

# Oklahoma Water Resources Bulletin & Summary of Current Conditions

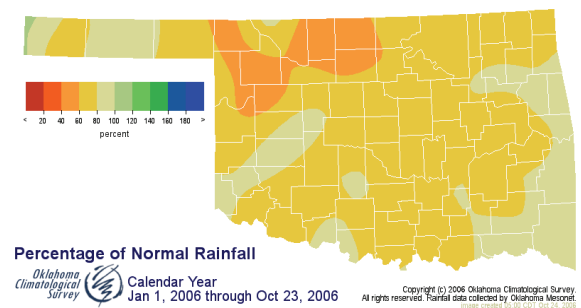
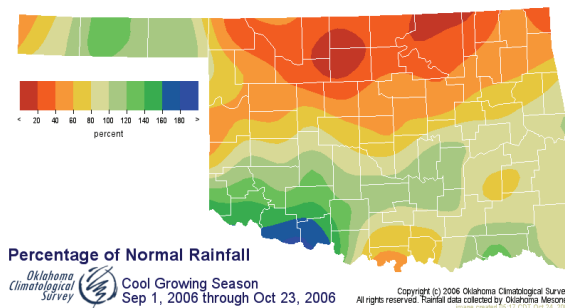


October 25, 2006

## PRECIPITATION

### Preliminary Statewide Precipitation

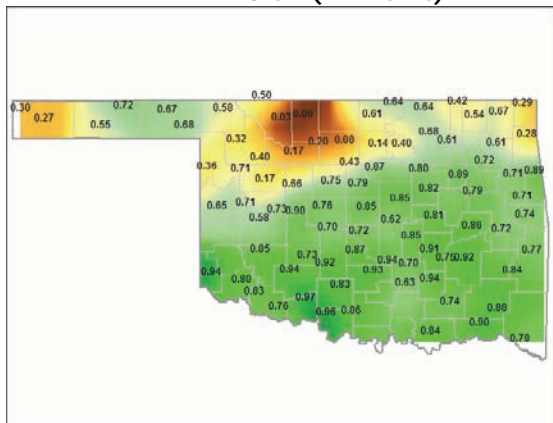
Climate Division (#)	Cool Growing Season September 1—October 23, 2006				Calendar Year January 1—October 23, 2006			
	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	RANK SINCE 1921	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	RANK SINCE 1921
Panhandle	2.50"	-0.51"	83%	36th driest	14.28"	-4.69"	75%	17th driest
North Central	1.45"	-3.65"	28%	7th driest	16.28"	-11.31"	59%	4th driest
Northeast	3.11"	-4.36"	42%	12th driest	25.38"	-9.76"	72%	8th driest
West Central	3.49"	-1.44"	71%	27th driest	18.80"	-6.76"	74%	14th driest
Central	4.71"	-2.12"	69%	31st driest	22.47"	-9.75"	70%	10th driest
East Central	6.67"	-1.46"	82%	43rd wettest	28.37"	-9.33"	75%	10th driest
Southwest	7.39"	+1.79"	132%	19th wettest	20.37"	-6.55"	76%	20th driest
South Central	7.06"	-0.43"	94%	36th wettest	24.04"	-10.19"	70%	9th driest
Southeast	7.83"	-0.42"	95%	34th wettest	34.24"	-6.28"	85%	17th driest
<b>Statewide</b>	<b>4.81"</b>	<b>-1.51"</b>	<b>76%</b>	<b>31st driest</b>	<b>22.51"</b>	<b>-8.47"</b>	<b>73%</b>	<b>7th driest</b>



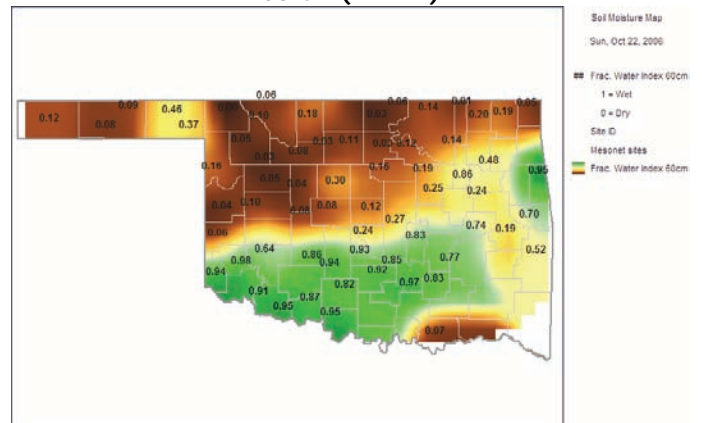
## SOIL MOISTURE

### Fractional Water Index<sup>1</sup> October 22, 2006

5 CM (~2 INCHES)



60 CM (~2 FEET)



<sup>1</sup> 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 Wilting, 0.3 to 0.1 equals Plants Dying, and less than 0.1 equals Barren Soil.

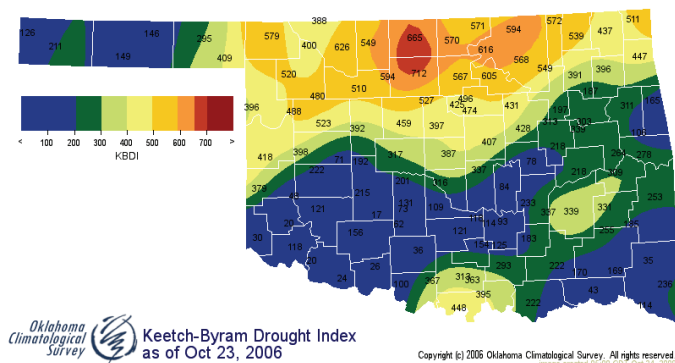
## DROUGHT INDICES

Palmer Drought Severity Index <sup>1</sup>					Standardized Precipitation Index <sup>2</sup> Through September 2006			
CLIMATE DIVISION (#)	CURRENT STATUS 10/21/2006	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		10/21	9/30					
Northwest (1)	MOIST SPELL	1.39	0.53	0.86	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
North Central (2)	SEVERE DROUGHT	-3.83	-3.60	-0.23	NEAR NORMAL	MODERATELY DRY	VERY DRY	VERY DRY
Northeast (3)	EXTREME DROUGHT	-4.55	-4.18	-0.37	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	VERY DRY
West Central (4)	MILD DROUGHT	-1.82	-2.89	1.07	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central (5)	SEVERE DROUGHT	-3.22	-3.99	0.77	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	VERY DRY
East Central (6)	MODERATE DROUGHT	-2.78	-3.55	0.77	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY	VERY DRY
Southwest (7)	NEAR NORMAL	-0.09	-2.31	2.22	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	VERY DRY
South Central (8)	MODERATE DROUGHT	-2.29	-3.89	1.60	MODERATELY DRY	VERY DRY	MODERATELY DRY	VERY DRY
Southeast (9)	MILD DROUGHT	-1.22	-3.01	1.79	MODERATELY DRY	MODERATELY DRY	NEAR NORMAL	VERY DRY

- Seven climate divisions are currently experiencing drought conditions.
- Only two climate divisions have undergone PDSI moisture decreases since September 30.

### Keetch-Byram Drought Fire Index<sup>3</sup>

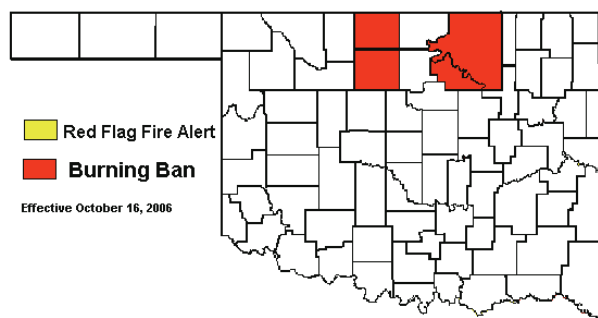
MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 10/24/2006
Breckinridge	Garfield	North Central	712
Medford	Grant	North Central	665
Alva	Woods	North Central	626



- Stations currently above 600 (October 24) = 5
- Stations above 600 on October 3 = 14

### Statewide Wildfire Preparedness

On October 16, 2006 Governor Henry amended the Ban on Outdoor Burning in Oklahoma to include four counties (Garfield, Grant, Osage and Pawnee) in northern Oklahoma. State officials urge citizens to avoid burning anything outdoors. Dry, grassy fuels will ignite easily when the humidity is low and the temperature and winds are high.



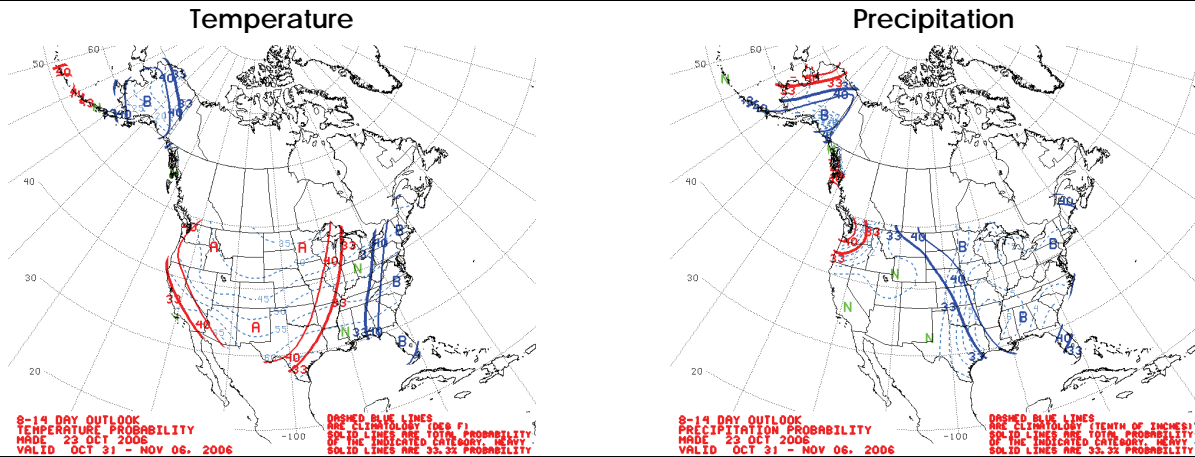
<sup>1</sup> The Palmer Drought Severity Index, the first comprehensive drought index developed in the United States, is calculated based on precipitation, temperature, and soil moisture. Though widely used by government agencies and states to trigger drought relief programs, the PDSI may underestimate or overestimate the severity of ongoing dry periods.

<sup>2</sup> 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.

<sup>3</sup> 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 Forecast  
October 31—November 6, 2006

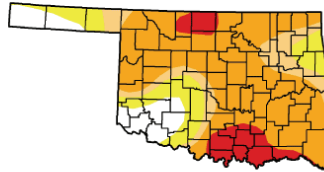


## U.S. Drought Monitor

October 24, 2006  
Valid 8 a.m. EST

Oklahoma

Drought Conditions (Percent Area)	Intensity					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	10.2	89.8	76.3	64.2	10.0	0.0
Last Week (10/17/2006 map)	5.0	95.0	78.7	56.9	19.9	3.0
3 Months Ago (8/1/2006 map)	0.0	100.0	92.7	84.7	63.9	0.3
Start of Calendar Year (1/25/2006 map)	1.3	98.7	79.9	40.8	10.1	5.7
Start of Water Year (10/9/2005 map)	2.7	97.3	92.7	46.2	16.6	0.0
One Year Ago (10/25/2005 map)	44.5	55.5	23.4	10.2	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.

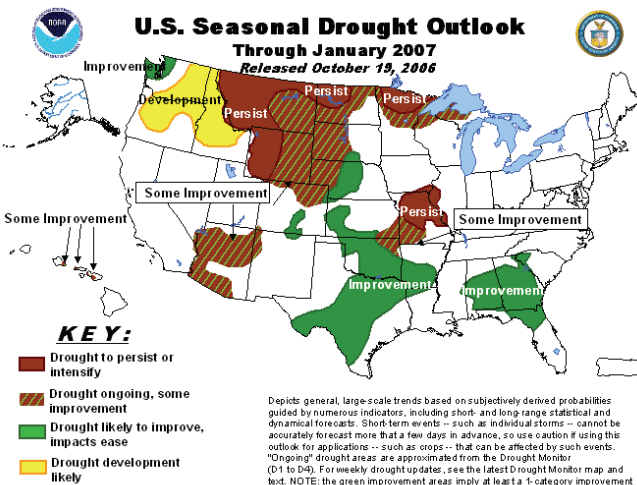
<http://drought.unl.edu/dm>



Released Thursday, October 26, 2006  
Author: Brad Rippey, U.S. Department of Agriculture

## Drought Summary & Outlook—The Plains:

October 24—Starting in mid-October, heavy rain soaked an area from the Red River Valley (TX-OK border) northeastward into Illinois and beyond. The heavy rain eliminated the area of exceptional drought (D4) in southeastern Oklahoma and northeastern Texas, despite lingering 21-month precipitation deficits locally in excess of 30 inches. These areas remain in extreme drought (D3), and many more significant rainfall events will be needed to promote additional pasture and hydrologic drought recovery. Little rain fell roughly north of I-40 from the TX-OK border to Oklahoma City, OK, and north of I-44 from Oklahoma City to Joplin, MO. As a result, there was a slight worsening of drought in parts of northern Oklahoma, southern Kansas, and central and northern Missouri. Severe to extreme drought (D2 to D3) expanded to encompass all of north-central Oklahoma. On October 22, 60% of Oklahoma's rangeland and pastures were rated very poor to poor, driven in part by long-term drought but also by dry conditions in the north. In addition, Oklahoma's proportion of winter wheat rated very poor to poor, at 27%, was the highest among the nation's 18 major producing states.



According to the Drought Outlook, the first three weeks of October saw abundant rains offering drought improvement from the Southwest into the Lower Mississippi Valley. The Outlook calls for additional improvement across the southern United States, with the best odds for relief extending from the southern Plains into the Southeast. The intensifying El Niño should play a role in bringing plentiful moisture to the southern tier of the U.S. this winter. There is also a good chance for at least some improvement in the drought areas in the central and northern High Plains. The odds also favor drought to persist in Missouri, particularly in the northern and eastern areas.

## CROP REPORT

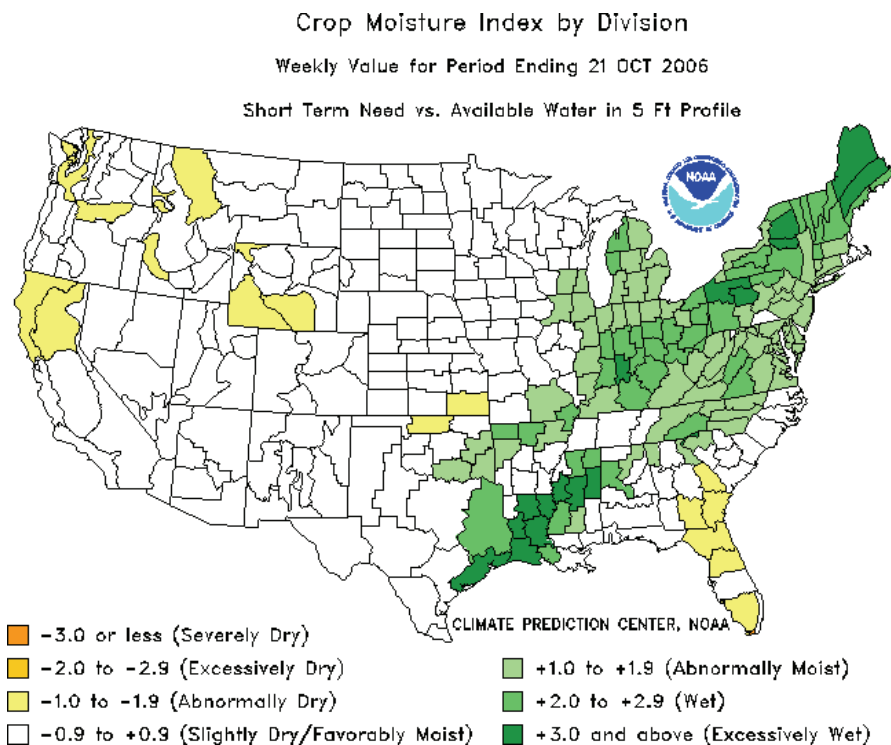
October 23—The rains received a week ago were followed by conditions last week that included extremely cool and windy weather. In those areas that received rain, there was improved wheat germination and stands. Small grain producers that received very little precipitation last week continued to plant and hope for additional moisture. The weather patterns also improved cool season forage growth, particularly in the southeast. Topsoil moisture improved significantly with 53 percent rated as adequate or better. Subsoil moisture improved slightly but remained mostly in the short to very short range. There were 4.8 days suitable for fieldwork.

Small grain conditions for the state were mostly good to fair. Wheat seeding was slightly behind normal at 85 percent. Rye planting was virtually complete at 97 percent. Wheat emergence jumped 17 points from last week, while rye and oat emergence was 12 and 14 points behind normal, respectively. Wheat producers were relieved to see the crop improving but additional moisture is still needed.

All major row crop conditions in the state showed some improvement with the exception of the state's sorghum crop. With the largest sorghum producing district receiving very little rainfall and temperature lows averaging 37 degrees last week, sorghum producers were concerned the cold weather would slow down sorghum maturity. Sorghum producers were hoping their crop would mature before a hard freeze hit. Thirty-four percent of the sorghum crop has been harvested, 25 points behind normal. Over half of the soybean crop was harvested, while peanuts combined was progressing at 28 percent. Wet fields brought cotton harvest to a halt in major producing areas, which pushed progress slightly behind normal. A fourth of the cotton harvest was complete.

Alfalfa conditions remained mostly in the fair to poor range while other hay conditions stayed in the very poor to poor range. A fifth cutting of hay was complete on 63 percent of the alfalfa crop. Alfalfa sixth cutting was 45 points behind last year's progress but only 9 points behind normal. Other hay second cutting continued to show limited progress at 75 percent, 16 points behind normal. Pecan conditions remained in mostly fair to poor condition with pecan nut set rated as average.

Pasture and range conditions improved slightly from last week with 65 percent of the pastures in the fair to poor range. Recent rainfall and cooler temperatures have benefited cool season grasses and small grain pastures. Livestock conditions improved from last week and were mostly in good to fair condition. Livestock marketings were average with moderate to light insect activity. Ranchers continued to haul water to cattle due to low pond levels.



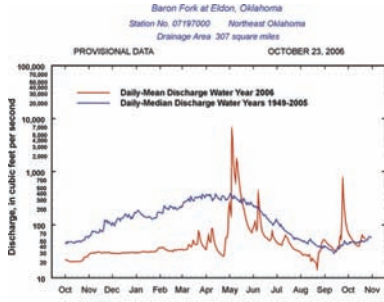
## RESERVOIR STORAGE

- 0.8 percent increase in total storage (87.1%) from that recorded on October 4 (86.3%)
- 17 reservoirs have experienced lake level decreases
- 27 reservoirs are currently operating at less than full capacity (compared to 28 three weeks ago)
- 9 reservoirs are now below 80 percent of their total conservation storage

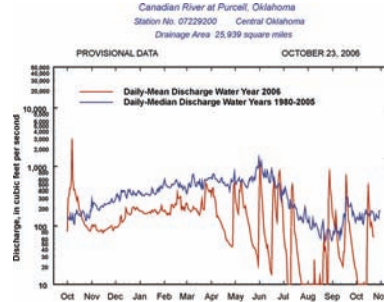
Storage in Selected Oklahoma Lakes & Reservoirs			
<i>October 24, 2006</i>			
<b>Climate Division Lake or Reservoir</b>	<b>Conservation Storage (acre-feet)</b>	<b>Present Storage (acre-feet)</b>	<b>Percent of Conservation Storage</b>
<b>North Central</b>			
Fort Supply	13,900	9,888	71.1
Great Salt Plains	31,420	25,464	81.0
Kaw*	383,005	383,005	100.0
<b>Regional Totals/Averages</b>	<b>428,325</b>	<b>418,357</b>	<b>97.7</b>
<b>Northeast</b>			
Birch	19,225	16,265	84.6
Copan	34,634	26,897	77.7
Fort Gibson	365,200	362,209	99.2
Grand	1,672,000	1,494,861	89.4
Hudson	200,300	195,159	97.4
Hulah	22,565	18,961	84.0
Keystone	512,307	425,790	83.1
Oologah	552,219	499,541	90.5
Skiatook	322,700	221,305	68.6
<b>Regional Totals/Averages</b>	<b>3,701,150</b>	<b>3,260,988</b>	<b>88.1</b>
<b>West Central</b>			
Canton	111,310	72,447	65.1
Foss	165,480	135,684	82.0
<b>Regional Totals/Averages</b>	<b>276,790</b>	<b>208,131</b>	<b>75.2</b>
<b>Central</b>			
Arcadia	27,520	27,520	100.0
Heyburn	7,105	5,492	77.3
Thunderbird	119,600	77,734	65.0
<b>Regional Totals/Averages</b>	<b>154,225</b>	<b>110,746</b>	<b>71.8</b>
<b>East Central</b>			
Eufaula*	2,314,583	1,966,870	85.0
Tenkiller	654,100	588,142	89.9
<b>Regional Totals/Averages</b>	<b>2,968,683</b>	<b>2,555,012</b>	<b>86.1</b>
<b>Southwest</b>			
Fort Cobb	80,010	72,404	90.5
Lugert-Altus	132,830	11,953	9.0
Tom Steed	88,970	42,785	48.1
<b>Regional Totals/Averages</b>	<b>301,810</b>	<b>127,142</b>	<b>42.1</b>
<b>South Central</b>			
Arbuckle	72,400	63,618	87.9
McGee Creek	113,930	94,483	82.9
Texoma*	2,661,266	2,445,723	91.9
Waurika*	190,200	148,132	77.9
<b>Regional Totals/Averages</b>	<b>3,037,796</b>	<b>2,751,956</b>	<b>90.6</b>
<b>Southeast</b>			
Broken Bow*	928,810	795,269	85.6
Hugo*	158,617	158,617	100.0
Pine Creek*	53,750	53,750	100.0
Sardis	274,330	253,690	92.5
Wister	60,162	52,204	86.8
<b>Regional Totals/Averages</b>	<b>1,475,669</b>	<b>1,313,530</b>	<b>89.0</b>
<b>State Totals</b>	<b>12,344,448</b>	<b>10,745,862</b>	<b>87.1</b>

# STREAMFLOW CONDITIONS

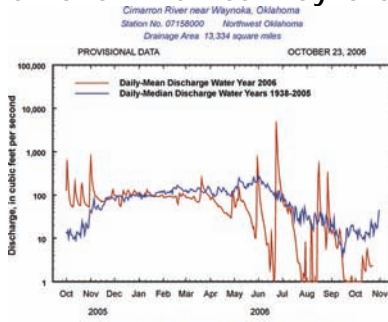
## Baron Fork at Eldon



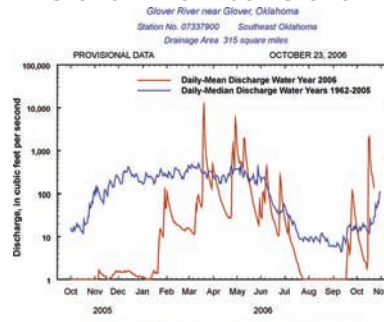
## Canadian River at Purcell



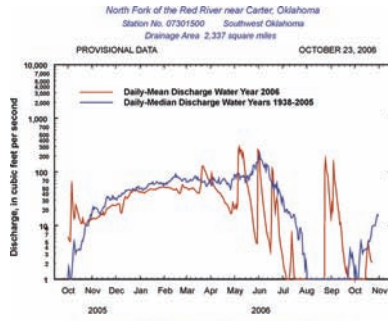
## Cimarron River near Waynoka



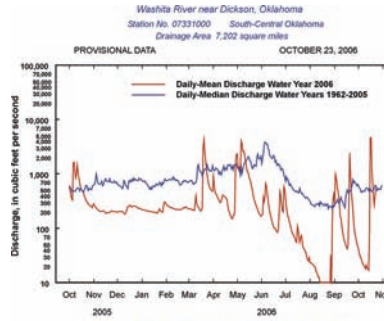
## Glover River near Glover



## North Fork of the Red River near Carter



## Washita River near Dickson



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.state.ok.us](http://www.owrb.state.ok.us) and <http://www.mesonet.ou.edu/public>.