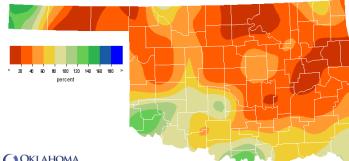
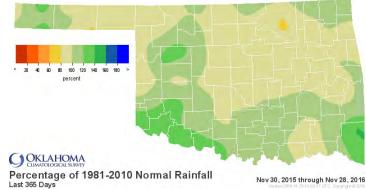


### November 29, 2016

#### PRECIPITATION Statewide Precipitation Last 30 Days Last 365 Days October 30, 2016 - November 28, 2016 November 30, 2015 - November 29, 2016 Total Departure Total Departure Climate **From Normal** Percent of **Rank Since From Normal** Percent of **RANK SINCE** Rainfall Rainfall Division 1921 (inches) 1921 (inches) (inches) Normal (inches) Normal 34th driest PANHANDLE 0.37" -0.49" 44% 19.60" -0.96" 95% 43rd driest NORTH CENTRAL 0.59" -1.20" 33% 22nd driest 30.48" -0.89" 97% 44th wettest NORTHEAST 14th driest -1.74" 1.07" -2.07" 34% 40.84" 96% 42nd wettest 32nd driest +2.83" WEST CENTRAL 0.73" -0.82" 47% 31.18" 110% 20th wettest 26th driest CENTRAL 1.13" 46% 34.46" -3.11" 92% 46th driest -1.35" 10th driest -1.14" EAST CENTRAL 0.80" 20% 44.88" 43rd wettest -3.11" 98% SOUTHWEST 1.75" 97% 39th wettest -0.05" 36.61" +6.39" 121% 10th wettest SOUTH CENTRAL 1.94" -0.95" 67% 43rd driest 42.64" +2.02" 105% 21st wettest SOUTHEAST 3.12" -1.58" 66% 45th driest 56.14" +5.70" 111% 22nd wettest STATEWIDE 1.25" 27th driest 32nd wettest -1.30' 49% 37.04" +0.64" 102%





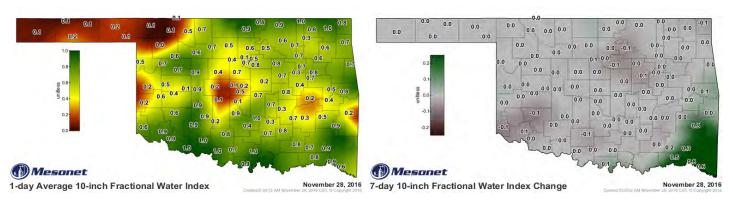
#### **OKLAHOMA**

Percentage of 1981-2010 Normal Rainfall Last 30 Days

Oct 30, 2016 through Nov 28, 2016

SOIL MOISTURE

#### **Fractional Water Index** November 28, 2016



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. [1.0-0.8 = Enhanced Growth; 0.8-0.5 = Limited Growth; 0.5-0.3 = Plants Wilting; 0.3-0.1 = Plants Dying; <0.1 = Barren Soil.]

Water Resources Bulletin, 11/29/2016 - page 1

# **DROUGHT INDICES**

### Palmer Drought Severity Index (PDSI)

#### Standardized Precipitation Index (SPI) Through October 2016

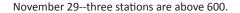
Climate Divis	ion		Status L/26/16		Value 22 11/26	Change 5 in Value	
NORTHWE	ST	Nea	r Normal	0.19	-1.32	1.51	
NORTH CENT	FRAL	Near Normal			-0.01	1.51	
NORTHEAS	ST	Nea	-0.32	2 -1.51	1.19		
WEST CENT	RAL	Nea	r Normal	1.1	-0.49	1.59	
CENTRAL	-	Nea	r Normal	-1.10	5 -1.76	0.6	
EAST CENTR	RAL	Moder	ate Drough	it -1.2	7 -2.34	1.07	
SOUTHWE	ST	Near Normal		2.57	1.33	1.24	
SOUTH CENT	OUTH CENTRALNear Normal-0.28-1.411.13SOUTHEASTNear Normal-0.45-1.651.2		Near Normal		8 -1.41	1.13	
SOUTHEAS			1.2				
drought d	severe rought ) to -3.9	moderate drought -2.0 to -2.9	near normal -1.9 to +1.9	unusual moist spell +2.0 to +2.9	very moist spell +3.0 to +3.9	extremely moist +4.0 and above	e

The PDSI is based upon precipitation, temperature, and soil moisture, and is considered most effective for unirrigated cropland. According to the latest PDSI, all climate regions in the state are classified as Near Normal except the East Central region, which is experiencing Moderate Drought conditions.

5 5	3-month	12-month	24-month			
	Moderately Dry	Near Normal	Extremely Moist			
	Near Normal	Abnormally Moist	Moderately Moist			
	Abnormally Moist	Moderately Moist	Moderately Moist			
	Severely Dry	Abnormally Moist	Extremely Moist			
	Moderately Dry	Abnormally Moist	Extremely Moist			
	Near Normal	Moderately Moist	Exceptionally Moist			
	Moderately Dry	Very Moist	Exceptionally Moist			
	Moderately Dry	Moderately Moist	Exceptionally Moist			
	Moderately Dry	Very Moist	Exceptionally Moist			
	exceptionally extremely severely modera dry dry dry dry dry -2.00 and -1.99 to -1.59 to -1.22 below -1.60 -1.30 -0.8	dry normal moist to -0.79 to -0.50 to +0.51 to	noderately very extremely exceptionally moist moist moist moist +0.80 to +1.30 to +1.60 to +2.0 and +1.29 +1.59 +1.99 above			

The SPI provides a comparison of precipitation over several specified periods with totals from the same periods for all years included in the historical record. All climate divisions had Near Normal precipitation or wetter for 12-month and 24-month time periods, but the Northwest, Central, Southwest, South Central, and Southeast were Moderately dry during the 3-month period, and the West Central region was Severely Dry.

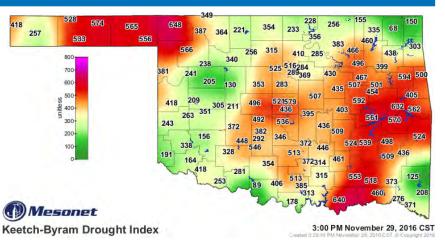
#### Keetch-Byram Drought Fire Index



E

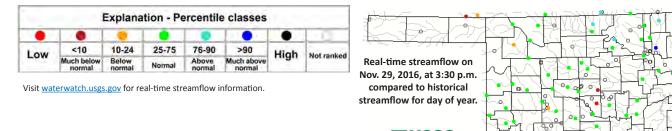
#### Eight stations were above 600 on October 28.

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.



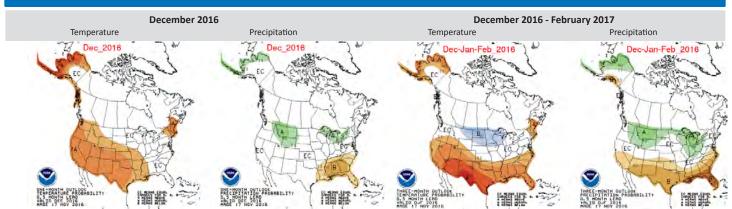
**STREAMFLOW CONDITIONS** 

#### November 29, 2016



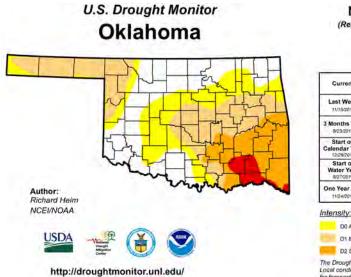
# WEATHER/DROUGHT FORECAST

#### **Seasonal Outlook**



The contours on the maps show the total probability of three categories—above, indicated by the letter "A"; below, indicated by the letter "B"; and the middle category, indicated by the letter "N". "EC" stands for "Equal Chances" for A, N, or B

### **Drought Summary & Outlook**



	Drought Conditions (Percent Area)					
	None	D0-D4	D1+D4	D2-D4	D3-D4	D4
Current	30.20	69,80	47.61	18,55	3.48	0.00
Last Week 11/15/2016	38,94	61.06	43,98	14.57	0.65	0.00
3 Months Ago 8/23/2016	64.06	35.94	9.31	0.30	0.00	0.00
Start of Calendar Year 12/29/2015	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year 9/27/2016	57.82	42.18	19.04	3.05	0.00	0.00
One Year Ago	64.47	35.53	13.44	0.00	0.00	0.00

November 22, 2016

(Released Wednesday, Nov. 23, 2016)

Valid 7 a.m. EST

#### <u>sity:</u> D0 Abnormally Dry

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

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://go.usa.gov/3eZ73

Drought Tendency During the Valid Period Released November 17, 2016 Depicts large-scale trends based Depicts large-scale trends based on subjectively derived probabilities puided by short- and long-range statistical and dynamical forecasts Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4). IOTE: The tan areas imply at least 11-category improvement in the krought Monitor intensity levels by he end of the period, although forought will remain. The green areas imply drought remain and by the as imply drought removal b of the period (D0 or none) Author: David Miskus NOAA/NWS/NCEP/Climate Prediction Center Drought persists Drought remains but improves Drought removal likely ,0 13 790 elopment likely Drought o (¥

U.S. Seasonal Drought Outlook Valid for November 17 - February 28, 2017

According to the U.S. Drought Monitor, the number of Oklahomans currently affected by drought is 2,182,972, a 278% increase from this time last month. Almost 48% of the state (in area) is now in Moderate Drought (D1) or worse, and 3.48% of the state, which includes large portions of Choctaw, Pushmataha, and Atoka counties, is in Extreme Drought (D2).

According to the seasonal drought outlook, from mid November through the end of February, drought conditions are likely to persist in the panhandle region and southeast quadrant of the state, while drought development is likely to occur in the remainder of the state with the exception of the southwest corner.

Drought is also likely to persist and develop in many other areas across the southern half of the U.S. and a large portion of New England along the coast.

# **CROP MOISTURE INDEX**

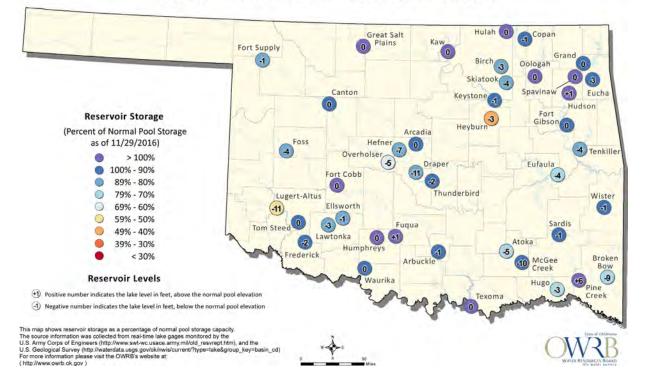
According to the NOAA Crop Moisture Index by Division, for the period ending November 26, all regions of the state are Slightly Dry/Favorably Moist (-0.9 to +0.9).

Derived from the Palmer Drought Severity Index (PDSI), the Crop Moisture Index reflects moisture supply in the short-term across major crop-producing regions. It identifies potential agricultural droughts. It is not intended to assess long-term droughts.

# **RESERVOIR STORAGE**

## Oklahoma Surface Water Resources

Reservoir Levels and Storage as of 11/29/2016



The Oklahoma Water Resources Bulletin is compiled and distributed monthly by the Oklahoma Water Resources Board utilizing products and information developed by the Oklahoma Climatological Survey, Oklahoma Mesonet, National Oceanic and Atmospheric Administration, National Drought Mitigation Center, US Geological Survey, US Army Corps of Engineers, and US Department of Agriculture. For questions or comments contact Darla Whitley, Editor.