

Oklahoma Water Resources Bulletin

& Summary of Current Conditions

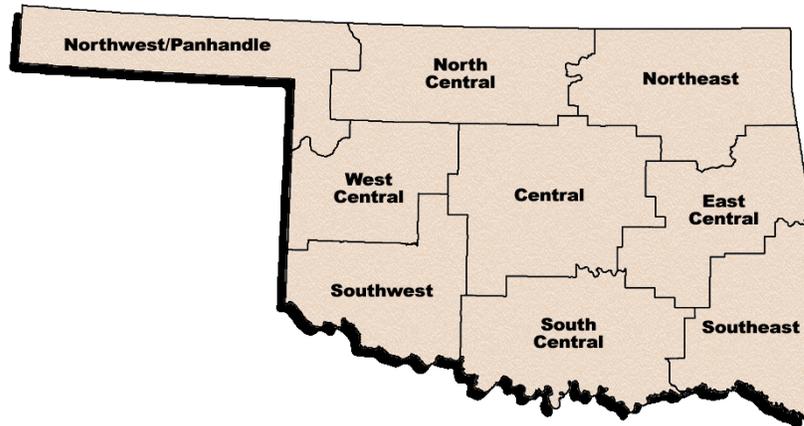


February 18, 2005

Statewide Precipitation & General Summary

A general surplus of moisture continues to exist throughout Oklahoma. 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 from January 19 through February 17 (the last 30 days) is the Southeast climate division (1.94 inches, a deficit of 1.14 inches, 63 percent of normal). Four additional regions (the East Central, South Central, Central and Northeast climate divisions) have received less than their normal precipitation over the period. The current state-averaged rainfall total is 1.55 inches, 92 percent of normal.

For the calendar year, the state-averaged rainfall total is 4.44 inches, which is 176 percent of normal.



Preliminary Statewide Precipitation By Climate Division

DIVISION (#)	CALENDAR YEAR JANUARY 1—FEBRUARY 17, 2005			LAST 30 DAYS JANUARY 19—FEBRUARY 17, 2005		
	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL
Panhandle	2.28"	+1.37"	251	1.40"	+0.79"	231
North Central	3.58"	+1.91"	215	1.32"	+0.19"	116
Northeast	5.56"	+2.79"	201	1.72"	-0.14"	93
West Central	2.77"	+1.19"	176	1.22"	+0.16"	115
Central	3.77"	+1.27"	151	1.53"	-0.17"	90
East Central	6.95"	+3.34"	193	1.65"	-0.72"	70
Southwest	2.86"	+1.00"	153	1.52"	+0.26"	121
South Central	5.06"	+1.82"	156	1.64"	-0.50"	77
Southeast	7.44"	+2.72"	158	1.94"	-1.14"	63
Statewide	4.44"	+1.92"	176	1.55"	-0.13"	92

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 (February 12, below), no regions in Oklahoma are currently experiencing drought conditions and all remain "moist." Only three of Oklahoma's nine climate divisions have undergone PDSI moisture decreases since January 15. The greatest decrease occurred in the Southeast climate division.

The latest monthly Standardized Precipitation Index (through January, below) indicates no long-term dryness in Oklahoma; wet conditions continue to dominate. Among the *selected* time periods (3-, 6-, 9- and 12-month SPIs), no climate divisions indicate dryness. And considering longer periods (through six years), no regions indicate dry conditions. [SPI updates are available around the 10th of each month.]

The latest Keetch-Byram Drought Index (February 18, 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 remain very good. Statewide, no Mesonet stations are currently at or above 600, generally indicative of more severe drought conditions (no stations had a reading above 600 on January 18). Webbers Falls, in East Central Oklahoma, has the highest KBDI value (59). According to the Oklahoma Department of Agriculture, Food, and Forestry, Statewide Wildfire Preparedness is at Level 3 (high fire danger). No counties are currently in a Burn Ban or Red Flag Fire Alert. Dormant grassy fuels may be flashy, especially when winds are high. Afternoon humidities may be low. State fire officials ask citizens to avoid burning anything outdoors when winds exceed 20 mph.

Palmer Drought Severity Index					Standardized Precipitation Index Through January 2005			
CLIMATE DIVISION (#)	CURRENT STATUS 2/12/2005	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		2/12	1/15					
Northwest (1)	EXTREME MOIST SPELL	4.09	3.72	0.37	EXTREMELY WET	EXTREMELY WET	VERY WET	VERY WET
North Central (2)	EXTREME MOIST SPELL	4.26	4.15	0.11	VERY WET	MODERATELY WET	MODERATELY WET	VERY WET
Northeast (3)	UNUSUAL MOIST SPELL	2.96	3.05	-0.09	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	MODERATELY WET
West Central (4)	VERY MOIST SPELL	3.26	3.11	0.15	EXTREMELY WET	VERY WET	MODERATELY WET	VERY WET
Central (5)	UNUSUAL MOIST SPELL	2.90	2.86	0.04	VERY WET	MODERATELY WET	MODERATELY WET	MODERATELY WET
East Central (6)	UNUSUAL MOIST SPELL	2.07	2.41	-0.34	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southwest (7)	VERY MOIST SPELL	3.16	2.93	0.23	VERY WET	VERY WET	MODERATELY WET	VERY WET
South Central (8)	VERY MOIST SPELL	3.13	3.11	0.02	VERY WET	MODERATELY WET	MODERATELY WET	MODERATELY WET
Southeast (9)	MOIST SPELL	1.99	2.54	-0.55	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL

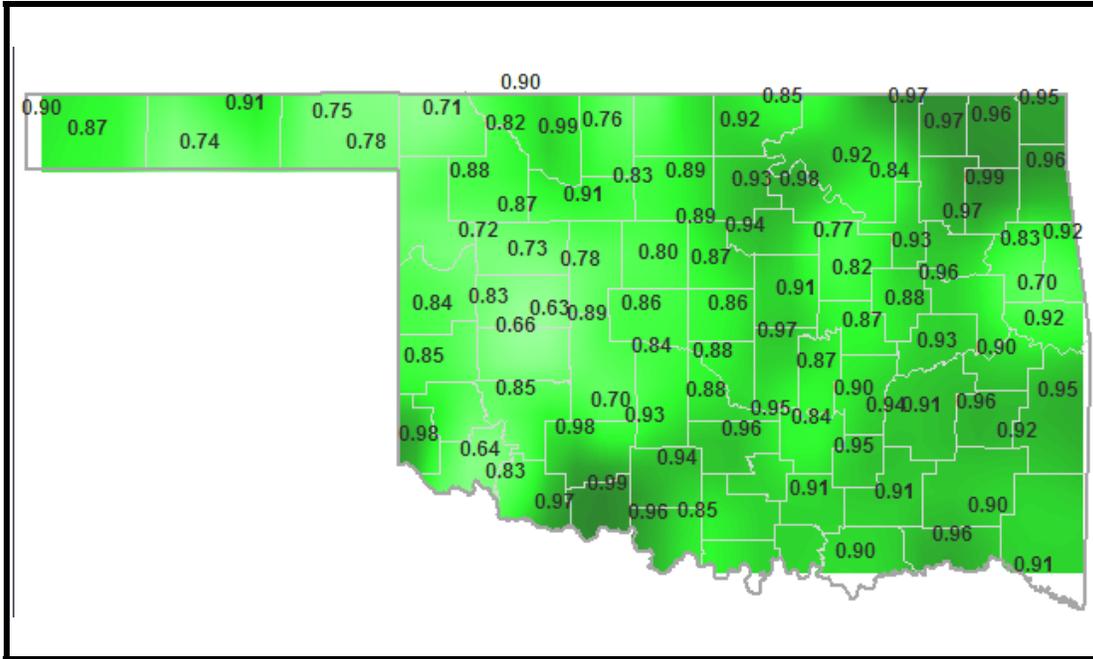
Keetch-Byram Drought Fire Index				
MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 2/18/2005	ANTICIPATED IMPACT
Webbers Falls	Muskogee	East Central	59	600-800: often associated with more severe drought; increased wildfire occurrence; intense deep burning fires with significant downwind spotting; 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.
Kenton	Cimarron	Northwest	56	
Idabel	McCurtain	Southeast	46	

Total stations above 600 = 0

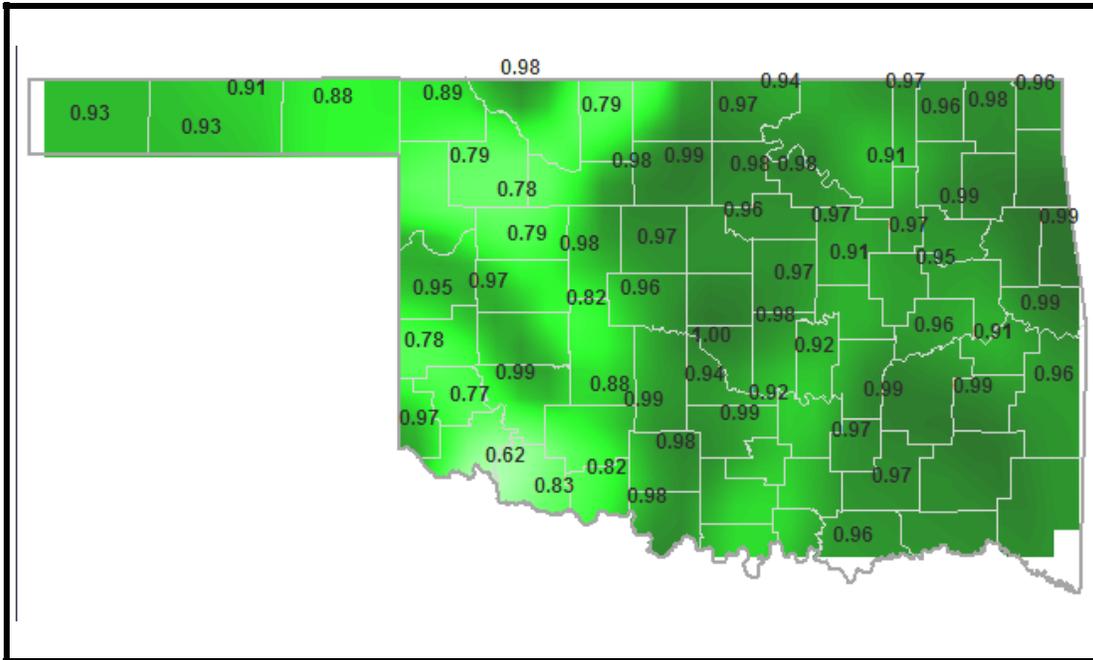
The PDSI may underestimate or overestimate the severity of ongoing dry periods. The SPI, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides 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**
February 17, 2005
(Courtesy Oklahoma Climatological Survey)

5 cm (~2 inches)



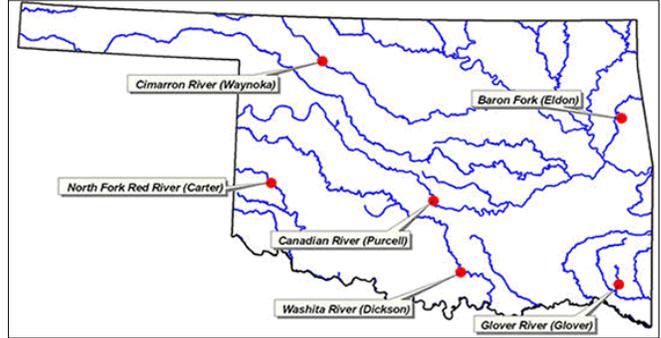
60 cm (~2 feet)



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

Streamflow Conditions

Flows in rivers and streams in Oklahoma remain generally above normal. Considering overall trends as well as current flows, the most recent data (February 15, 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, 2003, compared to long-term, normal/median daily discharges) indicate **near average flow** in *southeast* (Glover River, McCurtain County) and *south central* (Washita River, Carter County) Oklahoma; and **above average flow** in the *northeast* (Baron Fork, Cherokee County), *central* (Canadian River, McClain County), *southwest* (North Fork/Red River, Beckham County), and *northwest* (Cimarron River, Woods County) regions.



Weather Forecast

The National Weather Service 8- to 14-day outlook (February 25 to March 3) calls for above normal precipitation for the general southern one-half of Oklahoma and normal rainfall for the remainder of the state. Below normal temperatures are forecasted for the entire state throughout the period.

The increase and eastward expansion of an area of anomalous warmth in the central equatorial Pacific Ocean since July indicates the early stages of a weak warm (El Niño) episode. A majority of the statistical and coupled model forecasts indicate that this temperature pattern will continue through at least the next three 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

January 31 - Topsoil moisture at the end of January was 40 percent surplus, 57 percent adequate, and only 3 percent short. Subsoil moisture was at 20 percent surplus, 73 percent adequate, 6 percent short and 1 percent very short.

Due to wet conditions during the fall of 2004 and the beginning of 2005, a small percentage of producers were unable to get their wheat planted. Wheat conditions continued to be mostly good to excellent. Winter wheat grazed was at 54 percent, up from 46 percent last year and the five-year average of 41 percent. Oat and rye conditions were mostly good. Oats grazed were at 39 percent, up from normal of 29 percent. Rye grazed, at 81 percent, was up significantly from the normal of 69 percent and the five-year average of 48 percent.

Livestock was rated in mostly good condition. Livestock conditions were 64 percent good and 22 percent fair compared to 41 percent good and 36 percent fair at this time last year. The death loss of cattle was average to light. Hay supplies were rated as mostly average.

Pastures were in mostly fair to good condition due to the above average rainfall received throughout January. Some respondents reported that pastures continued to be extremely muddy. Pasture and range conditions were at 7 percent excellent, 46 percent good, 37 percent fair, 9 percent poor and 1 percent very poor.

Reservoir Storage

Lake storage in Oklahoma remains generally good, although lakes in the southwest continue to experience low levels. As of February 18, the combined normal conservation pools of 31 selected major federal reservoirs across Oklahoma (see below) are approximately 97.4 percent full, a 0.7 percent decrease from that recorded on January 18, according to information from the U.S. Army Corps of Engineers (Tulsa District). Twenty-five reservoirs have experienced lake level decreases since that time and only four reservoirs are currently operating at less than full capacity (compared to three last month). Two reservoirs—Lugert-Altus, only 54.2 percent full; and Tom Steed, 77.5 percent—remain below 80 percent capacity.

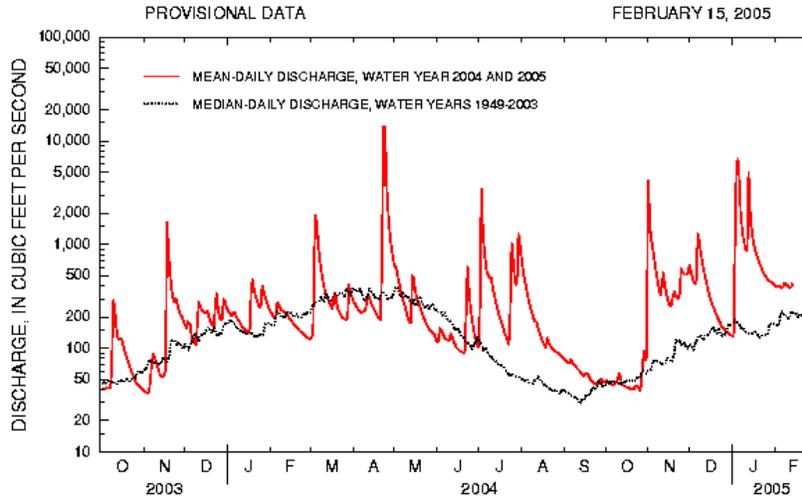
Storage in Selected Oklahoma Lakes & Reservoirs			
02/18/2005			
<i>Climate Division</i> Lake or Reservoir	Conservation Storage (acre-feet)	Present Storage (acre-feet)	Percent of Conservation Storage
North Central			
Fort Supply	13,900	13,900	100.0
Great Salt Plains	31,420	31,420	100.0
Kaw*	375,160	375,160	100.0
Regional Totals/Averages	420,480	420,480	100.0
Northeast			
Birch	19,225	19,225	100.0
Copan	43,400	43,400	100.0
Fort Gibson	365,200	365,200	100.0
Grand	1,672,000	1,597,199	95.5
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	322,700	100.0
Regional Totals/Averages	3,710,194	3,635,393	98.0
West Central			
Canton	111,310	111,310	100.0
Foss	165,480	155,107	93.7
Regional Totals/Averages	276,790	266,417	96.3
Central			
Arcadia	27,520	27,520	100.0
Heyburn	7,105	7,105	100.0
Thunderbird	119,600	119,600	100.0
Regional Totals/Averages	154,225	154,225	100.0
East Central			
Eufaula*	2,368,223	2,368,223	100.0
Tenkiller	654,100	654,100	100.0
Regional Totals/Averages	3,022,323	3,022,323	100.0
Southwest			
Fort Cobb	80,010	80,010	100.0
Lugert-Altus	132,830	71,997	54.2
Tom Steed	88,970	68,914	77.5
Regional Totals/Averages	301,810	73,685	24.4
South Central			
Arbuckle	72,400	72,400	100.0
McGee Creek	113,930	113,930	100.0
Texoma*	2,418,626	2,418,626	100.0
Waurika*	190,200	190,200	100.0
Regional Totals/Averages	2,795,156	2,795,156	100.0
Southeast			
Broken Bow*	918,070	918,070	100.0
Hugo*	158,617	158,617	100.0
Pine Creek*	53,750	53,750	100.0
Sardis	274,330	274,330	100.0
Wister	60,162	60,162	100.0
Regional Totals/Averages	1,464,929	1,464,929	100.0
State Totals	12,145,907	11,832,608	97.4

* 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



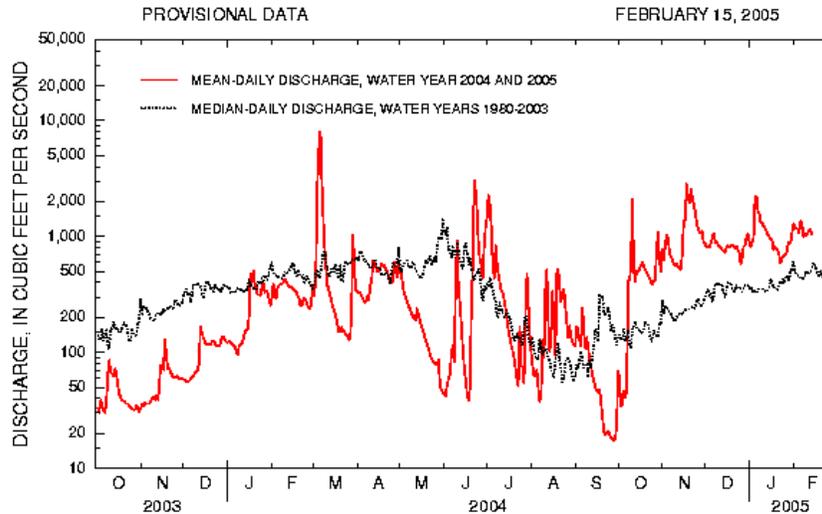
Comparison of daily discharges for water year 2004 and 2005 and period of record for Baron Fork at Eldon, Oklahoma.

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 year 2004 and 2005 and period of record for Canadian River at Purcell, Oklahoma.

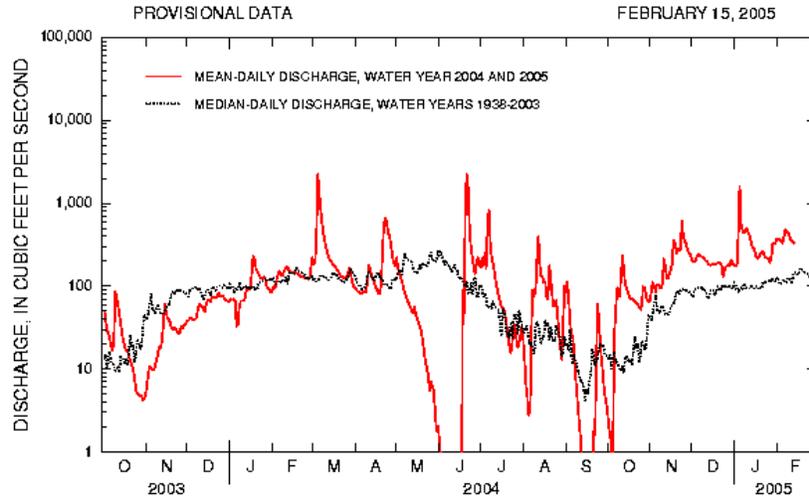
Data from U.S. Geological Survey

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 year 2004 and 2005 and period of record for Cimarron River near Waynoka, Oklahoma.

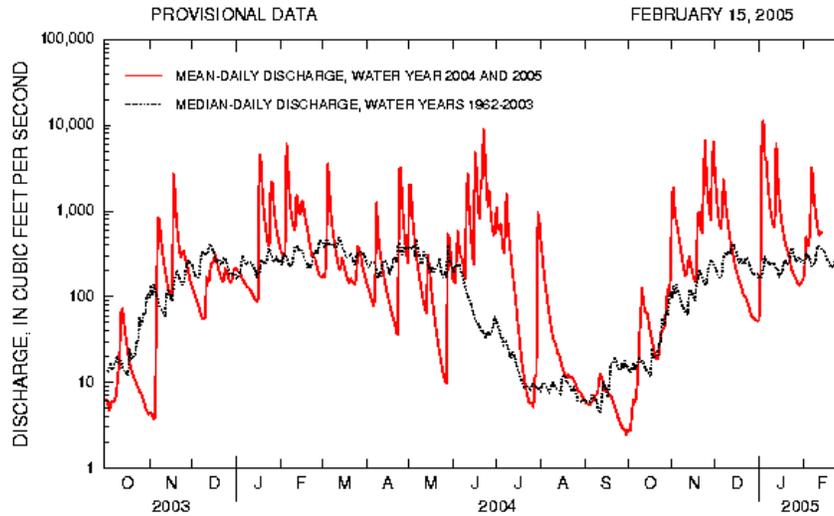
Data from U.S. Geological Survey

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 year 2004 and 2005 and period of record for Glover River near Glover, Oklahoma.

Data from U.S. Geological Survey

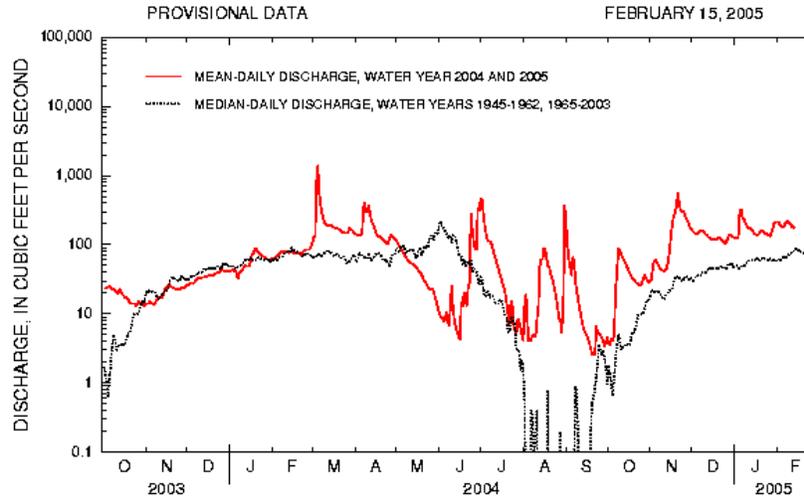
North Fork of the Red River near Carter

North Fork Red River near Carter, Oklahoma

Station No. 07301500

Southwest Oklahoma

Drainage Area 2,337 square miles



Comparison of daily discharges for water year 2004 and 2005 and period of record for North Fork Red River near Carter, Oklahoma.

Data from U.S. Geological Survey

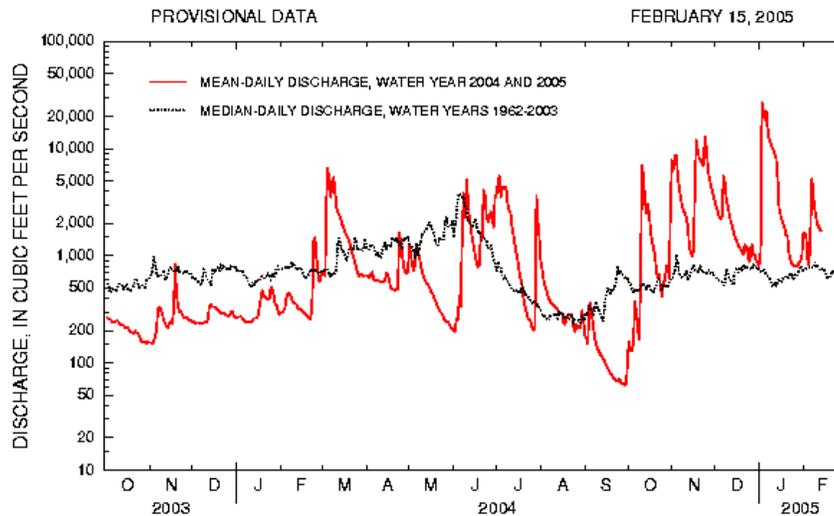
Washita River near Dickson

Washita River near Dickson, Oklahoma

Station No. 07331000

South-Central Oklahoma

Drainage Area 7,202 square miles



Comparison of daily discharges for water year 2004 and 2005 and period of record for Washita River near Dickson, Oklahoma.

Data from U.S. Geological Survey