Oklahoma Water Resources Bulletin & Summary of Current Conditions



June 12, 2008

PRECIPITATION

Preliminary Statewide Precipitation										
	Warm Growing Season March 1—June 9, 2008						Water Year October 1, 2007—June 9, 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	3.00"	-4.73"	39%	2nd driest	5.48"	-6.66"	45%	4th driest		
North Central	14.76"	+3.22"	128%	11th wettest	21.92"	+2.19"	111%	20th wettest		
Northeast	26.86"	+12.33"	185%	2nd wettest	38.76"	+11.14"	140%	4th wettest		
West Central	11.64"	+0.58"	105%	25th wettest	17.20"	-1.31"	93%	38th wettest		
Central	17.64"	+3.87"	128%	9th wettest	26.63"	+1.15"	104%	21st wettest		
East Central	23.93"	+8.16"	152%	5th wettest	35.56"	+3.69"	112%	22nd wettest		
Southwest	10.31"	-0.84"	92%	41st wettest	15.81"	-3.81"	81%	31st driest		
South Central	15.97"	+1.66"	112%	22nd wettest	23.66"	-4.63"	84%	31st driest		
Southeast	25.53"	+8.79"	152%	7th wettest	40.35"	+3.56"	110%	23rd wettest		
Statewide	16.66"	+3.70"	129%	7th wettest	25.05"	+0.67"	103%	27th wettest		



SOIL MOISTURE

Fractional Water Index¹ June 9, 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										
Palm	er Drought Seve	rity Ind	dex ¹		Standardized Precipitation Index ² Through May 2008					
	CURRENT STATUS			CHANGE IN VALUE	3-Month	6-Month	9-Month	12-Month		
DIVISION (#)		6/ /	5/24							
Northwest (1)	MODERATE DROUGHT	-2.13	-1.28	-0.85	MODERATELY DRY	NEAR NORMAL	VERY DRY	VERY DRY		
North Central (2)	EXTREME MOIST SPELL	4.30	4.11	0.19	NEAR NORMAL	MODERATELY WET	MODERATELY WET	VERY WET		
Northeast (3)	EXTREME MOIST SPELL	4.71	4.00	0.71	VERY WET	VERY WET	VERY WET	EXTREMELY WET		
West Central (4)	UNUSUAL MOIST SPELL	2.44	3.32	-0.88	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	VERY WET		
Central (5)	VERY MOIST SPELL	3.45	4.41	-0.96	MODERATELY WET	MODERATELY WET	NEAR NORMAL	EXTREMELY WET		
East Central (6)	UNUSUAL MOIST SPELL	2.39	2.99	-0.60	VERY WET	VERY WET	MODERATELY WET	VERY WET		
Southwest (7)	MOIST SPELL	1.25	2.70	-1.45	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	MODERATELY WET		
South Central (8)	NEAR NORMAL	-0.15	0.79	-0.94	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	MODERATELY WET		
Southeast (9)	UNUSUAL MOIST SPELL	2.20	3.52	-1.32	VERY WET	VERY WET	MODERATELY WET	VERY WET		

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

• Seven climate divisions have undergone PDSI moisture decreases since May 24.

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



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 June 17-23, 2008



U.S. Drought Monitor

June 10, 2008

		D	rought (Conditia	ns (Pe	cent An	9 <i>a)</i>
-		None	D0-D4	D1-D4	D2-D4	D3-D4	D4
	Current	83.0	17.0	9.7	6.9	5.3	0.0
ę	Last Week 06/03/2008 map)	81.9	18.1	8.2	6.9	5.1	0.0
ę	3 Months Ago 03/18/2008 map)	84.3	15.7	10.8	0.0	0.0	0.0
į	Start of Calendar Year 01/01/2008 map)	83.4	16.6	7.1	0.0	0.0	0.0
(Start of Water Year 10/02/2007 map)	95.6	4.4	0.0	0.0	0.0	0.0
0	One Year Ago 06/12/2007 map)	100.0	0.0	0.0	0.0	0.0	0.0
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Regional Drought Summary & Outlook:

8-14 DAY OUTLOOK PRECIPITATION PROBABILITY HADE 9 JUN 2008

June 10-In the southern Plains, scorching temperatures, high winds, and very spotty rains have led to more drought expansion across parts of Oklahoma and Texas. According to the National Weather Service, the period of September 2007 through May 2008 for San Antonio was the driest on record at 6.57 inches, which is a good 2 inches lower than the previous record of 8.89 inches, set during that same period ending May 1956. In addition, Austin has already reached top four all-time status for the number of 100 degree days observed for the May-June period with over half a month to go. Deterioration worth noting is found in the introduction of D3 in the Big Bend region of Texas, and an expansion of D0-D2 is now depicted in western, southern, and much of eastern Texas as well. All of the Texas Panhandle is now in D0, with a small area of D1 emerging in extreme southwest Oklahoma and across into Texas in the extreme southeast corner of the Panhandle. D3 was expanded slightly in the Oklahoma Panhandle.

Precipitation

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According to the latest Drought Outlook, improvement is forecasted for far southern and southeastern Texas, northwestern Kansas and adjacent areas, northwestern Nebraska, and the areas of drought currently affecting the northern Rockies and Plains. Less significant improvement is anticipated across interior southern Texas, in the drought areas from the southern Rockies and the Big Bend of Texas northeastward into southeastern Colorado and southwestern Kansas. Drought is expected to persist in west-central Texas.

CROP REPORT

June 9, 2008—Oklahoma experienced hail and straight-line winds reaching 100 mph from severe thunderstorms that damaged crops and buildings this past week. The intense storms that came Thursday and Sunday, brought wheat harvest to a temporary halt in some areas. Saturated fields in the north central and northeast regions could possibly cause harvest to finish behind schedule. High winds also contributed to power outages throughout the state and wildfires in the southwest. The winds have diminished topsoil moisture in the Panhandle, southwest, and south central regions. There were 5.3 days suitable for fieldwork.

Wheat harvest was delayed in areas of Oklahoma that received abundant moisture. Some unharvested wheat fields received hail and wind damage from the recent storms. Very few disease problems have been reported for small grain crops. Essentially all of the state's winter wheat had reached the soft dough stage by the end of the week, an increase of 9 points from the previous week and in line with last year and the five-year average. Just over one-third of the wheat crop had been harvested by Sunday, increase of 27 points from last week. Ninety-seven percent of rye was in the soft dough stage, an increase of six points from the previous week and 17 percentage points ahead of normal. Rye harvested was at 10 percent, 15 points behind the five-year average. Oats headed was at 93 percent, four percentage points behind the five-year average. Eighty percent of the oats were in the soft dough stage, 2 points behind normal.

Field work was halted in many areas due to last week's thunderstorms. Some farmers are preparing to begin double cropping after wheat is harvested. By the end of last week, 93 percent of corn had emerged, an increase of 4 points from the previous week last week but five points behind the five-year average. Sorghum seedbed prepared was at 87 percent, three points behind last year and two points behind the five-year average. Sorghum planted was 12 points behind normal, at 38 percent, while sorghum emerged was four points behind normal, at 32 percent. Soybeans seedbed prepared had reached 85 percent by week's end, an increase of two percentage points from last week and equal to the five-year average. Just under half of the state's soybeans were planted with 37 percent emerged by Sunday. Peanuts were nearly all planted by week's end. Ninety-four percent of peanuts had emerged, an increase of 24 points from the previous week and eight points ahead of normal. Only a small percentage of peanuts were pegging last week. Cotton planted and emerged were both ahead of normal at 89 percent and 78 percent, respectively.

Producers had half of the second cutting of alfalfa complete by the end of the week, four points ahead of normal. Alfalfa and other hay conditions remained mostly in the good to fair range. Ninety-one percent of watermelons had been planted by week's end and 40 percent had developed runners. Peaches were rated in the mostly good to fair range with an average fruit set. Pecans were also rated mostly in the good to fair range and were reported having an average nut set.

Pasture and range conditions were mostly in the good to fair range, except for the Panhandle where pasture conditions are mostly poor due to lack of rain. Livestock conditions were rated mostly in the good to fair range. Mostly light to moderate insect activity was reported.



RESERVOIR **S**TORAGE

- 4 reservoirs are currently operating at less than full capacity (compared to 2 two weeks ago).
- 11 reservoirs have experienced lake level decreases.

S	Storage in Selected Oklahoma Lakes & Reservoirs June 10, 2008								
	Normal Pool Elevation	Previous Elevation	Current Elevation	Change in Elevation	Current Flood Control Storage				
Lake or Reservoir	(feet)	05/29/2008 (feet)	06/10/2008 (feet)	(feet)	(acre-feet)				
North Central	(1000)	(1000)	(1000)	(1000)					
Fort Supply	2004.00	2004.09	2003.94	(0.15)	(102)				
Great Salt Plains	1125.00	1126.12	1125.86	(0.26)	7,217				
Kaw*	1013.00	1020.30	1026.98	6.68	309,488				
Northeast									
Birch	750.50	752.33	758.16	5.83	9,797				
Copan	710.00	715.51	722.93	7.42	87,986				
Fort Gibson	554.00	555.78	565.38	9.60	267,844				
Grand	745.00	746.28	746.93	0.65	91,640				
Hudson	619.00	622.58	628.96	6.38	126,639				
Hulah	733.00	739.62	753.16	13.54	132,587				
Keystone	723.00	732.03	735.14	3.11	347,396				
Oologah	638.00	645.71	649.85	4.14	441,620				
Skiatook	714.00	716.52	720.94	4.42	77,008				
West Central									
Canton	1615.40	1615.83	1616.82	0.99	11,543				
Foss	1642.00	1642.21	1642.62	0.41	4,278				
Central									
Arcadia	1006.00	1006.43	1008.46	2.03	4,700				
Heyburn	761.50	765.00	765.88	0.88	4,564				
Thunderbird	1039.00	1040.68	1040.37	(0.31)	8,505				
East Central									
Eufaula*	587.00	587.17	587.38	0.21	39,813				
Tenkiller	632.00	635.63	634.81	(0.82)	36,811				
Southwest									
Fort Cobb	1342.00	1343.10	1343.09	(0.01)	4,259				
Lugert-Altus	1559.00	1556.94	1556.81	(0.13)	(13,260)				
Tom Steed	1411.00	1410.95	1410.66	(0.29)	(2,132)				
South Central									
Arbuckle	872.00	872.66	872.87	0.21	2,071				
McGee Creek**	175.90	176.46	176.55	0.09	8,391				
Texoma*	619.00	617.97	618.13	0.16	(66,898)				
Waurika*	951.40	952.12	951.97	(0.15)	5,778				
Southeast									
Broken Bow*	602.50	603.64	602.85	(0.79)	5,117				
Hugo*	406.00	406.72	407.34	0.62	19,202				
Pine Creek*	442.50	443.76	442.88	(0.88)	1,801				
Sardis	599.00	599.36	599.40	0.04	5,549				
Wister	478.00	479.65	478.88	(0.77)	6,753				
* indicates seasonal pool op	eration **	elevation in meters		negative num	bers 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>.