Oklahoma Water Resources Bulletin
& Summary of Current Conditions

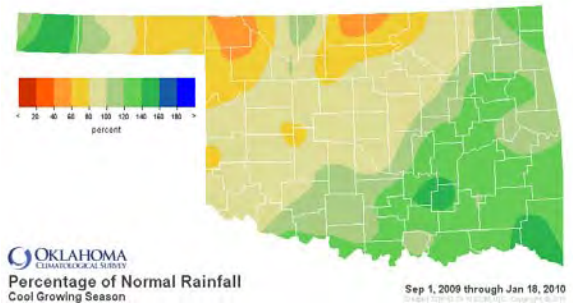
State of Oklahoma OWRB Water Resources Board the water agency

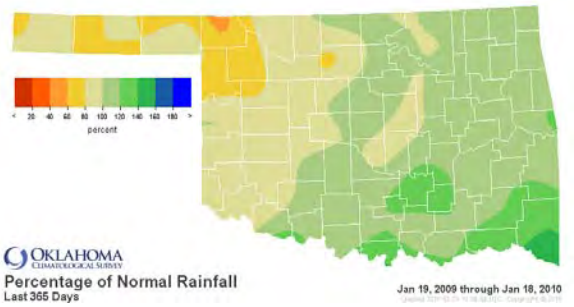
January 21, 2010

PRECIPITATION

Statewide Precipitation

Climate Division	Cool Growing Season September 1, 2009—January 18, 2010				Last 365 Days January 19, 2009—January 18, 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	4.27"	-1.16"	79%	35th driest	15.73"	-5.37"	75%	16th driest
North Central	6.97"	-2.74"	72%	27th driest	28.19"	-3.46"	89%	40th driest
Northeast	16.66"	+1.44"	109%	25th wettest	45.82"	+3.85"	109%	22nd wettest
West Central	7.65"	-1.32"	85%	44th driest	26.25"	-2.84"	90%	42nd driest
Central	12.70"	-0.69"	95%	32nd wettest	38.42"	+0.43"	101%	24th wettest
East Central	20.85"	+3.10"	117%	18th wettest	50.12"	+4.03"	109%	17th wettest
Southwest	9.56"	-0.54"	95%	42nd wettest	29.20"	-1.60"	95%	40th wettest
South Central	18.85"	+3.53"	123%	13th wettest	47.92"	+6.96"	117%	9th wettest
Southeast	26.86"	+6.56"	132%	5th wettest	63.83"	+12.89"	125%	7th wettest
Statewide	13.68"	+0.80"	106%	23rd wettest	38.24"	+1.55"	104%	21st wettest

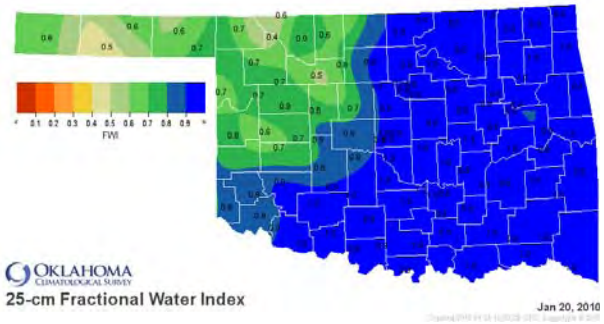


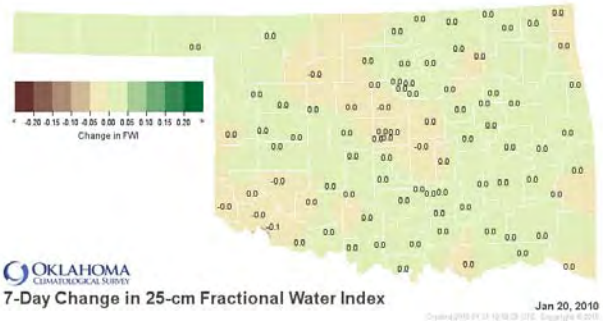


SOIL MOISTURE

Fractional Water Index[1]
January 20, 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] and Standardized Precipitation Index[2] Through December 2009

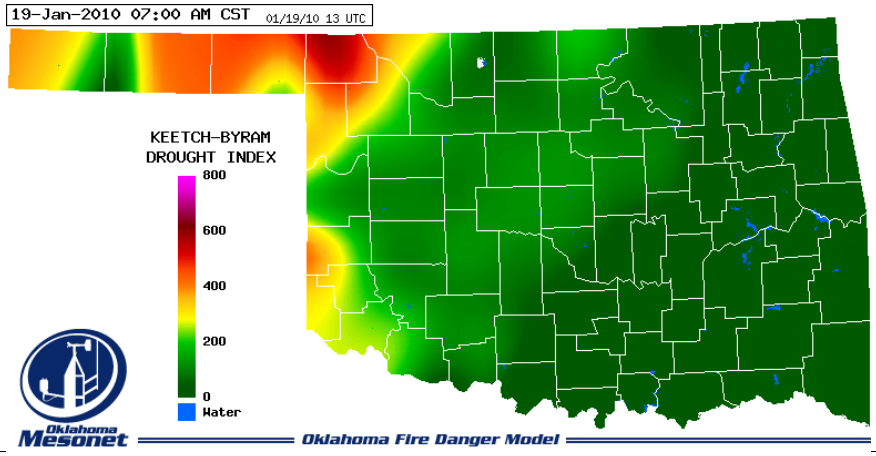
Climate Division	Current Status 1/16/2010	Value 1/16	Value 12/12	Change In Value	3-Month	6-Month	9-Month	12-Month
Northwest	INCIPIENT DROUGHT	-0.66	-0.06	**-0.60**	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY
North Central	UNUSUAL MOIST SPELL	2.15	2.65	**-0.50**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	MOIST SPELL	1.60	1.86	**-0.26**	NEAR NORMAL	MODERATELY WET	MODERATELY WET	NEAR NORMAL
West Central	INCIPIENT MOIST SPELL	0.84	1.36	**-0.52**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	UNUSUAL MOIST SPELL	2.28	2.35	**-0.07**	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
East Central	MOIST SPELL	1.69	2.18	**-0.49**	MODERATELY WET	VERY WET	MODERATELY WET	MODERATELY WET
Southwest	INCIPIENT MOIST SPELL	0.88	0.77	**0.11**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	UNUSUAL MOIST SPELL	2.19	2.25	**-0.06**	MODERATELY WET	MODERATELY WET	VERY WET	MODERATELY WET
Southeast	EXTREME MOIST SPELL	4.00	4.43	**-0.43**	MODERATELY WET	VERY WET	VERY WET	MODERATELY WET

- No climate divisions are currently experiencing drought conditions, according to the PDSI, although the Northwest is in "incipient drought" status.
- All nine climate divisions have undergone PDSI moisture decreases since December 12.
- One climate division (the Northwest) is experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index[3]

Mesonet Station	County	Climate Division	Current Value 1/19/2010
Buffalo	Harper	Northwest	564
Beaver	Beaver	Northwest	454
Hooker	Texas	Northwest	427

- Stations currently at or above 600 (January 19) = 0
- Stations above 600 on December 14 = 0

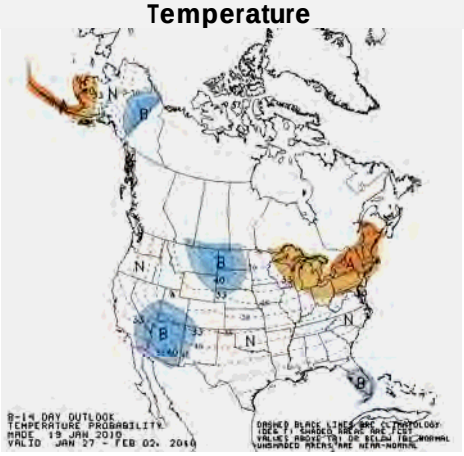


[1] The Palmer Drought Severity Index, the first comprehensive drought index developed in the United States, is calculated based on precipitation, temperature, and soil moisture. Though widely used by government agencies and states to trigger drought relief programs, the PDSI may underestimate or overestimate 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.

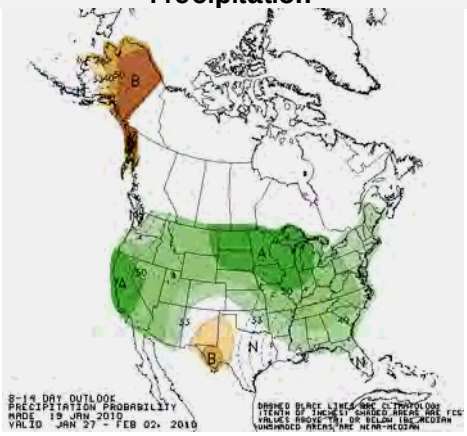
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
January 27—February 2, 2010

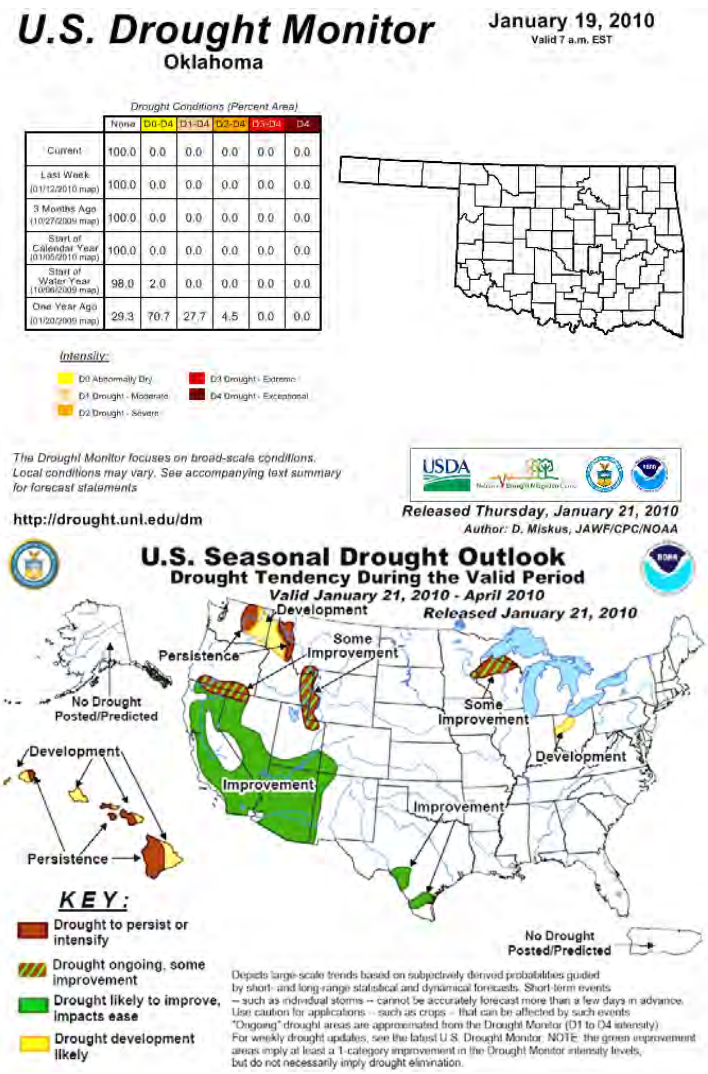
Temperature



Precipitation



Regional Drought Summary & Outlook



January 19—The latest U.S. Drought Monitor reports that another western Gulf of Mexico storm system generated numerous showers and thunderstorms across southern and eastern Texas, with 2 to 4 inches widespread from San Antonio southeastward to Corpus Christi and Victoria, and locally up to 6 inches at Matagorda. Accordingly, some 1-category reductions of the D0, D1, and D2 areas of south-central Texas were made where the weekly rains were greatest. D0-D2(H) still remained in this region due to long-term deficiencies, however, even though precipitation out to 6-months has been well above-normal. At 12- and 24-months, deficits were still 4 to 8 inches and 12 to 20 inches, respectively. Elsewhere, mostly dry and mild weather maintained abnormal dryness in the northern High Plains as the light snow cover melted and considerably thinned.

Looking ahead, during the next 5 days (January 21-25), an active weather pattern is expected as a series of storms track across the western and southern tiers of the country, and then up the Atlantic Seaboard. This is consistent with wintertime El Niño conditions. The CPC 6-10 day forecast (January 26-30) calls for above-normal precipitation for the western third of the nation.

According to the Drought Outlook (January 21), most signs point to continued recovery for the residual drought areas in southern Texas. From mid-January through April 2010, the drought affecting California, Nevada, Arizona, and adjacent areas should also continue to improve. Drought is forecast to persist in central Washington and in areas near the Montana/Idaho border and should expand to cover the area between these two regions. Although odds favor a wet end to January in this region, drier than normal weather should prevail from February through April, consistent with conditions favored during El Niño episodes.

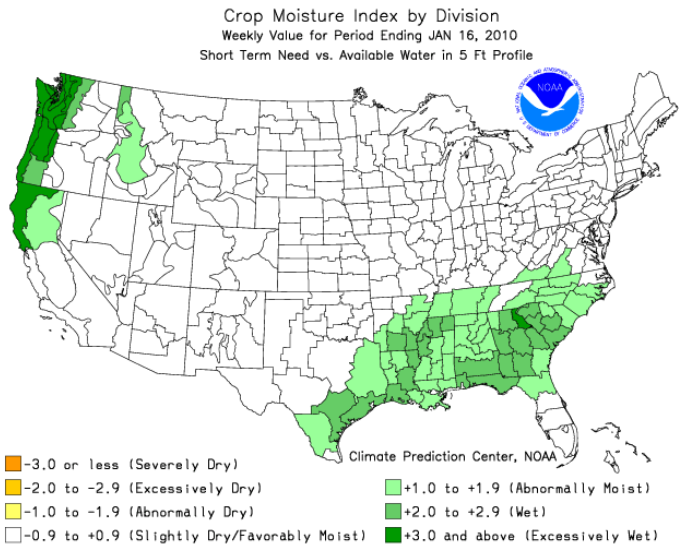
CROP REPORT

January 4, 2010 – Chilly, cold weather dominated much of the month of December across the state. Although little rainfall was experienced during the first three weeks of December, precipitation came in the form of snow as a powerful blizzard swept across much of the state on the 24th. This holiday blizzard dumped a record-breaking 14 inches of snow on Oklahoma City. Varying amounts of snow were received across the state but the storm missed the Panhandle completely. Soil moisture conditions are much improved from last December as both topsoil and subsoil were rated mostly in the adequate to short range, with 12 percent and 6 percent rated surplus, respectively.

Despite the heavy snowfall of late December, much of the state is still in need of additional moisture to improve conditions. Small grain conditions were rated mostly in the good to fair range. Winter wheat grazed was at 38 percent, seven points ahead of normal. Rye grazed was at 72 percent, 20 points ahead of the five-year average. Oats grazed was at 13 percent, six points ahead of normal.

Pasture and range conditions for December were rated mostly in the good to fair range. Snow-covered pastures have limited forage availability and forced increased supplemental feeding of livestock.

Livestock were rated in mostly good to fair condition. Livestock marketings were average. The wintry conditions have been hard on livestock, as body conditions have dropped and high death loss were reported from the blizzard. Producers have had to increase hay and supplemental feeding as well as break ice due to the frigid temperatures.



RESERVOIR STORAGE

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

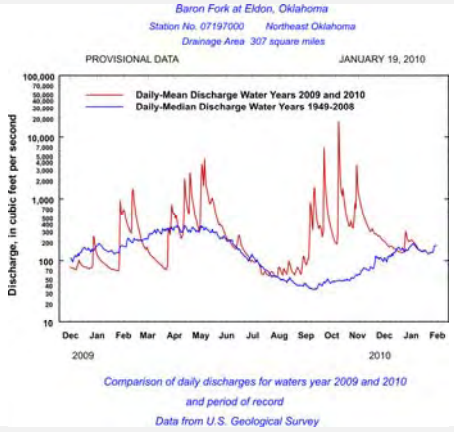
Storage in Selected Oklahoma Lakes & Reservoirs
January 19, 2010

Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 12/15/2009 (feet)	Current Elevation 01/19/2010 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2003.51	2004.27	0.76	507
Great Salt Plains	1125.00	1125.38	1125.42	0.04	3,525
Kaw*	1013.00	1011.17	1013.60	2.43	11,394
Northeast					
Birch	750.50	750.50	751.36	0.86	998
Copan	710.00	710.75	710.81	0.06	4,597
Fort Gibson	554.00	554.43	558.11	3.68	84,264
Grand*	742.00	742.03	743.46	1.43	64,701
Hudson	619.00	619.72	619.86	0.14	9,503
Hulah	733.00	733.42	733.48	0.06	2,960
Keystone*	723.00	725.06	724.32	(0.74)	23,680
Oologah*	638.00	636.30	640.46	4.16	80,029
Skiatook	714.00	714.25	714.68	0.43	7,439
West Central					
Canton	1615.40	1614.03	1614.42	0.39	(7,609)
Foss	1642.00	1640.22	1640.50	0.28	(9,920)
Central					
Arcadia	1006.00	1006.39	1006.35	(0.04)	651
Heyburn	761.50	760.87	761.82	0.95	325
Thunderbird	1039.00	1039.13	1039.44	0.31	2,684
East Central					
Eufaula*	585.00	585.18	585.50	0.32	48,285
Tenkiller	632.00	633.75	632.29	(1.46)	3,799
Southwest					
Fort Cobb	1342.00	1342.45	1342.32	(0.13)	1,246
Lugert-Altus	1559.00	1536.98	1538.76	1.78	(91,603)
Tom Steed	1411.00	1406.85	1406.77	(0.08)	(25,549)
South Central					
Arbuckle	872.00	872.60	872.89	0.29	2,118
McGee Creek**	175.90	176.35	176.28	(0.07)	4,867
Texoma*	616.20	617.54	616.23	(1.31)	(886)
Waurika*	951.40	951.38	951.50	0.12	1,014
Southeast					
Broken Bow*	599.50	600.14	599.12	(1.02)	(5,389)
Hugo*	405.60	406.43	406.46	0.03	11,244
Pine Creek*	438.00	438.22	439.17	0.95	4,552
Sardis	599.00	599.52	599.39	(0.13)	5,410
Wister	478.00	478.98	478.50	(0.48)	3,164

** indicates seasonal pool operation* *** elevation in meters* *negative numbers in red, parentheses*

STREAMFLOW CONDITIONS

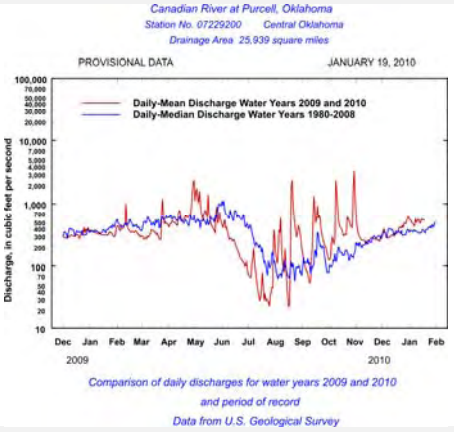
Baron Fork at Eldon



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

Data from U.S. Geological Survey

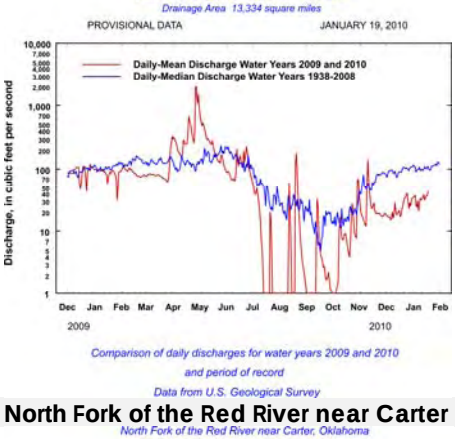
Canadian River at Purcell



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

Data from U.S. Geological Survey

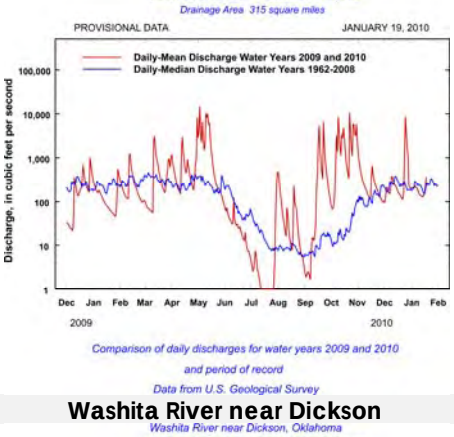
Cimarron River near Waynoka



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

Data from U.S. Geological Survey

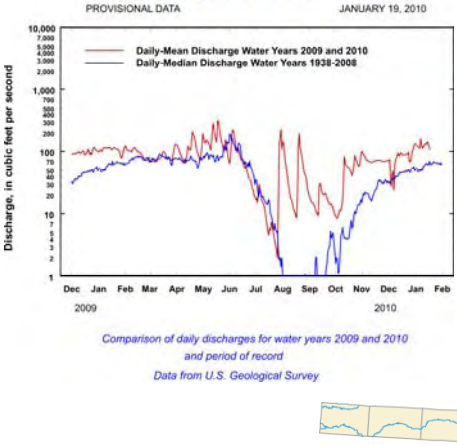
Glover River near Glover



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

Data from U.S. Geological Survey

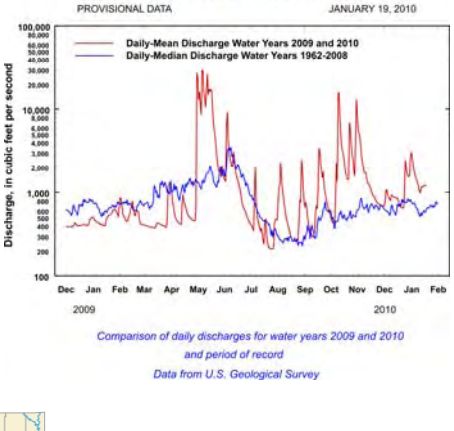
North Fork of the Red River near Carter



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

Data from U.S. Geological Survey

Washita River near Dickson



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.