

Oklahoma Water Resources Bulletin & Summary of Current Conditions

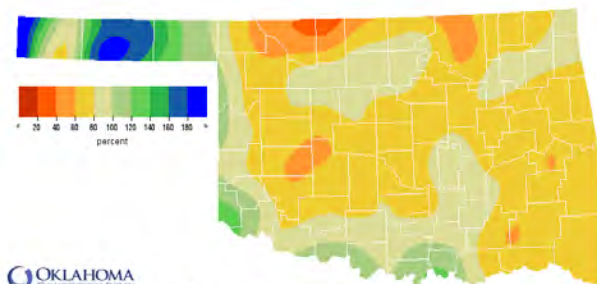


April 22, 2010

PRECIPITATION

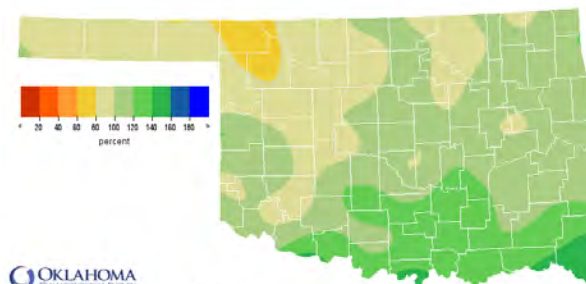
Statewide Precipitation

CLIMATE DIVISION	Warm Growing Season March 1 – April 19, 2010				Last 365 Days April 20, 2009 – April 19, 2010			
	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	3.34"	+0.54"	119%	15th wettest	17.75"	-3.35"	84%	32nd driest
North Central	3.09"	-1.46"	68%	42nd driest	28.34"	-3.31"	90%	42nd driest
Northeast	4.74"	-1.46"	76%	45th wettest	44.56"	+2.59"	106%	26th wettest
West Central	2.96"	-1.09"	73%	43rd driest	29.28"	+0.19"	101%	26th wettest
Central	4.09"	-1.38"	75%	39th driest	39.62"	+1.63"	104%	20th wettest
East Central	4.69"	-2.14"	69%	33rd driest	48.83"	+2.74"	106%	22nd wettest
Southwest	3.20"	-0.75"	81%	44th wettest	32.35"	+1.55"	105%	21st wettest
South Central	5.17"	-0.76"	87%	34th wettest	50.93"	+9.97"	124%	3rd wettest
Southeast	4.85"	-2.47"	66%	24th driest	65.51"	+14.57"	129%	3rd wettest
Statewide	4.04"	-1.20"	77%	40th driest	39.47"	+2.78"	108%	18th wettest



OKLAHOMA CLIMATOLOGICAL SURVEY
Percentage of Normal Rainfall
Warm Growing Season

Mar 1, 2010 through Apr 19, 2010



OKLAHOMA CLIMATOLOGICAL SURVEY
Percentage of Normal Rainfall
Last 365 Days

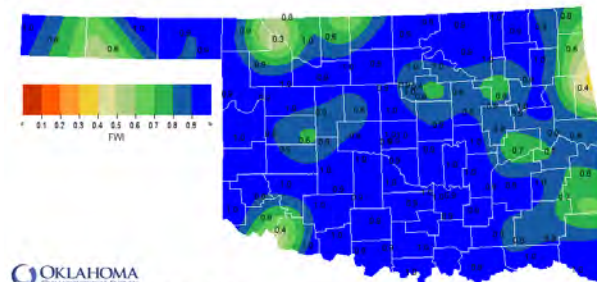
Apr 20, 2009 through Apr 19, 2010

SOIL MOISTURE

Fractional Water Index¹

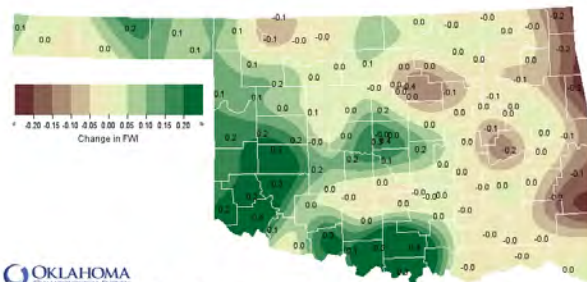
April 19, 2010

25 CM (~10 INCHES)



OKLAHOMA CLIMATOLOGICAL SURVEY
25-cm Fractional Water Index

Apr 19, 2010



OKLAHOMA CLIMATOLOGICAL SURVEY
7-Day Change in 25-cm Fractional Water Index

Apr 19, 2010

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

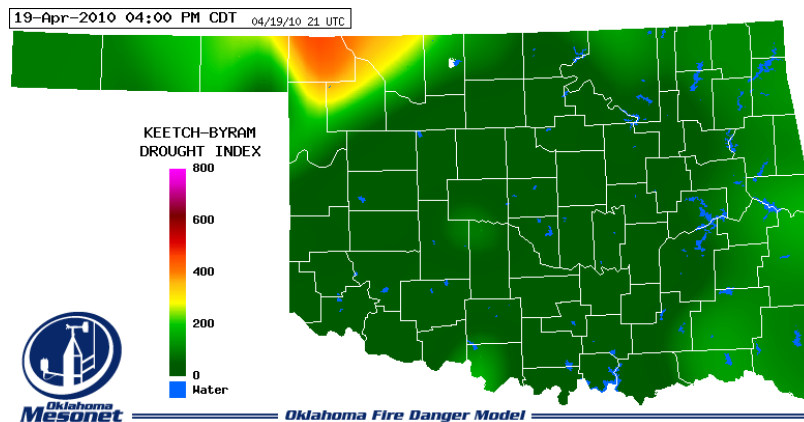
Palmer Drought Severity Index ¹					Standardized Precipitation Index ² Through March 2010			
CLIMATE DIVISION	CURRENT STATUS 4/17/2010	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		4/17	3/20					
Northwest	MOIST SPELL	1.96	1.12	0.84	MODERATELY WET	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
North Central	UNUSUAL MOIST SPELL	2.44	2.99	-0.55	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	MOIST SPELL	1.54	2.40	-0.86	NEAR NORMAL	NEAR NORMAL	MODERATELY WET	MODERATELY WET
West Central	UNUSUAL MOIST SPELL	2.59	2.48	0.11	NEAR NORMAL	NEAR NORMAL	MODERATELY WET	NEAR NORMAL
Central	UNUSUAL MOIST SPELL	2.59	3.24	-0.65	NEAR NORMAL	NEAR NORMAL	MODERATELY WET	NEAR NORMAL
East Central	INCIPIENT MOIST SPELL	0.76	2.44	-1.68	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southwest	UNUSUAL MOIST SPELL	2.15	2.09	0.06	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	UNUSUAL MOIST SPELL	2.41	3.02	-0.61	NEAR NORMAL	NEAR NORMAL	MODERATELY WET	VERY WET
Southeast	UNUSUAL MOIST SPELL	2.35	3.84	-1.49	NEAR NORMAL	MODERATELY WET	VERY WET	VERY WET

- No climate divisions are currently experiencing drought conditions, according to the PDSI.
- Six climate divisions have undergone PDSI moisture decreases since March 20.
- No climate divisions are experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index³

MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 4/19/2010
Buffalo	Harper	Northwest	440
May Ranch	Woods	North Central	362
Freedom	Woodward	North Central	284

- Stations currently at or above 600 (April 19) = 0
- Stations above 600 on March 22 = 0



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 April 27 – May 3, 2010

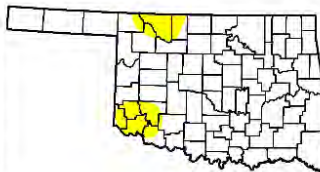


Regional Drought Summary & Outlook

U.S. Drought Monitor Oklahoma

April 20, 2010
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	92.0	8.0	0.0	0.0	0.0	0.0
Last Week (04/13/2010 map)	86.1	13.9	0.0	0.0	0.0	0.0
3 Months Ago (01/26/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Calendar Year (01/05/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (10/06/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0
One Year Ago (04/21/2009 map)	49.4	50.6	29.3	8.8	0.0	0.0



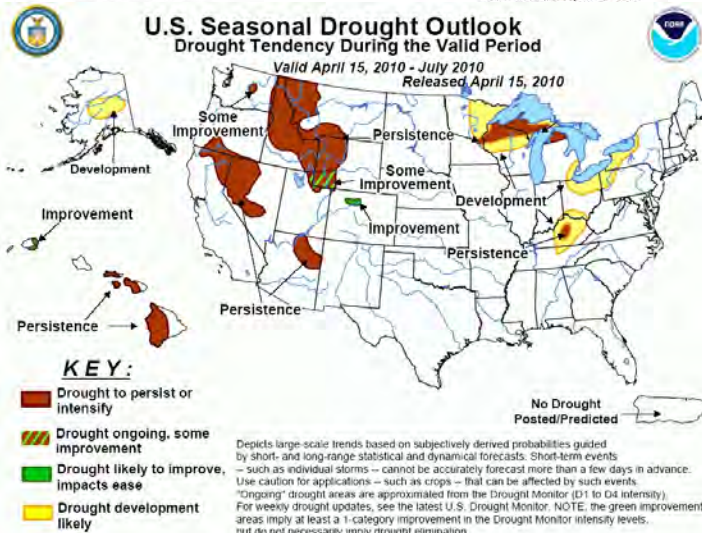
Intensity:

- 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>

USDA
Released Thursday, April 22, 2010
Author: A. Artusa, CPC/NOAA



April 20—The latest U.S. Drought Monitor reports that little to no rain fell across southern Arkansas, western Mississippi, southeastern Alabama, and northeastern Louisiana during the past week. Although the winter months were quite wet, this spring has brought minimal rainfall to this area. This dryness, in addition to stream flows below the 10th percentile (current, 7-, 14-, and 28-days), led to the creation of a moderate drought (D1A) area over northeastern Louisiana, and expansion of D0 conditions across extreme southeastern Texas, northern Mississippi, northern and southern portions of Alabama, and west Florida. With the growing season well underway, planted crops will soon require moisture for germination and establishment. In the south-central Plains, widespread rainfall amounts of 1 to 3 inches in western Oklahoma resulted in the removal of much of the D0 area introduced there last week. Only a small area of abnormally dry conditions (D0(H)) remains in southwestern Oklahoma, to reflect watershed/irrigation issues related to Lugert-Altus Reservoir, especially for Greer, Harmon, Jackson, Kiowa and western Tillman Counties. Rainfall amounts up to an inch fell across south-central Kansas, which help to offset the meager 60-day precipitation (25 to 50 percent of normal). Due to recent precipitation, the small D0 areas in far western, and extreme north-central Texas were eliminated.

According to the Drought Outlook (April 15), during April, moderate to severe hydrological drought has persisted across the northern Rockies and the upper Midwest, although precipitation is expected through much of the remainder of April for the northern Rockies. Drought persistence is forecast for Idaho and western Montana due to forecasts of poor streamflows and soil moisture values into the May - July season. Some improvement is indicated in southwest Wyoming with improvement indicated for northern Colorado, due to more favorable forecasts of soil moisture combined with slightly more favored prospects for precipitation through the latter part of April into May. Drought persistence is forecast for the Great Basin and northeast Arizona as this region begins to enter the climatological dry season.

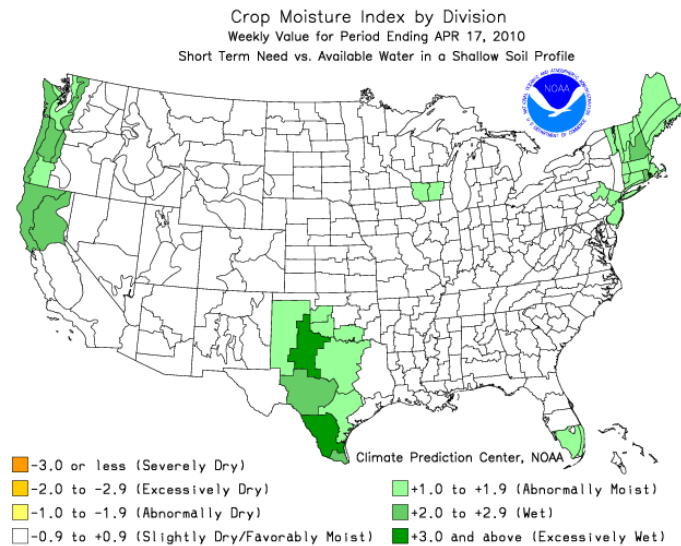
CROP REPORT

April 19, 2010 – Warm, windy weather dominated the early part of the week for much of the state. Several days of clear weather allowed for substantial field work as producers were busy cultivating ground and planting summer crops. Friday brought three days of welcomed rain for many areas. Both topsoil and subsoil moisture conditions continued to be favorable, with the majority rated in the surplus to adequate range. Despite the rainy weekend, sunshine early in the week allowed for 5.2 days suitable for field work.

Small grain conditions continued to rate mostly in the good to fair range, with 14 percent of wheat and 15 percent of rye rated excellent. The weekend rains provided a healthy boost to the wheat crop; improvements were noticeable in the color and appearance of the crop. Wheat jointing reached 85 percent complete by week's end, nine points ahead of last year but nine points behind normal. Rye jointing has neared completion at 94 percent, seven points ahead of the five year average. Oat jointing jumped 27 points to reach 55 percent complete by Sunday, seven points ahead of normal.

Favorable conditions during the week allowed for heavy field work as seedbed preparations and some planting continued. Corn seedbed preparations have reached 76 percent complete, up nine points from the previous week. Over one-third of the state's corn was planted by week's end, jumping 19 points from the previous week but still four points behind the five-year average. Nearly half of the sorghum seedbeds were prepared, up 18 points from the week prior and six points ahead of normal. Soybean seedbed preparation increased 12 points to reach 44 percent complete by week's end, but remained behind the five-year average by five points. A small portion of the sorghum and soybean crops were planted by week's end. Peanut seedbed preparations reached 68 percent complete, up seven points from the previous week and well ahead of normal. Cotton seedbed preparation jumped 13 points to reach 70 percent complete, one point ahead of the five-year average.

Pasture and range conditions rated mostly in the good to fair range. Warm season grasses rebounded with the moisture. Livestock conditions rated mostly in the good to fair range.



RESERVOIR STORAGE

- 9 reservoirs are currently operating at less than full capacity (compared to 5 four weeks ago).
- 18 reservoirs have experienced lake level decreases.

Storage in Selected Oklahoma Lakes & Reservoirs					
April 20, 2010					
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 03/23/2010 (feet)	Current Elevation 04/20/2010 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2004.00	2004.47	0.47	882
Great Salt Plains	1125.00	1125.38	1125.37	(0.01)	3,105
Kaw*	1010.00	1009.17	1009.96	0.79	(664)
Northeast					
Birch	750.50	751.46	750.85	(0.61)	401
Copan	710.00	711.29	710.21	(1.08)	1,192
Fort Gibson	554.00	555.04	552.77	(2.27)	(22,840)
Grand*	742.00	742.40	742.06	(0.34)	2,640
Hudson	619.00	620.23	619.59	(0.64)	6,520
Hulah	733.00	735.19	734.02	(1.17)	6,289
Keystone*	723.00	724.05	724.09	0.04	19,450
Oologah*	638.00	641.32	637.60	(3.72)	(12,083)
Skiatook	714.00	714.76	714.25	(0.51)	2,735
West Central					
Canton	1615.40	1614.77	1615.60	0.83	1,587
Foss	1642.00	1641.91	1641.70	(0.21)	(2,004)
Central					
Arcadia	1006.00	1006.44	1007.25	0.81	2,340
Heyburn	761.50	763.39	762.23	(1.16)	704
Thunderbird	1039.00	1039.34	1039.88	0.54	5,368
East Central					
Eufaula*	585.00	586.20	585.57	(0.63)	55,045
Tenkiller	632.00	633.48	632.30	(1.18)	3,930
Southwest					
Fort Cobb	1342.00	1342.42	1342.25	(0.17)	973
Lugert-Altus	1559.00	1544.19	1546.08	1.89	(65,882)
Tom Steed	1411.00	1407.52	1407.29	(0.23)	(21,753)
South Central					
Arbuckle	872.00	872.82	873.18	0.36	2,817
McGee Creek**	175.90	176.14	176.19	0.05	3,692
Texoma*	615.00	616.31	614.98	(1.33)	(1,375)
Waurika*	951.40	951.74	952.09	0.35	7,028
Southeast					
Broken Bow*	600.40	598.41	599.22	0.81	(17,282)
Hugo*	406.00	405.80	406.35	0.55	4,951
Pine Creek*	442.50	439.81	441.28	1.47	(5,624)
Sardis	599.00	599.65	599.13	(0.52)	1,803
Wister	478.00	480.27	478.24	(2.03)	1,519

* indicates seasonal pool operation

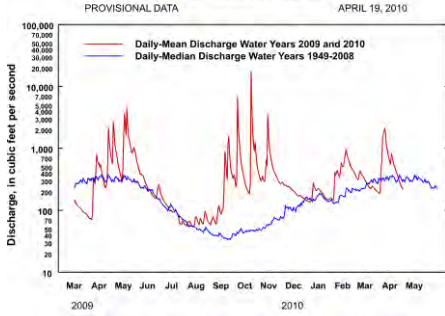
** elevation in meters

negative numbers in red, parentheses

STREAMFLOW CONDITIONS

Baron Fork at Eldon

Baron Fork at Eldon, Oklahoma
 Station No. 07197000 Northeast Oklahoma
 Drainage Area: 307 square miles

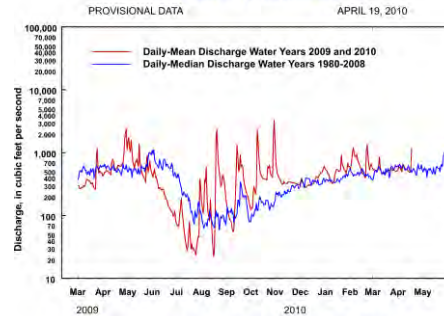


Comparison of daily discharges for water years 2009 and 2010 and period of record

Data from U.S. Geological Survey

Canadian River at Purcell

Canadian River at Purcell, Oklahoma
 Station No. 07229200 Central Oklahoma
 Drainage Area: 25,939 square miles



Comparison of daily discharges for water years 2009 and 2010 and period of record

Data from U.S. Geological Survey

Cimarron River near Waynoka

Cimarron River near Waynoka, Oklahoma
 Station No. 07158000 Northwest Oklahoma
 Drainage Area: 13,334 square miles

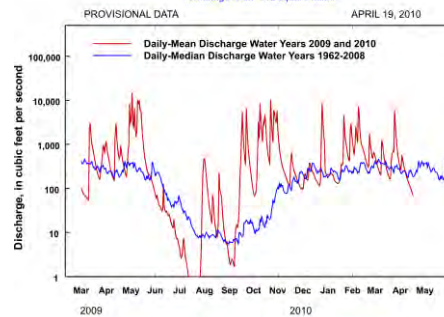


Comparison of daily discharges for water years 2009 and 2010 and period of record

Data from U.S. Geological Survey

Glover River near Glover

Glover River near Glover, Oklahoma
 Station No. 07337900 Southeast Oklahoma
 Drainage Area: 315 square miles

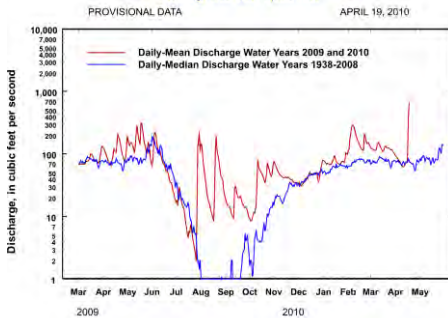


Comparison of daily discharges for water years 2009 and 2010 and period of record

Data from U.S. Geological Survey

North Fork of the Red River near Carter

North Fork of the Red River near Carter, Oklahoma
 Station No. 07301500 Southwest Oklahoma
 Drainage Area: 2,337 square miles

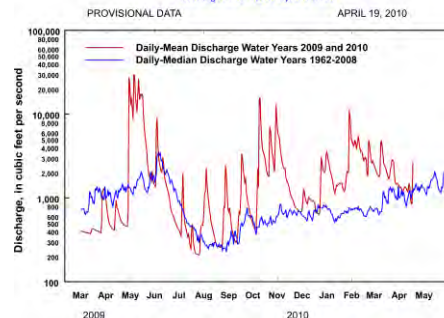


Comparison of daily discharges for water years 2009 and 2010 and period of record

Data from U.S. Geological Survey

Washita River near Dickson

Washita River near Dickson, Oklahoma
 Station No. 07331000 South-Central Oklahoma
 Drainage Area: 7,202 square miles



Comparison of daily discharges for water years 2009 and 2010 and period of record

Data from U.S. Geological Survey



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.ok.gov and www.mesonet.org.