Oklahoma Water Resources Bulletin
& Summary of Current Conditions

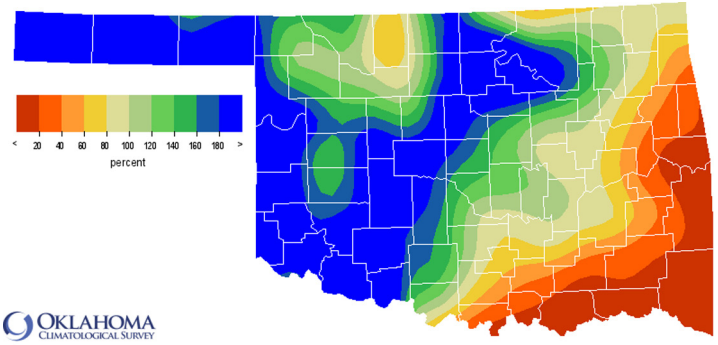
OWRB the water agency

October 9, 2017

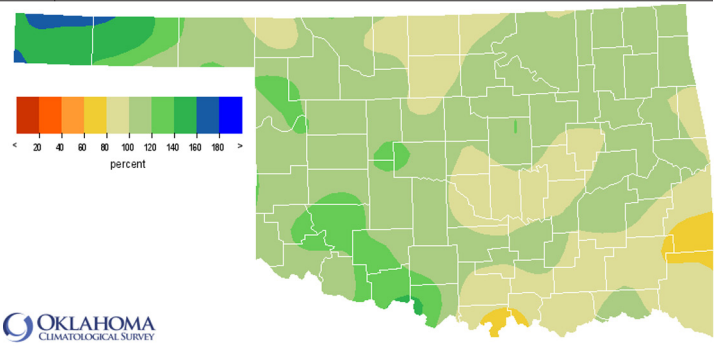
Precipitation

Statewide Precipitation

Climate Division	Last 30 Days Sept 9, 2017 – Oct 8, 2017 Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Last 365 Days Oct 9, 2016 – Oct 8, 2017 Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
PANHANDLE	4.21"	+2.52"	249%	6th wettest	26.20"	+5.62"	127%	7th wettest
NORTH CENTRAL	4.30"	+1.34"	145%	23rd wettest	32.45"	+1.03"	103%	35th wettest
NORTHEAST	5.48"	+1.04"	123%	28th wettest	46.83"	+4.16"	110%	20th wettest
WEST CENTRAL	5.37"	+2.55"	190%	13th wettest	32.77"	+4.37"	115%	20th wettest
CENTRAL	6.04"	+2.26"	160%	16th wettest	39.33"	+1.70"	105%	26th wettest
EAST CENTRAL	2.85"	-1.86"	61%	35th driest	47.69"	+1.55"	103%	31st wettest
SOUTHWEST	6.39"	+3.47"	219%	10th wettest	36.74"	+6.47"	121%	12th wettest
SOUTH CENTRAL	2.76"	-1.08"	72%	42nd driest	39.62"	-1.09"	97%	35th wettest
SOUTHEAST	0.99"	-3.31"	23%	6th driest	46.88"	-3.71"	93%	40th driest
STATEWIDE	4.35"	+0.85"	124%	26th wettest	38.69"	+2.22"	106%	23rd wettest



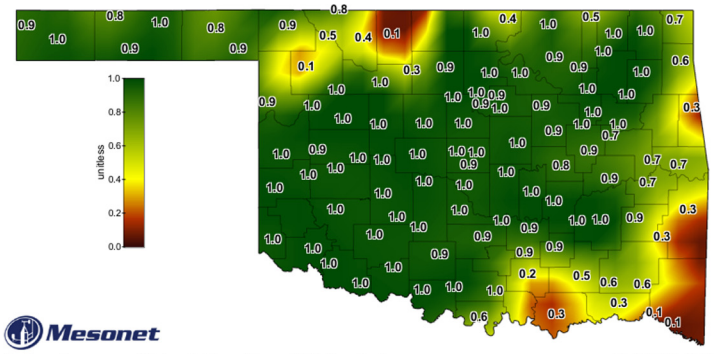
Oklahoma Climatological Survey
Percentage of 1981-2010 Normal Rainfall
Last 30 Days
Sep 9, 2017 through Oct 8, 2017



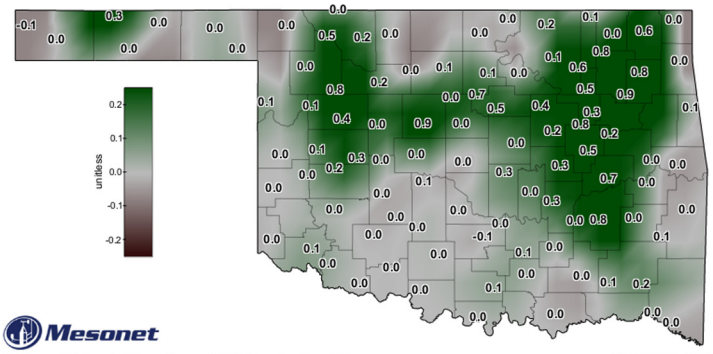
Oklahoma Climatological Survey
Percentage of 1981-2010 Normal Rainfall
Last 365 Days
Oct 9, 2016 through Oct 8, 2017

Soil Moisture

Fractional Water Index
October 8, 2017



Mesonet
1-day Average 10-inch Fractional Water Index
October 8, 2017



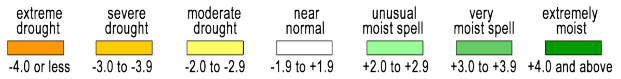
Mesonet
7-day 10-inch Fractional Water Index Change
October 8, 2017

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)

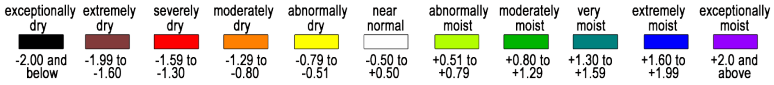
Climate Division	Status 9/30/17	Value 9/9	Value 9/30	Change in Value
NORTHWEST	Unusual Moist Spell	0.81	2.86	2.05(+)
NORTH CENTRAL	Near Normal	0.43	1.01	0.58(+)
NORTHEAST	Near Normal	0.56	0.29	0.27(-)
WEST CENTRAL	Near Normal	1.06	1.9	0.84(+)
CENTRAL	Near Normal	1	1.48	0.48(+)
EAST CENTRAL	Near Normal	2.65	1.85	0.8(-)
SOUTHWEST	Very Moist Spell	2.57	3.37	0.8(+)
SOUTH CENTRAL	Near Normal	1.52	1.72	0.2(+)
SOUTHEAST	Near Normal	1.49	0.47	1.02(-)



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 except the Northwest, which is having an unusual moist spell, and the Southwest, which is having a very moist spell.

Standardized Precipitation Index (SPI)
Through August 2017

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



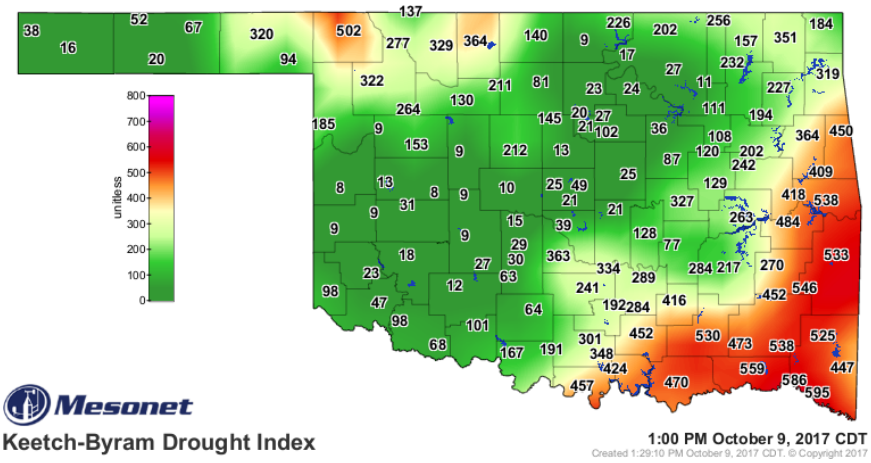
The SPI provides a comparison of precipitation over several specified periods with totals from the same periods for all years included in the historical record. For the all three time periods, all regions had near normal or wetter conditions.

Keetch-Byram Drought Fire Index

October 9, 1:00 p.m.--0 stations are above 600.

One station was above 600 on September 15, 2017.

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.

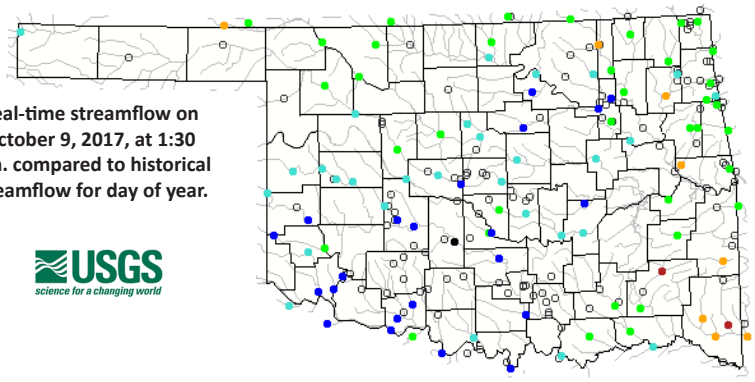


Streamflow Conditions

October 9, 2017

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

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



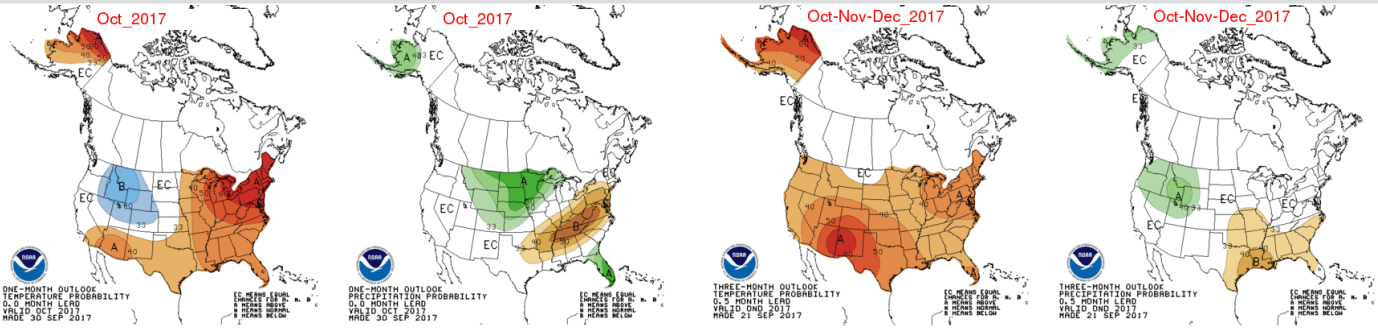
Real-time streamflow on October 9, 2017, at 1:30 p.m. compared to historical streamflow for day of year.

USGS science for a changing world

Weather/Drought Forecast

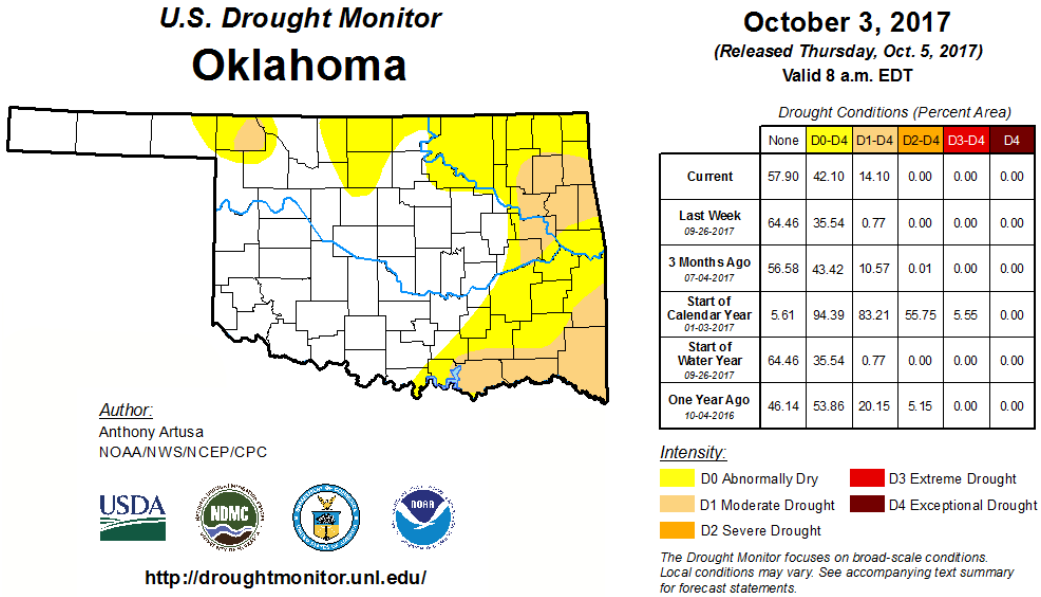
Seasonal Outlook

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



October 3, 2017
(Released Thursday, Oct. 5, 2017)
Valid 8 a.m. EDT

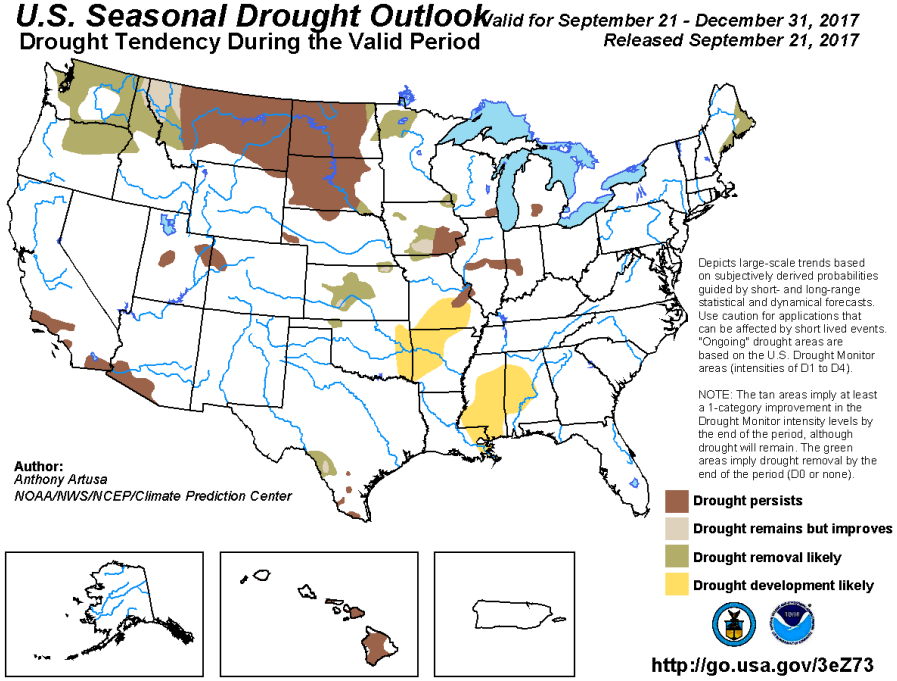
Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	57.90	42.10	14.10	0.00	0.00	0.00
Last Week 09-26-2017	64.46	35.54	0.77	0.00	0.00	0.00
3 Months Ago 07-04-2017	56.58	43.42	10.57	0.01	0.00	0.00
Start of Calendar Year 01-03-2017	5.61	94.39	83.21	55.75	5.55	0.00
Start of Water Year 09-26-2017	64.46	35.54	0.77	0.00	0.00	0.00
One Year Ago 10-04-2016	46.14	53.86	20.15	5.15	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 October 3, 14.1% of the state (in area) is experiencing moderate drought (D1), mostly in eastern parts of the state. While no areas are suffering from exceptional or extreme drought (D4-D3), 42.1% of the state is experiencing abnormally dry conditions (D0) or worse.

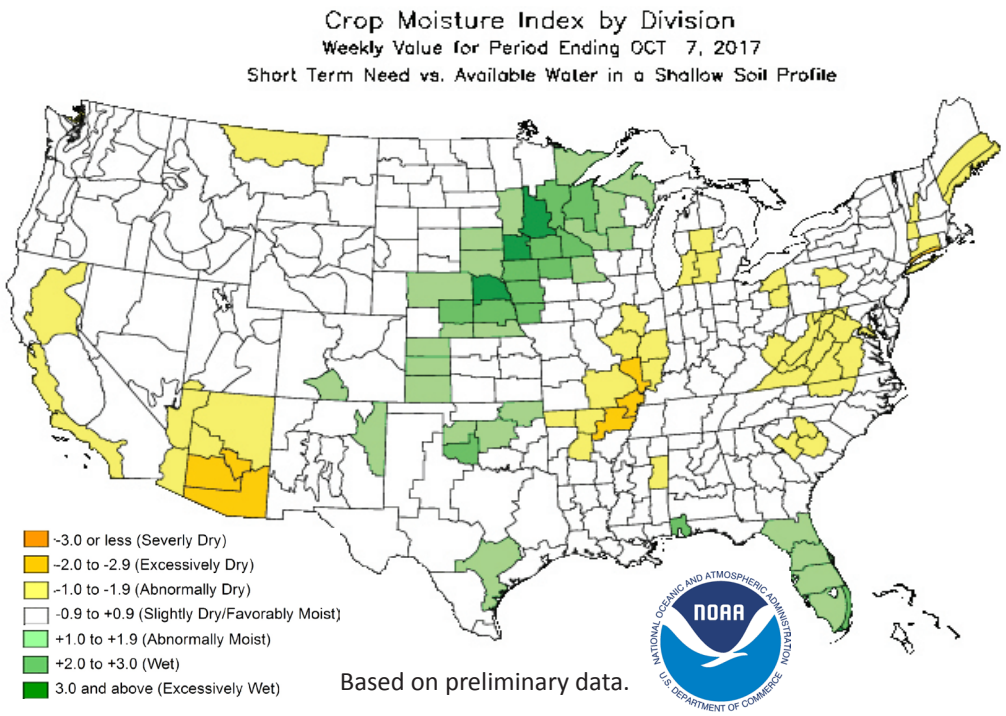
According to the latest seasonal drought outlook for the period of September 21 through December 31, 2017, a large portion of eastern Oklahoma will have dry conditions and drought development is likely.

The largest contiguous area of persistent drought in the U.S. spans across Montana and into most of North and South Dakota.

Crop Moisture Index

According to the NOAA Crop Moisture Index by Division, for the period ending October 7, 2017, all Oklahoma climate regions are experiencing Slightly Dry/Favorably Moist conditions or wetter, with the Southwest experienceing Wet (+2.0 to +3.0) conditions.

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.

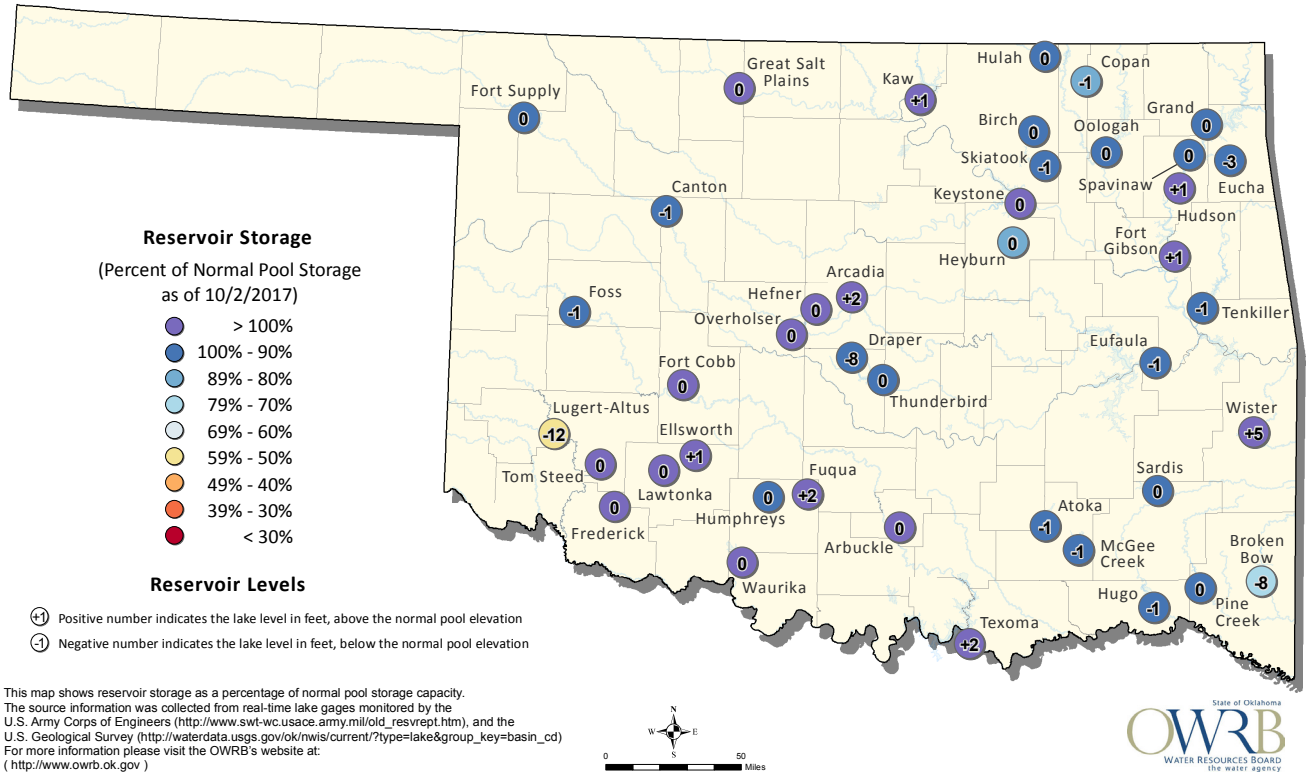


Based on preliminary data.

Reservoir Storage

Oklahoma Surface Water Resources

Reservoir Levels and Storage as of 10/2/2017



This map shows reservoir storage as a percentage of normal pool storage capacity.
The source information was collected from real-time lake gages monitored by the U.S. Army Corps of Engineers (http://www.swt-wc.usace.army.mil/old_resvrept.htm), and the U.S. Geological Survey (http://waterdata.usgs.gov/ok/nwis/current/?type=lake&group_key=basin_cd)
For more information please visit the OWRB's website at:
(http://www.owrb.ok.gov)

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.