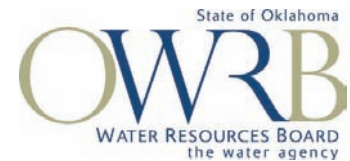


Oklahoma Water Resources Bulletin

& Summary of Current Conditions



October 12, 2005

Statewide Precipitation & General Summary

Moisture conditions continue to improve somewhat throughout much of the state, but southeast Oklahoma remains relatively dry.

According to preliminary Mesonet weather station data provided by the Oklahoma Climatological Survey and National Weather Service (see below), the area receiving the lowest percent of normal rainfall for the calendar year is the Southeast climate division (25.96 inches, 12.32 inches below normal, and only 68 percent of the average). The current state-averaged rainfall total is 25.60 inches—a deficit of 3.85 inches and 87 percent of normal.

Over the last 30 days (from September 10 through October 9), moisture conditions are generally more favorable. However, the Panhandle region has received only 0.56 inches of rainfall (a deficit of 1.19 inches and only 32 percent of normal) and the East Central climate division has received only 57 percent (2.69 inches) of its normal. The current state-averaged rainfall total for the period is 3.26 inches—a deficit of 0.39 inches and 89 percent of normal.



Preliminary Statewide Precipitation BY CLIMATE DIVISION

DIVISION (#)	Calendar Year JANUARY 1—OCTOBER 9, 2005			LAST 30 DAYS SEPTEMBER 10—OCTOBER 9, 2005		
	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL
Panhandle	17.11	-1.18	94	0.56	-1.19	32
North Central	24.91	-1.47	94	2.82	-0.15	95
Northeast	28.50	-4.99	85	3.23	-1.17	73
West Central	25.10	+0.70	103	3.16	+0.30	110
Central	27.78	-2.79	91	3.82	-0.12	97
East Central	28.74	-7.04	80	2.69	-2.02	57
Southwest	23.78	-1.80	93	5.11	+1.87	158
South Central	27.70	-4.61	86	4.51	+0.23	105
Southeast	25.96	-12.32	68	3.43	-1.21	74
Statewide	25.60	-3.85	87	3.26	-0.39	89

Information and data contained in this update of Oklahoma's water resource conditions are courtesy of the National Weather Service, Climate Prediction Center, Oklahoma Climatological Survey, State Department of Agriculture, Oklahoma Forestry Services, 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. This publication is issued weekly during times of specific concern regarding statewide or regional water situations and periodically—biweekly or monthly—the remainder of the year. **For more information, visit <http://www.owrb.state.ok.us/features/drought.html> and <http://climate.ocs.ou.edu/drought/>.**

Drought Indices

According to the latest Palmer Drought Severity Index (October 8, below), drought conditions have improved throughout much of Oklahoma. However, the Southeast and East Central climate divisions are in “moderate drought.” Only two of Oklahoma’s nine climate divisions have undergone PDSI moisture decreases since September 10.

The latest monthly Standardized Precipitation Index (through September, below) reflects relatively dry conditions in some southern and eastern areas of Oklahoma within the past nine months. In particular, among the *selected* time periods (3-, 6-, 9- and 12-month SPIs), “very dry” conditions persist in Southeast and East Central Oklahoma over the past 6 months. Considering longer periods (through six years), only the Southeast climate division reports “moderately dry” conditions over the past 30 and 36 months. [SPI updates are available around the 10th of each month.]

The latest Keetch-Byram Drought Index (October 10, below), which 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, indicates that drought-related fire conditions have improved, especially in southeast Oklahoma. Statewide, 8 Mesonet stations are currently at or above 600, generally indicative of more severe drought conditions (13 stations had a reading above 600 on September 12). Talihina, in southeast Oklahoma, has the highest KBDI value (655). According to the Oklahoma Department of Agriculture, Food, and Forestry, Statewide Wildfire Preparedness is at Level 2 (moderate fire danger). As of September 22, Gov. Henry cancelled the state’s Burning Ban. **However, a Red Flag Fire Alert remains in effect for seven counties in the southeast Oklahoma region.** Extended very dry conditions through August and September has increased the fire danger in this area. Dry, grassy fuels will ignite easily and burn with surprising intensity. State fire officials urge citizens to avoid burning anything outdoors when winds exceed 20 miles per hour.

Palmer Drought Severity Index					Standardized Precipitation Index Through September 2005			
CLIMATE DIVISION (#)	CURRENT STATUS 10/8/2005	VALUE 10/8 9/10		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
Northwest (1)	INCIPIENT MOIST SPELL	0.70	1.59	-0.89	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
North Central (2)	UNUSUAL MOIST SPELL	2.37	1.43	0.94	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast (3)	INCIPIENT DROUGHT	-0.56	-0.94	0.38	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
West Central (4)	VERY MOIST SPELL	3.11	2.42	0.69	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	VERY WET
Central (5)	MOIST SPELL	1.29	0.73	0.56	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
East Central (6)	MODERATE DROUGHT	-2.40	-2.22	-0.18	NEAR NORMAL	VERY DRY	NEAR NORMAL	NEAR NORMAL
Southwest (7)	UNUSUAL MOIST SPELL	2.16	0.97	1.19	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	MODERATELY WET
South Central (8)	NEAR NORMAL	0.22	-0.96	1.18	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southeast (9)	MODERATE DROUGHT	-2.87	-3.45	0.58	NEAR NORMAL	VERY DRY	MODERATELY DRY	NEAR NORMAL

Keetch-Byram DROUGHT FIRE INDEX

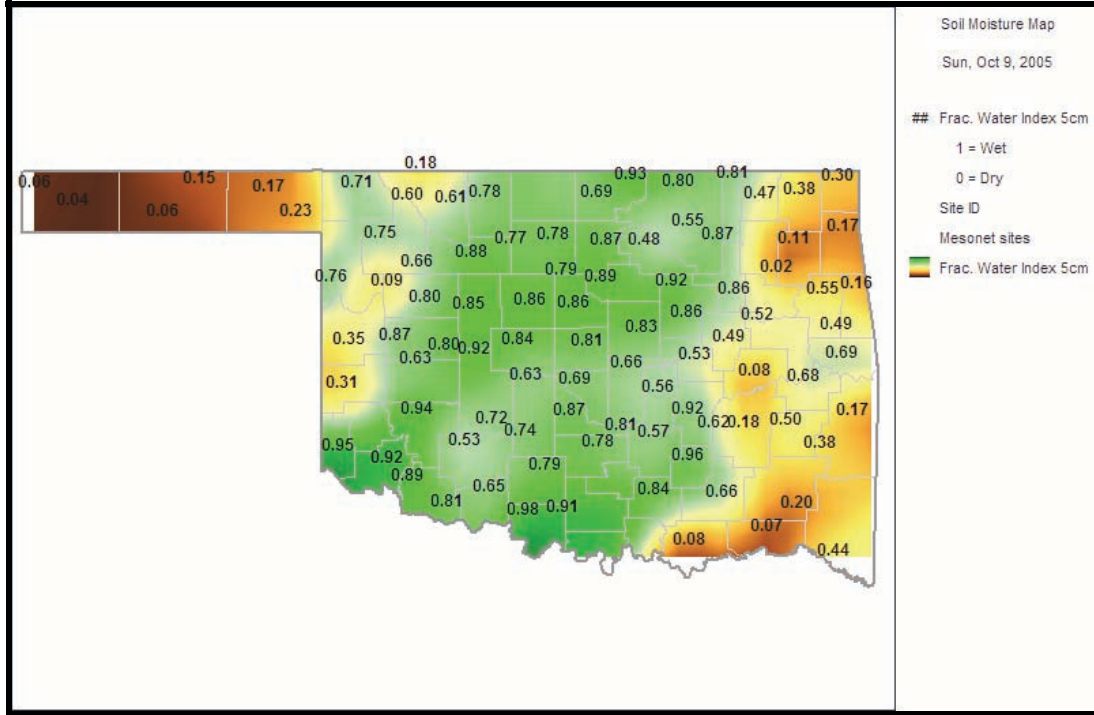
MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 10/10/2005	ANTICIPATED IMPACT
Talihina	LeFlore	Southeast	655	600-800: often associated with more severe drought; increased wildfire occurrence; intense deep burning fires with significant downwind spotting; live fuels also expected to burn actively. 400-600: lower litter and duff layers actively contribute to fire intensity and will burn actively; typical of late summer, early fall.
Antlers	Pushmataha	Southeast	653	
Durant	Bryan	South Central	652	

Total stations above 600 = 8

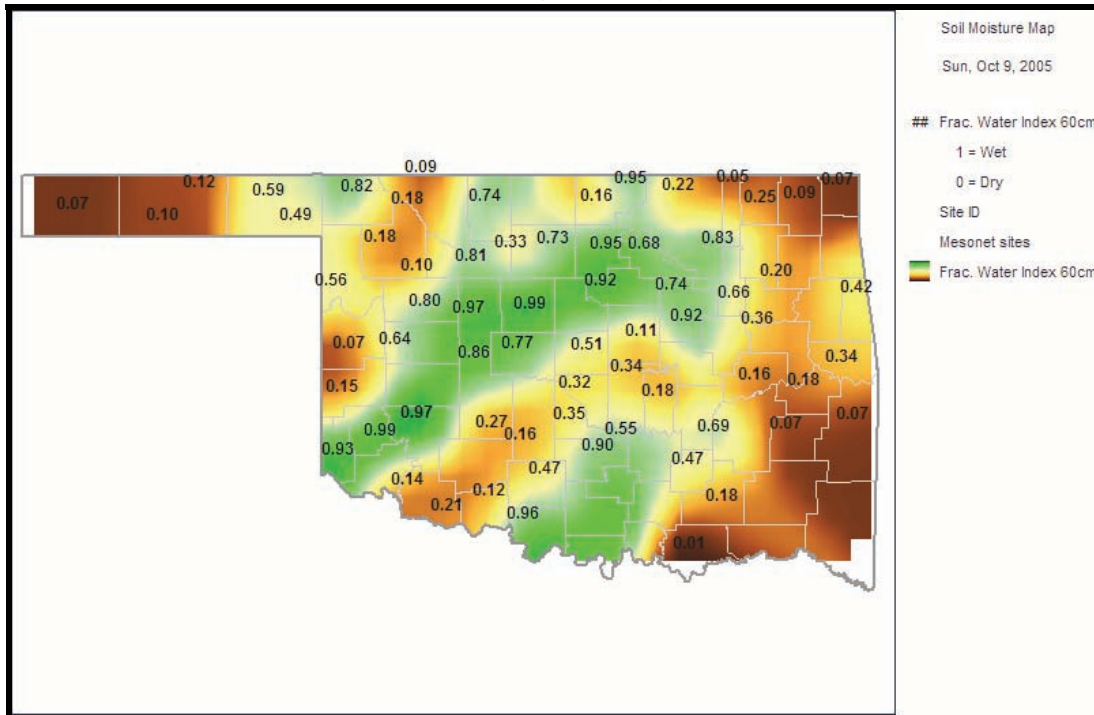
The PDSI may underestimate or overestimate the severity of ongoing dry periods. The SPI, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the 6-month SPI can be very effective in showing precipitation over distinct seasons. The Keetch-Byram Drought Index provides a gauge of dead fuel currently available for potential fires.

**Soil Moisture
Fractional Water Index**
October 9, 2005
(Courtesy Oklahoma Climatological Survey)

5 CM (~2 INCHES)



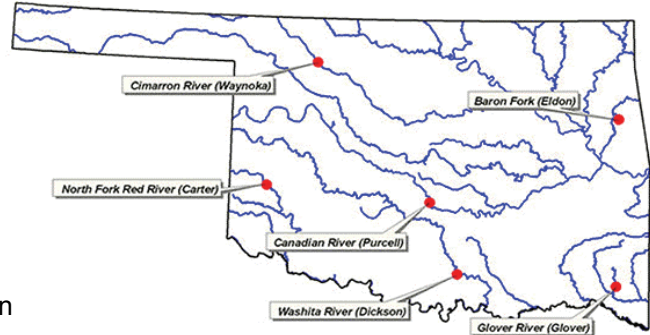
60 CM (~2 FEET)



FWI Value Soil Wetness Conditions			
1.0 – 0.8	Enhanced Growth (~Field Capacity)	0.5 – 0.3	Plants Dying
0.8 – 0.5	Limited Growth	< 0.1	Barren Soil

Streamflow Conditions

Flows in most state rivers and streams are generally adequate, although low streamflow remains a concern in southeast Oklahoma due to the recent dry weather. Considering overall trends as well as current flows, the most recent data (October 2, attached) from the six U.S. Geological Survey/OWRB stream gage sites selected to monitor the general condition of Oklahoma streams (daily streamflow since October 1, 2004, compared to long-term, normal/median daily discharges) indicate **much below average flow** in *southeast* (Glover River, McCurtain County) Oklahoma; **below average flow** in the *northeast* (Baron Fork, Cherokee County) region; **near average flow** in *south central* (Washita River, Carter County), *southwest* (North Fork/Red River, Beckham County), and *central* (Canadian River, McClain County) Oklahoma; and **above average flow** in the *northwest* (Cimarron River, Woods County).



Weather Forecast

The National Weather Service 8- to 14-day outlook (October 17-23) calls for below normal precipitation and above normal temperatures for all of Oklahoma.

Although much uncertainty exists, a majority of the statistical and coupled model forecasts indicate that near neutral El Niño Southern Oscillation (ENSO) conditions will continue throughout the next three to six months. El Niños, warm water patterns that increase the chances for generally cooler, wetter conditions in the southern U.S. (including Oklahoma), occur about every two to seven years.

Crop Report

October 11 – Rains and cooler temperatures slowed harvest slightly, but boosted small grain emergence. There were 4.4 days suitable for fieldwork last week.

Scattered rains boosted the germination of winter wheat and other fall-seeded small grain crops. Wheat seeding advanced to 71 percent, which was 2 points above normal. Approximately one-half of the 2006 wheat crop has emerged. Armyworm outbreaks were reported to be heaviest in central, south central and northeast Oklahoma. However, many producers were beginning to spray insecticides to control the armyworms by week's end. Rye growers were running well ahead of average with 88 percent of their crop planted and 75 percent emerged. Oats, at 30 percent seeded, were up significantly from last week but still lagged behind the normal pace of 34 percent.

Over two-thirds of the cotton and peanuts were rated in good to excellent condition. Cotton harvest, which was mostly limited to the Southwest district, continued to be at least one week behind normal. Peanuts reaching maturity jumped 22 points to 83 percent. Peanuts dug and combined continued at a normal pace and were 28 and 14 percent completed, respectively. All other row crops were rated in mostly good to fair condition. The Panhandle was winding down corn harvest as the typical freeze date approaches. Corn harvest for the remainder of the state was basically complete. Sorghum harvest ranged from less than one percent complete in the Panhandle to three-fourths of the way complete in the southwest. For the state, 29 percent of the sorghum was harvested. Soybeans were 46 percent harvested.

Alfalfa conditions were rated as mostly good and other hay conditions remained mostly good to fair. Alfalfa hay remained well ahead of normal as the fifth cutting advanced an additional 5 points to 88 percent. The sixth cutting of alfalfa jumped 16 points to 35 percent complete. The second cutting of other hay was slowly beginning to wind down and was 87 percent complete.

Pastures were still rated in mostly good to fair condition. The scattered rains brought temporary relief to pastures in some areas, but most pastures still need a good soaking rain to benefit pasture growth and replenish stock ponds. Livestock conditions were mostly good. Livestock marketings were rated as average. Death loss of cattle was mostly light. Livestock insect activity was mostly moderate due to high insect activity in the Panhandle and the southwest.

Reservoir Storage

Lake storage in Oklahoma remains generally adequate, although levels have dropped somewhat since last month. As of October 11, the combined normal conservation pools of 31 selected major federal reservoirs across Oklahoma (see below) are approximately 88.1 percent full, a 1.8 percent decrease from that recorded on September 12, according to information from the U.S. Army Corps of Engineers (Tulsa District). Twenty-two reservoirs have experienced lake level decreases since that time; 22 reservoirs are currently operating at less than full capacity (compared to 21 four weeks ago). Five reservoirs—including Lugert-Altus, only 37.6 percent full—are now below 80 percent capacity.

Storage in Selected Oklahoma Lakes & Reservoirs			
10/11/2005			
Climate Division Lake or Reservoir	Conservation Storage (acre-feet)	Present Storage (acre-feet)	Percent of Conservation Storage
North Central			
Fort Supply	13,900	13,030	93.7
Great Salt Plains	31,420	31,420	100.0
Kaw*	375,160	375,160	100.0
Regional Totals/Averages	420,480	419,610	99.8
Northeast			
Birch	19,225	15,041	78.2
Copan	43,400	43,400	100.0
Fort Gibson	365,200	348,370	95.4
Grand	1,672,000	1,486,440	88.9
Hudson	200,300	200,300	100.0
Hulah	25,100	25,100	100.0
Keystone	510,059	510,059	100.0
Oologah	552,210	552,210	100.0
Skiatook	322,700	288,484	89.4
Regional Totals/Averages	3,710,194	3,469,404	93.5
West Central			
Canton	111,310	106,859	96.0
Foss	165,480	156,273	94.4
Regional Totals/Averages	276,790	263,132	95.1
Central			
Arcadia	27,520	27,520	100.0
Heyburn	7,105	6,999	98.5
Thunderbird	119,600	109,772	91.8
Regional Totals/Averages	154,225	144,291	93.6
East Central			
Eufaula*	2,260,943	1,804,319	79.8
Tenkiller	654,100	523,000	80.0
Regional Totals/Averages	2,915,043	2,327,319	79.8
Southwest			
Fort Cobb	80,010	80,010	100.0
Lugert-Altus	132,830	49,958	37.6
Tom Steed	88,970	68,640	77.1
Regional Totals/Averages	301,810	198,608	24.4
South Central			
Arbuckle	72,400	72,214	99.7
McGee Creek	113,930	105,928	93.0
Texoma*	2,588,474	2,486,763	96.1
Waurika*	190,200	186,048	97.8
Regional Totals/Averages	2,965,004	2,850,953	96.2
Southeast			
Broken Bow*	944,830	743,011	78.6
Hugo*	158,617	134,899	85.0
Pine Creek*	53,750	52,947	98.5
Sardis	274,330	254,726	92.9
Wister	60,162	48,719	81.0
Regional Totals/Averages	1,491,689	1,234,302	82.7
State Totals	12,235,235	10,782,696	88.1

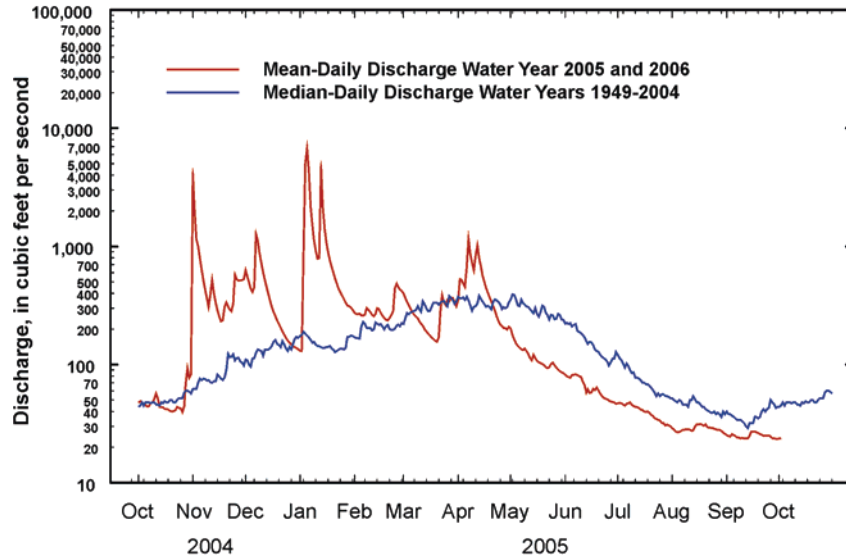
* indicates seasonal pool operation; actual storage figures/percentages may vary.

Baron Fork at Eldon
Baron Fork at Eldon, Oklahoma

Station No. 07197000 Northeast Oklahoma
 Drainage Area 307 square miles

PROVISIONAL DATA

OCTOBER 2, 2005



Comparison of daily discharges for water year 2005 and period of record

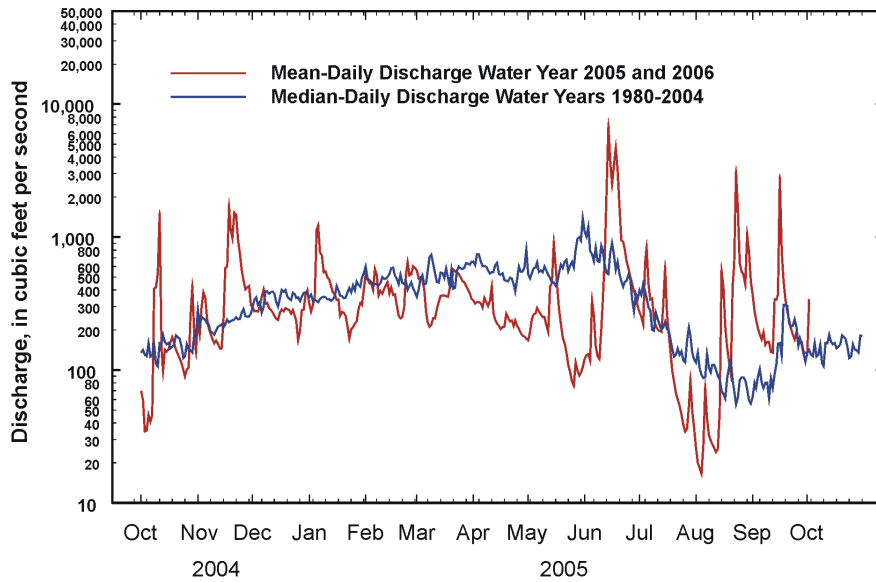
Data from U.S. Geological Survey

Canadian River at Purcell

Canadian River at Purcell, Oklahoma
 Station No. 07229200 Central Oklahoma
 Drainage Area 25,939 square miles

PROVISIONAL DATA

OCTOBER 2, 2005



Comparison of daily discharges for water year 2005 and period of record

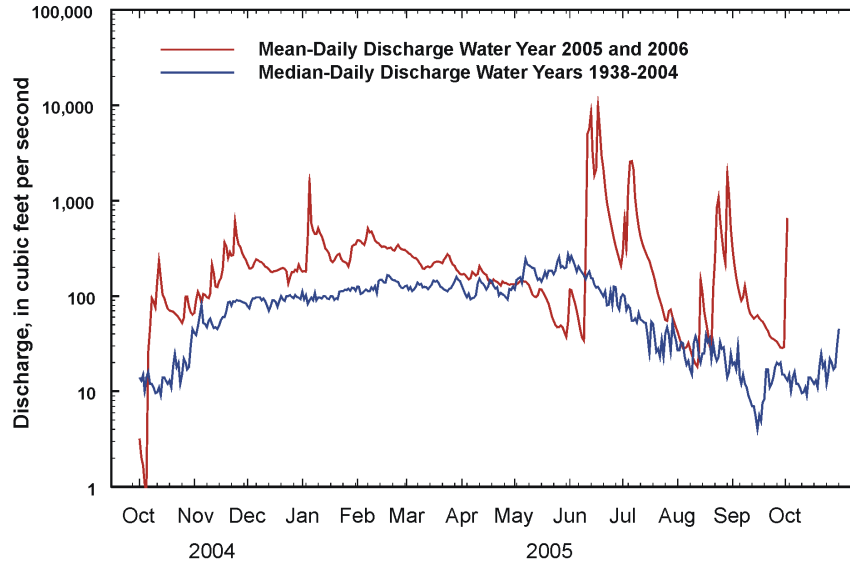
Data from U.S. Geological Survey

Cimarron River near Waynoka

Cimarron River near Waynoka, Oklahoma
 Station No. 07158000 Northwest Oklahoma
 Drainage Area 13,334 square miles

PROVISIONAL DATA

OCTOBER 2, 2005



Comparison of daily discharges for water year 2005 and period of record

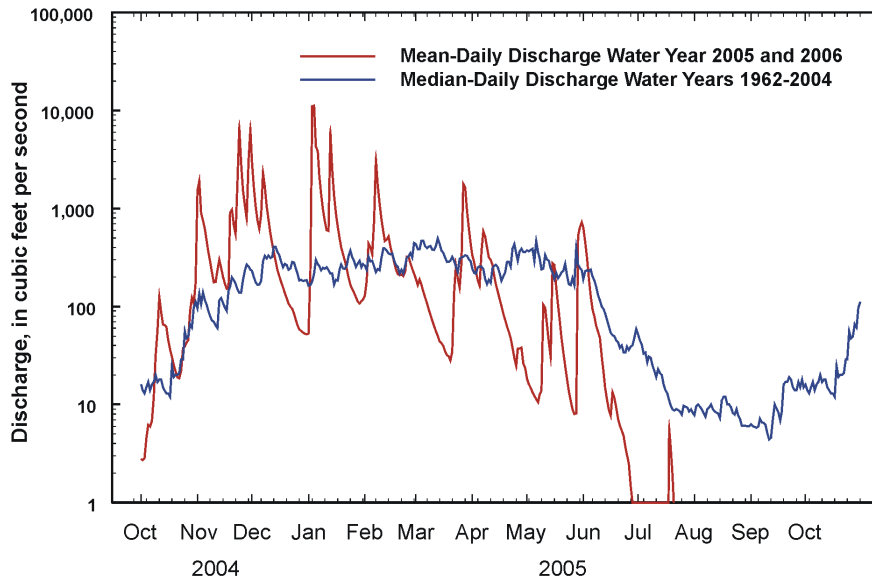
Data from U.S. Geological Survey

Glover River near Glover

Glover River near Glover, Oklahoma
 Station No. 07337900 Southeast Oklahoma
 Drainage Area 315 square miles

PROVISIONAL DATA

OCTOBER 2, 2005



Comparison of daily discharges for water year 2005 and period of record

Data from U.S. Geological Survey

North Fork of the Red River near Carter

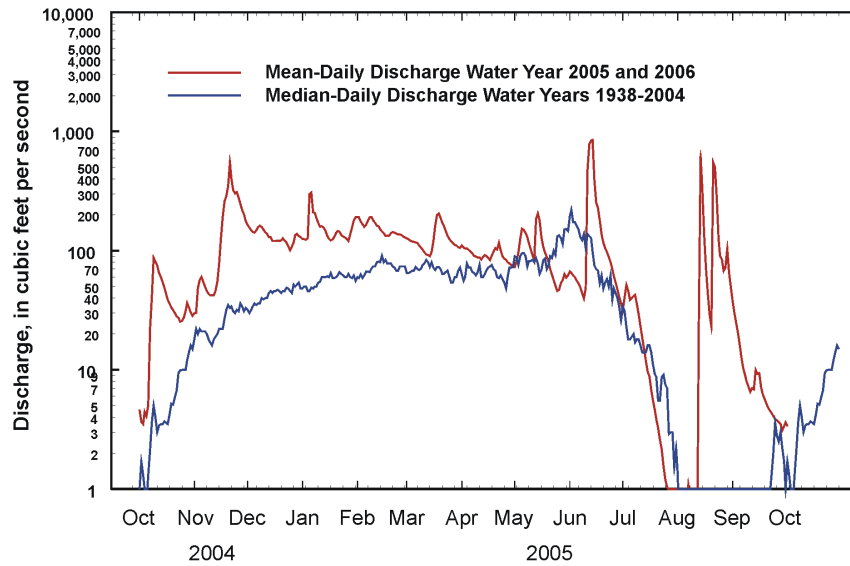
North Fork of the Red River near Carter, Oklahoma

Station No. 07301500 Southwest Oklahoma

Drainage Area 2,337 square miles

PROVISIONAL DATA

OCTOBER 2, 2005



Comparison of daily discharges for water year 2005 and period of record

Data from U.S. Geological Survey

Washita River near Dickson

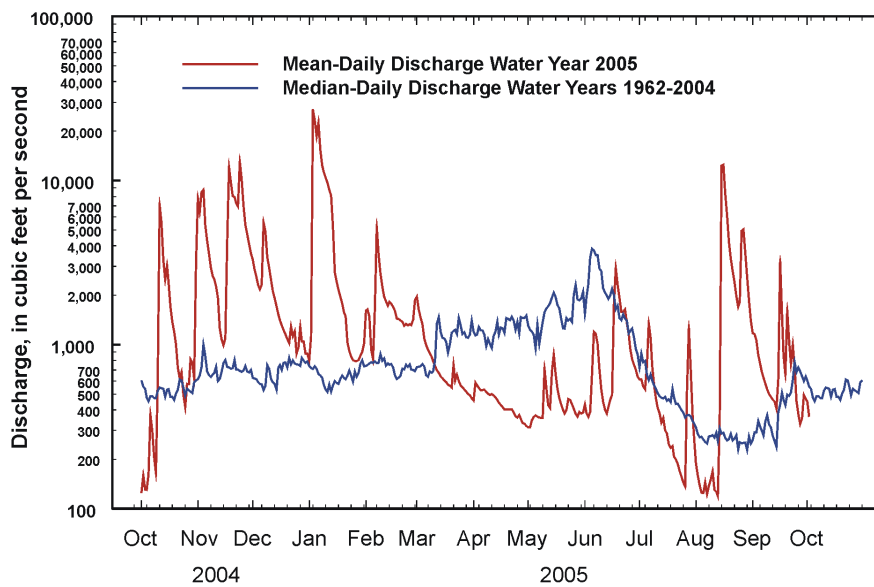
Washita River near Dickson, Oklahoma

Station No. 07331000 South-Central Oklahoma

Drainage Area 7,202 square miles

PROVISIONAL DATA

OCTOBER 2, 2005



Comparison of daily discharges for water year 2005 and period of record

Data from U.S. Geological Survey