# Oklahoma Water Resources Bulletin & Summary of Current Conditions

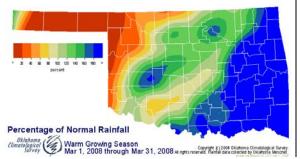


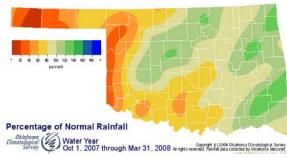
April 3, 2008

#### **PRECIPITATION**

#### **Preliminary Statewide Precipitation**

	Warm Growing Season March 1—31, 2008					Water Year October 1, 2007—March 31, 2008			
Climate Division (#)	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	0.24"	-1.39"	14%	13th driest	2.72"	-3.32"	45%	11th driest	
North Central	2.26"	-0.42"	84%	32nd wettest	9.42"	-1.45"	87%	42nd wettest	
Northeast	6.48"	+2.81"	176%	7th wettest	18.37"	+1.62"	110%	17th wettest	
West Central	2.11"	-0.29"	88%	31st wettest	7.67"	-2.18"	78%	40th driest	
Central	3.83"	+0.59"	118%	17th wettest	12.86"	-2.09"	86%	35th wettest	
East Central	8.87"	+4.78"	217%	3rd wettest	20.50"	+0.30"	101%	29th wettest	
Southwest	2.43"	+0.17"	107%	27th wettest	7.93"	-2.81"	74%	36th driest	
South Central	5.96"	+2.41"	168%	5th wettest	13.66"	-3.88"	78%	33rd driest	
Southeast	12.59"	+8.11"	281%	2nd wettest	27.42"	+2.89"	112%	19th wettest	
Statewide	4.85"	+1.74"	156%	5th wettest	13.25"	-1.29"	91%	37th wettest	

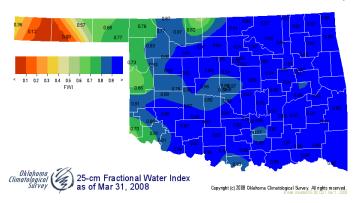


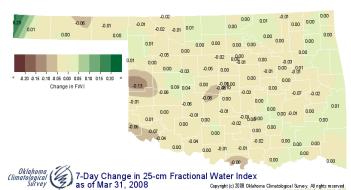


## SOIL MOISTURE

#### Fractional Water Index<sup>1</sup> March 31, 2008

25 CM (~10 INCHES)





<sup>&</sup>lt;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										
Palm	er Drought Seve	rity Inc	dex <sup>1</sup>		Standardized Precipitation Index <sup>2</sup> Through February 2008					
CLIMATE	CURRENT STATUS	VALUE		CHANGE	3-Month	6-Month	9-Month	12-Month		
DIVISION (#)	3/29/2008	3/29	3/1	In Value	5OIIII	5ONIII	,oiiiii			
Northwest (1)	INCIPIENT DROUGHT	-0.82	-0.18	-0.64	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY	NEAR NORMAL		
North Central (2)	VERY MOIST SPELL	3.59	3.58	0.01	NEAR NORMAL	NEAR NORMAL	VERY WET	EXTREMELY WET		
Northeast (3)	UNUSUAL MOIST SPELL	2.89	2.11	0.78	NEAR NORMAL	NEAR NORMAL	MODERATELY WET	VERY WET		
West Central (4)	VERY MOIST SPELL	3.51	3.74	-0.23	NEAR NORMAL	NEAR NORMAL	EXTREMELY WET	EXTREMELY WET		
Central (5)	EXTREME MOIST SPELL	4.24	3.92	0.32	NEAR NORMAL	NEAR NORMAL	EXTREMELY WET	EXTREMELY WET		
East Central (6)	VERY MOIST SPELL	3.24	1.45	1.79	MODERATELY DRY	NEAR NORMAL	MODERATELY WET	NEAR NORMAL		
Southwest (7)	UNUSUAL MOIST SPELL	2.93	2.53	0.40	NEAR NORMAL	NEAR NORMAL	VERY WET	VERY WET		
South Central (8)	MOIST SPELL	1.61	0.05	1.56	MODERATELY DRY	VERY DRY	NEAR NORMAL	MODERATELY WET		
Southeast (9)	VERY MOIST SPELL	3.86	1 67	2.19	MODERATELY DRY	NEAR NORMAL	NFAR NORMAI	NEAR NORMAL		

- No climate divisions are currently experiencing drought conditions, according to the PDSI.
- Two climate divisions have undergone PDSI moisture decreases since March 1.
- Four climate divisions are experiencing dry conditions, according to the SPI.

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

MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 3/31/2008	<ul> <li>Stations currently above 600 (March 31) = 3</li> </ul>
Goodwell	Texas	Northwest	651	• Stations above 600 on March 4 = 2
looker	Texas	Northwest	639	Stations above 600 on March 4 = 2
loise City	Cimarron	Northwest	607	
		KEETCH-BYRAM DROUGHT INDEX 888 688		

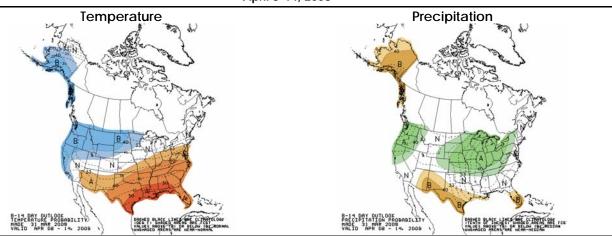
<sup>2</sup> The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the 6-month SPI can be very effective in showing precipitation over distinct seasons.

<sup>&</sup>lt;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>&</sup>lt;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.

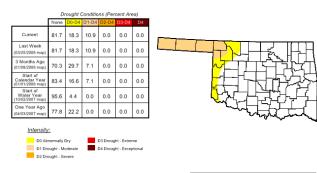
#### WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook April 8-14, 2008



# U.S. Drought Monitor

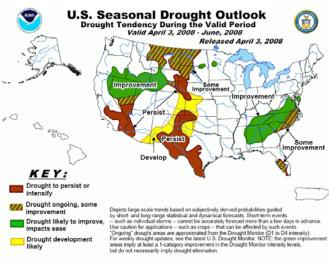
April 1, 2008 Valid 7 a.m. EST



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

http://drought.unl.edu/dn





#### Regional Drought Summary & Outlook:

April 1—In the Plains, locally heavy snows lifted parts of eastern South Dakota out of D0 and reduced the southward extent of D1 in northeastern South Dakota. Meanwhile, 1 to 3 inches of rain improved conditions to D0 for a small section of central Texas. Elsewhere, light to locally moderate precipitation fell on the rest of South Dakota, western Nebraska, eastern Wyoming, and several other locations scattered across the northern Plains while little or nothing fell from western Kansas and eastern Colorado southward to the Mexican border. As a result, D0 and D1 conditions expanded in southern and western New Mexico, and D3 was introduced in a large part of western North Dakota where recent conditions have been particularly dry. In most areas where dryness and drought intensified, precipitation totals for the last 6 months have been less than half of normal and under 25 percent of normal since the beginning of the calendar year.

According to the latest Drought Outlook, although exceptional drought has been eliminated across the Southeast, 12-month precipitation deficits exceed 12 inches across parts of Alabama, Georgia, Tennessee, and the Carolinas. The forecast indicates continued drought improvement across the Southeast, but longterm hydrological impacts will persist as water demand increases. Some improvement is forecast for the northern high Plains and northern Rockies. Drought persistence or development is forecast for the central and southern high Plains, west Texas, and much of New Mexico. Although the April – June seasonal forecast indicates below normal precipitation for parts of Nevada and Utah, spring snow melt should boost water supplies and result in improvement across the northern Great Basin. Persistence is forecast in southern Nevada, southern California, and southwest Arizona due to a dry climatology.

#### **CROP REPORT**

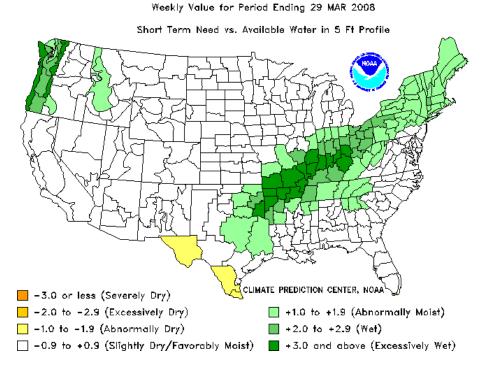
March 31—Flooding late in the week in low areas of eastern Oklahoma created numerous cattle, hay and fence losses. Western and central Oklahoma received large hail and high winds late Sunday night. No severe crop damage was visible, but several areas lost power. There were 5.4 days suitable for fieldwork.

Small grain crops were growing fast, but were in need of additional moisture in many areas. Some hail damage to the state's wheat crop may have occurred during last week's thunderstorms. Winter wheat jointing was at 50 percent, a 12-point increase from the previous week, but 20 points behind last year and 16 points behind the five-year average. Rye jointing increased three percentage points from the previous week and is 16 points ahead of normal. Oats jointing jumped nine points from the previous week to reach 21 percent.

Seedbed preparations for all major row crops were still running ahead of normal with soybeans at 37 percent, peanuts at 33 percent, and cotton at 50 percent. Sorghum seedbed preparation was at 23 percent, two points behind last year, but one percentage point ahead of the five-year average. Corn seedbed preparation was at 63 percent, seven points ahead of normal while corn planted was at 14 percent, four points behind normal. In isolated areas, large amounts of rainfall may have damaged recently planted corn.

Pasture and range conditions remained very similar to last week and were mostly in the good to fair range. With some precipitation and warm temperatures, pastures were continuing to green in many areas. In parts of the state that have received little precipitation, pasture and grass growth has been limited. Livestock conditions were rated mostly in the good to fair range. In the Panhandle, cattle producers may have to seek feed alternatives, such as emergency haying, and some may also have to reduce their herds if extremely dry conditions continue. Average livestock marketings were reported last week.





# RESERVOIR STORAGE

- 2 reservoirs are currently operating at less than full capacity (compared to 6 last month).
- 8 reservoirs have experienced lake level decreases.

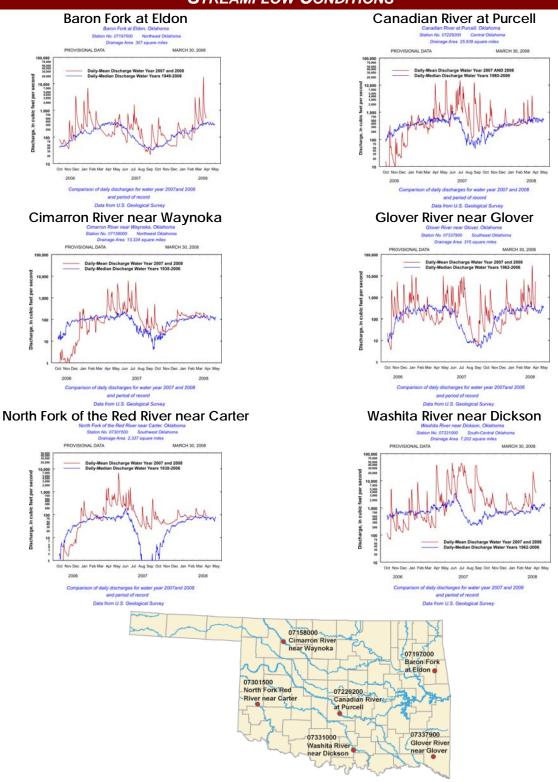
Storage in Selected Oklahoma Lakes & Reservoirs  April 1, 2008								
	Normal Pool	Previous	Current	Change in	Current Flood			
	Elevation	Elevation	Elevation	Elevation	Control Storage			
Lake or Reservoir		03/05/2008	04/01/2008					
	(feet)	(feet)	(feet)	(feet)	(acre-feet)			
North Central	2004.00	2004.12	2004.21	0.00	204			
Fort Supply	2004.00	2004.12	2004.21	0.09	394			
Great Salt Plains	1125.00	1125.43	1125.35	(0.08)	2,937			
Kaw*	1009.40	1010.88	1012.64	1.76	56,123			
Northeast	750.50	750.07	757.54	5.05	0.004			
Birch	750.50	752.26	757.51	5.25	8,881			
Copan	710.00	712.48	711.46	(1.02)	8,285			
Fort Gibson	554.00	558.10	561.19	3.09	156,150			
Grand	745.00	746.46	746.70	0.24	80,601			
Hudson	619.00	622.28	621.23	(1.05)	25,142			
Hulah	733.00	737.22	738.19	0.97	27,115			
Keystone	723.00	722.90	730.92	8.02	210,105			
Oologah	638.00	640.37	646.23	5.86	292,279			
Skiatook	714.00	715.45	717.24	1.79	35,445			
West Central								
Canton	1615.40	1615.84	1615.79	(0.05)	3,096			
Foss	1642.00	1641.48	1641.25	(0.23)	(5,010)			
Central								
Arcadia	1006.00	1007.12	1006.30	(0.82)	558			
Heyburn	761.50	762.59	762.22	(0.37)	696			
Thunderbird	1039.00	1039.92	1039.52	(0.40)	3,172			
East Central								
Eufaula*	585.00	587.21	588.41	1.20	346,639			
Tenkiller	632.00	637.97	642.51	4.54	145,297			
Southwest								
Fort Cobb	1342.00	1342.92	1343.97	1.05	7,838			
Lugert-Altus	1559.00	1554.45	1555.64	1.19	(19,988)			
Tom Steed	1411.00	1410.27	1411.34	1.07	2,218			
South Central								
Arbuckle	872.00	871.97	872.80	0.83	1,904			
McGee Creek**	175.90	177.16	177.78	0.62	25,185			
Texoma*	615.00	614.45	618.47	4.02	256,456			
Waurika*	951.40	952.09	952.36	0.27	9,861			
Southeast								
Broken Bow*	599.50	603.23	618.96	15.73	301,981			
Hugo*	407.50	411.32	417.21	5.89	178,475			
Pine Creek*	440.50	447.48	466.05	18.57	199,057			
Sardis	599.00	601.58	602.33	0.75	47,879			
Wister	478.00	493.27	504.39	11.12	411,616			

<sup>\*</sup> indicates seasonal pool operation

negative numbers in red, parentheses

<sup>\*\*</sup> elevation in meters

## STREAMFLOW CONDITIONS



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 <a href="http://www.mesonet.ou.edu/public">www.owrb.state.ok.us</a> and <a href="http://www.mesonet.ou.edu/public">http://www.mesonet.ou.edu/public</a>.