

Oklahoma Water Resources Bulletin & Summary of Current Conditions

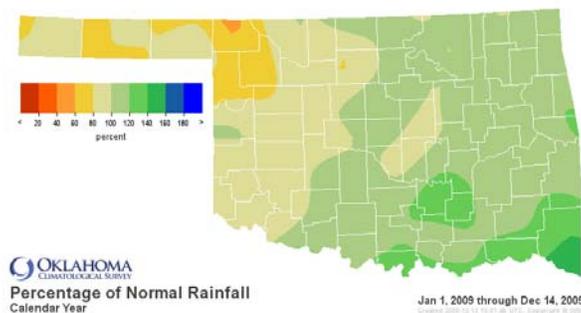
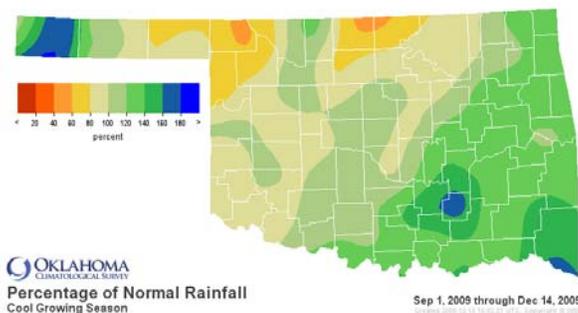


December 17, 2009

PRECIPITATION

Statewide Precipitation

CLIMATE DIVISION	Cool Growing Season September 1—December 14, 2009				Calendar Year January 1—December 14, 2009			
	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	4.21"	-0.54"	89%	43rd wettest	15.67"	-5.04"	76%	16th driest
North Central	6.81"	-1.65"	81%	37th driest	28.03"	-2.91"	91%	41st driest
Northeast	15.05"	+1.99"	115%	18th wettest	44.21"	+3.49"	109%	22nd wettest
West Central	7.52"	-0.31"	96%	36th wettest	26.12"	-2.34"	92%	43rd driest
Central	11.93"	+0.44"	104%	25th wettest	37.65"	+0.76"	102%	23rd wettest
East Central	18.98"	+4.10"	128%	15th wettest	48.25"	+3.79"	109%	16th wettest
Southwest	8.48"	-0.24"	97%	41st wettest	28.13"	-1.92"	94%	41st wettest
South Central	16.97"	+4.13"	132%	9th wettest	46.09"	+6.52"	116%	13th wettest
Southeast	23.20"	+6.76"	141%	8th wettest	60.52"	+11.81"	124%	8th wettest
Statewide	12.47"	+1.54"	114%	18th wettest	37.07"	+1.48"	104%	24th wettest

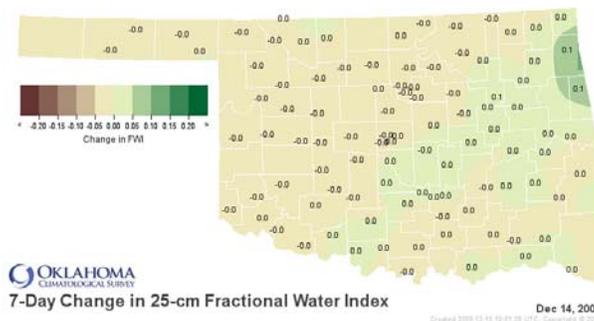
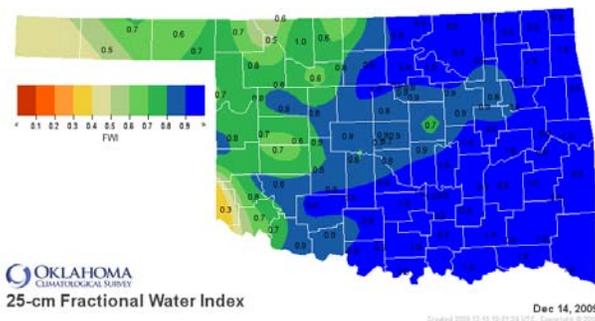


SOIL MOISTURE

Fractional Water Index¹

December 14, 2009

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

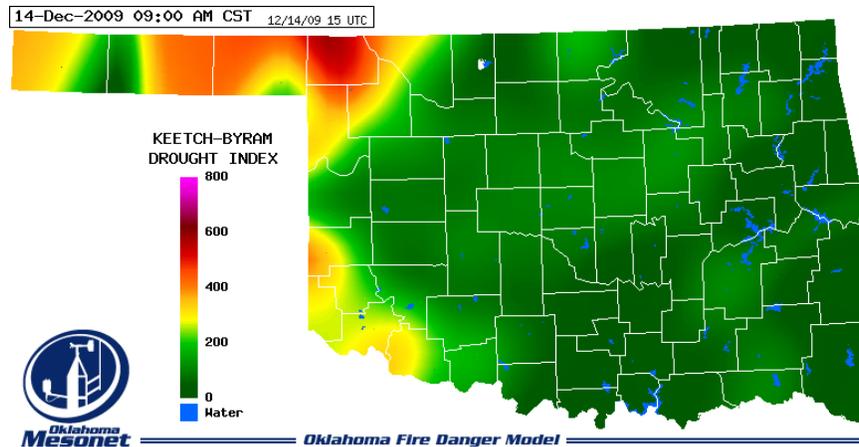
Palmer Drought Severity Index ¹					Standardized Precipitation Index ² Through November 2009			
CLIMATE DIVISION	CURRENT STATUS 12/12/2009	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
		12/12	11/7					
Northwest	NEAR NORMAL	-0.06	1.29	-1.35	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY	MODERATELY DRY
North Central	UNUSUAL MOIST SPELL	2.65	3.46	-0.81	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	MOIST SPELL	1.86	3.10	-1.24	MODERATELY WET	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
West Central	MOIST SPELL	1.36	2.87	-1.51	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	UNUSUAL MOIST SPELL	2.35	2.78	-0.43	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
East Central	UNUSUAL MOIST SPELL	2.18	3.25	-1.07	VERY WET	MODERATELY WET	MODERATELY WET	NEAR NORMAL
Southwest	INCIPIENT MOIST SPELL	0.77	1.77	-1.00	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	UNUSUAL MOIST SPELL	2.25	2.73	-0.48	MODERATELY WET	MODERATELY WET	VERY WET	MODERATELY WET
Southeast	EXTREME MOIST SPELL	4.43	4.95	-0.52	VERY WET	MODERATELY WET	VERY WET	MODERATELY WET

- No climate divisions are currently experiencing drought conditions, according to the PDSI.
- All nine climate divisions have undergone PDSI moisture decreases since November 11.
- One climate division (the Northwest) is experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index³

MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 12/14/2009
Buffalo	Harper	Northwest	550
Beaver	Beaver	Northwest	438
Hooker	Texas	Northwest	413

- Stations currently at or above 600 (December 14) = 0
- Stations above 600 on November 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.

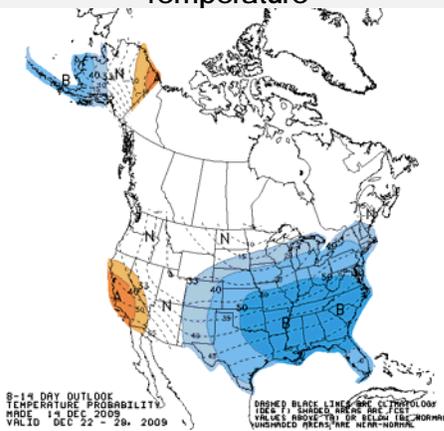
² The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the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

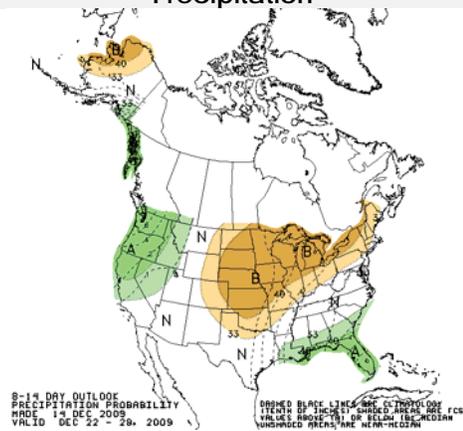
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
December 22-28, 2009

Temperature



Precipitation

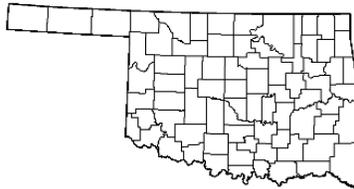


Regional Drought Summary & Outlook

U.S. Drought Monitor Oklahoma

December 15, 2009
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 (12/08/2009 map)	100.0	0.0	0.0	0.0	0.0	0.0
3 Months Ago (09/22/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0
Start of Calendar Year (01/06/2009 map)	41.6	58.4	12.0	3.4	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 (12/16/2008 map)	33.5	66.5	23.8	4.4	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>



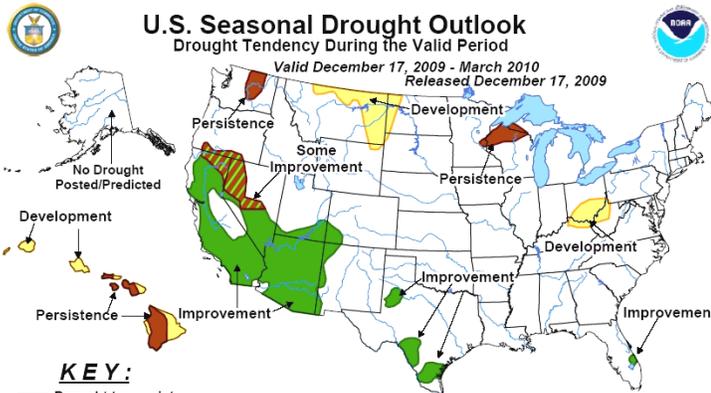
Released Thursday, December 17, 2009
Author: M. Brewer/L. Love-Brotak, NOAA/NESDIS/NCDC

December 15—The latest U.S. Drought Monitor reports that beneficial precipitation again fell on Texas, helping to ease drought conditions there. Areas of extreme drought (D3) were removed from the southern part of the state as shorter-term wetness has mitigated many of the negative impacts of the long-term drought. Areas of severe (D2) and moderate (D1) drought and abnormal dryness (D0) were also reduced near the Gulf Coast. In western Texas, moderate drought (D1) was reduced while abnormal dryness (D0) near the Mexico border expanded.

Looking ahead, warmer than normal temperatures through much of the central part of the country early in the December 17 – December 21 period will give way to below normal temperatures from the Plains to the East Coast. Near-normal temperatures are expected to dominate the western US. Precipitation is expected along the northern West Coast, along the Gulf of Mexico coast, and from the northern Midwest to the East Coast. For the ensuing 5 days, the odds favor cooler-than-normal conditions over most of the eastern US and across the states bordering the Gulf of Mexico up into the Midwest. The West, mostly from the Rockies westward and particularly in the extreme Southwest, is likely to see normal to above normal temperatures.

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid December 17, 2009 - March 2010
Released December 17, 2009



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.

According to the Drought Outlook (December 17), a series of storm systems late in November helped to reduce drought coverage and intensity across southern Texas and parts of the Florida Panhandle. The outlook for January through March 2010 indicates improvement to drought conditions across central and southern California, the Four Corners Region, southern Nevada, Texas, and Florida. The current El Niño is expected to continue through at least early spring, increasing the odds toward improvement in the aforementioned areas. In contrast, drought development is forecast during the period from parts of Montana into the western High Plains, as well as over Ohio.

CROP REPORT

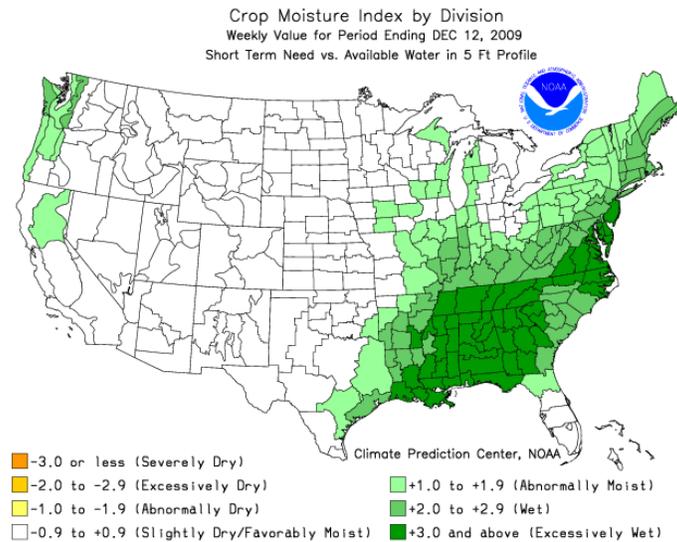
December 14, 2009 – Winter weather advisories were in effect during the earlier portion of the week as a result of light freezing rain and drastic decreases in temperatures. The weekend brought some warmer temperatures and additional sunshine. There was a small decline in soil moisture conditions from the previous week but conditions continue to rate mostly in the adequate range. Progress continues to be made in the fields as row crop harvest nears completion. Despite the frigid temperatures most of the week, there were 5.2 days suitable for field work.

Most small grain planting is nearly finished across the state. Winter wheat conditions were rated mostly in the excellent to good range. Producers had to pull some cattle off wheat pastures due to the low temperatures. Oat seedings are coming along as 69 percent of oats were planted by week's end, while 66 percent had emerged, up two points from the week prior.

Row crop harvest continued despite the freezing temperatures. By Sunday, sorghum harvesting was nearing completion. Soybeans harvested reached 97 percent complete, up four points from the previous week. Cotton harvest increased two points from the previous week to reach 61 percent complete.

Hay cuttings are nearing completion across most of the state. By Sunday, fifth cuttings of alfalfa were 89 percent complete, while sixth cuttings were 49 percent complete, both up two points from the previous week. Conditions of alfalfa continued to rate mostly in the good to fair range. A second cutting was made on 95 percent of other hay, up two points from last week.

Pasture and range conditions continued to rate mostly in the good to fair range. Supplemental feeding of livestock continued this week across the state. Livestock conditions rated mostly in the good to fair range. Average livestock marketings were reported last week.



RESERVOIR STORAGE

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

Storage in Selected Oklahoma Lakes & Reservoirs					
<i>December 15, 2009</i>					
<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)	11/17/2009 (feet)	12/15/2009 (feet)	(feet)	(acre-feet)
North Central					
Fort Supply	2004.00	2003.10	2003.51	0.41	(835)
Great Salt Plains	1125.00	1125.64	1125.38	(0.26)	3,189
Kaw*	1011.30	1010.77	1011.17	0.40	(2,654)
Northeast					
Birch	750.50	750.64	750.50	(0.14)	0
Copan	710.00	711.03	710.75	(0.28)	4,256
Fort Gibson	554.00	554.69	554.43	(0.26)	8,299
Grand*	742.00	744.45	742.03	(2.42)	1,321
Hudson	619.00	619.25	619.72	0.47	7,956
Hulah	733.00	735.53	733.42	(2.11)	2,590
Keystone*	723.00	725.06	725.06	0.00	39,427
Oologah*	638.00	641.36	636.30	(5.06)	(50,119)
Skiatook	714.00	714.50	714.25	(0.25)	2,735
West Central					
Canton	1615.40	1613.94	1614.03	0.09	(10,590)
Foss	1642.00	1640.22	1640.22	0.00	(11,735)
Central					
Arcadia	1006.00	1006.26	1006.39	0.13	725
Heyburn	761.50	760.63	760.87	0.24	(584)
Thunderbird	1039.00	1039.23	1039.13	(0.10)	793
East Central					
Eufaula*	585.00	586.23	585.18	(1.05)	17,382
Tenkiller	632.00	636.05	633.75	(2.30)	22,925
Southwest					
Fort Cobb	1342.00	1342.30	1342.45	0.15	1,752
Lugert-Altus	1559.00	1536.09	1536.98	0.89	(96,886)
Tom Steed	1411.00	1407.17	1406.85	(0.32)	(24,129)
South Central					
Arbuckle	872.00	872.85	872.60	(0.25)	1,428
McGee Creek**	175.90	176.32	176.35	0.03	5,781
Texoma*	617.90	619.51	617.54	(1.97)	(23,851)
Waurika*	951.40	951.44	951.38	(0.06)	(203)
Southeast					
Broken Bow*	599.50	602.38	600.14	(2.24)	9,095
Hugo*	406.00	407.38	406.43	(0.95)	6,083
Pine Creek*	438.00	441.56	438.22	(3.34)	849
Sardis	599.00	599.60	599.52	(0.08)	7,213
Wister	478.00	485.14	478.98	(6.16)	6,202

* indicates seasonal pool operation

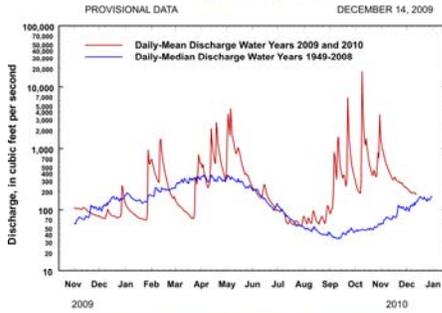
** elevation in meters

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

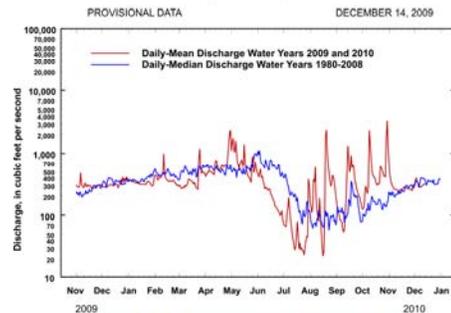


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

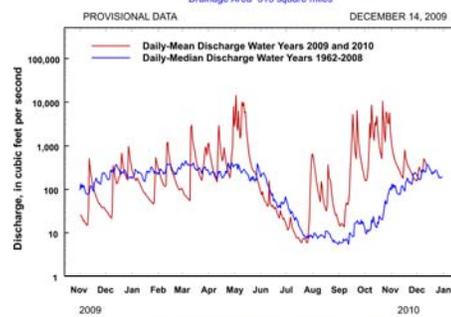


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

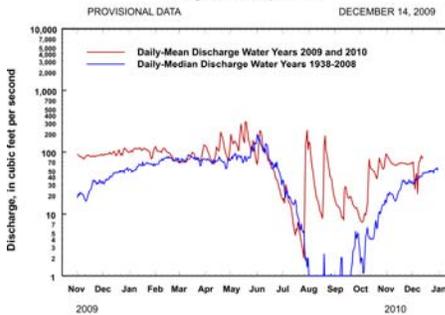


Comparison of daily discharges for water years 2009 and 2010 and period of record

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

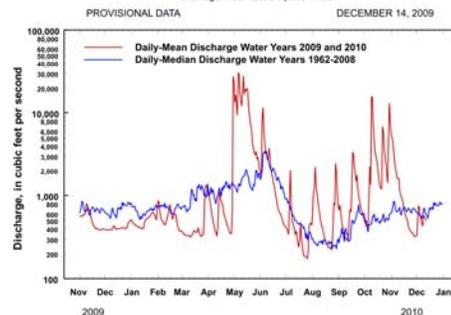


Comparison of daily discharges for water years 2009 and 2010 and period of record

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.