Oklahoma Water Resources Bulletin & Summary of Current Conditions

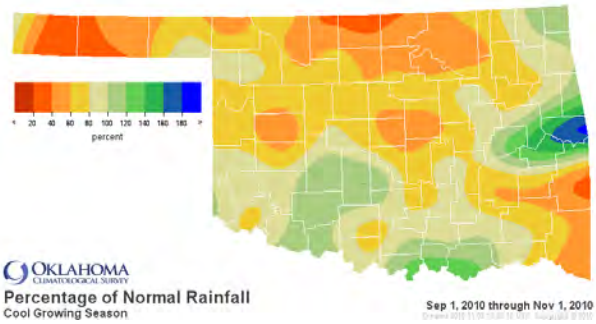
State of Oklahoma OWRB Water Resources Board the water agency

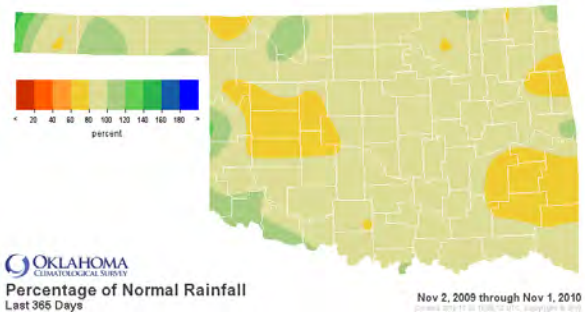
November 4, 2010

PRECIPITATION

Statewide Precipitation

Climate Division	Cool Growing Season September 1 – November 1, 2010				Last 365 Days November 2, 2009 – November 1, 2010			
	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	1.97"	-1.45"	58%	21st driest	19.21"	-1.89"	91%	37th driest
North Central	3.23"	-2.63"	55%	24th driest	27.84"	-3.81"	88%	40th driest
Northeast	6.36"	-2.17"	75%	33rd driest	37.12"	-4.85"	88%	35th driest
West Central	3.93"	-1.72"	70%	33rd driest	22.76"	-6.33"	78%	25th driest
Central	5.77"	-2.09"	73%	35th driest	33.42"	-4.57"	88%	36th driest
East Central	9.97"	+0.60"	106%	30th wettest	38.27"	-7.82"	83%	23rd driest
Southwest	6.16"	-0.26"	96%	39th wettest	28.37"	-2.43"	92%	42nd driest
South Central	7.80"	-0.89"	90%	43rd wettest	35.16"	-5.80"	86%	30th driest
Southeast	6.48"	-3.22"	67%	30th driest	38.38"	-12.56"	75%	12th driest
Statewide	5.73"	-1.56"	79%	35th driest	31.33"	-5.36"	85%	28th driest

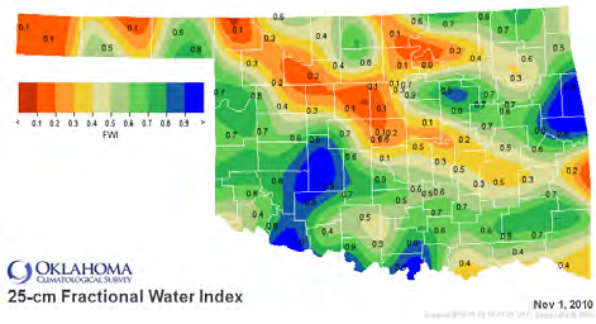


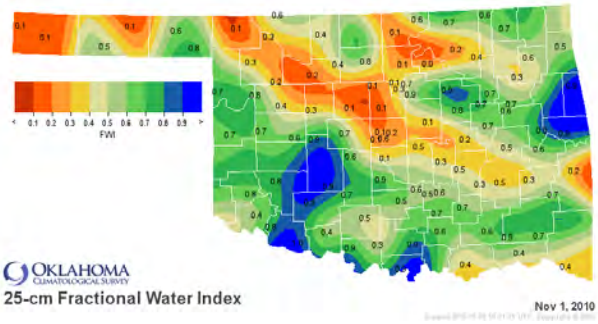


SOIL MOISTURE

Fractional Water Index[1] November 1, 2010

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. Specifically, 1.0 to 0.8 equals Enhanced Growth, 0.8 to 0.5 equals Limited Growth, 0.5 to 0.3 equals Plants Wilting, 0.3 to 0.1 equals Plants Dying, and less than 0.1 equals Barren Soil.

DROUGHT INDICES

Palmer Drought Severity Index[1]

CLIMATE DIVISION	CURRENT STATUS 10/30/2010	VALUE 10/30	VALUE 10/2	CHANGE IN VALUE
Northwest	INCIPIENT DROUGHT	-0.65	-0.98	**0.33**
North Central	MOIST SPELL	1.23	2.07	**-0.84**
Northeast	NEAR NORMAL	-0.15	0.76	**-0.91**
West Central	NEAR NORMAL	-0.29	-1.04	**0.75**
Central	NEAR NORMAL	0.46	1.04	**-0.58**
East Central	INCIPIENT MOIST SPELL	0.53	1.30	**-0.77**
Southwest	MOIST SPELL	1.15	0.82	**0.33**
South Central	NEAR NORMAL	0.38	0.62	**-0.24**
Southeast	MILD DROUGHT	-1.64	-1.45	**-0.19**

Standardized Precipitation Index[2] Through September 2010

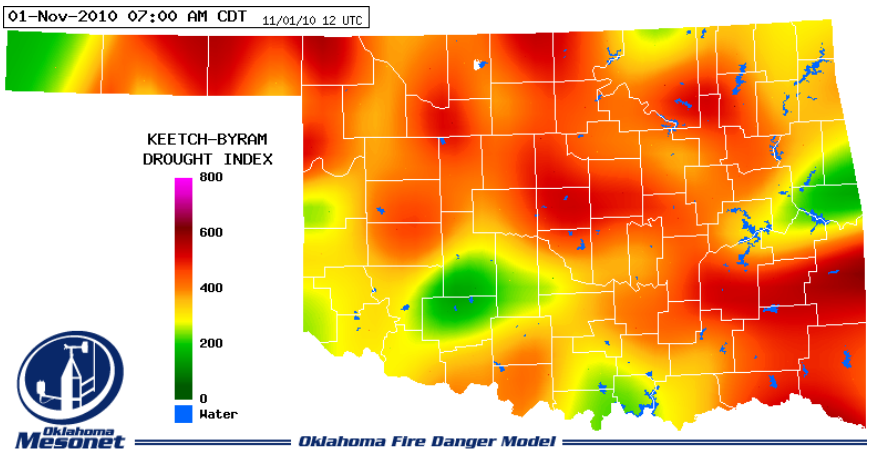
3-MONTH	6-MONTH	9-MONTH	12-MONTH
NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
NEAR NORMAL	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL

- Only one climate division (the Southeast) is currently experiencing drought conditions, according to the PDSI.
- Six climate divisions have undergone PDSI moisture decreases since October 2.
- Only one climate division (the Southeast) is experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index[3]

MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 11/4/2010
Claremore	Rogers	Northeast	618
Idabel	McCurtain	Southeast	583
Fairview	Major	North Central	568

- Stations currently at or above 600 (November 4) = 1
- Stations above 600 on October 4 = 5



[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.

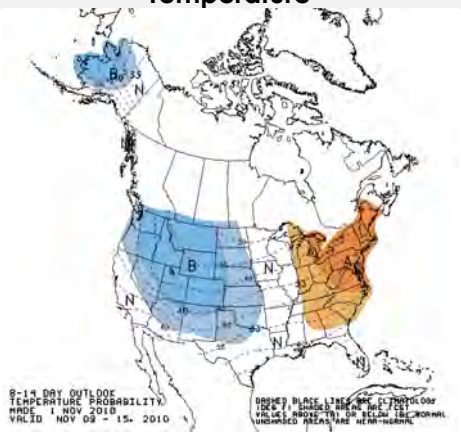
[2] The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while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

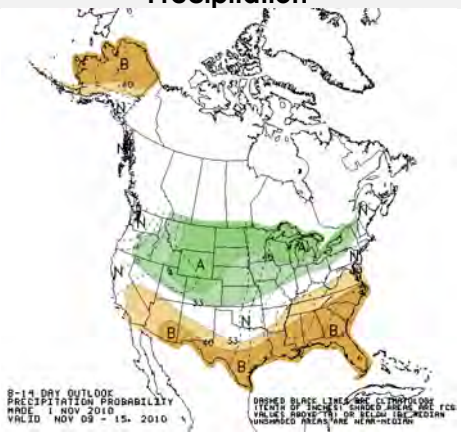
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
November 9 – 15, 2010

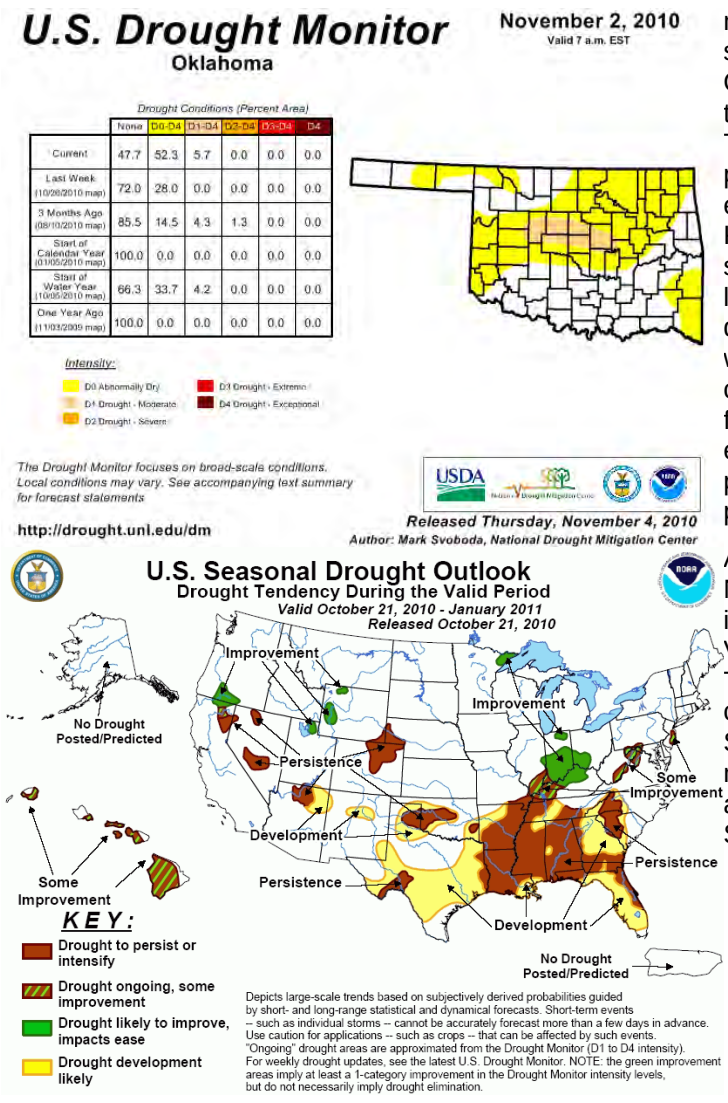
Temperature



Precipitation



Regional Drought Summary & Outlook



November 2 – The latest U.S. Drought Monitor reports that most of the central plains remain unchanged this week. A small amount of D0 has moved over the border from Oklahoma into southeastern Kansas. Dry weather dominated the landscape last week for all but parts of southeastern Texas (3-4 inches in and around the Houston metro and points north and east of the vicinity). In Oklahoma, D0 expands mostly to the north and east into southeastern Kansas and extreme southwestern Missouri. As we move south into Texas, it was more of a mixed bag with heavy rains leading to 1- to 2-category improvements (D1 to no dryness/drought locally) in and around the Houston vicinity where the heaviest rains (3-5 inches or more) fell. In general, conditions eased somewhat as you moved north and east from there toward Louisiana, with a trimming on the south edge of the D1. As for the rest of Texas, expansion is on the plate this week with a push of D0 north toward Dallas and a push south along the Rio Grande toward Brownsville.

According to the Drought Outlook (October 21), the November 2010 - January 2011 periods indicates drought improvement for the Northwest, upper Midwest, and Ohio Valley, with some improvement in the mid-Atlantic, Tennessee Valley, northern California, and Hawaii. Drought conditions are likely to continue in the Southeast and Southwest, with drought expected to develop and expand into much of the Southeast not currently in moderate drought, along with parts of the southern Plains and portions of the Southwest.

CROP REPORT

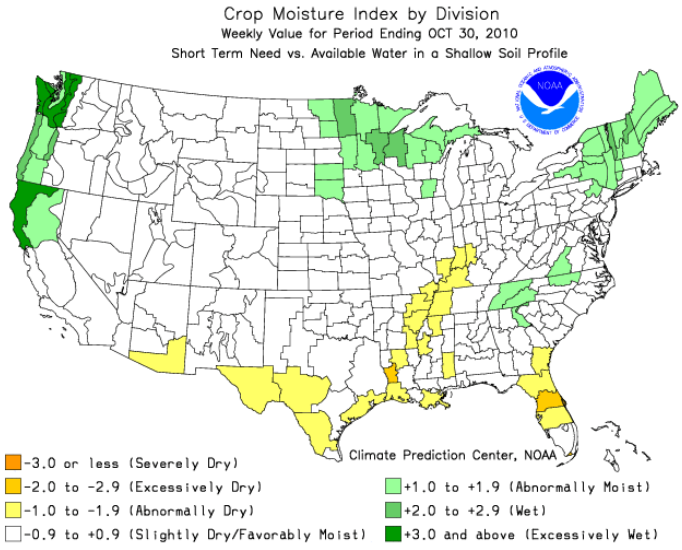
November 1, 2010 – The mild temperatures and lack of rain allowed the harvest of row crops to continue making ample progress. However, the same conditions have interfered with fall planting and hurt the prospects of winter forage. Topsoil moisture conditions improved slightly from the previous week with 52 percent rated adequate. Subsoil moisture conditions were rated mostly in the adequate to short range, with 19 percent rated very short. There were 6.0 days suitable for field work.

Conditions are mostly in the good to fair range, but more moisture is needed to finish planting and ensure good forage. Wheat seeding was 93 percent complete at the end of the week, while 75 percent of wheat had emerged by Sunday. Ninety-two percent of rye had emerged by week's end. Eighty-three percent of oat seedbeds were prepared by Sunday while 53 percent of oats were planted and 46 percent had emerged. Canola planting was 93 percent complete and 80 percent of canola plants had emerged by week's end, both increasing two points from the previous week.

The fall harvest is ahead of normal for all row crops. The dry weather also provided an improvement in the cotton condition ratings. The sorghum harvest reached 78 percent complete by Sunday, an increase of 23 points from the previous week and 34 points ahead of normal. Ninety percent of soybeans were mature by week's end and 63 percent of the crop had been harvested, 11 points ahead of the five-year average. Ninety-one percent of the state's peanuts had been dug by Sunday, and 80 percent of the peanut crop was combined, 21 points ahead of normal. The cotton harvest was 49 percent complete by Sunday, 17 points ahead of the five-year average.

Second cutting of other hay was 93 percent complete by Sunday. Alfalfa fifth cutting was 81 percent complete and the sixth cutting reached 22 percent complete by week's end.

Pasture and range conditions remained mostly in the good to fair range, with 22 percent rated poor to very poor. Fields are still in need of additional moisture for winter pasture. Livestock conditions rated mostly in the good to fair range with eight percent rated excellent.



RESERVOIR STORAGE

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

Storage in Selected Oklahoma Lakes & Reservoirs
November 1, 2010

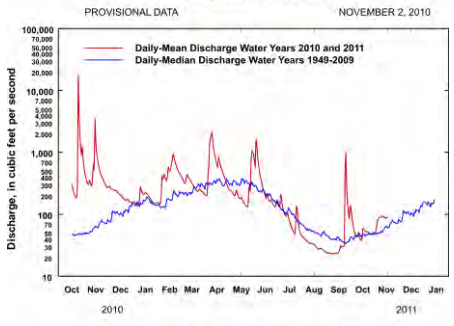
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 10/06/2010 (feet)	Current Elevation 11/01/2010 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2003.51	2003.34	(0.17)	(1,125)
Great Salt Plains	1125.00	1125.17	1125.17	0.00	1,427
Kaw*	1008.90	1007.99	1009.02	1.03	1,545
Northeast					
Birch	750.50	749.73	749.16	(0.57)	(1,504)
Copan	710.00	709.82	709.34	(0.48)	(2,573)
Fort Gibson	554.00	553.06	552.66	(0.40)	(24,820)
Grand*	742.00	741.03	741.41	0.38	(25,371)
Hudson	619.00	619.06	618.98	(0.08)	(214)
Hulah	733.00	733.22	732.67	(0.55)	(999)
Keystone*	723.00	723.04	721.43	(1.61)	(26,195)
Oologah*	638.00	638.11	637.68	(0.43)	(9,666)
Skiatook	714.00	711.53	710.77	(0.76)	(32,888)
West Central					
Canton	1615.40	1614.72	1614.44	(0.28)	(7,456)
Foss	1642.00	1640.79	1640.57	(0.22)	(9,467)
Central					
Arcadia	1006.00	1005.77	1005.53	(0.24)	(837)
Heyburn	761.50	760.73	760.32	(0.41)	(716)
Thunderbird	1039.00	1037.59	1037.18	(0.41)	(10,756)
East Central					
Eufaula*	585.00	584.66	583.55	(1.11)	(133,170)
Tenkiller	632.00	632.52	630.33	(2.19)	(21,341)
Southwest					
Fort Cobb	1342.00	1341.16	1341.11	(0.05)	(3,311)
Lugert-Altus	1559.00	1539.64	1540.28	0.64	(86,798)
Tom Steed	1411.00	1409.10	1409.48	0.38	(9,342)
South Central					
Arbuckle	872.00	871.97	871.63	(0.34)	(858)
McGee Creek**	175.90	175.65	175.54	(0.11)	(4,365)
Texoma*	618.50	616.25	616.74	0.49	(133,072)
Waurika*	951.40	951.17	951.17	0.00	(2,332)
Southeast					
Broken Bow*	599.50	592.80	592.29	(0.51)	(98,808)
Hugo*	406.00	401.54	401.00	(0.54)	(65,725)
Pine Creek*	433.00	432.62	431.54	(1.08)	(3,908)
Sardis	599.00	597.58	597.39	(0.19)	(21,287)
Wister	478.00	477.03	476.97	(0.06)	(6,024)

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

STREAMFLOW CONDITIONS

Baron Fork at Eldon

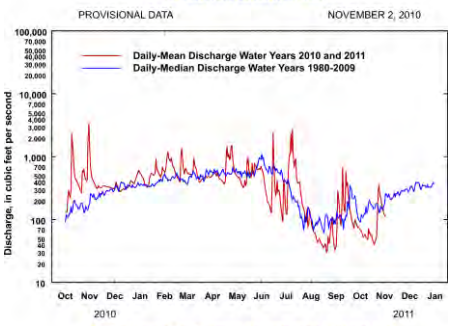
Baron Fork at Eldon, Oklahoma
Station No. 07197000 Northeast Oklahoma
Drainage Area 307 square miles



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

Canadian River at Purcell

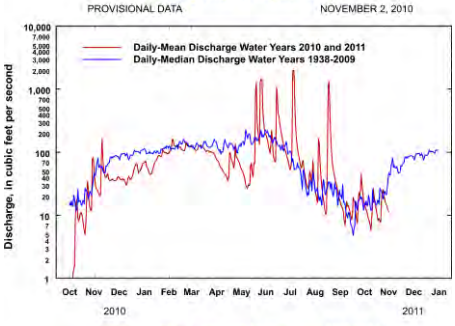
Canadian River at Purcell, Oklahoma
Station No. 07229200 Central Oklahoma
Drainage Area 25,939 square miles



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

Cimarron River near Waynoka

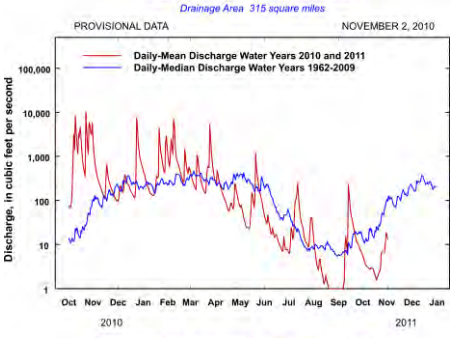
Cimarron River near Waynoka, Oklahoma
Station No. 07158000 Northwest Oklahoma
Drainage Area 13,334 square miles



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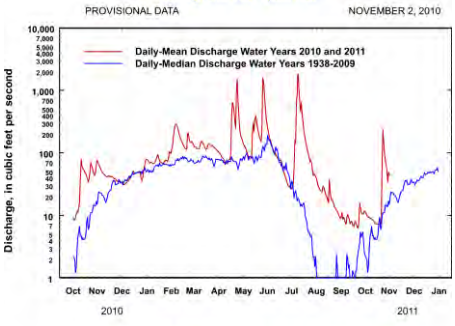
Data from U.S. Geological Survey

North Fork of the Red River near Carter

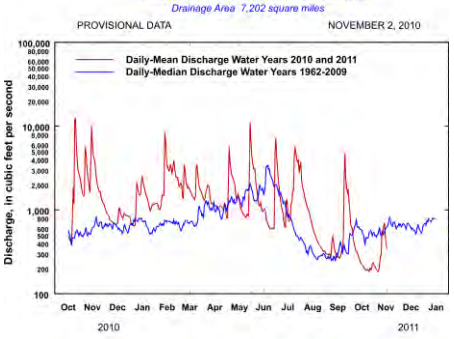
North Fork of the Red River near Carter, Oklahoma
Station No. 07301500 Southwest Oklahoma
Drainage Area 2,337 square miles



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
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.
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