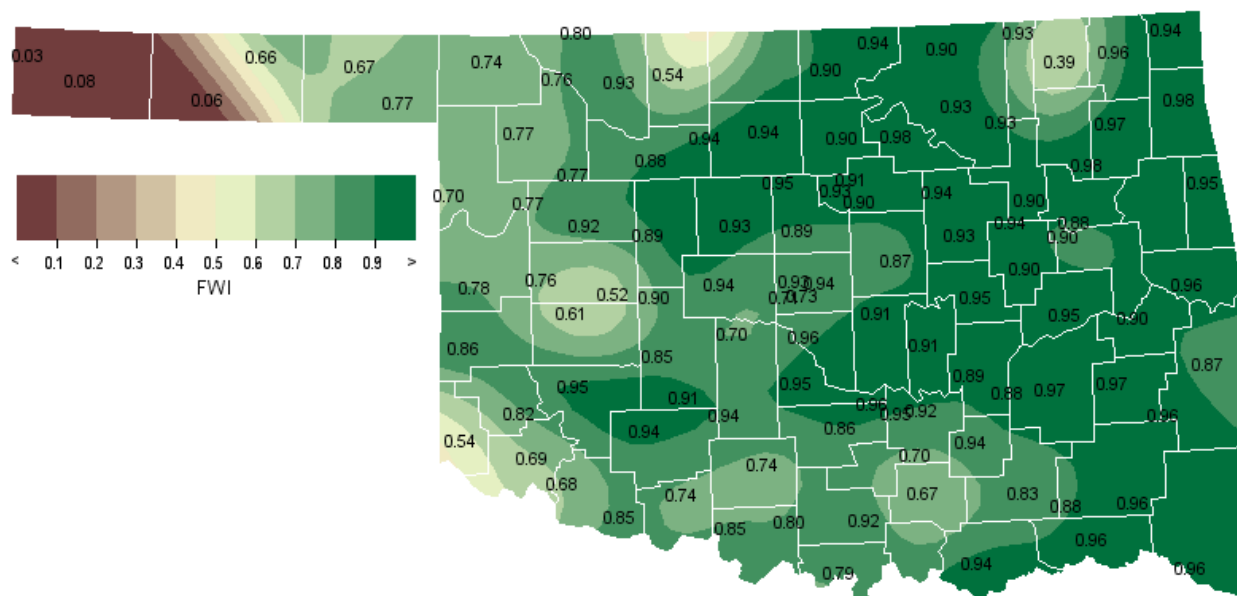
## February Normal Daily Minimum Temperature (1971-2000)



## February Normal Precipitation (1971-2000)



## February 1, 2008 Soil Moisture Conditions at 25cm



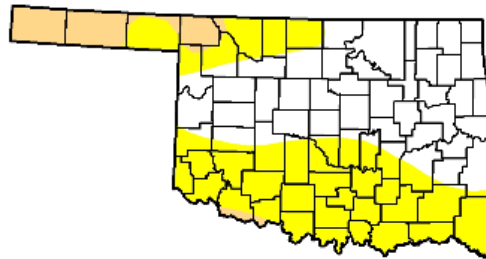
# U.S. Drought Monitor

## Oklahoma

January 29, 2008  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	48.5	51.5	8.5	0.0	0.0	0.0
Last Week (01/22/2008 map)	58.7	41.3	8.5	0.0	0.0	0.0
3 Months Ago (11/06/2007 map)	76.7	23.3	6.0	0.0	0.0	0.0
Start of Calendar Year (01/01/2008 map)	83.4	16.6	7.1	0.0	0.0	0.0
Start of Water Year (10/02/2007 map)	95.6	4.4	0.0	0.0	0.0	0.0
One Year Ago (01/30/2007 map)	50.2	49.8	26.9	15.5	0.0	0.0



**Intensity:**

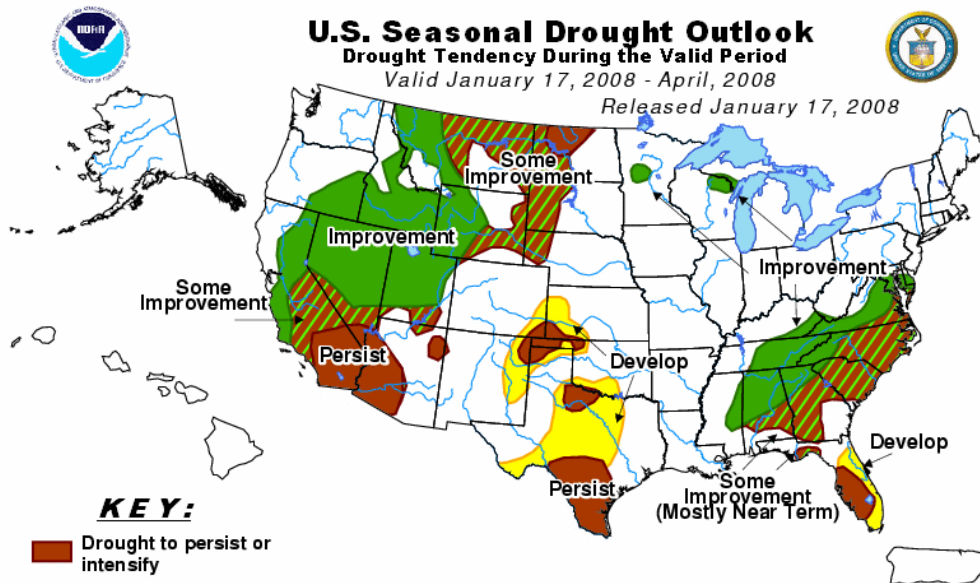
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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

<http://drought.unl.edu/dm>



Released Thursday, January 31, 2008  
Author: David Miskus, JAWF/CPC/NOAA

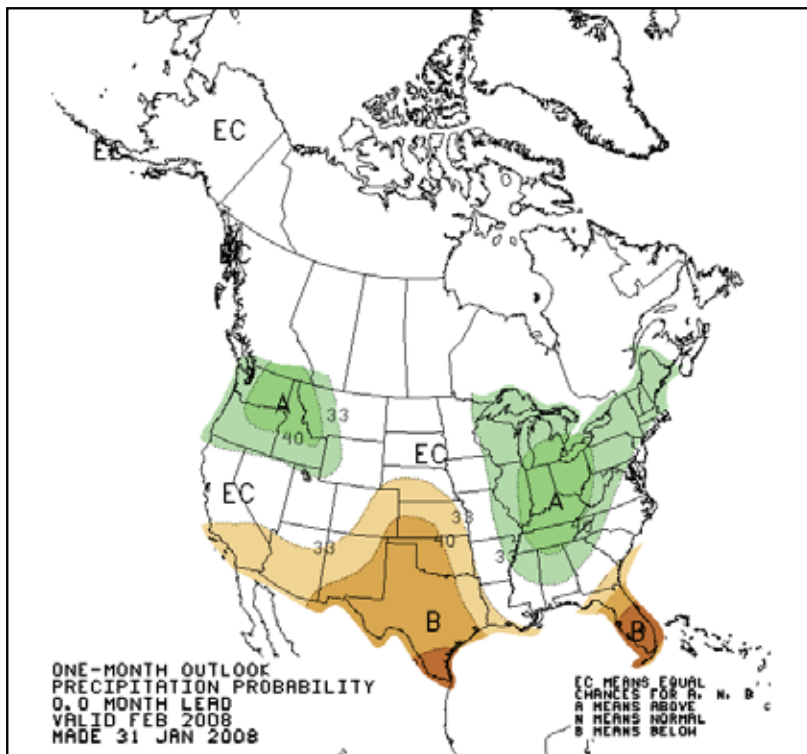


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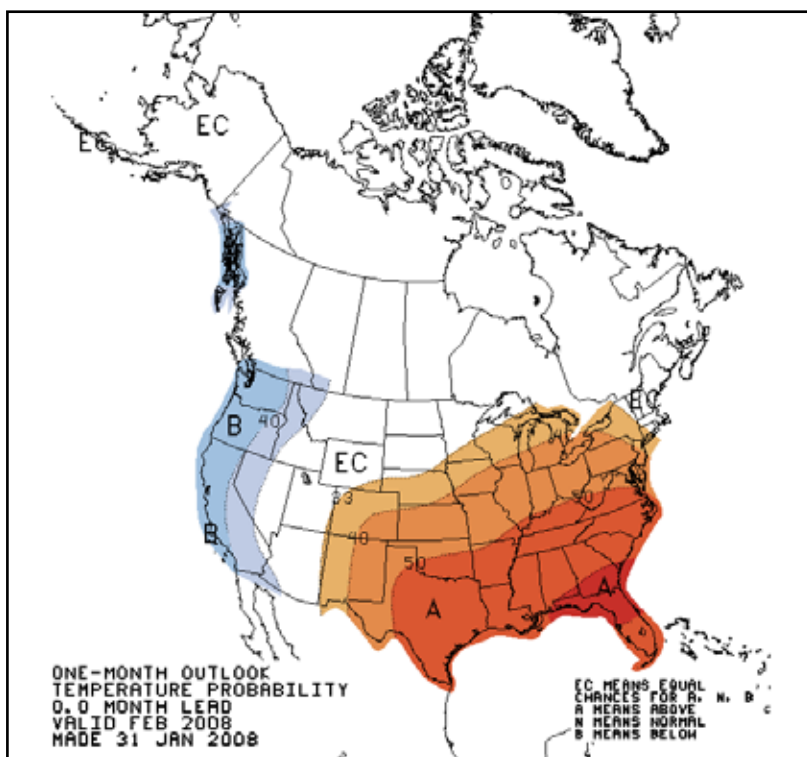
- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

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.

**February 2008 U.S. Precipitation Forecast**



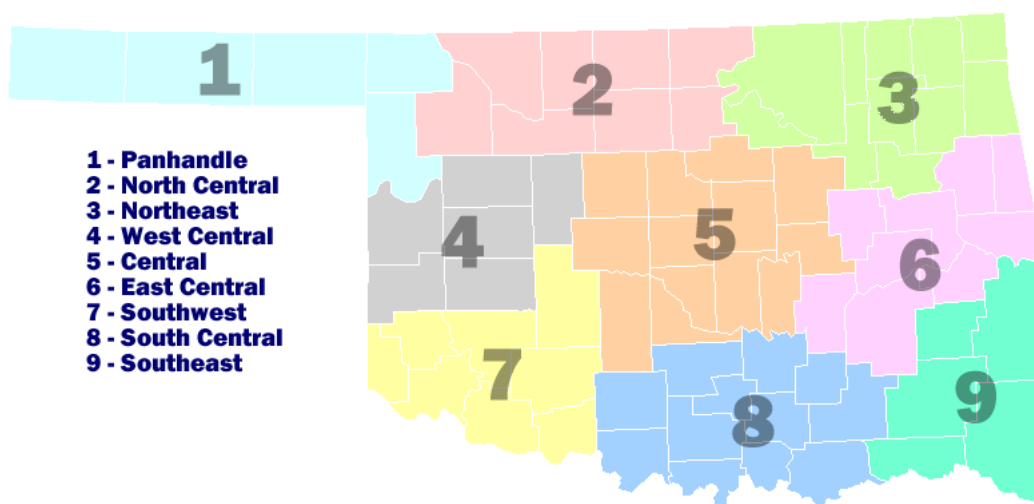
**February 2008 U.S. Temperature Forecast**



## 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: <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](http://www.cpc.ncep.noaa.gov/products/OUTLOOKS_index.html)

### Climate Calendars and other local weather and climate information

Oklahoma Climatological Survey: <http://climate.ocs.ou.edu> or

<http://www.ocs.ou.edu/>

E-mail ([ocs@ou.edu](mailto:ocs@ou.edu)) or telephone (405/325-2541)



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