Oklahoma Water Resources Bulletin & Summary of Current Conditions



May 1, 2008

PRECIPITATION

Preliminary Statewide Precipitation								
	Warm Growing Season March 1— April 29, 2008				Water Year October 1, 2007—April 29, 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	1.14"	-2.28"	33%	14th driest	3.63"	-4.20"	46%	16th driest
North Central	4.75"	-0.80"	86%	38th wettest	11.90"	-1.83"	87%	42nd wettest
Northeast	13.37"	+5.83"	177%	4th wettest	25.27"	+4.65"	123%	9th wettest
West Central	4.66"	-0.25"	95%	38th wettest	10.23"	-2.14"	83%	40th driest
Central	8.78"	+2.13"	132%	12th wettest	17.77"	-0.59"	97%	30th wettest
East Central	15.02"	+6.74"	181%	4th wettest	26.65"	+2.27"	109%	23rd wettest
Southwest	5.75"	+0.91"	119%	22nd wettest	11.26"	-2.06"	85%	41st driest
South Central	9.42"	+2.23"	131%	12th wettest	17.11"	-4.06"	81%	34th driest
Southeast	18.63"	+9.81"	211%	1st wettest	33.46"	+4.59"	116%	14th wettest
Statewide	8.96"	+2.60"	141%	9th wettest	17.35"	-0.44"	98%	32nd wettest





SOIL MOISTURE

Fractional Water Index¹ April 28, 2008

25 CM (~10 INCHES)



¹ 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 ¹					Standardized Precipitation Index ² Through March 2008				
Climate Division (#)	Current Status 4/26/2008	VA 4/26	LUE 3/29	CHANGE In Value	3-Молтн	6-Month	9-Month	12-Month	
Northwest (1)	MILD DROUGHT	-1.02	-0.82	-0.20	MODERATELY DRY	MODERATELY DRY	VERY DRY	MODERATELY DRY	
North Central (2)	VERY MOIST SPELL	3.72	3.59	0.13	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	VERY WET	
Northeast (3)	EXTREME MOIST SPELL	4.50	2.89	1.61	VERY WET	MODERATELY WET	NEAR NORMAL	VERY WET	
West Central (4)	VERY MOIST SPELL	3.78	3.51	0.27	NEAR NORMAL	NEAR NORMAL	VERY WET	EXTREMELY WET	
Central (5)	EXTREME MOIST SPELL	4.82	4.24	0.58	MODERATELY WET	NEAR NORMAL	VERY WET	EXTREMELY WET	
East Central (6)	EXTREME MOIST SPELL	4.09	3.24	0.85	VERY WET	MODERATELY WET	VERY WET	MODERATELY WET	
Southwest (7)	VERY MOIST SPELL	3.43	2.93	0.50	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	VERY WET	
South Central (8)	UNUSUAL MOIST SPELL	2.26	1.61	0.65	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	MODERATELY WET	
Southeast (9)	EXTREME MOIST SPELL	4.76	3.86	0.90	VERY WET	MODERATELY WET	MODERATELY WET	VERY WET	

• One climate division (the Northwest) is currently experiencing drought conditions, according to the PDSI.

• One climate division has undergone a PDSI moisture decreases since March 29.

• One climate division (the Northwest) is experiencing dry conditions, according to the SPI.

MESONET STATION COUNTY **CLIMATE DIVISION** CURRENT VALUE 4/29/2008 Stations currently above 600 (April 29) = 3 Goodwell Northwest Texas 657 Stations above 600 on March 31 = 3Northwest 651 Hooker Texas Boise City Cimarron Northwest 636 29-Apr-2008 10:00 AM CDT 04/29/08 15 UTC KEETCH-BYRAM DROUGHT INDEX 400 286 Oklahoma Fire Danger Model

Keetch-Byram Drought Fire Index³

¹ 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.

² 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.

³ 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 May 6-12, 2008



U.S. Drought Monitor

April 29, 2008





Regional Drought Summary & Outlook:

April 29—In the southern High Plains, D1 expanded across the Texas Trans Pecos and northern Texas panhandle where dry weather persisted and soils were rapidly drying. Less than 50% of normal precipitation has fallen across much of this area during the past 6 months. D2 was added in the Texas and Oklahoma panhandles into southwestern Kansas, where less than an inch of precipitation has fallen over the past 6 months. Dalhart, Texas, has had 0.54 inch of precipitation since January 1, which is 2.68 inches below normal, and Lake Meredith had reached a record low and was still falling rapidly. Boise City, Oklahoma, has had 0.50 inch for the year-to-date compared to a normal January-April total of 3.47 inches. D0 and D1 were trimmed slightly in the northern Edwards Plateau of central Texas where 2 to 3 inches of rain fell this week.

According to the latest Drought Outlook, a trend toward wetter weather, in addition to the above-normal precipitation expected for the next week, should improve drought conditions in the northern and central high Plains. However, odds favor persistence or development across the southern high Plains, west and south Texas, and the Southwest. A small area of some improvement is forecast for south-central Texas due to rainfall expected during the upcoming week.

CROP REPORT

April 28—Last week, storms moved through parts of Oklahoma bringing rain, lightning, and some hail. This storm caused damage to some residential areas in the east with flooding and wind gusts as high as 60 mph. Precipitation improved small grain and pasture growth in much of the state, except for the Panhandle where non-irrigated wheat is distressed from drought-like conditions. The small grain crop in other areas is behind normal but quickly maturing with recent warmer weather. Temperatures this weekend in the Panhandle and north central region reached freezing, but damage is not yet apparent. Temperatures varied from 96 degrees in Altus to 26 degrees in Boise City.

Insecticides are being applied to control weevils and other insects. Small grain conditions have improved with the moderately warm temperatures and precipitation. Winter wheat jointing was up three percentage points from the previous week to 94 percent, but still four points behind the five-year average. Winter wheat headed was at 37 percent, 34 points behind normal. Rye jointing increased six points from the previous week to 99 percent, one point behind last year, but 24 points ahead of normal. Rye headed was at 76 percent, nine points ahead of normal. Just over two-thirds of the state's oats were jointing, a 12-point increase from the previous week, but 3 points behind the five-year average. Oats headed was at 12 percent by week's end.

Fieldwork was delayed around the state due to rain. Peanut, cotton, and soybean planting are expected to increase this upcoming week. Corn seedbed prepared increased six percentage points from the previous week to 91 percent, eight points behind last year, and four points behind normal. Corn planted was at 62 percent, up 26 points from the previous week, and six points ahead of the five-year average. Nearly one-third of the corn had emerged by week's end, four points behind normal. Sorghum seedbed prepared was up nine points to 51 percent. Soybeans seedbed prepared was at 48 percent, 13 points behind the five-year average. Seedbed preparation for peanuts was at 79 percent, three points ahead of normal. Peanuts planted were at 11 percent, slightly ahead of the five-year average. Cotton seedbed prepared was up nine points from the previous week to 88 percent, eight points ahead of normal. Light to moderate fruit freeze damage has been reported for 26 percent of the fruit crop. Twenty-three percent of watermelons were planted by the end of last week, 37 percentage points behind last year, and 21 points behind normal.

Producers continued to apply fertilizer to pastures last week and weed control had become more of an issue with the recent moisture. Livestock conditions were rated mostly in the good to fair range.



RESERVOIR **S**TORAGE

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

Storage in Selected Oklahoma Lakes & Reservoirs									
	April 29, 2008								
	Normal Pool	Previous	Current	Change in	Current Flood				
	Elevation	Elevation	Elevation	Elevation	Control Storage				
Lake or Reservoir	(a)	04/01/2008	04/29/2008	<i>(</i> 7)					
North Control	(feet)	(feet)	(feet)	(feet)	(acre-feet)				
Fort Supply	2004.00	2004 21	2004 27	0.06	507				
Great Salt Plains	1125.00	1125 35	1125.26	(0.09)	2 182				
Kaw*	1010.00	1012.64	1021.42	8 78	227 425				
Northeast	1010.00	1012.01	1021112	0.70	227,120				
Birch	750.50	757.51	752.55	(4.96)	2.421				
Copan	710.00	711.46	712.58	1.12	14,646				
Fort Gibson	554.00	561.19	570.73	9.54	437,557				
Grand	745.00	746.70	749.57	2.87	223,070				
Hudson	619.00	621.23	627.35	6.12	103,521				
Hulah	733.00	738.19	743.38	5.19	55,893				
Keystone	723.00	730.92	738.79	7.87	477,056				
Oologah	638.00	646.23	650.98	4.75	490,735				
Skiatook	714.00	717.24	717.51	0.27	38,399				
West Central									
Canton	1615.40	1615.79	1615.72	(0.07)	2,540				
Foss	1642.00	1641.25	1641.47	0.22	(3,541)				
Central									
Arcadia	1006.00	1006.30	1006.07	(0.23)	130				
Heyburn	761.50	762.22	762.51	0.29	944				
Thunderbird	1039.00	1039.52	1041.74	2.22	17,484				
East Central									
Eufaula*	585.00	588.41	590.84	2.43	622,182				
Tenkiller	632.00	642.51	650.34	7.83	267,144				
Southwest									
Fort Cobb	1342.00	1343.97	1342.27	(1.70)	1,051				
Lugert-Altus	1559.00	1555.64	1556.69	1.05	(13,957)				
Tom Steed	1411.00	1411.34	1411.46	0.12	3,001				
South Central									
Arbuckle	872.00	872.80	872.28	(0.52)	666				
McGee Creek**	175.90	177.78	176.63	(1.15)	9,435				
Texoma*	615.00	618.47	618.70	0.23	274,145				
Waurika*	951.40	952.36	951.42	(0.94)	202				
Southeast									
Broken Bow*	600.90	618.96	612.16	(6.80)	171,202				
Hugo*	407.50	417.21	410.43	(6.78)	46,673				
Pine Creek*	442.50	466.05	459.93	(6.12)	123,717				
Sardis	599.00	602.33	600.40	(1.93)	19,601				
Wister	478.00	504.39	497.20	(7.19)	251,826				

* indicates seasonal pool operation

** elevation in meters

negative numbers in red, parentheses



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** <u>www.owrb.state.ok.us</u> and <u>http://www.mesonet.ou.edu/public</u>.