Drought Conditions in Central Oklahoma

Water Resources Division
Association of Central Oklahoma Governments
October 2, 2018
Temperature and Precipitation Plot for Oklahoma City, Oklahoma for 2018

http://xmacis.rcc-acis.org/
Rainfall Summaries by Oklahoma Climate Division

<table>
<thead>
<tr>
<th>Climate Division</th>
<th>Total Rainfall</th>
<th>Departure from Normal</th>
<th>Pct of Normal</th>
<th>Rank since 1921 (88 periods)</th>
<th>Driest on Record</th>
<th>Wettest on Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>30.54&quot;</td>
<td>+1.02&quot;</td>
<td>103%</td>
<td>30th wettest</td>
<td>14.36&quot; (1956)</td>
<td>47.43&quot; (2007)</td>
</tr>
<tr>
<td>S. Central</td>
<td>38.16&quot;</td>
<td>+7.14&quot;</td>
<td>123%</td>
<td>9th wettest</td>
<td>13.23&quot; (2011)</td>
<td>52.47&quot; (1945)</td>
</tr>
<tr>
<td>Statewide</td>
<td>28.93&quot;</td>
<td>+0.54&quot;</td>
<td>102%</td>
<td>36th wettest</td>
<td>14.87&quot; (1956)</td>
<td>41.25&quot; (1957)</td>
</tr>
</tbody>
</table>

The climate divisions shown include statewide totals, central Oklahoma totals, and totals for the two divisions which have Canton Lake and Lake Atoka—major water sources for central Oklahoma.

http://climate.ok.gov/index.php/drought/last_30_days/
White areas are shown as EC (Equal Chance) on these maps represent areas where there are no strong climate signals from the climate tools to have skill in preferring one category over another. That doesn’t mean that there are equal chances of each of the categories occurring – it means that currently there is no skill in identifying the most likely category. In these areas, it is best to be prepared for all possibilities.
This graph shows the cyclical nature of wet and drought periods in Oklahoma. The black dots represent the annual precipitation for that particular year. The line represents the annual precipitation data smoothed over five years. This smoothed line shows well the wet periods (shaded green) and the drought periods (shaded brown). The drought cycles appear to average about five to eight years in length.
The Palmer Drought Index (PDI) maps show long-term (cumulative) meteorological drought and wet conditions. The maps show how the geographical pattern of the long-term (meteorological) moisture conditions has changed over the last 12 months. On these maps, the red shading denotes drought conditions while the green shading indicates wet conditions.

https://www.drought.gov/drought/data-maps-tools/current-conditions
Abnormal dryness or drought are currently affecting approximately 775,000 people in Oklahoma, which is about 21% of the state's population.
U.S. Drought Monitor Nationwide Map

Map released: September 27, 2018
Data valid: September 25, 2018 | Author: Jessica Blunden, NOAA/NCEI

The data cutoff for Drought Monitor maps is each Tuesday at 8 a.m. EDT. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.

Intensity and Impacts

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)

- S - Short-Term impacts, typically less than 6 months (e.g., agriculture, grasslands)
- L - Long-Term impacts, typically greater than 6 months (e.g., hydrology, ecology)

http://droughtmonitor.unl.edu
U.S. Drought Monitor

Monthly Drought Outlook Map

U.S. Drought Monitor

Seasonal Drought Outlook Map

USGS Streamflow Data

Monday, October 01, 2018 14:30ET

Below normal 28-day average streamflow

https://waterdata.usgs.gov/ok/nwis/rt

http://waterwatch.usgs.gov/new/?m=real&r=ok&w=map
Consecutive Days Without Rainfall Map

[Map showing consecutive days without rainfall]

http://www.mesonet.org/index.php/weather/map/consecutive_days_with_less_than_0.25_inches_Rainfall/rainfall
The graph is the amount of water stored in five major lakes that supply water to central Oklahoma as a percent of capacity over the past year.
Oklahoma Surface Water Resources
Reservoir Levels and Storage as of 9/24/2018

Reservoir Storage
(Percent of Normal Pool Storage as of 9/24/2018)
- > 100%
- 100% - 90%
- 89% - 80%
- 79% - 70%
- 69% - 60%
- 59% - 50%
- 49% - 40%
- 39% - 30%
- < 30%

Reservoir Levels
Positive number indicates the lake level in feet, above the normal pool elevation
Negative number indicates the lake level in feet, below the normal pool elevation

This map shows reservoir storage as a percentage of normal pool storage capacity.
The source information was collected from real-time lake gauges maintained by the U.S. Army Corps of Engineers (http://water.weather.gov/quicklink/corps), and the U.S. Geological Survey (http://waterdata.usgs.gov/ok/). For more information please visit the OWRB’s website at: (http://www.owrb.ok.gov)

Groundwater Levels
Spencer Mesonet Station

http://www.mesonet.org/index.php/weather/groundwater
ENSO Cycle
Recent Evolution, Current Status and Predictions

CFSv2 forecast Niño3.4 SST anomalies (K) (PDF corrected)

ENSO Alert System Status: El Niño Watch

- ENSO-neutral conditions are present.
- Equatorial sea surface temperatures (SSTs) are near-to-above average across the east-central Pacific Ocean.
- There is a 50-55% chance of El Niño onset during the Northern Hemisphere fall 2018 (September-November), increasing to 65-70% during winter 2018-19.

Summary