Oklahoma Water Resources Bulletin
& Summary of Current Conditions

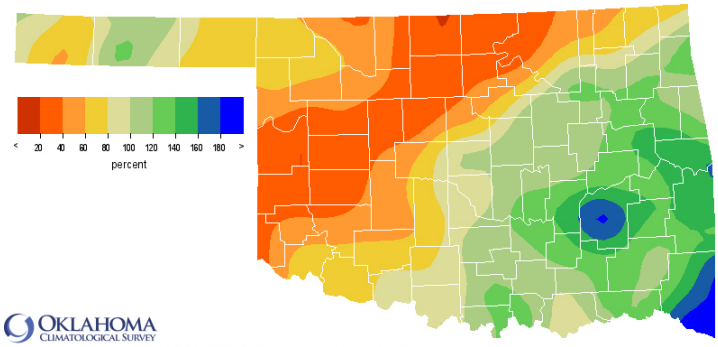
State of Oklahoma OWRB WATER RESOURCES BOARD the water agency

March 26, 2015

PRECIPITATION

Statewide Precipitation

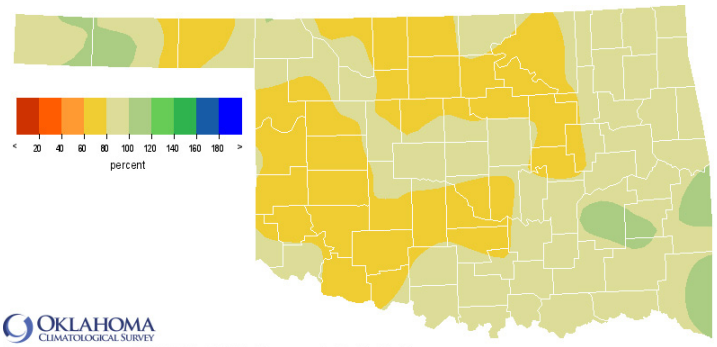
Climate Division	Last 30 Days (February 24, 2015 - March 25, 2015) Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Last 365 Days (March 26, 2014 - March 25, 2015) Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
Panhandle	1.00"	-0.27"	79%	42nd wettest	17.90"	-2.68"	87%	30th driest
N. Central	0.91"	-1.43"	39%	30th driest	24.56"	-6.86"	78%	23rd driest
Northeast	2.70"	-0.56"	83%	39th wettest	35.58"	-7.09"	83%	27th driest
W. Central	0.60"	-1.46"	29%	25th driest	21.28"	-7.12"	75%	17th driest
Central	2.36"	-0.49"	83%	34th wettest	30.17"	-7.46"	80%	20th driest
E. Central	4.95"	+1.31"	136%	13th wettest	40.80"	-5.34"	88%	34th driest
Southwest	1.27"	-0.88"	59%	44th driest	23.86"	-6.41"	79%	23rd driest
S. Central	3.63"	+0.41"	113%	23rd wettest	35.08"	-5.63"	86%	37th driest
Southeast	6.11"	+1.90"	145%	12th wettest	50.05"	-0.54"	99%	43rd wettest
Statewide	2.58"	-0.19"	93%	34th wettest	30.88"	-5.59"	85%	27th driest



OKLAHOMA CLIMATOLOGICAL SURVEY

Percentage of 1981-2010 Normal Rainfall
Last 30 Days

Feb 24, 2015 through Mar 25, 2015



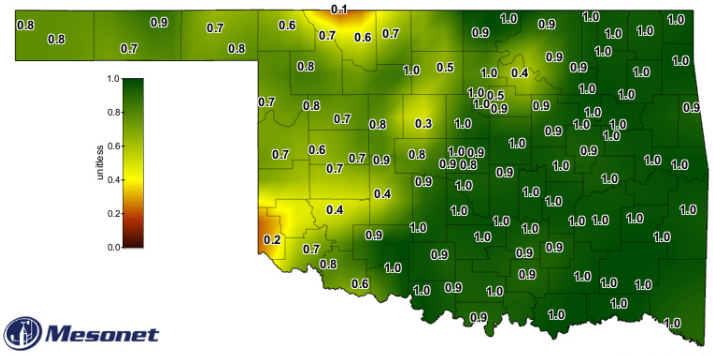
OKLAHOMA CLIMATOLOGICAL SURVEY

Percentage of 1981-2010 Normal Rainfall
Last 365 Days

Mar 26, 2014 through Mar 25, 2015

SOIL MOISTURE

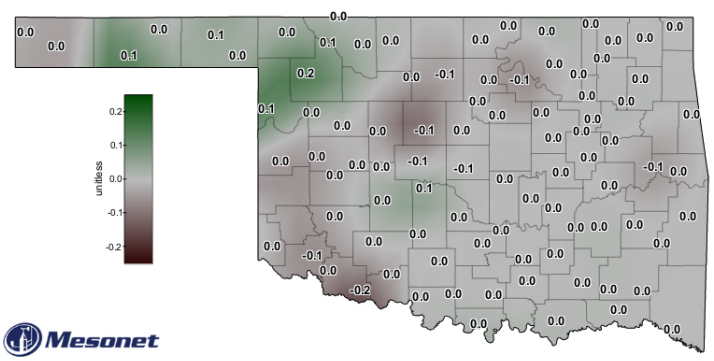
Fractional Water Index[1]
March 25, 2015



Mesonet

Daily Averaged Fractional Water Index at 10 inches

March 25, 2015



Mesonet

7-Day Change in Fractional Water Index at 10 inches

March 25, 2015

[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. [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[2] / Standardized Precipitation Index[3] Through February 2015

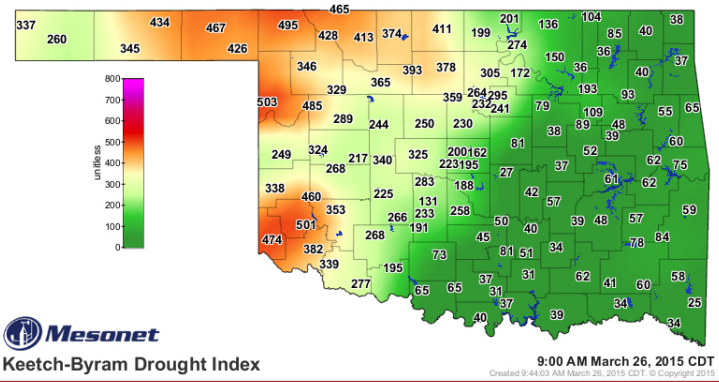
Climate Division	Current Status 3/21/2015	Value 2/21	Value 3/21	Change in Value	3-Month	12-Month	24-Month
Northwest	NEAR NORMAL	-1.59	-1.13	-0.46	ABNORMALLY MOIST	NEAR NORMAL	ABNORMALLY DRY
North Central	NEAR NORMAL	-0.67	-0.82	0.15	ABNORMALLY DRY	ABNORMALLY DRY	NEAR NORMAL
Northeast	NEAR NORMAL	-0.29	0.26	-0.55	MODERATELY DRY	MODERATELY DRY	ABNORMALLY DRY
West Central	NEAR NORMAL	-2.02	-1.22	-0.8	ABNORMALLY DRY	NEAR NORMAL	ABNORMALLY DRY
Central	NEAR NORMAL	-1.17	-0.29	-0.88	ABNORMALLY DRY	ABNORMALLY DRY	NEAR NORMAL
East Central	NEAR NORMAL	-0.18	0.87	-1.05	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southwest	MODERATE DROUGHT	-2.63	-2.51	-0.12	ABNORMALLY DRY	ABNORMALLY DRY	MODERATELY DRY
South Central	NEAR NORMAL	0.72	1.2	-0.48	NEAR NORMAL	NEAR NORMAL	ABNORMALLY DRY
Southeast	NEAR NORMAL	0.03	1.42	-1.39	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL

- According to the PDSI, the Southwest climate division is currently experiencing moderate drought conditions, while the rest of the state is classified as near normal. The Northeast, East Central, South Central, and Southeast climate regions have undergone a PDSI moisture decrease since February 21.
- According to the latest SPI, the North Central, Northeast, West Central, Central, Southwest, and South Central regions are experiencing longer term dry conditions (through the last two years). The Northwest has had abnormally moist conditions for the 3-month time period, near normal for the 12-month period, but abnormally dry conditions when looking at the 24-month period. The East Central and Southeast regions are near normal for all three time periods through February 2015.

Keetch-Byram Drought Fire Index[4]

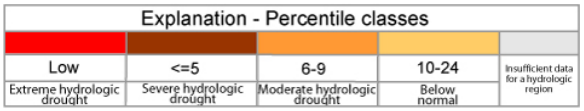
Mesonet Station	Climate Division	Current Value 3/26/2015
Arnett	Northwest	503
Mangum	Southwest	501
Buffalo	Northwest	495

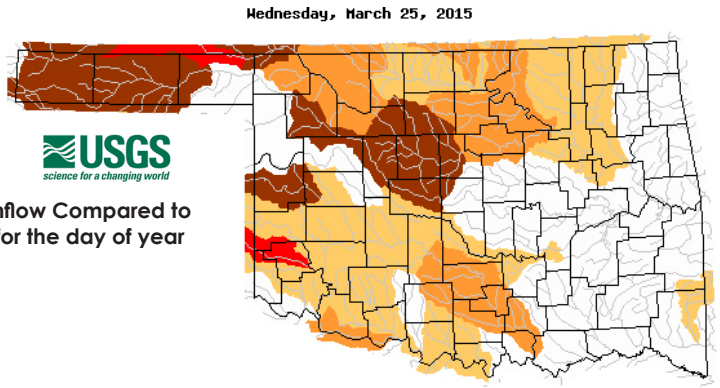
- Stations currently at or above 600 (March 26) = 0
- Stations above 600 on February 26 = 0



Streamflow Conditions

March 25, 2015





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

[2] 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.

[3] 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.

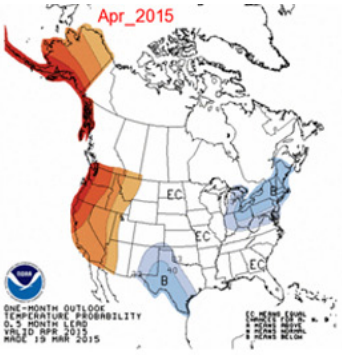
[4] The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.

WEATHER/DROUGHT FORECAST

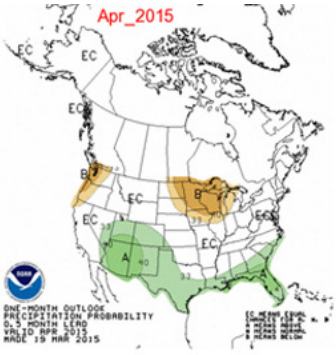
Seasonal Outlook

April 2015

Temperature

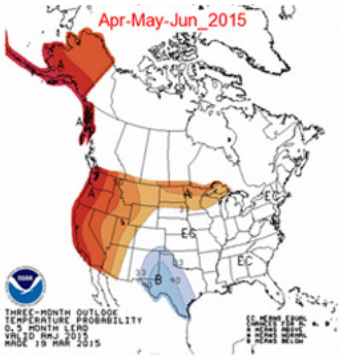


Precipitation

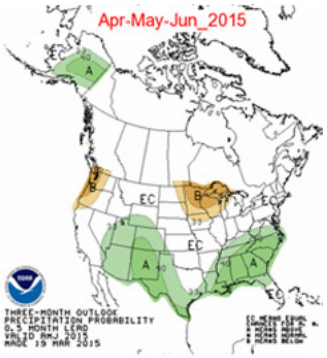


April-May-June 2015

Temperature



Precipitation

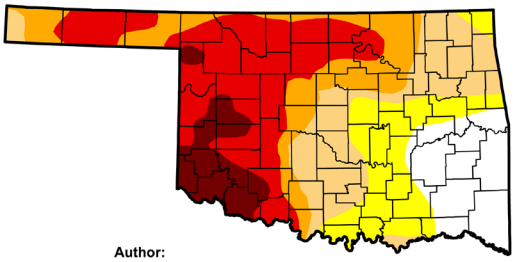


A means Above; N means Normal; B means Below; EC means Equal Chances for A, N, or B

Regional Drought Summary & Outlook

U.S. Drought Monitor

Oklahoma



Author:
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U.S. Department of Agriculture

http://droughtmonitor.unl.edu/

March 24, 2015
(Released Thursday, Mar. 26, 2015)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	14.36	85.64	70.40	50.96	35.74	8.41
Last Week 3/17/2015	8.63	91.37	70.50	47.81	31.72	5.75
3 Months Ago 12/23/2014	25.63	74.37	62.03	40.84	21.67	5.71
Start of Calendar Year 12/30/2014	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	4.64
One Year Ago 3/25/2014	4.05	95.95	77.41	32.48	24.03	8.58

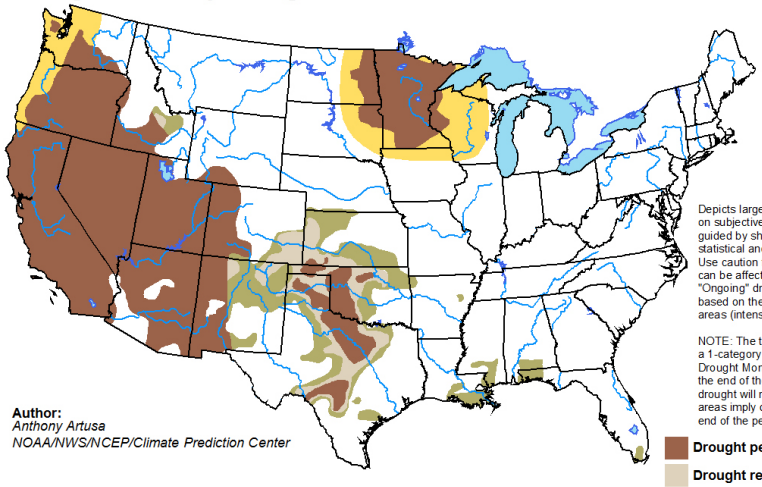
Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional 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 March 19 - June 30, 2015
Released March 19, 2015



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**

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http://go.usa.gov/hHTe

March 24—According to the U.S. Drought Monitor, 3,067,700 Oklahomans are currently affected by drought (category D1-D4).

Across Oklahoma and northern Texas, most areas received less than 0.5 inch of rain during the monitoring period (through March 24, before heavy rains on March 25). This coupled with daytime highs in the upper 70s and lower 80s provided no relief from drought. In areas where rain was sparse or non-existent, Severe to Exceptional Drought (D2-D4) expanded as streamflows continued to decline well below the 10th percentile. Soil moisture likewise rapidly diminished as the unseasonable warmth increased crop- and pasture-water demands. Meanwhile, moderate to heavy rain (1 to 4 inches) from southern Oklahoma into central and southern Texas reduced drought coverage and intensity.

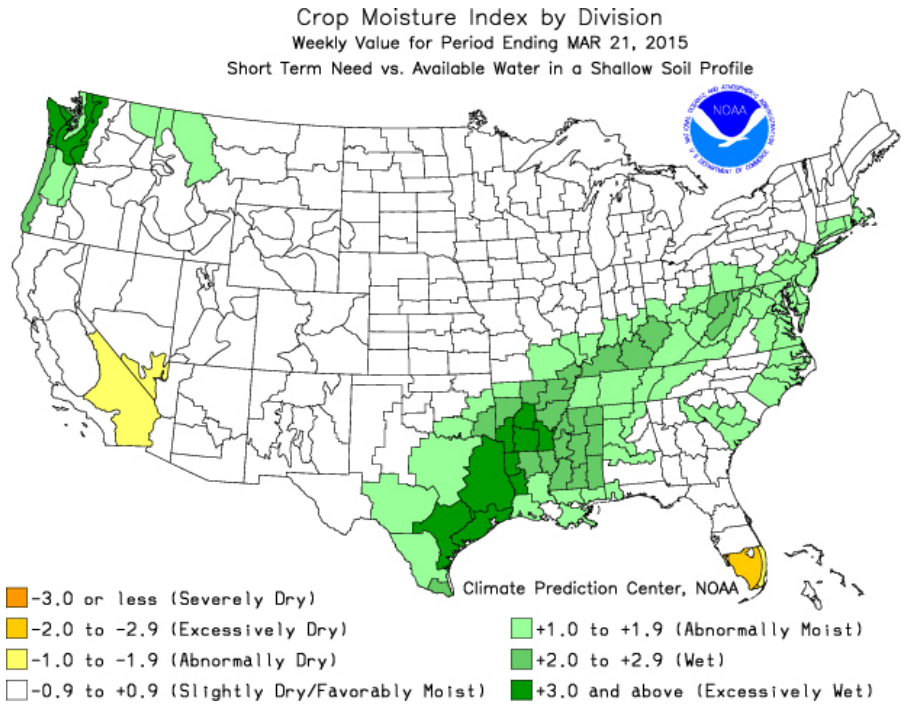
In the past month, the percentage of Oklahoma classified as experiencing Abnormally Dry (D0) conditions has decreased by about 13%, all in the Southeast corner of the state. However, the percentage of the state experiencing Exceptional Drought (D4) conditions has increased by nearly 3%. This includes most of the Southwest region and much of the West Central region.

According to the seasonal drought outlook released on March 19, from mid-March through the end of June, drought conditions are expected to persist or intensify in far western Oklahoma, including areas in the Panhandle and most of the West Central and Southwest regions. Drought may also persist or intensify in parts of the North Central region during this time period.

Crop Report

According to the latest USDA Oklahoma Crop Weather report (March 23), Conditions of small grains improved in areas of the Northeast district, while significant moisture is needed in the North Central district for winter wheat development. Land preparations for corn were delayed in areas of the South Central district due to wet weather conditions. The South Central, Southeast, and East Central districts continued to record departures at more than 20 percent above normal, while the other districts remained below 83 percent of normal. Drought conditions continued to be rated extreme to exceptional across the western half of the state, with conditions most severe in the Southwest district. Topsoil moisture conditions were rated mostly adequate to short.

According to the NOAA Crop Moisture Index by Division, for the period ending March 21, the Southeast region is classified as experiencing wet conditions, with the East Central and South Central regions experiencing abnormally moist conditions. The rest of the state is classified as experiencing slightly dry/ favorably moist conditions.



Reservoir Storage