

Dry and warm conditions continued over much of the state, although a late-month drink gave a bit of relief to drought-plagued southwestern Oklahoma. A powerful upper-level storm that brought significant rains to the southwestern quarter of the state kept this October from finishing as one of the state's top-ten driest on record. Despite that moisture, however, much of the state still received a meager 20-60 percent of normal rainfall for the month. According to data from the Oklahoma Mesonet, October ranked as the 30th driest since records began in 1895 with a statewide average of 1.74 inches, 1.64 inches below normal. Temperatures finished above normal for the third consecutive month as well with a statewide average of 62 degrees, 0.7 degrees above normal, to rank the month as the 51st warmest on record. In a bit of a change from recent warm months, high temperatures led the way at 2.6 degrees above normal while low temperatures were 1.4 degrees below normal. Barring a cool or wet final two months, the year is on pace to finish warmer- and drier-than-normal. Through October, the 2010 statewide average temperature was 63.2 degrees, 0.3 degrees above normal and the 39th warmest such period on record. On the precipitation side, the statewide average was 2.61 inches below normal at 29.24 inches. That ranks this January-October period as the 53rd driest on record.

PRECIPITATION

Only southwest Oklahoma saw a significant moisture surplus with 3-5 inches of rain. Northeastern Oklahoma was particularly dry with an average total of 1.04 inches, more than 2 inches

October 2010 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	92°F	Buffalo	7
Low Temperature	20°F	Kenton	28
High Precipitation	4.57 in.	Medicine Park	--
Low Precipitation	0.26 in.	Boise City	--

below normal and the 14th driest on record for that area. The Oklahoma Mesonet site at Medicine Park led the state with 4.57 inches. That stands in stark contrast to Boise City where little more than a quarter of an inch fell. Of the Mesonet's 120 stations, 21 saw less than an inch of rainfall during the month while 79 had less than 2 inches.

TEMPERATURE

Temperatures were 3-4 degrees above normal in parts of the northwest to 1-2 degrees below normal in the southeast. The average temperature for west central Oklahoma was 2.4 degrees above normal to rank as the 23rd warmest October on record. Southeastern Oklahoma, on the other hand, fell 0.5 degrees below normal to rank as the 40th coolest. Not surprisingly, Kenton was the coolest locale in the state with an average temperature of 56.8 degrees. Medicine Park was not only the wettest site but also the warmest as well with an average temperature of 65.4 degrees. The highest recorded temperature during the month was 92 degrees at Buffalo on the seventh. Kenton came in with the lowest temperature of 20 degrees on the 28th. Freezing temperatures were recorded at 64 Oklahoma Mesonet stations during October.

October 2010 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2010)
Month (October)	62.0°F	0.7°F	51st Warmest
Season-to-Date (Sep-Oct)	68.2°F	1.4°F	33rd Warmest
Year-to-Date (Jan-Oct)	63.2°F	0.3°F	39th Warmest

Precipitation

	Average	Depart.	Rank (1895-2010)
Month (October)	1.74 in.	-1.64 in.	30th Driest
Season-to-Date (Sep-Oct)	5.72 in.	-1.47 in.	49th Driest
Year-to-Date (Jan-Oct)	29.24 in.	-2.61 in.	53rd Driest

Depart. = departure from 30-year normal

OCTOBER DAILY HIGHLIGHTS

OCTOBER 1-8: Other than a few showers in far western Oklahoma on the third, virtually no rain fell in the state during the month's first eight days. That period's weather was dominated by an upper-level high pressure system. The weather was generally nice nonetheless with cool mornings and pleasantly warm – if not hot – afternoons.

OCTOBER 9-11: A cold front of pacific origin moved in from the west on the ninth and stalled out over northwestern Oklahoma. Highs rose into the 80s and 90s ahead of the front, with even a few 80s behind the front in drier air. Storms formed along the front overnight and moved east. A few of the storms became severe and dropped hail to the size of golf balls in western Oklahoma on the evening of the 10th. The storms continued into the next day in eastern Oklahoma before the front and the rain pushed to the south and east. The rain totals were generally less than an inch, but a few locations received up to 1.5 inches. High temperatures remained in the 60s and 70s following the front's passage.

OCTOBER 12-17: The state saw another mostly dry six days with some very pleasant temperatures. Mornings were cool in the 40s and 50s for the most part, but temperatures rose into the 70s and 80s in the afternoons. A stationary front entered the northwest on the 17th.

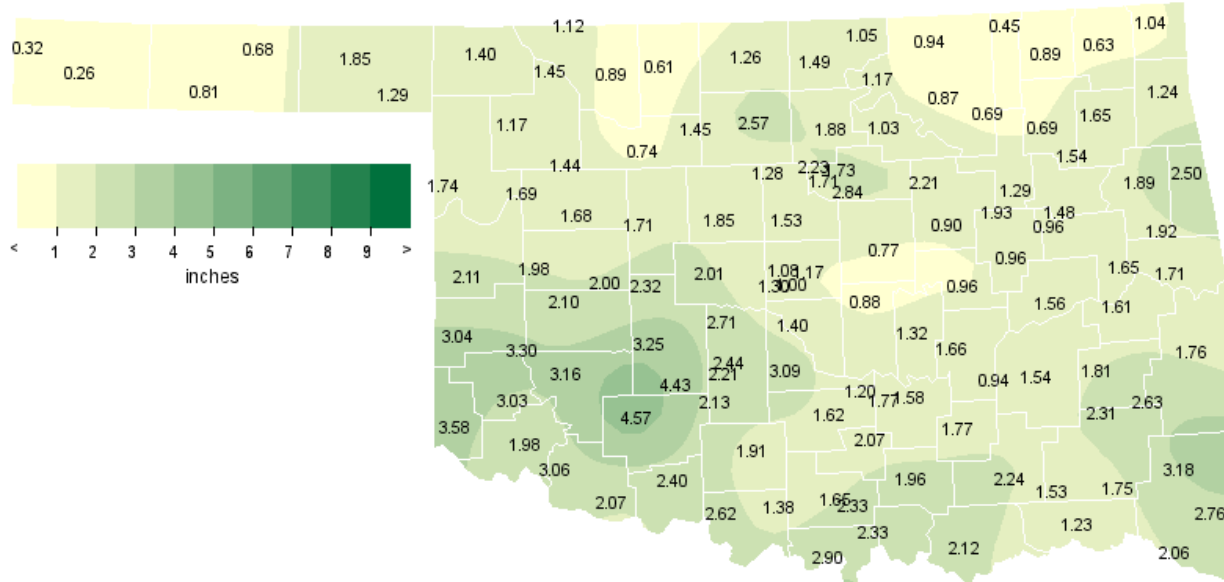
OCTOBER 18-20: An approaching storm system from the southwest brought cloudy skies over the northern half of the state on the 18th. Warm temperatures were enjoyed ahead of an approaching cold front. A few showers and storms developed ahead of the front in northeastern Oklahoma. The storms continued overnight in the northern parts of the state into the 19th. Rainfall totals were generally between 1-2 inches where rain did fall. The clouds quickly moved out and cooler air moved in behind the front. Highs were in the 60s and 70s behind the front but 80s ahead of the front. The 20th was quiet and mild with lows in the 40s and 50s and highs in the 70s and 80s.

OCTOBER 21-23: An approaching upper-level storm from the west kicked off a round of showers and storms in western Oklahoma on the 21st. Over 2 inches fell in localized areas with more than an inch in the surrounding region. A few of the storms became severe on the 22nd. More heavy rains fell with those storms, again in southwestern Oklahoma. A cold front in the Oklahoma Panhandle kicked off a few storms as well. Another round of storms struck on the 23rd with a dryline in western parts of the state and moisture surging northward. Most of this rain fell with storms along and east of I-44. Total rainfall over this four-day period ranged from 2-4 inches in southwestern Oklahoma to 1-2 inches in the southeast. Highs were generally in the 70s and 80s during this period.

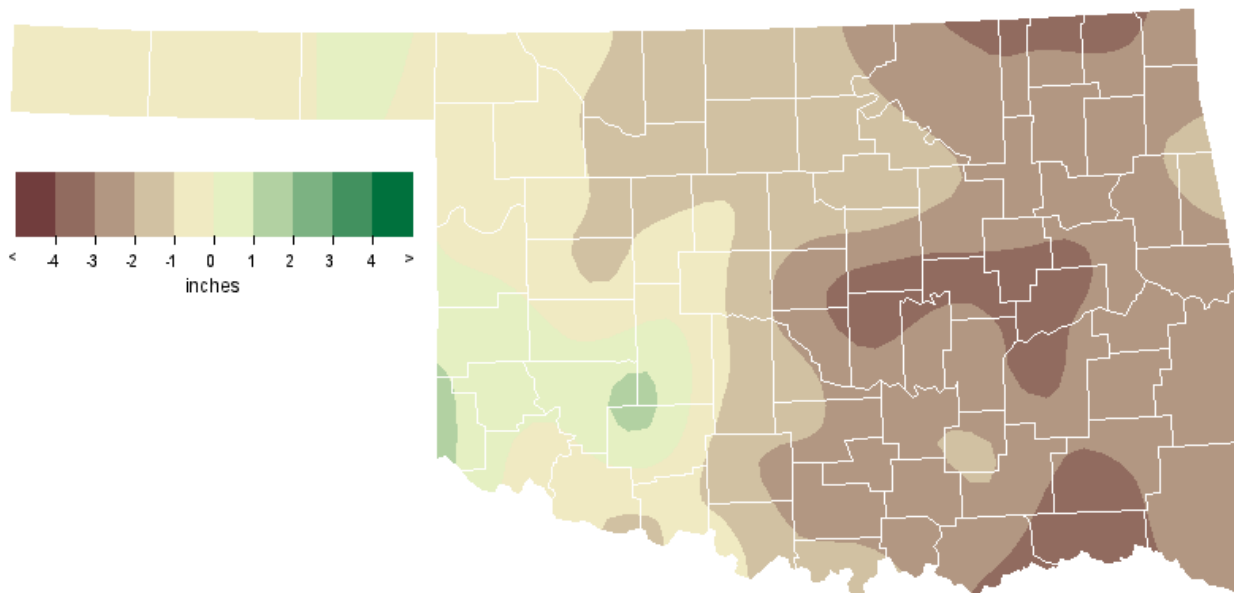
OCTOBER 24-26: A storm system to the north kept winds gusting to over 40 mph. A cold front pushed through overnight on the 25th into the 26th swinging winds around to the northwest at 40 mph. Light rain fell at times over different parts of Oklahoma, but totals were mostly less than a quarter of an inch.

OCTOBER 27-31: Not a drop of rain fell in Oklahoma during this period. The weather was cooler on the 27th and 28th before southerly winds brought more warmth for the last three days. Halloween ended the month with highs 15-20 degrees warmer than average ahead of an advancing cold front.

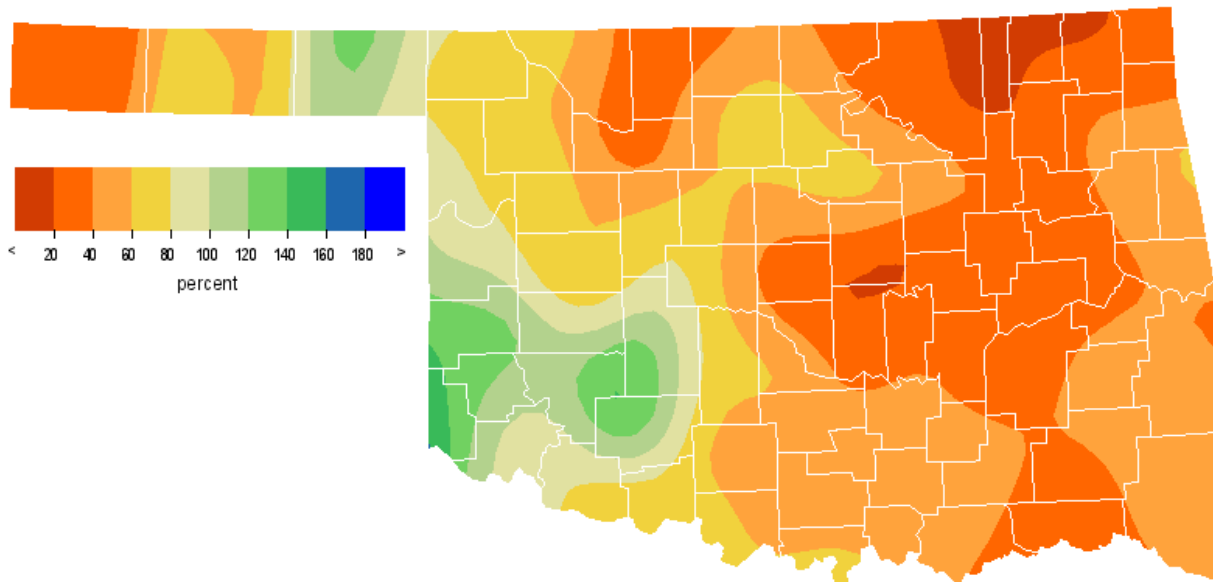
OCTOBER 2010 OBSERVED PRECIPITATION



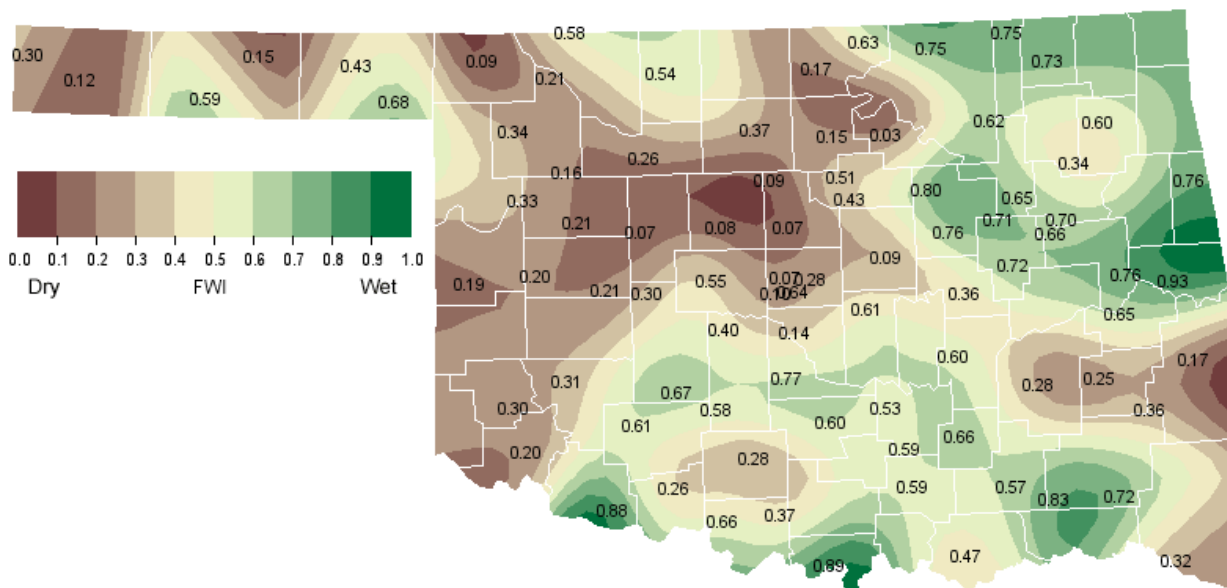
OCTOBER 2010 DEPARTURE FROM NORMAL PRECIPITATION



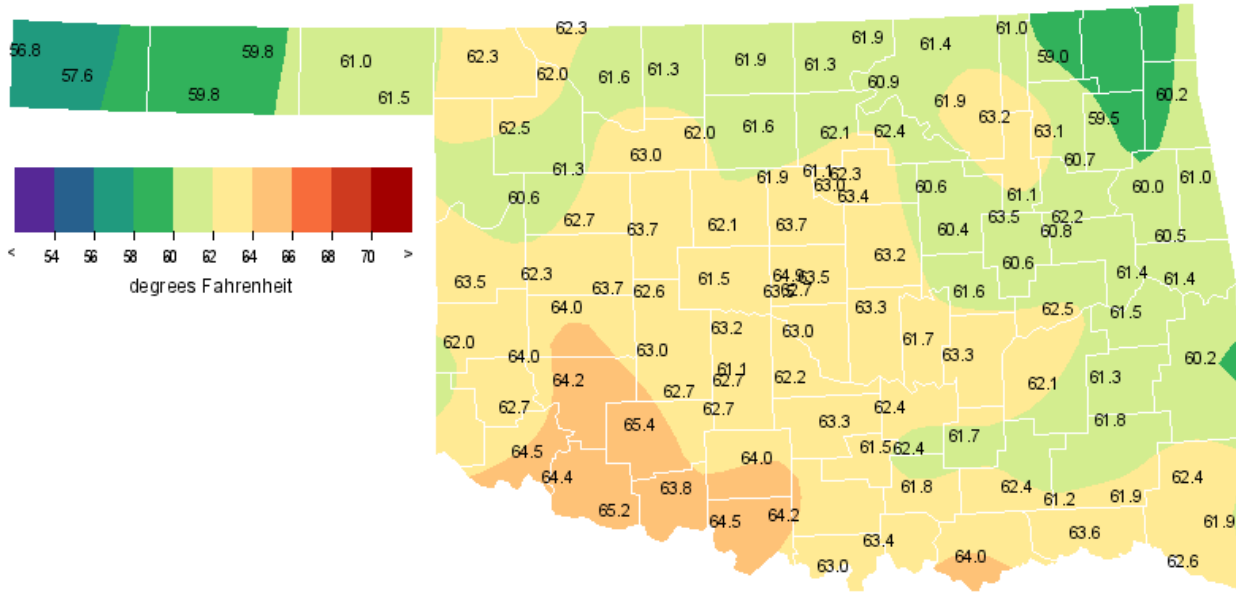
OCTOBER 2010 PERCENT OF NORMAL PRECIPITATION



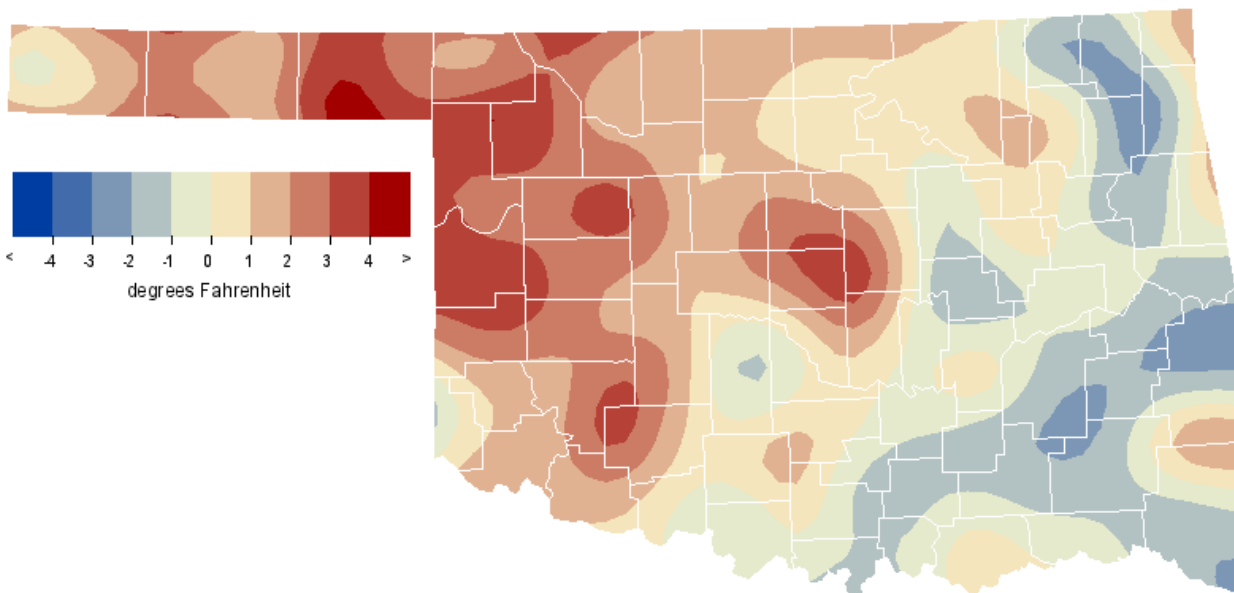
OCTOBER 2010 AVERAGE SOIL MOISTURE AT 25CM



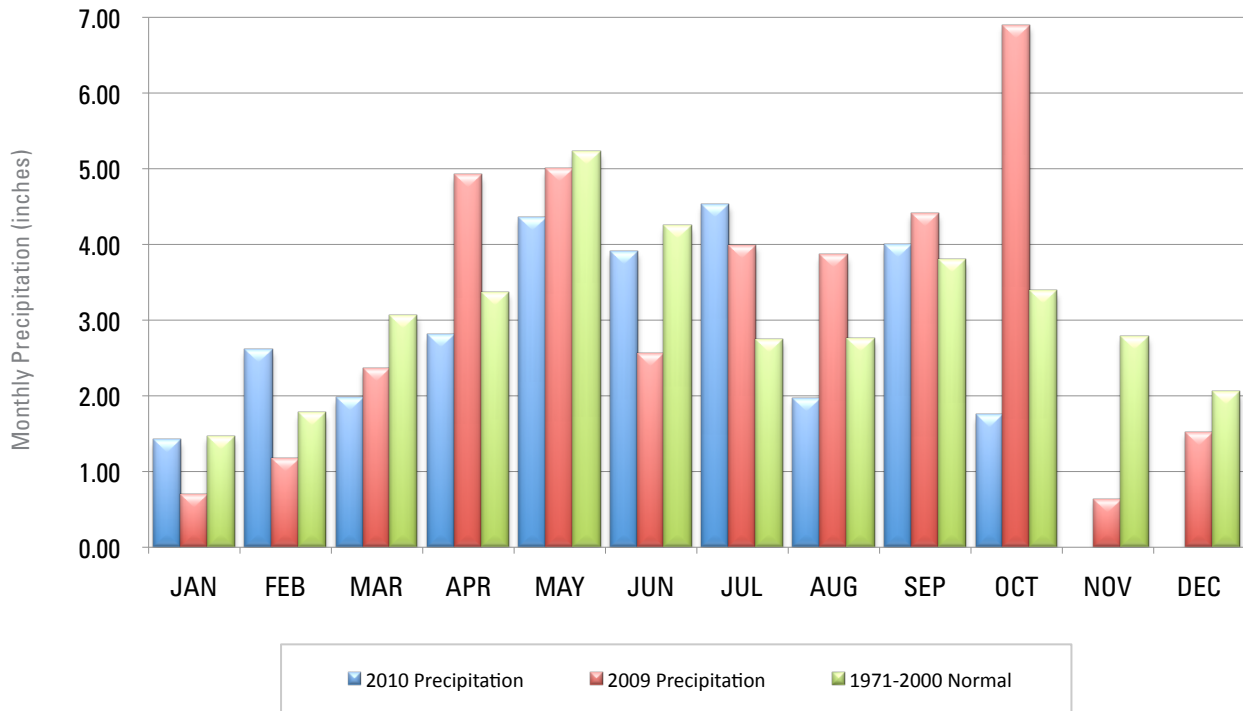
OCTOBER 2010 AVERAGE TEMPERATURE



OCTOBER 2010 DEPARTURE FROM NORMAL TEMPERATURE



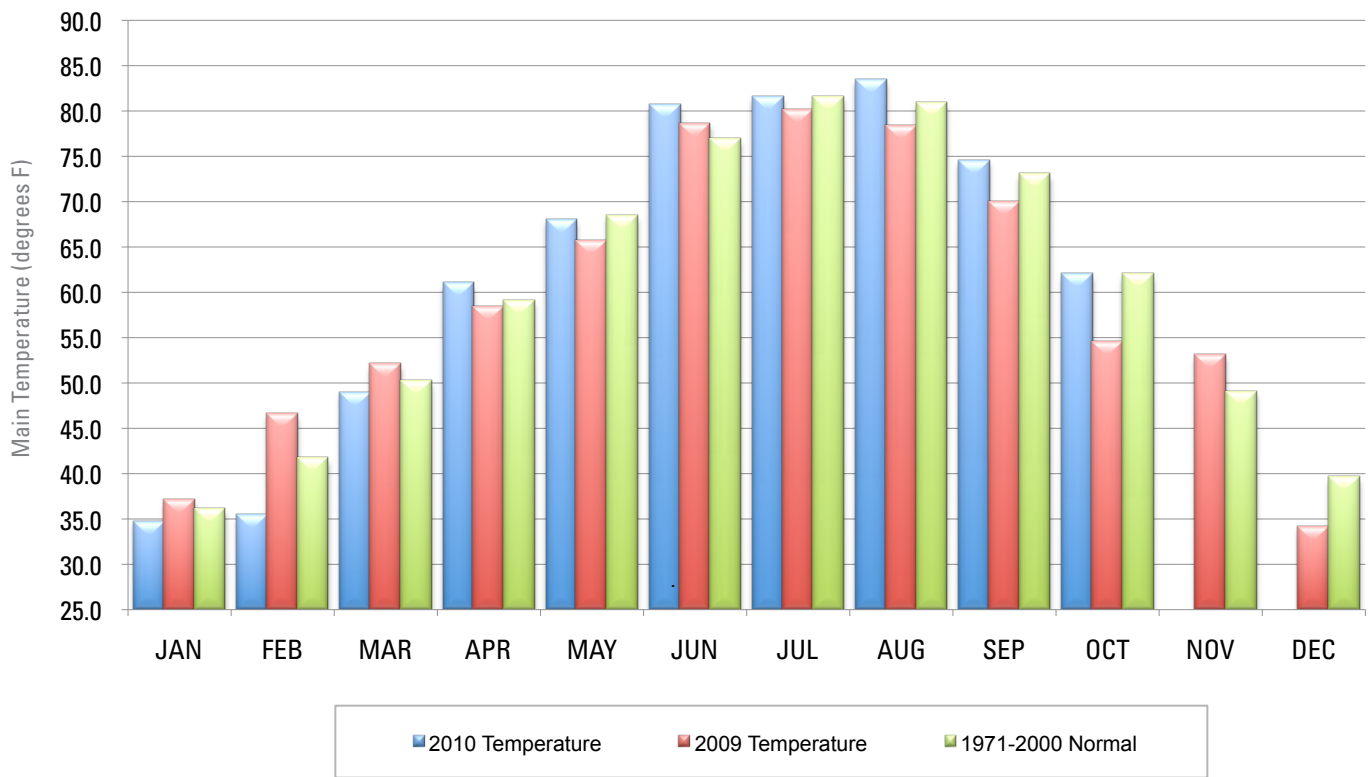
2009 AND 2010 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



October 2010 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Oct-09
Panhandle	1.04	-0.47	51st Driest	6.41 (2000)	0.03 (1952)	2.94
North Central	1.32	-1.34	34th Driest	9.65 (1998)	0.00 (1952)	4.69
Northeast	1.04	-2.59	14th Driest	17.33 (1941)	0.05 (1917)	7.70
West Central	2.18	-0.38	49th Wettest	9.41 (1986)	0.00 (1910)	4.58
Central	1.70	-1.96	34th Driest	13.51 (1941)	0.00 (1917)	6.96
East Central	1.60	-2.67	25th Driest	14.75 (1941)	0.19 (1904)	9.96
Southwest	3.08	0.10	41st Wettest	11.44 (1983)	0.00 (1952)	3.98
South Central	1.97	-2.28	33rd Driest	14.61 (1981)	0.00 (1917)	9.21
Southeast	2.10	-2.86	34th Driest	12.62 (1984)	0.10 (1921)	12.29
Statewide	1.74	-1.64	30th Driest	11.32 (1941)	0.14 (1952)	6.89

2009 AND 2010 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



October 2010 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Oct-09 (F)
Panhandle	59.8	2.0	25th Warmest	66.4 (1963)	50.7 (2009)	50.7
North Central	61.9	1.5	37th Warmest	69.6 (1963)	52.1 (1925)	52.5
Northeast	61.3	0.6	48th Warmest	70.0 (1963)	52.9 (1925)	53.7
West Central	62.9	2.4	23rd Warmest	69.0 (1963)	53.2 (2009)	53.2
Central	62.5	0.6	49th Warmest	70.3 (1963)	54.5 (1925)	54.6
East Central	61.6	-0.5	47th Coolest	71.2 (1963)	55.5 (1925)	55.5
Southwest	63.9	1.4	38th Warmest	70.5 (1963)	55.4 (1925)	55.9
South Central	63.0	-0.5	44th Coolest	71.5 (1963)	56.4 (1976)	56.9
Southeast	61.9	-0.5	40th Coolest	70.6 (1963)	55.7 (1976)	57.8
Statewide	62.0	0.7	51st Warmest	69.9 (1963)	54.4 (1925)	54.5

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Lowest Minimum Temperature	4	Oklahoma City	37	40	1891
Lowest Minimum Temperature	4	Tulsa	37	39	1987
Lowest Minimum Temperature	4	McAlester	37	37	1975
Lowest Minimum Temperature	5	Bartlesville	35	37	1964

MESONET EXTREMES FOR OCTOBER 2010

Climate Division	High Temp (F)			Low Temp (F)			High Monthly Rainfall (inches)		High Daily Rainfall (inches)		
	Day	Station	Day	Day	Station	Station	Station	Day	Station		
Panhandle	92	7th	Buffalo	20	28th	Kenton	1.85	Beaver	1.54	21st	Arnett
North Central	91	7th	Alva	32	4th	Breckinridge	2.57	Breckinridge	0.97	10th	Blackwell
Northeast	89	8th	Burbank	27	29th	Nowata	1.65	Pryor	0.91	19th	Porter
West Central	90	7th	Camargo	30	29th	Camargo	3.30	Retrop	2.38	21st	Erick
Central	90	7th	Kingfisher	28	29th	Oilton	3.09	Washington	2.24	19th	Perkins
East Central	87	8th	McAlester	29	29th	Okmulgee	2.50	Westville	1.34	19th	Hectorville
Southwest	89	7th	Grandfield	31	29th	Mangum	4.57	Medicine Park	3.11	22nd	Apache
South Central	87	7th	Waurika	29	29th	Sulphur	2.90	Burneyville	1.37	23rd	Lane
Southeast	89	8th	Broken Bow	24	30th	Wister	3.18	Mt Herman	1.65	23rd	Mt Herman
Statewide	92	7th	Buffalo	20	28th	Kenton	4.57	Medicine Park	3.11	22nd	Apache

NOVEMBER OUTLOOK

Oklahoma’s weather descends rather rapidly during November from the pleasantries of autumn into the chill of early winter. The state’s normal temperature (averaged statewide) during the month, 49.0 degrees Fahrenheit, is the 4th lowest of any of the year’s 12 months. Based on monthly averages across the state, November is 13 degrees cooler than October, easily Oklahoma’s largest temperature difference between consecutive months. The increasingly frequent intrusions of cooler (and sometimes frigid) air, frequently accompanied by some dreary, dismal weather, are usually separated by interludes of gorgeous autumn days. The pleasant interludes provide farmers with an opportunity to complete the harvest of peanuts, cotton, and sorghum, or to finish drilling the new wheat crop. The statewide-averaged November normal precipitation is 2.78 inches, making November the 6th wettest of the months in Oklahoma. Snow, sleet, and ice are frequent late-November visitors to the state, too often creating travel hazards during the long Thanksgiving weekend.

Temperature

Mean	49.0 degrees
Warmest November	1989, 56.2 degrees
Coollest November	1929, 42.6 degrees
Warmest location	Waurika, 53.4 degrees
Coollest location	Turpin, 42.8 degrees
Hottest recorded	95 degrees, Waukomis, November 1, 1914
	Coalgate, November 1, 1937
Colest recorded	-15 degrees, Kenton, November 28, 1976

Statewide-averaged monthly temperature extremes for the Novembers since 1892 have varied between 56.0 degrees in 1999 and 41.3 degrees in 1929. The range of normal daily average temperatures across the state, as published by the National Climatic Data Center, is from 53.4 degrees at Waurika to 42.8 degrees at Turpin. Normal daily maximum temperatures fall between Waurika’s 65.3 degrees and Newkirk’s 56.6 degrees. Normal daily minimum temperatures range from 42.9 degrees at Okemah to 28.4 degrees at three panhandle reporting stations (Turpin, Boise City, and Beaver). Hot weather is rare, but not absent, during the month. Coalgate set a state record for November’s highest temperature when the thermometer registered 95 degrees on November 1, 1937.

November’s coldest day, according to the Oklahoma record book, occurred on November 28, 1976 when a temperature of 15 degrees below zero (-15) was reported at Kenton.

November precipitation is highly variable from year-to-year. The state’s driest recorded November, a statewide averaged precipitation of 0.12 inches was attained three times in 1910, 1949, and 1989. The record high precipitation for November is 5.72 inches in 1909. During much of the state’s history, November was thought of as a much drier month than it is today. During the period from 1931 through 1960, the statewide-averaged precipitation during November across

Precipitation

Mean	2.78 inches
Wettest year	1909, 5.72 inches
Driest year	1910, 0.12 inches
Wettest location	Carnasaw Fire Tower, 5.64 inches
Driest location	Goodwell and Regnier, 0.61 inches
Most recorded	17.01 inches, Idabel, 2000

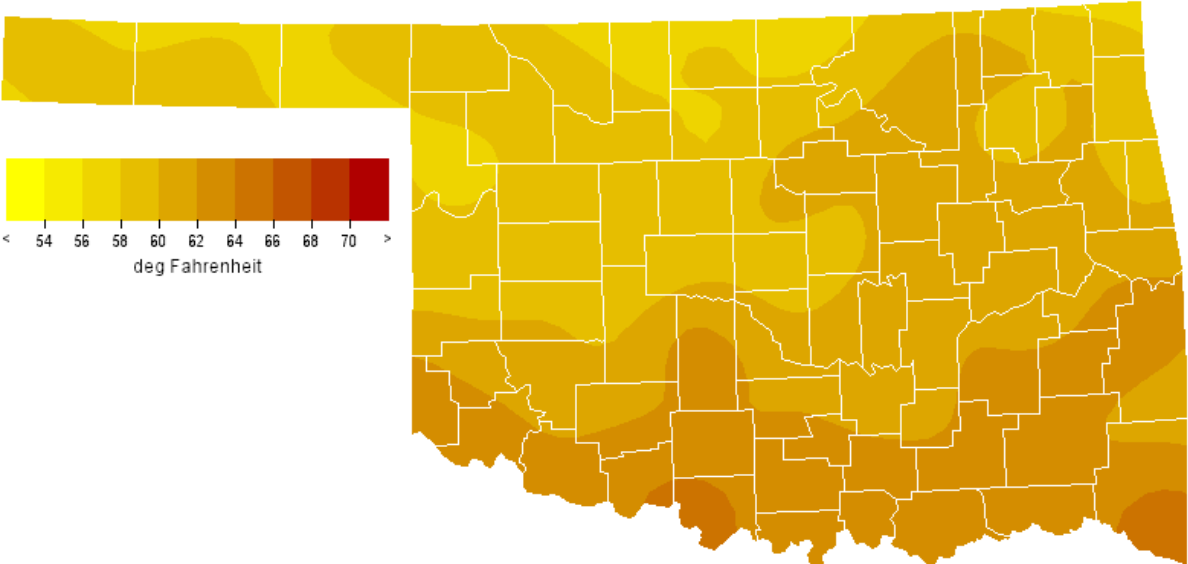
Tornadoes

Average November Tornadoes	1
Most	12 (1958)

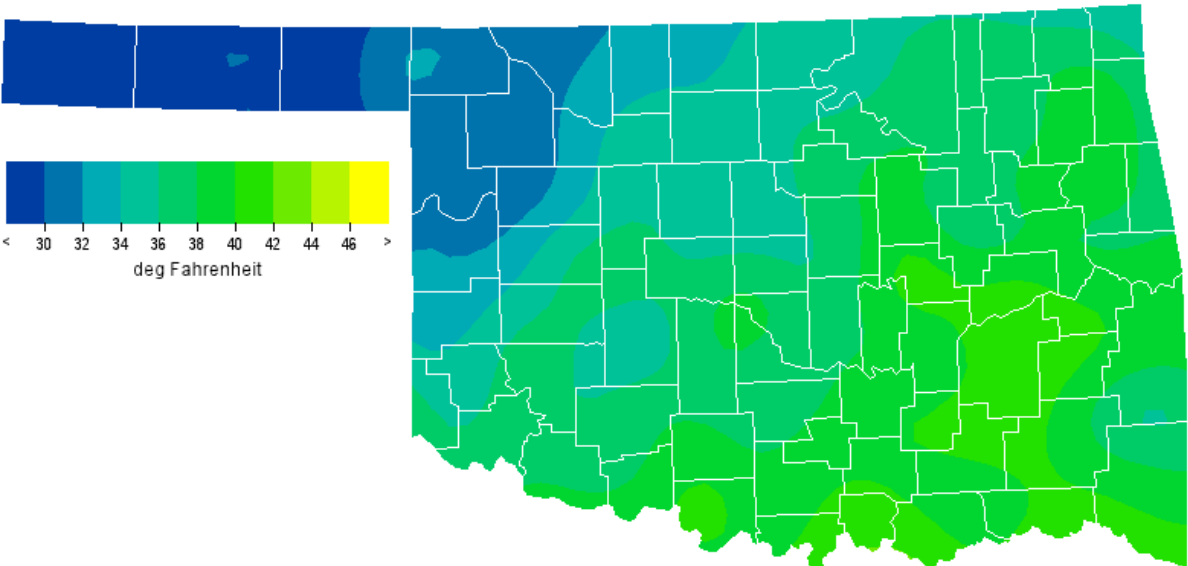
Oklahoma was only 1.87 inches, nearly a full inch less than the currently established monthly normal (compiled from 1971 through 2000). Annual precipitation across Oklahoma compiled from the earlier was a full 3.25 inches less than the value currently in use. Increased precipitation during November has contributed more to the recent increases in annual precipitation than any other month. At individual locations within Oklahoma, November normal precipitation ranges 5.64 inches at the Carnasaw Fire Tower in McCurtain County to 0.61 inch at the panhandle’s Goodwell and Regnier. Stilwell averages 9.6 days with measurable precipitation (at least 0.01 inch), whereas Leedey averages a mere 2.4 such days. Ponca City holds the record for most precipitation in one day at a recognized reporting site during November: 11.11 inches on November 20, 1979. Idabel recorded 17.01 inches of precipitation during November 2000 to establish the record for total precipitation during the month at a regular reporting station.

Severe and dangerous weather takes on a myriad of forms during November. There were 76 November tornadoes reported in the state from 1950 through 2003. Twelve of those were recorded on November 17, 1958 to establish the state record for most November tornadoes, both during a month and on a day. A tornado that struck Camel Creek School and the town of Bethany on November 19, 1930 killed 23 people. On November 4, 1922, a tornado between Shamrock and Drumright resulted in 11 deaths. The most recent November tornado fatalities occurred on November 19, 1973 when five people were killed in Blanchard. There were no tornadoes reported within the state during 32 of those 54 Novembers.

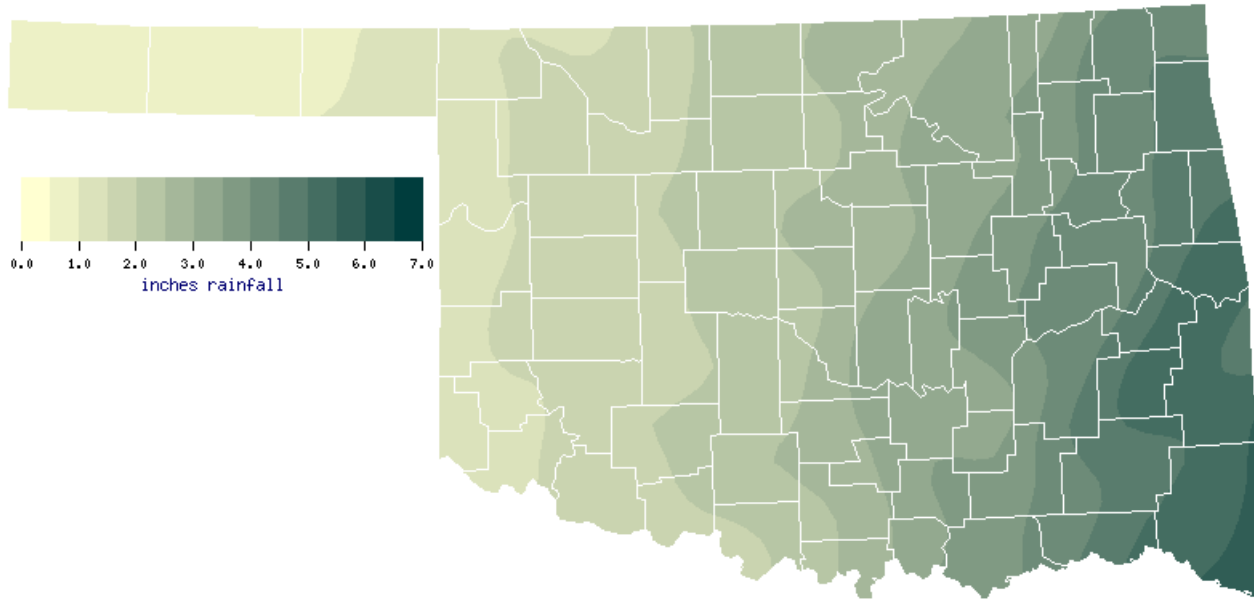
NOVEMBER NORMAL DAILY MAXIMUM TEMPERATURE (1971-2000)



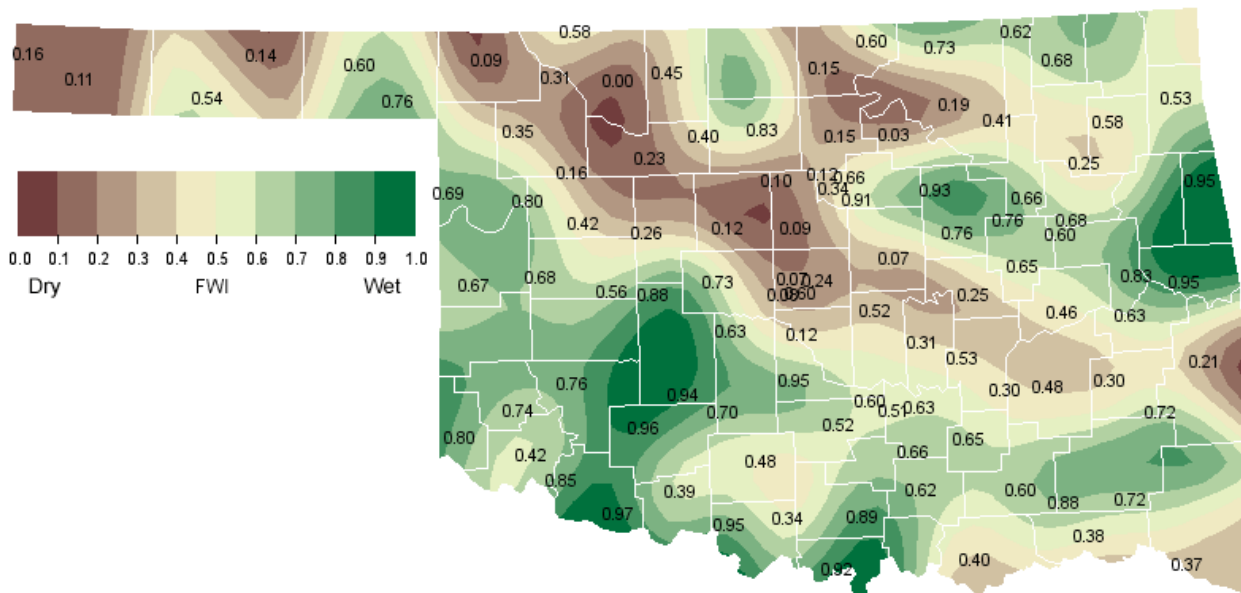
NOVEMBER NORMAL DAILY MINIMUM TEMPERATURE (1971-2000)



NOVEMBER NORMAL PRECIPITATION (1971-2000)



NOVEMBER 1, 2010 SOIL MOISTURE CONDITIONS AT 25CM



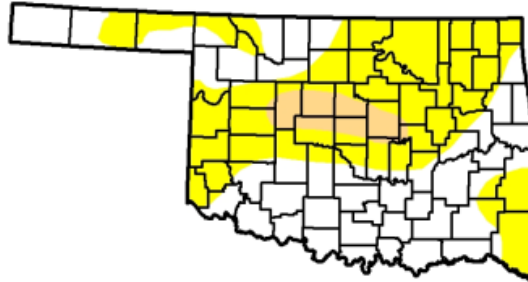
NOVEMBER 2010 DROUGHT INDICES

U.S. Drought Monitor
Oklahoma

November 2, 2010
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	47.7	52.3	5.7	0.0	0.0	0.0
Last Week (10/26/2010 map)	72.0	28.0	0.0	0.0	0.0	0.0
3 Months Ago (08/10/2010 map)	85.5	14.5	4.3	1.3	0.0	0.0
Start of Calendar Year (01/05/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (10/05/2010 map)	66.3	33.7	4.2	0.0	0.0	0.0
One Year Ago (11/03/2009 map)	100.0	0.0	0.0	0.0	0.0	0.0



Intensity:

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

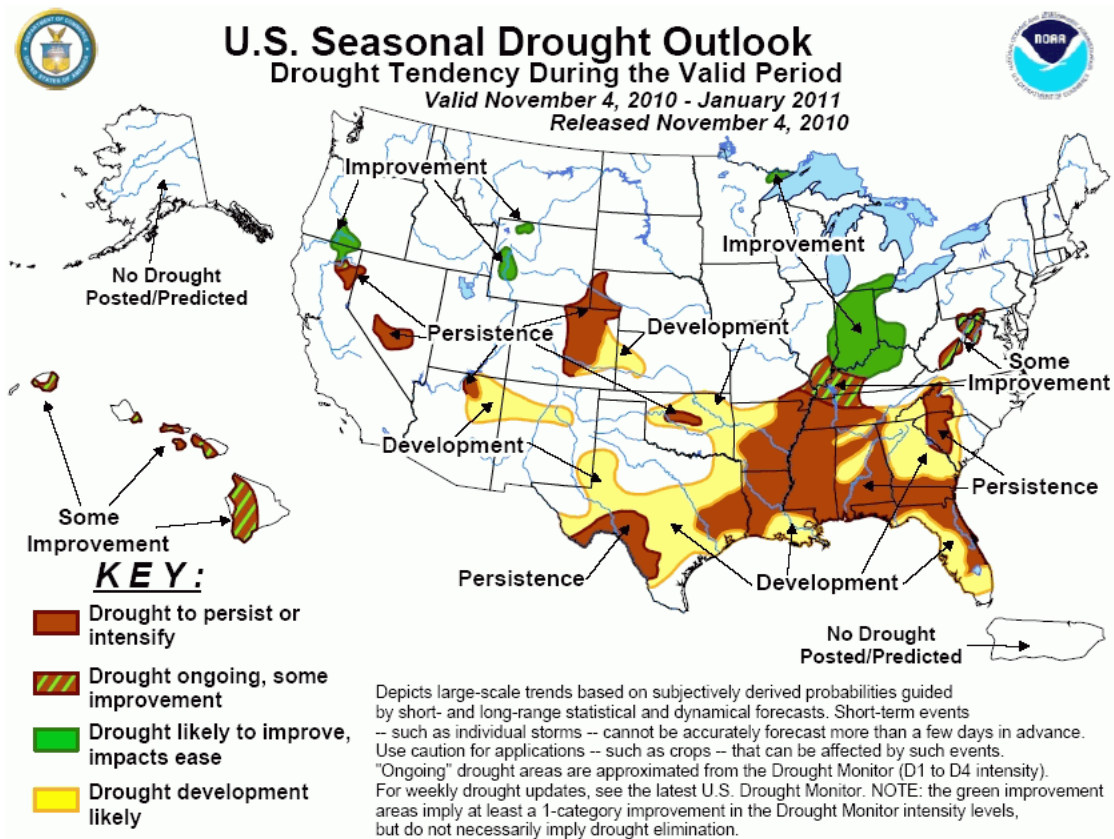
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

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

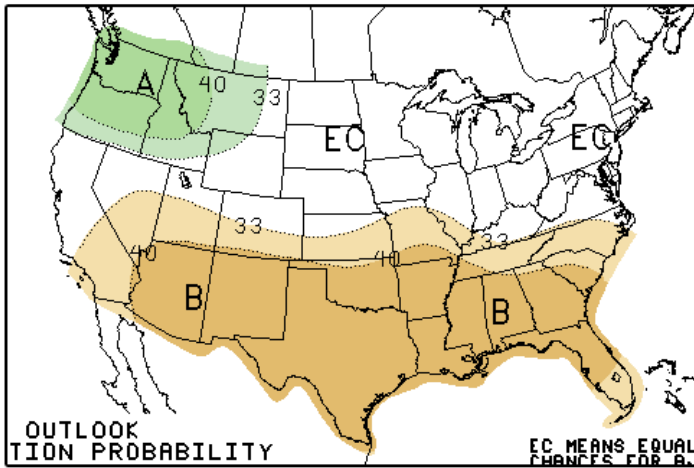


Released Thursday, November 4, 2010

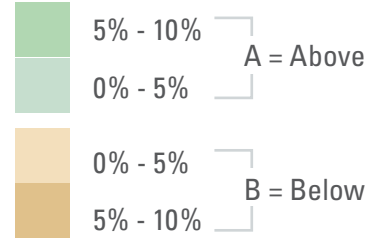
Author: Mark Svoboda, National Drought Mitigation Center



NOVEMBER 2010 U.S. PRECIPITATION FORECAST

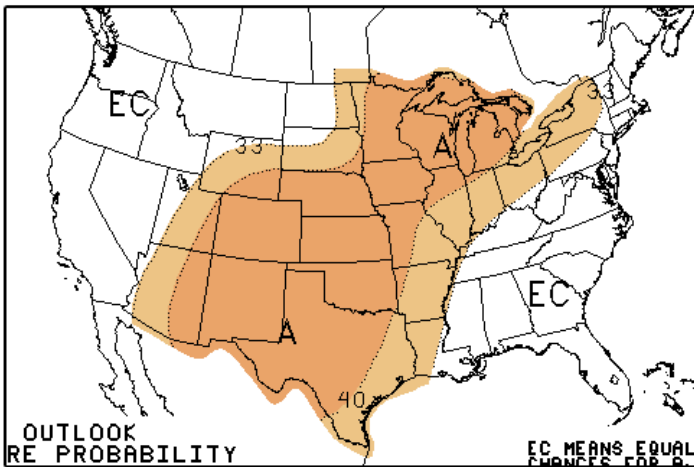


Percent Likelihood of Above or Below Average Precipitation*

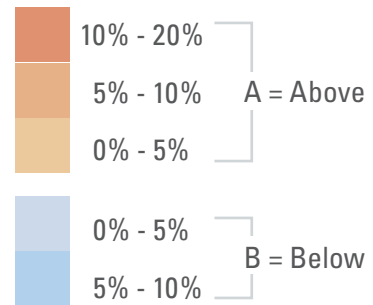


*EC indicates no forecasted anomalies due to lack of model skill.

NOVEMBER 2010 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

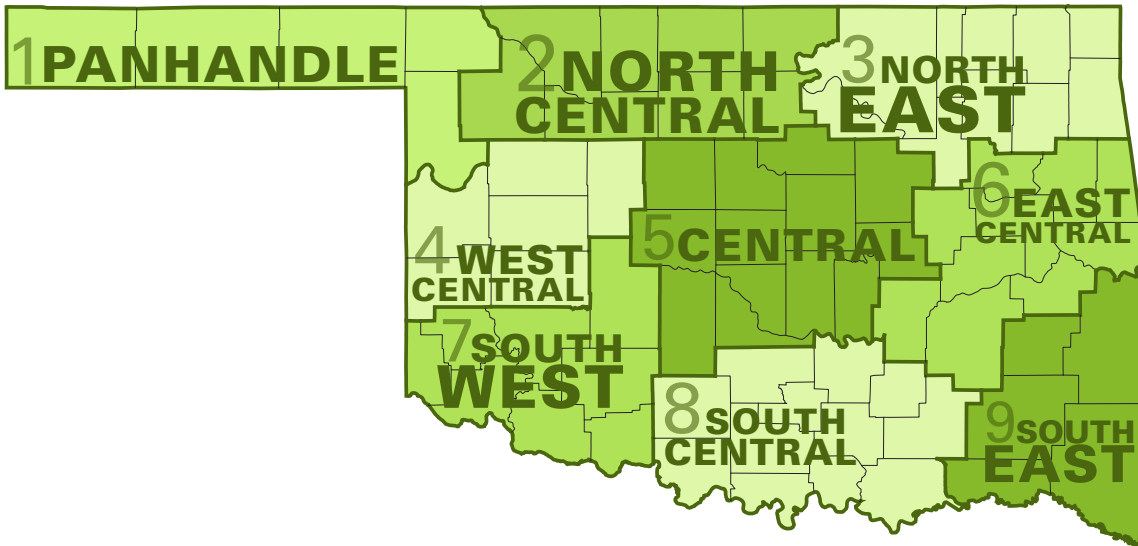


*EC indicates no forecasted anomalies due to lack of model skill.

NOVEMBER CLIMATE NORMALS

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	58.8	30.2	44.6	1.0
2	58.1	33.4	45.8	2.1
3	60.0	37.5	48.8	3.6
4	59.0	34.3	46.7	1.7
5	60.3	37.2	48.8	2.7
6	60.9	39.0	50.0	4.2
7	61.7	36.3	49.0	1.7
8	62.7	39.2	51.0	3.1
9	63.0	39.0	51.0	5.0
Statewide	60.5	36.4	48.5	2.9

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/wwwcgi.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 Interim 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>