

OKLAHOMA MONTHLY CLIMATE SUMMARY

APRIL 2007



The old adage “what a difference a year makes” is keenly applied to the last two Oklahoma Apriils. April of 2006 finished as the warmest on record for the state, and fresh off the 2nd warmest March since 1892, a similar statistic could have been expected during 2007 as well. Much to the dismay of sun-lovers and farmers alike, however, the floodgates to arctic air were thrown wide and April 2007 finished as the 8th coolest on record. The agricultural industry was hit particularly hard by the cold weather as the early warmth of March allowed crops to mature early, only to be damaged by the sub-freezing temperatures of April. For only the second time since statewide statistics began in 1892, the average temperature during March was warmer than that of the following April. The only other such occurrence was in 1907 during the state’s inaugural year. The precipitation statistics were rather unremarkable as the month finished as the 43rd driest on record.

Precipitation

Precipitation patterns during April were chaotic due to the scattered nature of storms and localized heavy rainfall amounts, but much of the state received between 1-3 inches of rainfall. Areas in far southeastern and north central Oklahoma were a bit luckier with 4-7 inches. Those areas in-between were hit with amounts 40-80 percent of normal. East central and south central Oklahoma were the have-nots, both falling more than an inch below normal, ranked as the 27th and 25th driest Apriils on record, respectively. The Oklahoma Mesonet site at Hugo led the state with 7.01 inches of rainfall. West central Oklahoma had the 5th wettest March-April period on record while the east central region suffered through the 15th driest. The state had the 34th wettest March-April and the 37th wettest January-April periods on record.

Temperature

The entire state experienced below normal temperatures for the month. Regions in the southeastern half of the state were between the 4th- and 7th-coolest on record, and all areas of the state ranked at least in the top 15 coolest. The March-April period was two degrees above normal, the 18th warmest on record. The January-April period stands near normal and the 43rd warmest on record.

April 2007 Statewide Extremes			
Description	Extreme	Station	Date
High Temperature	89°F	Webbers Falls	April 30th
Low Temperature	17°F	Jay	April 8th
High Precipitation	7.01 in.	Hugo	
Low Precipitation	1.00 in.	Kenton	

April Daily Highlights

April 1-2: Near-perfect weather graced the month’s first two days with sunny skies, light winds and unseasonably warm temperatures as highs rose into the 70s and 80s.

April 3-9: A cold front entered northwestern Oklahoma on the 3rd, vanquishing the pleasant weather as it passed. Lows in the 50s and 60s failed to rebound much after the front’s passage, but areas south of the boundary rose into the 80s once again. The surface high pressure system that followed brought cold air to the region, dropping temperatures into the 30s and 40s the morning of the 4th. Skies remained clear for the first two days, finally clouding up on the 5th with the arrival of an upper-level storm system. Wintry weather moved into northern Oklahoma from Kansas with little or no accumulation reported. Temperatures remained unseasonably cool for the next few days, some 20-25 degrees below normal. . More light snow fell on the 6th and 7th with little accumulation, and widespread freezing temperatures were recorded throughout the period. The state’s lowest temperature of the month, 17 degrees, occurred at the Jay Mesonet site on the 8th.

April 10-14: Another storm system approached the state and triggered a round of storms on the 10th along an associated cold front and dryline. Golfball size hail fell in Comanche County, with many more hail and high wind reports from across the state. The heaviest rain fell in southeastern Oklahoma where close to two inches was reported in localized areas. Fierce northerly winds assaulted the state on the 11th with gusts up to 50 mph in northern Oklahoma. Highs reached the 60s and 70s but the day felt much cooler due to the wind. More storms formed on the 12th and 13th along a cold front. The strongest of the storms occurred on the 13th in southwestern Oklahoma.

Hail to the size of golf balls and strong winds were the main severe threat. Snow fell in the extreme northwest with nearly six inches being reported in Boise City. Two inches fell near Laverne in the main body of the state. Lows in the Panhandle on the 14th were mainly in the 20s.

April 15-18: Surface high pressure following a cold front left a clear, cool morning on the 15th. Temperatures rose into the 60s and 70s as the high pressure dome moved to the east. Southerly winds returned on the 16th and temperatures were a bit warmer, mainly in the 70s. An upper-level storm provided the impetus for rain and a few storms during the next couple of days. An inch of rain fell at the Vanoss Mesonet site on the 17th with slightly lesser amounts reported across central Oklahoma. Light rain continued into the early morning on the 18th. Lows fell into the 40s and 50s and rebounded into the 60s and 70s as surface high pressure moved over the state.

April 19-23: The 19th was seasonably cool with fog early, giving way to high clouds in the afternoon along with temperatures in the 70s. The temperatures and the southerly winds both increased the next few days in response to an upper-level storm. High temperatures in the 80s along with southerly winds gusting to near 50 mph culminated with a line of showers and storms on the 22nd. The storm formed along a dryline late on the 22nd and diminished quickly as they moved to the east, but not before spawning a couple of tornadoes and tennis ball size hail in Harper County. Both twisters were of the weak variety with little damage reported.

April 24-26: Very heavy rainfall was reported in far southeastern Oklahoma on the 24th from storms which fired along a dryline. The Oklahoma Mesonet site at Cloudy recorded over four inches, while the Mesonet site at Hugo nearly equaled that total. Two-inch totals were widespread in that area. A cold front began to move through late on the 24th and pushed through the state on the 25th. Northwesterly winds gusting to over 30 mph followed along behind the front, combining with temperatures in the 50s and 60s to make for a cold, blustery day. The 26th began cool and overcast with lows in the 40s and 50s and northerly winds. Temperatures managed to reach the 60s and 70s that afternoon.

April 27-29: Pleasant weather returned to the state for the next three days. Highs in the 70s and 80s made for nice spring days, with lows in the 40s and 50s cooling things off at night. An upper-level disturbance approached the state on the 29th, increasing the southerly winds and high temperatures.

April 30: Showers and thunderstorms associated with an upper-level storm dumped up to two inches of rainfall across southeastern Oklahoma on the month's last day. Severe weather was at a minimum for a springtime event, although some hail and high winds were reported. High temperatures for the day were predominantly in the 80s. The month's highest temperature of 89 degrees was reported at Webbers Falls on this day.

April 2007 Statewide Statistics			
Temperature			
	Average	Depart.	Rank (1892-2007)
Month (April)	55.2°F	-3.9°F	8th Coolest
Season-to-date (Mar-Apr)	56.6°F	2.0°F	18th Warmest
Year-to-Date (Jan-Apr)	47.0°F	0.2°F	43rd Warmest
Precipitation			
	Total	Depart.	Rank (1892-2007)
Month (April)	2.72 in.	-0.64 in.	43rd Driest
Season-to-Date (Mar-Apr)	6.75 in.	0.28 in.	34th Wettest
Year-to-Date (Jan-Apr)	9.70 in.	0.02 in.	37th Wettest
Depart. = Departure from 30-year normal			

April 2007 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	Date
2.00	Laverne	Harper	23

Wind Gusts (70 mph or greater)

No significant wind gusts were reported in the state.

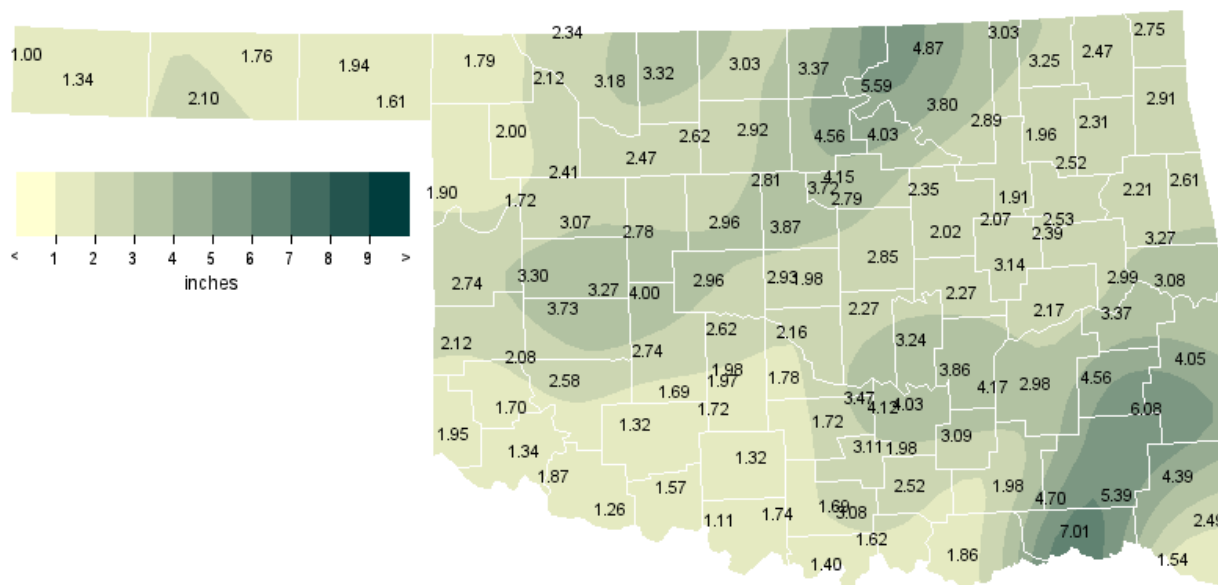
Flooding

Location	County	Date
2 S Kemp	Bryan	24
Soper	Choctaw	24
7 E Rattan	Pushmataha	24

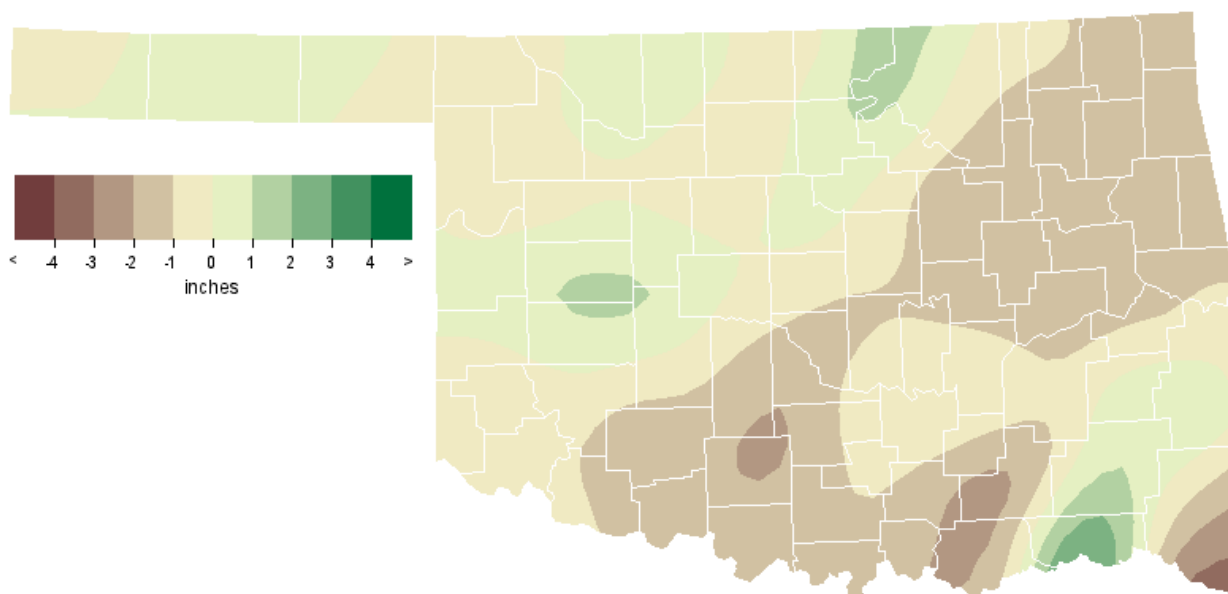
Record Event Reports

Description	Day	Location	Record	Previous Record	Year
Coollest High Temperature (tied)	6	Oklahoma City	41	41	1899
Coollest Low Temperature (tied)	8	McAlester	29	29	2003
Coollest Low Temperature	8	Muskogee	24	29	1938
Coollest Low Temperature	8	Bartlesville	24	25	2003
Coollest Low Temperature	8	Tulsa	26	29	1938

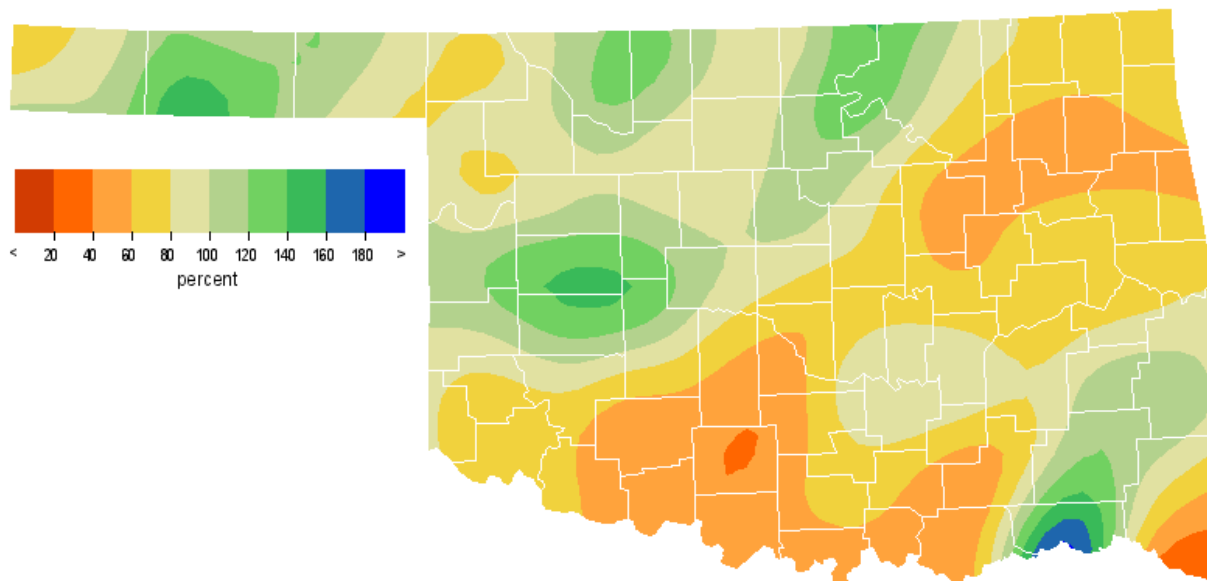
April 2007 Observed Precipitation



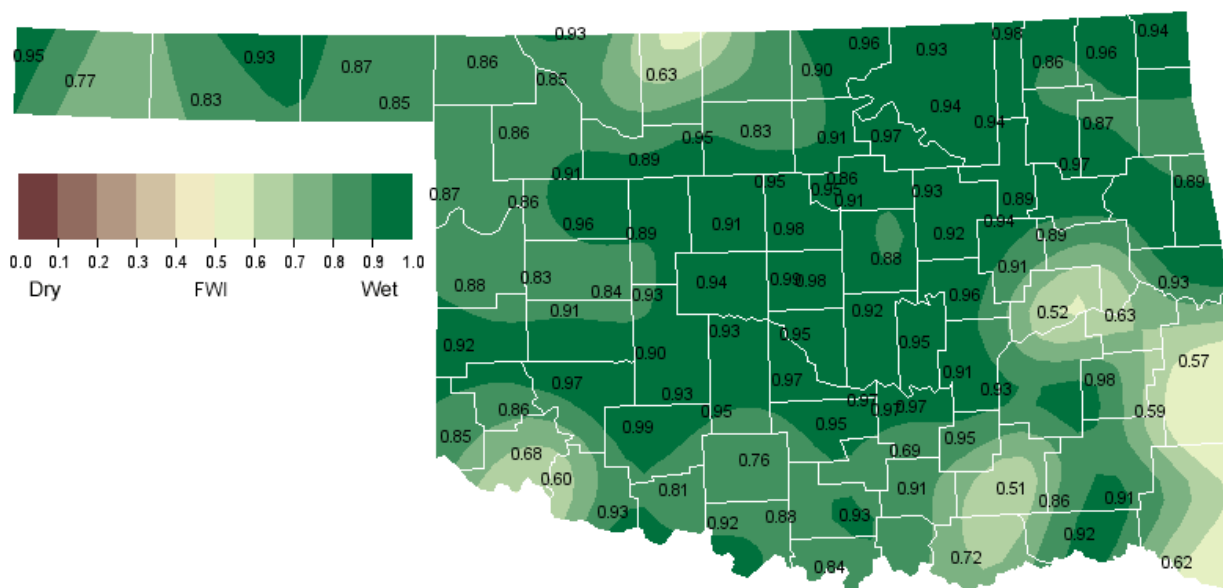
April 2007 Departure from Normal Precipitation



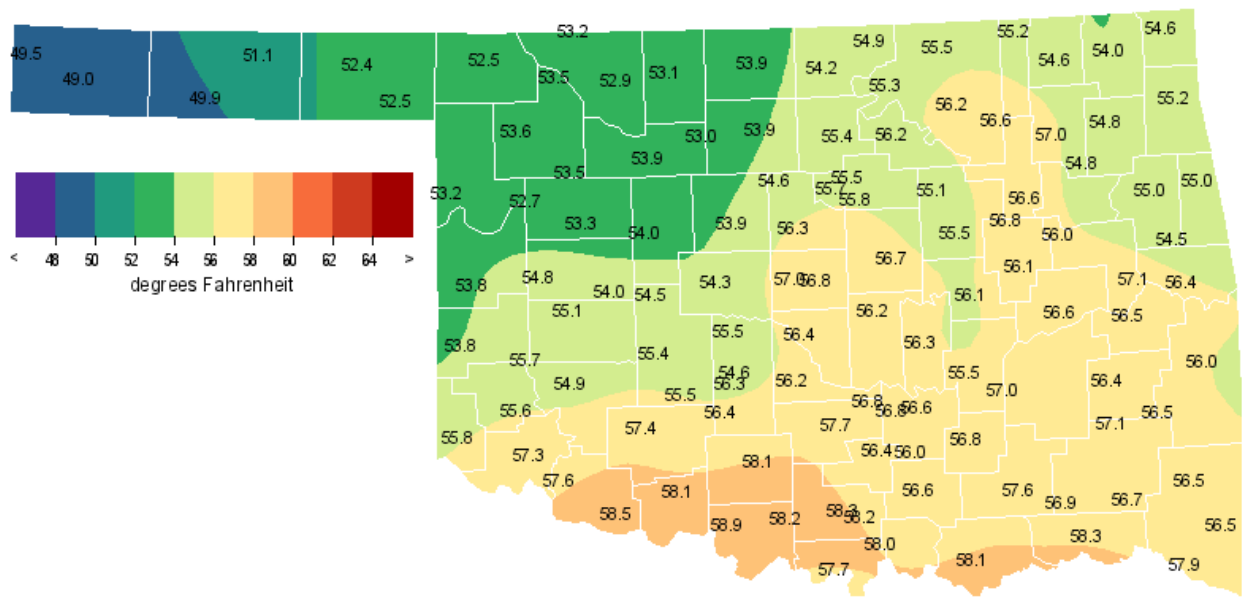
April 2007 Percent of Normal Precipitation



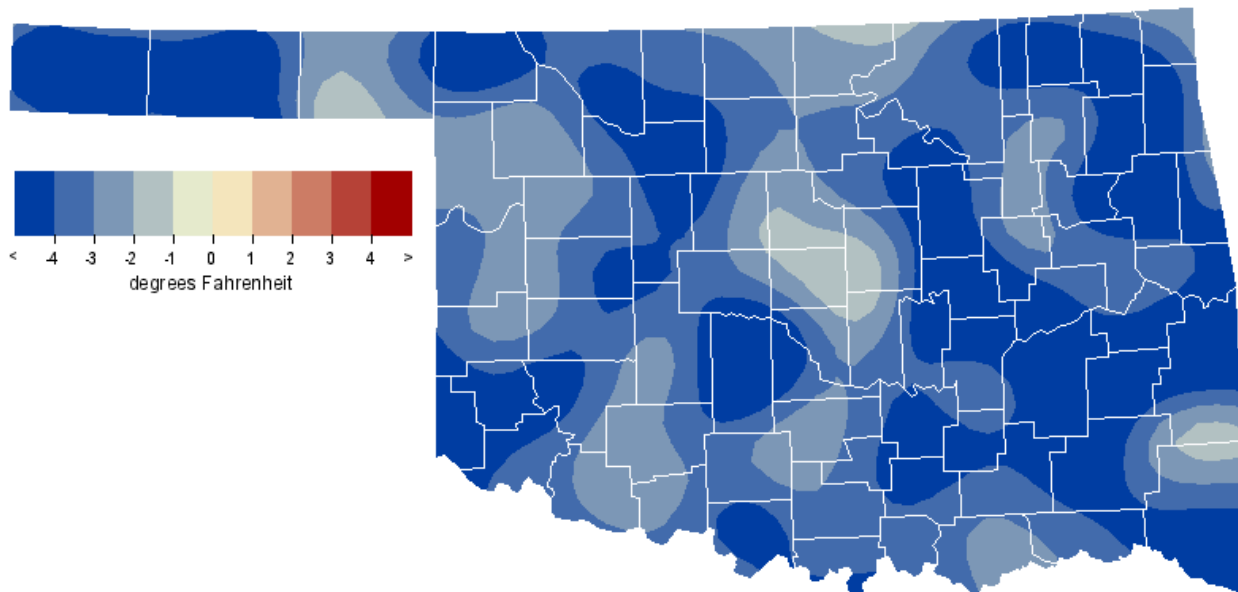
April 2007 Average Soil Moisture at 25cm



April 2007 Average Temperature



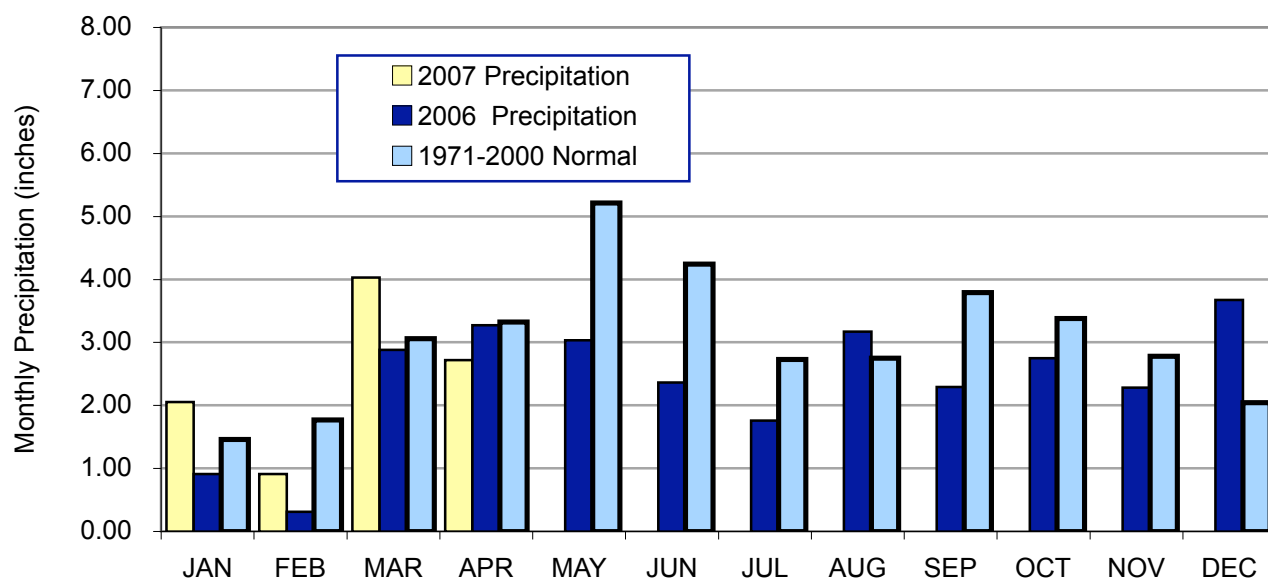
April 2007 Departure from Normal Temperature



April 2007 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Apr-06
Panhandle	1.68	-0.17	43rd Wettest	5.28 (1942)	0.00 (1909)	0.41
North Central	2.86	-0.10	48th Wettest	7.43 (1999)	0.55 (1989)	3.10
Northeast	3.12	-0.88	43rd Driest	9.67 (1942)	0.17 (1989)	6.26
West Central	2.76	0.16	44th Wettest	8.73 (1997)	0.15 (1996)	1.40
Central	2.62	-0.91	44th Driest	9.49 (1942)	0.24 (1989)	3.56
East Central	2.95	-1.38	27th Driest	11.82 (1957)	0.75 (1989)	4.24
Southwest	2.00	-0.67	45th Driest	7.30 (1997)	0.14 (1989)	1.74
South Central	2.34	-1.42	25th Driest	11.43 (1942)	0.53 (1989)	4.00
Southeast	4.47	-0.02	57th Driest	12.79 (1957)	0.53 (1987)	4.05
Statewide	2.72	-0.64	43rd Driest	8.50 (1942)	0.58 (1989)	3.27

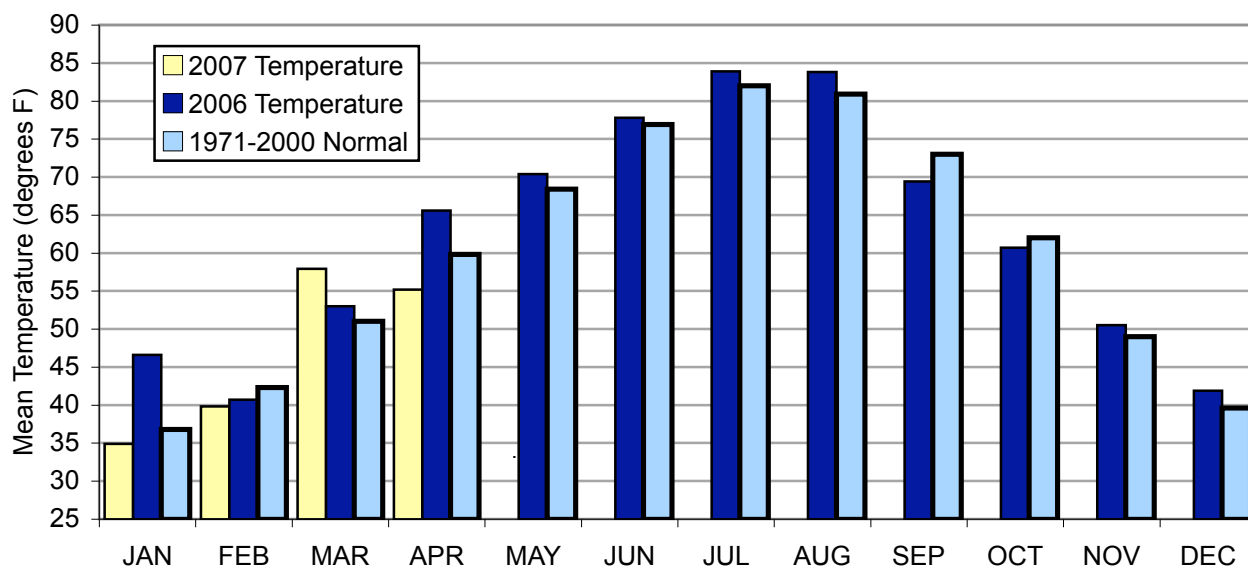
2006 and 2007 Statewide Precipitation Monthly Totals vs. Normal



April 2007 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Apr-06 (F)
Panhandle	51.3	-3.9	12th Coolest	62.2 (1981)	48.2 (1926)	61.8
North Central	53.8	-3.8	10th Coolest	65.0 (1981)	50.8 (1983)	64.0
Northeast	55.5	-3.4	15th Coolest	66.1 (1981)	52.5 (1907)	65.1
West Central	54.1	-3.8	11th Coolest	65.1 (2006)	52.1 (1926)	65.1
Central	55.7	-3.9	7th Coolest	66.5 (2006)	53.6 (1983)	66.5
East Central	56.0	-4.2	4th Coolest	66.7 (1896)	53.9 (1907)	66.5
Southwest	56.4	-4.0	8th Coolest	67.2 (2006)	54.2 (1926)	67.2
South Central	57.5	-3.8	5th Coolest	68.1 (2006)	55.9 (1983)	68.1
Southeast	56.9	-3.7	4th Coolest	68.1 (2006)	55.4 (1983)	68.1
Statewide	55.2	-3.9	8th Coolest	65.8 (2006)	53.2 (1983)	65.8

2006 and 2007 Statewide Temperature Monthly Averages vs. Normal



Mesonet Extremes for April 2007

Climate Division	High Temp			Low Temp			High Monthly Rainfall			High Daily Rainfall		
	(F)	Day	Station	(F)	Day	Station	(inches)	Station	(inches)	Day	Station	
Panhandle	88	2nd	Slapout	22	14th	Kenton	2.10	Goodwell	1.26	13th	Arnett	
North Central	86	2nd	Woodward	23	7th	May Ranch	4.56	Red Rock	2.56	13th	Cherokee	
Northeast	88	2nd	Wynona	17	8th	Jay	5.59	Burbank	2.70	13th	Burbank	
West Central	83	29th	Butler	27	7th	Camargo	3.73	Bessie	2.64	13th	Bessie	
Central	86	2nd	Stillwater	21	8th	Oilton	4.15	Stillwater	1.91	13th	Guthrie	
East Central	89	30th	Webbers Falls	18	8th	Westville	4.17	Stuart	1.95	10th	Stuart	
Southwest	85	24th	Altus	30	7th	Fort Cobb	4.00	Hinton	2.96	13th	Hinton	
South Central	83	22nd	Waurika	30	15th	Sulphur	4.12	Vanoss	2.10	24th	Ardmore	
Southeast	86	3rd	Antlers	20	8th	Wister	7.01	Hugo	4.08	24th	Cloudy	
Statewide	89	30th	Webbers Falls	17	8th	Jay	7.01	Hugo	4.08	24th	Cloudy	

May Climatological Outlook

Oklahoma's weather reaches something of a crescendo in May as springtime comes to full flower. May is Oklahoma's wettest (statewide-averaged precipitation of 5.13 inches) and certainly its stormiest month (an average of 19.9 tornadoes, more than one-third of the annual average, occurring on 5.5 days, statewide). Its position in the spring transition season is confirmed by a monthly mean temperature, averaged statewide, of 68.4 degrees that ranks fifth highest among the months. Vestiges of winter are occasionally seen in the far northwestern portions of the state, but mostly May is a time for flowering of most plants, full leafing of deciduous trees, planting of row crops, and the maturing and ripening of the winter wheat that was sowed the previous fall.

Precipitation

Mean: 5.13 inches
Wettest May: 1957, 10.68 inches
Driest May: 1988, 1.30 inches
Wettest location: Smithville, 7.06 inches
Driest location: Regnier, 2.02 inches
Most recorded: 22.38 inches, Hennessey, 1957

May usually is characterized by a pleasant range of temperatures across the state, although there are times most years when it is evident that the hot Oklahoma summer is drawing near. Monthly mean temperatures since 1892 have ranged from 62.3 degrees in 1907 to 75.8 degrees in 1896. Normal daily maximum temperatures across the state vary from 84.6 degrees at Waurika to 76.5 degrees at Arnett. Normal daily minimum temperatures fall between 61.2 degrees at Ardmore and 46.8 degrees at Boise City. Historical extremes of temperature during the month are 114 degrees at Weatherford, reported on May 25, 2000 and 19 degrees at Hooker on May 1, 1909. Temperatures in southwestern Oklahoma, the state's hot spot, reach 100 degrees an average of slightly more than once each May. Freezing temperatures are also rare, occurring less than once per year in the panhandle, rarely elsewhere. Freezes have occurred in the state's most northerly regions as late as the end of the month.

The Oklahoma panhandle's climate differs from the rest of the state in that its primary precipitation season is shifted toward summer, being tied to the patterns of the High Plains, of which it is a part. Elsewhere in the state, May is the month of maximum precipitation and May is, in fact, the panhandle's second wettest month by a small margin. May has produced statewide-averaged monthly precipitation totals ranging from 10.68 inches in 1957 to 1.30 inches in 1988. Extremes of

individual station-normal precipitation for the month are 7.06 inches in the southeast at Smithville and 2.29 inches in the western panhandle at Regnier. Miami recorded the greatest May monthly total precipitation, 23.95 inches, in 1943. The record-breaking 1957 statewide-averaged precipitation was amplified by the May total of 22.38 inches of rain recorded at Hennessey, most of which fell during the drought-breaking, flood-producing deluge that hammered much of the state on the 15th and 16th. Purcell apparently holds the single reporting-day precipitation record for May, measuring 13.68 inches of rain on May 11, 1950. Interestingly, the events that produced the Purcell and Hennessey precipitation records (and the widespread flooding that occurred after each) bracket the state's driest ever 7-year period.

Temperature

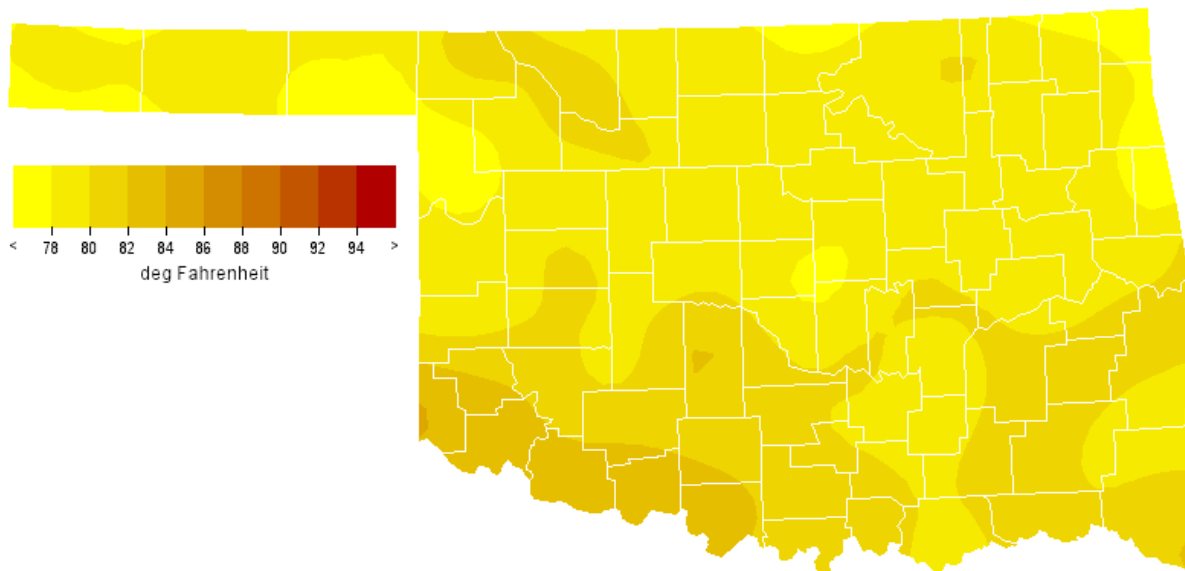
Mean: 68.4 degrees
Warmest May: 1896, 75.8 degrees
Coolest May: 1907, 62.3 degrees
Hottest recorded: 114 degrees, Weatherford, May 25, 2000
Coldest recorded: 19 degrees, Hooker, May 1, 1909

Springtime in Oklahoma is noted for severe thunderstorms and tornadoes. Over the last 52 years (the period of reasonably comprehensive statistics on the subject) Oklahoma has been struck by more tornadoes in May than in any other two months combined (April and June rank second and third, respectively, among the months). May 1999 holds the state record for most tornadoes in a single month with a nearly unbelievable confirmed total of 91. Most of those tornadoes (59) occurred in central and western Oklahoma on the afternoon and evening of May 3. That outbreak caused extensive damage and killed 40 people along a wide path extending generally from Amber to Stroud. Some of the fiercest storms struck in the southern portion of the Oklahoma City metropolitan area. A mobile Doppler radar operated by a University of Oklahoma research team measured winds as great as 318 miles per hour in one of the funnels, the greatest wind speed yet measured on the planet.

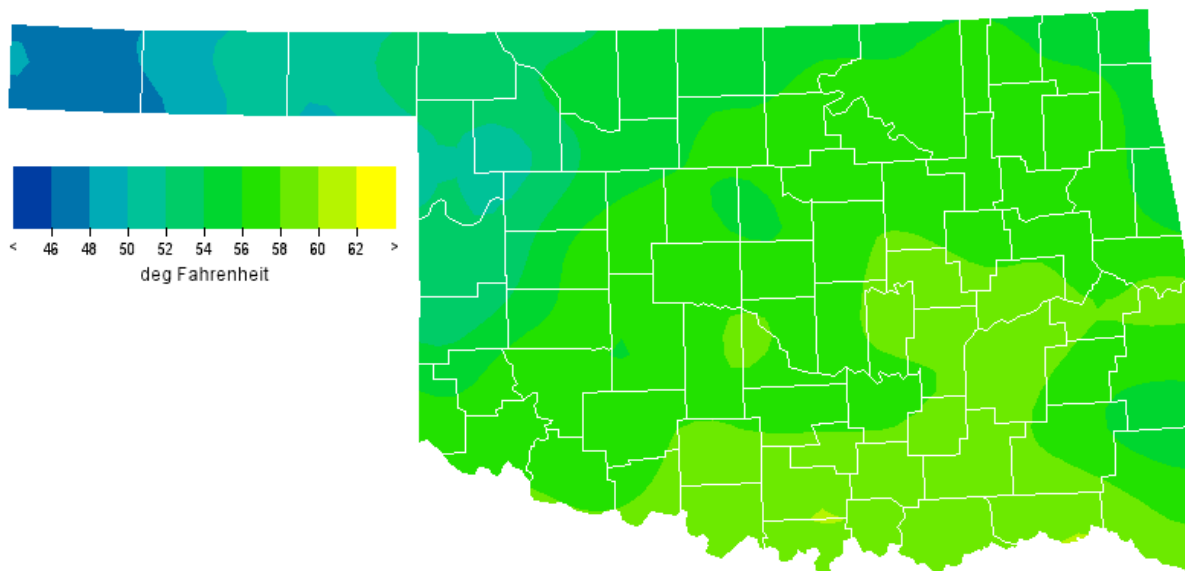
Tornadoes

Average May Tornadoes: 19.9
Most: 90 (1999)

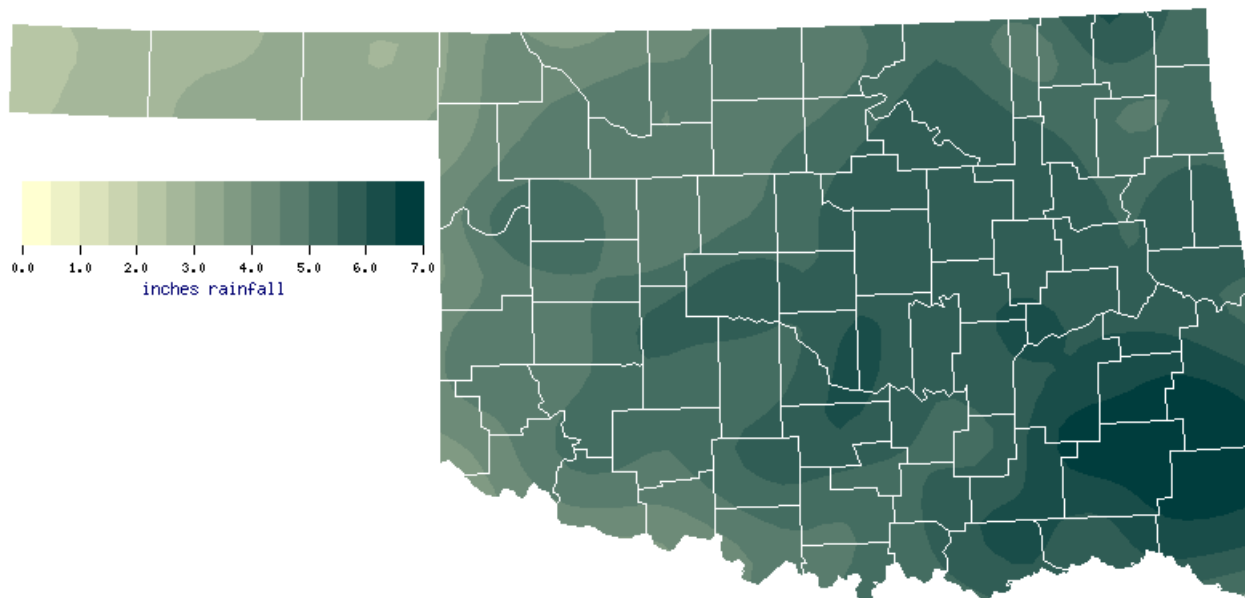
May Normal Daily Maximum Temperature (1971-2000)



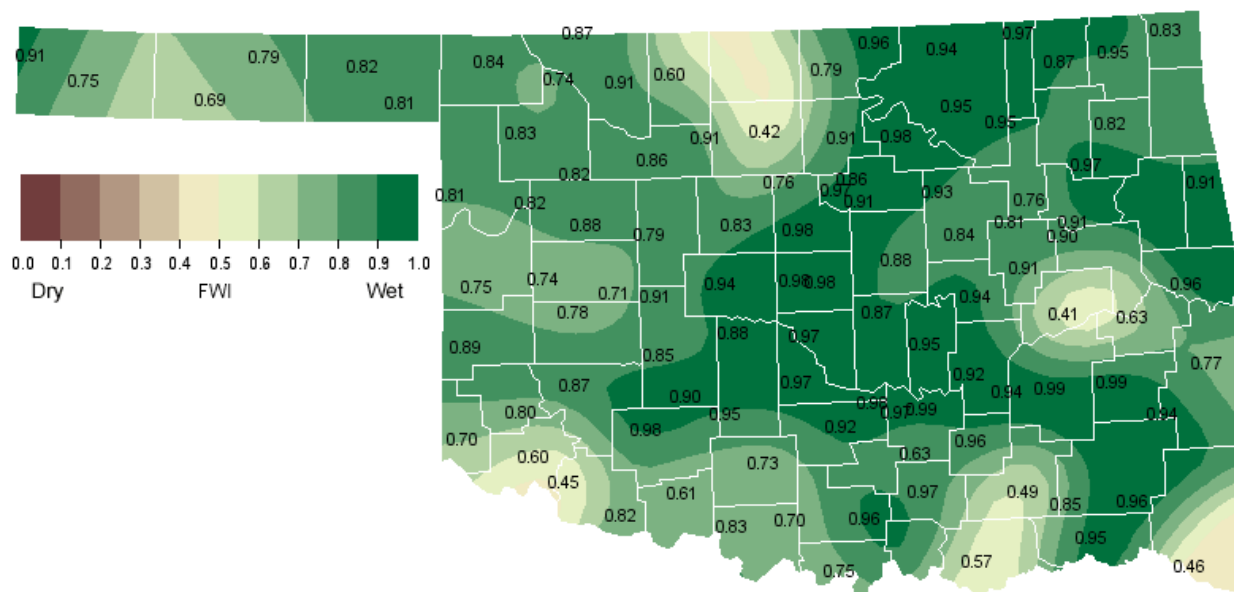
May Normal Daily Minimum Temperature (1971-2000)



May Normal Precipitation (1971-2000)



May 1, 2007 Soil Moisture Conditions at 25cm



U.S. Drought Monitor

Oklahoma

May 1, 2007
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	95.1	4.9	0.0	0.0	0.0	0.0
Last Week (04/24/2007 map)	94.5	5.5	0.0	0.0	0.0	0.0
3 Months Ago (02/06/2007 map)	50.2	49.8	26.9	15.5	0.0	0.0
Start of Calendar Year (01/02/2007 map)	31.3	68.7	39.8	24.5	18.2	0.0
Start of Water Year (10/03/2006 map)	2.7	97.3	92.7	46.2	16.6	0.0
One Year Ago (05/02/2006 map)	0.0	100.0	99.8	92.6	30.0	0.0



Intensity:

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

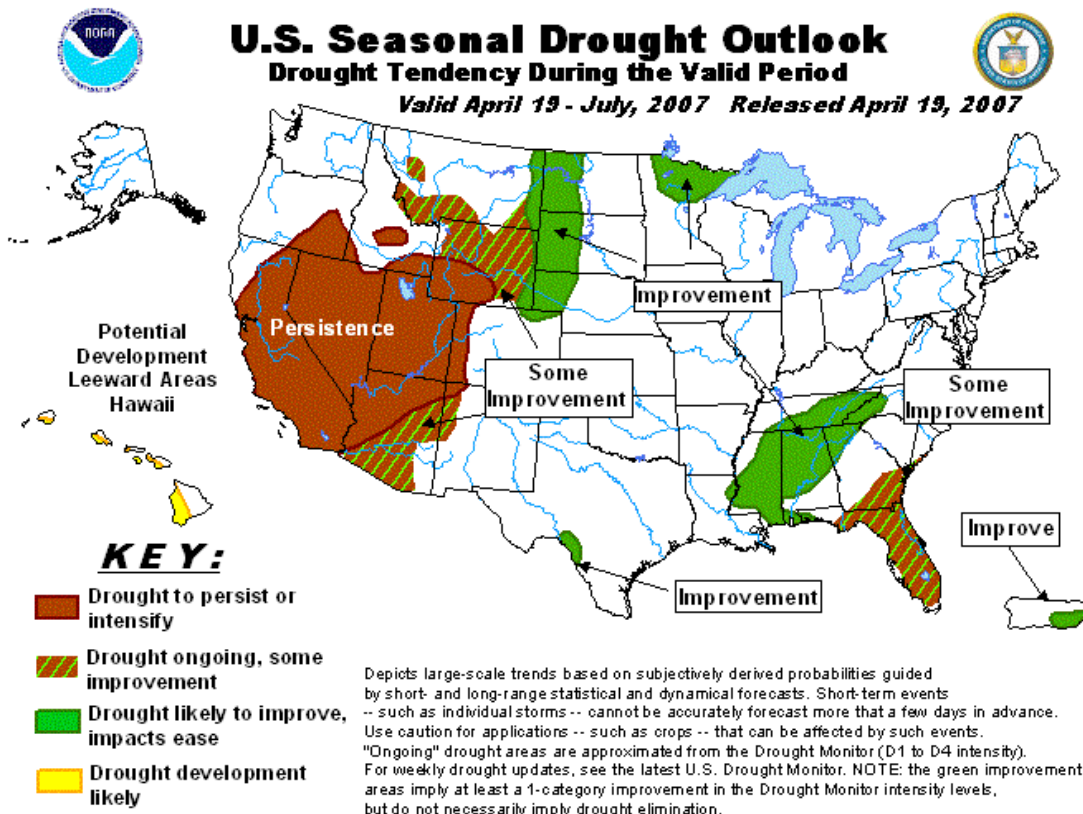
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements



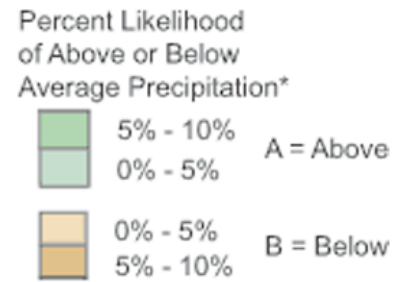
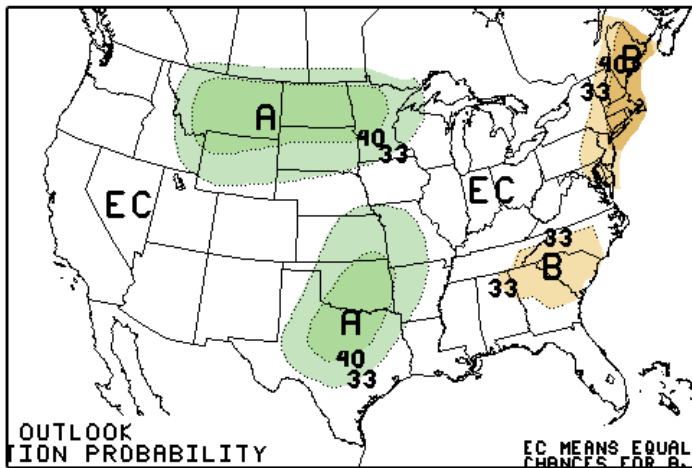
Released Thursday, May 3, 2007

Author: Brian Fuchs, National Drought Mitigation Center

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

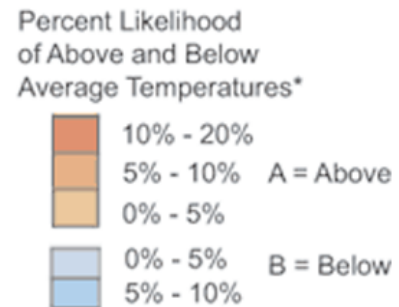
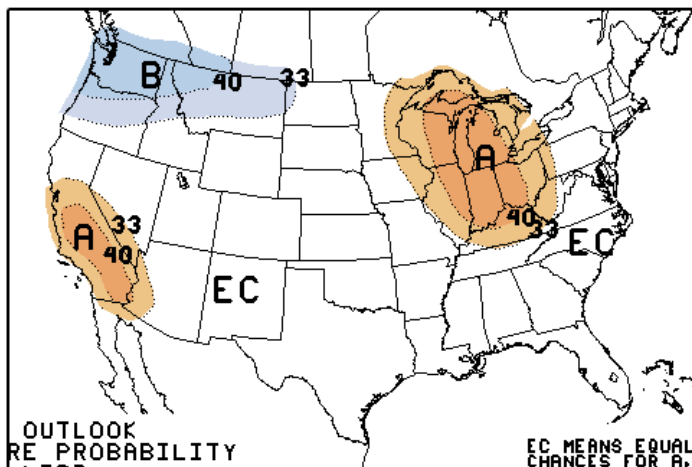


May 2007 U.S. Precipitation Forecast



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

May 2007 U.S. Temperature Forecast

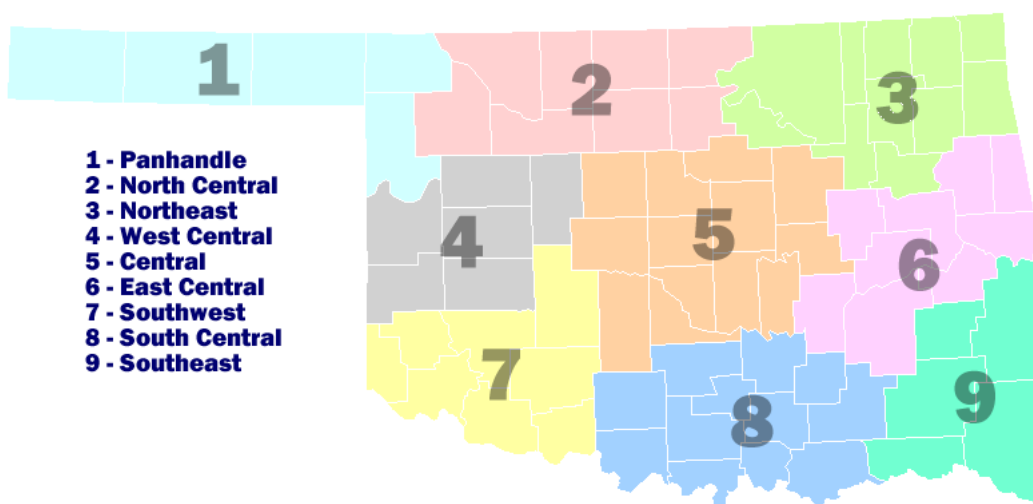


*EC indicates no forecasted anomalies due to lack of model skill.

May Climate Normals

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	78.8	50.8	64.8	3.30
2	79.1	54.9	67.0	4.68
3	78.9	56.6	67.8	5.40
4	79.5	55.0	67.3	4.64
5	79.6	57.5	68.6	5.45
6	79.2	57.8	68.5	5.77
7	81.8	56.8	69.3	4.80
8	80.8	58.8	69.8	5.52
9	80.5	57.5	69.0	6.31
Statewide	79.8	56.3	68.1	5.21

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)



Oklahoma Climatological Survey is the State
Climate Office for Oklahoma

Dr. Ken Crawford, Director and State
Climatologist

Editor

Gary D. McManus, Climatologist

Contributors

Gary D. McManus

Dr. Mark A. Shafer, Director of Climate
Information

Derek S. Arndt, Assistant State Climatologist
Howard Johnson, Associate State
Climatologist (Ret.)

Design

Stdrovia Blackburn, Graphic Design Manager

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