

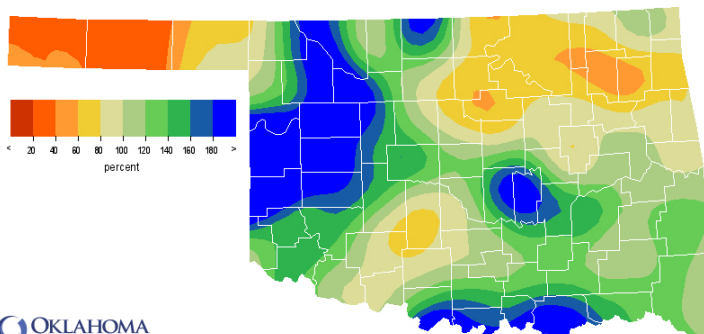
# Oklahoma Water Resources Bulletin & Summary of Current Conditions

April 27, 2015

## PRECIPITATION

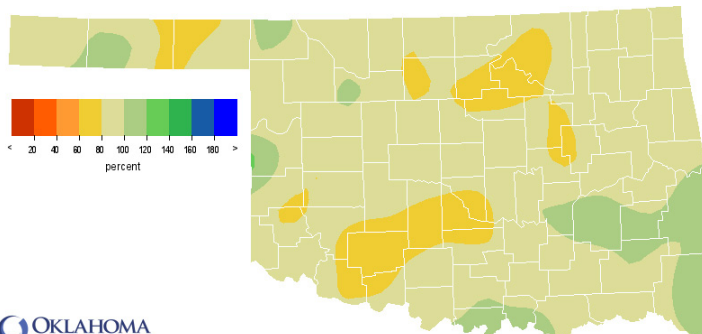
### Statewide Precipitation

CLIMATE DIVISION	Last 30 Days March 28, 2015 - April 26, 2015				Last 365 Days April 27, 2014 - April 26, 2015			
	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	1.28"	-0.34"	79%	48th wettest	18.58"	-2.00"	90%	43rd driest
N. Central	3.64"	+0.86"	131%	22nd wettest	27.69"	-3.73"	88%	41st driest
Northeast	2.89"	-0.97"	75%	37th driest	37.07"	-5.60"	87%	33rd driest
W. Central	5.62"	+3.31"	243%	6th wettest	26.04"	-2.36"	92%	47th driest
Central	3.34"	+0.09"	103%	40th wettest	32.09"	-5.54"	85%	33rd driest
E. Central	4.28"	+0.31"	108%	36th wettest	42.03"	-4.11"	91%	40th driest
Southwest	3.19"	+0.68"	127%	25th wettest	25.79"	-4.48"	85%	33rd driest
S. Central	4.75"	+1.20"	134%	21st wettest	37.08"	-3.63"	91%	46th wettest
Southeast	5.26"	+0.94"	122%	34th wettest	51.84"	+1.25"	102%	34th wettest
Statewide	3.71"	+0.57"	118%	32nd wettest	32.92"	-3.55"	90%	38th driest



OKLAHOMA CLIMATOLOGICAL SURVEY  
Percentage of 1981-2010 Normal Rainfall  
Last 30 Days

Mar 28, 2015 through Apr 26, 2015  
Created 2015-04-27 10:51:31 UTC. Copyright © 2015

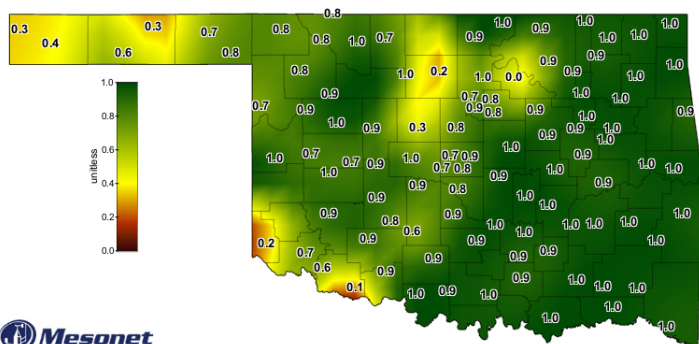


OKLAHOMA CLIMATOLOGICAL SURVEY  
Percentage of 1981-2010 Normal Rainfall  
Last 365 Days

Apr 27, 2014 through Apr 26, 2015  
Created 2015-04-27 10:05:33 UTC. Copyright © 2015

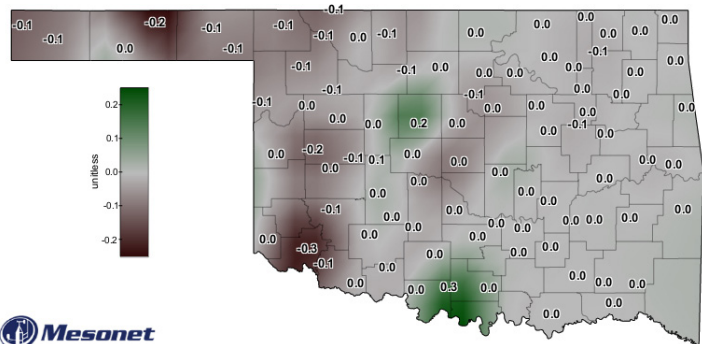
## SOIL MOISTURE

### Fractional Water Index<sup>1</sup> April 26, 2015



Mesonet  
Daily Averaged Fractional Water Index at 10 inches  
April 26, 2015

Created 7:30:12 AM April 27, 2015 CDT. © Copyright 2015



Mesonet  
7-Day Change in Fractional Water Index at 10 inches  
April 26, 2015

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<sup>1</sup>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.]

# DROUGHT INDICES

## Palmer Drought Severity Index<sup>2</sup>

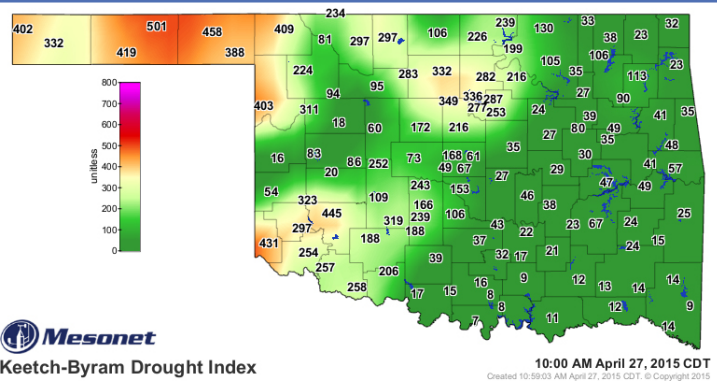
## Standardized Precipitation Index<sup>3</sup> Through March 2015

CLIMATE DIVISION	CURRENT STATUS 4/18/2015	VALUE		CHANGE IN VALUE	3-MONTH	12-MONTH	24-MONTH
		3/21	4/18				
Northwest	NEAR NORMAL	-1.13	-1.55	0.42	NEAR NORMAL	NEAR NORMAL	ABNORMALLY DRY
North Central	NEAR NORMAL	-0.82	0.71	-1.53	MODERATELY DRY	ABNORMALLY DRY	NEAR NORMAL
Northeast	NEAR NORMAL	0.26	0.25	0.01	MODERATELY DRY	MODERATELY DRY	ABNORMALLY DRY
West Central	NEAR NORMAL	-1.22	0.85	-2.07	NEAR NORMAL	NEAR NORMAL	ABNORMALLY DRY
Central	NEAR NORMAL	-0.29	0.16	-0.45	NEAR NORMAL	ABNORMALLY DRY	NEAR NORMAL
East Central	NEAR NORMAL	0.87	1.12	-0.25	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southwest	NEAR NORMAL	-2.51	-1.61	-0.9	NEAR NORMAL	ABNORMALLY DRY	MODERATELY DRY
South Central	NEAR NORMAL	1.2	1.12	0.08	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southeast	NEAR NORMAL	1.42	1	0.42	ABNORMALLY MOIST	NEAR NORMAL	NEAR NORMAL

- According to the PDSI, all climate divisions are currently near normal. The Northwest, Northeast, South Central, and Southeast climate divisions have undergone a PDSI moisture decrease since March 21. All other regions have experienced a moisture increase.
- According to the latest SPI, the Northwest, Northeast, West Central, and Southwest regions are experiencing longer term dry conditions (through the last two years). The North Central and Northeast regions are experiencing dry conditions for the 3-month and 12-month periods. The East Central, South Central, and Southeast regions are near or above normal for all three time periods through March 2015.

## Keetch-Byram Drought Fire Index<sup>4</sup>

MESONET STATION	CLIMATE DIVISION	CURRENT VALUE 4/27/2015
Hooker	Northwest	501
Beaver	Northwest	458
Hobart	Southwest	445



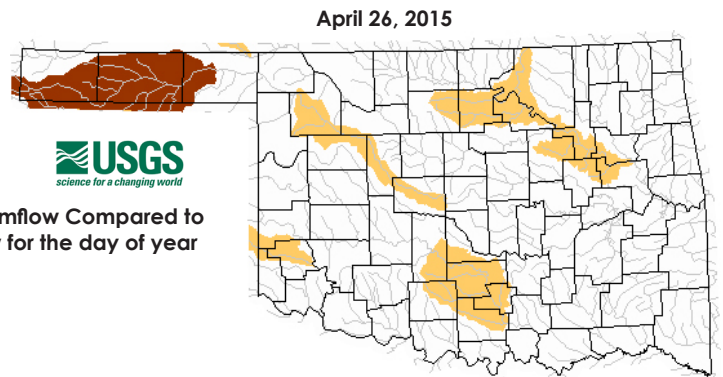
- Stations currently at or above 600 (April 27) = 0
- Stations above 600 on March 26 = 0

**Mesonet**  
 Keetch-Byram Drought Index

# STREAMFLOW CONDITIONS

April 26, 2015

Explanation - Percentile classes				
Low	≤5	6-9	10-24	Insufficient data for hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	



**7-Day Average Streamflow Compared to  
Historical Streamflow for the day of year**

<sup>2</sup> The Palmer Drought Severity Index is based upon 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.

<sup>3</sup> 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.

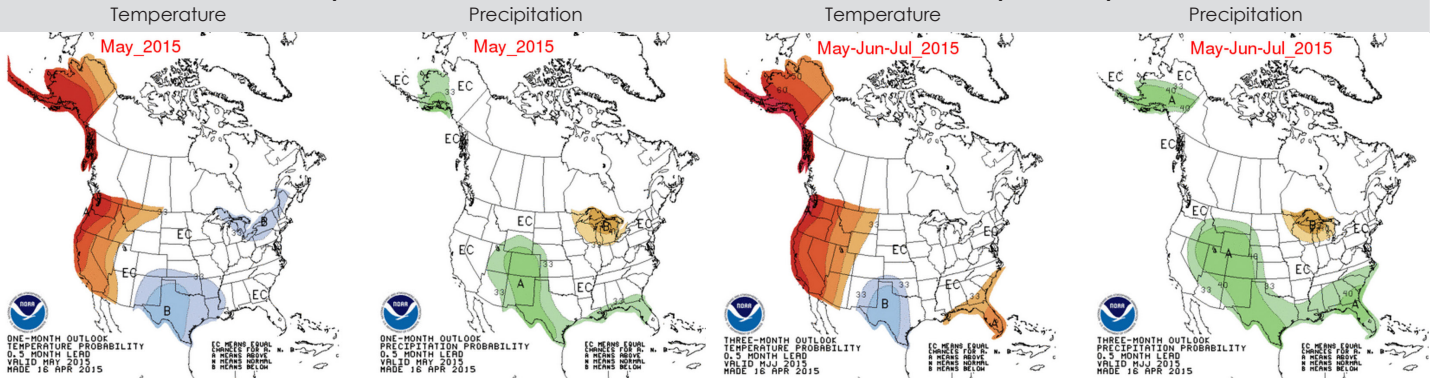
<sup>4</sup> The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.

# WEATHER/DROUGHT FORECAST

## Seasonal Outlook

May 2015

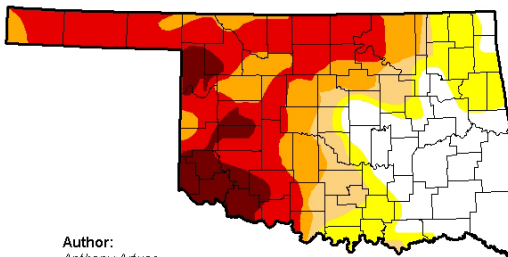
May-June-July 2015



A means Above; N means Normal; B means Below; EC means Equal Chances for A, N, or B

## Regional Drought Summary & Outlook

### U.S. Drought Monitor Oklahoma



Author:  
Anthony Artusa  
NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

April 21, 2015  
(Released Thursday, Apr. 23, 2015)  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	25.19	74.81	60.92	52.39	37.13	8.36
Last Week 4/14/2015	23.52	76.48	65.21	51.65	39.72	10.73
3 Months Ago 1/20/2015	5.03	94.97	60.60	43.87	22.58	5.69
Start of Calendar Year 12/31/2014	25.63	74.37	62.03	40.84	21.74	5.70
Start of Water Year 9/30/2014	8.55	91.45	73.31	58.13	20.92	4.84
One Year Ago 4/22/2014	6.73	93.27	78.95	54.81	37.86	14.54

Intensity



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

According to the U.S. Drought Monitor, 1,798,368 Oklahomans are currently affected by drought (category D1-D4), down by almost 1.3 million from this time last month.

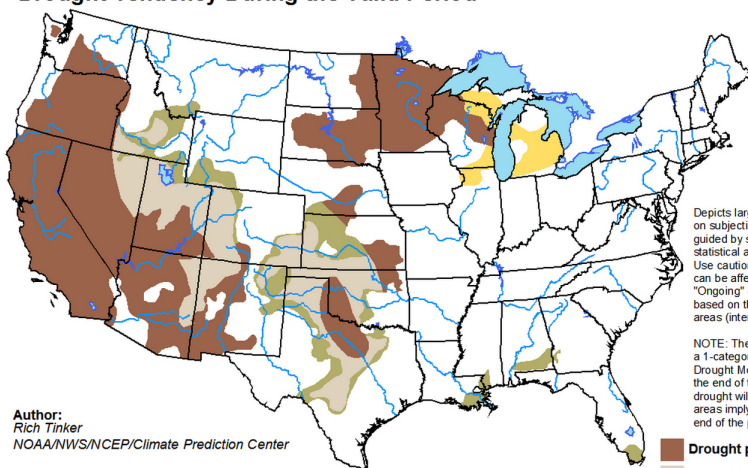
The southern Great Plains experienced a mix of both improvements and degradations. In Oklahoma, 1-category degradations were made in the western Panhandle, where only 1-1.5 inches of rain fell during the past 30 days. There were reports of dust storms and dead dryland wheat across much of this area. In the West Central region, 4-8 inches of rain prompted a 1-category improvement from about Roger Mills County northeastward to Major County. In extreme northeastern and northwestern Roger Mills County, and most of adjacent Ellis County, no good runoff rains were reported, suggesting status quo for those areas.

In the past month, the percentage of Oklahoma classified as experiencing Abnormally Dry conditions or worse (D0-D4) has decreased by more than 10%. However, the percentage of the state experiencing Exceptional Drought (D4) conditions has only decreased by .05% and still includes a large portion of the Southwest region, most of Ellis county, and the southwest corner of Woodward county.

According to the seasonal drought outlook released on April 16, from mid-April through the end of July, drought conditions are expected to persist or intensify in the Southwest and West Central regions, as well as a large portion of the Northeast region. Drought conditions are expected to improve in the Panhandle, North Central, and portions of the Central and South Central regions, while most of the East Central region and all of the Southeast region are not likely to experience or develop drought conditions.

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

Valid for April 16 - July 31, 2015  
Released April 16, 2015



Author:  
Rich Tinker  
NOAA/NWS/NCEP/Climate Prediction Center

Depicts large-scale trends based on subjectively derived probabilities guided 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).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists/intensifies
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/hHTe>

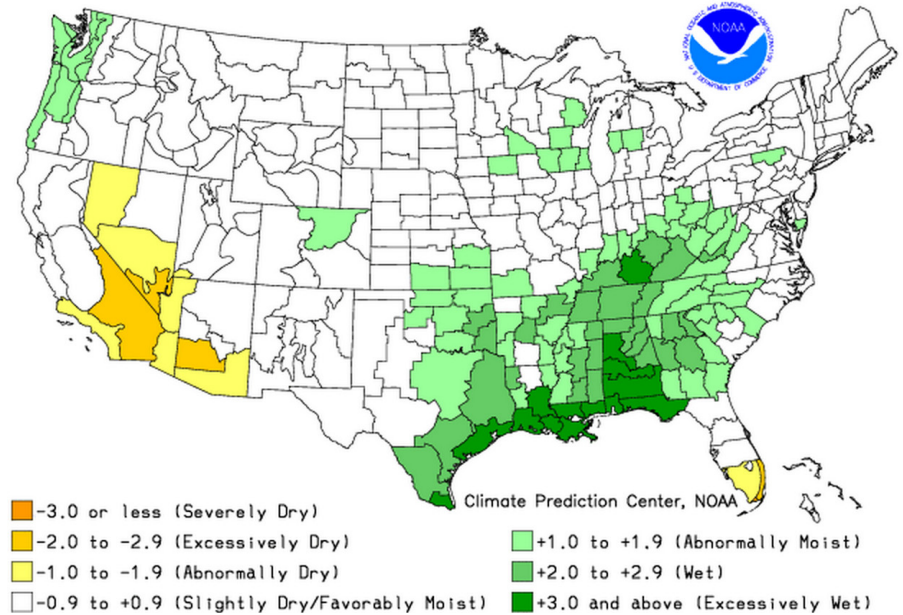


# CROP REPORT

According to the latest USDA Oklahoma Crop Weather report (April 19), topsoil and subsoil moisture conditions were rated mostly adequate to short. Winter wheat progress declined in areas of the Panhandle due to limited moisture and the effects of the ongoing drought, while mild temperatures and scattered showers benefitted the crop throughout Central Oklahoma. Conditions for winter wheat were rated mostly fair to good. Conditions of pasture and range were rated at 76 percent fair to good. Livestock conditions were rated 86 percent good to fair. Livestock markets continued to hold strong.

According to the NOAA Crop Moisture Index by Division, for the period ending April 18, the East Central and Southeast regions are classified as experiencing wet conditions, the Panhandle and Southwest regions are slightly dry/favorably moist, and the rest of the state is classified as experiencing abnormally moist conditions.

Crop Moisture Index by Division  
Weekly Value for Period Ending APR 18, 2015  
Short Term Need vs. Available Water in a Shallow Soil Profile



# RESERVOIR STORAGE

## Oklahoma Surface Water Resources Reservoir Levels and Storage as of 4/27/2015

