Oklahoma Water Resources Bulletin
& Summary of Current Conditions

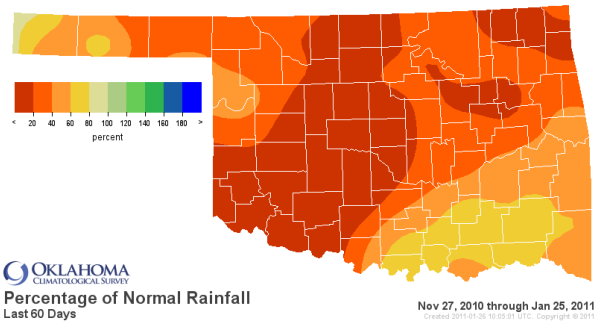
State of Oklahoma OWRB Water Resources Board the water agency

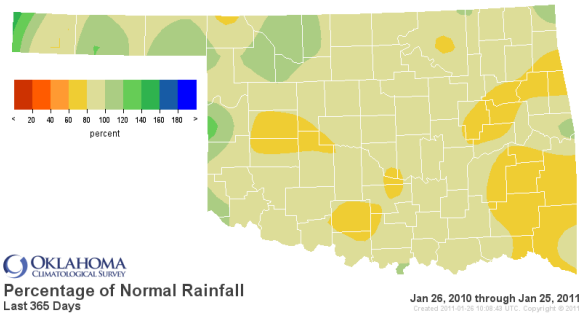
January 27, 2011

PRECIPITATION

Statewide Precipitation

Climate Division	Last 60 Days (Nov 27, 2010 – Jan 25, 2011) Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921	Last 365 Days (Jan 26, 2010 – Jan 25, 2011) Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921
Panhandle	0.50"	-0.76"	40%	23rd driest	20.66"	-0.44"	98%	39th wettest
North Central	0.44"	-1.89"	19%	5th driest	29.46"	-2.19"	93%	43rd wettest
Northeast	0.82"	-3.20"	20%	2nd driest	36.70"	-5.27"	87%	33rd driest
West Central	0.41"	-1.67"	20%	6th driest	24.62"	-4.47"	85%	35th driest
Central	0.54"	-2.95"	16%	2nd driest	33.02"	-4.97"	87%	34th driest
East Central	1.84"	-3.43"	35%	4th driest	37.54"	-8.55"	81%	26th driest
Southwest	0.19"	-2.28"	8%	1st driest	27.79"	-3.01"	90%	41st driest
South Central	2.23"	-2.25"	50%	18th driest	34.74"	-6.22"	85%	30th driest
Southeast	4.02"	-2.99"	57%	14th driest	37.14"	-13.80"	73%	8th driest
Statewide	1.17"	-2.40"	33%	5th driest	31.43"	-5.26"	86%	26th driest

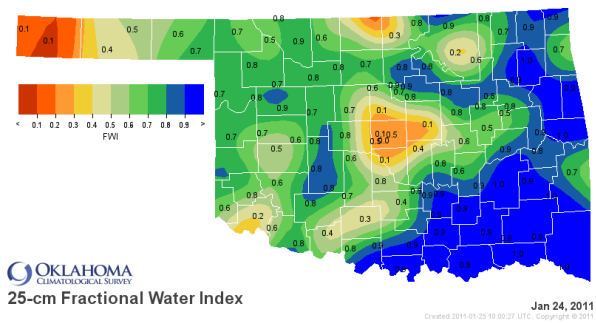


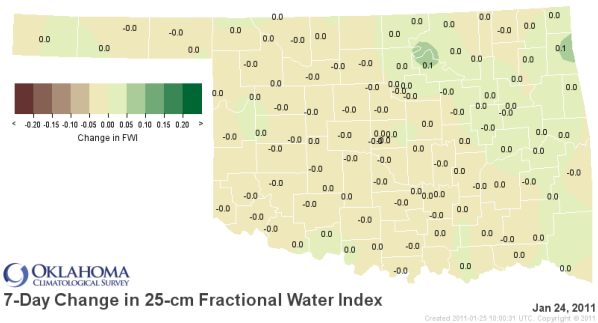


SOIL MOISTURE

Fractional Water Index[1]
January 24, 2011

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

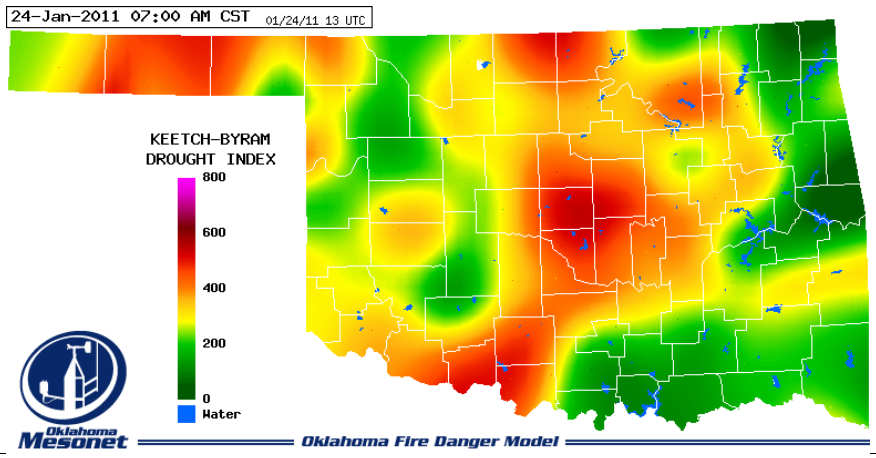
Palmer Drought Severity Index[1]					Standardized Precipitation Index[2] Through December 2010			
CLIMATE DIVISION	CURRENT STATUS 1/22/2011	VALUE 1/22	VALUE 12/18	CHANGE IN VALUE	3-MONTH	6-MONTH	9-MONTH	12-MONTH
Northwest	NEAR NORMAL	0.45	0.63	**-0.18**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
North Central	NEAR NORMAL	0.37	1.01	**-0.64**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Northeast	MILD DROUGHT	-1.15	-0.85	**-0.30**	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
West Central	NEAR NORMAL	-0.43	0.56	**-0.99**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Central	MILD DROUGHT	-1.29	-0.96	**-0.33**	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
East Central	INCIPIENT DROUGHT	-0.71	-0.69	**-0.02**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southwest	INCIPIENT DROUGHT	-0.75	-0.05	**-0.70**	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	NEAR NORMAL	-0.46	-0.63	**0.17**	MODERATELY DRY	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southeast	MODERATE DROUGHT	-2.16	-2.39	**0.23**	MODERATELY DRY	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY

- Three climate divisions are currently experiencing drought conditions, according to the PDSI.
- Seven climate divisions have undergone PDSI moisture decreases since December 18.
- Four climate divisions are experiencing near long-term dry conditions, according to the SPI.

Keetch-Byram Drought Fire Index[3]

MESONET STATION	COUNTY	CLIMATE DIVISION	CURRENT VALUE 1/24/2011
OKC East	Oklahoma	Central	545
OKC North	Oklahoma	Central	541
Spencer	Oklahoma	Central	534

- Stations currently at or above 600 (January 24) = 0
- Stations above 600 on December 20 = 0

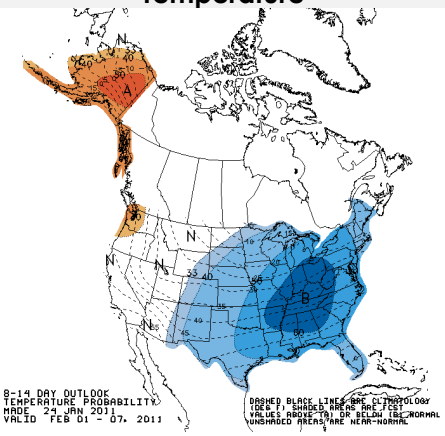


[1] The Palmer Drought Severity Index, the first comprehensive drought index developed in the United States, is calculated based on precipitation, temperature, and soil moisture. Though widely used by government agencies and states to trigger drought relief programs, the PDSI may underestimate or overestimate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

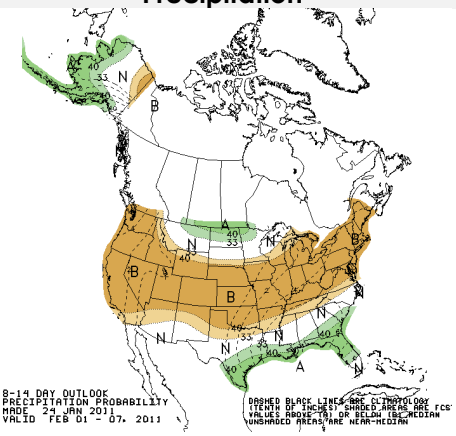
WEATHER/DROUGHT FORECAST

8- to 14-Day Outlook
February 1 – 7, 2011

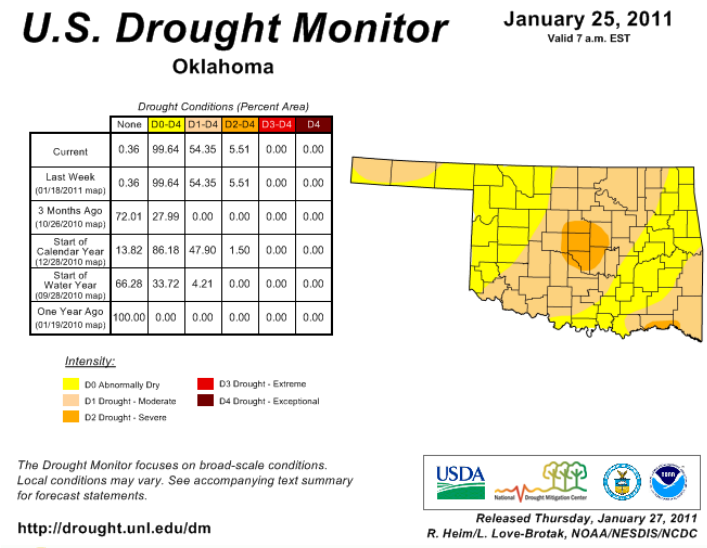
Temperature

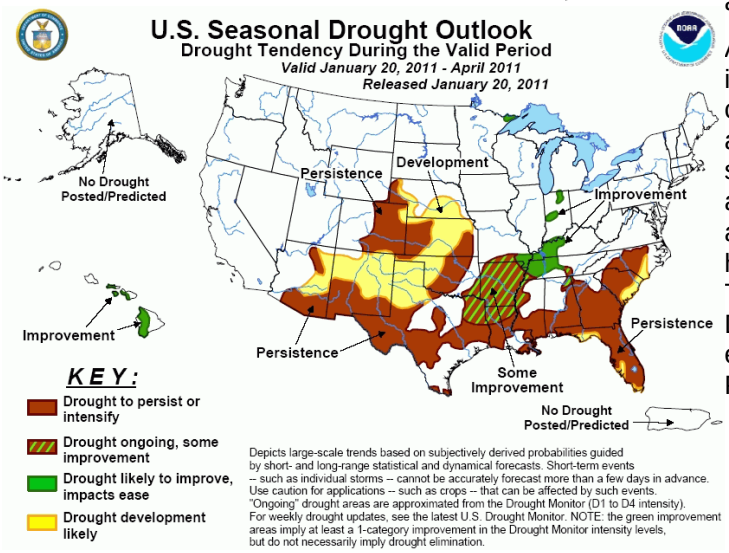


Precipitation



Regional Drought Summary & Outlook





January 25 – The latest U.S. Drought Monitor reports that widespread above normal precipitation occurred from the northern High Plains to the central Plains and over southeast Texas, and precipitation was locally above normal in a few other places. But generally the week was drier than normal across the rest of the Plains and the Midwest. It has been especially dry in west Texas where many stations reported less than 25% of normal precipitation for the last 90 days. The USDA reports that, statewide, 49% of wheat, 48% of oats, and 51% of the range and pasture land in Texas was in very poor to poor condition. Topsoil was very short to short (very dry to dry) in 100% of the Trans-Pecos district, 90% of the Southern Low Plains district, 88% of the Edwards Plateau district, and 80% of the Cross Timbers district. The Farm Service Agency reported significant crop loss in several western Texas counties. Based on these data, D2 was expanded in the Trans Pecos, D1-D3 expanded in the Edwards Plateau, and D0 expanded in the Edwards Plateau and southern Low Rolling Hills climate divisions.

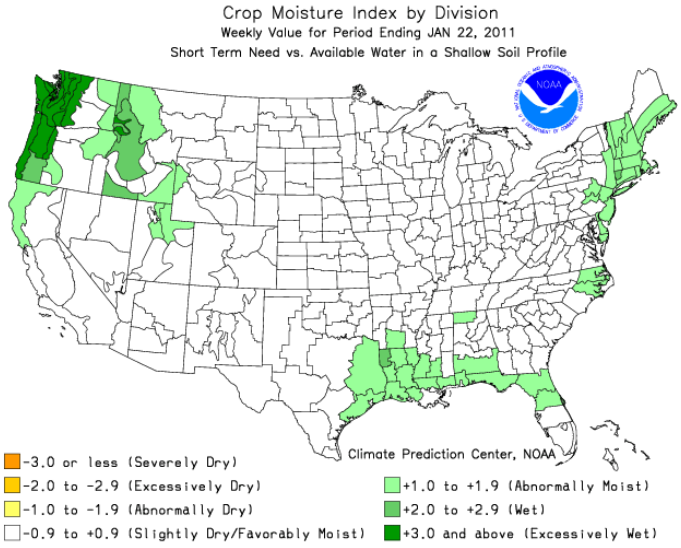
According to the Drought Outlook (January 20), La Niña and its impacts are expected to persist. Drought is forecast to continue across the southeastern U.S. Drought persistence is also forecast across southern parts of Louisiana and southeast Texas, while improvement or some improvement is anticipated in northeast Texas, northern Louisiana, Arkansas, and the lower Ohio Valley. During the past month, drought has expanded across the central and southern Plains, west Texas, and southern parts of Arizona and New Mexico. Drought persistence and additional development can be expected in the southwestern U.S. and the central/southern Plains.

CROP REPORT

January 3, 2011 – December was dry, limiting the grazing potential of small grains and pasture as well as reducing the availability of pond water for livestock. Soil moisture conditions have declined significantly over the past month with 76 percent of topsoil and 70 percent of subsoil rated short to very short.

Conditions are rated mostly in the good to fair range for all small grains, with 19 percent of wheat, 12 percent of rye and 13 percent of oats rated poor to very poor. Additional moisture is needed to improve crop conditions and grazing potential. Wheat grazed was at 34 percent, eight points ahead of normal. Rye grazed was at 65 percent, 16 points ahead of the five-year average. Oats grazed was at 13 percent, eight points ahead of normal.

Pasture and range conditions for December were rated mostly in the fair to poor range. Due to the dry conditions, 36 percent was rated poor to very poor. Problems with pastures and grasses have caused concerns about hay supplies for the rest of the season. Livestock conditions were rated mostly in the good to fair range and cattle prices continued to be strong. Problems with low pond water levels and limited grazing were reported.



RESERVOIR STORAGE

- 25 reservoirs are currently operating at less than full capacity (compared to 26 four weeks ago).
- 17 reservoirs have experienced lake level decreases.

Storage in Selected Oklahoma Lakes & Reservoirs
January 25, 2011

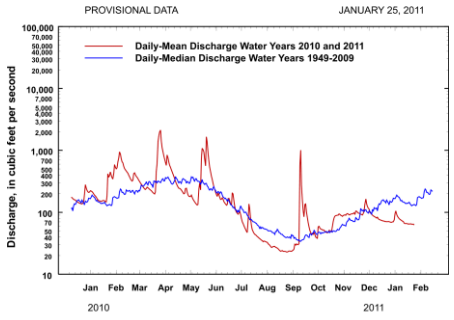
Lake or Reservoir	Normal Pool Elevation (feet)	Previous Elevation 12/20/2010 (feet)	Current Elevation 1/25/2011 (feet)	Change in Elevation (feet)	Current Flood Control Storage (acre-feet)
North Central					
Fort Supply	2004.00	2004.29	2004.42	0.13	788
Great Salt Plains	1125.00	1125.25	1125.36	0.11	3,021
Kaw*	1013.00	1011.60	1013.04	1.44	759
Northeast					
Birch	750.50	748.47	748.20	(0.27)	(2,538)
Copan	710.00	708.82	708.58	(0.24)	(5,443)
Fort Gibson	554.00	553.66	552.45	(1.21)	(28,600)
Grand*	742.00	742.04	742.03	(0.01)	1,321
Hudson	619.00	620.15	619.52	(0.63)	5,746
Hulah	733.00	732.06	731.97	(0.09)	(3,112)
Keystone*	723.00	720.36	719.52	(0.84)	(56,897)
Oologah*	638.00	636.66	636.52	(0.14)	(43,860)
Skiatook	714.00	709.75	709.21	(0.54)	(47,784)
West Central					
Canton	1615.40	1613.26	1613.81	0.55	(12,217)
Foss	1642.00	1640.45	1640.54	0.09	(9,661)
Central					
Arcadia	1006.00	1005.55	1005.50	(0.05)	(890)
Heyburn	761.50	760.23	760.39	0.16	(674)
Thunderbird	1039.00	1036.55	1036.31	(0.24)	(15,595)
East Central					
Eufaula*	585.00	582.23	580.82	(1.41)	(368,233)
Tenkiller	632.00	626.69	624.95	(1.74)	(86,280)
Southwest					
Fort Cobb	1342.00	1341.26	1341.46	0.20	(2,009)
Lugert-Altus	1559.00	1541.82	1543.09	1.27	(77,187)
Tom Steed	1411.00	1409.23	1408.94	(0.29)	(12,519)
South Central					
Arbuckle	872.00	871.03	871.03	0.00	(2,250)
McGee Creek**	175.90	175.30	175.38	0.08	(6,305)
Texoma*	615.90	616.33	615.35	(0.98)	(42,059)
Waurika*	951.40	950.56	950.50	(0.06)	(8,904)
Southeast					
Broken Bow*	599.50	591.69	590.50	(1.19)	(122,265)
Hugo*	405.10	400.69	402.70	2.01	(35,233)
Pine Creek*	433.00	430.14	433.19	3.05	549
Sardis	599.00	597.08	597.27	0.19	(22,840)
Wister	478.00	476.37	477.63	1.26	(2,169)

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

STREAMFLOW CONDITIONS

Baron Fork at Eldon

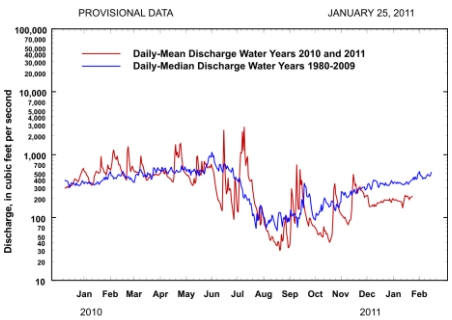
Baron Fork at Eldon, Oklahoma
Station No. 07197000 Northeast Oklahoma
Drainage Area 307 square miles



Comparison of daily discharges for waters year 2010 and 2011
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 2010 and 2011
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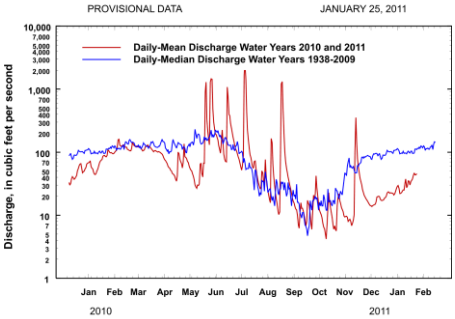
Data from U.S. Geological Survey

Cimarron River near Waynoka

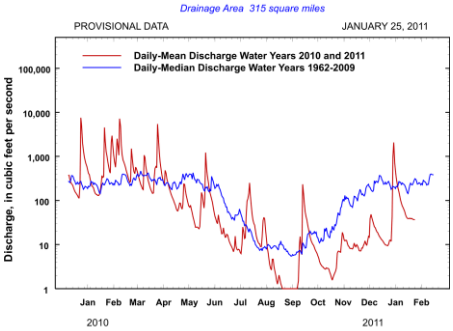
Cimarron River near Waynoka, Oklahoma
Station No. 07158000 Northwest Oklahoma
Drainage Area 13,334 square miles



Comparison of daily discharges for water years 2010 and 2011
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 2010 and 2011
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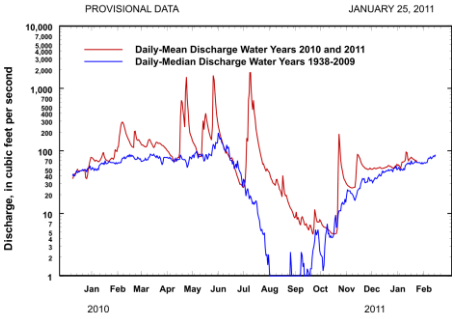
Data from U.S. Geological Survey

North Fork of the Red River near Carter

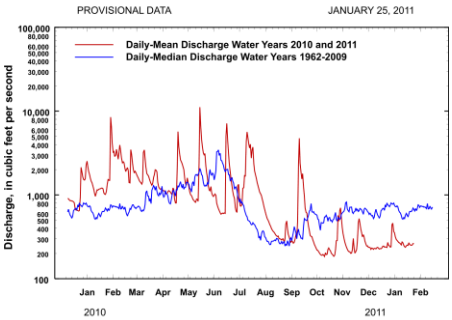
North Fork of the Red River near Carter, Oklahoma
Station No. 07301500 Southwest Oklahoma
Drainage Area 2,337 square miles



Comparison of daily discharges for water years 2010 and 2011
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 2010 and 2011
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.
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