Drought Conditions in Central Oklahoma

Water Resources Division
Association of Central Oklahoma Governments
February 01, 2022
Temperature and Precipitation Plot for Oklahoma City, Oklahoma for 2022

http://xmacis.rcc-acis.org/

Accumulated Precipitation—Oklahoma City Area, OK
Rainfall Summaries by Oklahoma Climate Division

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.
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.
U.S. Drought Monitor

Abnormal dryness or drought are currently affecting approximately 3,307,948 people in Oklahoma.


Week | Date | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4
--- | --- | --- | --- | --- | --- | --- | ---
Current | 2022-01-25 | 3.91 | 96.09 | 88.23 | 77.66 | 49.17 | 2.90
Last Week | 2022-01-18 | 4.80 | 95.20 | 88.04 | 73.86 | 46.55 | 2.06
3 Months Ago | 2021-10-26 | 5.05 | 94.95 | 40.74 | 10.90 | 0.77 | 0.00
Start of Calendar Year | 2021-12-28 | 4.92 | 95.08 | 90.17 | 72.51 | 22.62 | 0.00
Start of Water Year | 2021-09-28 | 6.45 | 93.55 | 73.23 | 23.72 | 2.65 | 0.00
One Year Ago | 2021-01-26 | 75.15 | 24.85 | 10.93 | 4.05 | 0.23 | 0.00
U.S. Drought Monitor Nationwide Map

Map released: January 27, 2022
Data valid: January 25, 2022

United States and Puerto Rico Author(s):
Brad Rippey, U.S. Department of Agriculture

Pacific Islands and Virgin Islands Author(s):
Richard Heim, NOAA/NCEI

http://droughtmonitor.unl.edu
U.S. Drought Monitor
Monthly Drought Outlook Map

U.S. Drought Monitor

Seasonal Drought Outlook Map

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

Valid for January 20 - April 30, 2022
Released January 20

U.S. Drought Monitor
Seasonal Drought Outlook Map

USGS Streamflow Data

Monday, January 31, 2022 14:30ET

https://waterdata.usgs.gov/ok/nwis/rt
https://waterwatch.usgs.gov/index.php?id=pa28d_dry&sid=w_map1m_pa28d_dwc&r=ok

Below normal 28-day average streamflow

https://waterdata.usgs.gov/ok/nwis/rt
https://waterwatch.usgs.gov/index.php?id=pa28d_dry&sid=w_map1m_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
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.

https://www.owrb.ok.gov/supply/drought/reservoirstorage.php
Oklahoma Surface Water Resources
Reservoir Levels and Storage as of 1/24/2022

Reservoir Storage
(Percent of Normal Pool Storage as of 1/24/2022)

- > 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 gages monitored by the U.S. Army Corps of Engineers (https://waterdata.usace.army.mil/GIS/Mapping_Reservoir_Report.pdf), and the U.S. Geological Survey (https://waterdata.usgs.gov/okwlgw/watercurrent?HydropType&group_key=Easi&obj) For more information please visit the OWRB’s website at: (https://www.owrb.ok.gov/)

https://www.owrb.ok.gov/supply/drought/reservoirstorage.php
Groundwater Levels
Spencer Mesonet Station

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

**Summary**

ENSO Alert System Status: La Niña Advisory

- La Niña is present.
- Equatorial sea surface temperatures (SSTs) are below average across the central and east-central Pacific Ocean.
- The tropical Pacific atmosphere is consistent with La Niña.
- La Niña is likely to continue into the Northern Hemisphere spring (67% chance during March-May 2022) and then transition to ENSO-neutral (51% chance during April-June 2022).