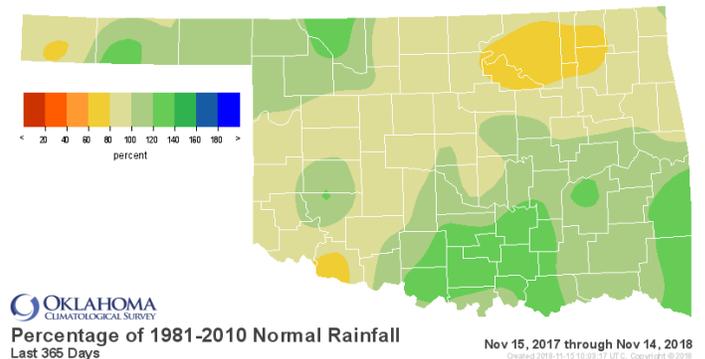
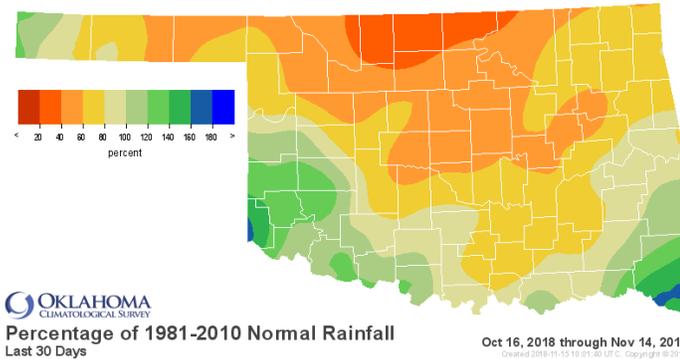


November 15, 2018

PRECIPITATION

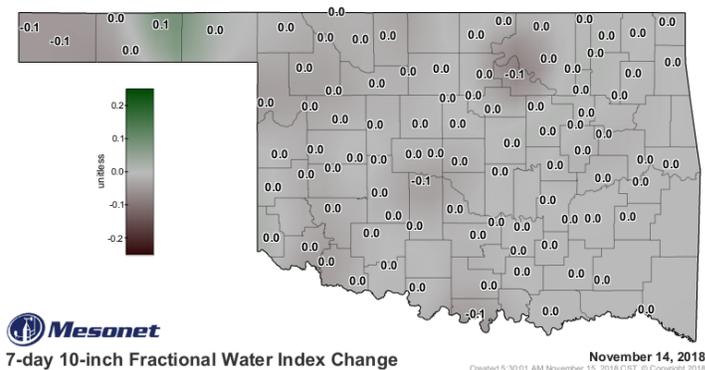
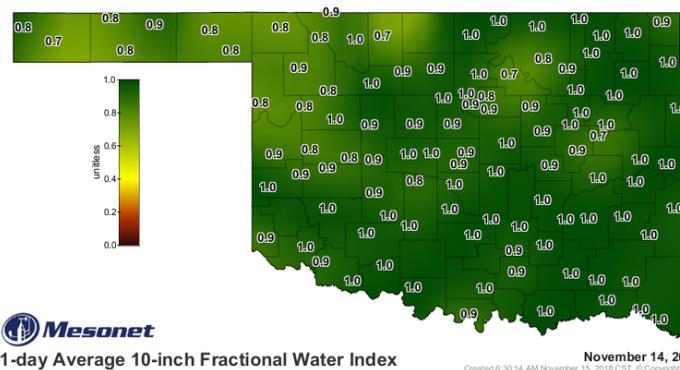
Statewide Precipitation

| Climate Division | Last 30 Days October 16 – November 14, 2018 | | | | Last 365 Days November 15, 2017 – November 14, 2018 | | | |
|------------------|--|--------------------------------|-------------------|-----------------|--|--------------------------------|-------------------|-----------------|
| | 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 | 0.96" | -0.34" | 74% | 40th wettest | 21.44" | +0.86" | 104% | 37th wettest |
| NORTH CENTRAL | 0.95" | -1.42" | 40% | 33rd driest | 31.21" | -0.21" | 99% | 42nd wettest |
| NORTHEAST | 2.11" | -1.30" | 62% | 37th driest | 35.47" | -7.20" | 83% | 26th driest |
| WEST CENTRAL | 2.11" | -0.09" | 96% | 33rd wettest | 28.41" | +0.01" | 100% | 39th wettest |
| CENTRAL | 1.89" | -1.33" | 59% | 43rd driest | 37.03" | -0.60" | 98% | 39th wettest |
| EAST CENTRAL | 2.99" | -1.23" | 71% | 48th wettest | 47.55" | +1.41" | 103% | 27th wettest |
| SOUTHWEST | 2.82" | +0.19" | 107% | 30th wettest | 28.53" | -1.74" | 94% | 48th driest |
| SOUTH CENTRAL | 3.15" | -0.71" | 82% | 40th wettest | 50.11" | +9.40" | 123% | 8th wettest |
| SOUTHEAST | 5.74" | +0.70" | 114% | 21st wettest | 59.59" | +9.00" | 118% | 16th wettest |
| STATEWIDE | 2.43" | -0.69" | 78% | 47th wettest | 37.51" | +1.04" | 103% | 30th wettest |



SOIL MOISTURE

Fractional Water Index November 14, 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 October 2018 | | |
|--------------------------------------|---------------------|---------------------|------|--------------------|--|------------------|------------------|
| Climate Division | Status 11/10/18 | Value 10/6 11/10 | | Change in Value | 3-month | 12-month | 24-month |
| NORTHWEST | Very Moist Spell | 0.79 | 3.33 | 2.54 (+) | Exceptionally Moist | Moderately Moist | Very Moist |
| NORTH CENTRAL | Unusual Moist Spell | 0.4 | 2.78 | 2.38 (+) | Extremely Moist | Near Normal | Moderately Moist |
| NORTHEAST | Near Normal | -0.41 | 0.43 | 0.84(+) | Abnormally Moist | Abnormally Dry | Near Normal |
| WEST CENTRAL | Very Moist Spell | -0.52 | 3.06 | 3.58(+) | Exceptionally Moist | Abnormally Moist | Moderately Moist |
| CENTRAL | Unusual Moist Spell | 2.11 | 2.43 | 0.32(+) | Very Moist | Abnormally Moist | Moderately Moist |
| EAST CENTRAL | Near Normal | 1.07 | 1.66 | 0.59(+) | Moderately Moist | Near Normal | Moderately Moist |
| SOUTHWEST | Very Moist Spell | 1.62 | 3.38 | 1.76(+) | Exceptionally Moist | Near Normal | Moderately Moist |
| SOUTH CENTRAL | Extremely Moist | 3.57 | 4.24 | 0.67(+) | Exceptionally Moist | Moderately Moist | Moderately Moist |
| SOUTHEAST | Very Moist Spell | 1.77 | 3.34 | 1.57(+) | Extremely Moist | Abnormally Moist | Abnormally Moist |

| | | | | | | | | | | |
|--------------------------------------|---------------------------------|----------------------------------|----------------------------------|-------------------------------------|----------------------------------|------------------------------------|------------------------------------|------------------------------|-----------------------------------|---------------------------------------|
| extreme drought -4.0 or less | severe drought -3.0 to -3.9 | moderate drought -2.0 to -2.9 | near normal -1.9 to +1.9 | unusual moist spell +2.0 to +2.9 | very moist spell +3.0 to +3.9 | extremely moist +4.0 and above | | | | |
| exceptionally dry -2.00 and below | extremely dry -1.99 to -1.60 | severely dry -1.59 to -1.30 | moderately dry -1.29 to -0.80 | abnormally dry -0.79 to -0.51 | near normal -0.50 to +0.50 | abnormally moist +0.51 to +0.79 | moderately moist +0.80 to +1.29 | very moist +1.30 to +1.59 | extremely moist +1.60 to +1.99 | exceptionally moist +2.0 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, as of November 10, all climate regions in the state were experiencing near normal conditions or wetter.

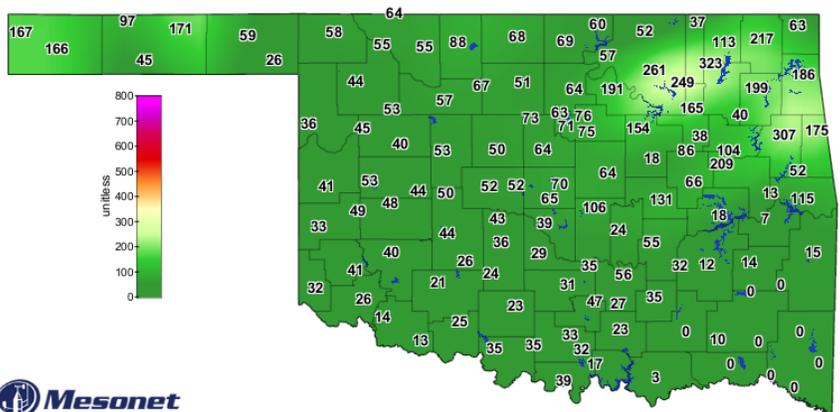
The SPI provides a comparison of precipitation over several specified periods with totals from the same periods for all years included in the historical record. For the 3-month and 24-month periods, all regions were near normal or wetter. For the 12-month period, the Northeast region was Abnormally Dry, but all other regions were Near Normal or wetter.

Keetch-Byram Drought Fire Index

November 15, 1:00 p.m., zero stations are above 600.

Zero stations were above 600 on October 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.



Keetch-Byram Drought Index

1:00 PM November 15, 2018 CST
Created 2:14:04 PM November 15, 2018 CST. © Copyright 2018

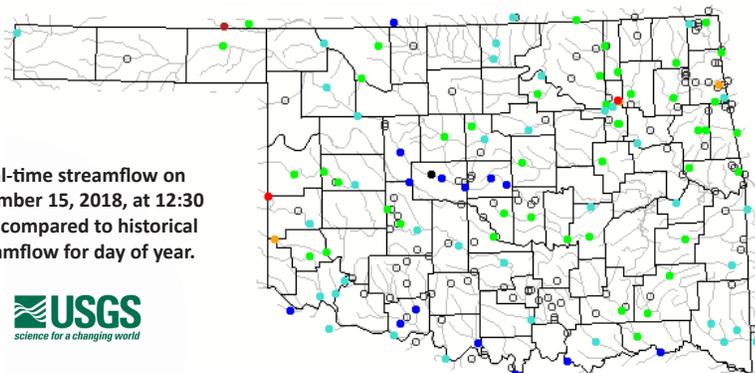
STREAMFLOW CONDITIONS

November 15, 2018

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

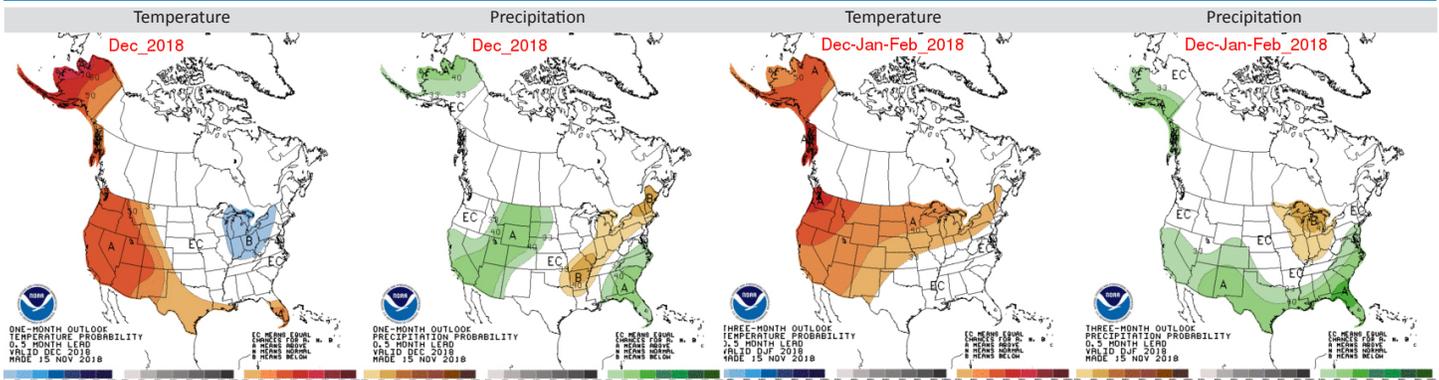
Visit waterwatch.usgs.gov for real-time streamflow information.

Real-time streamflow on November 15, 2018, at 12:30 p.m. compared to historical streamflow for day of year.



WEATHER/DROUGHT FORECAST

Seasonal Outlook

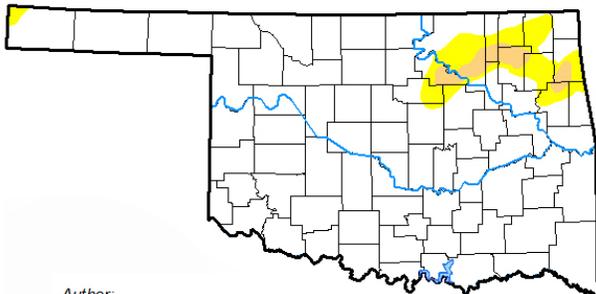


The contours on the maps show the total probability of three categories—above, indicated by the letter “A”; and below, indicated by the letter “B”. “EC” indicates “Equal Chances” for A or B.

Drought Summary & Outlook

U.S. Drought Monitor Oklahoma

November 13, 2018
(Released Thursday, Nov. 15, 2018)
Valid 7 a.m. EST



Author:
David Simeral
Western Regional Climate Center



<http://droughtmonitor.unl.edu/>

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|--------------------------------------|-------|--------|-------|-------|-------|------|
| Current | 92.22 | 7.78 | 2.12 | 0.00 | 0.00 | 0.00 |
| Last Week 11-06-2018 | 92.22 | 7.78 | 2.12 | 0.00 | 0.00 | 0.00 |
| 3 Months Ago 08-14-2018 | 30.28 | 69.72 | 46.86 | 25.68 | 6.30 | 2.55 |
| Start of Calendar Year 01-02-2018 | 0.00 | 100.00 | 77.15 | 38.76 | 0.00 | 0.00 |
| Start of Water Year 09-23-2018 | 72.93 | 27.07 | 9.11 | 4.16 | 0.00 | 0.00 |
| One Year Ago 11-14-2017 | 54.09 | 45.91 | 17.34 | 2.00 | 0.00 | 0.00 |

Intensity:

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

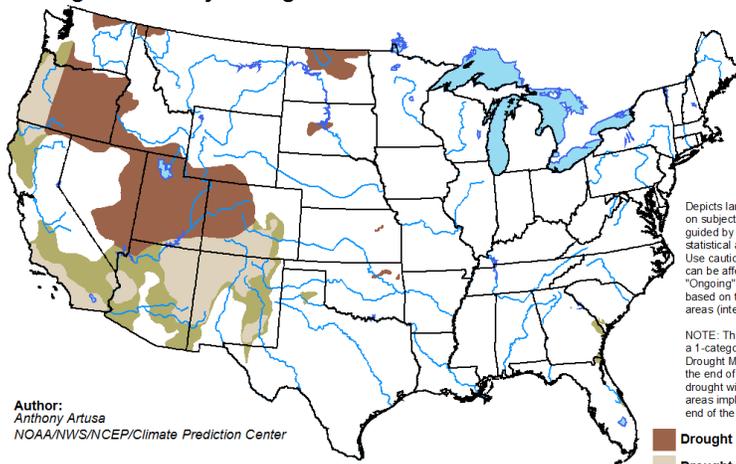
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

According to the latest U.S. Drought Monitor, as of November 13, the estimated Oklahoma population in drought areas was 122,162, which is down by about 60,000 from this time last month. Only about 2.1% of the state (in area) is experiencing drought conditions (D1 or worse). Only 7.78% of the state is experiencing abnormally dry conditions (D0 or worse). These areas are primarily located in the Northeast region.

According to the latest seasonal drought outlook for the period of November 15, 2018, through February 28, 2019, there will be small patches persistent drought in the Northwest region but the rest of the state should be unaffected by drought. However, drought is predicted to persist in many areas west of Oklahoma, including a huge area stretching from eastern Nevada through Utah and western Colorado, and a second large area covering all of Oregon but along the west coast.

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for November 15, 2018 - February 28, 2019
Released November 15, 2018



Author:
Anthony Artusa
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

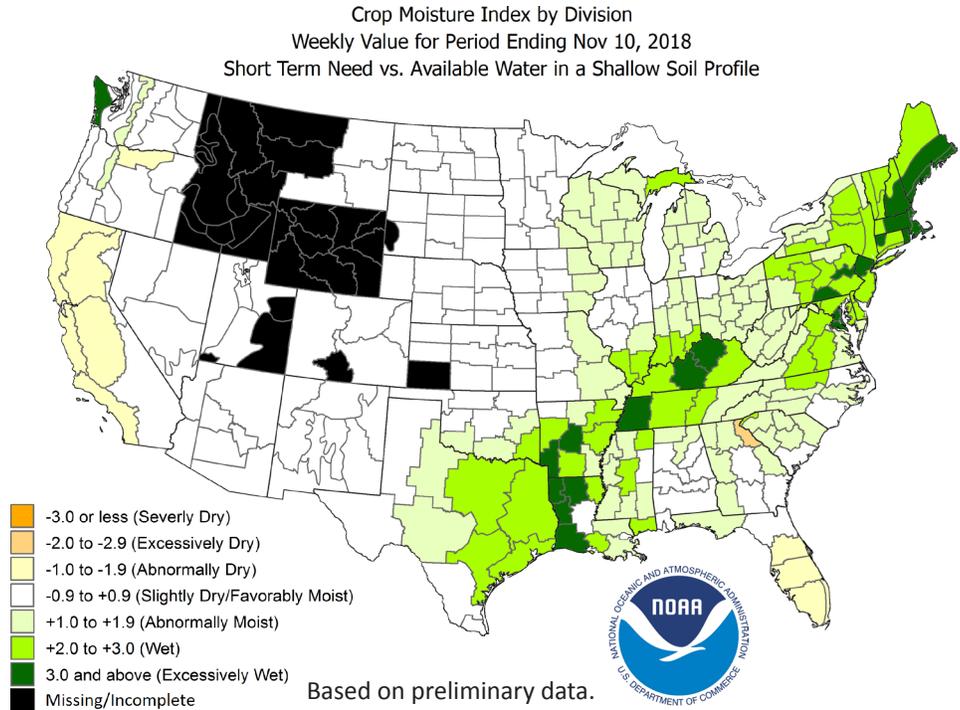


<http://go.usa.gov/3eZ73>

CROP MOISTURE INDEX

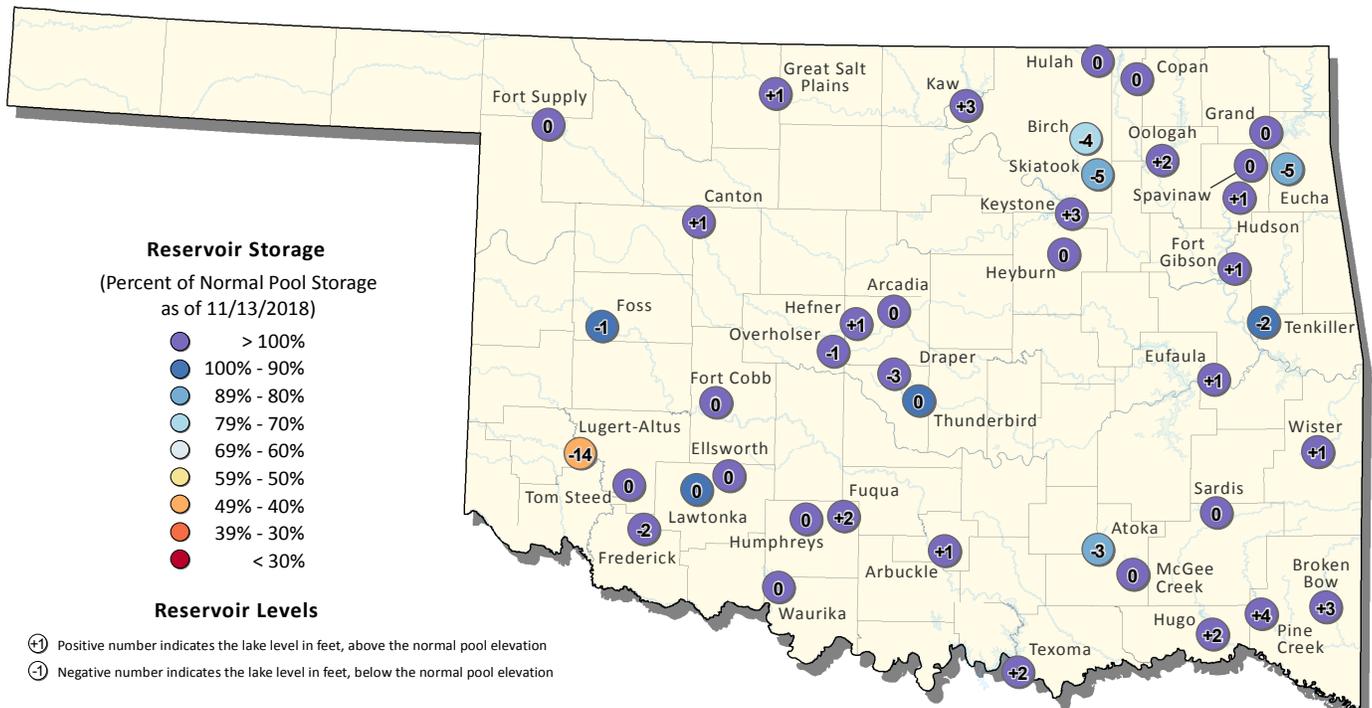
According to the NOAA Crop Moisture Index by Division, for the period ending November 10, 2018, the Southwest, South Central, and East Central climate regions were experiencing Abnormally Moist conditions (+1.0 to +1.9), and the Southeast region was experiencing Wet conditions (2.0 and above), while the rest of the state was experiencing Slightly Dry/Favorably Moist conditions (-0.9 to +0.9).

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 11/13/2018



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_resv rept.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.