Oklahoma Water Resources Bulletin
& Summary of Current Conditions

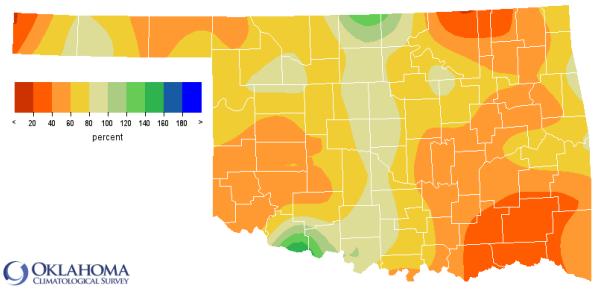
State of Oklahoma OWRB Water Resources Board the water agency

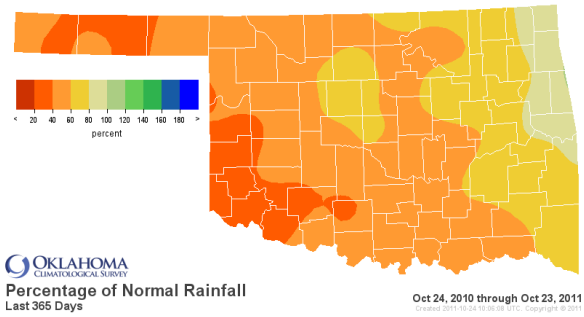
October 27, 2011

PRECIPITATION

Statewide Precipitation

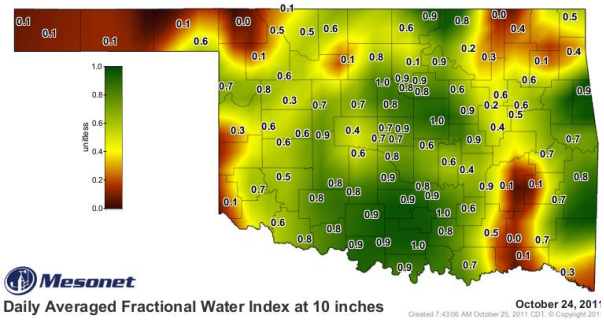
Climate Division	Cool Growing Season Sept 1 – Oct 23, 2011 Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921	Last 365 Days Oct 24, 2010 – Oct 23, 2011 Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921
Panhandle	1.73"	-1.27"	58%	19th driest	8.58"	-12.52"	41%	1st driest
North Central	4.01"	-1.09"	79%	40th driest	17.45"	-14.20"	55%	2nd driest
Northeast	4.17"	-3.30"	56%	21st driest	30.40"	-11.57"	72%	10th driest
West Central	3.04"	-1.89"	62%	27th driest	12.48"	-16.61"	43%	2nd driest
Central	5.05"	-1.78"	74%	37th driest	20.96"	-17.03"	55%	2nd driest
East Central	4.87"	-3.26"	60%	24th driest	34.07"	-12.02"	74%	11th driest
Southwest	3.73"	-1.87"	67%	31st driest	11.72"	-19.08"	38%	1st driest
South Central	4.76"	-2.74"	63%	27th driest	20.13"	-20.83"	49%	2nd driest
Southeast	3.41"	-4.84"	41%	15th driest	33.16"	-17.78"	65%	4th driest
Statewide	3.93"	-2.39"	62%	22nd driest	20.99"	-15.70"	57%	2nd driest

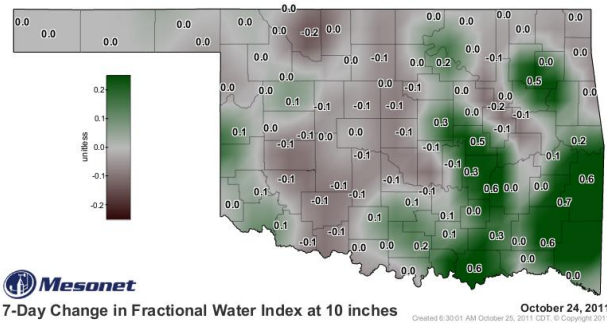




SOIL MOISTURE

Fractional Water Index[1] October 24, 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

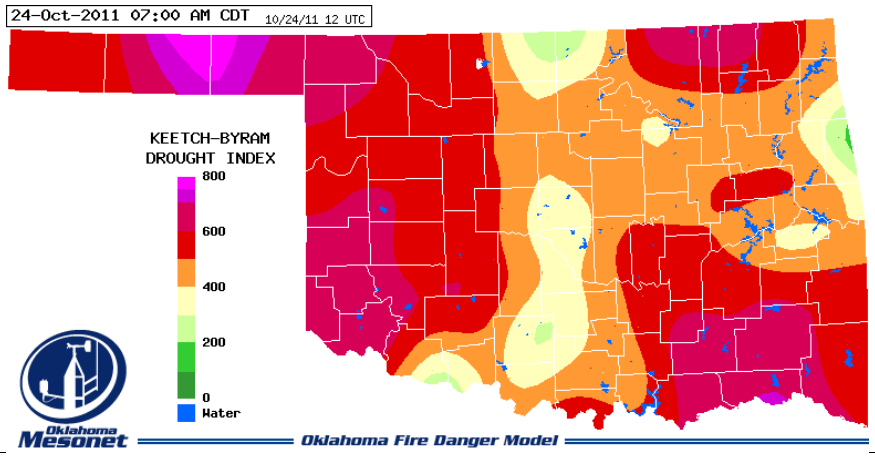
Palmer Drought Severity Index[1]					Standardized Precipitation Index[2] Through September 2011			
Climate Division	Current Status 10/22/2011	Value 10/22	Value 9/24	Change In Value	3-Month	6-Month	9-Month	12-Month
Northwest	EXTREME DROUGHT	-5.07	-5.47	**0.40**	VERY DRY	EXTREMELY DRY	EXTREMELY DRY	EXTREMELY DRY
North Central	SEVERE DROUGHT	-3.28	-4.16	**0.88**	MODERATELY DRY	VERY DRY	VERY DRY	VERY DRY
Northeast	MODERATE DROUGHT	-2.36	-1.95	**-0.41**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY
West Central	EXTREME DROUGHT	-4.91	-5.87	**0.96**	VERY DRY	EXCEPTIONALLY DRY	EXCEPTIONALLY DRY	EXTREMELY DRY
Central	EXTREME DROUGHT	-4.39	-5.26	**0.87**	VERY DRY	VERY DRY	EXTREMELY DRY	EXTREMELY DRY
East Central	MODERATE DROUGHT	-2.47	-2.42	**-0.05**	MODERATELY DRY	MODERATELY DRY	VERY DRY	EXTREMELY DRY
Southwest	EXTREME DROUGHT	-5.29	-6.54	**1.25**	EXTREMELY DRY	EXCEPTIONALLY DRY	EXCEPTIONALLY DRY	EXCEPTIONALLY DRY
South Central	EXTREME DROUGHT	-5.05	-6.22	**1.17**	EXTREMELY DRY	EXTREMELY DRY	EXTREMELY DRY	EXTREMELY DRY
Southeast	EXTREME DROUGHT	-4.00	-4.48	**0.48**	VERY DRY	MODERATELY DRY	VERY DRY	VERY DRY

- All nine climate divisions are currently experiencing drought conditions, according to the PDSI. Six climate divisions are in extreme drought. However, only two climate divisions have undergone PDSI moisture decreases since September 24.
- Every climate division 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 Index[3]

Mesonet Station	Climate Division	Current Value 10/24/2011
Hooker	Panhandle	761
Beaver	Panhandle	715
Hugo	Southeast	715

- Stations currently at or above 600 (October 24) = 25
- Stations above 600 on September 26 = 86



[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.*

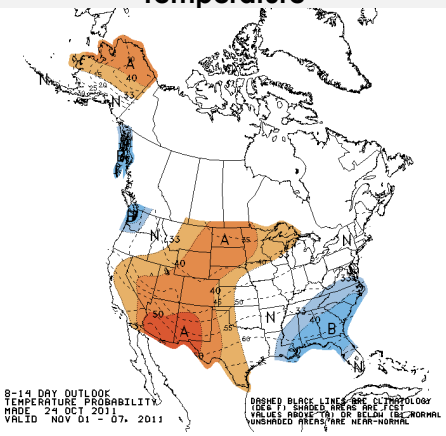
[2] *The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while 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.*

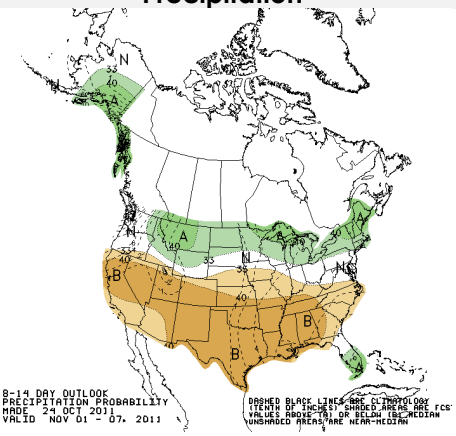
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
November 1-7, 2011

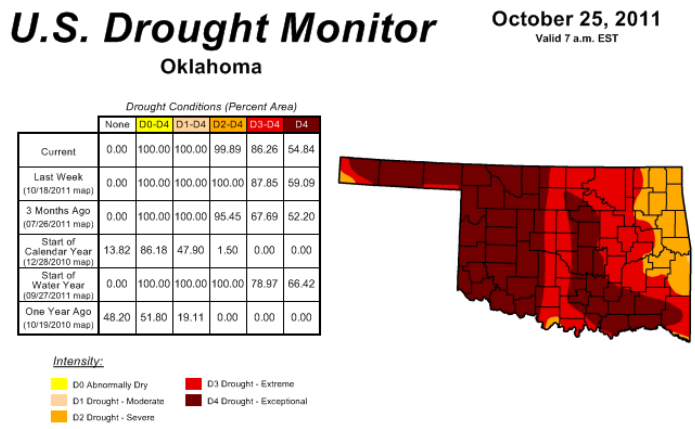
Temperature

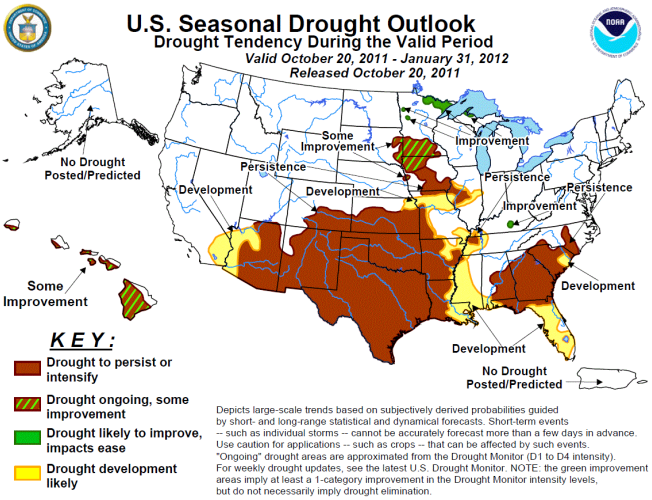


Precipitation



Regional Drought Summary & Outlook





October 25 – The latest U.S. Drought Monitor reports mostly dry weather in the southern and central High Plains and near to above normal temperatures. Farther east, showers and thunderstorms developed and dropped some light to moderate amounts (1 to 2 inches) on north central Kansas, extreme eastern Oklahoma, and northeastern Texas. Based upon the Texas SPI blends, October rainfall was enough to make a 1-category improvement in portions of northeastern Texas. The rains that fell farther to the southeast were not enough to overcome this summer's record heat and long-term drought, and status-quo prevailed. In northwestern Kansas, a re-evaluation of various high-resolution precipitation products depicted a surplus at several time scales (30-, 90-, 180-days), resulting in improvement and removal of drought and dryness there. Farther north, a 1-category deterioration was made in east central and southeastern Kansas and northeastern Oklahoma where little or no rain fell this week and where mid-September and early October rains had missed. Similar to Texas, the record heat in Oklahoma and southern Kansas also exacerbated the effects and impacts of the drought.

According to the latest Drought Outlook (October 20), across the southern tier of states and in the central Plains, drought is expected to persist and expand into adjacent areas due, at least in part, to the strengthening La Nina in the equatorial Pacific waters. Further north, both across North Carolina and in a swath from central Illinois through central Iowa, drought is also forecast to persist and expand slightly. Some improvement is expected across northern Iowa and southern Minnesota while improvement is forecast in the drought areas in northern Minnesota and Michigan's Upper Peninsula.

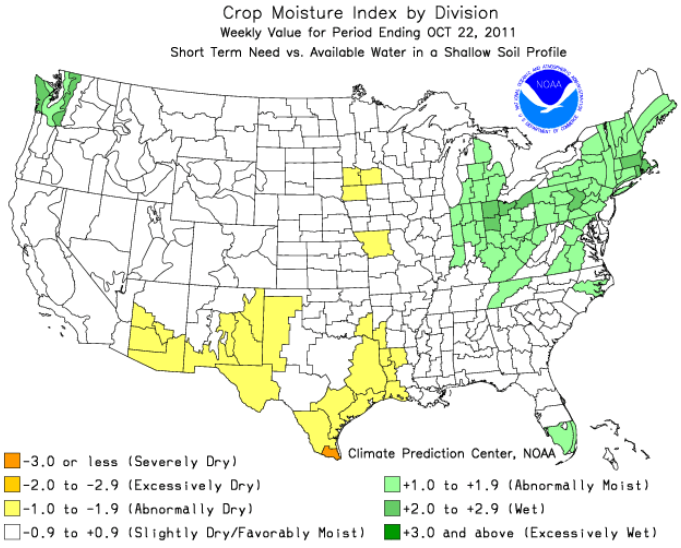
CROP REPORT

October 24, 2011 – The past week brought scattered rain, hail, and freezing temperatures across much of the state. While the recent rains were welcomed, the state remains in a severe to exceptional drought, which has sparked concerns over reservoir levels in eastern Oklahoma. Topsoil moisture conditions declined from last week with 31 percent rated very short, compared to 28 percent last week. Subsoil moisture conditions showed no improvement, with 70 percent rated very short, compared to 69 percent the week before. There were 6.4 days suitable for field work.

Small grains and canola producers were in the field with planting in full swing. Seedbed preparation for wheat ground was 98 percent complete by week's end and planting reached 82 percent complete, up 19 points from the previous week. Wheat emerged was 50 percent complete, 14 points behind the five-year average. Canola planting reached 93 percent, three points ahead of last year. Sixty-six percent of canola had emerged by week's end, nine points behind last year. Seedbed preparation for rye was 95 percent complete, and planting reached 87 percent complete by Sunday, 10 points behind normal. Sixty-four percent of rye had emerged by the end of the week, 22 points behind the five-year average. Seedbed preparation for oat ground was 75 percent complete. Oat planting reached 39 percent complete by the end of the week, and 21 percent had emerged, 11 points behind normal.

There was very little change as most row crops continued to be rated poor to very poor with only peanuts rated fair to good. The corn harvest was 94 percent complete by week's end. Sorghum coloring was 92 percent complete, five points behind normal. Sixty-nine percent of sorghum had matured, and 35 percent was harvested by Sunday. Soybeans setting pods reached 95 percent complete, and 51 percent were mature by week's end, 18 points behind the five-year average. Twenty-two percent of soybeans had been harvested, 16 points behind normal. Eighty-two percent of peanuts had matured by Sunday and 47 percent were dug, 17 points behind the five-year average. Sixteen percent of peanuts have been combined, 27 points behind the five-year average. Cotton plants opening bolls reached 87 percent complete by week's end, nine points behind normal. Eight percent of cotton had been harvested, 13 points behind the five-year average.

There was little activity last week in hay fields. Third cuttings of alfalfa were 63 percent complete, and 14 percent of the state had completed a fourth cutting, compared to a five-year average of 100 percent. A second cutting of other hay reached 56 percent complete by Sunday, 28 points behind normal. Eighty-eight percent of pasture and range conditions are rated poor to very poor. Sixty-eight percent of livestock conditions are rated fair to poor. Hay shortages continued with some relief coming from fall planted pastures.



RESERVOIR STORAGE

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

Storage in Selected Oklahoma Lakes & Reservoirs
October 24, 2011

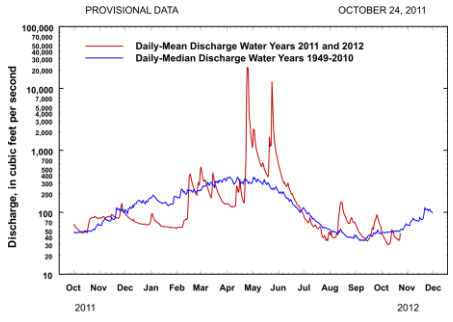
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 9/26/2011 (feet)	Current Elevation 10/24/2011 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2001.40	2000.98	(0.42)	(4,735)
Great Salt Plains	1125.00	1118.34	1123.21	4.87	(11,266)
Kaw*	1009.50	1008.11	1008.23	0.12	(19,159)
Northeast					
Birch	750.50	745.29	742.85	(2.44)	(7,682)
Copan	710.00	709.11	708.64	(0.47)	(5,222)
Fort Gibson	554.00	554.08	552.96	(1.12)	(19,420)
Grand*	741.60	741.02	741.13	0.11	(18,597)
Hudson	619.00	619.60	619.12	(0.48)	1,326
Hulah	733.00	731.70	730.79	(0.91)	(6,347)
Keystone	723.00	719.94	720.23	0.29	(45,112)
Oologah	638.00	636.14	635.41	(0.73)	(71,642)
Skiatook	714.00	703.12	701.96	(1.16)	(108,491)
West Central					
Canton	1615.40	1609.35	1605.80	(3.55)	(60,215)
Foss	1642.00	1636.69	1636.22	(0.47)	(36,138)
Central					
Arcadia	1006.00	1003.50	1005.14	1.64	(1,423)
Heyburn	761.50	759.78	759.34	(0.44)	(1,259)
Thunderbird	1039.00	1034.04	1033.99	(0.05)	(27,900)
East Central					
Eufaula	585.00	581.30	580.95	(0.35)	(356,349)
Tenkiller	632.00	627.35	627.15	(0.20)	(60,455)
Southwest					
Fort Cobb	1342.00	1338.08	1337.76	(0.32)	(14,737)
Lugert-Altus	1559.00	1531.40	1531.20	(0.20)	(111,585)
Tom Steed	1411.00	1403.85	1403.42	(0.43)	(41,133)
South Central					
Arbuckle	872.00	865.97	865.46	(0.51)	(14,332)
McGee Creek**	175.90	174.61	174.06	(0.55)	(21,469)
Texoma*	618.00	610.00	609.98	(0.02)	(553,977)
Waurika	951.40	946.80	946.46	(0.34)	(45,176)
Southeast					
Broken Bow*	600.30	592.29	590.26	(2.03)	(136,399)
Hugo*	405.60	402.19	401.30	(0.89)	(57,316)
Pine Creek	433.00	425.60	423.91	(1.69)	(19,436)
Sardis	599.00	596.91	596.48	(0.43)	(32,697)
Wister	478.00	476.16	475.73	(0.43)	(12,060)

** indicates seasonal pool operation* *** elevation in meters* *negative numbers in red, parentheses*

STREAMFLOW CONDITIONS

Baron Fork at Eldon

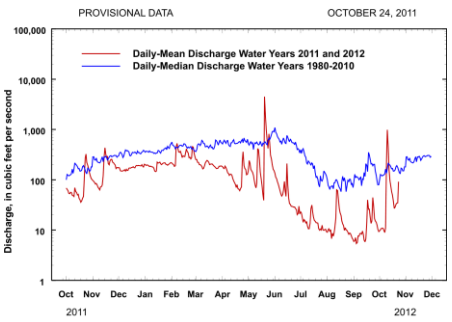
Baron Fork at Eldon, Oklahoma
Station No. 07197000 Northeast Oklahoma
Drainage Area 307 square miles



Comparison of daily discharges for waters year 2011 and 2012
and period of record
Data from U.S. Geological Survey

Canadian River at Purcell

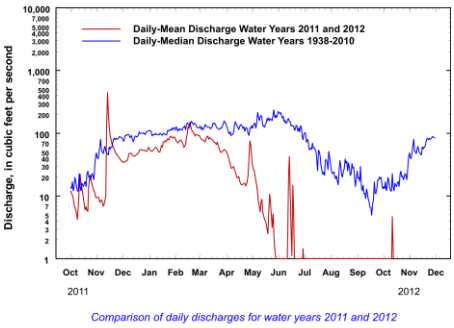
Canadian River at Purcell, Oklahoma
Station No. 07229200 Central Oklahoma
Drainage Area 25,939 square miles



Comparison of daily discharges for water years 2011 and 2012
and period of record
Data from U.S. Geological Survey

Cimarron River near Waynoka

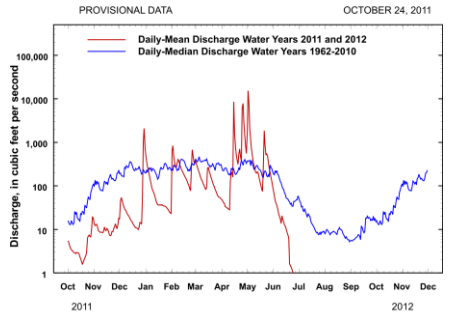
Cimarron River near Waynoka, Oklahoma
Station No. 07158000 Northwest Oklahoma
Drainage Area 13,334 square miles



Comparison of daily discharges for water years 2011 and 2012
and period of record
Data from U.S. Geological Survey

Glover River near Glover

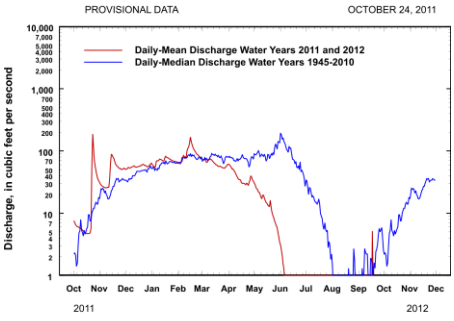
Glover River near Glover, Oklahoma
Station No. 07337900 Southeast Oklahoma
Drainage Area 315 square miles



Comparison of daily discharges for water years 2011 and 2012
and period of record
Data from U.S. Geological Survey

North Fork of the Red River near Carter

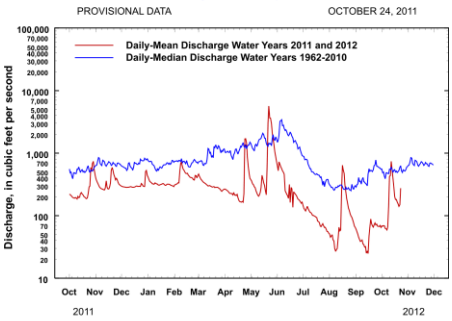
North Fork of the Red River near Carter, Oklahoma
Station No. 07301500 Southwest Oklahoma
Drainage Area 2,337 square miles



Comparison of daily discharges for water years 2011 and 2012
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 2011 and 2012
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.