

Oklahoma Water Resources Bulletin & Summary of Current Conditions

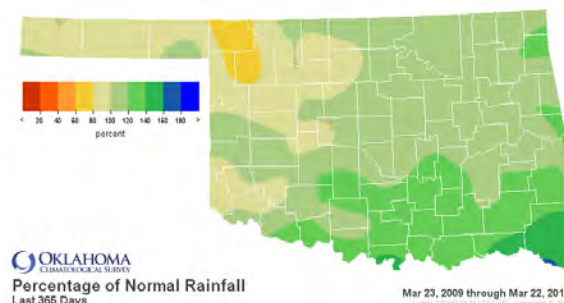
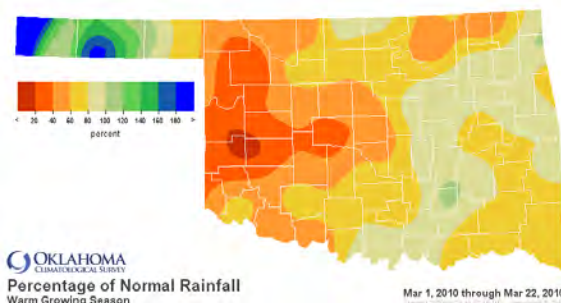


March 25, 2010

PRECIPITATION

Statewide Precipitation

CLIMATE DIVISION	Warm Growing Season March 1 – March 22, 2010				Last 365 Days March 23, 2009 – March 22, 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	1.13"	-0.02"	98%	25th wettest	18.32"	-2.78"	87%	33rd driest
North Central	1.15"	-0.75"	61%	43rd wettest	30.33"	-1.32"	96%	40th wettest
Northeast	1.95"	-0.66"	75%	40th wettest	47.87"	+5.90"	114%	15th wettest
West Central	0.49"	-1.21"	29%	23rd driest	28.98"	-0.11"	100%	26th wettest
Central	1.39"	-0.91"	61%	44th driest	41.50"	+3.51"	109%	16th wettest
East Central	2.41"	-0.50"	83%	37th wettest	52.30"	+6.21"	113%	12th wettest
Southwest	0.83"	-0.78"	51%	36th driest	32.42"	+1.62"	105%	18th wettest
South Central	1.98"	-0.54"	79%	40th wettest	51.31"	+10.35"	125%	3rd wettest
Southeast	2.25"	-0.93"	71%	37th driest	68.49"	+17.55"	134%	1st wettest
Statewide	1.52"	-0.69"	69%	42nd driest	41.10"	+4.41"	112%	12th wettest

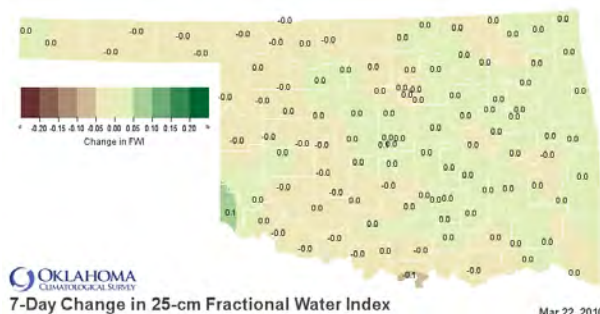
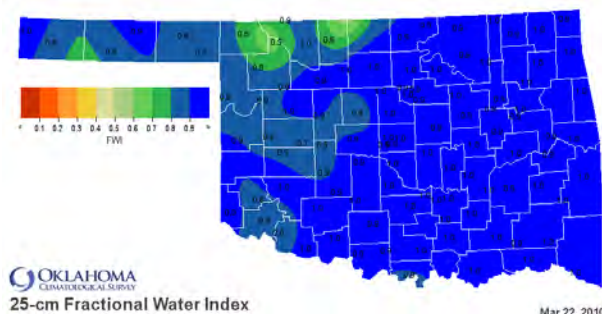


SOIL MOISTURE

Fractional Water Index¹

March 22, 2010

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 Wilted, 0.3 to 0.1 equals Plants Dying, and less than 0.1 equals Barren Soil.

DROUGHT INDICES

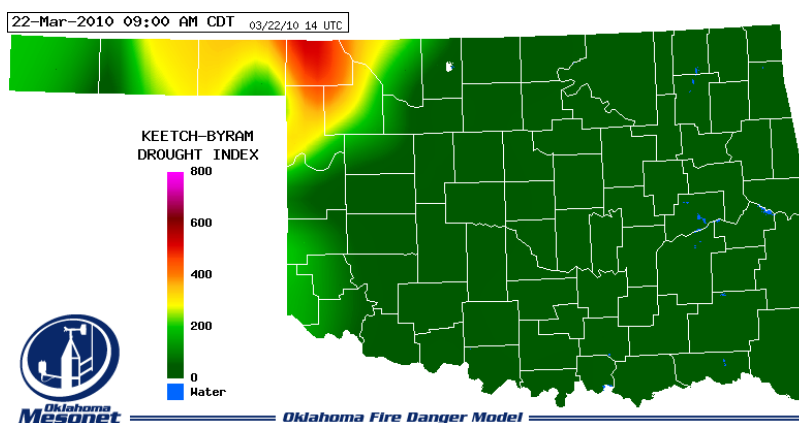
Palmer Drought Severity Index ¹					Standardized Precipitation Index ² Through February 2010			
CLIMATE DIVISION	CURRENT STATUS 3/20/2010	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		3/20	2/13					
Northwest	MOIST SPELL	1.12	0.89	0.23	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
North Central	UNUSUAL MOIST SPELL	2.99	2.83	0.16	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	UNUSUAL MOIST SPELL	2.40	2.39	0.01	NEAR NORMAL	MODERATELY WET	MODERATELY WET	MODERATELY WET
West Central	UNUSUAL MOIST SPELL	2.48	2.41	0.07	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	VERY MOIST SPELL	3.24	2.99	0.25	NEAR NORMAL	MODERATELY WET	MODERATELY WET	MODERATELY WET
East Central	UNUSUAL MOIST SPELL	2.44	2.52	-0.08	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
Southwest	UNUSUAL MOIST SPELL	2.09	2.11	-0.02	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	VERY MOIST SPELL	3.02	3.02	0.00	NEAR NORMAL	MODERATELY WET	MODERATELY WET	VERY WET
Southeast	VERY MOIST SPELL	3.84	4.67	-0.83	NEAR NORMAL	VERY WET	VERY WET	VERY WET

- No climate divisions are currently experiencing drought conditions, according to the PDSI.
- Three climate divisions have undergone PDSI moisture decreases since February 13.
- 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 3/22/2010
Buffalo	Harper	Northwest	506
Woodward	Woodward	North Central	336
Beaver	Beaver	Northwest	322

- Stations currently at or above 600 (March 22) = 0
- Stations above 600 on February 16 = 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.

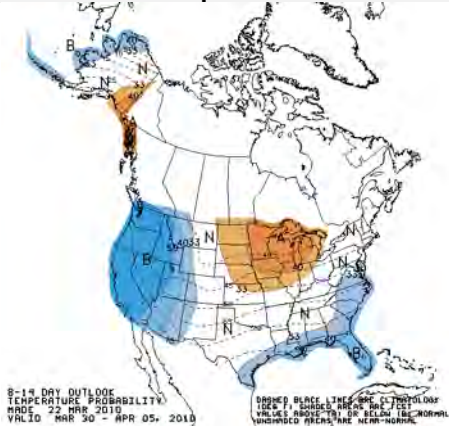
² The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the 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.

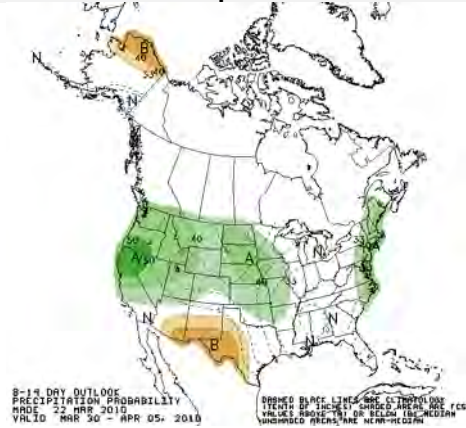
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
March 30 – April 5, 2010

Temperature



Precipitation



Regional Drought Summary & Outlook

U.S. Drought Monitor Oklahoma

March 23, 2010
Valid 7 a.m. EST

	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	D4
Current	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Last Week (03/16/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0	0.0
3 Months Ago (12/29/2009 map)	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Start of Calendar Year (01/01/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (11/01/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0	0.0
One Year Ago (03/24/2009 map)	18.6	81.4	48.8	27.1	0.0	0.0	0.0



Intensity:

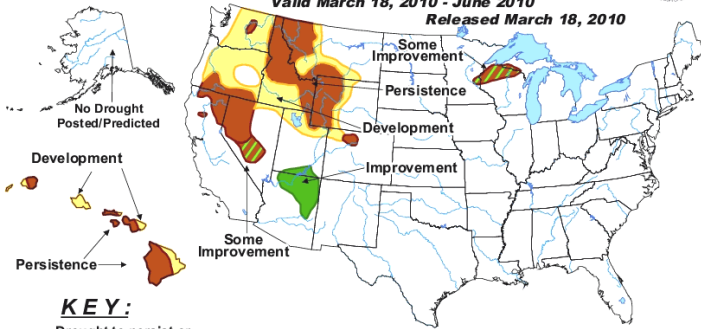
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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, March 25, 2010
Author: Brad Rippey, U.S. Dept. of Agriculture

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period Valid March 18, 2010 - June 2010 Released March 18, 2010



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events – such as individual storms – cannot be accurately forecast more than a few days in advance. Use caution for applications – such as crops – that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

March 23—The latest U.S. Drought Monitor reports that pockets of abnormal dryness persisted in southern and western Texas, where little or no precipitation fell during the past 7 days. The western U.S. remained in transition, with much of the northern half of the region slipping deeper into dryness (D0) or moderate to severe drought (D1 to D2). Meanwhile, the Southwest continued to emerge from long-term drought. El Niño has been the driving force behind the Western transition, leaving the northern Rockies and northern Intermountain West north of an active sub-tropical jet stream that has contributed to frequent snow storms in the mountains of the Southwest. During the 7-day drought monitoring period ending the morning of March 23, relatively quiet weather prevailed across the West. Precipitation was heaviest in the central and southern Rockies and parts of the Pacific Northwest.

According to the Drought Outlook (March 18), following major drought reduction across California courtesy of an El Niño winter, additional drought relief is not expected in northern California. Improvement is forecast in Arizona where snow-water equivalent values are high and runoff from snow melt is expected to provide above-average streamflows. During the past month, drought has expanded across the interior Pacific Northwest and northern Rockies. Initial conditions consisting of a low snowpack, a seasonal forecast of above-average temperatures, and a drier climatology support drought persistence or development across the interior Pacific Northwest and northern Rockies.

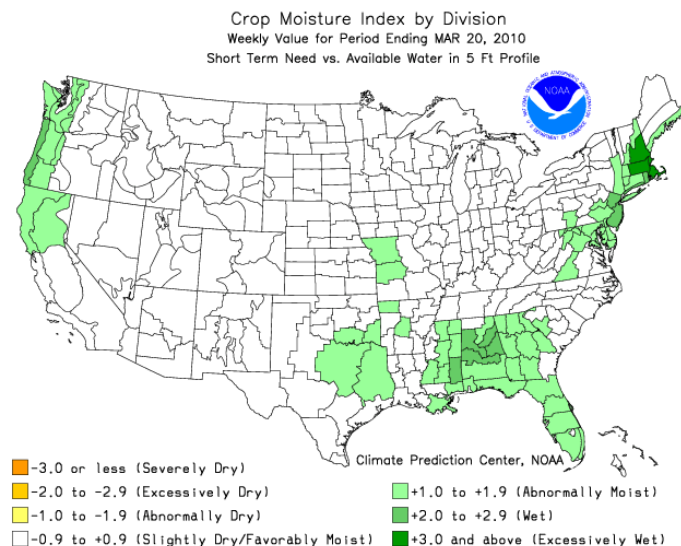
CROP REPORT

March 22, 2010 – Cloudy skies and mild temperatures were experienced across the state during most of the week. Friday evening brought windy and rainy weather that became blizzard-like conditions on Saturday. Snowfall ranged from 2 to 8 inches across Oklahoma. As a result, much field work was halted over the weekend. However, the snow was beneficial in improving topsoil and subsoil moisture conditions in some areas. Both topsoil and subsoil moisture conditions were rated mostly in the adequate to surplus range. Due to the snow storm that swept through the state, there were only 4.0 days suitable for field work this week.

Most small grains showed signs of improvement from the previous week and were rated mostly in the good to fair range. Wheat jointing reached 37 percent complete, three points behind both last year and normal. A little over half of the rye was jointing by week's end, only one point behind the five-year average. Oats planted reached 84 percent complete by Sunday, four points behind last year.

Row crop seedbed preparations and planting were postponed last week due to the snow storm. Seedbed preparations for corn reached 31 percent complete, 33 points behind last year and 19 points behind normal. Sorghum seedbed preparation was at 12 percent while soybean seedbed preparation reached six percent complete, both still running well behind last year and the five-year average. Peanuts continue to run ahead of normal with 41 percent of seedbed preparations completed by Sunday. Seedbed preparations for cotton increased by ten points from the previous week to reach 29 percent complete, 22 points behind last year and seven points behind normal.

Due to the recent rain and snowfall, pasture and range conditions continue to be rated mostly in the good to fair range. Livestock conditions are rated mostly in the good to fair range.



RESERVOIR STORAGE

- 5 reservoirs are currently operating at less than full capacity (compared to 6 five weeks ago).
- 17 reservoirs have experienced lake level decreases.

Storage in Selected Oklahoma Lakes & Reservoirs					
March 23, 2010					
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 02/16/2010 (feet)	Current Elevation 03/23/2010 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2004.58	2004.00	(0.58)	0
Great Salt Plains	1125.00	1125.52	1125.38	(0.14)	3,189
Kaw*	1008.90	1008.73	1009.17	0.44	4,763
Northeast					
Birch	750.50	750.47	751.46	0.99	1,116
Copan	710.00	710.33	711.29	0.96	7,320
Fort Gibson	554.00	556.67	555.04	(1.63)	20,100
Grand*	742.00	742.05	742.40	0.35	17,601
Hudson	619.00	619.72	620.23	0.51	13,669
Hulah	733.00	733.84	735.19	1.35	13,212
Keystone*	723.00	724.60	724.05	(0.55)	18,713
Oologah*	638.00	642.06	641.32	(0.74)	109,408
Skiatook	714.00	714.69	714.76	0.07	8,315
West Central					
Canton	1615.40	1614.64	1614.77	0.13	(4,933)
Foss	1642.00	1641.19	1641.91	0.72	(601)
Central					
Arcadia	1006.00	1006.24	1006.44	0.20	818
Heyburn	761.50	761.97	763.39	1.42	1,747
Thunderbird	1039.00	1039.22	1039.34	0.12	2,074
East Central					
Eufaula*	585.00	587.46	586.20	(1.26)	116,704
Tenkiller	632.00	637.02	633.48	(3.54)	19,388
Southwest					
Fort Cobb	1342.00	1342.73	1342.42	(0.31)	1,635
Lugert-Altus	1559.00	1541.70	1544.19	2.49	(73,158)
Tom Steed	1411.00	1407.56	1407.52	(0.04)	(20,494)
South Central					
Arbuckle	872.00	873.00	872.82	(0.18)	1,952
McGee Creek**	175.90	176.15	176.14	(0.01)	3,040
Texoma*	615.00	618.14	616.31	(1.83)	94,013
Waurika*	951.40	952.10	951.74	(0.36)	3,447
Southeast					
Broken Bow*	599.50	603.81	598.41	(5.40)	(15,380)
Hugo*	405.20	410.22	405.80	(4.42)	7,974
Pine Creek*	439.20	446.43	439.81	(6.62)	2,640
Sardis	599.00	599.30	599.65	0.35	9,017
Wister	478.00	482.13	480.27	(1.86)	15,322

* indicates seasonal pool operation

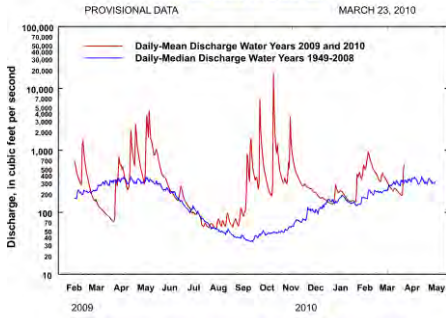
** elevation in meters

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*

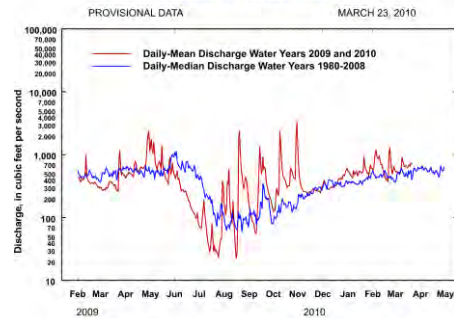


Comparison of daily discharges for water year 2009 and 2010 and period of record

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*

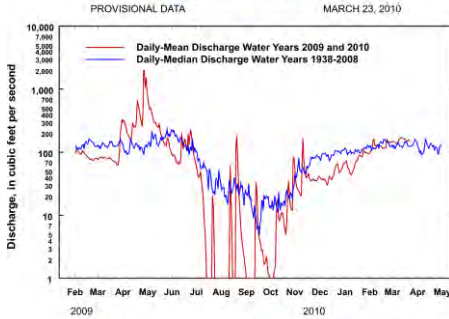


Comparison of daily discharges for water years 2009 and 2010 and period of record

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*

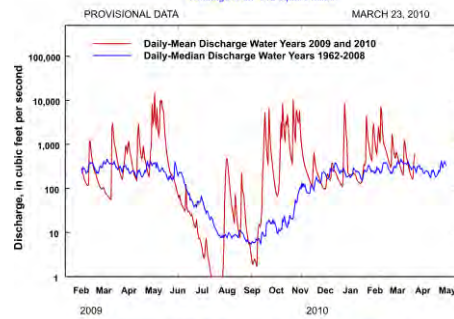


Comparison of daily discharges for water years 2009 and 2010 and period of record

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*

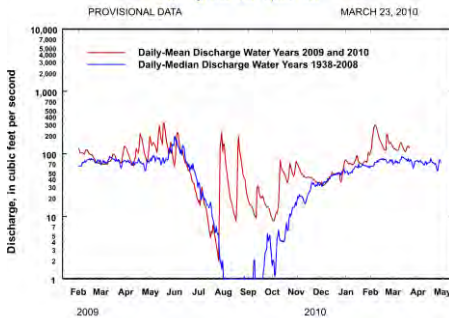


Comparison of daily discharges for water years 2009 and 2010 and period of record

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*

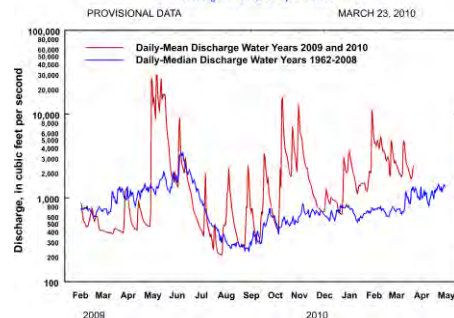


Comparison of daily discharges for water years 2009 and 2010 and period of record

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.