

# Oklahoma Water Resources Bulletin & Summary of Current Conditions

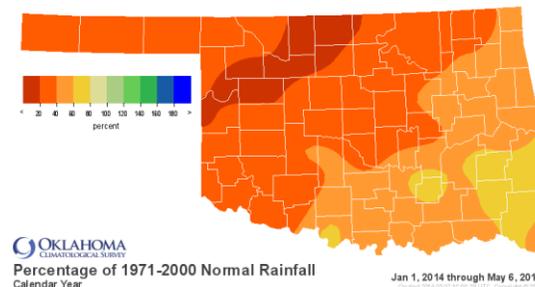
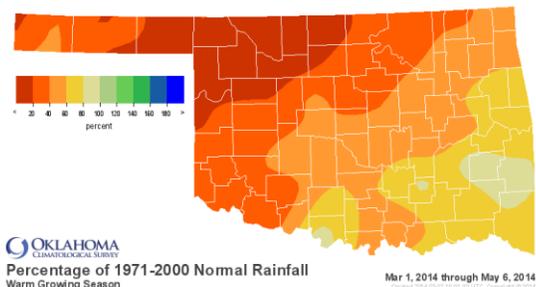


May 8, 2014

## PRECIPITATION

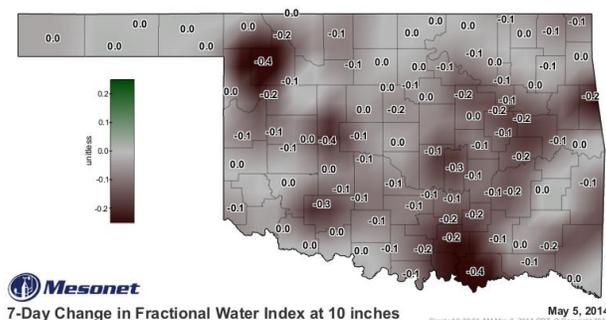
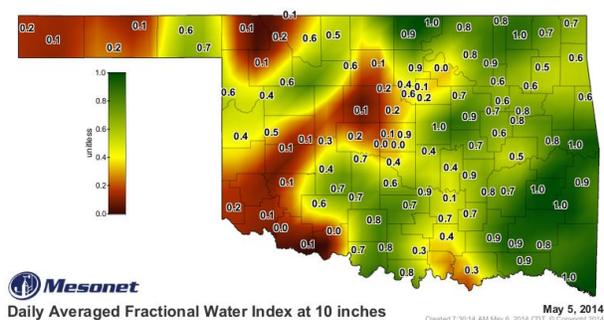
### Statewide Precipitation

CLIMATE DIVISION	Warm Growing Season March 1 – May 6, 2014				Calendar Year January 1 – May 6, 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	0.78"	-3.36"	19%	5th driest	1.28"	-4.02"	24%	4th driest
North Central	1.13"	-5.43"	17%	2nd driest	1.75"	-6.95"	20%	2nd driest
Northeast	3.72"	-5.01"	43%	8th driest	4.32"	-7.96"	35%	2nd driest
West Central	1.33"	-4.61"	22%	5th driest	1.66"	-6.31"	21%	2nd driest
Central	3.17"	-4.69"	40%	8th driest	3.62"	-7.47"	33%	2nd driest
East Central	5.90"	-3.66"	62%	19th driest	7.25"	-6.87"	51%	3rd driest
Southwest	2.09"	-3.80"	36%	5th driest	2.44"	-5.84"	29%	4th driest
South Central	5.18"	-3.22"	62%	19th driest	6.23"	-6.27"	50%	3rd driest
Southeast	7.92"	-2.28"	78%	25th driest	10.13"	-6.02"	63%	6th driest
Statewide	3.42"	-4.06"	46%	6th driest	4.22"	-6.47"	39%	2nd driest



## SOIL MOISTURE

### Fractional Water Index<sup>1</sup> May 5, 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.)

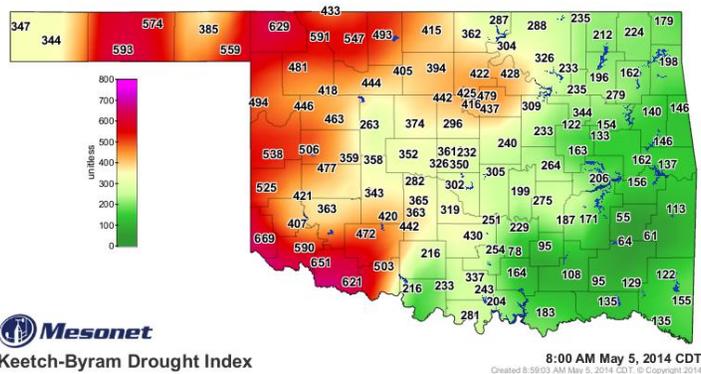
## DROUGHT INDICES

Palmer Drought Severity Index <sup>2</sup>					Standardized Precipitation Index <sup>3</sup> Through March 2014		
CLIMATE DIVISION	CURRENT STATUS 5/3/2014	VALUE		CHANGE IN VALUE	3-MONTH	12-MONTH	24-MONTH
		5/3	3/29				
Northwest	SEVERE DROUGHT	-3.11	-2.33	<b>-0.78</b>	SEVERELY DRY	MODERATELY DRY	SEVERELY DRY
North Central	MILD DROUGHT	-1.45	-0.25	<b>-1.20</b>	SEVERELY DRY	NEAR NORMAL	MODERATELY DRY
Northwest	MILD DROUGHT	-1.27	-0.55	<b>-0.72</b>	EXTREMELY DRY	NEAR NORMAL	MODERATELY DRY
West Central	MODERATE DROUGHT	-2.75	-1.94	<b>-0.81</b>	SEVERELY DRY	ABNORMALLY DRY	SEVERELY DRY
Central	MILD DROUGHT	-1.19	-0.15	<b>-1.04</b>	SEVERELY DRY	ABNORMALLY MOIST	NEAR NORMAL
East Central	INCIPIENT DROUGHT	-0.94	-0.51	<b>-0.43</b>	MODERATELY DRY	NEAR NORMAL	MODERATELY DRY
Southwest	SEVERE DROUGHT	-3.25	-2.61	<b>-0.64</b>	SEVERELY DRY	ABNORMALLY DRY	SEVERELY DRY
South Central	NEAR NORMAL	-0.36	0.16	<b>-0.52</b>	SEVERELY DRY	NEAR NORMAL	SEVERELY DRY
Southeast	INCIPIENT DROUGHT	-0.94	-0.77	<b>-0.17</b>	MODERATELY DRY	NEAR NORMAL	MODERATELY DRY

- All nine climate divisions are classified as experiencing drought or incipient drought conditions, according to the PDSI. All regions have undergone a PDSI moisture decrease since March 29.
- According to the latest SPI, all climate divisions are experiencing longer-term dry conditions (through at least three months or as long as two years or more).

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

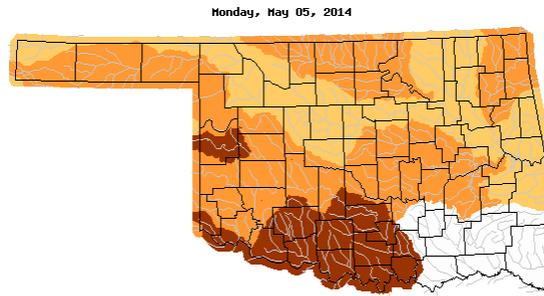
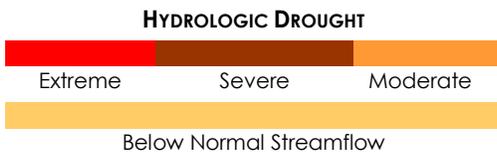
MESONET STATION	CLIMATE DIVISION	CURRENT VALUE 5/5/2014
Hollis	Southwest	669
Tipton	Southwest	651
Buffalo	Northwest	629



- Stations currently at or above 600 (May 5) = 4
- Stations above 600 on March 31 = 1

## STREAMFLOW CONDITIONS

May 5, 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.

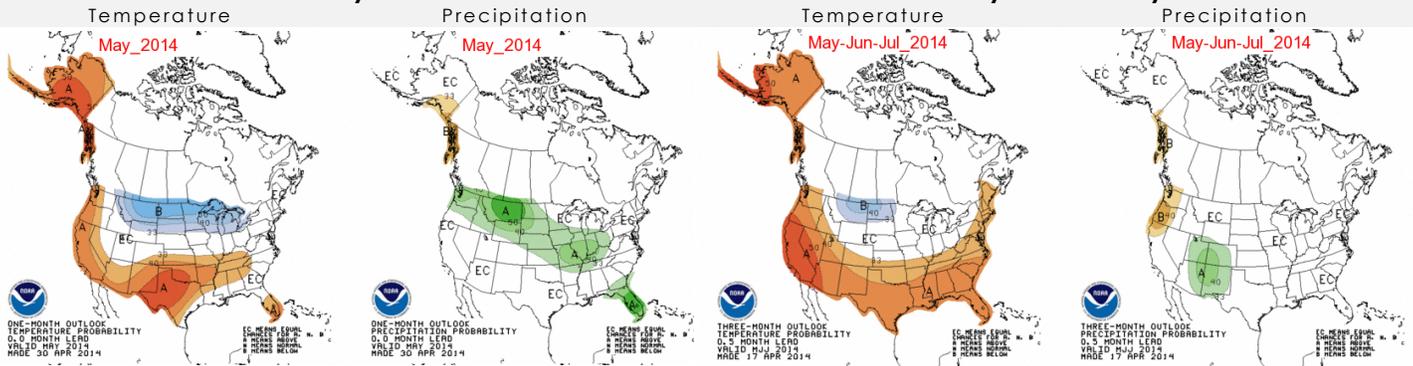
<sup>4</sup> The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.

# WEATHER/DROUGHT FORECAST

## Seasonal Outlook

### May

### May-June-July

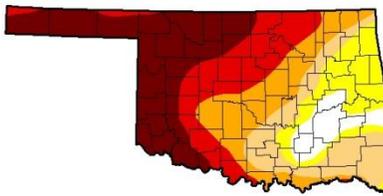


## Regional Drought Summary & Outlook

### U.S. Drought Monitor Oklahoma

**May 6, 2014**  
(Released Thursday, May 8, 2014)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	D0-D4	D1-D4	D2-D4	D3-D4	D4	D4
Current	6.67	93.33	80.65	65.94	48.86	29.85
Last Week	7.19	92.81	79.21	54.81	39.63	20.26
3 Months Ago	29.77	70.23	46.74	28.81	12.67	2.40
Start of Calendar Year	50.84	43.16	38.17	16.99	4.94	2.40
Start of Water Year	21.74	78.26	43.00	17.62	4.42	1.45
One Year Ago	17.32	82.68	67.93	52.91	32.85	8.63



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

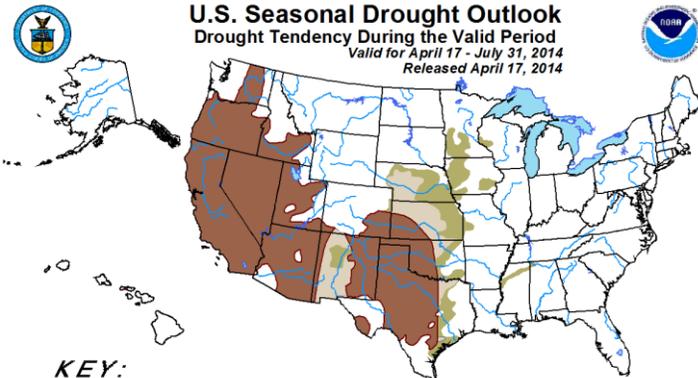
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:  
Mark Svoboda  
National Drought Mitigation Center

USDA      NCEP      NOAA  
<http://droughtmonitor.unl.edu/>

May 6—According to the U.S. Drought Monitor, in the southern Plains, Kansas continues to set the southern edge of the intense drought that seems to be waking up and pushing rapidly north along with warmer temperatures. A large expansion of D3 now covers nearly the entire southern half of Kansas and D4 is slowly pushing north out of Oklahoma. The story is even bleaker in the southern Plains, where heat and drought are even more pronounced and entrenched across western Oklahoma and much of Texas. Expansion has begun to happen in earnest now even before the summer season begins. Expansion of D2-D4 is noted across western Oklahoma and all changes in Texas are for the worse this week as well, with expansion of D0-D4 found statewide and D3 and D4 covering large portions of southern, central, north-central and the Panhandle of Texas. Streamflow and groundwater levels are hurting given the long duration and sustained intensity of this drought, which is now going on close to four years. Winter wheat has also been hard hit by hard freezes and the more recent triple-digit heat. Lack of range and pasture land, as well as fire, are the other main impacts already being reported early this year.

### U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period Valid for April 17 - July 31, 2014 Released April 17, 2014



**KEY:**  
 Drought persists or intensifies  
 Drought remains but improves  
 Drought removal likely  
 Drought development likely

Author: Brad Pugh, Climate Prediction Center, NOAA  
[http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/season\\_drought.html](http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.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)

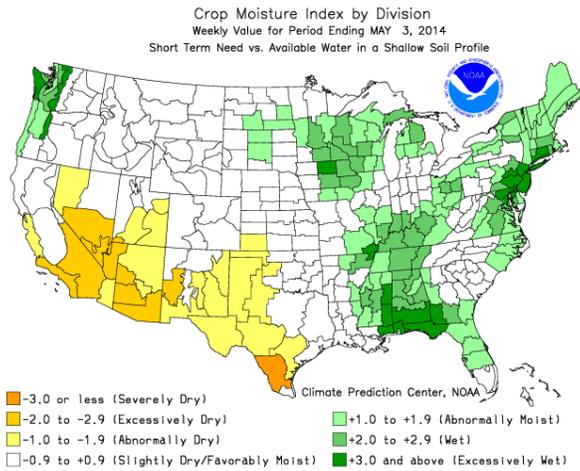
Drought is rapidly expanding northward as well as eastward. More than 80 percent of Oklahoma is classified in at least Moderate Drought and almost 30 percent of the state—including virtually all of western Oklahoma and the Panhandle—is now classified in Exceptional Drought, the worst category.

According to the latest Drought Outlook, drought is expected to persist or intensify throughout western Oklahoma and the Panhandle region through July, although conditions could improve in the rest of the state.

# CROP REPORT SUMMARY

May 5, 2014 – The combination of drought, record heat and low humidity contributed to wildfires last week in central and western Oklahoma. Producers in the Panhandle continued to experience high winds, cooler temperatures and low moisture conditions. Planting of summer crops has been delayed due to the extreme drought and windy conditions. Assessments of winter wheat damage were still being made as there are reports of declining winter wheat conditions and signs of freeze damage. There were 6.4 days suitable for field work on average across the state.

Range and pasture conditions continued to be rated mostly fair to poor. Producers continued to provide hay and supplemental feed to livestock. Livestock conditions were rated 86 percent good to fair.



# RESERVOIR STORAGE

May 7, 2014

## Oklahoma Surface Water Resources Reservoir Levels and Storage as of 5/7/2014

