

Oklahoma Water Resources Bulletin & Summary of Current Conditions

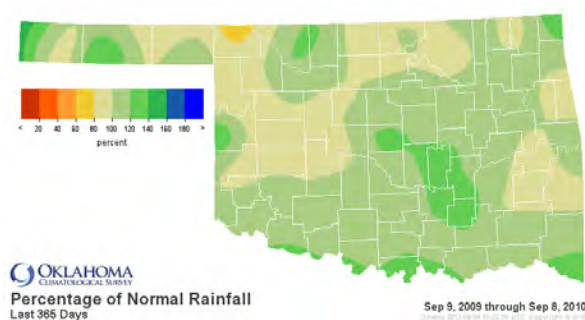
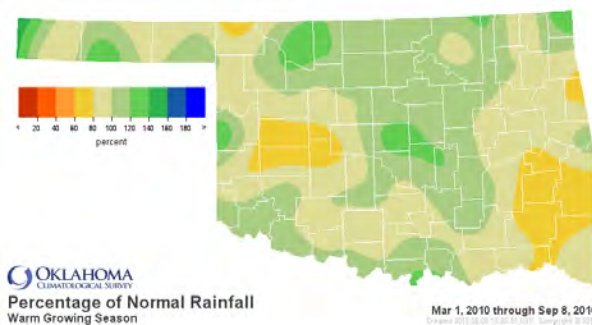


September 9, 2010

PRECIPITATION

Statewide Precipitation

CLIMATE DIVISION	Warm Growing Season March 1 – September 8, 2010				Last 365 Days September 9, 2009 – September 8, 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	15.17"	-0.14"	99%	37th wettest	21.02"	-0.08"	100%	40th wettest
North Central	22.49"	+1.32"	106%	23rd wettest	31.31"	-0.34"	99%	35th wettest
Northeast	26.53"	+1.14"	104%	34th wettest	44.88"	+2.91"	107%	24th wettest
West Central	16.10"	-3.31"	83%	33rd driest	26.71"	-2.38"	92%	41st wettest
Central	24.90"	+1.63"	107%	23rd wettest	41.18"	+3.19"	108%	16th wettest
East Central	23.52"	-2.82"	89%	33rd driest	47.58"	+1.49"	103%	31st wettest
Southwest	18.92"	-0.91"	95%	41st wettest	32.16"	+1.36"	104%	26th wettest
South Central	23.76"	-0.03"	100%	38th wettest	47.04"	+6.08"	115%	12th wettest
Southeast	21.17"	-6.37"	77%	14th driest	54.45"	+3.51"	107%	24th wettest
Statewide	21.72"	-0.74"	97%	40th driest	38.60"	+1.91"	105%	21st wettest

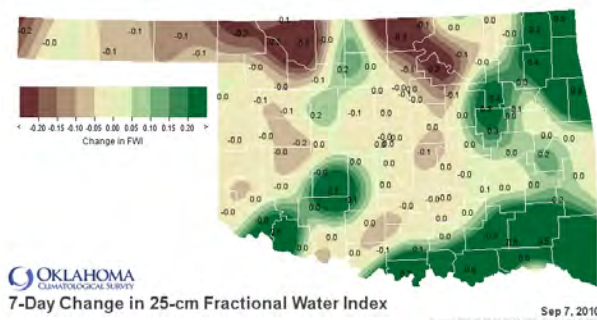
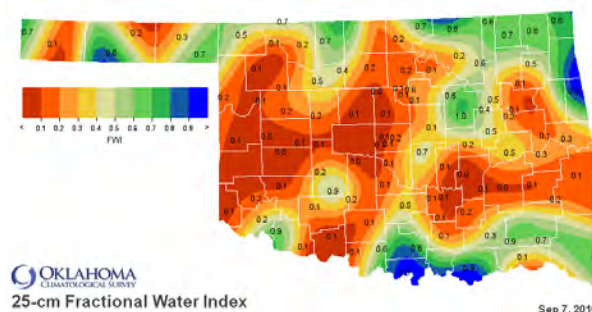


SOIL MOISTURE

Fractional Water Index¹

September 7, 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 Wilted, 0.3 to 0.1 equals Plants Dying, and less than 0.1 equals Barren Soil.

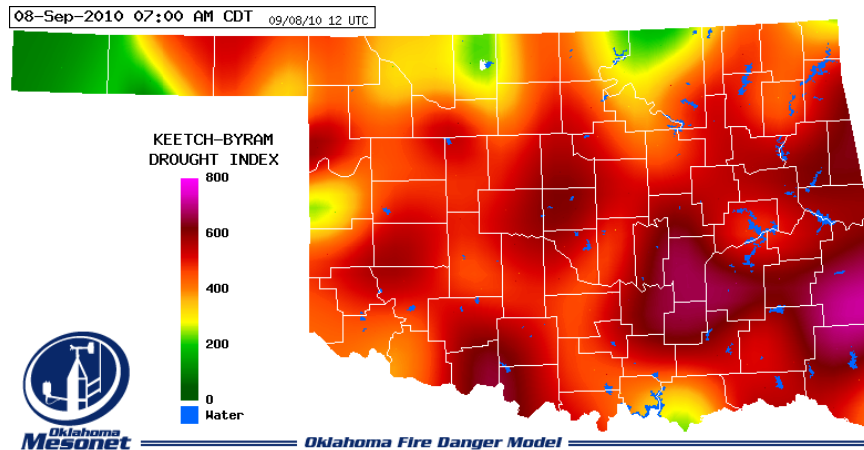
DROUGHT INDICES

Palmer Drought Severity Index ¹					Standardized Precipitation Index ² Through August 2010			
CLIMATE DIVISION	CURRENT STATUS 9/4/2010	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		9/4	8/7					
Northwest	NEAR NORMAL	-0.16	-0.27	0.11	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
North Central	UNUSUAL MOIST SPELL	2.58	2.00	0.58	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	NEAR NORMAL	-0.03	-0.29	0.26	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	MODERATELY WET
West Central	INCIPIENT DROUGHT	-0.84	0.38	-1.22	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	NEAR NORMAL	0.05	0.85	-0.80	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
East Central	MILD DROUGHT	-1.72	-1.63	-0.09	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southwest	NEAR NORMAL	0.39	1.03	-0.64	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	MILD DROUGHT	-1.47	-1.61	0.14	MODERATELY DRY	VERY DRY	MODERATELY DRY	NEAR NORMAL
Southeast	MODERATE DROUGHT	-2.77	-2.27	-0.50	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY	NEAR NORMAL

- Three climate divisions are currently experiencing drought conditions, according to the PDSI.
- Five climate divisions have undergone PDSI moisture decreases since August 7.
- Two climate divisions are experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index³

MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 9/8/2010	
Wilburton	Latimer	Southeast	699	<ul style="list-style-type: none"> • Stations currently at or above 600 (September 8) = 22 • Stations above 600 on August 10 = 3
McAlester	Pittsburg	East Central	692	
Mt Herman	McCurtain	Southeast	674	



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.

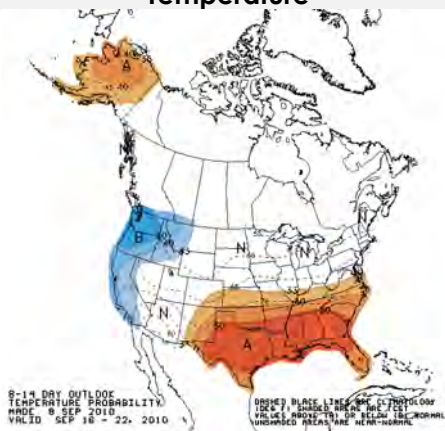
² The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the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

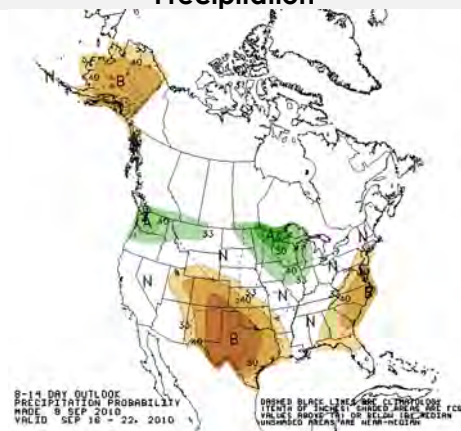
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
September 16 – 22, 2010

Temperature



Precipitation

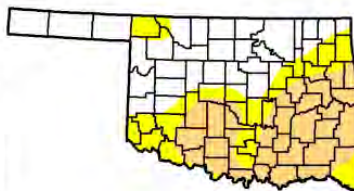


Regional Drought Summary & Outlook

U.S. Drought Monitor Oklahoma

September 7, 2010
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	42.3	57.7	35.8	0.0	0.0	0.0
Last Week (08/31/2010 map)	42.3	57.7	36.2	0.0	0.0	0.0
3 Months Ago (06/15/2010 map)	86.4	13.6	3.2	0.0	0.0	0.0
Start of Calendar Year (01/01/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (11/01/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0
One Year Ago (09/05/2009 map)	87.3	12.7	2.7	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>

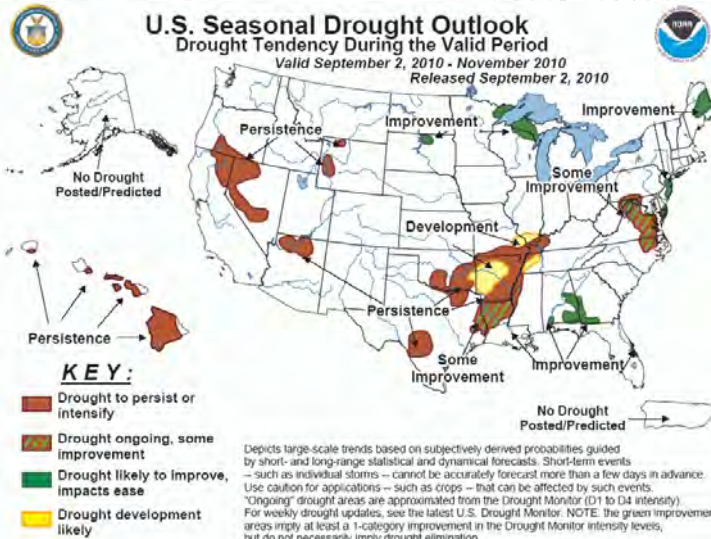


Released Thursday, September 9, 2010
Author: M. Rosencrans, CPC/NOAA

September 7 – The latest U.S. Drought Monitor reports that during the first 7 days of September, weak cold fronts traversed the northern tier of the contiguous U.S. and tropical activity contributed the most to drought improvement. In the southern Great Plains, Tropical Storm Hermine brought copious amounts of rainfall to many portions of southern and central Texas. Reports ranged from 1.0 to more than 6.0 inches. Improvements were made along the path of greatest rainfall while degradations were made in northeastern Texas to reflect the areas where the rain missed the dry areas before the September 7 cutoff. In southeastern Missouri, continued dryness caused an intensification of drought. In Colorado, the Northern Great Plains, and Great Lakes, continued dryness prompted the expansion of D0 conditions across the Upper Colorado River and Rio Grande basins. Across northern Colorado, Vegetation Health Index products, wildfires, and some USGS stream flows in the lower quartile indicated dryness near the surface, while slightly longer term indices have yet to reflect these conditions. Dryness over the past month across southern Colorado prompted an expansion of D0 in the Rio Grande basin. A small area of abnormal dryness was added to northwestern Nebraska to reflect the lack of rainfall plus warm and windy conditions over the past 60 days.

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period
Valid September 2, 2010 - November 2010
Released September 2, 2010



According to the Drought Outlook (September 2), drought is expected to persist in the West, Southwest, Southern Plains and Hawaii. While some improvement is forecast for northern Louisiana and the interior mid-Atlantic, drought is also forecast to develop or persist in the lower Ohio and middle Mississippi Valleys.

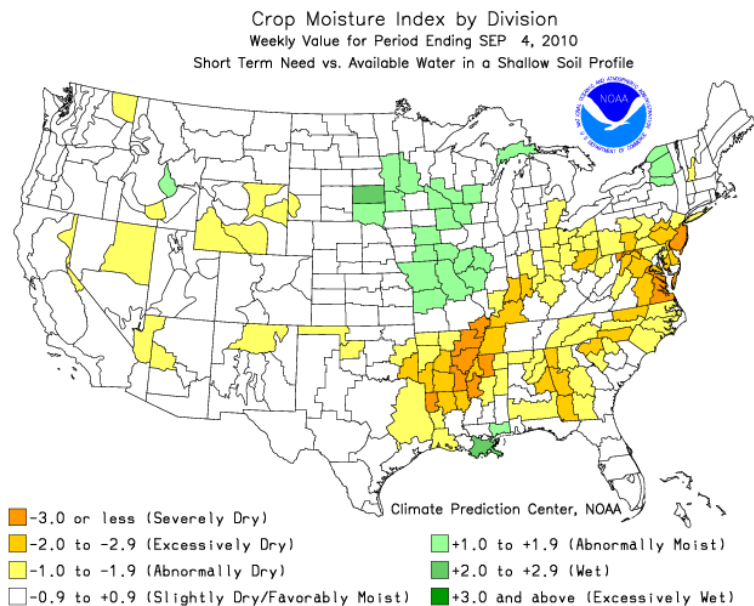
CROP REPORT

September 7, 2010 – September began with a few summer storms scattered across Oklahoma. A cold front brought strong winds, rain and power outages to parts of central and western Oklahoma late last week. Overall, weather conditions were mild, with average temperatures across the state in the mid-seventies. All nine districts received some rainfall, with six of the nine districts receiving more than half an inch. However, more rainfall is needed in much of the state, particularly in the southeast. Topsoil moisture conditions were rated mostly in the short to adequate range with 25 percent rated very short. Subsoil moisture conditions were rated mostly in the adequate to short range with 20 percent rated very short. There were 6.0 days suitable for field work.

Seedbed preparations for small grains continued across the state. Many producers are waiting for additional rain before beginning fall planting. Wheat seedbed preparation was 58 percent complete by week's end, six points behind normal. Rye seedbed preparation was 63 percent complete and 35 percent of oat seedbeds were prepared by Sunday.

Conditions remained mostly in the good to fair range, though insect problems with cotton and soybeans have been reported. Corn dent reached 96 percent complete, 17 points above normal. Eighty-four percent of corn had matured, 28 points ahead of the five-year average. The corn harvest was 47 percent complete by Sunday, a 22 point jump from the previous week. Sorghum headed was virtually complete by week's end and sorghum coloring reached 62 percent complete, 12 points ahead of normal. Twenty-one percent of sorghum was mature by Sunday. Eighty-eight percent of the soybean crop was setting pods by the end of the week, eight points ahead of the five-year average and five percent had matured, 13 points behind normal. The peanut crop was virtually finished setting pods by Sunday, and 20 percent had matured. Thirty-four percent of the cotton crop was setting bolls by Sunday, 15 points ahead of normal. The watermelon harvest was 91 percent complete by week's end, four points behind normal.

Hay conditions continue to be rated mostly in the good to fair range. The fourth cutting of alfalfa was 85 percent complete and the fifth cutting reached 15 percent complete by week's end. The second cutting of other hay was 72 percent complete by Sunday, 13 points ahead of normal. Pastures are still struggling in those areas in need of rainfall. Pasture and range conditions were rated mostly in the good to fair range, with 26 percent rated poor to very poor. Livestock conditions rated mostly in the good to fair range with only six percent rated excellent.



RESERVOIR STORAGE

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

Storage in Selected Oklahoma Lakes & Reservoirs					
September 8, 2010					
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 08/09/2010 (feet)	Current Elevation 09/08/2010 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2004.45	2003.82	(0.63)	(307)
Great Salt Plains	1125.00	1125.22	1125.32	0.10	2,685
Kaw*	1008.00	1008.24	1007.84	(0.40)	(2,510)
Northeast					
Birch	750.50	750.24	749.11	(1.13)	(1,560)
Copan	710.00	709.98	709.74	(0.24)	(1,014)
Fort Gibson	554.00	556.82	553.72	(3.10)	(5,237)
Grand*	741.00	743.40	741.42	(1.98)	18,059
Hudson	619.00	620.68	619.20	(1.48)	2,210
Hulah	733.00	733.19	733.92	0.73	3,010
Keystone*	723.00	726.17	723.90	(2.27)	15,955
Oologah*	638.00	642.18	637.75	(4.43)	(7,551)
Skiatook	714.00	713.74	712.49	(1.25)	(15,572)
West Central					
Canton	1615.40	1615.57	1614.93	(0.64)	(3,710)
Foss	1642.00	1641.89	1641.28	(0.61)	(4,809)
Central					
Arcadia	1006.00	1005.81	1005.05	(0.76)	(1,691)
Heyburn	761.50	761.42	760.50	(0.92)	(803)
Thunderbird	1039.00	1038.63	1037.78	(0.85)	(7,276)
East Central					
Eufaula*	585.00	585.29	583.28	(2.01)	(157,432)
Tenkiller	632.00	633.78	630.61	(3.17)	(17,897)
Southwest					
Fort Cobb	1342.00	1342.12	1341.30	(0.82)	(2,604)
Lugert-Altus	1559.00	1549.33	1540.14	(9.19)	(87,257)
Tom Steed	1411.00	1410.03	1409.55	(0.48)	(8,928)
South Central					
Arbuckle	872.00	872.35	871.78	(0.57)	(510)
McGee Creek**	175.90	176.05	175.66	(0.39)	(2,910)
Texoma*	616.50	617.06	616.38	(0.68)	(12,348)
Waurika*	951.40	951.39	950.93	(0.46)	(4,734)
Southeast					
Broken Bow*	602.50	596.20	593.55	(2.65)	(125,241)
Hugo*	404.50	403.21	401.83	(1.38)	(65,846)
Pine Creek*	433.00	432.74	431.69	(1.05)	(3,524)
Sardis	599.00	598.36	597.87	(0.49)	(15,073)
Wister	478.00	477.71	476.89	(0.82)	(6,458)

* indicates seasonal pool operation

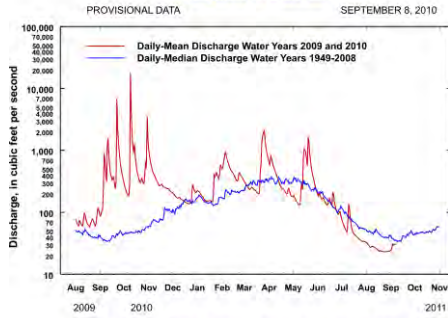
** elevation in meters

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

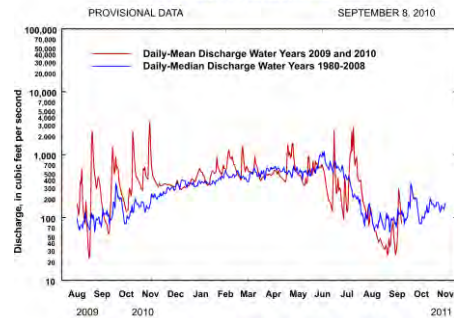


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

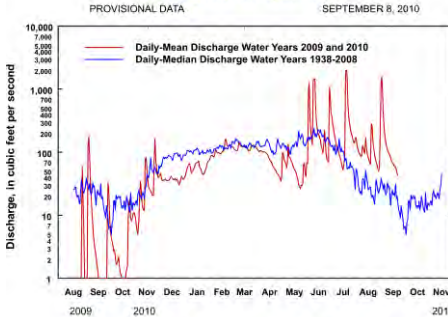


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

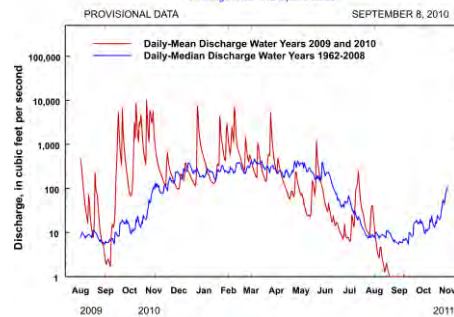


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

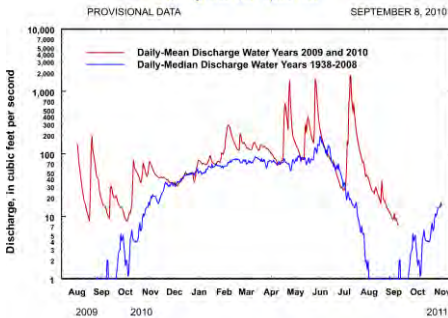


Comparison of daily discharges for water years 2009 and 2010 and period of record

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: 7,337 square miles

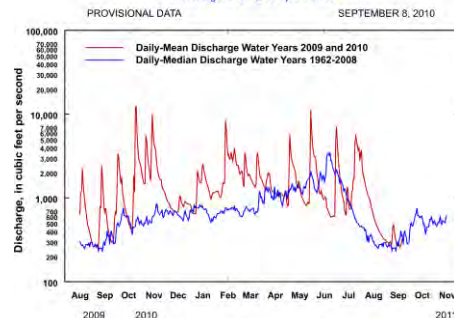


Comparison of daily discharges for water years 2009 and 2010 and period of record

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 2009 and 2010 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.