

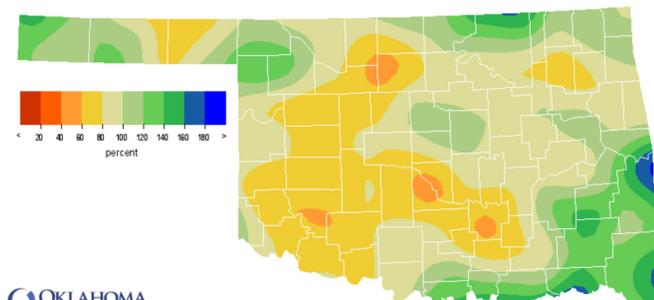
# Oklahoma Water Resources Bulletin & Summary of Current Conditions

September 26, 2014

## PRECIPITATION

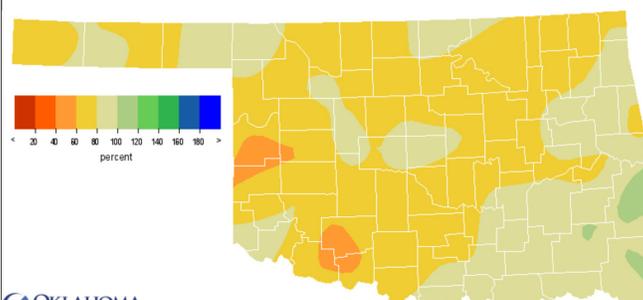
### Statewide Precipitation

CLIMATE DIVISION	Last 60 Days July 28 – September 25, 2014				Last 365 Days September 26, 2013 – September 25, 2014			
	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	4.79"	+0.23"	105%	37th wettest	16.25"	-4.33"	79%	19th driest
North Central	5.35"	-0.54"	91%	38th driest	24.30"	-7.12"	77%	22nd driest
Northeast	7.54"	+0.13"	102%	39th wettest	32.77"	-9.90"	77%	16th driest
West Central	4.27"	-1.34"	76%	36th driest	20.02"	-8.38"	71%	10th driest
Central	5.74"	-0.90"	86%	37th driest	28.29"	-9.34"	75%	20th driest
East Central	7.16"	-0.29"	96%	44th wettest	37.60"	-8.54"	81%	24th driest
Southwest	4.07"	-1.47"	73%	34th driest	22.39"	-7.88"	74%	18th driest
South Central	5.65"	-0.64"	90%	41st driest	32.15"	-8.56"	79%	22nd driest
Southeast	9.07"	+2.31"	134%	22nd wettest	49.81"	-0.78"	98%	46th wettest
Statewide	5.95"	-0.31"	95%	47th driest	29.09"	-7.38"	80%	18th driest



OKLAHOMA CLIMATOLOGICAL SURVEY  
Percentage of 1981-2010 Normal Rainfall  
Last 60 Days

Jul 28, 2014 through Sep 25, 2014

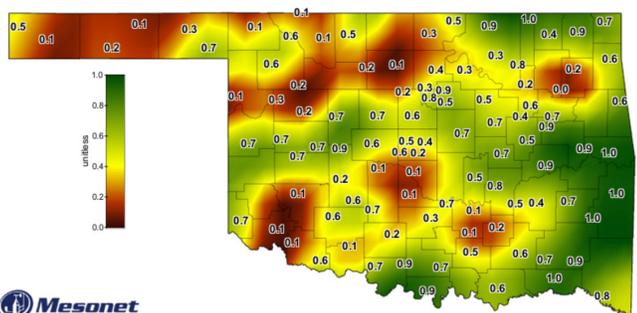


OKLAHOMA CLIMATOLOGICAL SURVEY  
Percentage of 1981-2010 Normal Rainfall  
Last 365 Days

Sep 26, 2013 through Sep 25, 2014

## SOIL MOISTURE

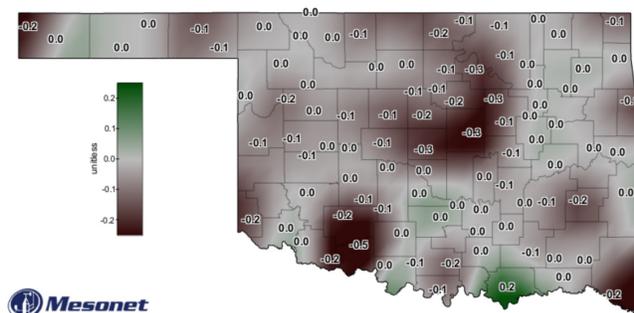
### Fractional Water Index<sup>1</sup> September 25, 2014



Mesonet

Daily Averaged Fractional Water Index at 10 inches

September 25, 2014



Mesonet

7-Day Change in Fractional Water Index at 10 inches

September 25, 2014

<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 August 2014

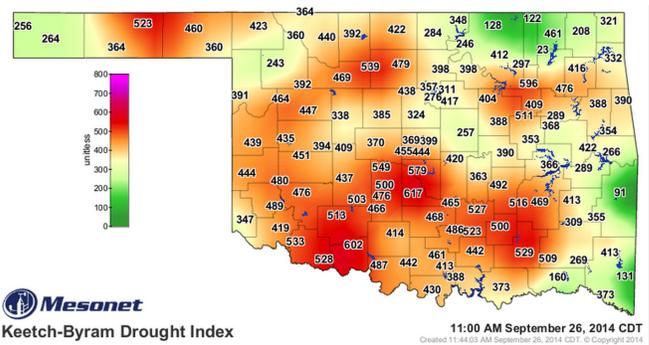
CLIMATE DIVISION	CURRENT STATUS 8/16/2014	VALUE			3-MONTH	12-MONTH	24-MONTH
		8/16	9/20	CHANGE IN VALUE			
Northwest	MODERATE DROUGHT	-2.74	-2.85	0.11	ABNORMALLY MOIST	ABNORMALLY DRY	ABNORMALLY DRY
North Central	NEAR NORMAL	1.04	0.57	0.47	VERY MOIST	ABNORMALLY DRY	NEAR NORMAL
Northwest	NEAR NORMAL	-1.18	-0.18	-1	NEAR NORMAL	SEVERELY DRY	MODERATELY DRY
West Central	MODERATE DROUGHT	-2.99	-2.50	-0.49	MODERATELY MOIST	ABNORMALLY DRY	ABNORMALLY DRY
Central	NEAR NORMAL	-1.75	-1.04	-0.71	ABNORMALLY MOIST	MODERATELY DRY	NEAR NORMAL
East Central	NEAR NORMAL	-1.36	-0.18	-1.18	NEAR NORMAL	ABNORMALLY DRY	NEAR NORMAL
Southwest	SEVERE DROUGHT	-3.81	-3.73	-0.08	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY
South Central	NEAR NORMAL	-1.27	-0.92	-0.35	ABNORMALLY MOIST	ABNORMALLY DRY	MODERATELY DRY
Southeast	NEAR NORMAL	0.03	0.74	-0.71	ABNORMALLY MOIST	NEAR NORMAL	NEAR NORMAL

- According to the PDSI, all of western Oklahoma is experiencing drought conditions with severe drought conditions in the Southwest climate division. The rest of the state is classified as near normal; all divisions except Northwest and North Central have experienced moisture decrease since August 16.
- According to the latest SPI, only the Southeast climate division is *not* experiencing longer-term dry conditions (through the last two years). No climate divisions show drought conditions for the 3-month time period.

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

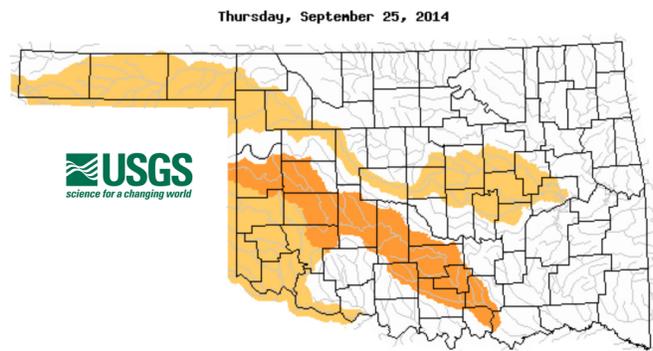
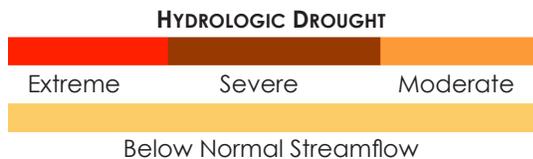
MESONET STATION	CLIMATE DIVISION	CURRENT VALUE 9/26/2014
Washington	Central	617
Walters	Southwest	602
Tulsa	Northeast	596

- Stations currently at or above 600 (Sept 26) = 2
- Stations above 600 on Aug 26 = 2



# STREAMFLOW CONDITIONS

September 25, 2014



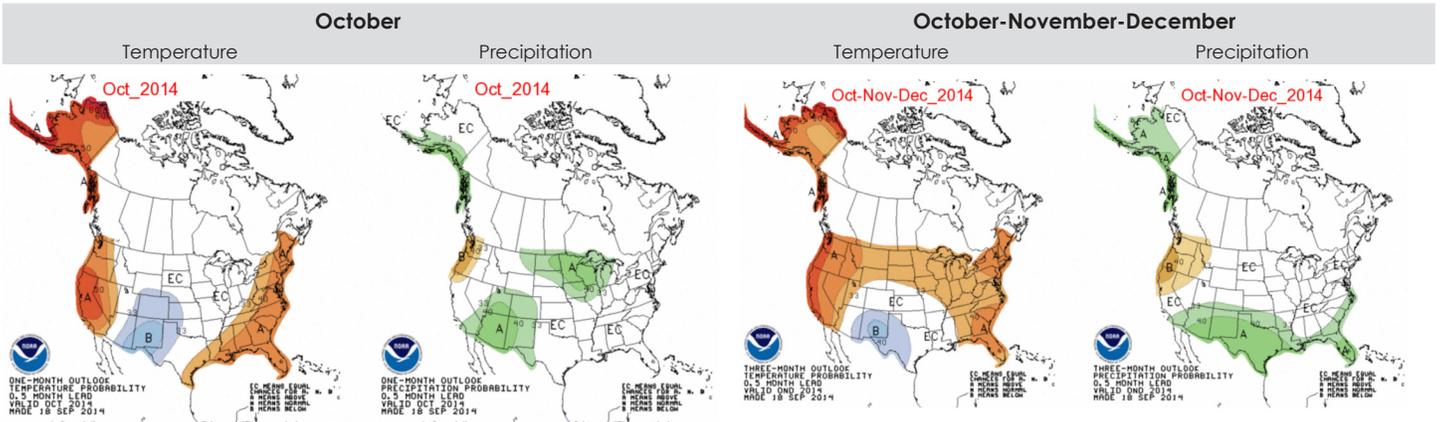
<sup>2</sup> The Palmer Drought Severity Index is based upon precipitation, temperature, and soil moisture. Though widely used by government agencies and states to trigger drought relief programs, the PDSI may underestimate or overestimate the severity of ongoing dry periods.

<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.

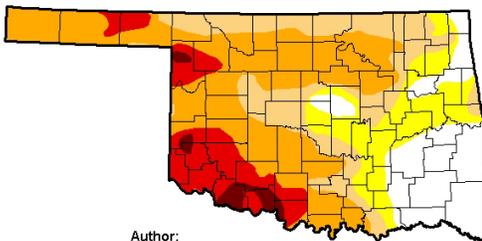
# WEATHER/DROUGHT FORECAST

## Seasonal Outlook



## Regional Drought Summary & Outlook

### U.S. Drought Monitor Oklahoma



Author:  
Richard Heim  
NCDC/NOAA



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

**September 23, 2014**

(Released Thursday, Sep. 25, 2014)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	17.17	82.83	69.10	49.31	13.59	2.25
<b>Last Week</b> 9/16/2014	18.23	81.77	67.91	42.99	11.87	2.25
<b>3 Months Ago</b> 06/20/2014	9.08	90.92	78.40	65.61	40.57	10.69
<b>Start of Calendar Year</b> 12/31/2013	50.84	49.16	38.17	18.99	4.84	2.40
<b>Start of Water Year</b> 10/1/2013	21.74	78.26	43.00	17.62	4.42	1.45
<b>One Year Ago</b> 09/20/2013	7.91	92.09	49.13	20.80	4.34	1.46

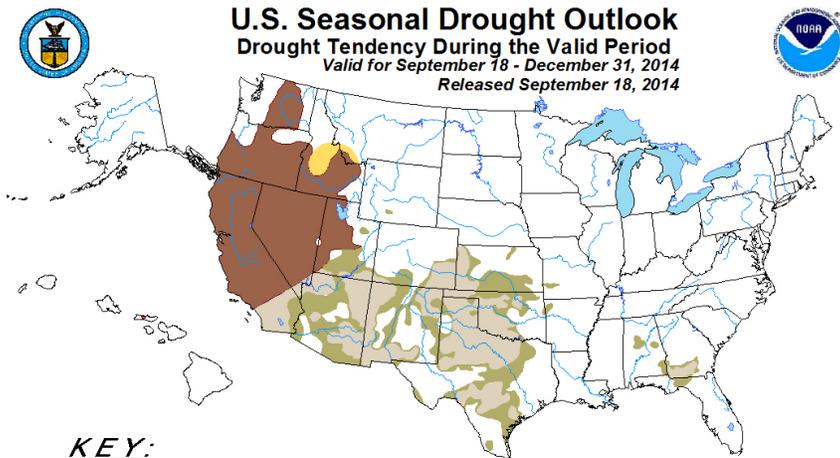
#### Intensity

<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> D0 Abnormally Dry	<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> D3 Extreme Drought
<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> D1 Moderate Drought	<span style="display:inline-block; width:15px; height:15px; background-color:darkred; border:1px solid black;"></span> D4 Exceptional Drought
<span style="display:inline-block; width:15px; height:15px; background-color:orangeyellow; border:1px solid black;"></span> D2 Severe Drought	

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

### U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period  
Valid for September 18 - December 31, 2014  
Released September 18, 2014



#### KEY:

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

Author: Anthony Artusa, Climate Prediction Center, NOAA  
[http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/sdo\\_summary.html](http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.html)

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 tan area 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)

September 23—According to the U.S. Drought Monitor, continued dryness in northeast Texas and central to western Oklahoma resulted in expansion of D0-D3 in those areas. While subsoil moisture improved, the USDA reported that topsoils in Oklahoma continued to dry out, with 55% of topsoil and 61% of subsoil statewide short to very short of moisture, and 20% of pastures and rangeland in poor to very poor condition.

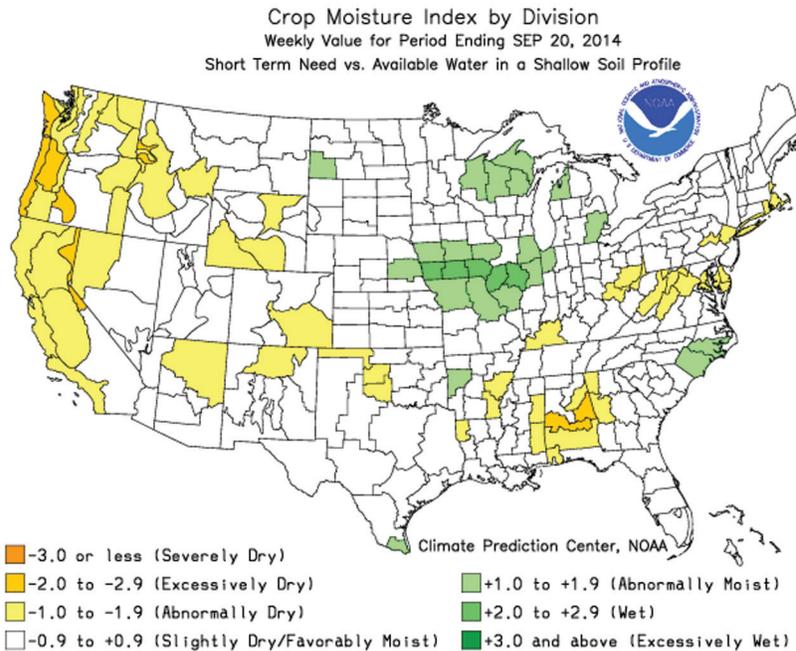
In the past month, Oklahoma has experienced no change in the Exceptional Drought category (D4). Areas experiencing exceptional drought are all in western Oklahoma, primarily the Southwest region. There has been a slight increase in the percentage (up 2.5%) of the state experiencing Abnormally Dry conditions or worse (D0-D4), with more than 69% of the state experiencing Moderate Drought or worse conditions. Most of the eastern part of the state is experiencing near normal conditions with a few areas experiencing Abnormally Dry and Moderately Dry conditions in the Northeast and North Central regions.

According to the seasonal drought outlook, during the period between mid-September and the end of December, drought conditions will likely remain but improve in all of western Oklahoma, as well as the North Central and South Central regions of the state. Some areas in the Northern parts of the state will likely see the removal of any drought classification. Much of the eastern part of the state is expected not to experience drought conditions. No areas of the state are expected to experience persistent or intensifying drought conditions or likely drought development.

# CROP REPORT

September 21 -Overall, crop conditions were rated mostly good to fair in the last week. Cool temperatures between the low 60s and mid 80s were experienced across most of the state. The state received trace amounts of rainfall last week. Topsoil and subsoil moisture conditions were mostly adequate to short. There were 6.3 days were suitable for field work.

Canola planting was active across the state with 43 percent of the crop planted by week's end, up 31 points from last year. Row crop conditions were all rated good to fair. Hay conditions remain rated good to fair. Alfalfa and other hay cutting continued across the state with some producers reaching fourth cuttings for alfalfa. Good yields and quality continued to be reported. Conditions of pasture and range continued to be rated mostly good to fair. Livestock was rated 58 percent in good condition with 28 percent rated as fair.



# RESERVOIR STORAGE

## Oklahoma Surface Water Resources Reservoir Levels and Storage as of 9/22/2014

