Oklahoma Water Resources Bulletin
& Summary of Current Conditions

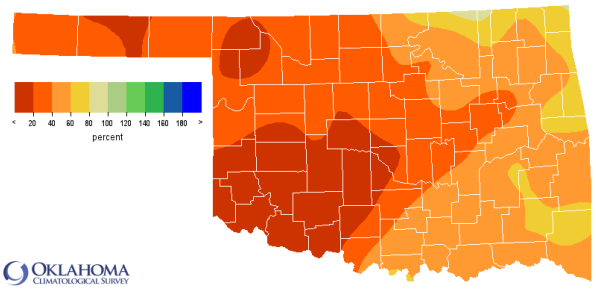
State of Oklahoma OWRB Water Resources Board the water agency

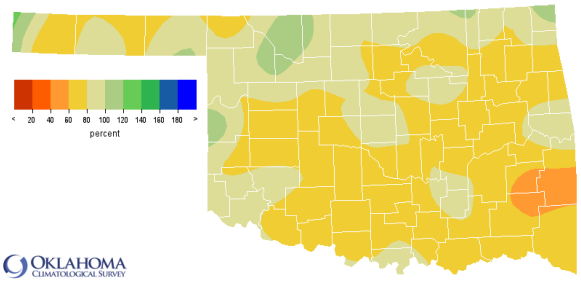
April 14, 2011

PRECIPITATION

Statewide Precipitation

Climate Division	Last 120 Days (Dec 13, 2010 – Apr 11, 2011) Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921	Last 365 Days (Apr 12, 2010 – Apr 11, 2011) Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921
Panhandle	0.90"	-3.00"	23%	6th driest	17.49"	-3.61"	83%	28th driest
North Central	2.15"	-4.56"	32%	6th driest	27.81"	-3.84"	88%	41st driest
Northeast	5.63"	-4.45"	56%	11th driest	34.91"	-7.06"	83%	24th driest
West Central	1.10"	-4.97"	18%	3rd driest	21.91"	-7.18"	75%	17th driest
Central	2.29"	-6.70"	26%	3rd driest	29.17"	-8.82"	77%	17th driest
East Central	6.15"	-5.91"	51%	9th driest	34.86"	-11.23"	76%	16th driest
Southwest	0.80"	-5.68"	12%	1st driest	23.83"	-6.97"	77%	20th driest
South Central	4.53"	-6.06"	43%	6th driest	30.26"	-10.70"	74%	14th driest
Southeast	8.40"	-6.17"	58%	6th driest	31.75"	-19.19"	62%	2nd driest
Statewide	3.50"	-5.29"	40%	4th driest	28.16"	-8.53"	77%	15th driest

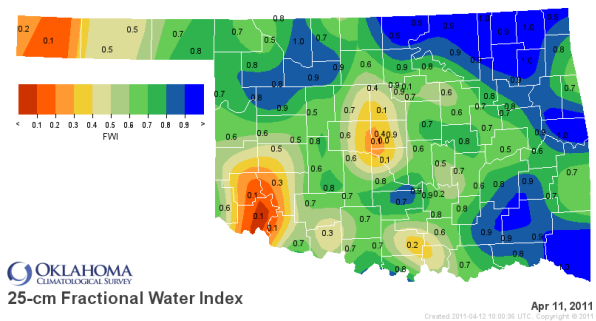


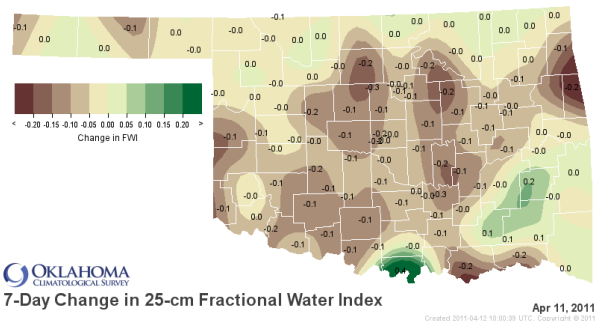


SOIL MOISTURE

Fractional Water Index[1]
April 11, 2011

25 CM (~10 INCHES)





[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] and Standardized Precipitation Index[2] Through March 2010

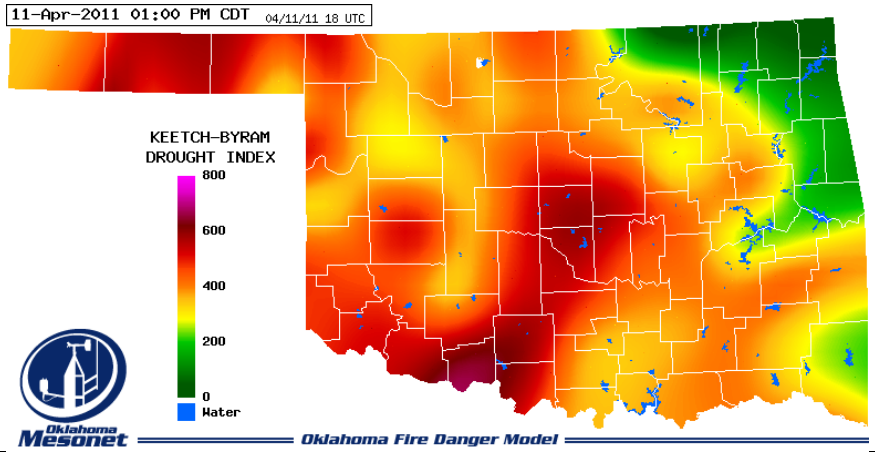
Climate Division	Current Status 4/9/2011	Value 4/9	Value 3/19	Change In Value	3-Month	6-Month	9-Month	12-Month
Northwest	MILD DROUGHT	-1.37	-0.70	**-0.67**	VERY DRY	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
North Central	INCIPIENT DROUGHT	-0.91	-0.12	**-0.79**	MODERATELY DRY	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL
Northeast	MILD DROUGHT	-1.11	0.15	**-1.26**	NEAR NORMAL	VERY DRY	NEAR NORMAL	NEAR NORMAL
West Central	MILD DROUGHT	-1.44	-0.81	**-0.63**	VERY DRY	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL
Central	MODERATE DROUGHT	-2.53	-1.70	**-0.83**	MODERATELY DRY	VERY DRY	MODERATELY DRY	NEAR NORMAL
East Central	MILD DROUGHT	-1.69	-1.10	**-0.59**	EXTREMELY DRY	EXTREMELY DRY	VERY DRY	MODERATELY DRY
Southwest	MODERATE DROUGHT	-2.30	-1.51	**-0.79**	EXTREMELY DRY	VERY DRY	NEAR NORMAL	NEAR NORMAL
South Central	MODERATE DROUGHT	-2.43	-1.67	**-0.76**	VERY DRY	VERY DRY	MODERATELY DRY	MODERATELY DRY
Southeast	SEVERE DROUGHT	-3.05	-2.42	**-0.63**	EXTREMELY DRY	EXTREMELY DRY	VERY DRY	EXTREMELY DRY

- Eight climate divisions are currently experiencing drought conditions, according to the PDSI. One additional region is considered in "incipient" drought.
- All nine climate divisions have undergone PDSI moisture decreases since March 19.
- All nine climate divisions are experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index[3]

Mesonet Station	County	Climate Division	Current Value 4/11/2011
Walters	Cotton	Southwest	637
Grandfield	Tillman	Southwest	616
Norman	Cleveland	Central	604

- Stations currently at or above 600 (April 11) = 3
- Stations above 600 on March 21 = 0



[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.*

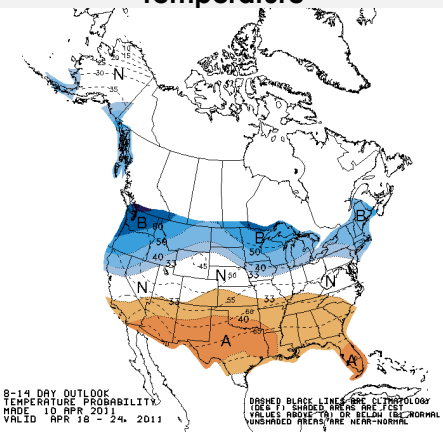
[2] *The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while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

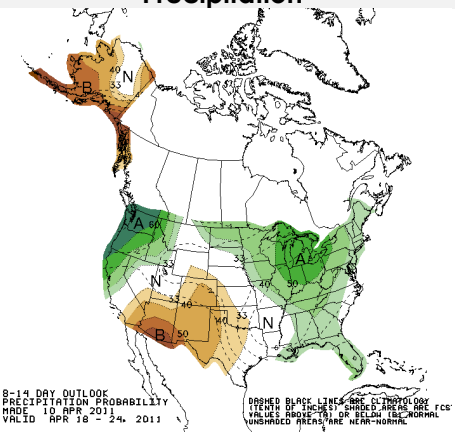
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
April 18-24, 2011

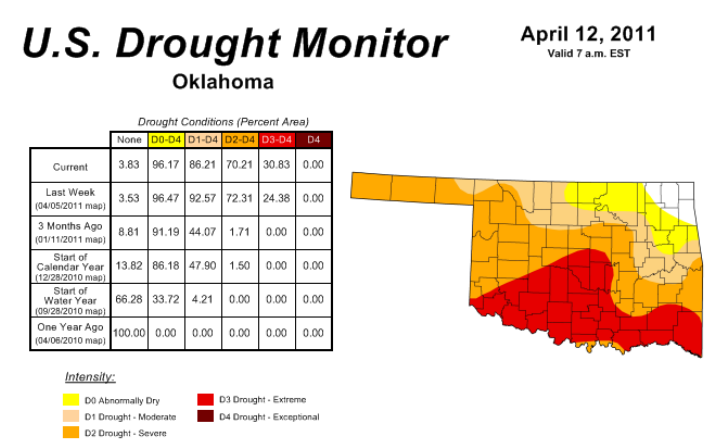
Temperature

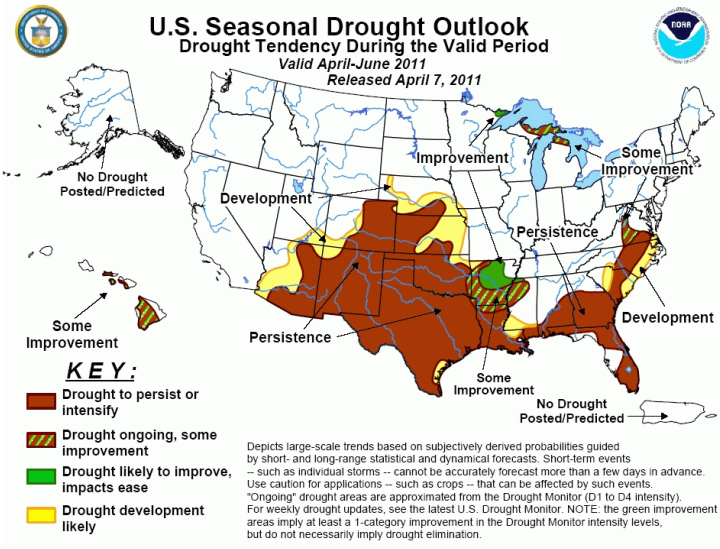


Precipitation



Regional Drought Summary & Outlook





April 12 – The latest U.S. Drought Monitor reports that during the past week, a band of 1-2 inch rains fell across southeastern portions of Oklahoma and northeastern portions of Texas. The southern lower Plains (and adjacent lower Mississippi Valley) has experienced very low stream flows for at least the past 30-days, and top 1-meter soil moisture anomalies in the past 30-days of at least 2 to 3 inches across a broad portion of the region, with some embedded areas of 3 to 5 inch deficits. USDA indicates 86 percent of Oklahoma and 90 percent of Texas are dominated by short-very short topsoil moisture conditions. With deficits of 12-16 inches in the past 180-days, extreme drought (D3) conditions were expanded across McCurtain and Pushmataha Counties in southeastern Oklahoma, with severe drought (D2) extended slightly northward of these counties. Latimer County continues to have extremely low farm ponds and a shortage of hay. Along the northern tier of Oklahoma, locally 1-3 inches of rain, baseball-sized hail, and winds in excess of 90 mph were noted in eastern Grant, Kay, and western Osage Counties. Therefore, a westward shift was made in the drought depiction of D0 conditions from eastern Osage County through Kay and eastern Grant Counties to indicate some improvement..

According to the latest Drought Outlook (April 7), precipitation has been above-normal for the past few weeks from New England southwestward across the Appalachians to the central Gulf Coast states, as well as over central Florida, bringing significant drought relief to some areas. In contrast, Arkansas, most of Louisiana, and the southern half of the Great Plains region has received less precipitation than usual, resulting in further deterioration of drought, especially around the Ark-La-Tex area. For the April-June forecast period, it is unlikely for the region to experience much relief from the continuing and intensifying drought. In the Southwest, April-June is considered the dry season, and little relief is anticipated until the climatological onset of the summer monsoon.

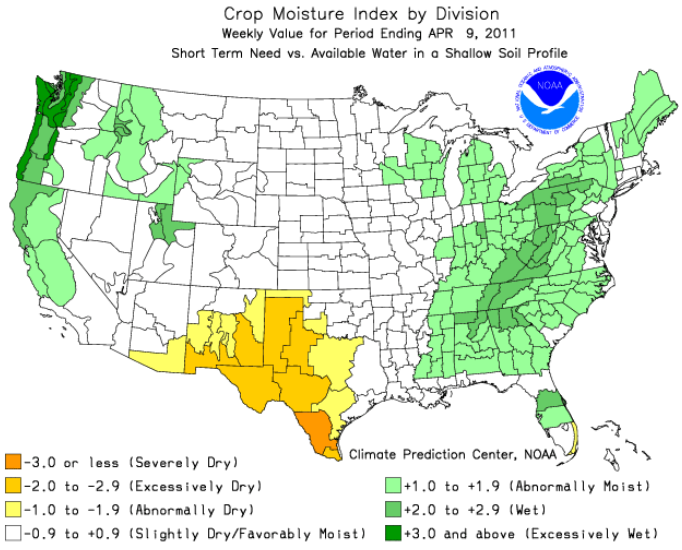
CROP REPORT

April 11, 2011 – It was another hot and dry week in Oklahoma. Most of Oklahoma is showing some degree of drought. The president of the Oklahoma Farm Bureau stated that due to the lack of precipitation, wheat producers are considering plowing under their fields and switching to another crop. Many grassfires were reported across the state in the past week. Governor Fallin extended a state of emergency for Oklahoma which followed the first emergency declaration made on March 11th. Additionally, a burn ban remains in effect for 47 of the state's 77 counties. Scattered rain showers were received last week with the state receiving a meager 0.19 of an inch of average precipitation. Topsoil and subsoil moisture conditions continue to suffer from lack of rainfall with only ten percent of topsoil and subsoil rated adequate. There were 6.5 days suitable for field work.

Signs of drought stress were evident throughout crop fields and the need for precipitation is critical. Wheat jointing was 85 percent complete by week's end, three points ahead of normal, and wheat headed reached eight percent complete. Rye jointing reached 95 percent complete by Sunday, 14 points ahead of normal, while rye headed reached 15 percent complete. Oats planted reached 91 percent complete and 27 percent were jointing by week's end. Canola blooming jumped significantly to 77 percent complete from 49 percent the previous week.

Producers continue to move forward with planting, however, some activities have been hindered as a result of dry soil conditions. Corn seedbeds prepared reached 83 percent complete with 24 percent of corn planted by Sunday. Sorghum seedbed preparation increased by four points to reach 51 percent complete, 20 points ahead of normal. Soybean seedbed preparation was 33 percent complete, five points behind normal. Peanut seedbeds prepared reached 58 percent complete by week's end, eight points ahead of the five-year average. Cotton seedbed preparation was 45 percent complete by Sunday, 15 points behind normal.

Both pasture and range conditions decreased from the previous week as a result of the extremely dry conditions. Livestock conditions were rated mostly in the good to fair range. Pond levels are low in many areas, forcing operators to utilize hay and feed supplements.



RESERVOIR STORAGE

- 21 reservoirs are currently operating at less than full capacity (compared to 18 three weeks ago).
- 23 reservoirs have experienced lake level decreases.

Storage in Selected Oklahoma Lakes & Reservoirs
April 11, 2011

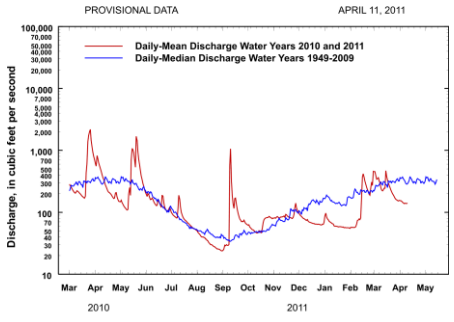
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 3/22/2011 (feet)	Current Elevation 4/11/2011 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2004.24	2004.33	0.09	619
Great Salt Plains	1125.00	1125.44	1125.39	(0.05)	3,273
Kaw*	1009.80	1008.93	1010.15	1.22	6,545
Northeast					
Birch	750.50	749.40	748.96	(0.44)	(1,724)
Copan	710.00	710.48	710.34	(0.14)	1,549
Fort Gibson	554.00	555.01	554.33	(0.68)	6,369
Grand*	742.00	743.26	741.96	(1.30)	(1,719)
Hudson	619.00	620.12	619.80	(0.32)	8,840
Hulah	733.00	733.17	733.13	(0.04)	425
Keystone*	723.00	723.25	721.20	(2.05)	(29,935)
Oologah*	638.00	639.38	638.18	(1.20)	5,696
Skiatook	714.00	709.41	708.99	(0.42)	(49,852)
West Central					
Canton	1615.40	1615.16	1615.43	0.27	238
Foss	1642.00	1640.89	1640.79	(0.10)	(8,041)
Central					
Arcadia	1006.00	1006.18	1005.94	(0.24)	(107)
Heyburn	761.50	761.79	761.48	(0.31)	(13)
Thunderbird	1039.00	1036.26	1035.89	(0.37)	(17,905)
East Central					
Eufaula*	585.00	581.48	581.58	0.10	(304,836)
Tenkiller	632.00	629.22	629.70	0.48	(29,090)
Southwest					
Fort Cobb	1342.00	1341.99	1341.90	(0.09)	(372)
Lugert-Altus	1559.00	1544.99	1545.29	0.30	(68,979)
Tom Steed	1411.00	1408.49	1408.13	(0.36)	(17,127)
South Central					
Arbuckle	872.00	871.29	870.96	(0.33)	(2,411)
McGee Creek**	175.90	175.39	175.31	(0.08)	(7,154)
Texoma*	615.00	614.02	613.69	(0.33)	(89,266)
Waurika*	951.40	950.44	950.20	(0.24)	(11,813)
Southeast					
Broken Bow*	600.10	591.74	591.66	(0.08)	(115,356)
Hugo*	406.00	404.89	404.90	0.01	(15,272)
Pine Creek*	433.00	433.54	432.87	(0.67)	(355)
Sardis	599.00	597.48	597.43	(0.05)	(20,769)
Wister	478.00	478.18	478.47	0.29	2,974

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

STREAMFLOW CONDITIONS

Baron Fork at Eldon

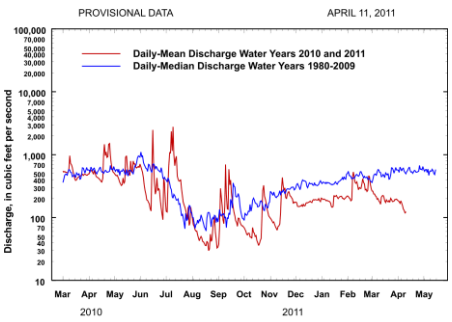
Baron Fork at Eldon, Oklahoma
Station No. 07197000 Northeast Oklahoma
Drainage Area 307 square miles



Comparison of daily discharges for waters year 2010 and 2011
and period of record
Data from U.S. Geological Survey

Canadian River at Purcell

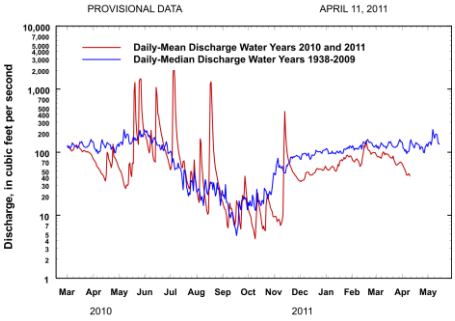
Canadian River at Purcell, Oklahoma
Station No. 07229200 Central Oklahoma
Drainage Area 25,939 square miles



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
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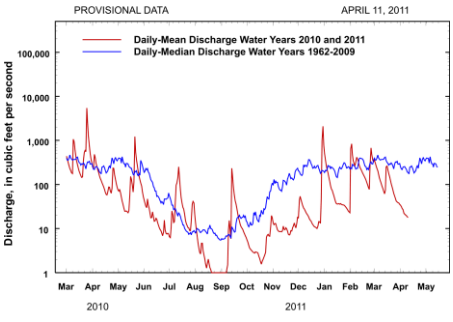
Data from U.S. Geological Survey

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
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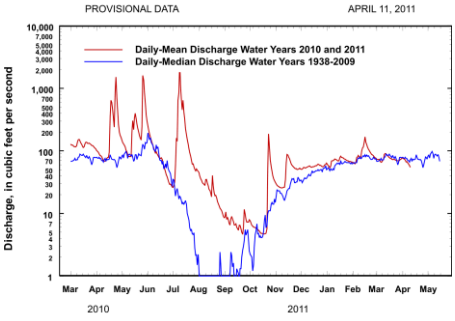
Data from U.S. Geological Survey

North Fork of the Red River near Carter

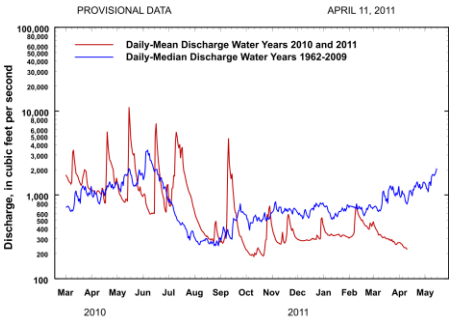
North Fork of the Red River near Carter, Oklahoma
Station No. 07301500 Southwest Oklahoma
Drainage Area 2,337 square miles



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
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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.
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