

Oklahoma Water Resources Bulletin & Summary of Current Conditions

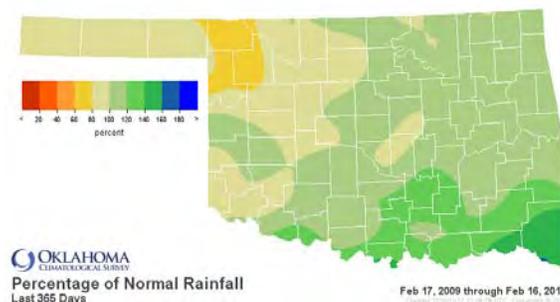
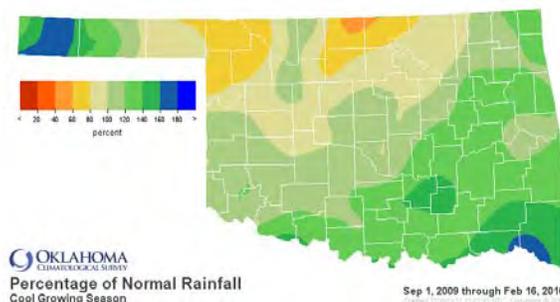


February 18, 2010

PRECIPITATION

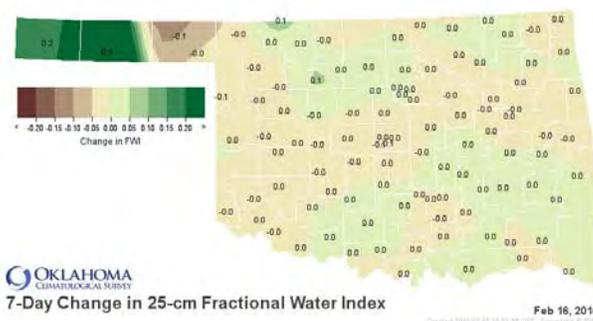
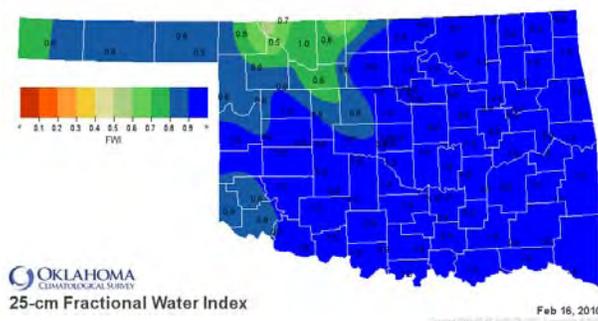
Statewide Precipitation

CLIMATE DIVISION	Cool Growing Season September 1, 2009—February 16, 2010				Last 365 Days February 17, 2009—February 16, 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	5.72"	-0.29"	95%	40th wettest	16.88"	-4.22"	80%	21st driest
North Central	8.35"	-2.44"	77%	35th driest	28.88"	-2.77"	91%	44th wettest
Northeast	19.08"	+2.07"	112%	22nd wettest	45.42"	+3.45"	108%	23rd wettest
West Central	10.02"	+0.02"	100%	36th wettest	28.18"	-0.91"	97%	29th wettest
Central	15.49"	+0.46"	103%	25th wettest	39.25"	+1.26"	103%	21st wettest
East Central	24.13"	+4.10"	120%	13th wettest	49.34"	+3.25"	107%	19th wettest
Southwest	12.81"	+1.51"	113%	22nd wettest	31.51"	+0.71"	102%	25th wettest
South Central	22.45"	+5.07"	129%	7th wettest	49.27"	+8.31"	120%	7th wettest
Southeast	32.89"	+9.62"	141%	2nd wettest	67.16"	+16.22"	132%	4th wettest
Statewide	16.56"	+2.07"	114%	17th wettest	16.88"	-4.22"	80%	21st driest



SOIL MOISTURE

Fractional Water Index¹ February 16, 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 Wilting, 0.3 to 0.1 equals Plants Dying, and less than 0.1 equals Barren Soil.

DROUGHT INDICES

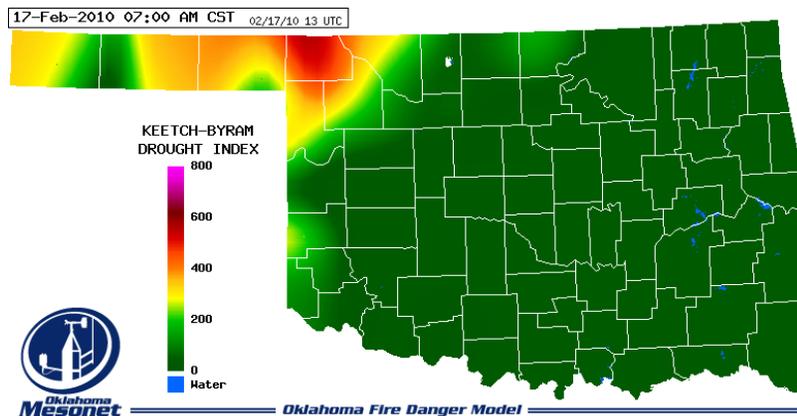
Palmer Drought Severity Index ¹					Standardized Precipitation Index ² Through January 2010			
CLIMATE DIVISION	CURRENT STATUS 2/13/2010	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		2/13	1/16					
Northwest	INCIPIENT MOIST SPELL	0.89	-0.66	1.55	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
North Central	UNUSUAL MOIST SPELL	2.83	2.15	0.68	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	UNUSUAL MOIST SPELL	2.39	1.60	0.79	NEAR NORMAL	VERY WET	MODERATELY WET	MODERATELY WET
West Central	UNUSUAL MOIST SPELL	2.41	0.84	1.57	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	UNUSUAL MOIST SPELL	2.99	2.28	0.71	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
East Central	UNUSUAL MOIST SPELL	2.52	1.69	0.83	NEAR NORMAL	MODERATELY WET	MODERATELY WET	NEAR NORMAL
Southwest	UNUSUAL MOIST SPELL	2.11	0.88	1.23	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	VERY MOIST SPELL	3.02	2.19	0.83	NEAR NORMAL	MODERATELY WET	MODERATELY WET	VERY WET
Southeast	EXTREME MOIST SPELL	4.67	4.00	0.67	NEAR NORMAL	VERY WET	VERY WET	VERY WET

- No climate divisions are currently experiencing drought conditions, according to the PDSI.
- All nine climate divisions have undergone PDSI moisture increases since January 16.
- One climate division (the North Central) is experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index³

MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 2/16/2010
Buffalo	Harper	Northwest	530
Beaver	Beaver	Northwest	378
Hooker	Texas	Northwest	356

- Stations currently at or above 600 (February 16) = 0
- Stations above 600 on January 19 = 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.

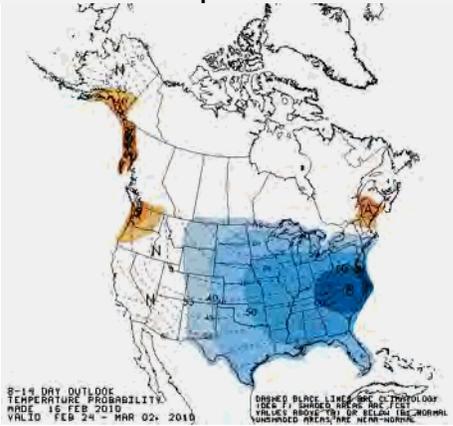
² The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the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

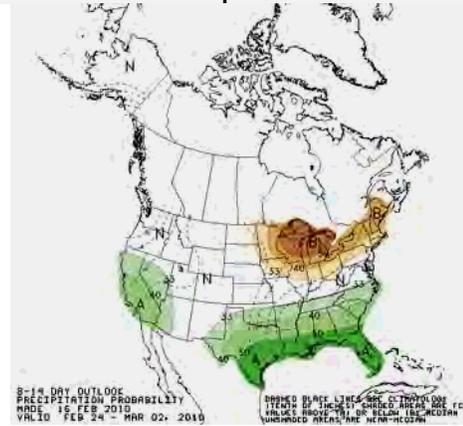
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
February 24—March 2, 2010

Temperature



Precipitation



Regional Drought Summary & Outlook

U.S. Drought Monitor Oklahoma

February 16, 2010
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.0	0.0	0.0	0.0	0.0	0.0
Last Week (02/09/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
3 Months Ago (11/04/2009 map)	100.0	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
Start of Water Year (10/01/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0
One Year Ago (02/17/2009 map)	40.1	59.9	37.2	12.2	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>



Released Thursday, February 18, 2010

Author: Brian Fuchs, National Drought Mitigation Center

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



KEY:

- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

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.

February 16—The latest U.S. Drought Monitor reports that precipitation, including significant snowfall, was common over much of Texas this week. D1 was eliminated in south Texas, leaving just a few counties in abnormally dry conditions based on long-term deficits. This is the first time Texas is drought free since November 2007. In the west, most of the D0 was eliminated from southern California. In northern California, D2 was expanded as both upper and lower elevations are well behind normal for the current water year coupled with several dry years recently. D0 was expanded along the Cascades in Washington and Oregon as below-normal snowpack and hydrological issues are becoming more apparent in the region. D0 was expanded to include almost all of Wyoming outside the extreme eastern portions of the state and D1 was expanded in the northwest part of the state. In Montana, D0 and D1 were expanded in response to the low snowpack being recorded this water year. D1 was also introduced into the south central part of the state, being expanded out of Wyoming.

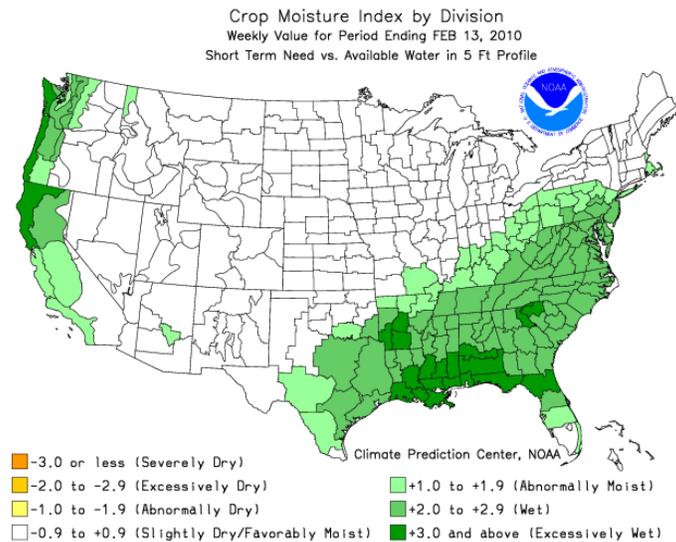
According to the Drought Outlook (February 18), Heavy precipitation continued to slowly ease the drought in central and southern sections of the far west during the first half of February 2010. Drought should continue to ease in this region, with more limited relief expected farther north through extreme southern Oregon. To the north, drought development is expected across the rest of Oregon east of the Cascades. Either persistence of existing drought or development of new areas of drought are indicated over the northern basin, northern half of the Rockies, and north-central Montana. In northern Wisconsin, the long-term drought that has lasted for at least the past 18 months is likely to persist during this Outlook period.

CROP REPORT

February 1, 2010 – Until the last few days of the month, mild weather dominated much of January across the state. Temperatures averaged in the low to mid-thirties and most days were sunny and clear and little precipitation fell during the month. A dangerous winter storm system rocked the state during the last few days of January, bringing freezing rain, ice, snow, and widespread power outages. Heavy ice accumulations resulted in very slick roads and toppled trees and power lines. Varying amounts of snow were received across the state, ranging from a few inches to at least a foot in the Panhandle. Governor Henry declared a state of emergency for all 77 counties as the storm approached. Although many areas are in need of moisture, soil moisture conditions are much improved from last January as both topsoil and subsoil were rated mostly in the adequate range, with 17 percent and 13 percent rated surplus, respectively.

Small grain conditions, rated mostly in the good to fair range, have deteriorated some due to cold conditions and lack of moisture. Winter wheat grazed was at 45 percent, eight points ahead of normal. Cold, dry weather has reduced availability of wheat pasture and some freeze damage has been reported. Rye grazed was at 74 percent, 15 points ahead of the five-year average. Oats grazed was at 14 percent, one point ahead of normal.

Pasture and range conditions for January were rated mostly in the good to fair range. Hay stocks are running low for most producers as the recent weather has forced rapid use. Livestock were rated in mostly good to fair condition, although body conditions have dropped due to the harsh weather. Livestock marketings were average. Producers are quickly using up hay supplies as they increase supplemental feeding. Muddy rural roads and pastures in addition to iced over water sources are causing difficulties as producers battle the elements to care for their livestock.



RESERVOIR STORAGE

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

Storage in Selected Oklahoma Lakes & Reservoirs					
February 16, 2010					
<i>Lake or Reservoir</i>	<i>Normal Pool Elevation</i>	<i>Previous Elevation</i>	<i>Current Elevation</i>	<i>Change in Elevation</i>	<i>Current Flood Control Storage</i>
	(feet)	01/19/2010 (feet)	02/16/2010 (feet)	(feet)	(acre-feet)
North Central					
Fort Supply	2004.00	2004.27	2004.58	0.31	1,089
Great Salt Plains	1125.00	1125.42	1125.52	0.10	4,364
Kaw*	1010.30	1013.60	1008.73	(4.87)	(26,455)
Northeast					
Birch	750.50	751.36	750.47	(0.89)	(34)
Copan	710.00	710.81	710.33	(0.48)	1,873
Fort Gibson	554.00	558.11	556.67	(1.44)	53,303
Grand*	742.00	743.46	742.05	(1.41)	2,200
Hudson	619.00	619.86	619.72	(0.14)	7,956
Hulah	733.00	733.48	733.84	0.36	5,180
Keystone*	723.00	724.32	724.60	0.28	29,477
Oologah*	638.00	640.46	642.06	1.60	135,177
Skiatook	714.00	714.68	714.69	0.01	7,549
West Central					
Canton	1615.40	1614.42	1614.64	0.22	(5,927)
Foss	1642.00	1640.50	1641.19	0.69	(5,411)
Central					
Arcadia	1006.00	1006.35	1006.24	(0.11)	446
Heyburn	761.50	761.82	761.97	0.15	477
Thunderbird	1039.00	1039.44	1039.22	(0.22)	1,342
East Central					
Eufaula*	585.00	585.50	587.46	1.96	245,433
Tenkiller	632.00	632.29	637.02	4.73	66,978
Southwest					
Fort Cobb	1342.00	1342.32	1342.73	0.41	2,842
Lugert-Altus	1559.00	1538.76	1541.70	2.94	(82,056)
Tom Steed	1411.00	1406.77	1407.56	0.79	(20,275)
South Central					
Arbuckle	872.00	872.89	873.00	0.11	2,380
McGee Creek**	175.90	176.28	176.15	(0.13)	3,170
Texoma*	615.00	616.23	618.14	1.91	231,084
Waurika*	951.40	951.50	952.10	0.60	7,132
Southeast					
Broken Bow*	599.50	599.12	603.81	4.69	62,474
Hugo*	404.50	406.46	410.22	3.76	90,589
Pine Creek*	438.00	439.17	446.43	7.26	39,634
Sardis	599.00	599.39	599.30	(0.09)	4,161
Wister	478.00	478.50	482.13	3.63	30,426

* indicates seasonal pool operation

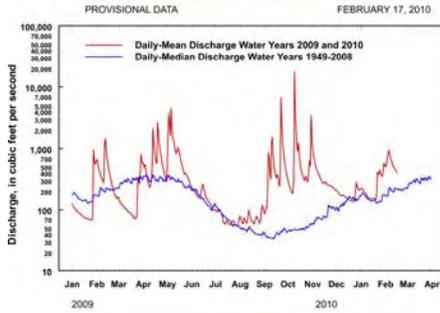
** elevation in meters

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

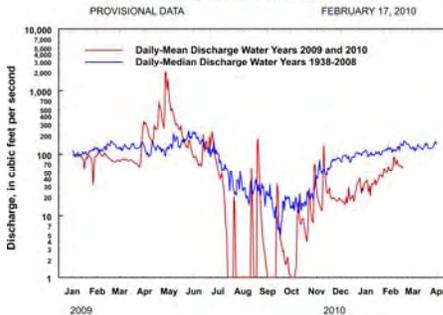


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

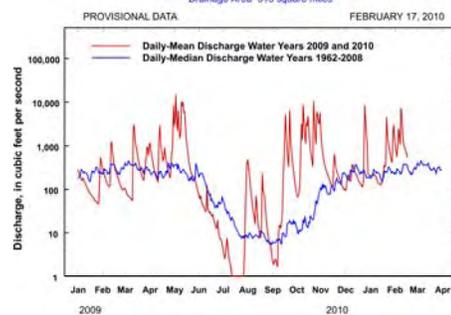


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

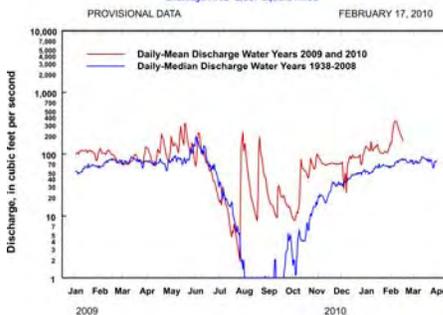


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

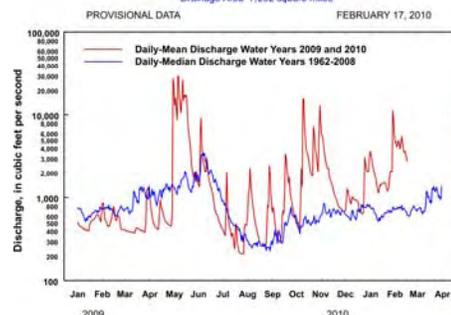


Comparison of daily discharges for water years 2009 and 2010 and period of record

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.