Oklahoma Water Resources Bulletin
& Summary of Current Conditions

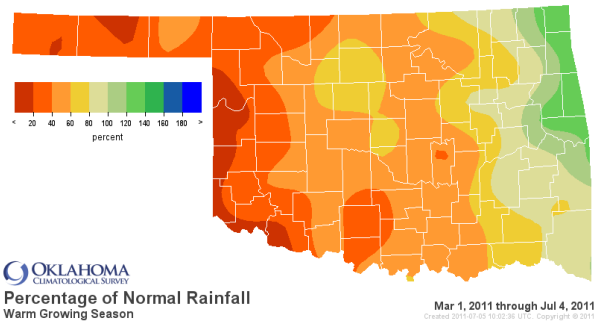
State of Oklahoma OWRB Water Resources Board the water agency

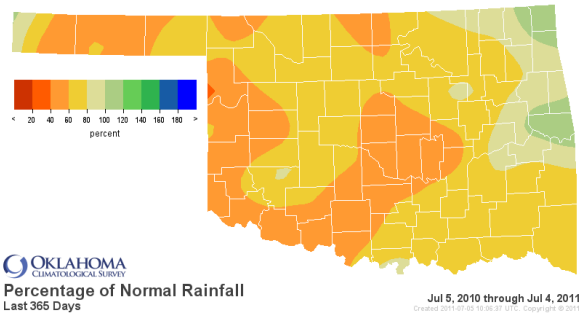
July 7, 2011

PRECIPITATION

Statewide Precipitation

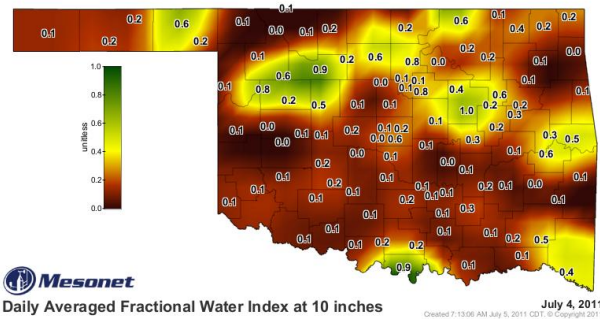
Climate Division	Warm Growing Season March 1 – July 4, 2011 Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921	Last 365 Days July 5, 2010 – July 4, 2011 Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921
Panhandle	2.58"	-7.53"	26%	1st driest	12.34"	-8.76"	59%	5th driest
North Central	7.04"	-7.64"	48%	4th driest	19.91"	-11.74"	63%	5th driest
Northeast	15.34"	-2.83"	84%	26th driest	34.70"	-7.27"	83%	26th driest
West Central	4.44"	-9.59"	32%	1st driest	16.06"	-13.03"	55%	2nd driest
Central	9.38"	-7.92"	54%	5th driest	22.74"	-15.25"	60%	2nd driest
East Central	18.26"	-1.29"	93%	42nd wettest	38.45"	-7.64"	83%	28th driest
Southwest	5.07"	-9.27"	35%	1st driest	19.24"	-11.56"	62%	4th driest
South Central	8.53"	-9.35"	48%	2nd driest	25.74"	-15.22"	63%	5th driest
Southeast	18.01"	-2.48"	88%	31st driest	37.35"	-13.59"	73%	8th driest
Statewide	9.80"	-6.50"	60%	5th driest	25.06"	-11.63"	68%	5th driest

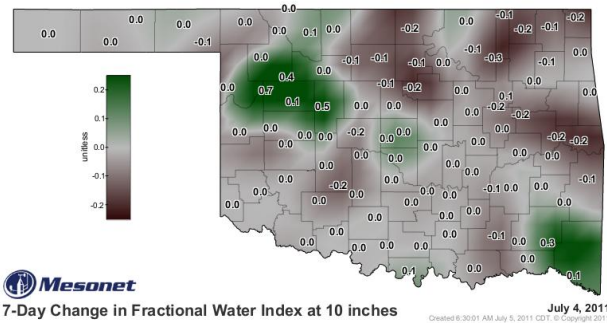




SOIL MOISTURE

Fractional Water Index[1]
July 4, 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] and Standardized Precipitation Index[2] Through June 2011

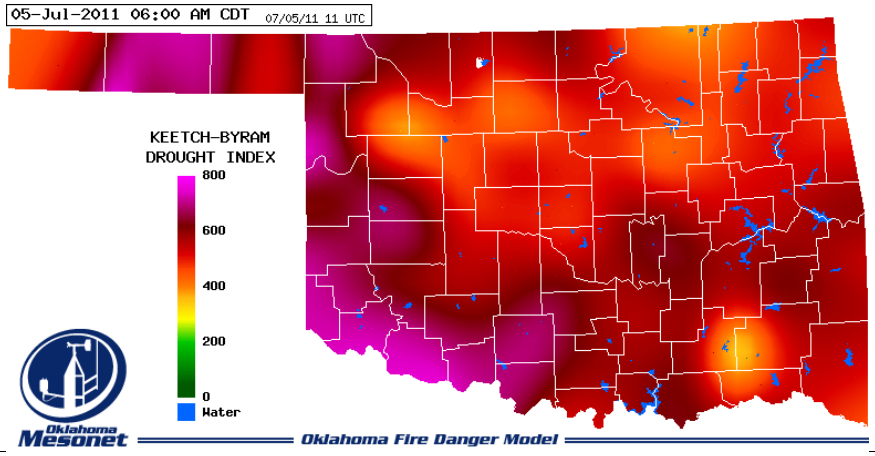
Climate Division	Current Status 7/2/2011	Value 7/2	Value 6/4	Change In Value	3-Month	6-Month	9-Month	12-Month
Northwest	EXTREME DROUGHT	-4.49	-3.05	**-1.44**	EXTREMELY DRY	EXCEPTIONALLY DRY	VERY DRY	VERY DRY
North Central	MODERATE DROUGHT	-2.84	-1.66	**-1.18**	VERY DRY	VERY DRY	VERY DRY	MODERATELY DRY
Northeast	MILD DROUGHT	-1.73	1.48	**-3.21**	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	NEAR NORMAL
West Central	EXTREME DROUGHT	-4.18	-2.76	**-1.42**	EXTREMELY DRY	EXTREMELY DRY	EXTREMELY DRY	VERY DRY
Central	SEVERE DROUGHT	-3.81	-1.88	**-1.93**	MODERATELY DRY	VERY DRY	VERY DRY	VERY DRY
East Central	MILD DROUGHT	-1.93	2.29	**-4.22**	NEAR NORMAL	NEAR NORMAL	VERY DRY	MODERATELY DRY
Southwest	EXTREME DROUGHT	-4.90	-3.35	**-1.55**	VERY DRY	EXTREMELY DRY	EXTREMELY DRY	MODERATELY DRY
South Central	EXTREME DROUGHT	-4.05	-2.34	**-1.71**	VERY DRY	EXTREMELY DRY	EXTREMELY DRY	VERY DRY
Southeast	MODERATE DROUGHT	-2.53	1.28	**-3.81**	NEAR NORMAL	MODERATELY DRY	VERY DRY	VERY DRY

- All nine climate divisions are currently experiencing drought conditions, according to the PDSI. The Southwest, Northwest, West Central and South Central climate divisions are in extreme drought.
- All nine climate divisions have undergone PDSI moisture decreases since June 4.
- All 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 7/4/2011
Altus	Jackson	Southwest	771
Grandfield	Tillman	Southwest	745
Arnett	Ellis	Panhandle	713

- Stations currently at or above 600 (July 4) = 27
- Stations above 600 on June 6 = 6



[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.*

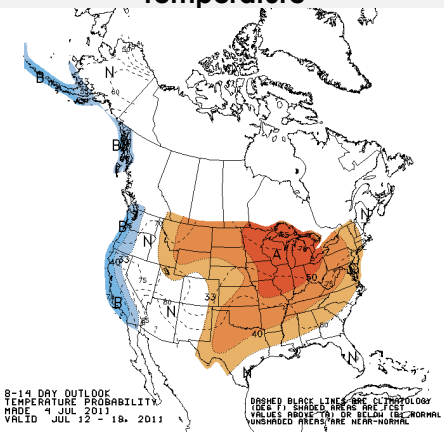
[2] *The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while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

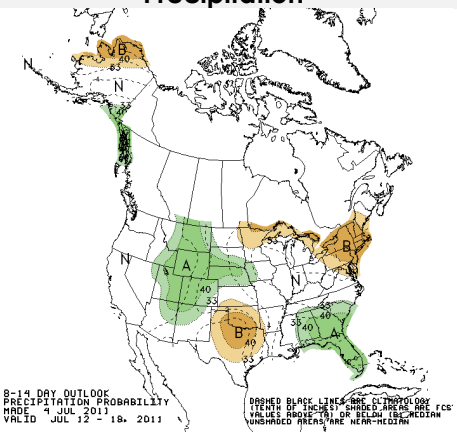
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
July 12-18, 2011

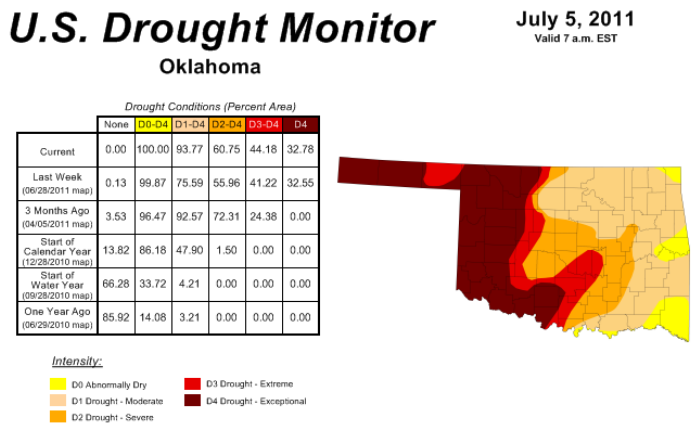
Temperature

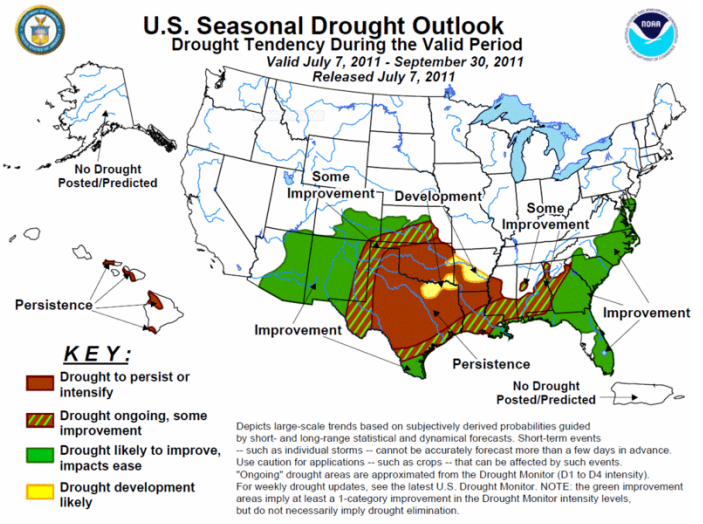


Precipitation



Regional Drought Summary & Outlook





July 5 – The latest U.S. Drought Monitor reports that strong high pressure in the upper levels of the atmosphere dominated the southern U.S. during the week. Tropical Storm Arlene rain brushed deep south Texas and monsoon showers picked up over parts of the southwest. Most of the southern Plains continued hot and dry, with much above-normal temperatures spreading across the central half of the country. Improvement of the D3 and D4 areas occurred over southern Texas where a month's worth of rain fell this week, especially in the Brownsville area. But conditions deteriorated elsewhere in Texas with D4 expanding to cover all of the panhandle as well as expanding in Harrison and Bosque counties, and D3 expanding in central Texas. In Oklahoma, the D0 hole was filled in over Garfield County, D1 expanded across eastern Oklahoma and adjoining southwest Arkansas, and D2-D3 expanded in south central to Southeast Oklahoma. D0 expanded in southeast Kansas where rainfall has been below normal and temperatures above normal for the last 1 to 4 weeks.

According to the latest Drought Outlook (June 2), ENSO-neutral conditions developed during the first part of June, but in the wake of the 2010-2011 La Nina, widespread drought developed and persisted across the southern tier of the U.S. Significantly, over 65 percent of the current drought areas are extreme or exceptional, with many areas experiencing record precipitation deficits. A dry climatology and expected above-median temperatures during the summer months across the southern Plains and lower Mississippi Valley limits opportunities for drought reduction there, with further development possible across portions of Texas and Arkansas where abnormal dryness is already present.

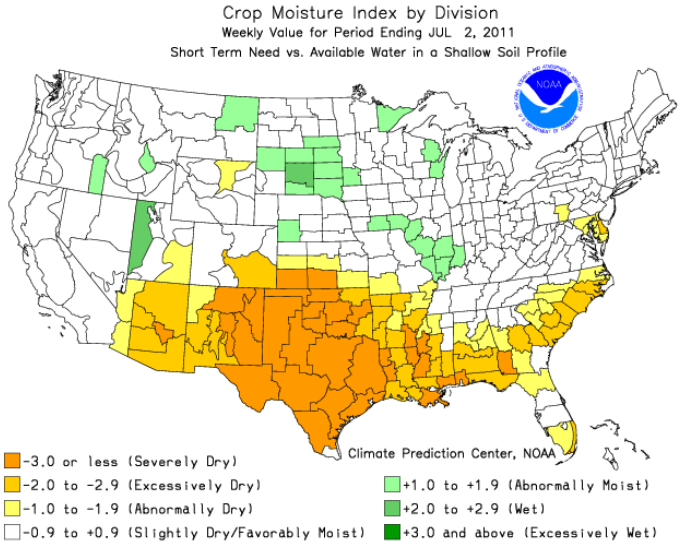
CROP REPORT

July 5, 2011 – Oklahoma received no relief from the stifling hot weather as average high temperatures ranged from 98 to 103 degrees. Oklahoma City tied the record for the most triple-digit June highs as the temperature reached 103 degrees on Monday. Additionally, Monday also marked the 27th day that Oklahoma City reached or exceeded 90 degrees during June, tying a 100-year old record. Burn bans were issued for Oklahoma, Cleveland, and Canadian Counties with extreme fire danger conditions possible in those areas. The U.S. Drought Monitor continued to show about one-third of the state experiencing D-4 or exceptional drought conditions. There was minimal rainfall during the week. Topsoil and subsoil moisture conditions were dismal and continue to suffer from the extreme heat. Both topsoil and subsoil moisture conditions were rated mostly short to very short, with the majority of the state rated very short. There were 6.5 days suitable for field work.

Virtually all harvest of the state's small grain crops was completed. Wheat ground plowed reached 60 percent complete by Sunday, up 16 points from the previous week and 19 points ahead of normal. Plowing of rye ground reached 58 percent complete, up 12 points from the previous week. Ninety-five percent of oats were harvested by Sunday, while 52 percent of the ground had been plowed, nine points ahead of normal.

Drought conditions continued to take a toll on most of the state's row crops with conditions rated mostly in the fair to poor range. Corn silking reached 69 percent complete by week's end. Sorghum planting was virtually complete, while 83 percent had emerged with nine percent of the crop heading. Planting of soybeans was also virtually complete, while 89 percent had emerged and nine percent was blooming. Peanuts emerged reached 94 percent complete and 29 percent were pegging by week's end, 19 points behind the five-year average. Cotton emerged reached 73 percent complete by Sunday while cotton squaring was seven percent complete, both behind the five-year average. By week's end, 80 percent of the watermelon crop was setting fruit, two points ahead of normal.

Second cuttings of alfalfa reached 77 percent complete and third cuttings reached seven percent complete. First cuttings of other hay reached 71 percent complete, on target with the five-year average. Conditions for all hay were rated mostly in the poor to very poor range. Hay supplies for the season were rated below average for 83 percent of the state. Pasture and range conditions were rated mostly poor to very poor. Despite the extremely hot weather, livestock conditions were rated mostly fair to good. Cattle have very little pasture to graze and pond levels are very low.



RESERVOIR STORAGE

- 24 reservoirs are currently operating at less than full capacity (compared to 15 four weeks ago).
- 28 reservoirs have experienced lake level decreases.

Storage in Selected Oklahoma Lakes & Reservoirs
July 5, 2011

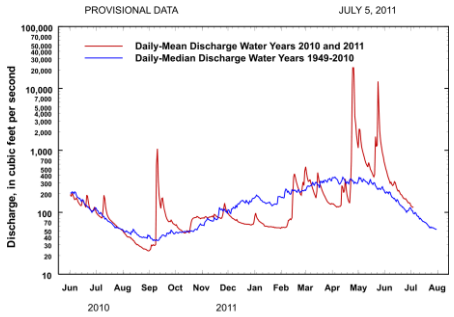
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 6/7/2011 (feet)	Current Elevation 7/5/2011 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2003.99	2003.51	(0.48)	(835)
Great Salt Plains	1125.00	1124.81	1124.39	(0.42)	(4,541)
Kaw*	1013.00	1011.02	1011.83	0.81	(21,491)
Northeast					
Birch	750.50	749.88	748.79	(1.09)	(1,906)
Copan	710.00	710.87	710.34	(0.53)	1,549
Fort Gibson	554.00	559.90	553.05	(6.85)	(17,765)
Grand*	744.00	744.06	744.06	0.00	2,760
Hudson	619.00	619.86	619.70	(0.16)	7,735
Hulah	733.00	733.23	733.44	0.21	1,440
Keystone*	723.00	724.31	721.45	(2.86)	(25,863)
Oologah*	638.00	641.00	638.17	(2.83)	5,379
Skiatook	714.00	708.46	707.08	(1.38)	(67,247)
West Central					
Canton	1615.40	1612.96	1611.01	(1.95)	(31,938)
Foss	1642.00	1639.78	1639.00	(0.78)	(19,470)
Central					
Arcadia	1006.00	1006.00	1005.57	(0.43)	(765)
Heyburn	761.50	761.59	760.93	(0.66)	(355)
Thunderbird	1039.00	1037.48	1036.57	(0.91)	(14,165)
East Central					
Eufaula*	585.00	587.21	584.63	(2.58)	(34,308)
Tenkiller	632.00	635.24	632.46	(2.78)	6,026
Southwest					
Fort Cobb	1342.00	1341.78	1340.83	(0.95)	(4,323)
Lugert-Altus	1559.00	1543.65	1537.09	(6.56)	(96,567)
Tom Steed	1411.00	1407.64	1406.60	(1.04)	(25,443)
South Central					
Arbuckle	872.00	870.81	869.66	(1.15)	(5,355)
McGee Creek**	175.90	176.11	175.87	(0.24)	(364)
Texoma*	619.00	615.98	614.48	(1.50)	(332,914)
Waurika*	951.40	950.26	949.42	(0.84)	(19,115)
Southeast					
Broken Bow*	602.50	602.93	601.13	(1.80)	(19,908)
Hugo*	407.20	407.84	406.52	(1.32)	(10,260)
Pine Creek*	433.00	433.07	431.57	(1.50)	(3,831)
Sardis	599.00	598.98	598.43	(0.55)	(7,632)
Wister	478.00	480.15	478.50	(1.65)	3,164

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

STREAMFLOW CONDITIONS

Baron Fork at Eldon

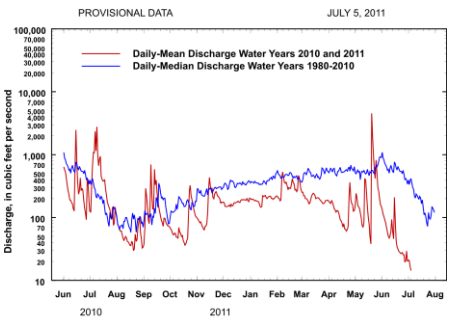
Baron Fork at Eldon, Oklahoma
Station No. 07197000 Northeast Oklahoma
Drainage Area 307 square miles



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
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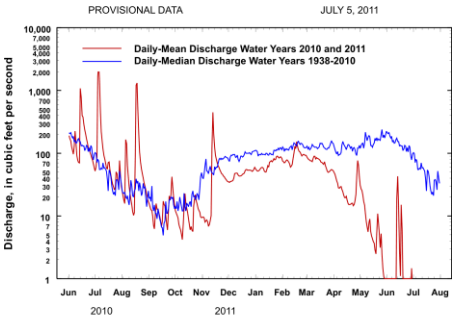
Data from U.S. Geological Survey

Cimarron River near Waynoka

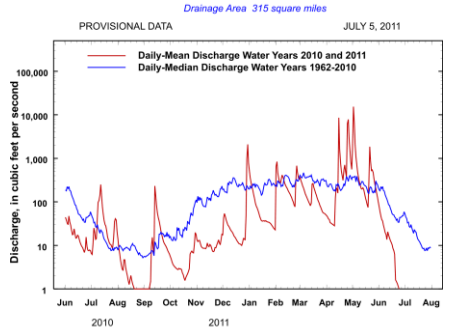
Cimarron River near Waynoka, Oklahoma
Station No. 07158000 Northwest Oklahoma
Drainage Area 13,334 square miles



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

Glover River near Glover

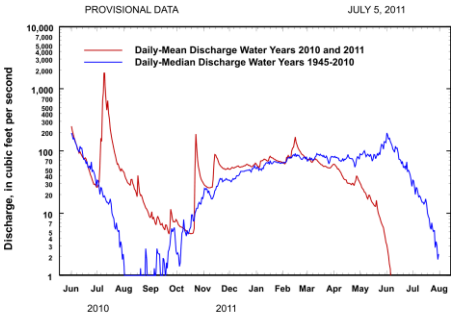
Glover River near Glover, Oklahoma
Station No. 07337900 Southeast Oklahoma
Drainage Area 315 square miles



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

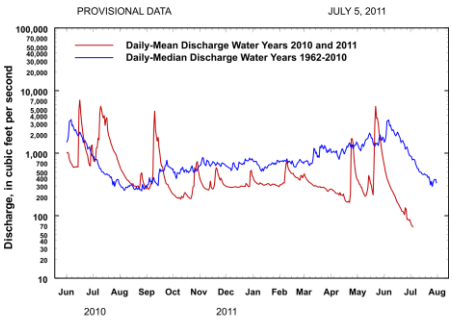
North Fork of the Red River near Carter, Oklahoma
Station No. 07301500 Southwest Oklahoma
Drainage Area 2,337 square miles



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
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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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