Oklahoma Water Resources Bulletin
& Summary of Current Conditions

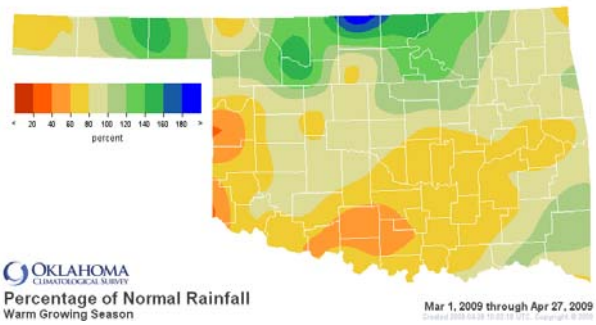
State of Oklahoma OWRB Water Resources Board the water agency

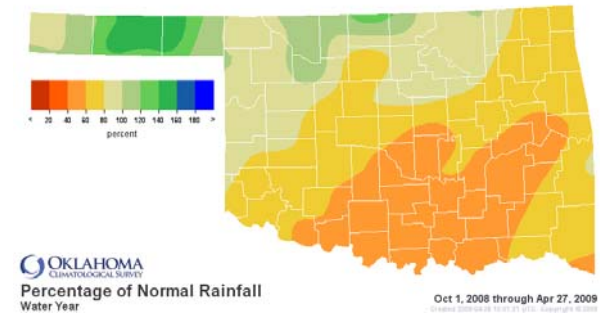
April 30, 2009

PRECIPITATION

Statewide Precipitation

Climate Division	Warm Growing Season March 1—April 27, 2009 Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921	Water Year October 1, 2008—April 27, 2009 Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921
Panhandle	3.10"	-0.20"	94%	33rd wettest	8.00"	+0.29"	104%	26th wettest
North Central	6.60"	+1.26"	124%	19th wettest	12.71"	-0.82"	94%	41st wettest
Northeast	7.56"	+0.29"	104%	31st wettest	16.45"	-3.90"	81%	38th driest
West Central	3.49"	-1.25"	74%	40th driest	9.78"	-2.41"	80%	41st driest
Central	5.70"	-0.72"	89%	42nd wettest	12.04"	-6.09"	66%	25th driest
East Central	6.47"	-1.52"	81%	41st driest	14.56"	-9.54"	60%	8th driest
Southwest	3.36"	-1.30"	72%	33rd driest	8.32"	-4.82"	63%	19th driest
South Central	4.54"	-2.39"	65%	24th driest	9.94"	-10.98"	48%	4th driest
Southeast	8.07"	-0.45"	95%	39th wettest	18.37"	-10.21"	64%	9th driest
Statewide	5.47"	-0.67"	89%	43rd wettest	12.21"	-5.35"	70%	20th driest

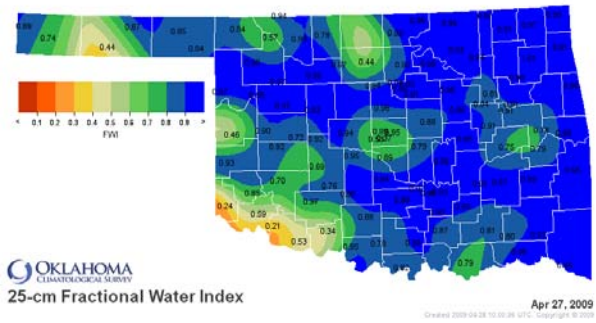


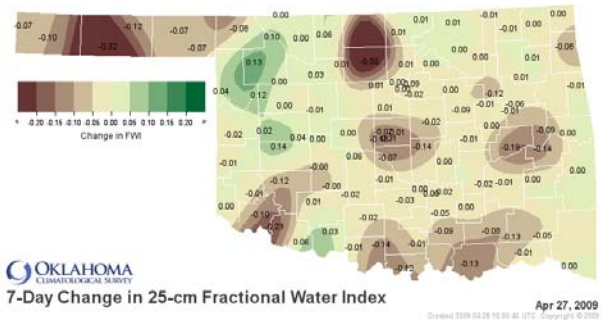


SOIL MOISTURE

Fractional Water Index[1]
April 27, 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 March 2009

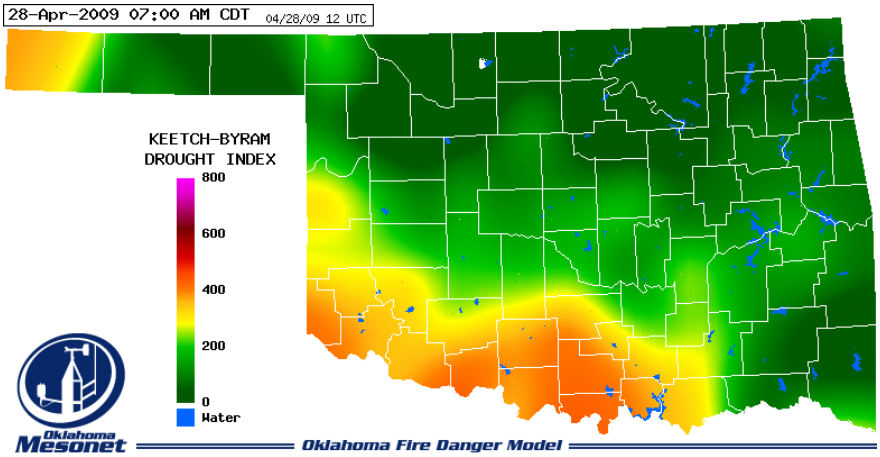
Climate Division	Current Status 3/28/2009	Value 4/25	Value 3/28	Change In Value	3-Month	6-Month	9-Month	12-Month
Northwest	INCIPIENT MOIST SPELL	0.84	-0.39	**1.23**	NEAR NORMAL	NEAR NORMAL	VERY WET	NEAR NORMAL
North Central	EXTREME MOIST SPELL	4.11	3.57	**0.54**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	MODERATELY WET
Northeast	UNUSUAL MOIST SPELL	2.74	3.30	**-0.56**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	VERY WET
West Central	INCIPIENT MOIST SPELL	0.84	0.87	**-0.03**	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	INCIPIENT MOIST SPELL	0.54	0.03	**0.51**	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY	NEAR NORMAL
East Central	NEAR NORMAL	0.41	-0.39	**0.80**	MODERATELY DRY	EXTREMELY DRY	MODERATELY DRY	NEAR NORMAL
Southwest	MILD DROUGHT	-1.53	-1.21	**-0.32**	MODERATELY DRY	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL
South Central	MODERATE DROUGHT	-2.03	-1.97	**-0.06**	VERY DRY	EXTREMELY DRY	EXTREMELY DRY	VERY DRY
Southeast	INCIPIENT MOIST SPELL	0.74	0.83	**-0.09**	MODERATELY DRY	VERY DRY	MODERATELY DRY	NEAR NORMAL

- Two climate divisions are currently experiencing drought conditions, according to the PDSI.
- Five climate divisions have undergone a PDSI moisture decrease since March 28.
- Six 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 4/27/2009
Grandfield	Tillman	Southwest	444
Tipton	Tillman	Southwest	434
Ardmore	Carter	South Central	433

- Stations currently above 600 (April 27) = 0
- Stations above 600 on March 30 = 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.

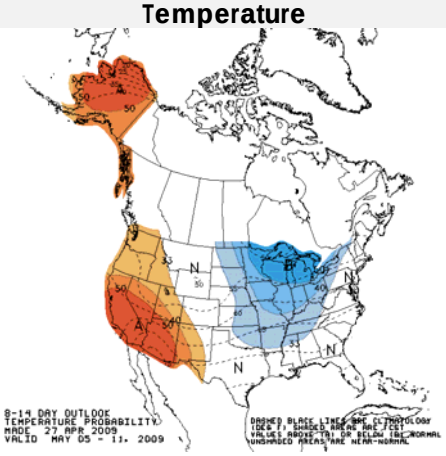
[2] The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while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

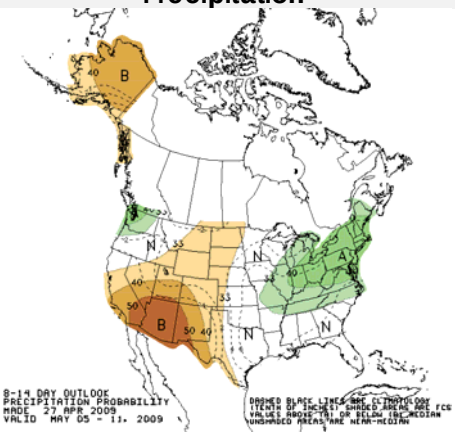
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
May 5-11, 2009

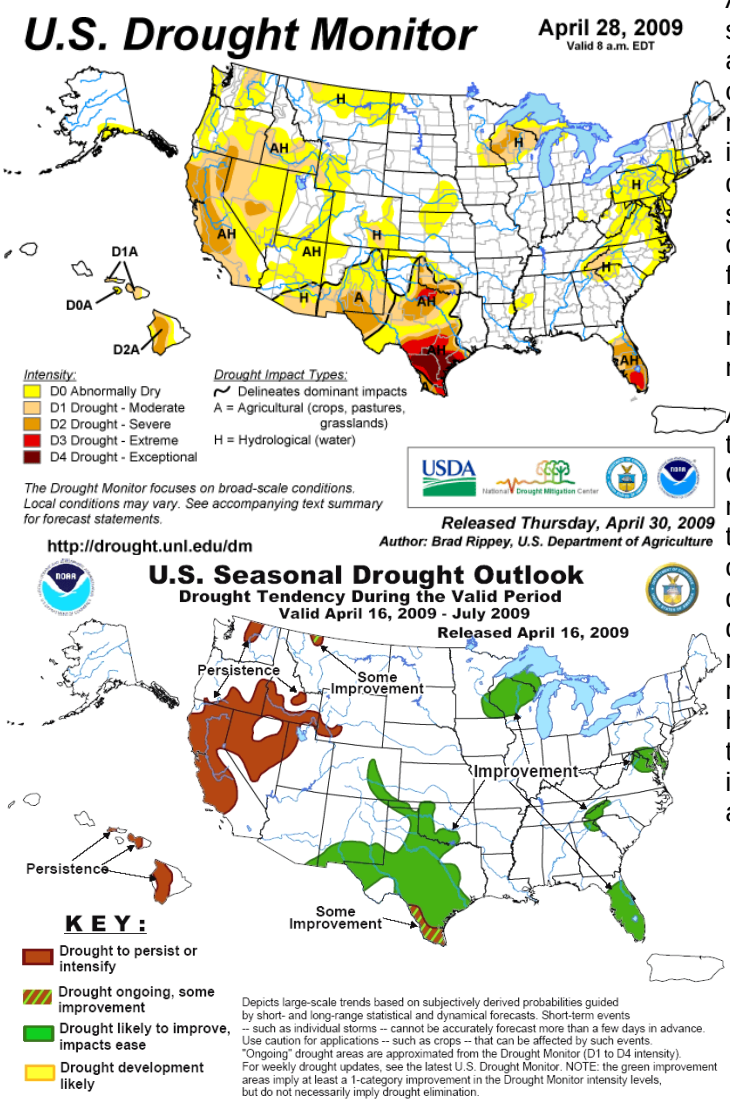
Temperature



Precipitation



Regional Drought Summary & Outlook



April 28—Showers and thunderstorms dotted the central and southern Plains, erasing dryness (D0) from parts of Kansas and easing moderate to exceptional drought (D1 to D4) in the central Texas region. However, rain bypassed several areas, resulting in the expansion of D0 from north-central Kansas into eastern Nebraska and the introduction of extreme drought (D3) into parts of north-central Texas. Across the south central U.S., winter wheat and other fall-sown grains continued to suffer due to drought and a severe early April freeze. According to the U.S. Department of Agriculture, nearly two-thirds (64%) of Oklahoma's winter wheat crop was rated in very poor to poor condition on April 26, along with nearly three-quarters (73%) of the Texas crop.

According to the latest Drought Outlook (April 16), moderate to heavy rains eased drought impacts across the central Gulf Coast, the Southeast outside the Florida Peninsula, the middle Atlantic region, and parts of the southern Plains over the last few weeks, helping to bring numerous wildfires under control across western Oklahoma and northern Texas. Other drought-affected parts of the country saw conditions persist during this period, with some expansion and deterioration noted in a few areas. Across the southern Plains, where the most serious drought conditions are currently entrenched, heavy rainfall in some areas during the last half of April and typically wetter May-July conditions should bring improvement to most areas, though recovery in far southern and southwestern Texas may be less robust.

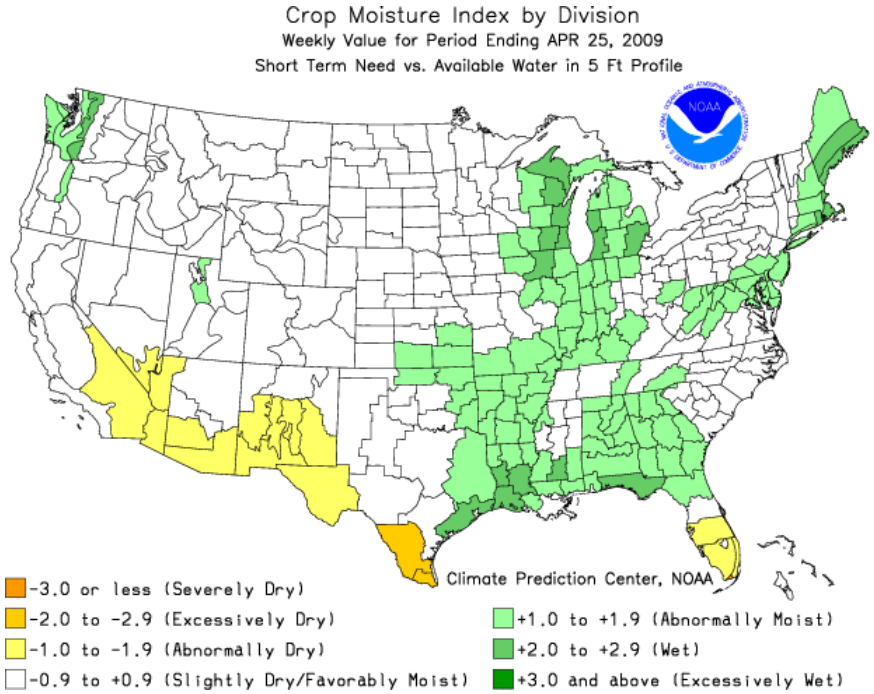
CROP REPORT

April 27, 2009—Heavy rain, hail, and high winds were experienced last weekend across much of the state. Two twisters hit Enid and Kremlin on Saturday and another two tornadoes struck in western Oklahoma on Sunday. Sustained rains in western and northern Oklahoma caused flooding in some low-lying areas. Hail damage to small grain and alfalfa fields was reported in northern and western Oklahoma. Small grain freeze damage is still thought to be moderate to heavy in west central, southwest, central, and south central regions. Topsoil and subsoil moisture conditions improved from the recent rains with topsoil rated mostly in the adequate range and subsoil rated in the adequate to short range. There were 5.2 days suitable for field work.

Producers continued evaluate the damage to their small grain crops after the freeze experienced three weeks ago. Wheat and rye continued to deteriorate and remained mostly in poor to very poor condition but oat conditions slightly improved and rated mostly in the fair to poor condition. Crop insect activities continued to range mostly in the light to no activity range. Winter wheat jointing was nearing completion at 98 percent, only one percentage point ahead of the five-year average. Wheat heading took a 28 point jump from the previous week to reach 59 percent, four points behind normal. Nine percent of the state's wheat crop was in the soft dough stage. Rye jointing was virtually complete at 99 percent, six points ahead of normal. Rye heading was at 80 percent, up 26 points from the previous week and two points ahead of the five-year average. Nine percent of the rye crop was in the soft dough stage. Sixty-six percent of the state's oats were jointing, one point behind normal. Eleven percent were headed, six points behind normal.

Due to high winds earlier in the week and heavy rain last weekend, seedbed preparation was slowed. Corn seedbed prepared was at 93 percent, two percentage points behind the five-year average. Corn planted was at 45 percent, up 12 points from the previous week, but 12 points behind normal. Nineteen percent of corn had emerged by week's end. Sorghum seedbed prepared was at 53 percent, four points ahead of normal. A small percentage of sorghum was planted by week's end. Soybeans seedbed prepared was at 49 percent, nine points behind normal. Six percent of soybeans have been planted. Seedbed prepared for peanuts was at 72 percent with a small percentage of peanuts planted. Cotton seedbed prepared was three-quarters complete, four points behind normal. Watermelons planted were at 13 percent, 23 points behind normal.

Hay cutting is behind normal in many areas due to lack of precipitation. Some areas have reported hail damage to alfalfa. Alfalfa hay first cutting was at 13 percent, 13 points behind the five-year average, while other hay first cutting was at 9 percent. Rains continue to provide relief to dry pastures. Pasture and range conditions improved from the previous week and were mostly in the excellent to good range. Livestock conditions increased from the previous week and were rated mostly in the good to fair range. Average livestock marketings were reported last week.



RESERVOIR STORAGE

- 5 reservoirs are currently operating at less than full capacity (compared to 6 four weeks ago).
- 17 reservoirs have experienced lake level decreases.

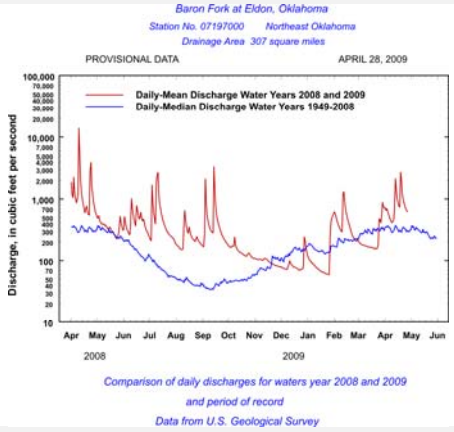
Storage in Selected Oklahoma Lakes & Reservoirs
April 28, 2009

Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 03/31/2009 (feet)	Current Elevation 04/28/2009 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2004.45	2004.75	0.30	1,408
Great Salt Plains	1125.00	1125.98	1128.52	2.54	34,681
Kaw*	1010.00	1013.76	1015.96	2.20	110,932
Northeast					
Birch	750.50	756.25	752.79	(3.46)	2,712
Copan	710.00	714.43	714.54	0.11	25,790
Fort Gibson	554.00	558.86	556.30	(2.56)	45,570
Grand*	742.00	743.98	744.88	0.90	129,480
Hudson	619.00	622.14	619.96	(2.18)	10,608
Hulah	733.00	742.83	743.36	0.53	55,772
Keystone*	723.00	727.09	723.65	(3.44)	11,357
Oologah*	638.00	641.67	642.39	0.72	146,990
Skiatook	714.00	717.43	714.84	(2.59)	9,190
West Central					
Canton	1615.40	1616.00	1615.99	(0.01)	4,683
Foss	1642.00	1642.04	1642.23	0.19	1,587
Central					
Arcadia	1006.00	1006.85	1006.55	(0.30)	1,023
Heyburn	761.50	763.83	762.00	(1.83)	508
Thunderbird	1039.00	1038.94	1039.38	0.44	2,318
East Central					
Eufaula*	585.00	586.31	585.49	(0.82)	47,318
Tenkiller	632.00	634.82	634.04	(0.78)	26,724
Southwest					
Fort Cobb	1342.00	1342.27	1342.64	0.37	2,492
Lugert-Altus	1559.00	1551.64	1552.82	1.18	(35,208)
Tom Steed	1411.00	1406.57	1406.11	(0.46)	(28,019)
South Central					
Arbuckle	872.00	867.26	867.00	(0.26)	(11,140)
McGee Creek**	175.90	175.56	175.74	0.18	(1,940)
Texoma*	615.00	615.19	615.47	0.28	33,449
Waurika*	951.40	950.50	950.30	(0.20)	(10,843)
Southeast					
Broken Bow*	600.80	602.02	601.10	(0.92)	3,912
Hugo*	407.50	407.84	408.03	0.19	7,903
Pine Creek*	442.50	443.31	443.11	(0.20)	2,919
Sardis	599.00	599.40	599.24	(0.16)	3,329
Wister	478.00	481.55	479.45	(2.10)	9,447

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

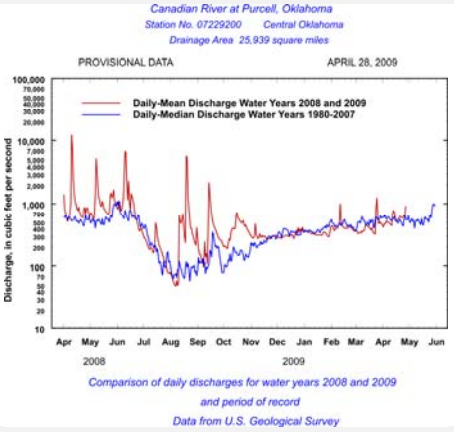
STREAMFLOW CONDITIONS

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
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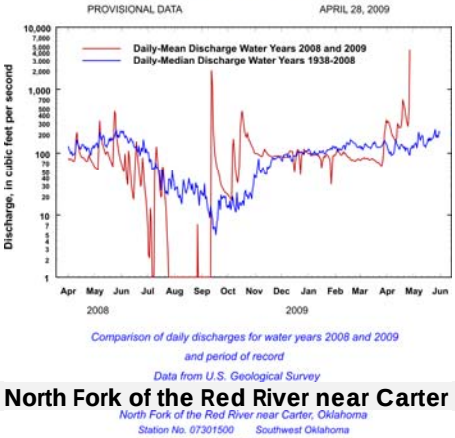
Data from U.S. Geological Survey

Cimarron River near Waynoka



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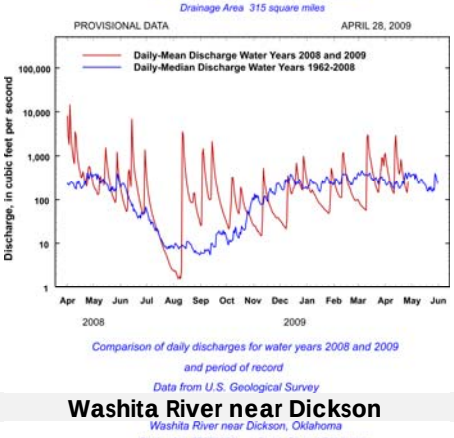
Glover River near Glover



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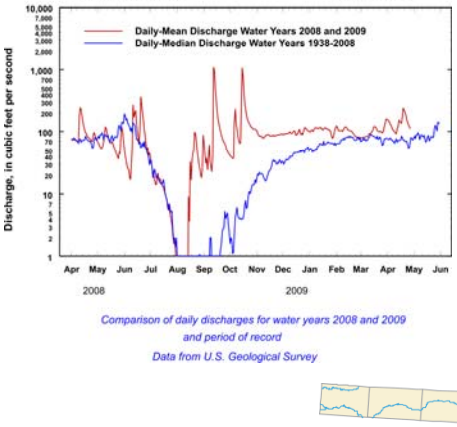
North Fork of the Red River near Carter



Comparison of daily discharges for water years 2008 and 2009
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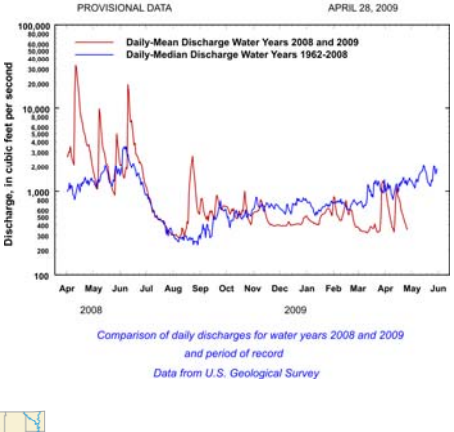
Washita River near Dickson



Comparison of daily discharges for water years 2008 and 2009
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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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