Oklahoma Water Resources Bulletin
& Summary of Current Conditions

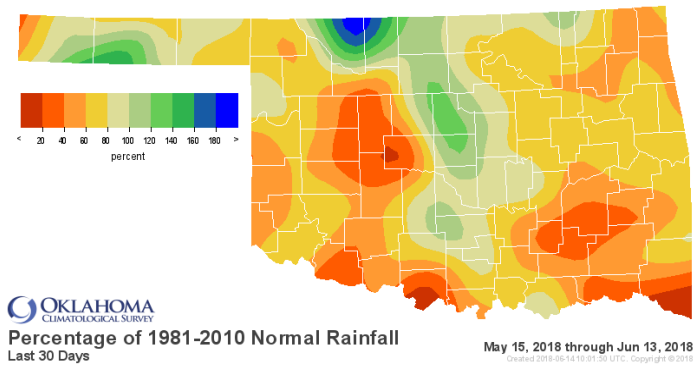
OWRB the water agency

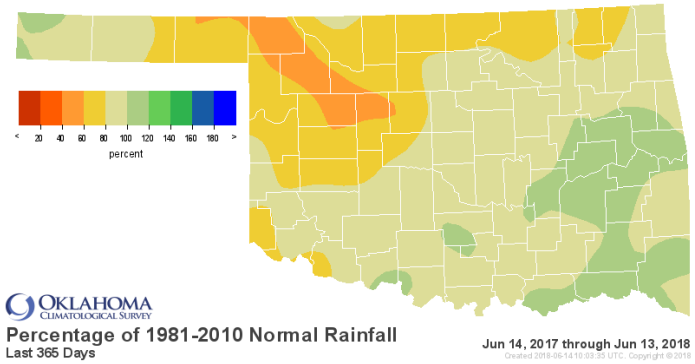
June 14, 2018

Precipitation

Statewide Precipitation

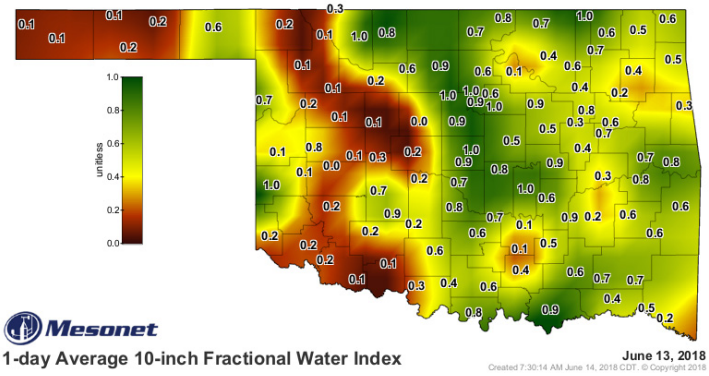
Climate Division	Last 30 Days May 15 – June 13, 2018: Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Last 365 Days June 14, 2017 – June 13, 2018: Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
PANHANDLE	2.55"	-0.48"	84%	35th driest	15.82"	-4.76"	77%	23rd driest
NORTH CENTRAL	4.42"	-0.18"	96%	47th wettest	22.96"	-8.46"	73%	19th driest
NORTHEAST	3.95"	-1.71"	70%	27th driest	36.64"	-6.03"	86%	37th driest
WEST CENTRAL	2.38"	-2.16"	52%	19th driest	20.40"	-8.00"	72%	14th driest
CENTRAL	4.66"	-0.50"	90%	49th driest	33.55"	-4.08"	89%	49th wettest
EAST CENTRAL	3.59"	-2.02"	64%	26th driest	47.73"	+1.59"	103%	36th wettest
SOUTHWEST	2.51"	-1.91"	57%	19th driest	26.41"	-3.86"	87%	38th driest
SOUTH CENTRAL	3.47"	-1.90"	65%	24th driest	38.46"	-2.25"	94%	45th wettest
SOUTHEAST	2.38"	-3.19"	43%	13th driest	52.43"	+1.84"	104%	31st wettest
STATEWIDE	3.43"	-1.46"	70%	25th driest	32.59"	-3.88"	89%	43rd driest

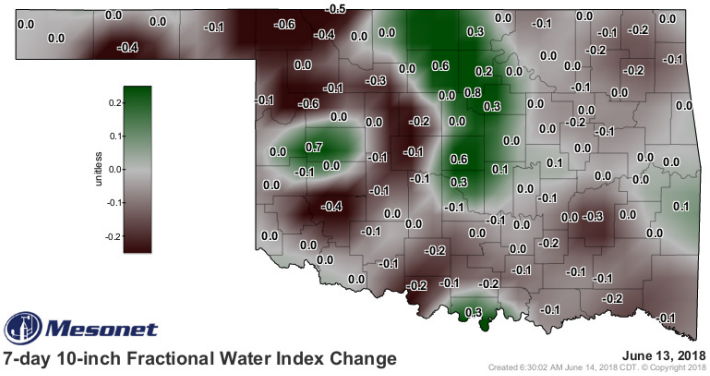




Soil Moisture

Fractional Water Index
June 13, 2018





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 (PDSI) / Standardized Precipitation Index (SPI) Through May 2018

Climate Division	Status 6/9/18	Value 5/5	Value 6/9	Change in Value	3-month	12-month	24-month
NORTHWEST	Severe Drought	-2.01	-3.27	1.26(-)	Abnormally Dry	Moderately Dry	Near Normal
NORTH CENTRAL	Near Normal	-1.46	-1.83	0.37(-)	Near Normal	Abnormally Dry	Near Normal
NORTHEAST	Near Normal	0.17	-1.4	1.57(-)	Moderately Dry	Near Normal	Near Normal
WEST CENTRAL	Severe Drought	-1.74	-3.33	1.59(-)	Moderately Dry	Abnormally Dry	Near Normal
CENTRAL	Near Normal	1.27	-0.73	2(-)	Abnormally Dry	Near Normal	Near Normal
EAST CENTRAL	Near Normal	3.44	0.07	3.37(-)	Near Normal	Abnormally Moist	Near Normal
SOUTHWEST	Moderate Drought	-0.61	-2.2	1.59(-)	Abnormally Dry	Near Normal	Abnormally Moist
SOUTH CENTRAL	Near Normal	2.24	-0.63	2.87(-)	Near Normal	Near Normal	Near Normal
SOUTHEAST	Near Normal	2.03	-1.76	3.79(-)	Moderately Dry	Near Normal	Near Normal

extreme drought	severe drought	moderate drought	near normal	unusual moist spell	very moist spell	extremely moist
-4.0 or less	-3.0 to -3.9	-2.0 to -2.9	-1.9 to +1.9	+2.0 to +2.9	+3.0 to +3.9	+4.0 and above

The PDSI is based upon precipitation, temperature, and soil moisture, and is considered most effective for unirrigated cropland, spanning from -10 (dry) to +10 (wet). According to the latest PDSI, all climate regions in the state are experiencing near normal conditions expect the Northwest and West Central, which are in Severe Drought, and the Southwest, which is experiencing Moderate Drought.

exceptionally dry	extremely dry	severely dry	moderately dry	abnormally dry	near normal	abnormally moist	moderately moist	very moist	extremely moist	exceptionally moist
-2.00 and below	-1.99 to -1.60	-1.59 to -1.30	-1.29 to -0.80	-0.79 to -0.51	-0.50 to +0.50	+0.51 to +0.79	+0.80 to +1.29	+1.30 to +1.59	+1.60 to +1.99	+2.0 and above

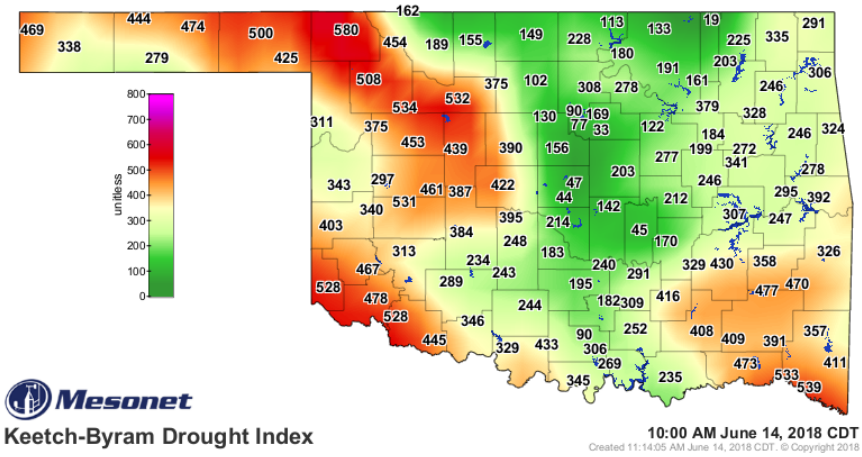
The SPI provides a comparison of precipitation over several specified periods with totals from the same periods for all years included in the historical record. For the 3-month period, all regions are near or below normal. For the 12-month period all regions are near or below normal except the East Central, which is abnormally moist. For the 24-month period, all regions are near normal or wetter.

Keetch-Byram Drought Fire Index

June 14, 10:00 a.m.--0 stations are above 600.

One station was above 600 on May 12, 2018.

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.



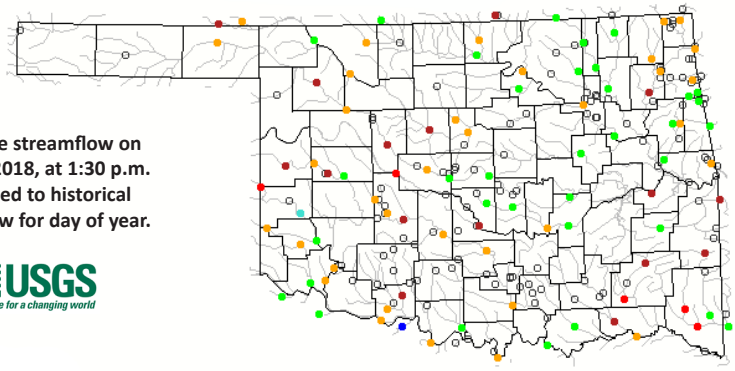
Streamflow Conditions

June 14, 2018

Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not ranked

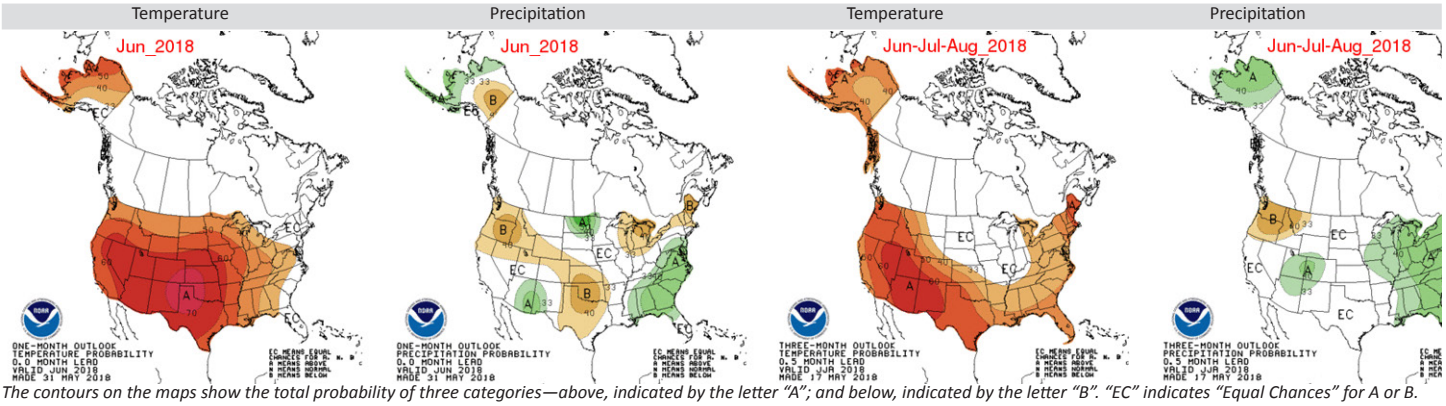
Visit waterwatch.usgs.gov for real-time streamflow information.

Real-time streamflow on June 14, 2018, at 1:30 p.m. compared to historical streamflow for day of year.



Weather/Drought Forecast

Seasonal Outlook

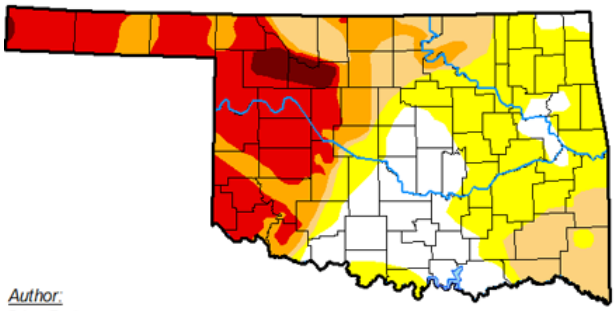


The contours on the maps show the total probability of three categories—above, indicated by the letter "A"; and below, indicated by the letter "B". "EC" indicates "Equal Chances" for A or B.

Drought Summary & Outlook

U.S. Drought Monitor

Oklahoma



Author:
Brian Fuchs
National Drought Mitigation Center

http://droughtmonitor.unl.edu/

June 12, 2018

(Released Thursday, Jun. 14, 2018)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	19.29	80.71	50.75	35.76	23.91	2.12
Last Week *06-05-2018*	31.17	68.83	46.44	40.55	27.84	6.60
3 Months Ago *03-13-2018*	31.35	68.65	48.50	42.41	34.93	8.20
Start of Calendar Year *01-02-2018*	0.00	100.00	77.15	38.76	0.00	0.00
Start of Water Year *09-26-2017*	64.46	35.54	0.77	0.00	0.00	0.00
One Year Ago *06-13-2017*	79.33	20.67	1.26	0.00	0.00	0.00

Intensity:

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

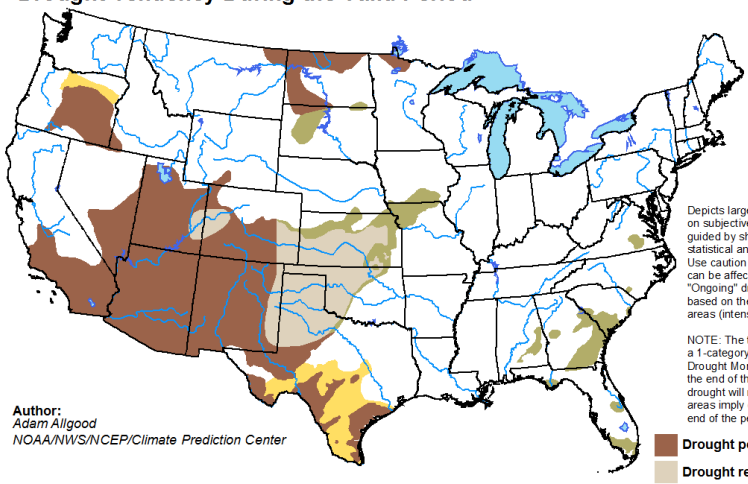
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

According to the latest U.S. Drought Monitor, as of June 12, the estimated Oklahoma population in drought areas is 624,394, down slightly from this time last month. More than 2% of the state (in area) is in exceptional drought (D4), the driest category, including large portions of Woodward and Major counties. Almost 24% of the state is in extreme drought (D3) or worse, while almost 36% is in severe drought (D2) or worse and almost 51% is in moderate drought (D1) or worse. Almost 81% of the state has Abnormally Dry (D0) conditions or worse.

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for May 17 - August 31, 2018
Released May 17, 2018



Author:
Adam Allgood
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**
- **Drought remains but improves**
- **Drought removal likely**
- **Drought development likely**

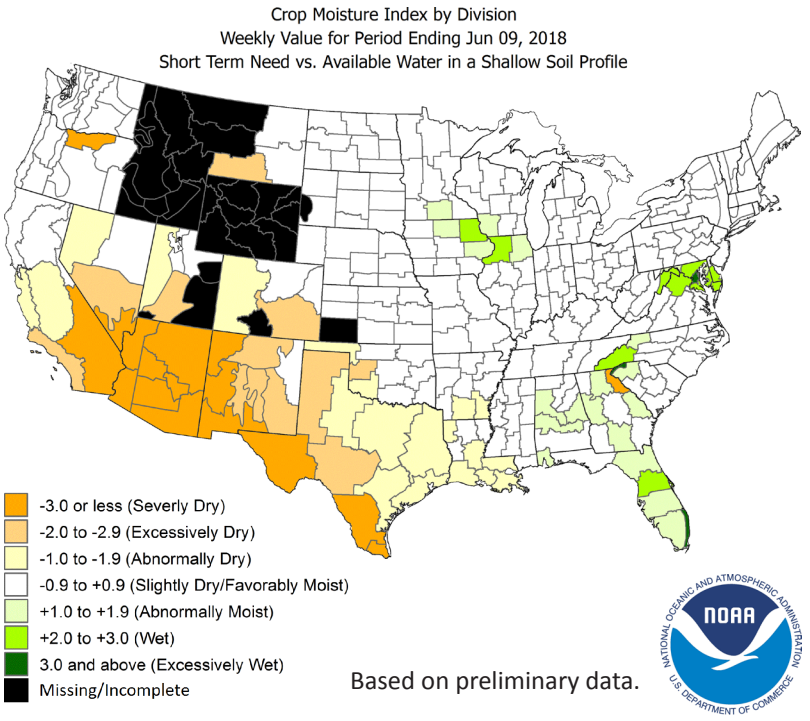
http://go.usa.gov/3eZ73

According to the latest seasonal drought outlook for the period of May 17 through August 31, 2018, the western half of Oklahoma will have improved conditions, while states to the west will likely remain in persistent drought.

Crop Moisture Index

According to the NOAA Crop Moisture Index by Division, for the period ending June 9, 2018, most Oklahoma climate regions were experiencing Slightly Dry/Favorably Moist conditions (-0.9 to +0.9), but in the Northwest and Southwest regions, conditions were Abnormally Dry (-1.0 to -1.9), and in the West Central region, conditions were Excessively Dry (-2.0 to -2.9).

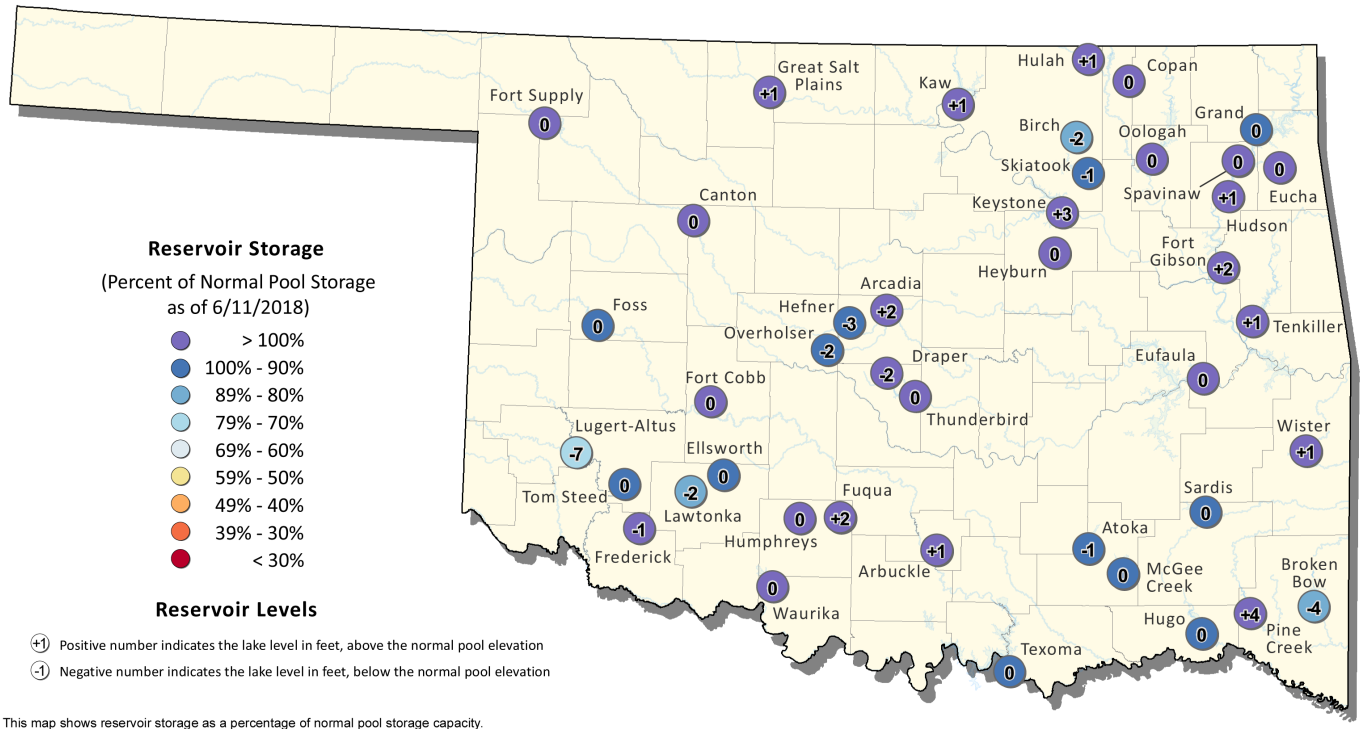
Derived from the Palmer Drought Severity Index (PDSI), the Crop Moisture Index reflects moisture supply in the short-term across major crop-producing regions. It identifies potential agricultural droughts. It is not intended to assess long-term droughts.



Reservoir Storage

Oklahoma Surface Water Resources

Reservoir Levels and Storage as of 6/11/2018



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.