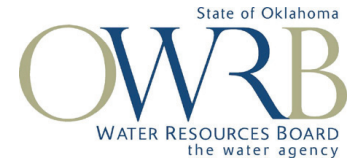


Oklahoma Water Resources Bulletin

& Summary of Current Conditions



November 9, 2005

Statewide Precipitation & General Summary

Below normal moisture continues to impact many regions of the state, especially southeast Oklahoma, which remains very 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 continues to be the Southeast climate division (15.67 inches below normal and only 63 percent of the average). The current state-averaged rainfall total is 26.51 inches—a deficit of 5.91 inches and 82 percent of normal.

Over the last 30 days (from October 8 through November 6), moisture conditions are even less favorable. Seven climate divisions have received less than one-half of their expected normal rainfall over the period. In fact, the East Central, Central and South Central regions have all received less than 20 percent of normal precipitation. The state-averaged rainfall total for the period is only 0.91 inches—a deficit of 2.27 inches and 29 percent of normal.



Preliminary Statewide Precipitation BY CLIMATE DIVISION

DIVISION (#)	Calendar Year JANUARY 1—NOVEMBER 6, 2005			LAST 30 DAYS OCTOBER 8—NOVEMBER 6, 2005		
	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL
Panhandle	18.43"	-1.14"	94%	1.33"	-0.04"	97%
North Central	26.28"	-2.41"	92%	1.37"	-1.11"	55%
Northeast	29.31"	-7.49"	80%	0.80"	-2.73"	23%
West Central	25.85"	-0.72"	97%	0.75"	-1.58"	32%
Central	28.43"	-5.30"	84%	0.65"	-2.75"	19%
East Central	29.49"	-10.18"	74%	0.75"	-3.42"	18%
Southwest	24.44"	-3.59"	87%	0.67"	-1.99"	25%
South Central	28.45"	-7.50"	79%	0.75"	-3.17"	19%
Southeast	27.14"	-15.67"	63%	1.18"	-3.67"	24%
Statewide	26.51"	-5.91"	82%	0.91"	-2.27"	29%

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 (November 5, below), state drought conditions have worsened somewhat within the past month. The Southeast and East Central climate divisions remain in "moderate drought" while the Northeast region is now in the "mild drought" category. Eight of Oklahoma's nine climate divisions have undergone PDSI moisture decreases since October 8.

The latest monthly Standardized Precipitation Index (through October, below) reflects increasingly dry conditions in southern and eastern areas of Oklahoma. In particular, among the *selected* time periods (3-, 6-, 9- and 12-month SPIs), "**extremely dry**" conditions are present in Southeast Oklahoma over the past 9 months. Also, "very dry" conditions persist in Southeast and East Central Oklahoma over various time periods within the past 9 months. Considering longer periods (through six years), the Southeast climate division reports "very dry" conditions over the past 36 months as well as "moderately dry" conditions over the 15-, 24- and 30-month periods. [SPI updates are available around the 10th of each month.]

The latest Keetch-Byram Drought Index (November 7, 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 continue to be of concern, especially in eastern Oklahoma. Statewide, 6 Mesonet stations are currently at or above 600, generally indicative of more severe drought conditions (8 stations had a reading above 600 on October 10). Webbers Falls, in east central Oklahoma, has the highest KBDI value (625). According to the Oklahoma Department of Agriculture, Food, and Forestry, Statewide Wildfire Preparedness is at Level 4 (high fire danger). **On October 26, Gov. Henry issued a Burning Ban for six counties in southeast Oklahoma (Bryan, Choctaw, Latimer, LeFlore, McCurtain, and Pushmataha Counties).** Dry, grassy fuels will ignite easily and burn with surprising intensity in this region. In addition, a Red Flag Fire Alert is in effect for the remainder of the state. Unseasonably warm temperatures and dry and windy conditions have combined to increase the fire danger. Conditions have reached the point where the danger of wildland fires escaping control is significant. State fire officials urge citizens to take extra precautions with fires and avoid burning anything outdoors when winds exceed 20 miles per hour.

Palmer Drought Severity Index					Standardized Precipitation Index Through October 2005			
CLIMATE DIVISION (#)	CURRENT STATUS 11/5/2005	VALUE 11/5	VALUE 10/8	CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
Northwest (1)	MOIST SPELL	1.01	0.70	0.31	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
North Central (2)	MOIST SPELL	1.72	2.37	-0.65	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	MODERATELY WET
Northeast (3)	MILD DROUGHT	-1.48	-0.56	-0.92	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	NEAR NORMAL
West Central (4)	UNUSUAL MOIST SPELL	2.03	3.11	-1.08	MODERATELY WET	MODERATELY WET	NEAR NORMAL	MODERATELY WET
Central (5)	NEAR NORMAL	-0.10	1.29	-1.39	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
East Central (6)	MODERATE DROUGHT	-2.55	-2.40	-0.15	MODERATELY DRY	VERY DRY	VERY DRY	NEAR NORMAL
Southwest (7)	MOIST SPELL	1.05	2.16	-1.11	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central (8)	NEAR NORMAL	-0.35	0.22	-0.57	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	NEAR NORMAL
Southeast (9)	MODERATE DROUGHT	-2.91	-2.87	-0.04	VERY DRY	VERY DRY	EXTREMELY DRY	MODERATELY DRY

Keetch-Byram DROUGHT FIRE INDEX

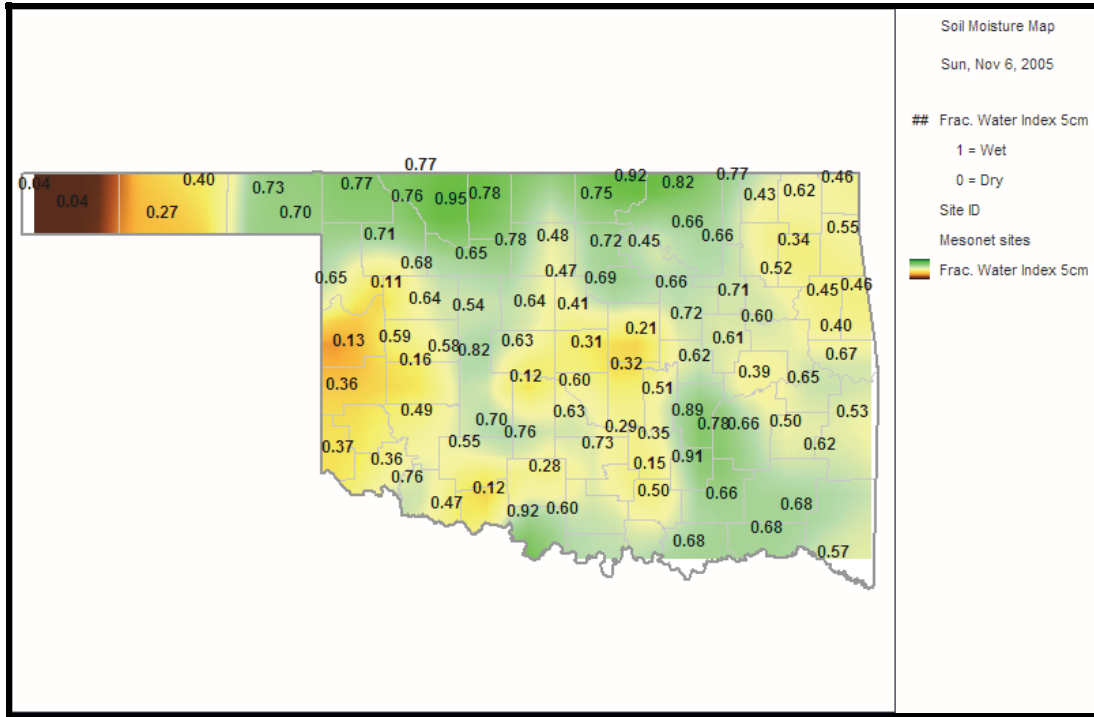
MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 11/7/2005	ANTICIPATED IMPACT
Webbers Falls	Muskogee	East Central	625	600-800: often associated with more severe drought; increased wildfire occurrence; intense deep burning fires with significant downwind spotting; live fuels also expected to burn 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	624	
Eufaula	McIntosh	East Central	618	

Total stations above 600 = 6

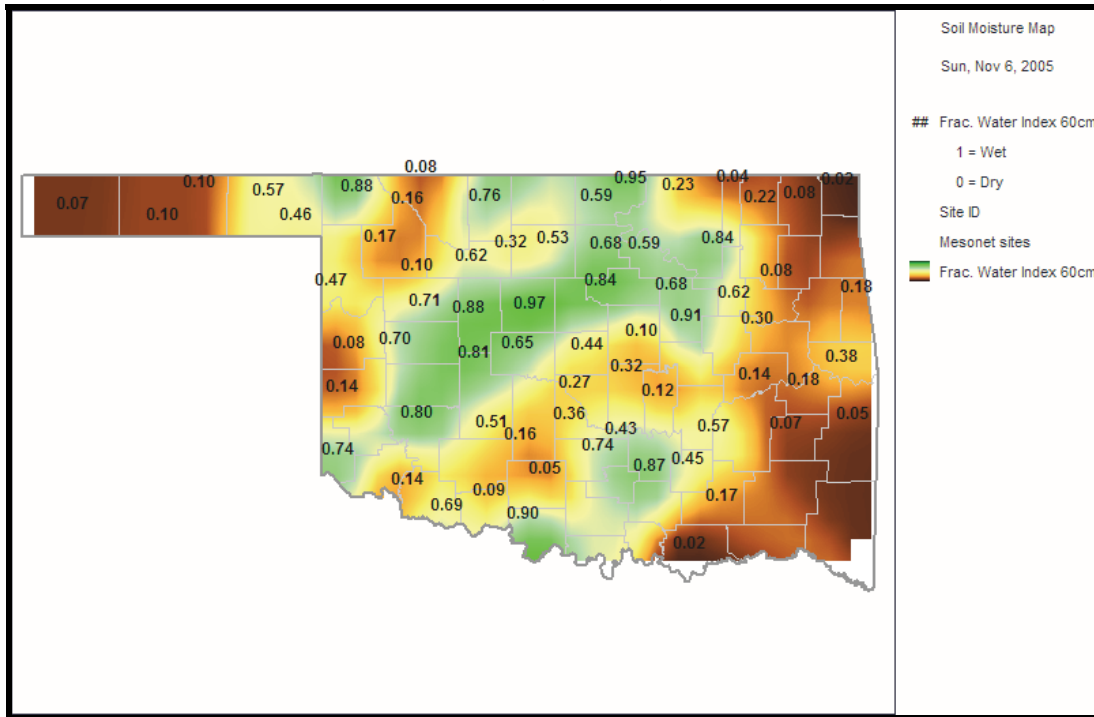
The PDSI may underestimate or overestimate the severity of ongoing dry periods. The SPI, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides 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**
November 6, 2005
(Courtesy Oklahoma Climatological Survey)

5 CM (~2 INCHES)



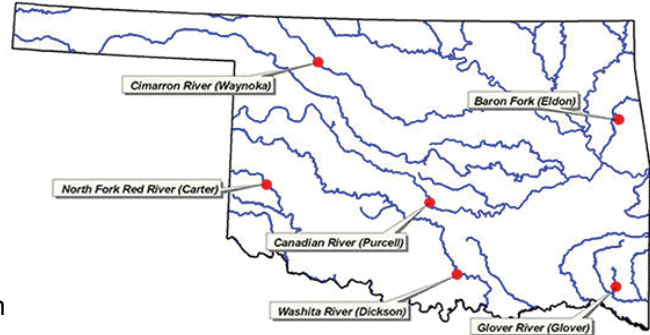
60 CM (~2 FEET)



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 31, 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 *south central* (Washita River, Carter County) and *northeast* (Baron Fork, Cherokee County) regions; **near average flow** in *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 (November 14-20) 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

November 7 – Above average temperatures and high winds have depleted any recent moisture. Statewide, the average high temperature over the week was 75 degrees, an 11 point increase over the same week one year ago. The unusually high temperatures, coupled with the lack of rainfall, have had varying effects on the current crop conditions. Small grains remained in good to fair condition, but row crop conditions continued to flourish as most were still rated as good to excellent. There were 6.1 days suitable for fieldwork last week.

At 98 percent, wheat planting was 10 points ahead of normal and virtually complete. Wheat emergence was also well ahead of normal at 92 percent. Most areas reported that winter wheat was still in need of rain and some wheat in central Oklahoma was beginning to show signs of nitrogen deficiency. Oat emergence and planted at 53 and 60 percent, respectively, were one week ahead of normal.

Sorghum and soybeans reaching maturity were 97 percent complete. Sorghum harvested increased 4 points to 52 percent, but was still 22 points behind normal. Soybeans harvested, at 79 percent, was ahead of last year and the five-year average. Peanuts dug and combined made significant strides over the week. Peanuts dug were virtually complete. Peanuts combined increased 11 points by week's end and were 20 points ahead of normal. Cotton harvested, however, remained behind normal despite the 12 point increase to 46 percent complete. Alfalfa conditions were rated as mostly good. The sixth cutting of alfalfa reached 59 percent, with progress slowed due to the extremely dry conditions.

Pastures conditions declined slightly over the week, but were still rated as mostly fair to good. Water was still a major problem as stock ponds in many areas around the state were extremely low or dry. Additionally, fall pasture growth has been slowed due to the dry conditions, forcing many producers to do supplemental feedings which increased hay supply concerns. Statewide, hay supplies for the rest of the season were mostly average. East central and southeast regions reported hay supplies as 72 and 86 percent below average, respectively. Livestock conditions were mostly good. Livestock marketings were rated as average. Death loss of cattle and livestock insect activity was mostly light.

Reservoir Storage

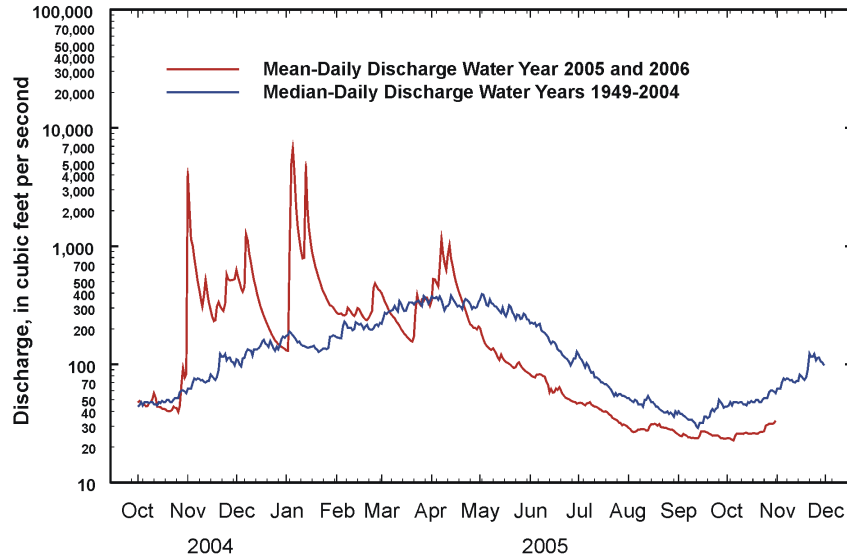
Lake storage is becoming a concern in some areas of Oklahoma, especially in the east. As of November 7, the combined normal conservation pools of 31 selected major federal reservoirs across Oklahoma (see below) are approximately 87.2 percent full, a 0.9 percent decrease from that recorded on October 11, according to information from the U.S. Army Corps of Engineers (Tulsa District). Twenty-seven reservoirs have experienced lake level decreases since that time; 28 reservoirs are currently operating at less than full capacity (compared to 22 four weeks ago). Eight reservoirs—including Lugert-Altus, only 37.4 percent full—are now below 80 percent capacity.

Storage in Selected Oklahoma Lakes & Reservoirs			
11/07/2005			
Climate Division	Conservation	Present	Percent of
Lake or Reservoir	Storage	Storage	Conservation Storage
	(acre-feet)	(acre-feet)	
North Central			
Fort Supply	13,900	12,826	92.3
Great Salt Plains	31,420	31,420	100.0
Kaw*	387,712	387,712	100.0
Regional Totals/Averages	433,032	431,958	99.8
Northeast			
Birch	19,225	14,358	74.7
Copan	43,400	41,811	96.3
Fort Gibson	365,200	364,638	99.8
Grand	1,672,000	1,479,719	88.5
Hudson	200,300	186,071	92.9
Hulah	25,100	23,518	93.7
Keystone	510,059	482,728	94.6
Oologah	552,210	544,370	98.6
Skiatook	322,700	280,361	86.9
Regional Totals/Averages	3,710,194	3,417,574	92.1
West Central			
Canton	111,310	105,460	94.7
Foss	165,480	154,135	93.1
Regional Totals/Averages	276,790	259,595	93.8
Central			
Arcadia	27,520	27,057	98.3
Heyburn	7,105	6,634	93.4
Thunderbird	119,600	106,425	89.0
Regional Totals/Averages	154,225	140,116	90.9
East Central			
Eufaula*	2,314,583	1,784,840	77.1
Tenkiller	654,100	522,891	79.9
Regional Totals/Averages	2,968,683	2,307,731	77.7
Southwest			
Fort Cobb	80,010	80,010	100.0
Lugert-Altus	132,830	49,618	37.4
Tom Steed	88,970	66,232	74.4
Regional Totals/Averages	301,810	195,860	64.9
South Central			
Arbuckle	72,400	71,054	98.1
McGee Creek	113,930	104,473	91.7
Texoma*	2,701,706	2,500,591	92.6
Waurika*	190,200	182,363	95.9
Regional Totals/Averages	3,078,236	2,858,481	92.9
Southeast			
Broken Bow*	918,070	726,878	79.2
Hugo*	170,452	129,791	76.1
Pine Creek*	53,750	48,927	91.0
Sardis	274,330	250,971	91.5
Wister	60,162	43,393	72.1
Regional Totals/Averages	1,476,764	1,199,960	81.3
State Totals	12,399,734	10,811,275	87.2

* 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 31, 2005

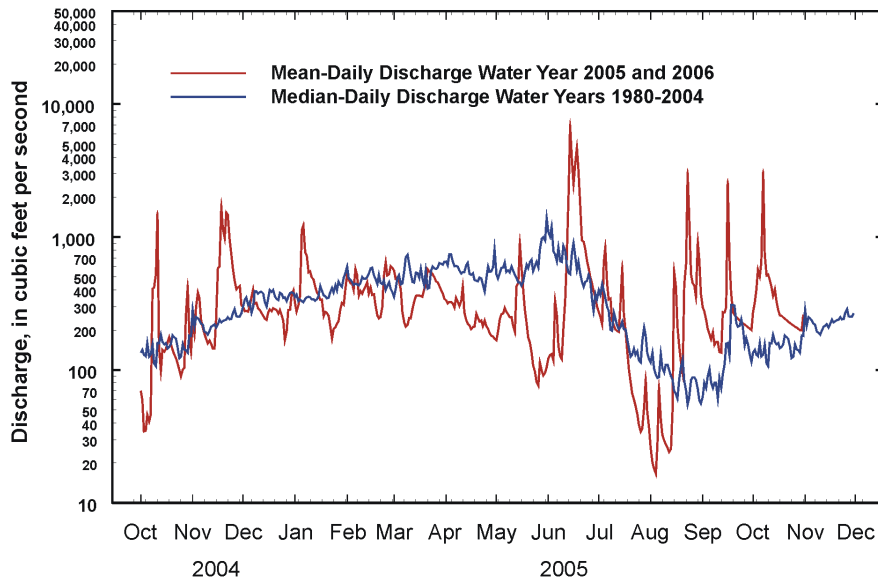


Comparison of daily discharges for water year 2005 and 2006 and period of record

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 31, 2005



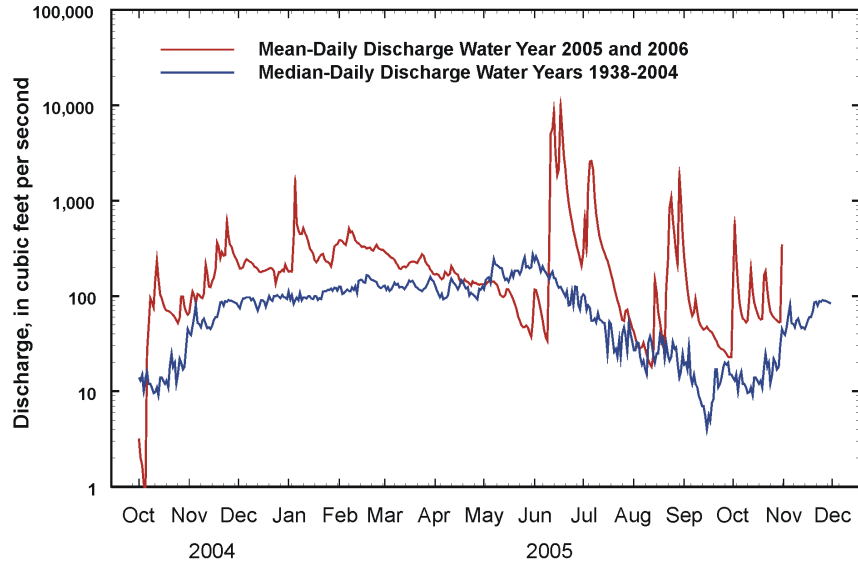
Comparison of daily discharges for water year 2005 and 2006 and period of record

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 31, 2005



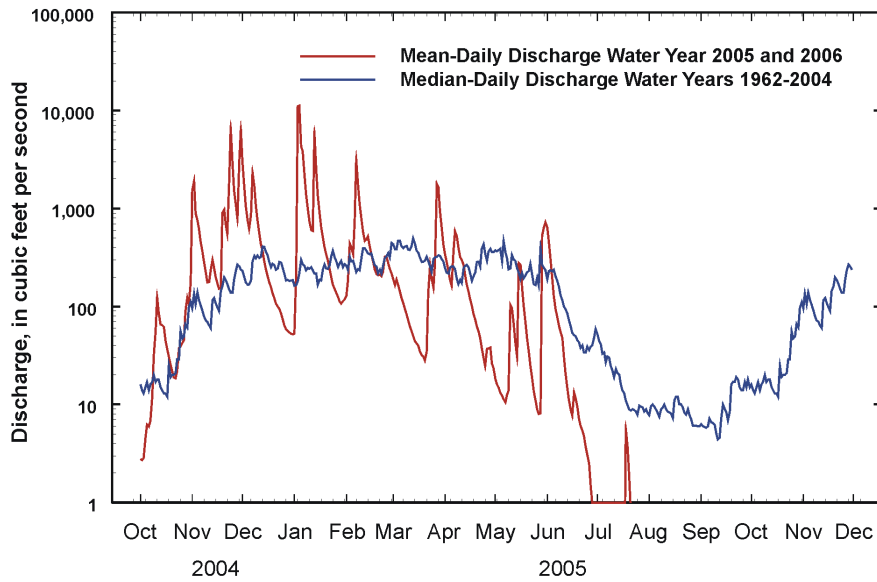
Comparison of daily discharges for water year 2005 and 2006 and period of record

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 31, 2005



Comparison of daily discharges for water year 2005 and 2006 and period of record

Data from U.S. Geological Survey

North Fork of the Red River near Carter

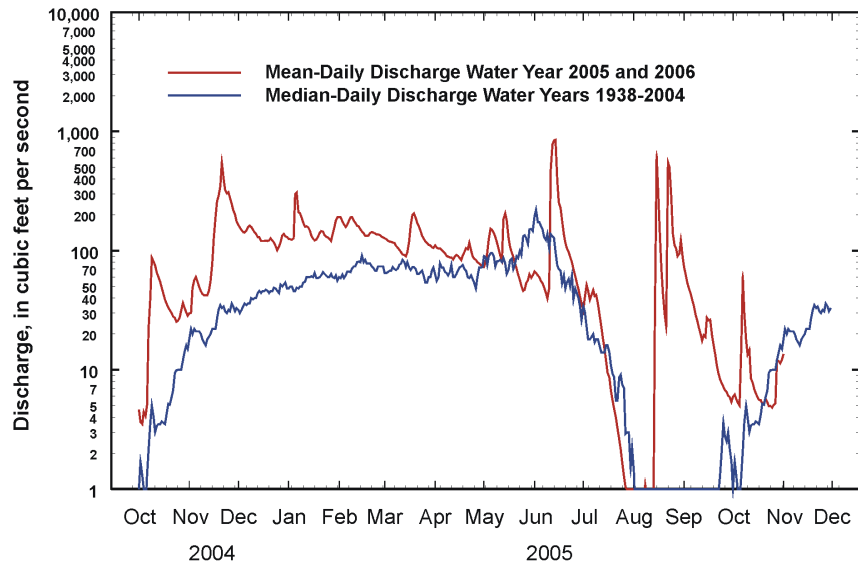
North Fork of the Red River near Carter, Oklahoma

Station No. 07301500 Southwest Oklahoma

Drainage Area 2,337 square miles

PROVISIONAL DATA

OCTOBER 31, 2005



Comparison of daily discharges for water year 2005 and 2006 and period of record

Data from U.S. Geological Survey

Washita River near Dickson

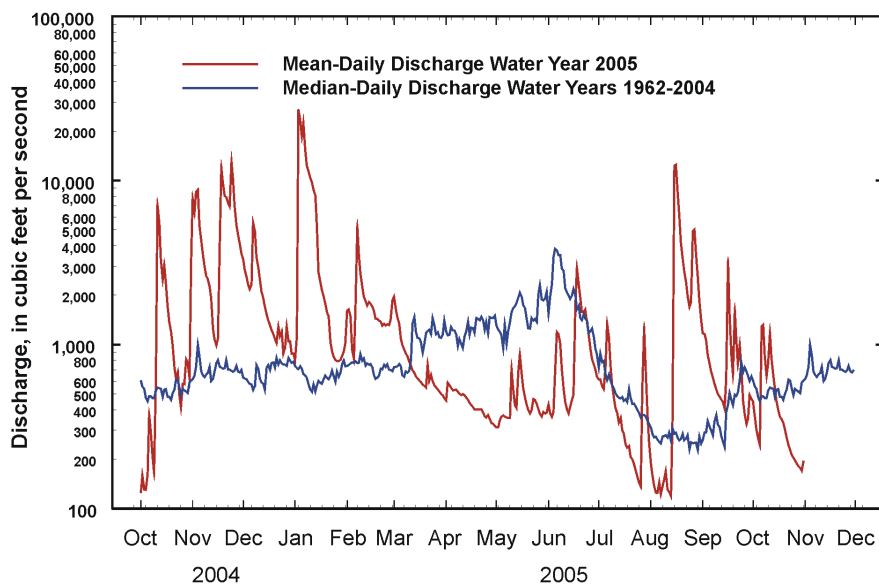
Washita River near Dickson, Oklahoma

Station No. 07331000 South-Central Oklahoma

Drainage Area 7,202 square miles

PROVISIONAL DATA

OCTOBER 31, 2005



Comparison of daily discharges for water year 2005 and 2006 and period of record

Data from U.S. Geological Survey