Drought Conditions in Central Oklahoma

Water Resources Division
Association of Central Oklahoma Governments
February 6, 2020
Temperature and Precipitation Plot for Oklahoma City, Oklahoma for 2020

http://xmacis.rcc-acis.org/
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.
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.
Abnormal dryness or drought are currently affecting approximately 73,002 people in Oklahoma.

U.S. Drought Monitor Nationwide Map

Map released: January 30, 2020
Data valid: January 28, 2020

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

Monthly Drought Outlook Map

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

Valid for February 2020
Released January 31, 2020

Decide 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 fan 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).


http://go.usa.gov/3eZGd
U.S. Drought Monitor
Seasonal Drought Outlook Map

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

Valid for January 16 - April 30, 2020
Released January 16

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http://go.usa.gov/3eZ73
USGS Streamflow Data

**Monday, February 03, 2020 13:30ET**

**Sunday, February 02, 2020**

Below normal 28-day average streamflow

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

https://waterwatch.usgs.gov/index.php?id=pa28d_dry&sid=w_map&m_pa28d_dwc&r=ok
SOIL MOISTURE MAP

1-day Average 24-inch Fractional Water Index

http://www.mesonet.org/index.php/weather/map/24-inch_fractional_water_index/soil_moisture
CONSECUTIVE DAYS WITHOUT RAINFALL MAP

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.
Groundwater Levels
Spencer Mesonet Station

http://www.mesonet.org/index.php/weather/groundwater
Recharge Charts
Central Oklahoma Aquifer System

ACCUMULATED RECHARGE 2020

MONTHLY AQUIFER RECHARGE
Summary

ENSO Alert System Status: Not Active

- ENSO-neutral conditions are present.
- Equatorial sea surface temperatures (SSTs) are near-to-above average across the Pacific Ocean.
- The tropical atmospheric circulation is generally consistent with ENSO-neutral.
- ENSO-neutral is favored through Northern Hemisphere spring 2020 (~60% chance), continuing through summer 2020 (~50% chance).