

Oklahoma Water Resources Bulletin & Summary of Current Conditions

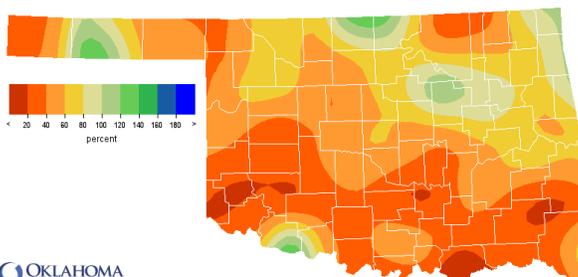


September 29, 2011

PRECIPITATION

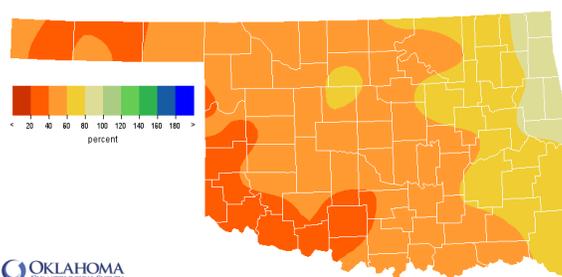
Statewide Precipitation

CLIMATE DIVISION	Cool Growing Season September 1-25, 2011				Last 365 Days September 26, 2010 – September 25, 2011			
	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	RANK SINCE 1921	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	RANK SINCE 1921
Panhandle	0.81"	-0.75"	52%	20th driest	8.67"	-12.43"	41%	1st driest
North Central	1.83"	-0.78"	70%	36th driest	16.57"	-15.08"	52%	2nd driest
Northeast	2.76"	-1.22"	69%	40th driest	29.95"	-12.02"	71%	9th driest
West Central	0.98"	-1.54"	39%	18th driest	12.60"	-16.49"	43%	1st driest
Central	1.96"	-1.46"	57%	27th driest	19.58"	-18.41"	52%	1st driest
East Central	2.74"	-1.39"	66%	36th driest	33.53"	-12.56"	73%	11th driest
Southwest	1.08"	-1.74"	38%	21st driest	12.14"	-18.66"	39%	1st driest
South Central	1.13"	-2.49"	31%	16th driest	18.46"	-22.50"	45%	2nd driest
Southeast	1.31"	-2.50"	34%	14th driest	33.02"	-17.92"	65%	5th driest
Statewide	1.66"	-1.52"	52%	20th driest	20.42"	-16.27"	56%	2nd driest



OKLAHOMA CLIMATOLOGICAL SURVEY
Percentage of Normal Rainfall
Cool Growing Season

Sep 1, 2011 through Sep 25, 2011
Created: 2011-09-26 10:42:36 UTC. Copyright © 2011

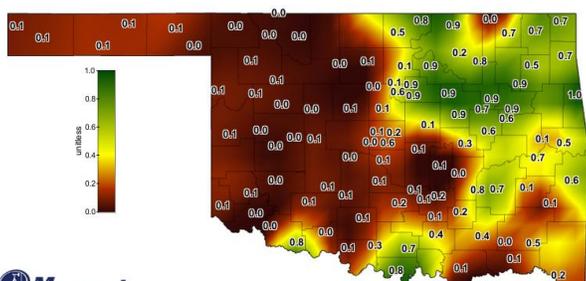


OKLAHOMA CLIMATOLOGICAL SURVEY
Percentage of Normal Rainfall
Last 365 Days

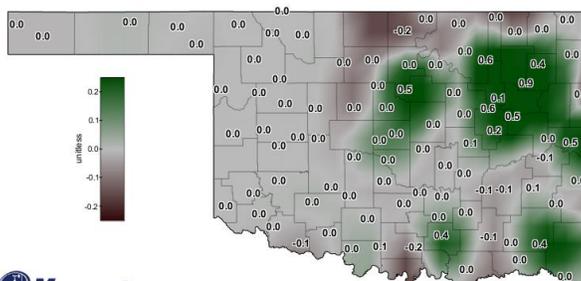
Sep 26, 2010 through Sep 25, 2011
Created: 2011-09-26 10:42:36 UTC. Copyright © 2011

SOIL MOISTURE

Fractional Water Index¹ September 26, 2011



Mesonet
Daily Averaged Fractional Water Index at 10 inches
September 26, 2011
Created: 7:43:06 AM September 27, 2011. Copyright 2011



Mesonet
7-Day Change in Fractional Water Index at 10 inches
September 26, 2011
Created: 8:30:01 AM September 27, 2011. Copyright 2011

¹ The Fractional Water Index ranges from very dry soil having a value of 0 to soil at field capacity illustrated by a value of 1. [1.0-0.8 = Enhanced Growth; 0.8-0.5 = Limited Growth; 0.5-0.3 = Plants Wilting; 0.3-0.1 = Plants Dying; <0.1 = Barren Soil.]

DROUGHT INDICES

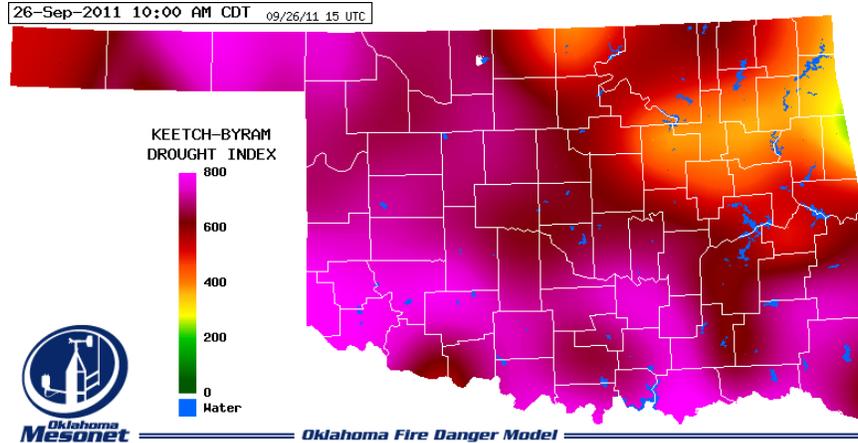
Palmer Drought Severity Index ¹					Standardized Precipitation Index ² Through August 2011			
CLIMATE DIVISION	CURRENT STATUS 9/24/2011	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		9/24	8/27					
Northwest	EXTREME DROUGHT	-5.47	-5.57	0.10	VERY DRY	EXTREMELY DRY	EXTREMELY DRY	EXTREMELY DRY
North Central	EXTREME DROUGHT	-4.16	-4.83	0.67	MODERATELY DRY	VERY DRY	VERY DRY	VERY DRY
Northeast	MILD DROUGHT	-1.95	-2.41	0.46	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
West Central	EXTREME DROUGHT	-5.87	-6.08	0.21	EXTREMELY DRY	EXCEPTIONALLY DRY	EXCEPTIONALLY DRY	EXTREMELY DRY
Central	EXTREME DROUGHT	-5.26	-5.74	0.48	VERY DRY	VERY DRY	VERY DRY	VERY DRY
East Central	MODERATE DROUGHT	-2.42	-3.23	0.81	VERY DRY	MODERATELY DRY	VERY DRY	VERY DRY
Southwest	EXTREME DROUGHT	-6.54	-6.74	0.20	EXCEPTIONALLY DRY	EXCEPTIONALLY DRY	EXCEPTIONALLY DRY	EXTREMELY DRY
South Central	EXTREME DROUGHT	-6.22	-6.47	0.25	EXTREMELY DRY	EXTREMELY DRY	EXTREMELY DRY	VERY DRY
Southeast	EXTREME DROUGHT	-4.48	-4.59	0.11	EXTREMELY DRY	MODERATELY DRY	VERY DRY	VERY DRY

- All nine climate divisions are currently experiencing drought conditions, according to the PDSI. Seven climate divisions are in extreme drought. However, no climate divisions have undergone PDSI moisture decreases since August 27.
- Every climate division but one is experiencing near long-term dry conditions, according to the SPI. The Southwest and West Central climate divisions are considered exceptionally dry over various time periods.

Keetch-Byram Drought Fire Index³

MESONET STATION	CLIMATE DIVISION	CURRENT VALUE 9/26/2011
Durant	Southwest	800
Hollis	South Central	799
Mangum	Southwest	791

- Stations currently at or above 600 (September 26) = 86
- Stations above 600 on August 29 = 100



¹ The Palmer Drought Severity Index, the first comprehensive drought index developed in the United States, is calculated based on precipitation, temperature, and soil moisture. Though widely used by government agencies and states to trigger drought relief programs, the PDSI may underestimate or overestimate the severity of ongoing dry periods.

² The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the 6-month SPI can be very effective in showing precipitation over distinct seasons.

³ The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.

WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
October 4-10, 2011



Regional Drought Summary & Outlook

U.S. Drought Monitor

Oklahoma

September 27, 2011
Valid 7 a.m. EST

	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	
Current	0.00	100.00	100.00	100.00	78.97	66.42	
Last Week (09/20/2011 map)	0.00	100.00	100.00	100.00	90.00	66.42	
3 Months Ago (06/28/2011 map)	0.13	99.87	75.59	55.96	41.22	32.55	
Start of Calendar Year (12/29/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00	
Start of Water Year (09/29/2010 map)	66.28	33.72	4.21	0.00	0.00	0.00	
One Year Ago (09/21/2010 map)	58.82	41.18	4.21	0.00	0.00	0.00	



Intensity:

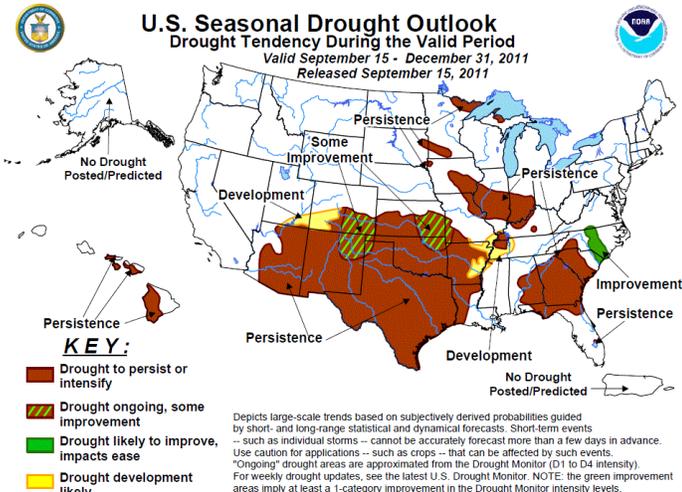
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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, September 29, 2011
Michael Brewer, National Climatic Data Center, NOAA



September 27 – The latest U.S. Drought Monitor reports that while recent events led to minor improvement in Extreme Drought (D3) in eastern Oklahoma, the precipitation deficits remain large and the impacts widespread. No improvement was made in the rest of the state. This same series of storms also moved through Arkansas and southern Missouri. While it did improve short and long-term precipitation deficits somewhat, impacts, especially to agriculture, are still extreme. Despite the rain, recent impact information led to the elimination of improvements made last week in this area. Conditions in Kansas degraded slightly in the central part of the state with a slight expansion of Abnormal Dryness (D0), Moderate (D1) and Severe (D2) Drought. In Texas, mounting dryness in the south, around Brownsville and Beaumont, led to slight degradation of drought conditions. In Texas, 96% of pasture and range land is considered to be in poor or very poor condition, a slight change from last week’s 98%. In Oklahoma, the total is 90% (94% last week).

According to the latest Drought Outlook (September 15), climate anomalies associated with La Niña are expected to strengthen and continue throughout the remainder of the year. Persistence or development can be expected across much of the Southeast. The return of La Niña also elevates the chances for persistence across the exceptional drought areas of the southern Plains. It should be noted that forecast confidence across the western Gulf region and Southeast is tempered due to the potential for heavy rainfall associated with tropical cyclone activity during the fall. The waning of the summer monsoon and enhanced odds for below median precipitation during October–December favor persistence or development across most of the Southwest. Based on consecutive La Niña composites, persistence or development is favored across the middle Mississippi and lower Ohio Valleys. A slightly drier climatology tilts the odds towards persistence for the small drought areas in the northwest Corn Belt and upper Mississippi Valley.

CROP REPORT

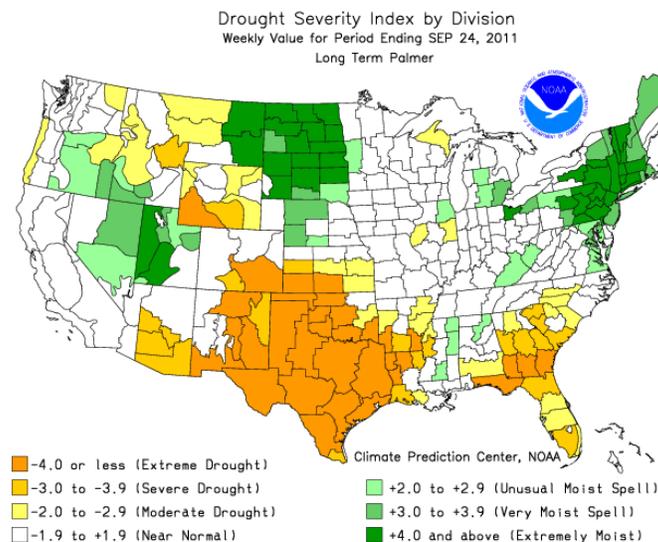
September 24, 2011 –The rains last week gave producers some moisture to start planting. Wheat planting progress was 20 points behind the five-year average and canola planting was 19 points behind last year. The rain has also helped livestock producers by bringing needed relief to pastures and hay fields across the state. While these rains were well-received, livestock producers continued to cull herds as shortages of hay and pasture continued. The precipitation brought little relief to topsoil moisture conditions with 66 percent of the state rated very short and 82 percent of subsoil rated very short. There were 5.5 days suitable for field work.

Seedbed preparation made good progress for both wheat and canola. Preparation for wheat ground was 71 percent complete by week's end, 14 points behind normal. Wheat planting reached 11 percent, 20 points behind normal. Canola seedbed preparation reached 77 percent complete by the end of the week, up two points from the previous week, while planting reached 13 percent, 19 points behind last year. Seedbed preparation for rye was 61 percent and planting reached nine percent by Sunday, 45 points behind normal. Seedbed preparation for oat ground was 52 percent complete.

Peanuts continued to be the only crop rated mostly fair to good with all remaining crops rated poor to very poor. Ninety-five percent of corn had reached maturity and 70 percent had been harvested by week's end. Sorghum heading reached 96 percent complete and coloring was 67 percent complete, 14 points behind normal. Forty-two percent of sorghum was mature, and 22 percent was harvested by Sunday, 7 points ahead of the five-year average. Soybean blooming was 95 percent complete, 83 percent was setting pods, and 13 percent was mature by week's end, all behind the five-year average. Peanuts setting pods reached 93 percent complete, and 24 percent were mature by Sunday, 31 points behind normal. Cotton reached 95 percent setting bolls, and 41 percent of plants had bolls opening by week's end, 22 points behind normal.

Production continued to be very limited. Third cuttings of alfalfa were 50 percent complete, 50 points behind normal. A second cutting of other hay reached 50 percent complete by Sunday, 22 points behind the five-year average.

Conditions for pasture and range conditions remained mostly very poor. Livestock conditions were rated mostly fair to poor. Shortages of hay and water supplies resulted in continued culling of herds.



RESERVOIR STORAGE

- 28 reservoirs are currently operating at less than full capacity (compared to 30 four weeks ago).
- 30 reservoirs have experienced lake level decreases.

Storage in Selected Oklahoma Lakes & Reservoirs					
September 26, 2011					
Lake or Reservoir	Normal Pool Elevation	Previous Elevation	Current Elevation	Change in Elevation	Current Flood Control Storage
	(feet)	8/29/2011 (feet)	9/26/2011 (feet)	(feet)	(acre-feet)
North Central					
Fort Supply	2004.00	2002.07	2001.40	(0.67)	(4,176)
Great Salt Plains	1125.00	1122.90	1118.34	(4.56)	(26,078)
Kaw*	1008.80	1008.46	1008.11	(0.35)	(10,687)
Northeast					
Birch	750.50	746.53	745.29	(1.24)	(5,461)
Copan	710.00	709.64	709.11	(0.53)	(3,470)
Fort Gibson	554.00	553.73	554.08	0.35	1,544
Grand*	741.00	741.23	741.02	(0.21)	861
Hudson	619.00	620.52	619.60	(0.92)	6,630
Hulah	733.00	732.52	731.70	(0.82)	(3,863)
Keystone*	723.00	720.33	719.94	(0.39)	(50,223)
Oologah*	638.00	636.72	636.14	(0.58)	(54,670)
Skiatook	714.00	704.45	703.12	(1.33)	(101,031)
West Central					
Canton	1615.40	1609.86	1609.35	(0.51)	(42,491)
Foss	1642.00	1637.45	1636.69	(0.76)	(33,398)
Central					
Arcadia	1006.00	1003.95	1003.50	(0.45)	(4,330)
Heyburn	761.50	759.95	759.78	(0.17)	(1,023)
Thunderbird	1039.00	1034.87	1034.04	(0.83)	(27,648)
East Central					
Eufaula*	585.00	582.10	581.30	(0.80)	(328,378)
Tenkiller	632.00	627.74	627.35	(0.39)	(57,995)
Southwest					
Fort Cobb	1342.00	1338.98	1338.08	(0.90)	(13,707)
Lugert-Altus	1559.00	1531.98	1531.40	(0.58)	(111,125)
Tom Steed	1411.00	1404.69	1403.85	(0.84)	(39,152)
South Central					
Arbuckle	872.00	867.27	865.97	(1.30)	(13,291)
McGee Creek**	175.90	175.21	174.61	(0.60)	(15,292)
Texoma*	616.50	611.21	610.00	(1.21)	(432,493)
Waurika*	951.40	947.43	946.80	(0.63)	(42,321)
Southeast					
Broken Bow*	602.50	594.26	592.29	(1.97)	(142,008)
Hugo*	404.50	403.43	402.19	(1.24)	(30,185)
Pine Creek*	433.00	427.65	425.60	(2.05)	(16,626)
Sardis	599.00	597.46	596.91	(0.55)	(27,460)
Wister	478.00	476.83	476.16	(0.67)	(10,421)

* indicates seasonal pool operation

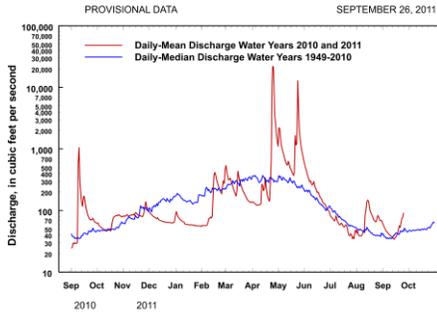
** elevation in meters

negative numbers in red, parentheses

STREAMFLOW CONDITIONS

Baron Fork at Eldon

Baron Fork at Eldon, Oklahoma
Station No. 07197000 Northeast Oklahoma
Drainage Area 307 square miles

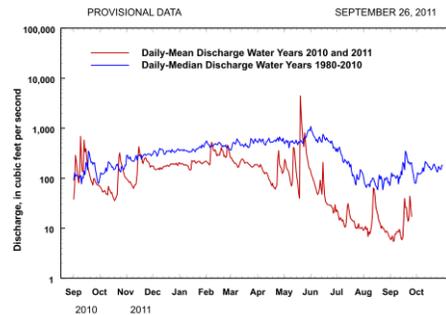


Comparison of daily discharges for water year 2010 and 2011 and period of record

Data from U.S. Geological Survey

Canadian River at Purcell

Canadian River at Purcell, Oklahoma
Station No. 07229200 Central Oklahoma
Drainage Area 25,939 square miles

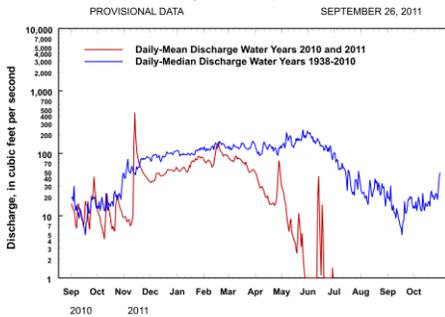


Comparison of daily discharges for water years 2010 and 2011 and period of record

Data from U.S. Geological Survey

Cimarron River near Waynoka

Cimarron River near Waynoka, Oklahoma
Station No. 07158000 Northwest Oklahoma
Drainage Area 13,334 square miles

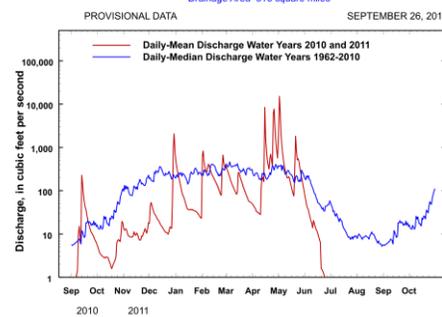


Comparison of daily discharges for water years 2010 and 2011 and period of record

Data from U.S. Geological Survey

Glover River near Glover

Glover River near Glover, Oklahoma
Station No. 07337900 Southeast Oklahoma
Drainage Area 315 square miles

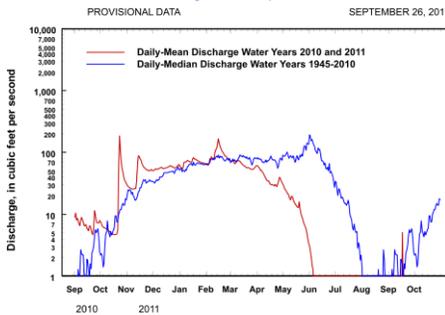


Comparison of daily discharges for water years 2010 and 2011 and period of record

Data from U.S. Geological Survey

North Fork of the Red River near Carter

North Fork of the Red River near Carter, Oklahoma
Station No. 07301500 Southwest Oklahoma
Drainage Area 2,337 square miles

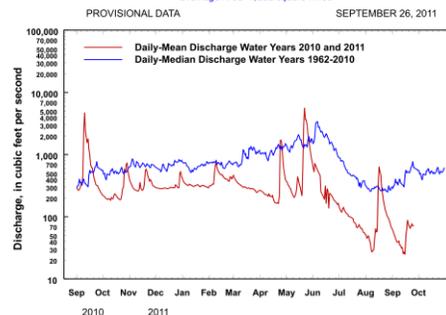


Comparison of daily discharges for water years 2010 and 2011 and period of record

Data from U.S. Geological Survey

Washita River near Dickson

Washita River near Dickson, Oklahoma
Station No. 07331000 South-Central Oklahoma
Drainage Area 7,202 square miles



Comparison of daily discharges for water years 2010 and 2011 and period of record

Data from U.S. Geological Survey



Water Bulletin information/data courtesy of National Weather Service, Climate Prediction Center, Oklahoma Climatological Survey, State Department of Agriculture, Food, and Forestry, Agricultural Statistics Service, U.S. Army Corps of Engineers, U.S. Department of Agriculture/Forest Service, U.S. Geological Survey, Western Drought Coordination Council, and National Drought Mitigation Center. For more information, visit www.owrb.ok.gov and www.mesonet.org.