

Oklahoma Water Resources Bulletin & Summary of Current Conditions

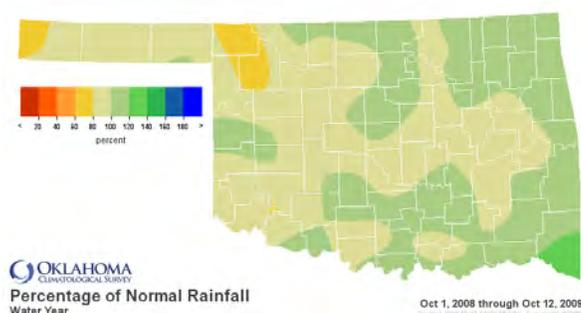
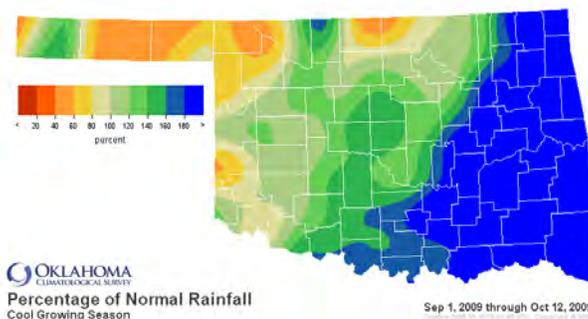


October 15, 2009

PRECIPITATION

Statewide Precipitation

CLIMATE DIVISION	Cool Growing Season September 1—October 12, 2009				Water Year October 1, 2008—October 12, 2009			
	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	1.60"	-0.87"	65%	26th driest	17.65"	-4.03"	81%	23rd driest
North Central	3.83"	-0.33"	92%	43rd wettest	30.46"	-2.22"	93%	42nd wettest
Northeast	10.81"	+4.63"	175%	8th wettest	46.04"	+2.67"	106%	23rd wettest
West Central	4.26"	+0.24"	106%	33rd wettest	28.71"	-1.37"	95%	34th wettest
Central	7.83"	+2.31"	142%	15th wettest	37.92"	-1.49"	96%	32nd wettest
East Central	13.15"	+6.53"	199%	3rd wettest	46.31"	-1.44"	97%	44th wettest
Southwest	5.34"	+0.80"	118%	30th wettest	29.00"	-2.95"	91%	43rd wettest
South Central	10.90"	+4.92"	182%	3rd wettest	43.13"	+0.52"	101%	27th wettest
Southeast	14.62"	+8.13"	225%	1st wettest	58.88"	+6.02"	111%	16th wettest
Statewide	7.99"	+2.88"	156%	10th wettest	37.44"	-0.55"	99%	38th wettest

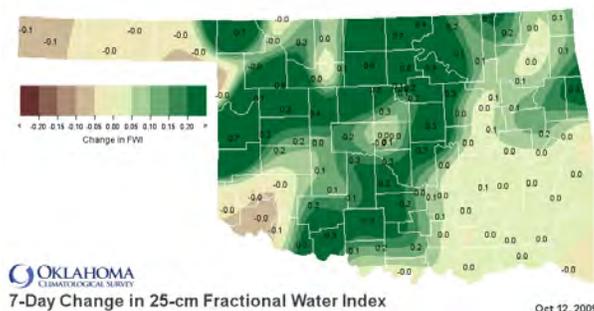
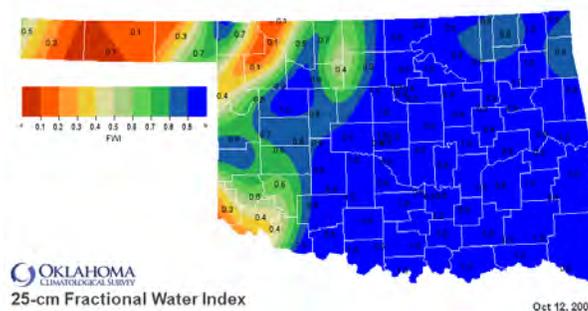


SOIL MOISTURE

Fractional Water Index¹

October 12, 2009

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 Wilted, 0.3 to 0.1 equals Plants Dying, and less than 0.1 equals Barren Soil.

DROUGHT INDICES

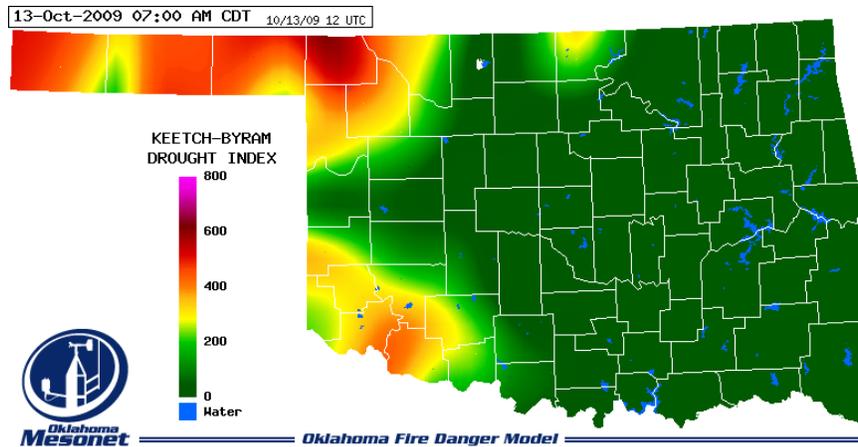
Palmer Drought Severity Index ¹					Standardized Precipitation Index ² Through September 2009			
CLIMATE DIVISION	CURRENT STATUS 10/10/2009	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		10/10	9/12					
Northwest	NEAR NORMAL	0.17	0.18	-0.01	MODERATELY DRY	MODERATELY DRY	MODERATELY DRY	NEAR NORMAL
North Central	VERY MOIST SPELL	3.35	3.14	0.21	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	VERY MOIST SPELL	3.44	2.51	0.93	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
West Central	UNUSUAL MOIST SPELL	2.76	2.38	0.38	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	UNUSUAL MOIST SPELL	2.69	1.60	1.09	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
East Central	VERY MOIST SPELL	3.34	1.35	1.99	MODERATELY WET	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
Southwest	MOIST SPELL	1.83	1.23	0.60	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	UNUSUAL MOIST SPELL	2.56	0.95	1.61	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
Southeast	EXTREME MOIST SPELL	4.44	1.58	2.86	MODERATELY WET	MODERATELY WET	NEAR NORMAL	NEAR NORMAL

- No climate divisions are currently experiencing drought conditions, according to the PDSI.
- One climate division has undergone a PDSI moisture decrease since September 12.
- One climate division (the Northwest) is experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index³

MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 10/12/2009
Buffalo	Harper	Northwest	577
Kenton	Cimarron	Northwest	497
Beaver	Beaver	Northwest	487

- Stations currently at or above 600 (October 12) = 0
- Stations above 600 on September 14 = 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.

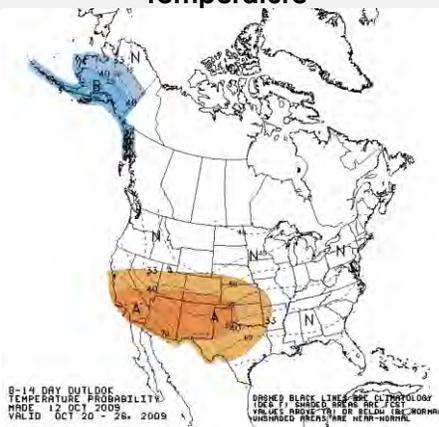
² The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the 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 October 20-26, 2009

Temperature



Precipitation



Regional Drought Summary & Outlook

U.S. Drought Monitor Oklahoma

October 13, 2009
Valid 7 a.m. EST

	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	D4
Current	99.8	0.3	0.0	0.0	0.0	0.0	0.0
Last Week (11/09/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0	0.0
3 Months Ago (8/7/21/2009 map)	31.1	68.9	24.1	0.0	0.0	0.0	0.0
Start of Calendar Year (3/1/09/2009 map)	41.6	58.4	12.0	3.4	0.0	0.0	0.0
Start of Water Year (11/01/2008 map)	98.0	2.0	0.0	0.0	0.0	0.0	0.0
One Year Ago (11/14/2008 map)	83.8	16.2	4.0	0.0	0.0	0.0	0.0



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>

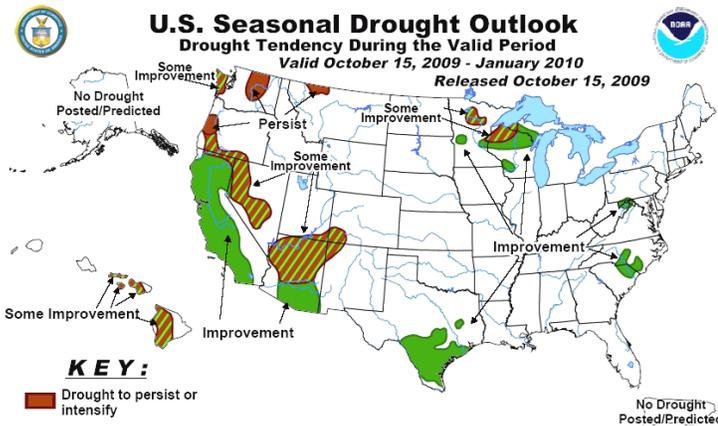
USDA
 Released Thursday, October 15, 2009
 Author: R. Tinker, CPC/NOAA

October 13—The latest U.S. Drought Monitor reports that moderate precipitation eliminated D0 conditions in northwestern Oklahoma. Further south, one to three inches of rain fell on the D0 and D1 areas in north-central Texas, eradicating moderate drought for the time being and cutting the area of abnormal dryness approximately in half. Meanwhile, a few inches of rain brought an end to D0 conditions in west-central Louisiana and adjacent Texas. In the large, protracted, but recently improving area of dryness and drought covering most of central and southern Texas, another week of widespread moderate to heavy rains brought additional improvements to north-central and northeastern parts of the region while substantial totals generally declined and became more scattered in areas farther south and west.

According to the Drought Outlook (October 15), heavy rains and mountain snows during the first half of October brought significant relief to many of the drought areas across the country, especially California. Much of Texas has seen elimination of short-term drought conditions due to the recent rains, though longer-term, hydrologic impacts will remain for a while, especially in southern Texas. A series of frontal systems have brought heavy rains to the East Coast states, resulting in substantial mitigation of drought conditions. The same is true of the upper Midwest, though long-term drought areas still need significant rain or snow. For the most part, improvement is forecast for areas east of the Rockies during the Outlook period. West of the Divide, the situation is less clear.

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period
 Valid October 15, 2009 - January 2010
 Released October 15, 2009



KEY:

- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. *Ongoing* drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

CROP REPORT

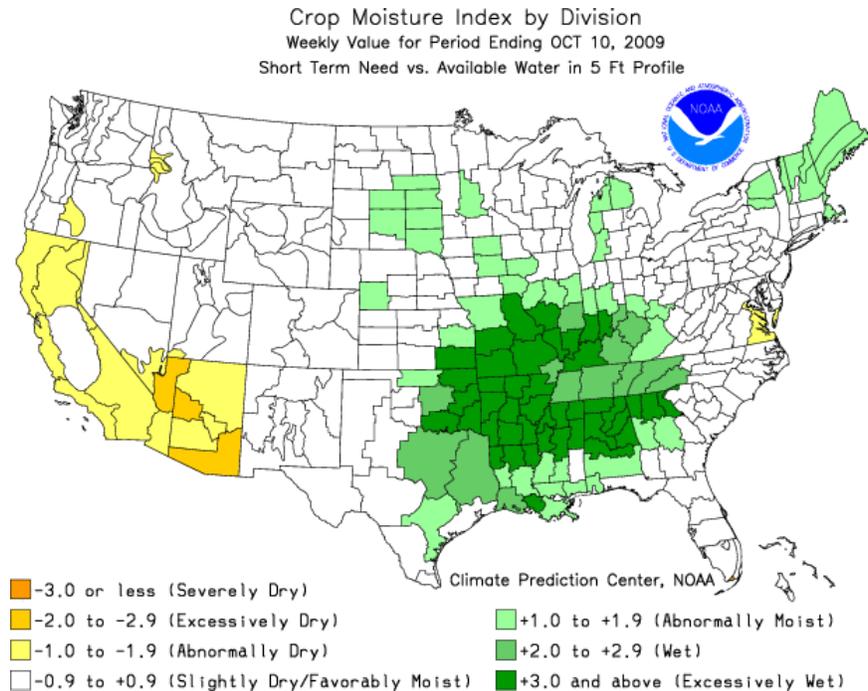
October 13, 2009—Heavy rain and severe storms during the week were followed by a cold weekend in Oklahoma. At least three Mesonet stations recorded over six inches of rainfall. The weekend brought unseasonably cold weather, as a freeze warning was issued for the Panhandle along with a few other counties. Soil moisture conditions improved significantly from the previous week due to the saturating rains, as topsoil was rated 30 percent surplus and subsoil 14 percent surplus. Due to the wet weather, there were only 2.8 days suitable for field work.

Oklahoma producers continued to make progress on small grain plantings, despite the rainy weather. Wheat seedbed preparation reached 95 percent complete, while wheat seedings increased 12 points from last week to reach 68 percent complete, three points behind normal. Nearly half of the state's wheat had emerged by week's end, up 20 points from the previous week. Rye plantings were nearing completion at 93 percent, while 78 percent of the crop had emerged, 11 points ahead of normal. Oat seedbed preparation was at 79 percent, while 36 percent of the oats were planted by week's end, two points ahead of normal. Oats emerged reached 21 percent complete, five points ahead of the five-year average.

Despite several days of rain, harvest activities continued in some areas. Conditions for all row crops continue to rate mostly in the good to fair range. Ninety-four percent of the state's corn had reached maturity by Sunday, up two points from the previous week but four points behind normal. Nearly two-thirds of the corn was harvested by week's end, a 12 point jump from the prior week but still 21 points behind the five-year average. Sorghum coloring reached 96 percent complete by Sunday, while 45 percent had reached maturity, 15 points behind normal. Seventeen percent of the state's sorghum was harvested this past week, well behind the five-year average. Soybeans at maturity reached 47 percent, up seven points from the prior week but 16 points behind normal. By week's end, 16 percent of soybeans had been harvested, up three points from last week but 19 points behind the five-year average. Peanuts at maturity reached 70 percent complete, up ten points from the previous week. By Sunday, 32 percent of the peanuts had been dug while 16 percent had been combined, both on pace with the five-year average. Cotton opening bolls was nearing completion at 89 percent complete, four points behind last year. A small portion of the state's cotton was harvested by week's end.

Wet weather brought haying activities to a halt in some areas last week. As of Sunday, fourth cuttings of alfalfa were virtually complete, while fifth cuttings were 52 percent complete, up five points from last week but 20 points behind normal. Sixth cuttings of alfalfa had begun in some areas. Conditions of alfalfa continued to rate mostly in the good to fair range. Producers made a second cutting on 78 percent of other hay, up four points from the prior week but five points behind normal.

Several days of soaking rains aided pasture and range conditions, rating mostly in the good to fair range. Armyworm damage is being reported in Bermuda grasses and pastures. Livestock conditions rated mostly in the good to fair range. Average livestock marketings were reported last week.



RESERVOIR STORAGE

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

Storage in Selected Oklahoma Lakes & Reservoirs					
October 13, 2009					
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 09/15/2009 (feet)	Current Elevation 10/13/2009 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2002.74	2002.65	(0.09)	(2,258)
Great Salt Plains	1125.00	1126.24	1125.36	(0.88)	3,021
Kaw*	1008.00	1009.20	1009.35	0.15	21,990
Northeast					
Birch	750.50	750.39	752.74	2.35	2,351
Copan	710.00	711.72	714.31	2.59	24,482
Fort Gibson	554.00	557.94	570.23	12.29	420,257
Grand*	741.00	746.75	749.09	2.34	376,591
Hudson	619.00	622.97	625.59	2.62	79,484
Hulah	733.00	733.17	737.04	3.87	21,785
Keystone*	723.00	726.53	729.98	3.45	165,575
Oologah*	638.00	645.61	644.31	(1.30)	217,624
Skiatook	714.00	712.99	714.07	1.08	766
West Central					
Canton	1615.40	1614.56	1614.29	(0.27)	(8,602)
Foss	1642.00	1641.03	1640.20	(0.83)	(11,864)
Central					
Arcadia	1006.00	1006.74	1007.96	1.22	3,703
Heyburn	761.50	760.99	762.01	1.02	516
Thunderbird	1039.00	1038.35	1038.98	0.63	(120)
East Central					
Eufaula*	585.00	584.86	589.97	5.11	520,450
Tenkiller	632.00	634.22	645.36	11.14	187,916
Southwest					
Fort Cobb	1342.00	1342.68	1342.33	(0.35)	1,285
Lugert-Altus	1559.00	1534.13	1534.14	0.01	(104,514)
Tom Steed	1411.00	1406.94	1406.67	(0.27)	(25,075)
South Central					
Arbuckle	872.00	871.81	875.29	3.48	8,042
McGee Creek**	175.90	175.84	177.76	1.92	24,904
Texoma*	617.30	616.08	617.85	1.77	43,455
Waurika*	951.40	950.77	950.96	0.19	(4,443)
Southeast					
Broken Bow*	601.30	598.72	605.40	6.68	59,886
Hugo*	405.10	404.11	416.52	12.41	197,488
Pine Creek*	438.00	440.13	450.80	10.67	67,156
Sardis	599.00	598.85	602.01	3.16	43,044
Wister	478.00	477.85	491.05	13.20	138,492

* indicates seasonal pool operation

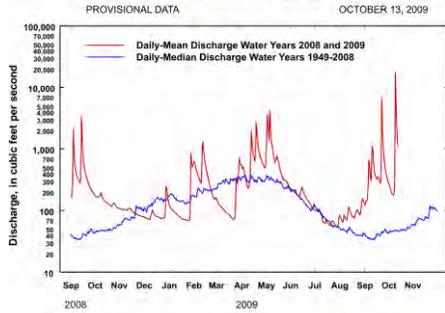
** elevation in meters

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

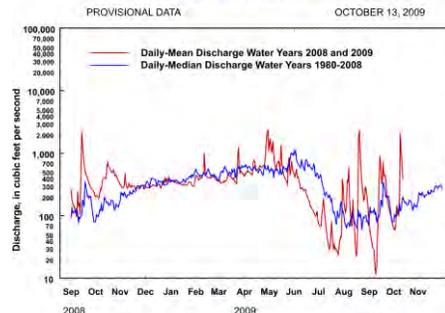


Comparison of daily discharges for water years 2008 and 2009 and period of record

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

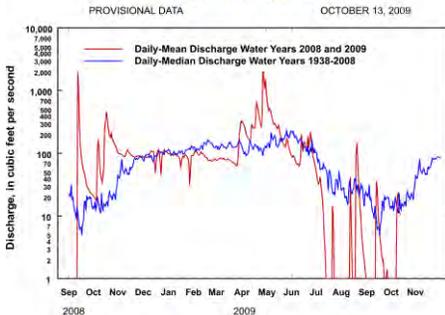


Comparison of daily discharges for water years 2008 and 2009 and period of record

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

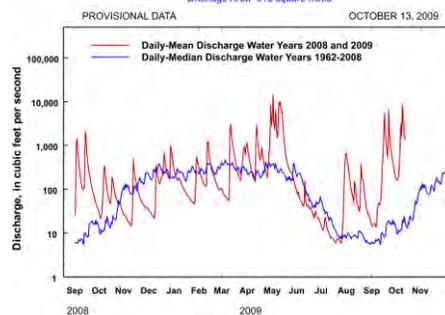


Comparison of daily discharges for water years 2008 and 2009 and period of record

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

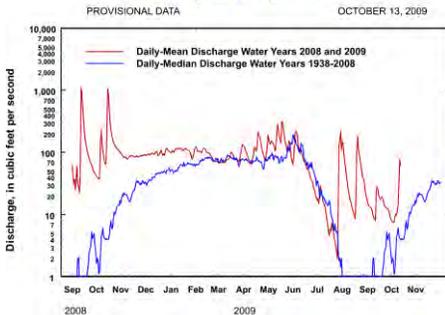


Comparison of daily discharges for water years 2008 and 2009 and period of record

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

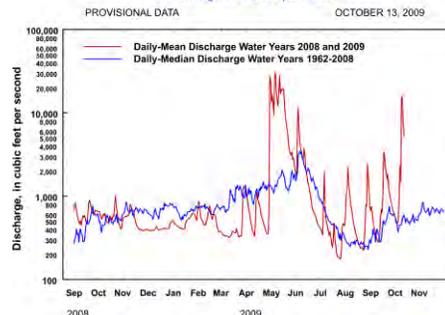


Comparison of daily discharges for water years 2008 and 2009 and period of record

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 2008 and 2009 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.