Oklahoma Water Resources Bulletin & Summary of Current Conditions



July 11, 2007

PRECIPITATION

Preliminary Statewide Precipitation									
Warm Growing March 1—July				ng Season Ily 9, 2007		Water Year October 1, 2006—July 9, 2007			
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	9.74"	-0.77"	93%	39th wettest	15.05"	+0.13"	101%	34th wettest	
North Central	26.12"	+10.95"	172%	2nd wettest	31.72"	+8.37"	136%	5th wettest	
Northeast	26.67"	+7.98"	143%	6th wettest	37.34"	+5.57"	118%	12th wettest	
West Central	23.28"	+8.90"	162%	2nd wettest	31.08"	+9.25"	142%	1st wettest	
Central	32.10"	+14.38"	181%	1st wettest	41.98"	+12.55"	143%	2nd wettest	
East Central	20.96"	+0.93"	105%	30th wettest	39.85"	+3.70"	110%	24th wettest	
Southwest	24.36"	+9.67"	166%	2nd wettest	34.34"	+11.17"	148%	2nd wettest	
South Central	26.34"	+8.05"	144%	5th wettest	41.47"	+9.19"	128%	7th wettest	
Southeast	24.53"	+3.46"	116%	13th wettest	47.87"	+6.75"	116%	12th wettest	
Statewide	24.11"	+7.38"	144%	2nd wettest	35.69"	+7.52"	127%	5th wettest	



SOIL MOISTURE

Fractional Water Index¹ July 9, 2007

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 Sever	dex ¹		Standardized Precipitation Index ² Through June 2007					
	CURRENT STATUS			CHANGE IN VALUE	E 3-Month	6-Month	9-Month	12-Month	
DIVISION (#)		1/1	6/9	IN VALUE					
Northwest (1)	VERY MOIST SPELL	3.66	3.80	-0.14	NEAR NORMAL	NEAR NORMAL	VERY WET	VERY WET	
North Central (2)	EXTREME MOIST SPELL	4.55	2.95	1.60	VERY WET	VERY WET	VERY WET	MODERATELY WET	
Northeast (3)	UNUSUAL MOIST SPELL	2.73	1.28	1.45	VERY WET	VERY WET	MODERATELY WET	MODERATELY WET	
West Central (4)	EXTREME MOIST SPELL	4.82	4.05	0.77	VERY WET	EXTREMELY WET	EXTREMELY WET	VERY WET	
Central (5)	EXTREME MOIST SPELL	4.37	2.45	1.92	EXTREMELY WET	EXTREMELY WET	VERY WET	VERY WET	
East Central (6)	MOIST SPELL	1.70	-0.84	2.54	NEAR NORMAL	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	
Southwest (7)	EXTREME MOIST SPELL	5.12	3.19	1.93	VERY WET	VERY WET	VERY WET	VERY WET	
South Central (8)	VERY MOIST SPELL	3.69	1.83	1.86	MODERATELY WET	MODERATELY WET	VERY WET	NEAR NORMAL	
Southeast (9)	UNUSUAL MOIST SPELL	2.02	-0.81	2.83	NEAR NORMAL	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	

• No climate divisions are currently experiencing drought conditions, according to the PDSI.

• Only one climate division has undergone a PDSI moisture decrease since June 9.

Keetch-Byram Drought Fire Index³

Mesonet Station	COUNTY	CLIMATE DIVISION	Current Value 7/9/2007
Boise City	Cimarron	Northwest	321
Buffalo	Harper	Northwest	275
Stations curiStations abo	rently above ove 600 on Ju	600 (July 9) = 0 une 11 = 0	

Climatological Survey (Sarvey As of Jul 9, 2007

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Statewide Wildfire Preparedness

There is no ban on outdoor burning for any counties in Oklahoma. However, citizens are encouraged to use caution. Dry, grassy fuels will ignite easily when the humidity is low and the temperature and winds are high.



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 Forecast July 17-23, 2007



U.S. Drought Monitor

July 10, 2007



Characterization
 Characterization

Drought Summary & Outlook-The Plains:

8-14 DAY OUTLOOK PRECIPITATION PROBABILITY MADE 9 JUL 2007 VALID JUL 17 - 23. 2007

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July 10—The remnants of the upper air disturbance that had brought flooding rains to the southern Plains (where conditions in Oklahoma continued to improve) edged eastward and contributed to heavy rains from Texas into Mississippi. As a result, major improvements were seen in parts of Alabama, Mississippi, and Florida In the West and High Plains, heat was the big story as a severe heat wave brought triple-digit temperatures from the arid Southwest northward to the Canadian border. The heat peaked in the Southwest around July 5, when the maximum temperature at Las Vegas, Nevada, reached 116 degrees F and Reno tied its alltime maximum with 108 degrees F. The sizzling high temperatures combined with little rainfall led to decreased soil moisture and some expansion of dryness and drought across the West ...

Precipitation

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HADED AREAS ARE ICS

According to the latest Drought Outlook, conditions should improve along the Gulf Coast, southern Georgia and the Carolinas. The odds for improvement diminish further north, with the drought from northern Alabama and northwestern Georgia into the Tennessee and Ohio Valleys expected to largely persist. Given the increased evaporation and water use expected during the summer, levels in many lakes, reservoirs, and wells will likely continue to drop into September. Soil moisture, small streams, and ponds have a better chance for improvement, but it is extremely unlikely the regional drought affecting the South will end within the next few months. In the West, the lack of rain and snow in conjunction with unseasonably warm temperatures during the 2006-07 water year has resulted in the development of severe drought across the central Rockies, Great Basin and California. The drought will persist through the period and development is possible over the northern Rockies as well during the period.

CROP REPORT

July 9—Weather conditions improved last week as the amount of precipitation Oklahoma received was less than an inch for the first time since the week ending June 10th. The drop in precipitation was welcomed by farmers across the state. However, many fields were still too soft for agricultural equipment. Topsoil moisture was rated 92 percent surplus to adequate, compared to 16 percent at this time in 2006. Subsoil moisture was rated 93 percent surplus to adequate, compared to just 10 percent last year. There were 2.5 days suitable for fieldwork.

The wheat harvest was nearing completion in areas that received limited rain the past few weeks. However, harvesting operations for most of the state remained well behind normal. Sixty-nine percent of the wheat crop had been harvested by Sunday, an increase of 10 points from last week but 30 points behind the five-year average. Farmers had 68 percent of oats and 60 percent of rye harvested by the end of the week, both well behind normal.

Even with improved weather conditions, many fields remained too wet for normal field activities. Flood damage was reported in isolated areas. Sixty-seven percent of corn was silking by the end of last week and 20 percent had reached the dough stage of development. Producers had 84 percent of the state's sorghum acres planted by week's end and just 66 percent of the crop had emerged, both behind normal. Seventy-five percent of peanuts had reached the pegging stage of development and 13 percent of pods were set. Ninety-seven percent of cotton had emerged and 41 percent was squaring. Soybeans were 52 percent planted by the end of last week, 43 points behind normal.

Hay baling remained on hold in many locations this past week as producers wait for fields to dry out. As of Sunday, producers had made the first cutting on 70 percent of other hay, 13 points behind normal. The second cutting of alfalfa, at 78 percent, was 18 points behind the five-year average. Alfalfa and other hay conditions remained mostly in the good to fair range.

Disease problems from excess moisture had reduced watermelon and cantaloupe yields in some areas. Ninetysix percent of watermelons were setting fruit, 5 points ahead of last year and 8 points ahead of normal. Watermelons were 28 percent harvested by week's end, 11 points above the five-year average. Peaches were rated in the mostly good to fair range with an average fruit set.

Livestock conditions were rated mostly in the excellent to good range. Livestock marketings were average last week. Pasture conditions were also rated mostly in the excellent to good range. Producers in drier locations applied herbicides to weed-infested pastures.



RESERVOIR **S**TORAGE

- 0.0 percent increase in total storage (100%) from that recorded on June 12 (100%)
- 3 reservoirs have experienced lake level decreases
- no reservoirs are currently operating at less than full capacity (compared to 1 four weeks ago)
- 0 reservoirs are below 80 percent of their total conservation storage

Storage in Selected Oklahoma Lakes & Reservoirs							
Climate Division Lake or Reservoir	Conservation Storage (acre-feet)	Present Storage (acre-feet)	Percent of Conservation Storage				
North Central	· · ·						
Fort Supply	13,900	13,900	100.0				
Great Salt Plains	31,420	31,420	100.0				
Kaw*	459,850	459,850	100.0				
Regional Totals/Averages	505,170	505,170	100.0				
Northeast							
Birch	19,225	19,225	100.0				
Copan	34,634	34,634	100.0				
Fort Gibson	365,200	365,200	100.0				
Grand	1,672,000	1,672,000	100.0				
Hudson	200,300	200,300	100.0				
Hulah	22,565	22,565	100.0				
Keystone	557,267	557,267	100.0				
Oologah	552,219	552,219	100.0				
Skiatook	322,700	322,700	100.0				
Regional Totals/Averages	3,746,110	3,746,110	100.0				
West Central							
Canton	111,310	111,310	100.0				
Foss	165,480	165,480	100.0				
Regional Totals/Averages	276,790	276,790	100.0				
Central							
Arcadia	27,520	27,520	100.0				
Heyburn	7,105	7,105	100.0				
Thunderbird	119,600	119,600	100.0				
Regional Totals/Averages	154,225	154,225	100.0				
East Central							
Eufaula*	2,529,143	2,529,143	100.0				
Tenkiller	654,100	654,100	100.0				
Regional Totals/Averages	3,183,243	3,183,243	100.0				
Southwest							
Fort Cobb	80,010	80,010	100.0				
Lugert-Altus	132,830	132,830	100.0				
Tom Steed	88,970	88,970	100.0				
Regional Totals/Averages	301,810	301,810	100.0				
South Central							
Arbuckle	72,400	72,400	100.0				
McGee Creek	113,930	113,930	100.0				
Texoma*	2,742,146	2,742,146	100.0				
Waurika*	190,200	190,200	100.0				
Regional Totals/Averages	3,118,676	3,118,676	100.0				
Southeast	· ·						
Broken Bow*	958,180	958,180	100.0				
Hugo*	198,067	198,067	100.0				
Pine Creek*	71,120	71,120	100.0				
Sardis	274,330	274,330	100.0				
Wister	60,162	60,162	100.0				
Regional Totals/Averages	1,561,859	1.561.859	100.0				
State Totals	12,847,883	12,847,883	100.0				



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>.