

Oklahoma Water Resources Bulletin & Summary of Current Conditions

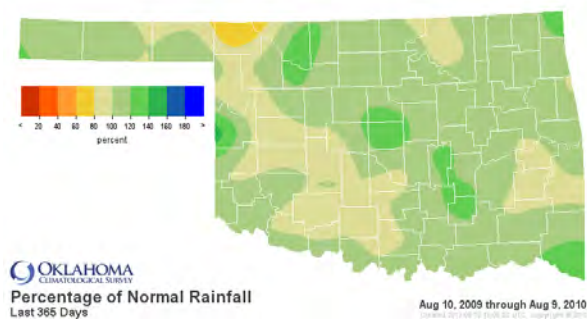
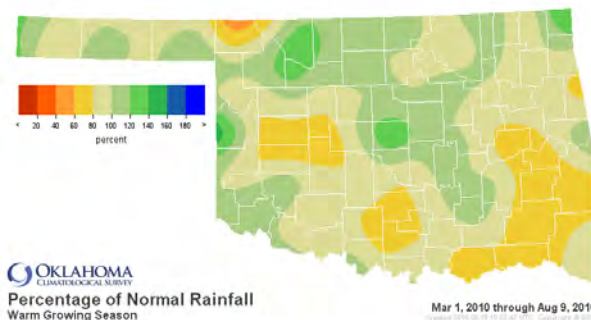


August 12, 2010

PRECIPITATION

Statewide Precipitation

CLIMATE DIVISION	Warm Growing Season March 1 – August 9, 2010				Last 365 Days August 10, 2009 – August 9, 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	12.22"	-0.80"	94%	41st wettest	20.37"	-0.73"	97%	44th driest
North Central	18.91"	+0.75"	104%	25th wettest	33.26"	+1.61"	105%	23rd wettest
Northeast	21.95"	+0.09"	100%	37th wettest	46.37"	+4.40"	110%	21st wettest
West Central	14.17"	-2.51"	85%	37th driest	28.52"	-0.57"	98%	27th wettest
Central	20.59"	+0.29"	101%	31st wettest	41.65"	+3.66"	110%	20th wettest
East Central	19.49"	-3.49"	85%	37th driest	48.40"	+2.31"	105%	27th wettest
Southwest	15.77"	-1.25"	93%	41st wettest	30.80"	-0.00"	100%	29th wettest
South Central	17.84"	-2.99"	86%	37th driest	42.80"	+1.84"	105%	25th wettest
Southeast	18.09"	-6.31"	74%	15th driest	54.90"	+3.96"	108%	25th wettest
Statewide	17.89"	-1.59"	92%	41st driest	38.64"	+1.95"	105%	22nd wettest

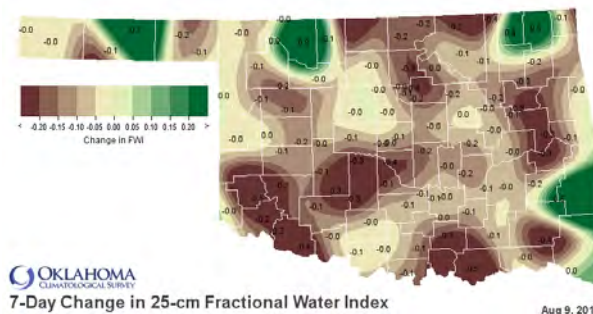
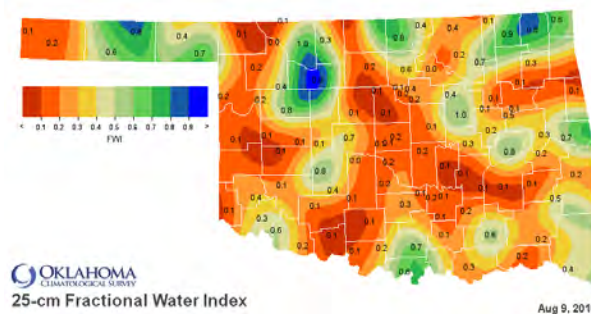


SOIL MOISTURE

Fractional Water Index¹

August 9, 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

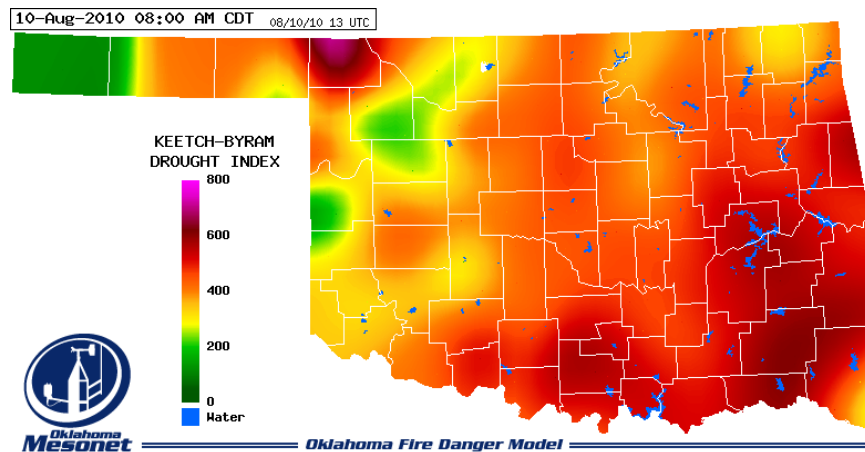
Palmer Drought Severity Index ¹					Standardized Precipitation Index ² Through July 2010			
CLIMATE DIVISION	CURRENT STATUS 8/7/2010	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		8/7	7/10					
Northwest	NEAR NORMAL	-0.27	1.49	-1.76	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
North Central	UNUSUAL MOIST SPELL	2.00	3.09	-1.09	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	MODERATELY WET
Northeast	NEAR NORMAL	-0.29	0.94	-1.23	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	MODERATELY WET
West Central	NEAR NORMAL	0.38	0.91	-0.53	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	INCIPIENT MOIST SPELL	0.85	2.39	-1.54	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	MODERATELY WET
East Central	MILD DROUGHT	-1.63	-0.10	-1.53	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southwest	MOIST SPELL	1.03	1.52	-0.49	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	MILD DROUGHT	-1.61	-0.08	-1.53	MODERATELY DRY	MODERATELY DRY	MODERATELY DRY	NEAR NORMAL
Southeast	MODERATE DROUGHT	-2.27	-1.23	-1.04	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	MODERATELY WET

- Three climate divisions are currently experiencing drought conditions, according to the PDSI.
- All nine climate divisions have undergone PDSI moisture decreases since July 10.
- 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 8/10/2010
Buffalo	Harper	Northwest	660
Wilburton	Latimer	Southeast	614
Cloudy	Pushmataha	Southeast	605

- Stations currently at or above 600 (August 10) = 3
- Stations above 600 on July 12 = 0



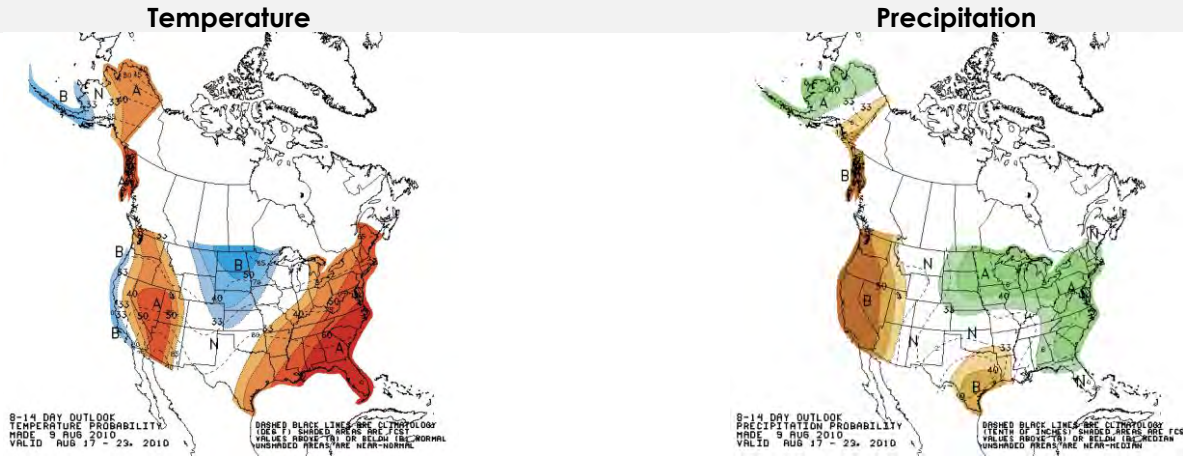
¹ The Palmer Drought Severity Index, the first comprehensive drought index developed in the United States, is calculated based on precipitation, temperature, and soil moisture. Though widely used by government agencies and states to trigger drought relief programs, the PDSI may underestimate or overestimate 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 August 17 – 23, 2010

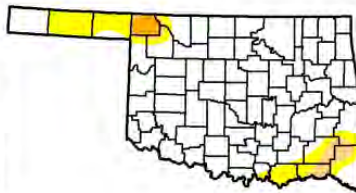


Regional Drought Summary & Outlook

U.S. Drought Monitor Oklahoma

August 10, 2010
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	85.5	14.5	4.3	1.3	0.0	0.0
Last Week (08/03/2010 map)	85.5	14.5	4.3	1.3	0.0	0.0
3 Months Ago (05/19/2010 map)	96.1	3.9	0.0	0.0	0.0	0.0
Start of Calendar Year (01/05/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (11/06/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0
One Year Ago (08/11/2009 map)	75.5	24.5	10.6	3.4	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.

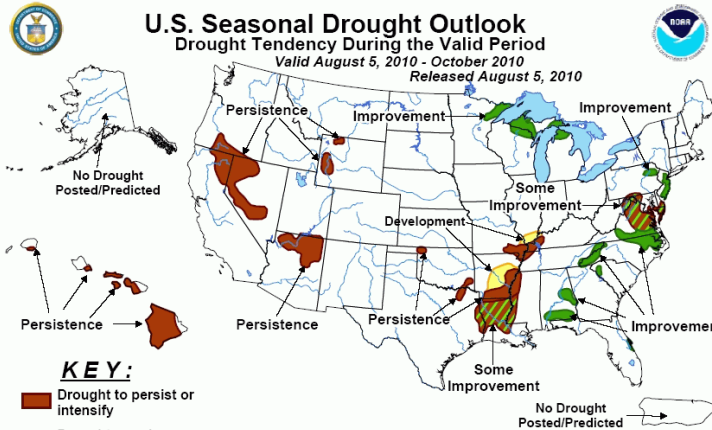
<http://drought.unl.edu/dm>



Released Thursday, August 12, 2010
Author: Brian Fuchs, National Drought Mitigation Center

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid August 5, 2010 - October 2010
Released August 5, 2010



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.

August 10 – The latest U.S. Drought Monitor reports that in Texas, D0 was improved in northeast Texas in response to rains over the last several weeks and D0 was extended to the southwest in the eastern portions of Texas as this area continued to miss out on the rains while observing significant heat. In the High Plains, in response to the heat and dryness over the last few weeks, an area of D0 was introduced into north central South Dakota as local reports of stressed crops with yield losses are becoming abundant in this area. Many areas in Nebraska and South Dakota are being impacted by the heat and dryness over the last 2-4 weeks and some areas are seeing agricultural impacts developing rapidly. In the west, D0 was introduced in north central Montana in response to recent dryness and hydrological concerns being felt in the region. Improvements to the D0 in western and southern Montana were made as the abnormally dry conditions have subsided. Improvements were made in Arizona this week; D1 was eliminated from Apache County and categorical improvements were made to the D1 and D2 in Navajo County as the monsoon rains have eased drought related impacts in this part of the state.

According to the Drought Outlook (August 5), due to a very active monsoon during the past two weeks, drought was eliminated in New Mexico. However, a slight expansion of drought has occurred in northwest Arizona. Drought is forecast to persist in Arizona. An ongoing heat wave coupled with below normal rainfall has resulted in drought intensification and development for parts of the lower Mississippi Valley. Drought is expected to persist and expand in the lower Ohio Valley, southeast Missouri, and parts of Arkansas. Some improvement is forecast in Louisiana. Although drought has expanded across parts of the eastern U.S., the outlook calls for improvement or some improvement in this region. Major drought relief has occurred in the upper Mississippi Valley and Great Lakes region. A dry climatology favors drought persistence across western Wyoming.

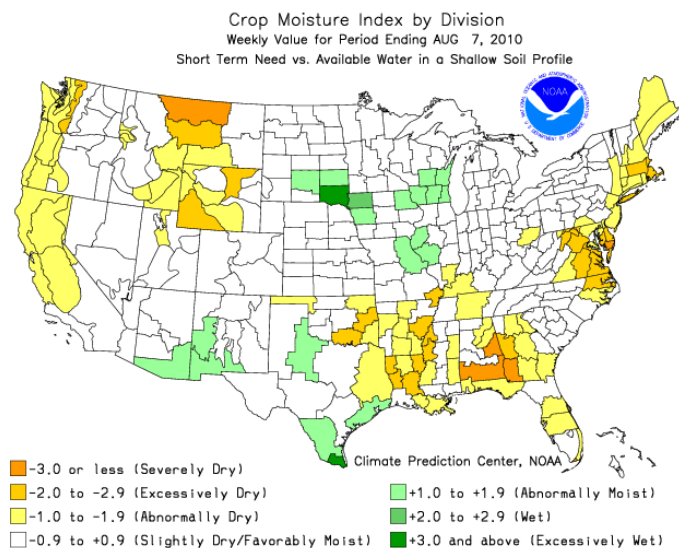
CROP REPORT

August 9, 2010 – The week began with heat advisories across the state and the high temperatures for the week occurring on Monday. Triple digit temperatures continued most of the week as did the heat advisories and excessive heat warnings. The average high temperatures for the week ranged from 97 to 100 degrees with heat indices much higher. As the heat continued so did the need for rainfall with the state averaging only 0.38 inches of rain. Field crops and pastures were starting to show signs of stress as a result of the hot and dry weather while grasshopper infestations further depleted available pasture. Topsoil and subsoil conditions were rated mostly in the adequate to short range. Topsoil rated very short increased by 13 points to 21 percent while 11 percent of subsoil was rated very short, up three points from the previous week. There were 6.5 days suitable for field work.

Virtually all wheat ground was plowed by week's end and nine percent of wheat seedbeds were prepared. Ninety-two percent of rye was plowed by Sunday, and nine percent of rye seedbeds were prepared by week's end. Oat seedbed preparation reached 18 percent complete, 13 points ahead of the previous year.

Despite the extreme heat and lack of precipitation most of the state's row crops were rated in the good to fair range. Ninety-two percent of corn reached the dough stage by week's end, 12 points ahead of the five-year average. Corn dented reached 65 percent complete, 21 points up from the previous week, while 19 percent of corn had matured. Sorghum headed reached 73 percent complete, 28 points ahead of the five-year average. Sorghum coloring reached 21 percent complete, six points ahead of normal. Soybeans in the blooming stage were at 75 percent by week's end, a ten point increase from the week earlier, and seven points ahead of the five-year average. Soybeans setting pods reached 36 percent complete, a ten point increase from the week prior, but four points behind the five-year average. Peanuts pegging reached 93 percent complete by week's end, and 55 percent of the plants were setting pods, 12 points below normal. Cotton squaring was virtually complete by Sunday, nine points ahead of the five-year average. Sixty-six percent of the cotton crop was setting bolls by week's end, 15 points ahead of normal. Watermelon harvest reached 70 percent complete by week's end, an increase of 18 points from the prior week.

The third cutting of alfalfa was 93 percent complete and 34 percent of the fourth cutting was completed by week's end. The first cutting of other hay was virtually complete and 39 percent of the second cutting was completed by Sunday. Both alfalfa and other hay conditions continue to be rated mostly in the good to fair range. The heat has affected the availability of pasture in some parts of the state, as have problems with grasshoppers. Overall, pasture and range conditions were rated mostly in the good to fair range, with only six percent rated excellent. The lack of pasture and the excessive heat have started to affect cattle and poultry in some areas. Livestock conditions rated mostly in the good to fair range with 10 percent rated excellent overall.



RESERVOIR STORAGE

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

Storage in Selected Oklahoma Lakes & Reservoirs					
August 9, 2010					
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 07/13/2010 (feet)	Current Elevation 08/09/2010 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2005.18	2004.45	(0.73)	845
Great Salt Plains	1125.00	1126.40	1125.22	(1.18)	1,762
Kaw*	1008.00	1022.17	1008.24	(13.93)	5,502
Northeast					
Birch	750.50	751.22	750.24	(0.98)	(298)
Copan	710.00	717.94	709.98	(7.96)	(78)
Fort Gibson	554.00	557.37	556.82	(0.55)	56,438
Grand*	743.50	745.70	743.40	(2.30)	(2,999)
Hudson	619.00	621.72	620.68	(1.04)	18,795
Hulah	733.00	740.80	733.19	(7.61)	622
Keystone*	723.00	725.27	726.17	0.90	64,678
Oologah*	638.00	646.24	642.18	(4.06)	139,472
Skiatook	714.00	715.51	713.74	(1.77)	(2,687)
West Central					
Canton	1615.40	1616.00	1615.57	(0.43)	1,349
Foss	1642.00	1642.10	1641.89	(0.21)	(735)
Central					
Arcadia	1006.00	1006.56	1005.81	(0.75)	(338)
Heyburn	761.50	762.24	761.42	(0.82)	(81)
Thunderbird	1039.00	1040.46	1038.63	(1.83)	(2,220)
East Central					
Eufaula*	585.00	588.55	585.29	(3.26)	28,003
Tenkiller	632.00	633.24	633.78	0.54	23,318
Southwest					
Fort Cobb	1342.00	1343.60	1342.12	(1.48)	467
Lugert-Altus	1559.00	1555.03	1549.33	(5.70)	(52,034)
Tom Steed	1411.00	1410.62	1410.03	(0.59)	(6,083)
South Central					
Arbuckle	872.00	872.84	872.35	(0.49)	833
McGee Creek**	175.90	176.53	176.05	(0.48)	1,865
Texoma*	617.60	618.69	617.06	(1.63)	(41,589)
Waurika*	951.40	952.29	951.39	(0.90)	(101)
Southeast					
Broken Bow*	602.50	600.74	596.20	(4.54)	(89,284)
Hugo*	404.50	404.46	403.21	(1.25)	(58,906)
Pine Creek*	438.00	437.01	432.74	(4.27)	(17,030)
Sardis	599.00	598.70	598.36	(0.34)	(8,570)
Wister	478.00	478.09	477.71	(0.38)	(1,700)

* indicates seasonal pool operation

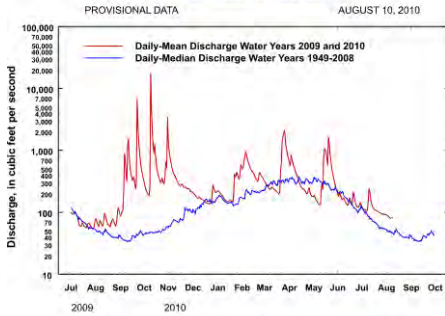
** elevation in meters

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

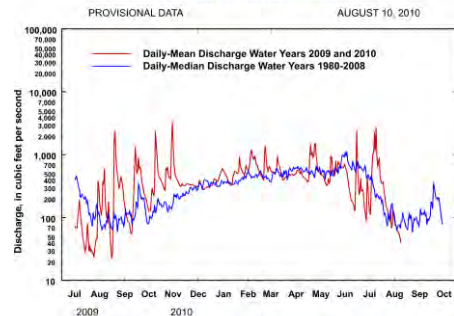


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

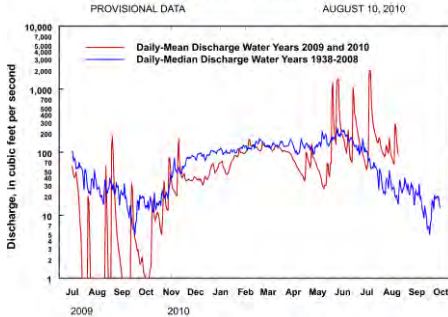


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

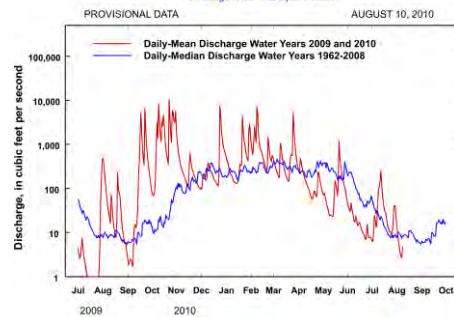


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

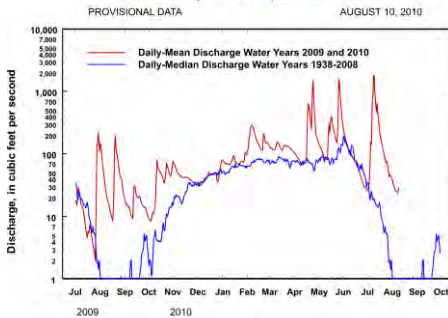


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

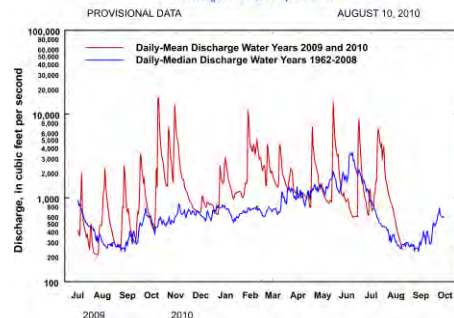


Comparison of daily discharges for water years 2009 and 2010 and period of record

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.