Oklahoma Water Resources Bulletin
& Summary of Current Conditions

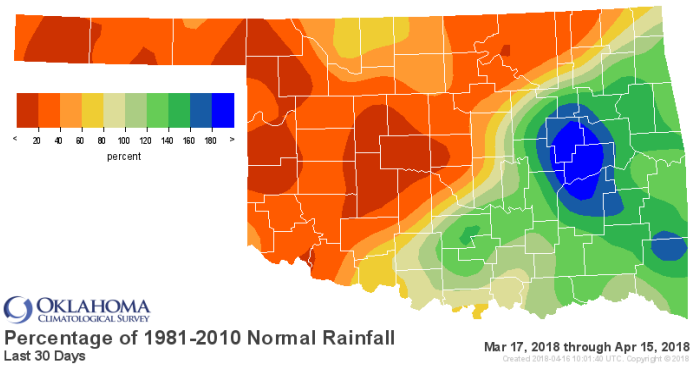
OWRB the water agency

April 16, 2018

Precipitation

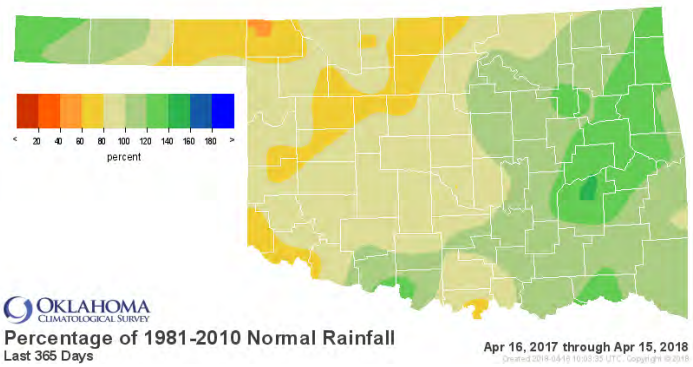
Statewide Precipitation

Climate Division	Last 30 Days March 17 – April 15, 2018 Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Last 365 Days April 16, 2017 – April 15, 2018 Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
PANHANDLE	0.37"	-1.20"	23%	13th driest	18.97"	-1.61"	92%	42nd driest
NORTH CENTRAL	1.12"	-1.53"	42%	27th driest	26.22"	-5.20"	83%	33rd driest
NORTHEAST	2.69"	-0.89"	75%	37th driest	47.61"	+4.94"	112%	19th wettest
WEST CENTRAL	0.46"	-1.78"	20%	12th driest	23.99"	-4.41"	84%	32nd driest
CENTRAL	1.58"	-1.52"	51%	25th driest	35.51"	-2.12"	94%	40th wettest
EAST CENTRAL	5.87"	+2.10"	156%	13th wettest	57.32"	+11.18"	124%	6th wettest
SOUTHWEST	0.73"	-1.53"	32%	15th driest	27.83"	-2.44"	92%	48th wettest
SOUTH CENTRAL	3.68"	+0.41"	113%	35th wettest	41.14"	+0.43"	101%	34th wettest
SOUTHEAST	5.76"	+1.56"	137%	15th wettest	58.41"	+7.82"	115%	18th wettest
STATEWIDE	2.42"	-0.54"	82%	41st driest	37.26"	+0.79"	102%	26th wettest



Percentage of 1981-2010 Normal Rainfall
Last 30 Days

Mar 17, 2018 through Apr 15, 2018

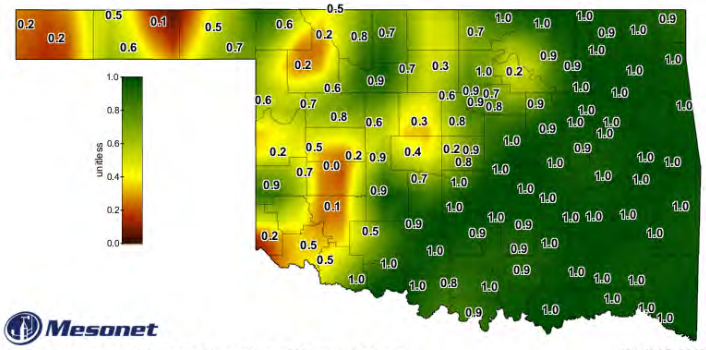


Percentage of 1981-2010 Normal Rainfall
Last 365 Days

Apr 16, 2017 through Apr 15, 2018

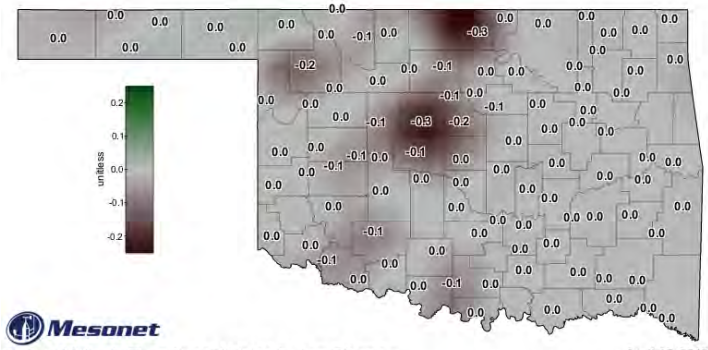
Soil Moisture

Fractional Water Index
April 15, 2018



1-day Average 10-inch Fractional Water Index

April 15, 2018



7-day 10-inch Fractional Water Index Change

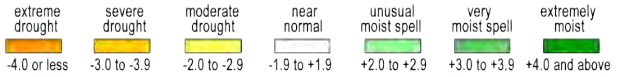
April 15, 2018

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)

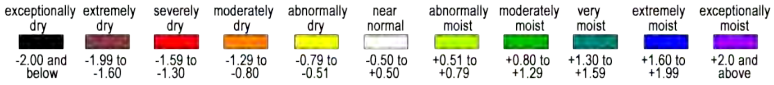
Climate Division	Status 4/7/18	Value 3/24	Value 4/7	Change in Value
NORTHWEST	Moderate Drought	-2.22	-2.45	0.23(-)
NORTH CENTRAL	Near Normal	-1.54	-1.6	0.06(-)
NORTHEAST	Near Normal	-0.23	0.68	0.91(+)
WEST CENTRAL	Moderate Drought	-1.74	-1.92	0.18(-)
CENTRAL	Near Normal	-0.39	0.3	0.69(+)
EAST CENTRAL	Very Moist Spell	1.66	3.4	1.74(+)
SOUTHWEST	Near Normal	-0.87	-1.03	0.16(-)
SOUTH CENTRAL	Near Normal	0.63	1.89	1.26(+)
SOUTHEAST	Unusual Moist Spell	1.22	2.8	1.58(+)



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 or wetter except the Northwest and West Central regions, which are in moderate drought.

Standardized Precipitation Index (SPI)
Through March 2018

3-month	12-month	24-month
Extremely Dry	Near Normal	Near Normal
Moderately Dry	Near Normal	Near Normal
Near Normal	Moderately Moist	Abnormally Moist
Moderately Dry	Near Normal	Abnormally Moist
Near Normal	Abnormally Moist	Near Normal
Very Moist	Very Moist	Near Normal
Abnormally Dry	Near Normal	Moderately Moist
Moderately Moist	Abnormally Moist	Near Normal
Extremely Moist	Moderately Moist	Near Normal



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, the Northwest region is shown as Extremely Dry, the North Central and West Central are Moderately Dry, and the Southwest is Abnormally Dry, but all regions are shown as Near Normal or wetter for the 12- and 24-month periods.

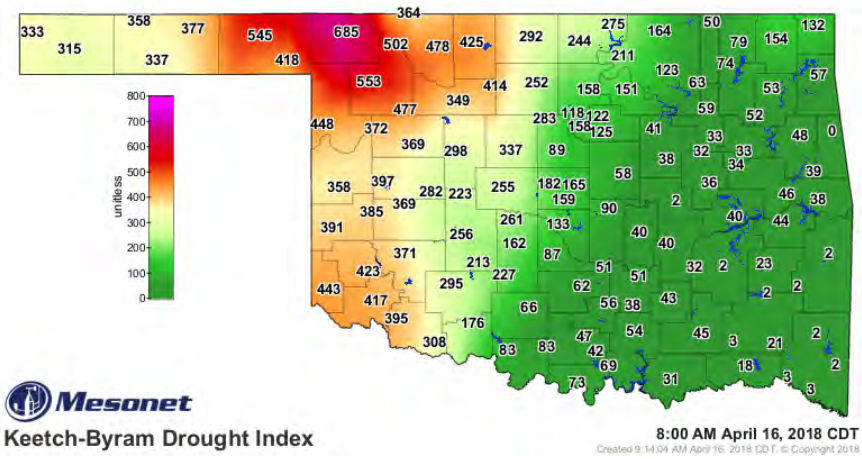
Keetch-Byram Drought Fire Index

April 16, 8:00 a.m.--1 station is above 600.

STATION	REGION	KBDI
Buffalo	Northwest	685

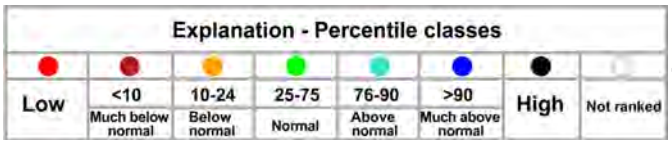
One station was above 600 on March 29, 2018.

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.

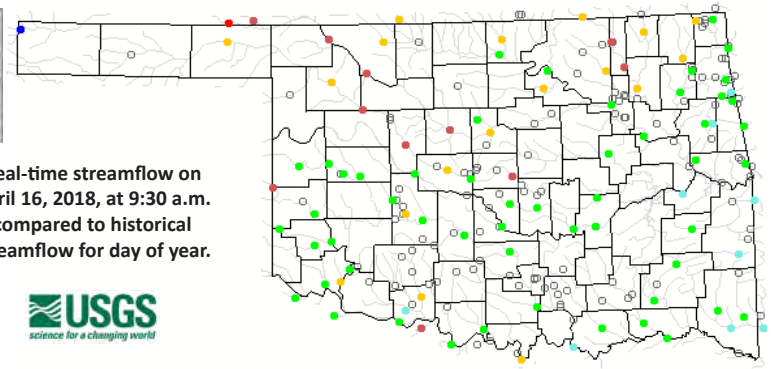


Streamflow Conditions

April 16, 2018



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



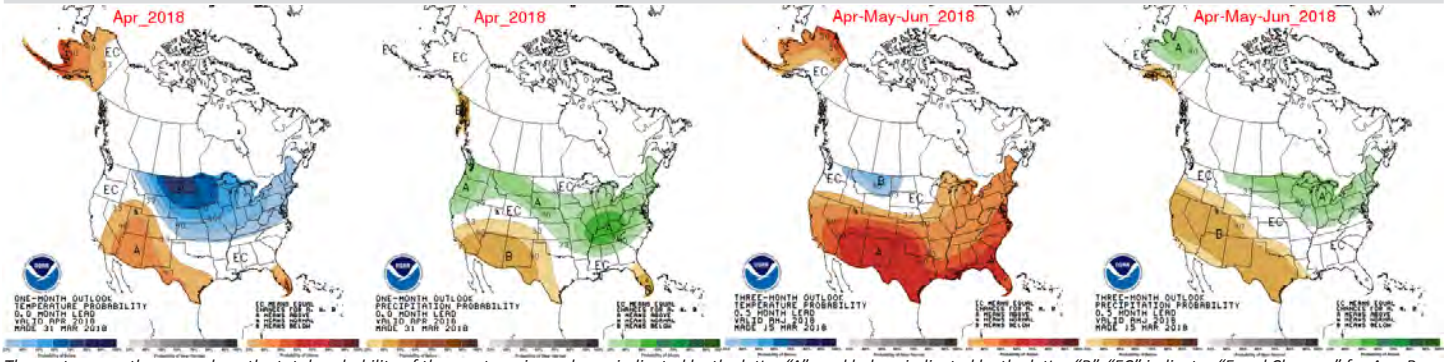
Real-time streamflow on April 16, 2018, at 9:30 a.m. compared to historical streamflow for day of year.

USGS science for a changing world

Weather/Drought Forecast

Seasonal Outlook

Temperature | Precipitation | Temperature | Precipitation

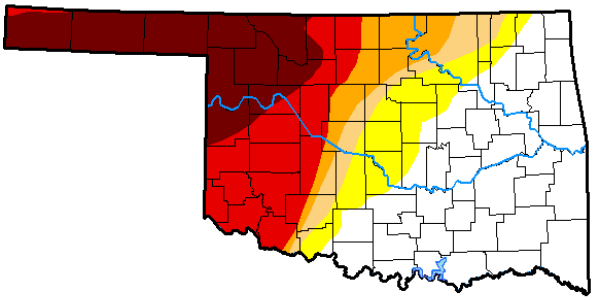


The contours on the maps show the total probability of three categories—above, indicated by the letter "A"; and below, indicated by the letter "B". "EC" indicates "Equal Chances" for A or B.

Drought Summary & Outlook

U.S. Drought Monitor

Oklahoma



April 10, 2018

(Released Thursday, Apr. 12, 2018)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	41.72	58.28	47.44	42.07	34.85	18.35
Last Week 04-03-2018	41.72	58.28	47.44	42.07	34.85	15.11
3 Months Ago 01-09-2018	0.00	100.00	82.65	42.11	7.03	0.00
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 04-11-2017	23.65	76.35	50.92	13.65	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.

Author:
David Miskus
NOAA/NWS/NCEP/CPC

USDA NDMC NOAA

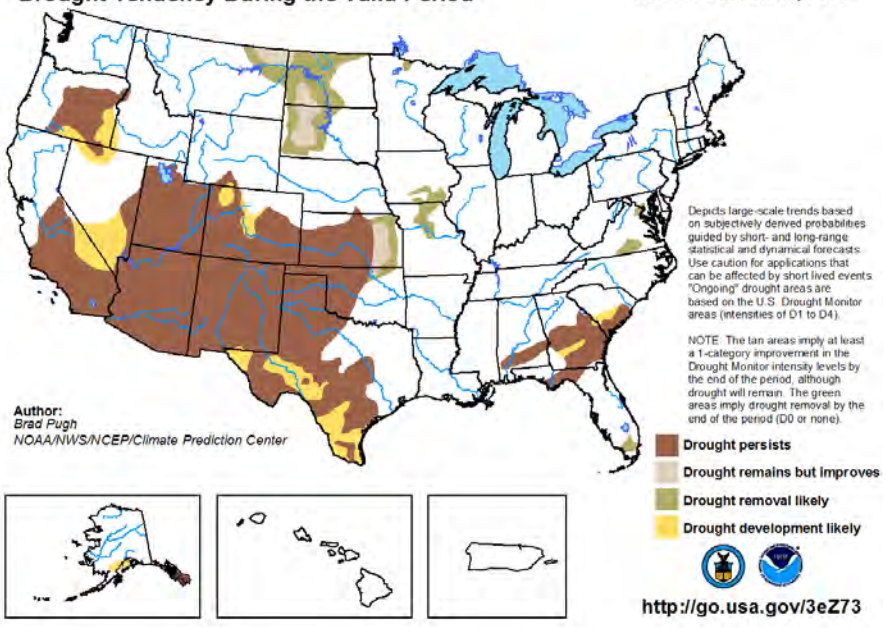
http://droughtmonitor.unl.edu/

According to the latest *U.S. Drought Monitor*, as of April 10, the estimated Oklahoma population in drought areas is 712,357. Almost all of the western half of the state is now abnormally dry or worse. More than 18% of the state in area is in exceptional drought (D4), the driest category, including most of the Northwest region. Almost 35% of the state is in extreme drought (D3) or worse, while 42% is in severe drought (D2) or worse and 47.4% is in moderate drought or worse.

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for March 15 - June 30, 2018
Released March 15, 2018



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

Author:
Brad Pugh
NOAA/NWS/NCEP/Climate Prediction Center

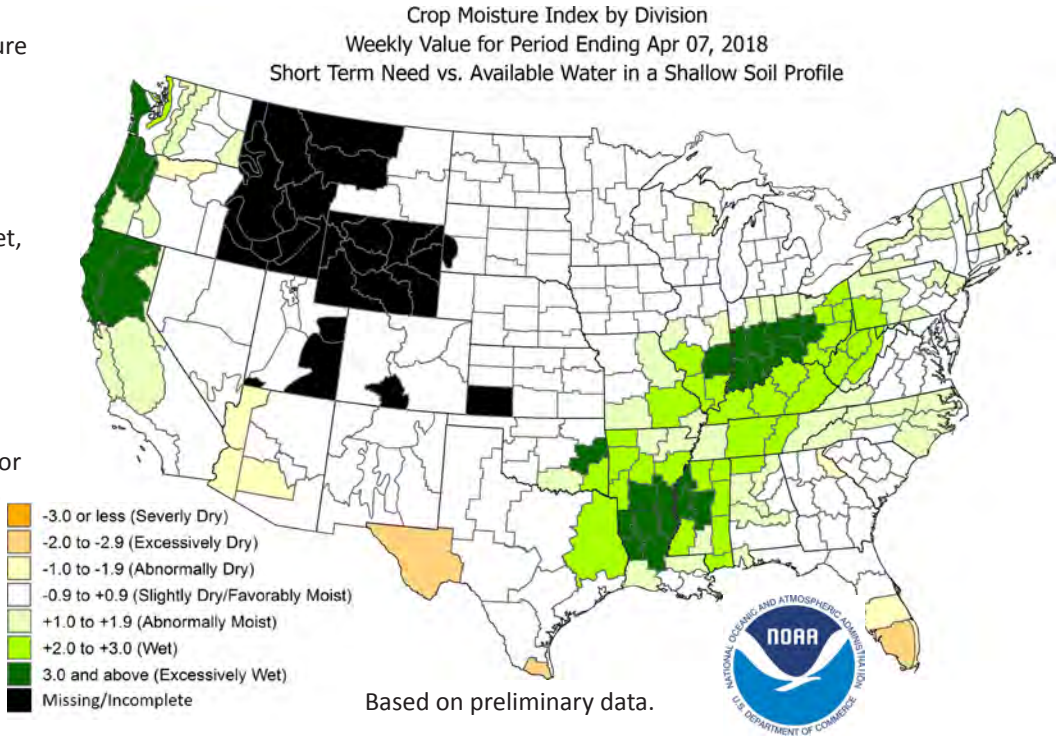
http://go.usa.gov/3eZ73

According to the latest seasonal drought outlook for the period of March 15 through June 30, 2018, the western half of Oklahoma will remain in persistent drought. This area spreads west all the way through California--nearly the entire southwestern quadrant of the contiguous US is predicted to have persistent drought for the next few months.

Crop Moisture Index

According to the NOAA Crop Moisture Index by Division, for the period ending April 7, 2018, all Oklahoma climate regions are experiencing Slightly Dry/Favorably Moist conditions (-0.9 to +0.9) except the East Central, which is excessively wet, South Central, which is abnormally moist, and Southeast, which is wet.

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.

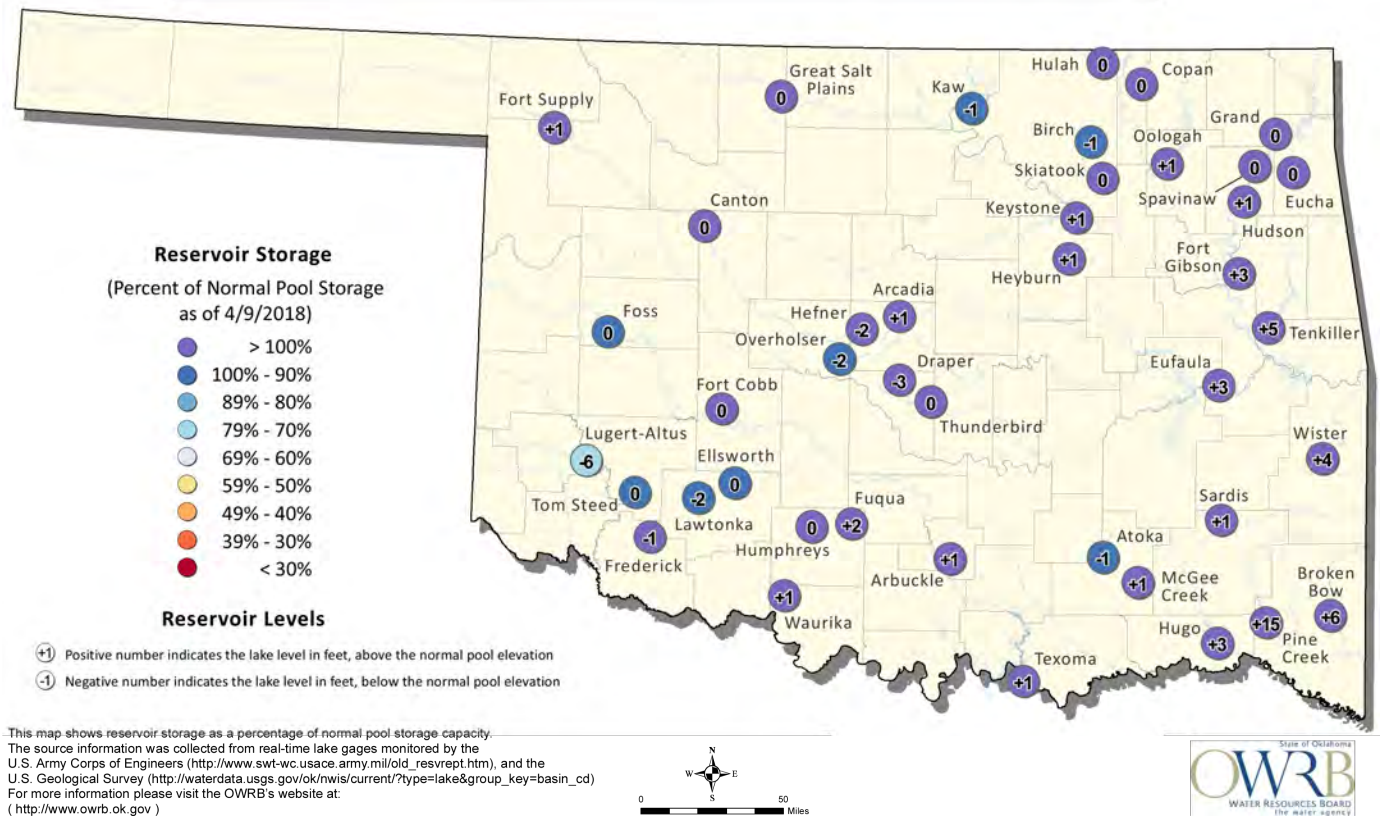


Based on preliminary data.

Reservoir Storage

Oklahoma Surface Water Resources

Reservoir Levels and Storage as of 4/9/2018



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.