

OKLAHOMA MONTHLY CLIMATE SUMMARY

MARCH 2006



Drought conditions were eased somewhat during March, and significant tornadoes (F2 or greater) returned to the state after a nearly two-year absence. The worst of the drought conditions eased significantly as southeastern Oklahoma ended the month 2-4 inches above normal. For the state as a whole, the month was the 37th wettest on record, but southeastern and south central Oklahoma were the 11th wettest and 17th wettest on record, respectively. Unfortunately, the northern half of the state continued below normal, with no significant drought relief. The statewide burn ban which had been in effect since November was lifted briefly on the 20th, but reinstated quickly in the northwestern two-thirds as warm, windy, and dry conditions returned rather quickly. The month was the 22nd warmest on record, and many record high temperatures were set during the month. The state's first significant tornadoes since May of 2004 struck on the 12th as two F3 tornadoes touched down in Cherokee and Delaware counties, destroying many homes and businesses.

Precipitation

Southeastern Oklahoma, struggling through an historic drought at the month's beginning, eased its suffering with a surplus of over two inches as 5-7 inches fell over that region. Amounts lessened rather rapidly to the northwest, falling into the 1-2 inches range northwest of I-44. Other than the southeast and south central regions, the remainder of the state was once again below normal, which allowed droughty conditions to continue unabated. The statewide-averaged precipitation total finished less than a quarter of an inch below normal. For the year thus far, the southeast is the only area of the state above normal with less than an inch surplus, while the remainder of the state lies below normal by 1-4 inches.

Temperature

Oklahoma was well above normal with the exception of the far western Panhandle, which fell 2-3 degrees below normal. As a whole, the state was nearly 3 degrees above normal, with five records for warmth being set at NWS first-order observing stations. The high temperature for the month of 95 degrees occurred on the 1st at Newport, while the month's low temperature, 10 degrees, came in at Kenton on the 21st. For the January-March period, the state is still very warm at over four degrees above normal, the 8th warmest such period on record.

March 2006 Statewide Extremes

Description	Extreme	Station	Date
High Temperature	95°F	Newport	Mar 1st
Low Temperature	10°F	Kenton	Mar 21st
High Precipitation	7.53 in.	Cloudy	
Low Precipitation	0.61 in.	Boise City	

March Daily Highlights

March 1-6: The month began with record high temperatures and strong winds ahead of a cold front passage. Highs on the 1st were in the 80s and 90s, with Oklahoma City setting a record high of 92 degrees. The next several days were much like a proper March period, with short intervals of showery weather and highs in the 60s and 70s. Lows for the most part were in the 40s, quite seasonable for that point of the year. The precipitation that did fall was quite light – generally on the order of a quarter of an inch. By the 6th, the weather had once again warmed into the 70s and 80s.

March 7-9 : The 7th saw a true spring-like pattern position itself across the state. A stalled warm front across the SW was a sign of returning moisture from the Gulf of Mexico. Humidity increased along with warming temperatures into the 80s. Strong winds of 30-40 mph increased the fire danger considerably. Storms formed in north central Oklahoma with some moderate rainfall. Those storms continued into the early hours of the 8th, while the dryline remained positioned across western Oklahoma. More storms fired about midnight on the 9th across south central and eastern Oklahoma. Several of those thunderstorm complexes went severe, with golfball size hail and severe winds being the main threats. The worst damage appeared to occur in Latimer County, where many trees were downed and roofs were blown off of several buildings. A cold front moved through later that day, touching off snow in the northwest and more storms in the east. Daytime highs were 10-20 degrees cooler than on the 8th, settling in the 40s and 50s.

March 10-13: The lingering storm system and its accompanying dryline produced more storms on the 10th, which first produced heavy rains of about 1.5 inches in the south. A severe storm produced hail to the size of baseballs in Atoka County. Soon after midnight, in the early morning hours of the 11th, the state's first tornado since October dropped from the clouds in Le Flore County. The F1 tornado was only on the ground for a matter of minutes, with little damage being reported. The real fireworks occurred late on the 12th. Storms fired along the dryline once again and became tornadic in more favorable conditions in eastern Oklahoma. An F3 tornado ripped through Cherokee and Delaware counties. The twister was on the ground for some 27 miles, first touching down near the town of Peggs before plowing through the small community of Twin Oaks on its way to Colcord, finally lifting near Bentonville, Arkansas. The damage path from this storm reached a mile wide at times. The heaviest damage was strung along a path from Twin Oaks to Colcord. This significant tornado was the first to hit the state since May 29, 2004.

March 14-16: This three day period was relatively quiet, although strong winds and dry conditions kicked up the fire danger once again. Winds gusted to nearly 50 mph on the 15th. Temperatures were in the 60s and 70s throughout.

March 17-20: A cold front cooled the weather down considerably. Lows on the 17th dropped into the 20s and 30s, while highs rebounded into the 40s and 50s. A slow-moving upper-level storm approached from the Four Corners area, triggering showers and thunderstorms throughout the four-day period. Oklahoma City set a precipitation record on the 18th, but the heaviest rainfall was due for the 19th. Over four inches fell in McCurtain County, tapering off slightly to the northwest. As it was, the northwestern half of the state received from two to six inches during the four days. The upper-level storm's passage left a gift of 3-6 inches of snowfall on the ground in the Oklahoma Panhandle. High temperatures in the rest of the state rose into the 50s, while remaining in the 30s in the snowfall area. Preliminary reports indicate a small tornado touched down in Dewey County near Putnam on the 20th.

March 21-23: The gray, overcast weather hung around for another few days. The first day of spring on the 21st was cool, and high temperatures in the 40s were made cooler by strong northerly winds, producing wind chills in the 30s. An upper-level storm brought snow on the 22nd and 23rd. The snow began late on the 22nd and continued overnight, dumping a band of around four inches from west central through central Oklahoma. Most of the snow had melted by that afternoon as temperatures rose into the 30s and 40s.

March 24-28: This period was fairly tranquil and pleasant with high pressure dominating the region. The 24th was unseasonably cool – Oklahoma City tied its record low temperature for the day, and highs barely managed to recover into the 50s. Cool mornings and seasonable afternoons continued through the 28th. Strong winds on the 26th did exacerbate the wildfire

danger, but those winds calmed somewhat after a frontal passage the following day.

March 29-31: An approaching storm system kicked up moisture-laden winds from the south, which helped generate a few showers in south central parts of the state on the 29th. Amounts from that rainfall were generally less than one-third of an inch, with high temperatures that day in the 60s and 70s. The main storm system arrived on the 30th, setting off a round of violent thunderstorms. Southern Oklahoma bore the brunt of the severe weather. Hail to the size of golfballs and severe winds were the main threats. That is also where the heavy rain fell, with Durant topping the state at over two inches. While the northwest was largely left out of the rain and storminess, winds kicked up to over 55 mph in that area behind the dry line, further enhancing already terrible fire conditions. A small tornado touched down briefly near Duncan; little damage was reported. The storm system dragged a weak cold front through the state overnight on the 31st, but temperatures rebounded into the 70s and 80s that day after lows in the 40s.

March 2006 Statewide Statistics			
Temperature			
	Average	Depart.	Rank (1892-2006)
Month (Mar)	53.0°F	2.8°F	22nd Warmest
Year -to-Date (Jan-Mar)	47.0°F	4.3°F	8th Warmest
Precipitation			
	Total	Depart.	Rank (1892-2006)
Month (Mar)	2.88 in.	-0.23 in.	37th Wettest
Year -to-Date (Jan-Mar)	4.10 in.	-2.22 in.	32nd Driest
Depart. = Departure from 30-year normal			

March 2006 Severe Weather

Significant Tornadoes (F2 or greater)

F-rating	Location	County	Date
F3	1 N Peggs - 4 NE Colcord	Cherokee - Delaware	12
F3	3 SE Colcord	Delaware	12

Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Day
2.75	McGee Creek Lake	Atoka	10
2.50	Quinton	Pittsburg	9
2.50	7 S Kingston	Marshall	30

Wind Gusts (70 mph or greater)

Speed (m.p.h.)	Location	County	Day
80	Coleman	Johnston	20
78	5 S Savanna	Pittsburg	9
74	Stigler	Haskell	9

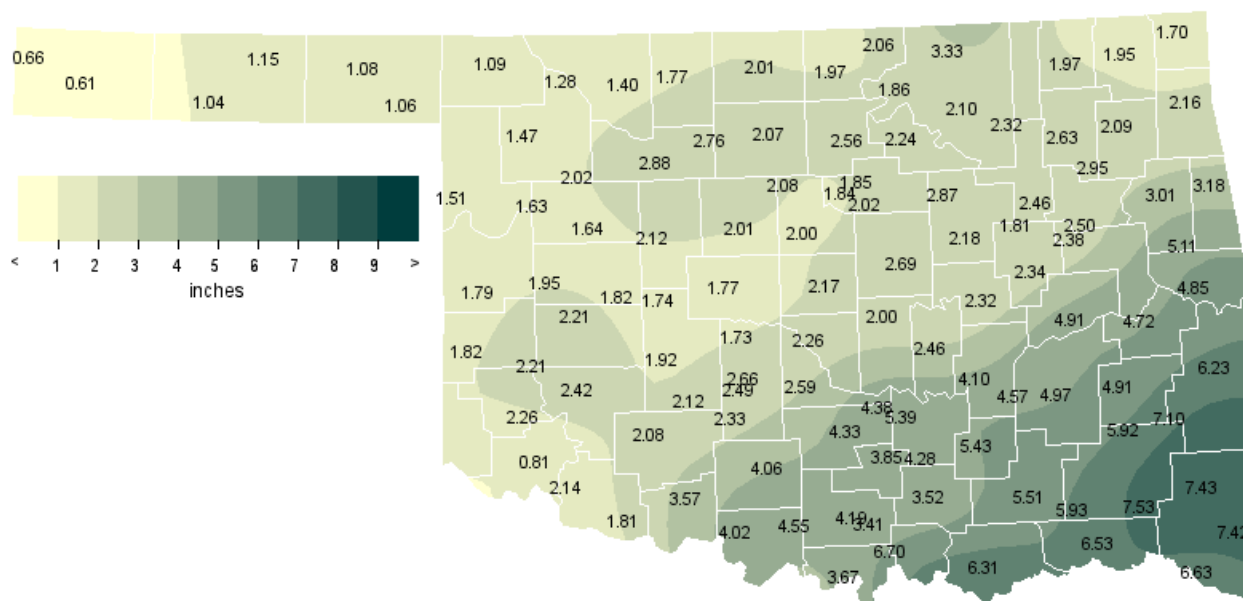
Flooding

Location	County	Day
No significant flooding reported in the state.		

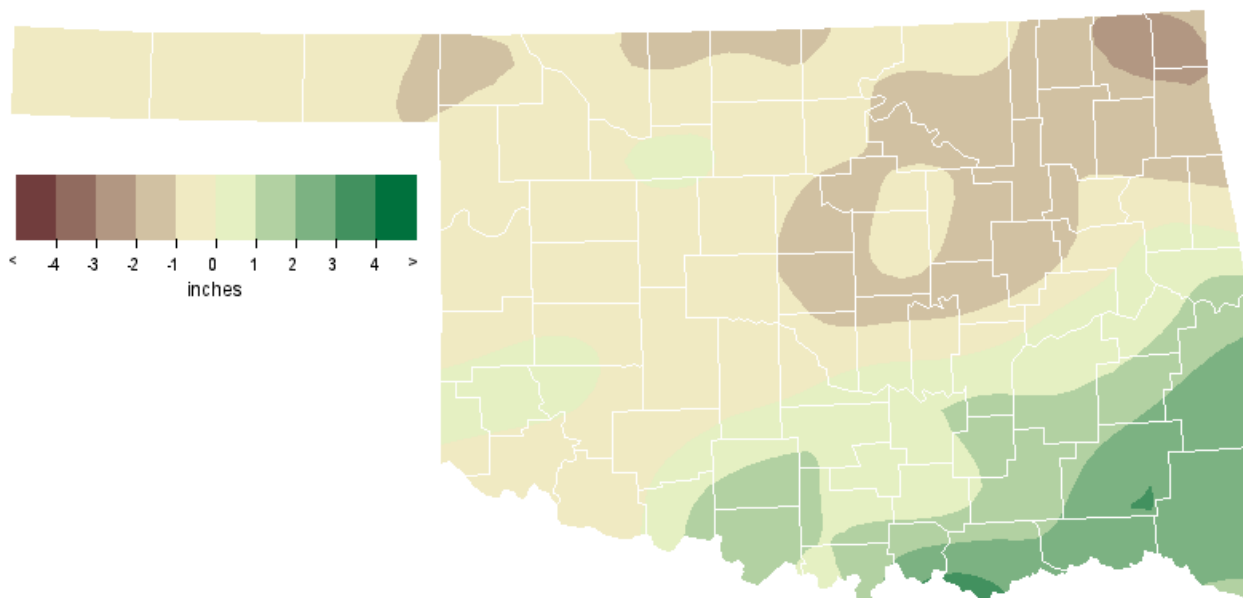
Record Event Report

Description	Day	Location	Record	Previous Record	Year
High Temperature	1	McAlester	90	79	1992
High Temperature	1	Oklahoma City	92	85	1976
Warmest Low Temperature	1	Oklahoma City	59	56	1940
High Temperature	1	Tulsa	93	81	1967
Rainfall	9	McAlester	0.88	0.64	1964
Warmest Low Temperature (tied)	12	Oklahoma City	59	59	1972
Rainfall	18	Oklahoma City	1.61	0.6	2002
Snowfall	23	Oklahoma City	1.6	Trace	1983
Low Temperature (tied)	24	Oklahoma City	23	23	1965

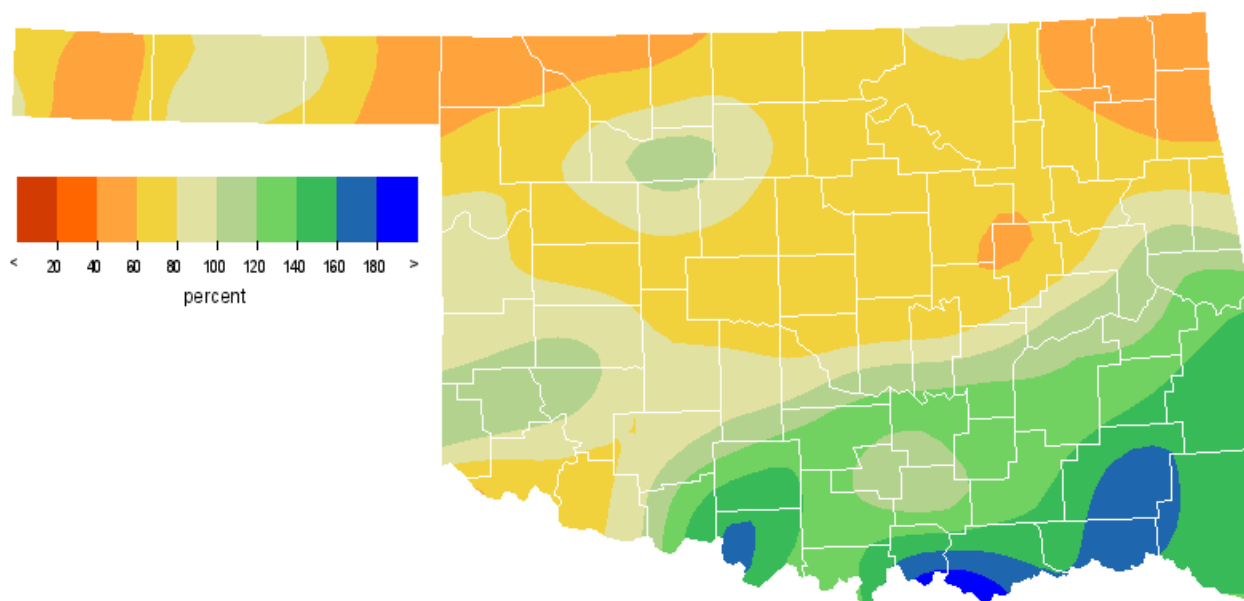
March 2006 Observed Precipitation



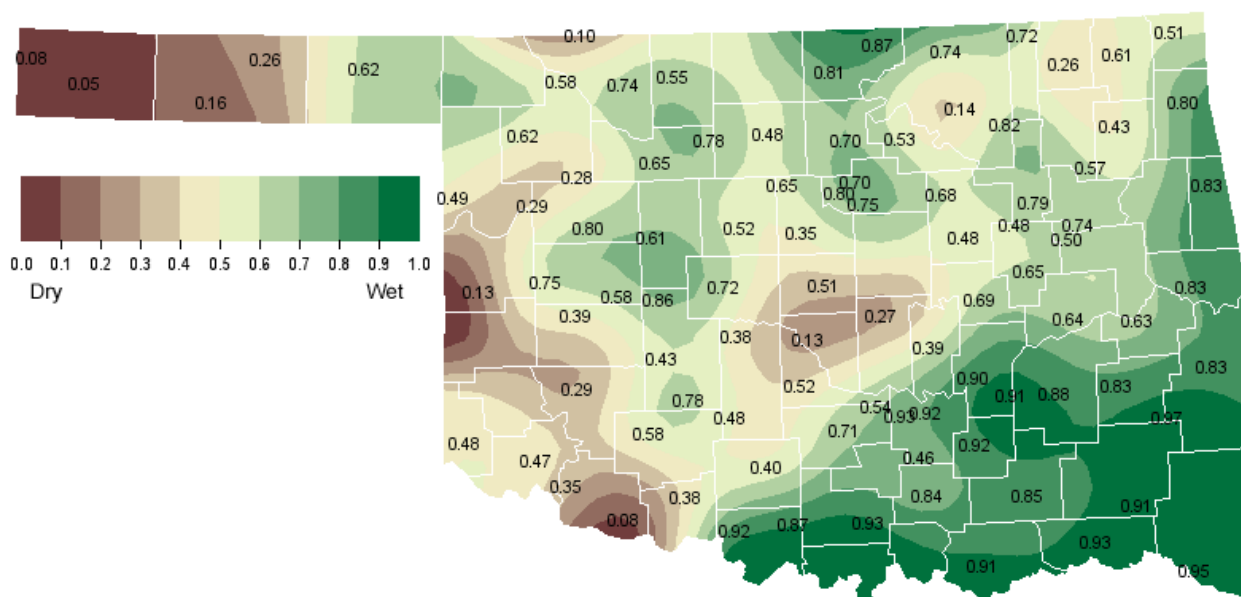
March 2006 Departure from Normal Precipitation



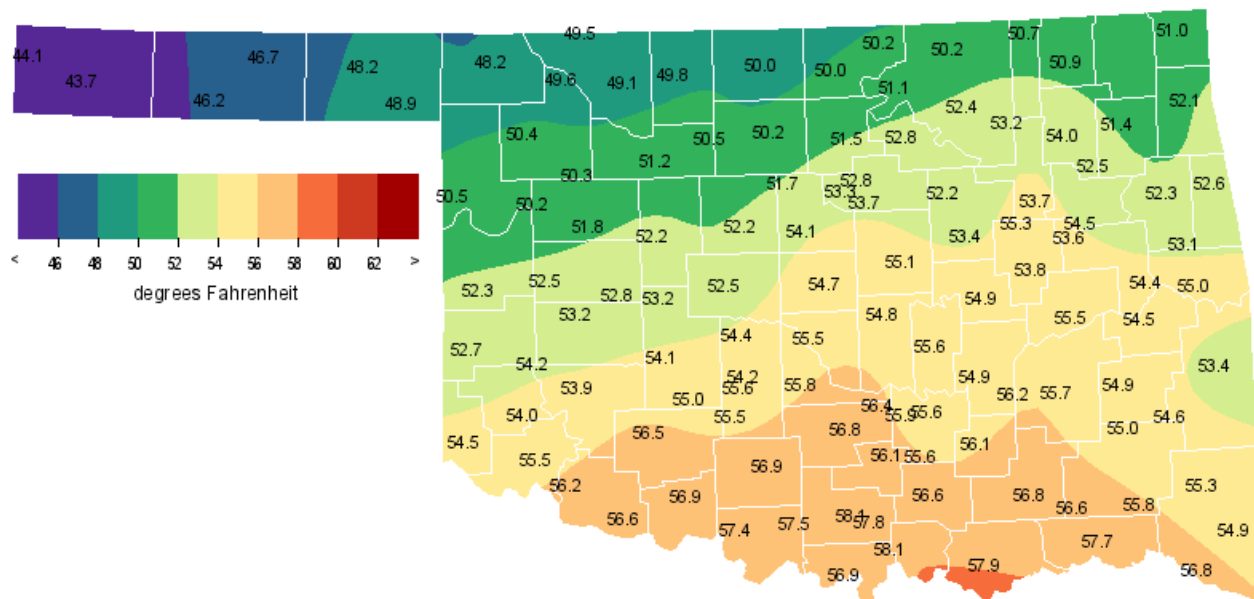
March 2006 Percent of Normal Precipitation



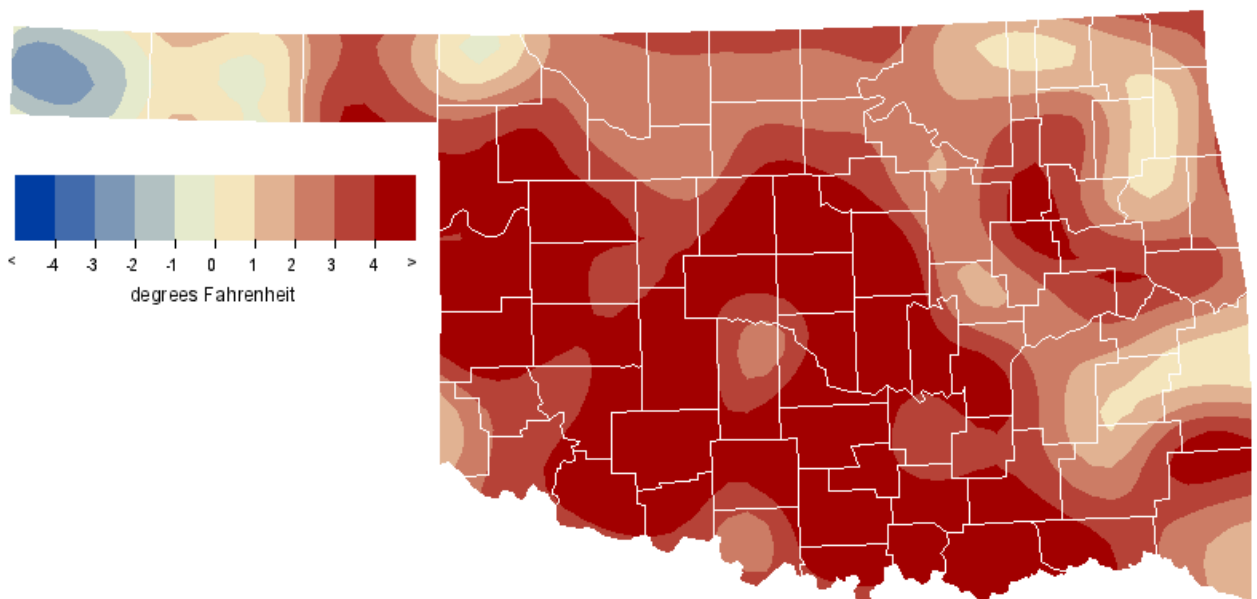
March 2006 Average Soil Moisture at 25cm



March 2006 Average Temperature



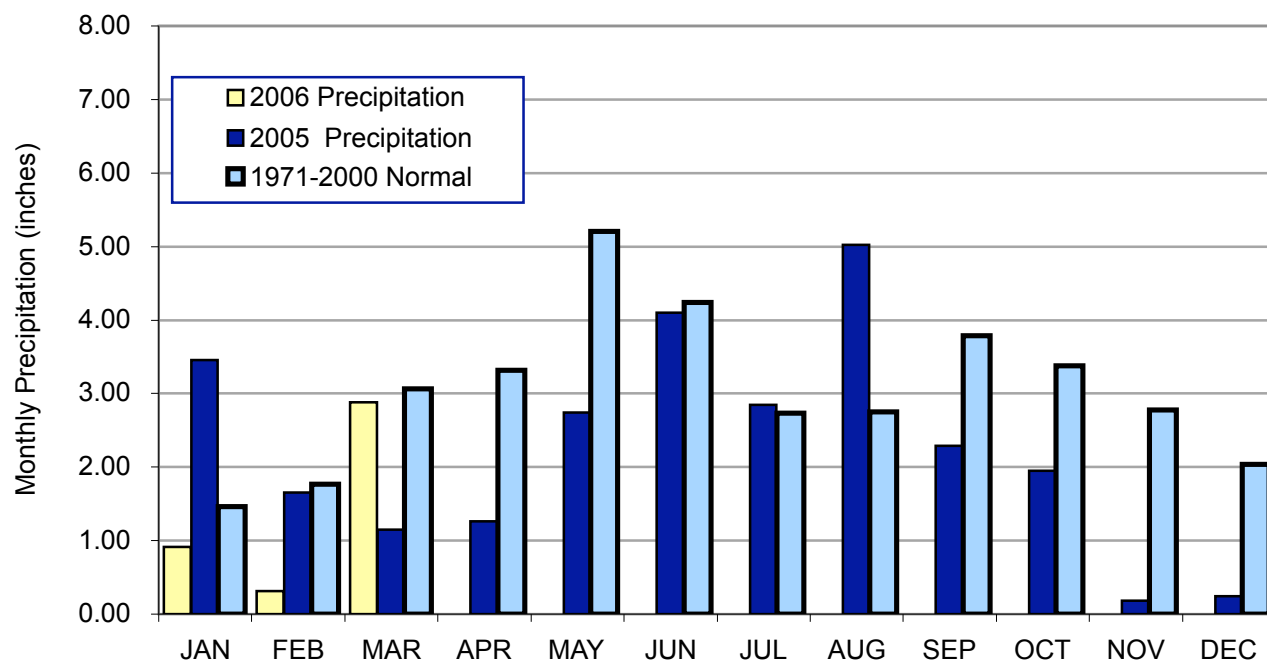
March 2006 Departure from Normal Temperature



March 2006 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Mar-05
Panhandle	1.02	-0.60	51st Wettest	5.84 (1973)	0.00 (1895)	0.70
North Central	2.02	-0.66	43rd Wettest	8.18 (1973)	0.00 (1936)	0.72
Northeast	2.30	-1.37	47th Driest	9.79 (1973)	0.00 (1900)	1.49
West Central	1.91	-0.49	37th Wettest	7.24 (1973)	0.00 (1895)	0.82
Central	2.22	-1.02	54th Wettest	7.88 (1990)	0.00 (1900)	0.87
East Central	3.83	-0.26	40th Wettest	10.63 (1945)	0.46 (1911)	2.37
Southwest	2.09	-0.17	39th Wettest	5.52 (1973)	0.00 (1940)	0.39
South Central	4.60	1.05	17th Wettest	8.46 (1945)	0.20 (1950)	0.97
Southeast	6.56	2.08	11th Wettest	12.38 (1945)	1.01 (1954)	2.31
Statewide	2.88	-0.23	37th Wettest	7.46 (1973)	0.38 (1971)	1.15

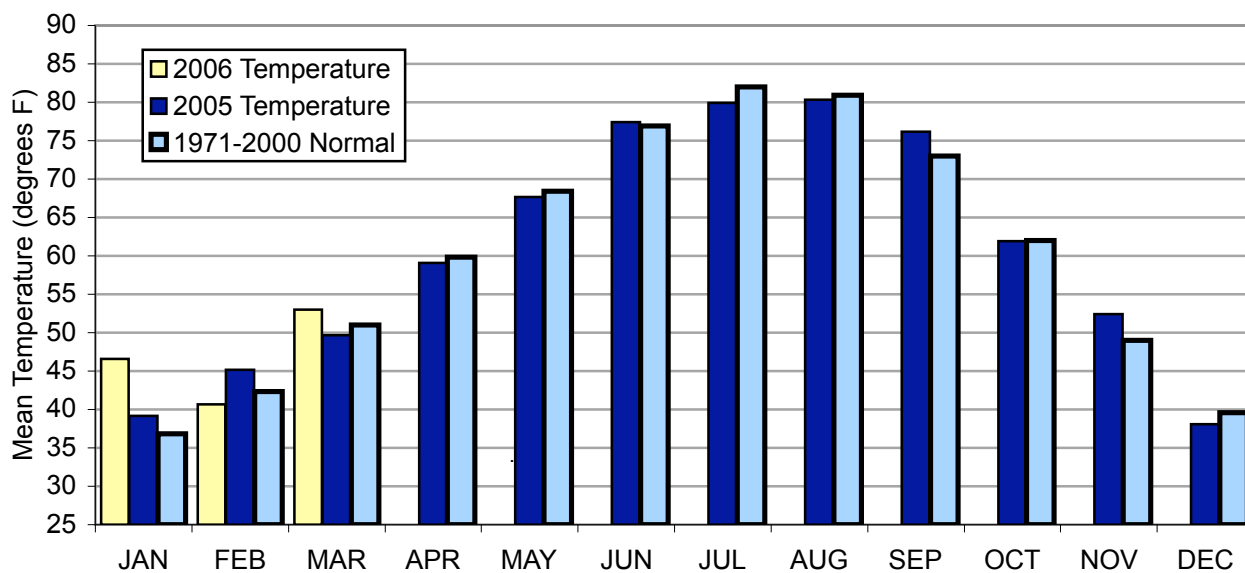
2005 and 2006 Statewide Precipitation Monthly Totals vs. Normal



March 2006 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Mar-05 (F)
Panhandle	47.1	0.8	36th Warmest	54.3 (1910)	32.9 (1915)	46
North Central	50.2	2.0	32nd Warmest	57.6 (1910)	35.3 (1915)	48.5
Northeast	52.2	2.6	24th Warmest	57.7 (1910)	37.3 (1960)	48.7
West Central	52.4	3.5	18th Warmest	56.8 (1910)	35.8 (1915)	49.4
Central	54.1	3.6	17th Warmest	58.4 (1910)	37.7 (1915)	50.4
East Central	54.4	2.9	22nd Warmest	59.5 (1907)	39.2 (1915)	50.7
Southwest	55.1	3.6	14th Warmest	58.7 (1907)	38.2 (1915)	51.2
South Central	56.9	3.9	13th Warmest	61.1 (1907)	40.4 (1915)	52.6
Southeast	55.5	2.7	t-22nd Warmest	61.5 (1907)	42.0 (1915)	49.8
Statewide	53.0	2.8	22nd Warmest	57.9 (1907)	37.6 (1915)	49.7

2005 and 2006 Statewide Temperature Monthly Averages vs. Normal



Mesonet Extremes for March 2006

Climate Division	High Temp			Low Temp			High Monthly Rainfall		High Daily Rainfall		
	(F)	Day	Station	(F)	Day	Station	(inches)	Station	(inches)	Day	Station
Panhandle	86	7th	Beaver	10	21st	Kenton	1.51	Arnett	0.74	20th	Arnett
North Central	87	1st	Red Rock	19	14th	Cherokee	2.88	Fairview	1.17	20th	Seiling
Northeast	93	1st	Porter	21	14th	Burbank	3.33	Foraker	1.21	18th	Bixby
West Central	90	1st	Retrop	17	14th	Camargo	2.21	Bessie	0.92	18th	Retrop
Central	94	1st	Bowlegs	17	14th	El Reno	2.87	Oilton	1.56	18th	Bowlegs
East Central	93	1st	Haskell	22	24th	Cookson	5.11	Cookson	1.63	18th	Calvin
Southwest	94	1st	Grandfield	21	24th	Mangum	3.57	Walters	1.78	18th	Walters
South Central	95	1st	Newport	23	24th	Sulphur	6.70	Madill	2.20	30th	Durant
Southeast	87	1st	Wilburton	23	25th	Wister	7.53	Cloudy	4.19	19th	Mt Herman
Statewide	95	1st	Newport	10	21st	Kenton	7.53	Cloudy	4.19	19th	Mt Herman

April Climatological 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.

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

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

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.

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.

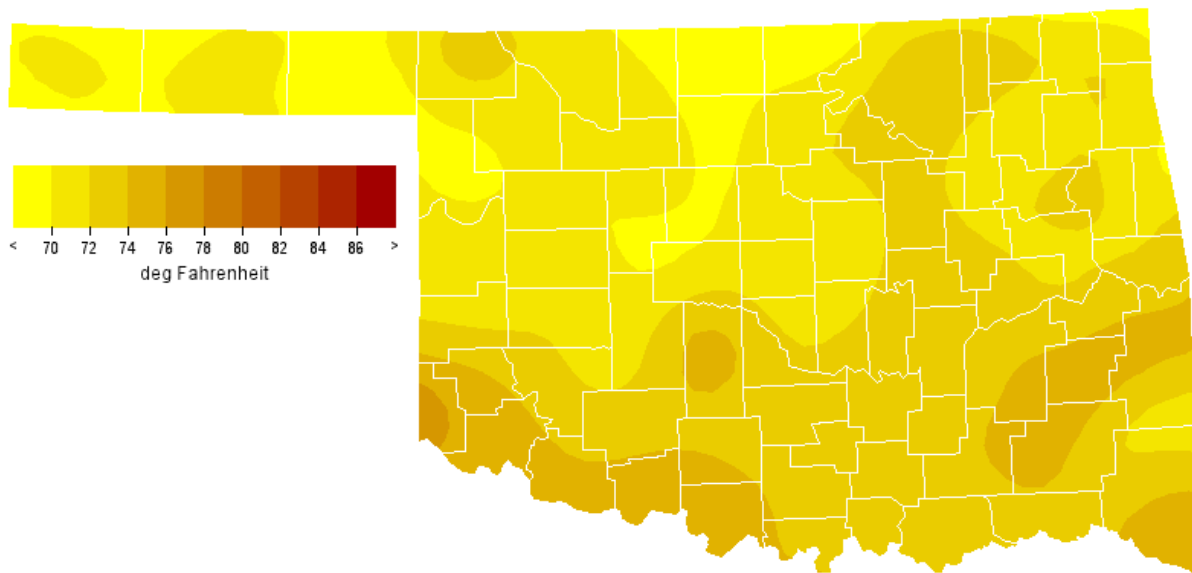
Tornadoes

Average April Tornadoes: 10.7
Most: 40 (1957)

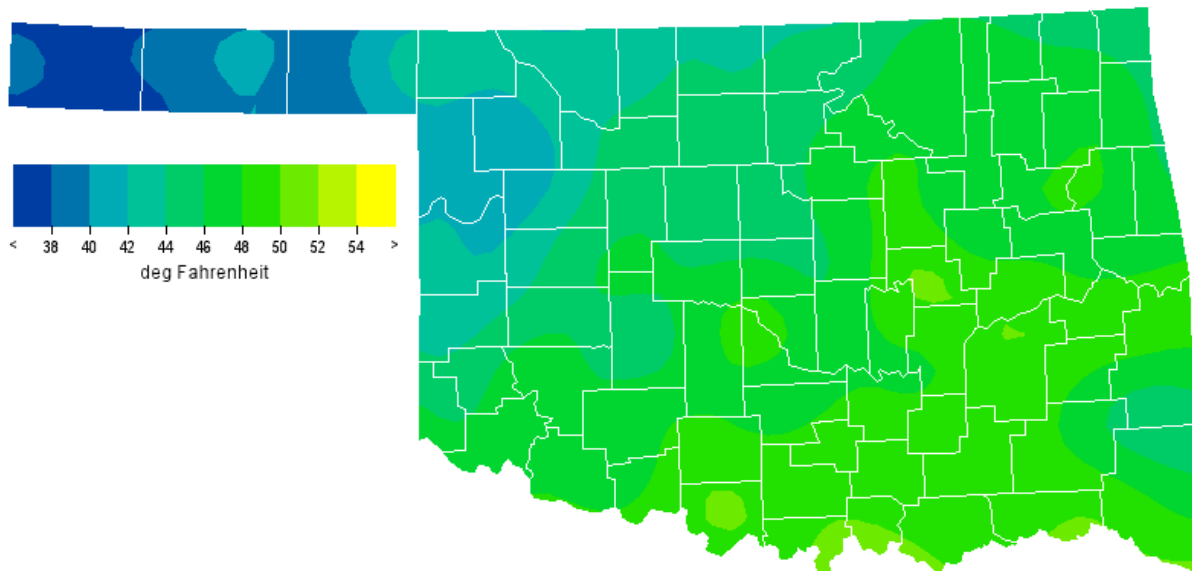
Spring brings with it Oklahoma's noted severe weather season. April is Oklahoma's windiest month and ranks second among the 12 months in the number of tornadoes observed across the state. The state has averaged 10.7 tornadoes each April since 1950, a monthly average exceeded only by May. Eight years 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.

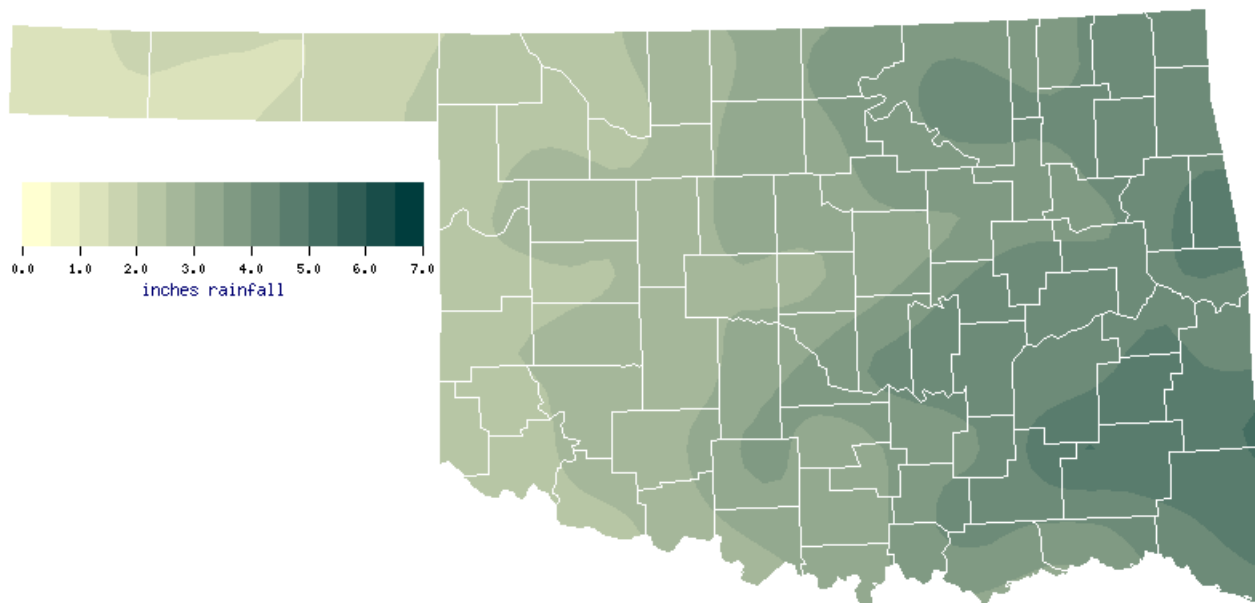
April Normal Monthly Maximum Temperature (1971-2000)



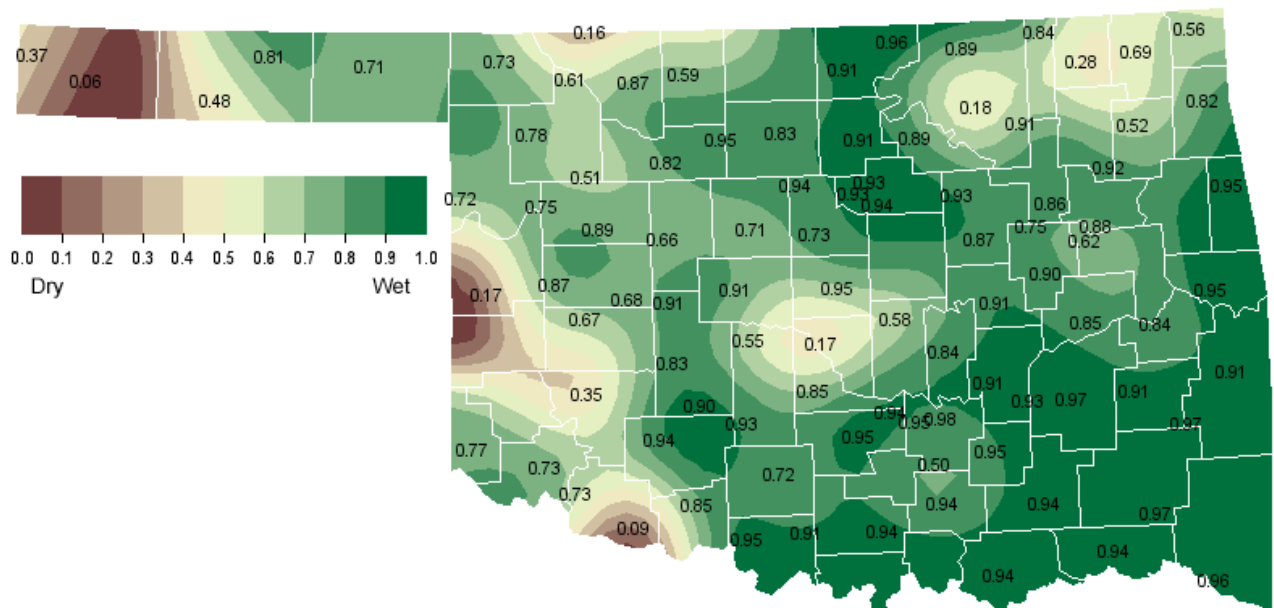
April Normal Monthly Minimum Temperature (1971-2000)



April Normal Precipitation (1971-2000)

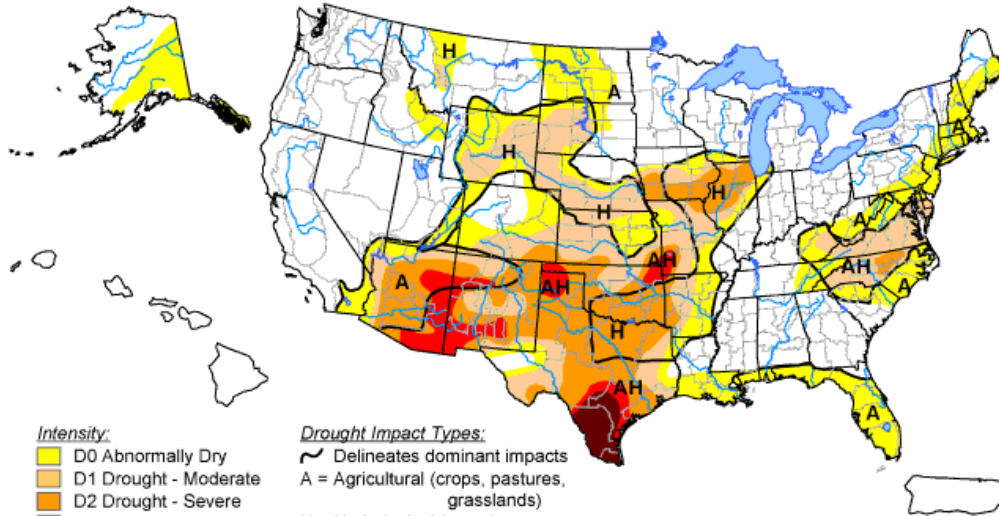


April 1, 2006 Soil Moisture Conditions at 25cm



U.S. Drought Monitor

March 28, 2006
Valid 7 a.m. EST



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

Drought Impact Types:
 ~ Delineates dominant impacts
 A = Agricultural (crops, pastures, grasslands)
 H = Hydrological (water)
 (No type = Both impacts)

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



Released Thursday, March 30, 2006

Author: C. Tankersley/L. Love-Brotak, NOAA/NESDIS/NCDC

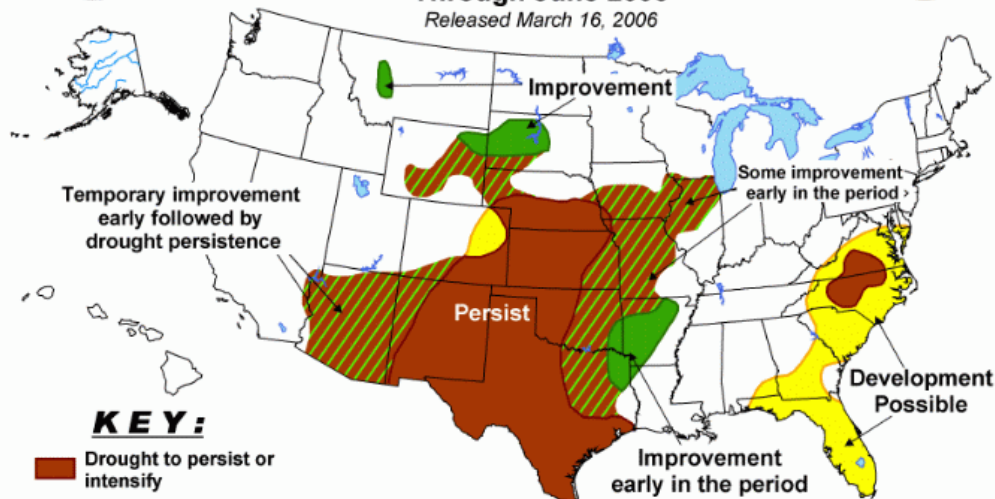
<http://drought.unl.edu/dm>



U.S. Seasonal Drought Outlook

Through June 2006

Released March 16, 2006

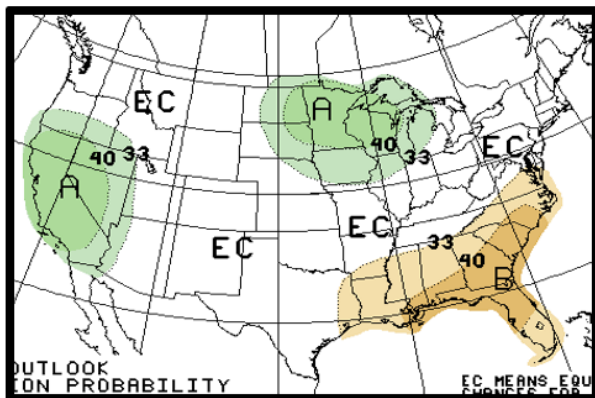


KEY:

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

Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including 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, so use caution if using this outlook for applications – such as crops – that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text. 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 2006 U.S. Precipitation Forecast

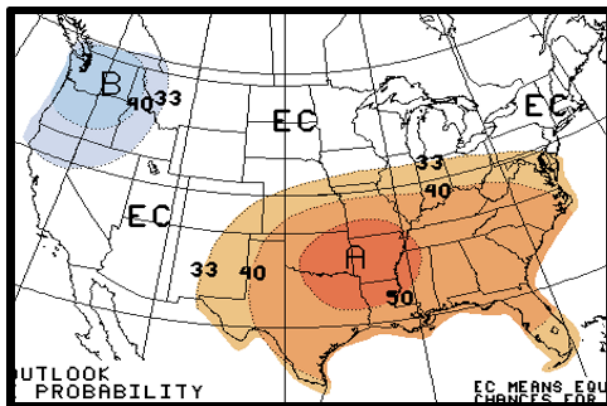


Percent Likelihood of Above or Below Average Precipitation*

	5% - 10%	A = Above
	0% - 5%	
	0% - 5%	B = Below
	5% - 10%	

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

April 2006 U.S. Temperature Forecast



Percent Likelihood of Above and Below Average Temperatures*

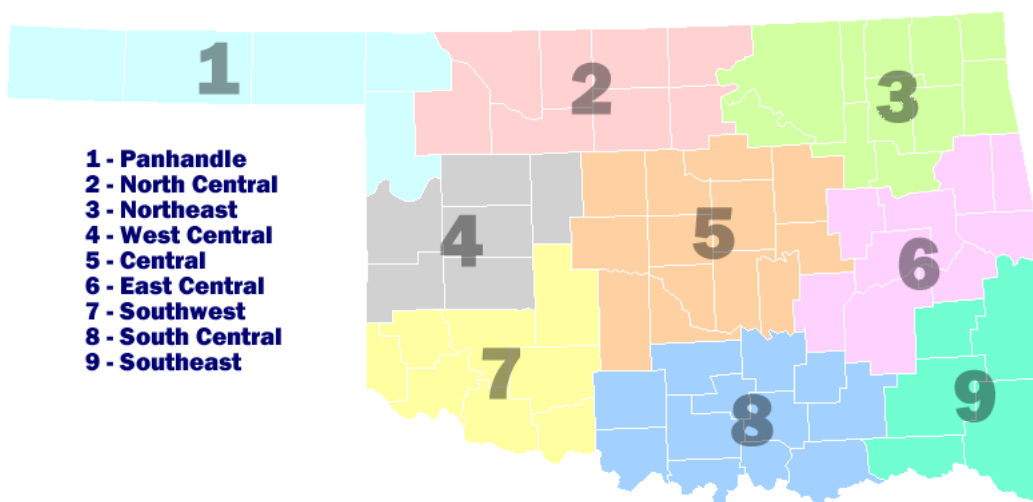
	10% - 20%	A = Above
	5% - 10%	
	0% - 5%	
	0% - 5%	B = Below
	5% - 10%	

*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.ocs.ou.edu> or

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

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



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