Oklahoma Water Resources Bulletin
& Summary of Current Conditions

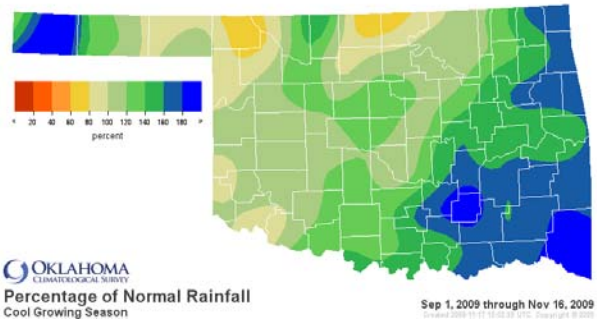
State of Oklahoma OWRB Water Resources Board the water agency

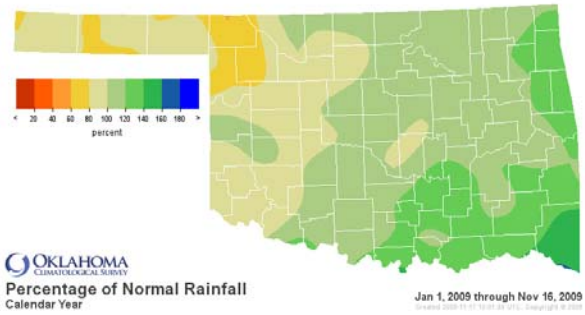
November 19, 2009

PRECIPITATION

Statewide Precipitation

Climate Division	Cool Growing Season September 1—November 16, 2009				Calendar Year January 1—November 16, 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	4.19"	+0.24"	106%	33rd wettest	15.65"	-4.26"	79%	19th driest
North Central	6.73"	-0.17"	98%	35th wettest	27.95"	-1.43"	95%	41st wettest
Northeast	14.52"	+4.18"	140%	12th wettest	43.68"	+5.68"	115%	16th wettest
West Central	7.33"	+0.82"	113%	28th wettest	25.93"	-1.21"	96%	39th wettest
Central	11.29"	+2.02"	122%	16th wettest	37.01"	+2.34"	107%	19th wettest
East Central	17.60"	+6.08"	153%	6th wettest	46.90"	+5.80"	114%	11th wettest
Southwest	7.86"	+0.57"	108%	32nd wettest	27.51"	-1.11"	96%	37th wettest
South Central	15.38"	+5.13"	150%	7th wettest	44.50"	+7.52"	120%	7th wettest
Southeast	21.68"	+9.45"	177%	2nd wettest	59.00"	+14.50"	133%	5th wettest
Statewide	11.75"	+3.05"	135%	9th wettest	36.35"	+3.00"	109%	17th wettest

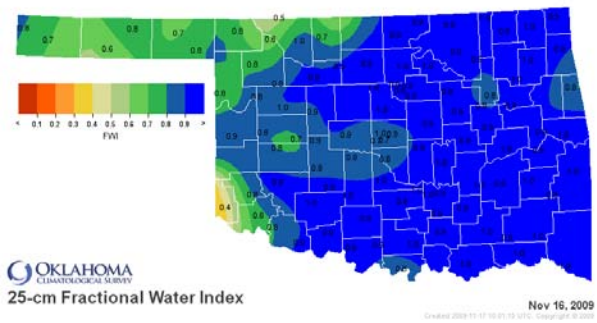


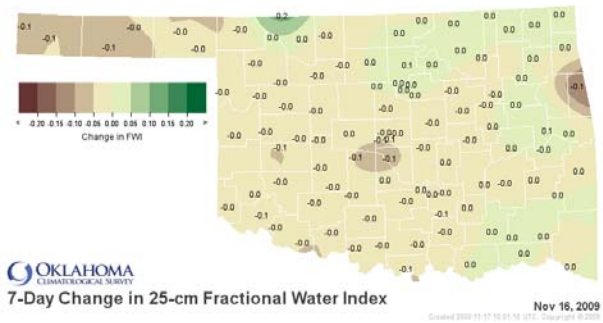


SOIL MOISTURE

Fractional Water Index[1]
November 16, 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 Wilting, 0.3 to 0.1 equals Plants Dying, and less than 0.1 equals Barren Soil.

DROUGHT INDICES

Palmer Drought Severity Index[1] and Standardized Precipitation Index[2] Through October 2009

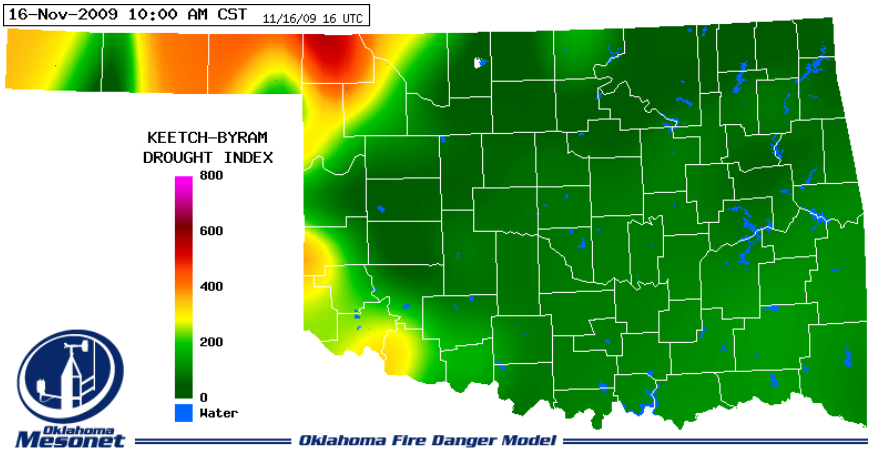
Climate Division	Current Status 11/7/2009	Value 11/7	Value 10/10	Change In Value	3-Month	6-Month	9-Month	12-Month
Northwest	MOIST SPELL	1.29	0.17	**1.12**	NEAR NORMAL	MODERATELY DRY	NEAR NORMAL	MODERATELY DRY
North Central	VERY MOIST SPELL	3.46	3.35	**0.11**	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	VERY MOIST SPELL	3.10	3.44	**-0.34**	MODERATELY WET	MODERATELY WET	MODERATELY WET	NEAR NORMAL
West Central	UNUSUAL MOIST SPELL	2.87	2.76	**0.11**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	UNUSUAL MOIST SPELL	2.78	2.69	**0.09**	VERY WET	MODERATELY WET	MODERATELY WET	NEAR NORMAL
East Central	VERY MOIST SPELL	3.25	3.34	**-0.09**	VERY WET	VERY WET	MODERATELY WET	NEAR NORMAL
Southwest	MOIST SPELL	1.77	1.83	**-0.06**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	UNUSUAL MOIST SPELL	2.73	2.56	**0.17**	VERY WET	VERY WET	VERY WET	MODERATELY WET
Southeast	EXTREME MOIST SPELL	4.95	4.44	**0.51**	EXTREMELY WET	EXTREMELY WET	VERY WET	MODERATELY WET

- No climate divisions are currently experiencing drought conditions, according to the PDSI.
- Three climate divisions have undergone PDSI moisture decreases since October 10.
- One climate division (the Northwest) is experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index[3]

Mesonet Station	County	Climate Division	Current Value 11/16/2009
Buffalo	Harper	Northwest	532
Beaver	Beaver	Northwest	421
Hooker	Texas	Northwest	402

- Stations currently at or above 600 (November 16) = 0
- Stations above 600 on October 12 = 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.

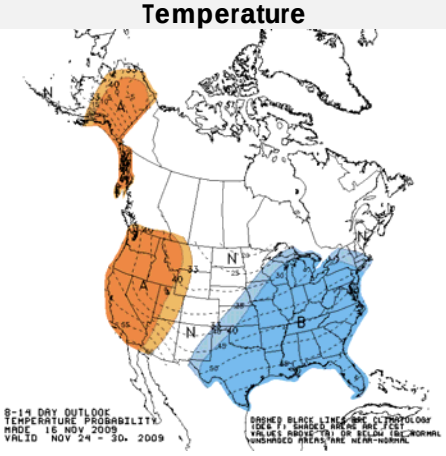
[2] The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while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

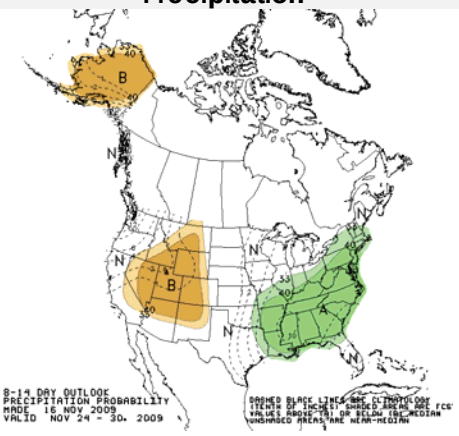
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
November 24-30, 2009

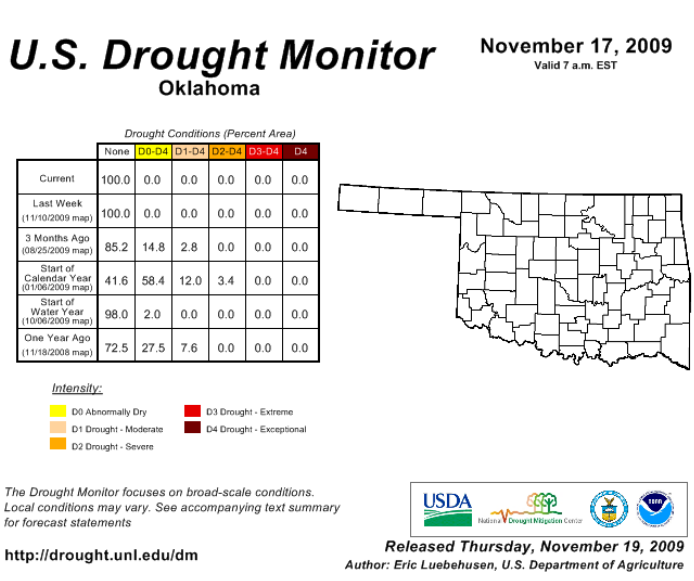
Temperature

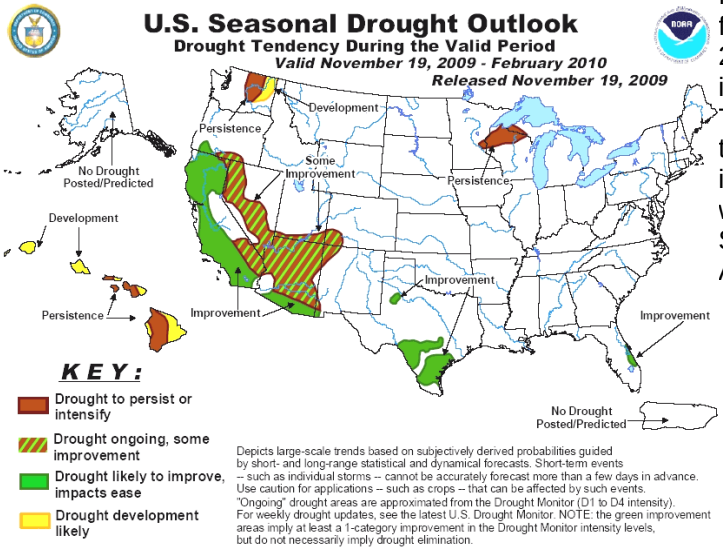


Precipitation



Regional Drought Summary & Outlook





November 17—The latest U.S. Drought Monitor reports that Mostly dry, warmer-than-normal weather prevailed on the Great Plains during the past week, although a small area of rain and snow (0.50 inch or more liquid equivalent) was observed in Kansas and Colorado. No changes were made to drought designations in Texas, but western portions of the state are being monitored for possible expansion of D0 and D1. Short-term dryness (30 and 90-day) is most pronounced from the western Rio Grande northeastward into north-central Texas.

Looking ahead, a developing storm in the Gulf of Mexico will track northeastward, producing moderate to heavy rain from southern Texas into the Southeast. Mostly warm, dry weather is anticipated across the Great Plains and Upper Midwest, although a few showers may develop in the central and northern Corn Belt early next week. Out west, dry, warm conditions across the Southwest and southern Rockies.

According to the Drought Outlook (November 19), light rain fell across south-central Texas, but amounts were insufficient for any significant improvement. The outlook for December 2009 through February 2010 continues to indicate drought improvement for California, southern Arizona, southern Texas, and Florida. The current moderate El Niño is expected to last through this winter, increasing the odds toward improvement in the aforementioned areas. Ongoing drought with some improvement is forecast for the remainder of the Southwest (southeastern California, central and northern Arizona, Nevada, and the Four Corners Region).

CROP REPORT

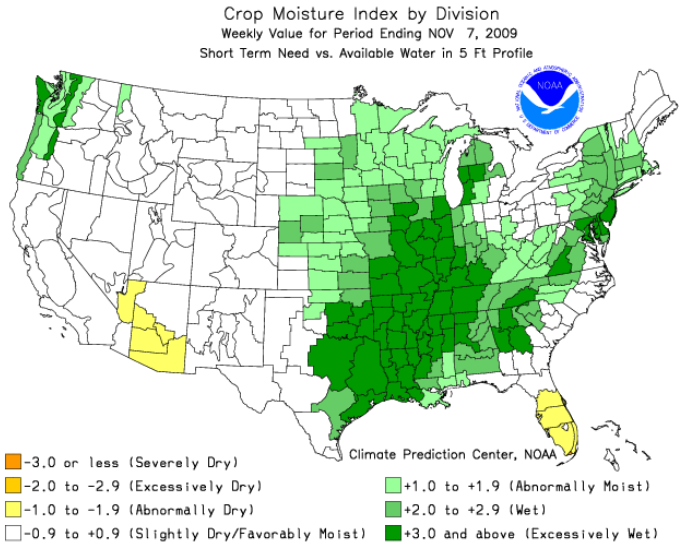
November 16, 2009 – Mild weather was experienced across the state this past week. Foggy mornings and partly cloudy days were common during the week. The weekend brought dropping temperatures across the state and threats of snow in the Panhandle. Although soil moisture conditions declined from the previous week, both topsoil and subsoil were rated mostly in the adequate range. The mild weather allowed fields to dry out and producers were able to make progress in small grain planting and row crop harvesting. There were 5.4 days suitable for field work.

Small grain planting is winding down around the state as favorable weather conditions allowed producers ample opportunity to get back in the fields. Wheat planted is nearing completion at 93 percent, up five points from last week but four points behind normal. Wheat emerged increased to 82 percent complete, up three points from the prior week, but seven points behind the five-year average. Stocker cattle are being placed on early-planted wheat pasture. Oat seedbed preparations are wrapping up at 93 percent complete while 62 percent of oats were planted by week's end, two points behind normal. Oats emerged reached 58 percent complete, up 16 points from last week and three points ahead of the five-year average.

Oklahoma producers made great strides in row crop harvest activities this past week as drier conditions prevailed. Corn harvest is nearing completion at 94 percent, up three points from the prior week but six points behind the five-year average. By week's end, virtually all sorghum had reached maturity while 68 percent was harvested, a 26 point jump from the previous week, and one point ahead of normal. Soybeans at maturity reached 94 percent, up six points from the prior week. By Sunday, 65 percent of soybeans were harvested, a 19 point increase from the previous week but still 14 points behind the five-year average. Peanuts dug reached 90 percent complete while 78 percent were combined by week's end, up 18 points from last week but eight points behind normal. Cotton harvest slowly continues as 35 percent was harvested by week's end, up nine points from the prior week, but still 23 points behind the five-year average.

Producers continued to cut and bale hay. As of Sunday, fifth cuttings of alfalfa were 82 percent complete, while sixth cuttings were 39 percent complete, up 11 points from last week but six points behind normal. Conditions of alfalfa continued to rate mostly in the good to fair range. Producers made a second cutting on 88 percent of other hay, up two points from the prior week but five points behind the five-year average.

Pasture and range conditions continued to rate mostly in the good to fair range. Some supplemental feeding of livestock has begun. Livestock conditions rated mostly in the good to fair range. Average livestock marketings were reported last week.



RESERVOIR STORAGE

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

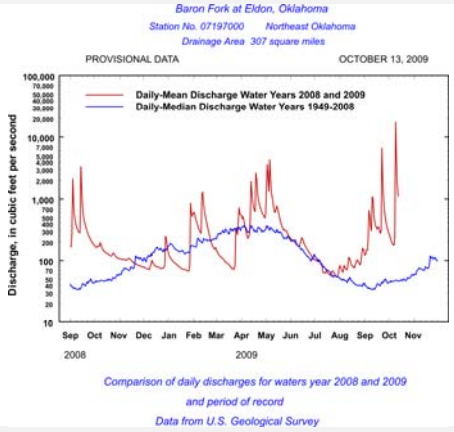
Storage in Selected Oklahoma Lakes & Reservoirs
November 17, 2009

Lake or Reservoir	*Normal Pool Elevation* (feet)	*Previous Elevation 10/13/2009* (feet)	*Current Elevation 11/17/2009* (feet)	*Change in Elevation* (feet)	*Current Flood Control Storage* (acre-feet)
North Central					
Fort Supply	2004.00	2002.65	2003.10	0.45	(1,535)
Great Salt Plains	1125.00	1125.36	1125.64	0.28	5,371
Kaw*	1009.80	1009.35	1010.77	1.42	16,535
Northeast					
Birch	750.50	752.74	750.64	(2.10)	160
Copan	710.00	714.31	711.03	(3.28)	5,845
Fort Gibson	554.00	570.23	554.69	(15.54)	13,317
Grand*	742.00	749.09	744.45	(4.64)	109,701
Hudson	619.00	625.59	619.25	(6.34)	2,763
Hulah	733.00	737.04	735.53	(1.51)	14,788
Keystone*	723.00	729.98	725.06	(4.92)	39,427
Oologah*	638.00	644.31	641.36	(2.95)	110,797
Skiatook	714.00	714.07	714.50	0.43	5,470
West Central					
Canton	1615.40	1614.29	1613.94	(0.35)	(11,261)
Foss	1642.00	1640.20	1640.22	0.02	(11,735)
Central					
Arcadia	1006.00	1007.96	1006.26	(1.70)	484
Heyburn	761.50	762.01	760.63	(1.38)	(726)
Thunderbird	1039.00	1038.98	1039.23	0.25	1,403
East Central					
Eufaula*	585.00	589.97	586.23	(3.74)	119,721
Tenkiller	632.00	645.36	636.05	(9.31)	53,495
Southwest					
Fort Cobb	1342.00	1342.33	1342.30	(0.03)	1,168
Lugert-Altus	1559.00	1534.14	1536.09	1.95	(99,375)
Tom Steed	1411.00	1406.67	1407.17	0.50	(22,409)
South Central					
Arbuckle	872.00	875.29	872.85	(2.44)	2,023
McGee Creek**	175.90	177.76	176.32	(1.44)	5,389
Texoma*	618.50	617.85	619.51	1.66	78,617
Waurika*	951.40	950.96	951.44	0.48	405
Southeast					
Broken Bow*	599.50	605.40	602.38	(3.02)	41,446
Hugo*	406.00	416.52	407.38	(9.14)	19,797
Pine Creek*	438.00	450.80	441.56	(9.24)	14,751
Sardis	599.00	602.01	599.60	(2.41)	8,322
Wister	478.00	491.05	485.14	(5.91)	60,578

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

STREAMFLOW CONDITIONS

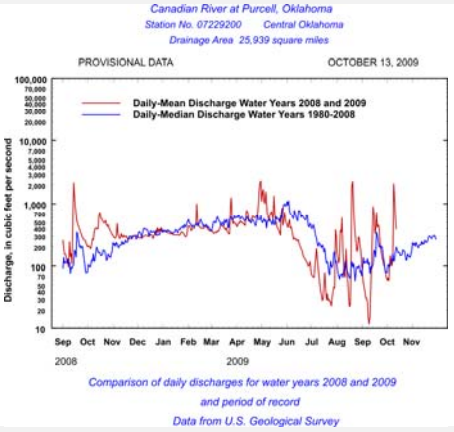
Baron Fork at Eldon



Comparison of daily discharges for waters year 2008 and 2009 and period of record

Data from U.S. Geological Survey

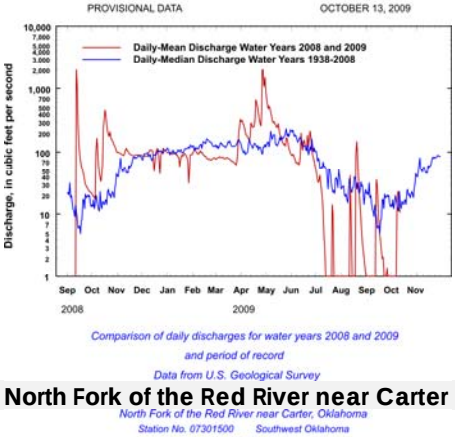
Canadian River at Purcell



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

Data from U.S. Geological Survey

Cimarron River near Waynoka



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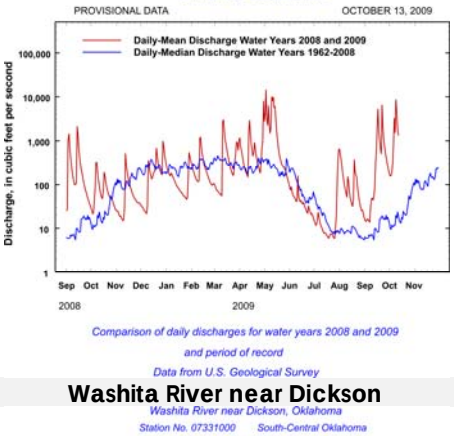
Glover River near Glover



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

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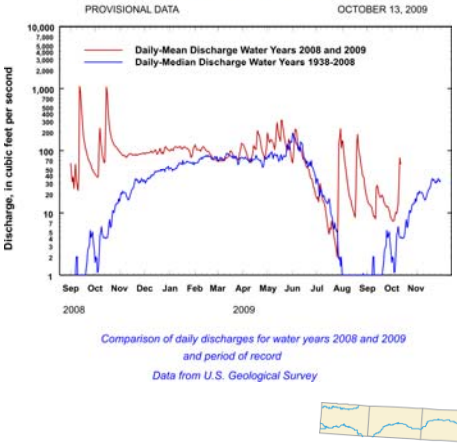
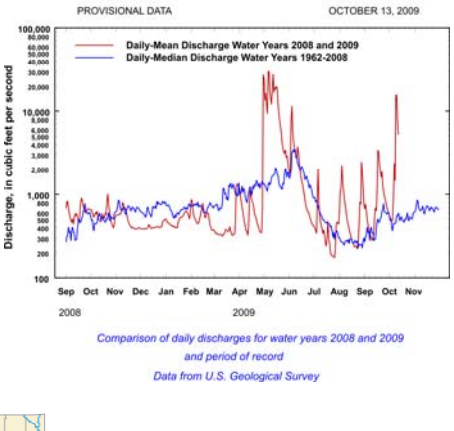
North Fork of the Red River near Carter



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

Data from U.S. Geological Survey

Washita River near Dickson



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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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