



DROUGHT CONDITIONS

IN CENTRAL OKLAHOMA

John Harrington

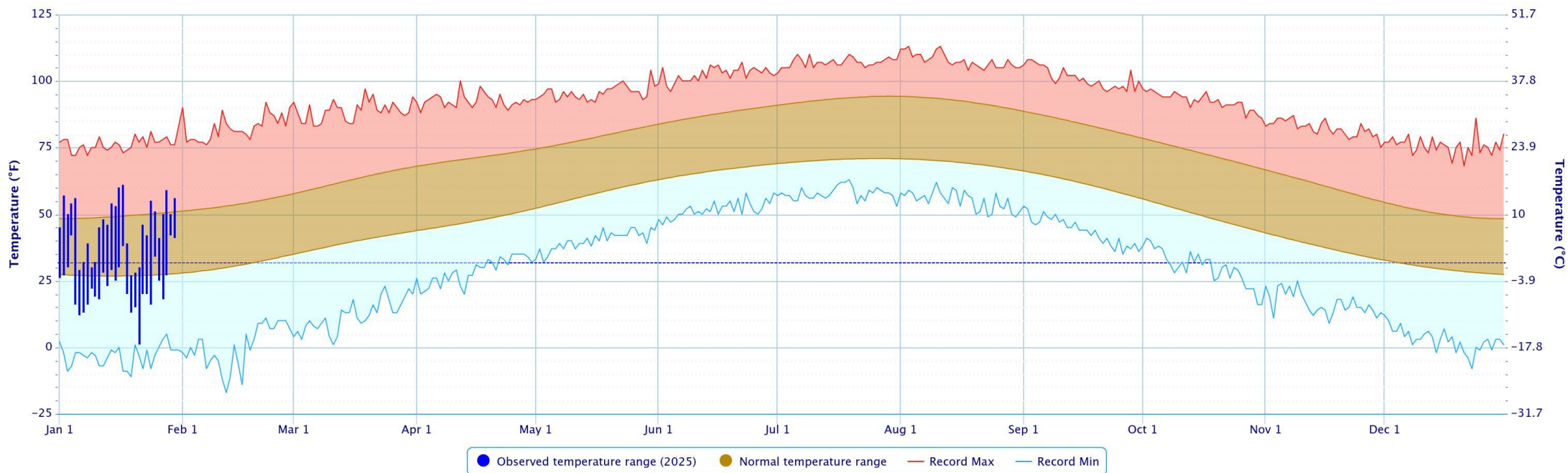
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February 2025

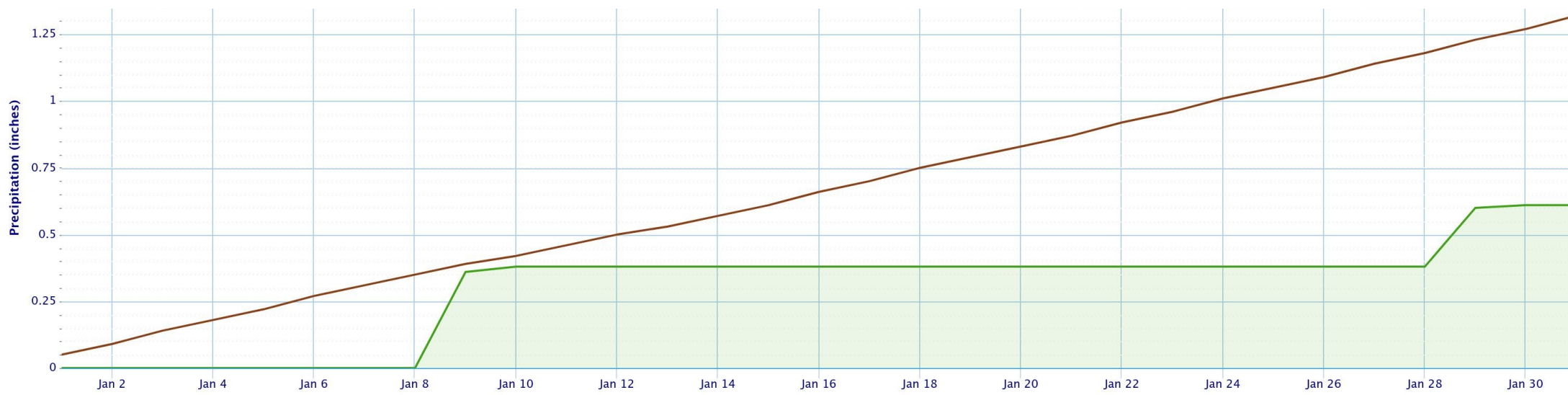
TEMPERATURE PLOT FOR OKLAHOMA CITY, OKLAHOMA FOR 2025



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PRECIPITATION PLOT FOR OKLAHOMA CITY, OKLAHOMA FOR 2025



RAINFALL SUMMARIES BY OKLAHOMA CLIMATE DIVISION



Calendar Year 01-Jan-2024 through 30-Jan-2025

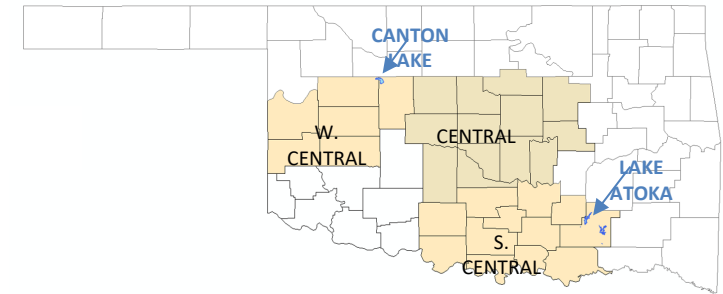
Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	0.37"	-0.54"	0.4	33rd driest	0.00"	3.92"
Central	0.68"	-0.70"	0.49	36th driest	0.00"	5.71"
S. Central	1.63"	-0.32"	0.84	51st wettest	0.02"	6.86"
Statewide	1.22"	-0.30"	0.81	51st driest	0.04"	5.27"

Water Year: 01-Oct-2023 through 30-Jan-2025

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	8.86"	+2.41"	1.37	19th wettest	1.10"	13.41"
Central	11.26"	+1.77"	1.19	20th wettest	2.39"	17.17"
S. Central	12.14"	+0.50"	104%	30th wettest	2.11"	22.55"
Statewide	11.43"	+1.83"	1.19	22nd wettest	2.44"	15.80"

Winter Dec 01 through 30-Jan-2025

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	0.50"	-1.63"	24%	10th driest	0.07"	5.38"
Central	1.81"	-1.56"	54%	28th driest	0.49"	9.11"
S. Central	3.81"	-0.74"	84%	51st driest	0.93"	10.95"
Statewide	2.74"	-0.85"	76%	40th driest	0.99"	7.43"



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.

NOAA ONE-MONTH TEMPERATURE OUTLOOK



Monthly Temperature Outlook

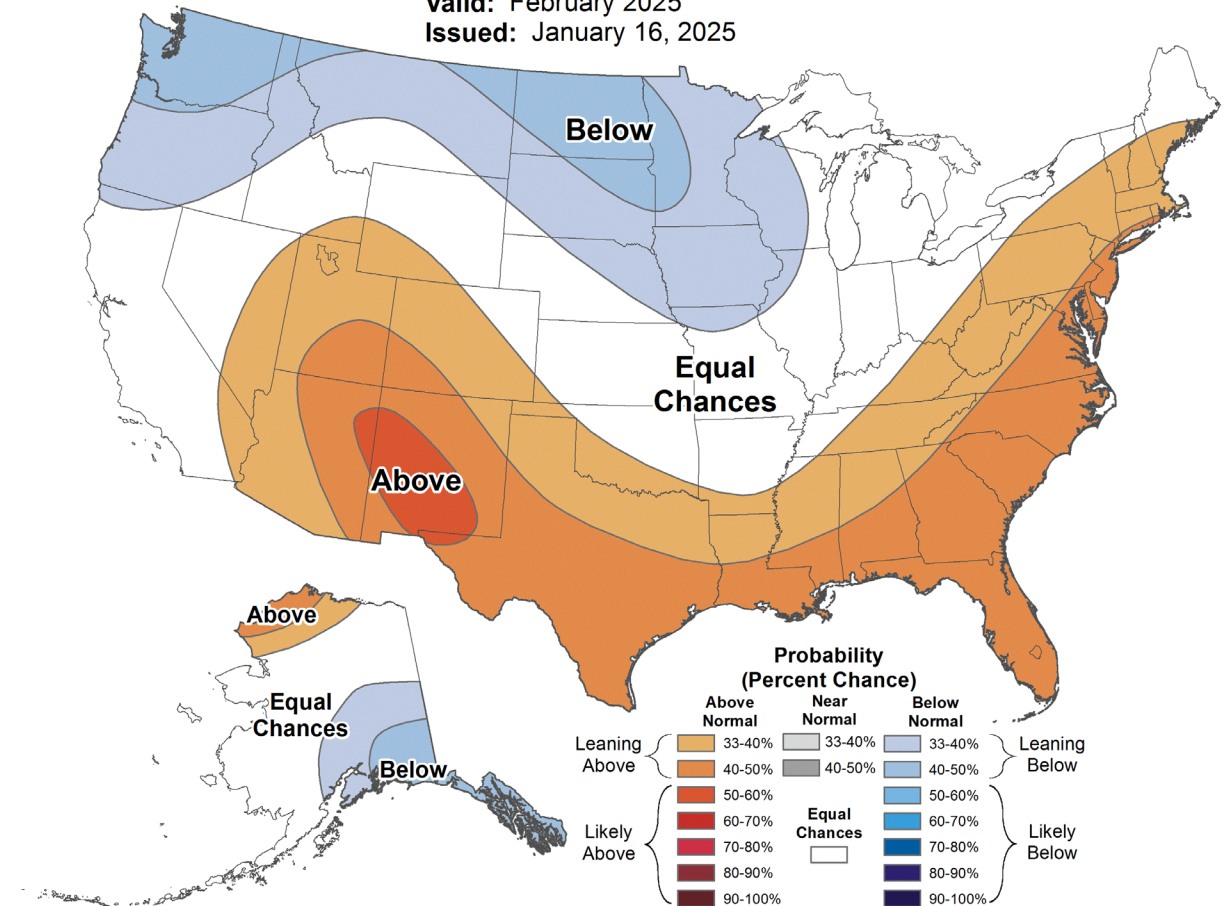


Valid: February 2025
Issued: January 16, 2025

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.

[Climate Prediction Center - Updated OFFICIAL 30-Day Forecasts \(noaa.gov\)/](https://www.noaa.gov/climate-prediction-center)



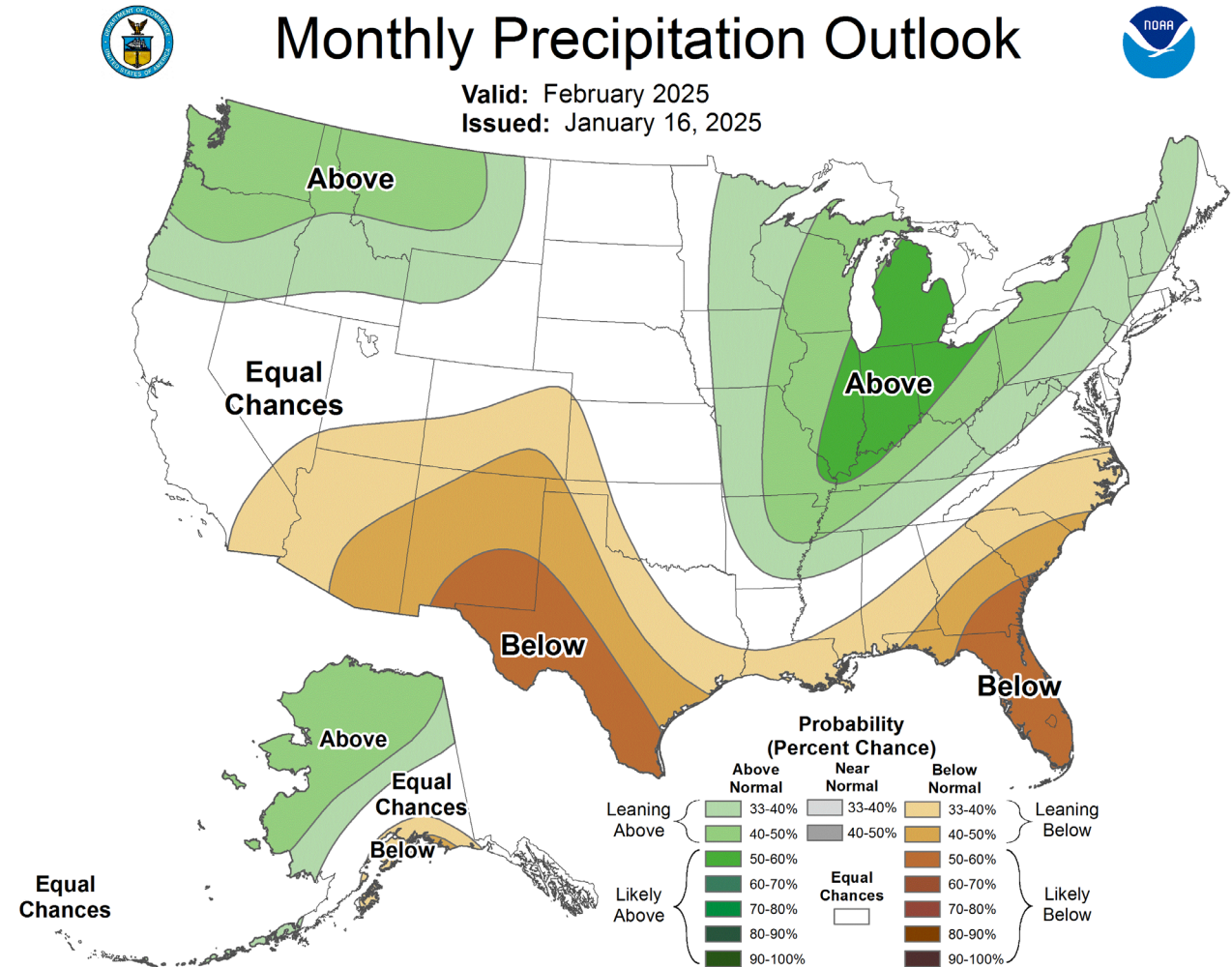
NOAA ONE-MONTH PRECIPITATION OUTLOOK



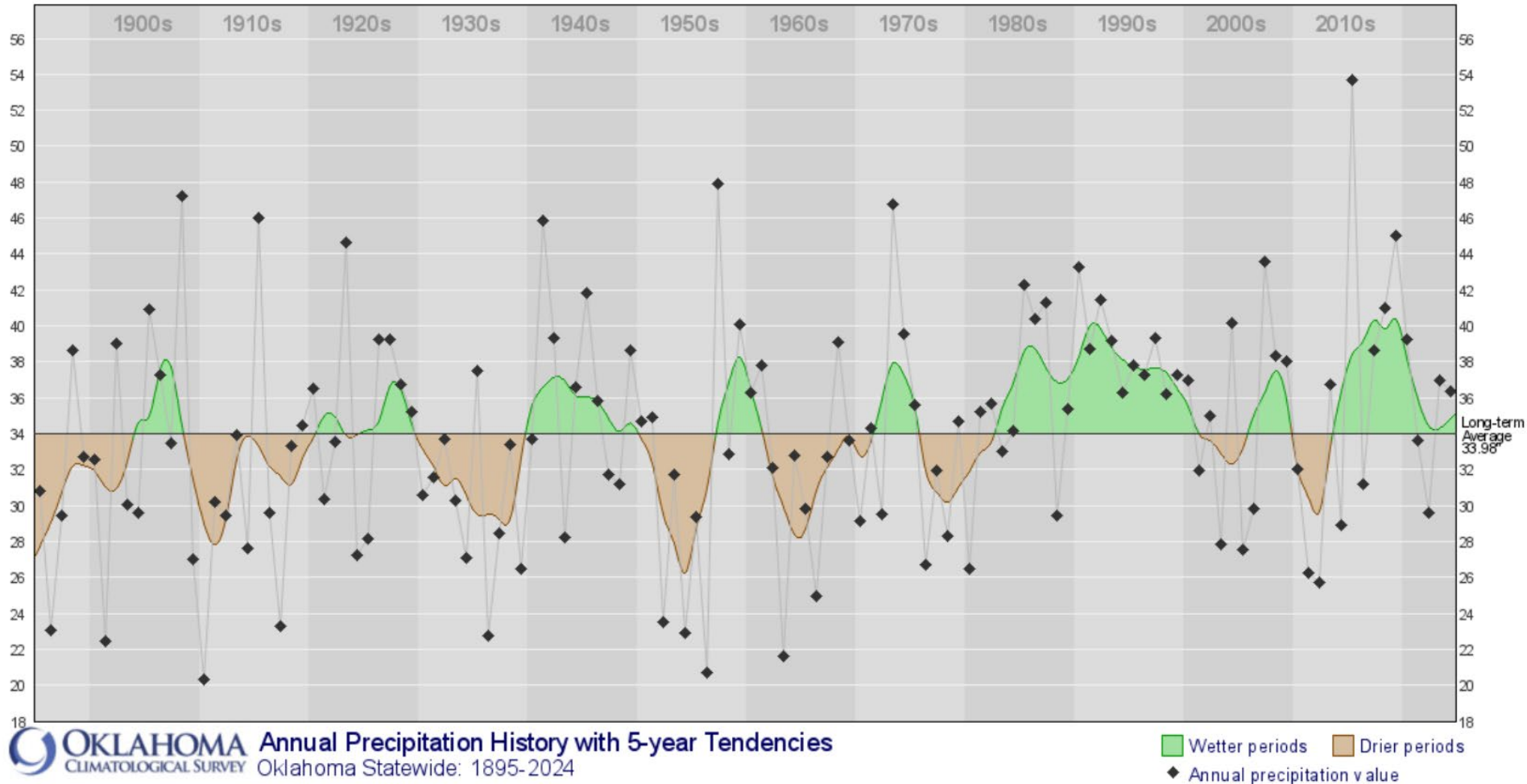
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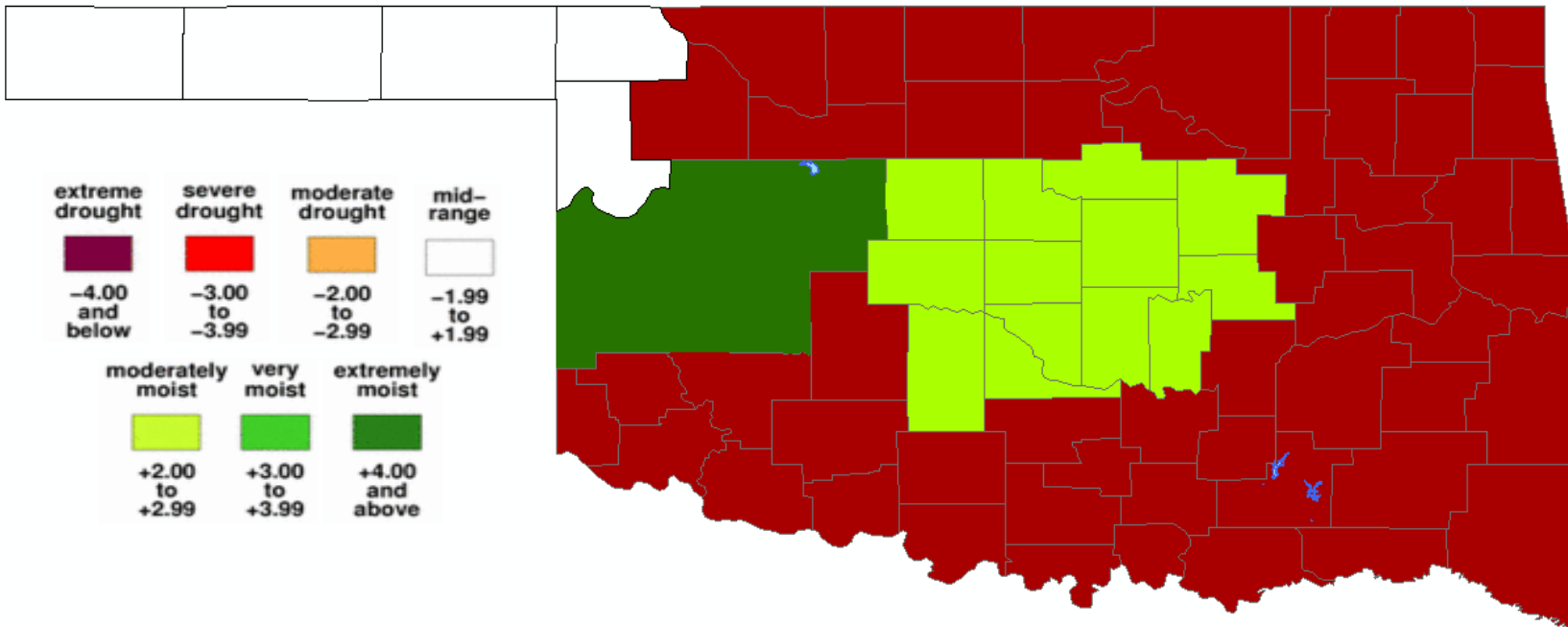
Annual Precipitation History with 5-Year Tendencies



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.

DROUGHT SEVERITY INDEX BY CLIMATE DIVISION



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 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.

PALMER VALUE

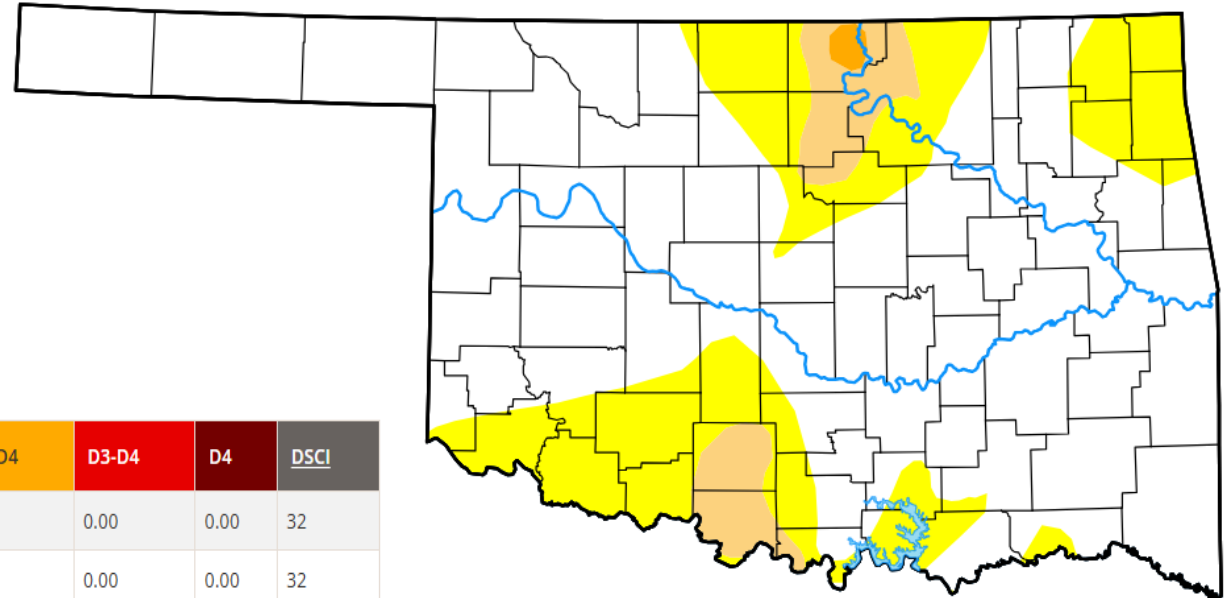
25 JAN 2025

U.S. DROUGHT MONITOR - OKLAHOMA



January 31, 2025

Abnormal dryness or drought is currently affecting approximately 123,103 people in Oklahoma.



Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2025-01-28	73.89	26.11	5.24	0.33	0.00	0.00	32
Last Week to Current	2025-01-21	73.89	26.11	5.24	0.33	0.00	0.00	32
3 Months Ago to Current	2024-10-29	7.73	92.27	83.54	67.70	41.57	0.00	285
Start of Calendar Year to Current	2024-12-31	70.28	29.72	5.52	0.33	0.00	0.00	36
Start of Water Year to Current	2024-10-01	22.82	77.18	61.31	37.39	11.50	0.00	187
One Year Ago to Current	2024-01-30	77.55	22.45	7.18	1.36	0.00	0.00	31



U.S. DROUGHT MONITOR NATIONWIDE MAP



Map released: January 30, 2025

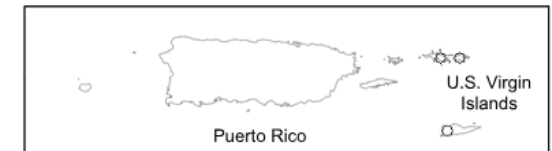
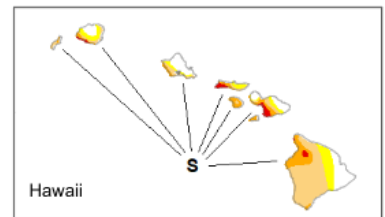
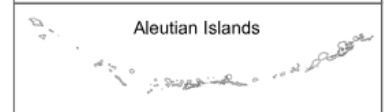
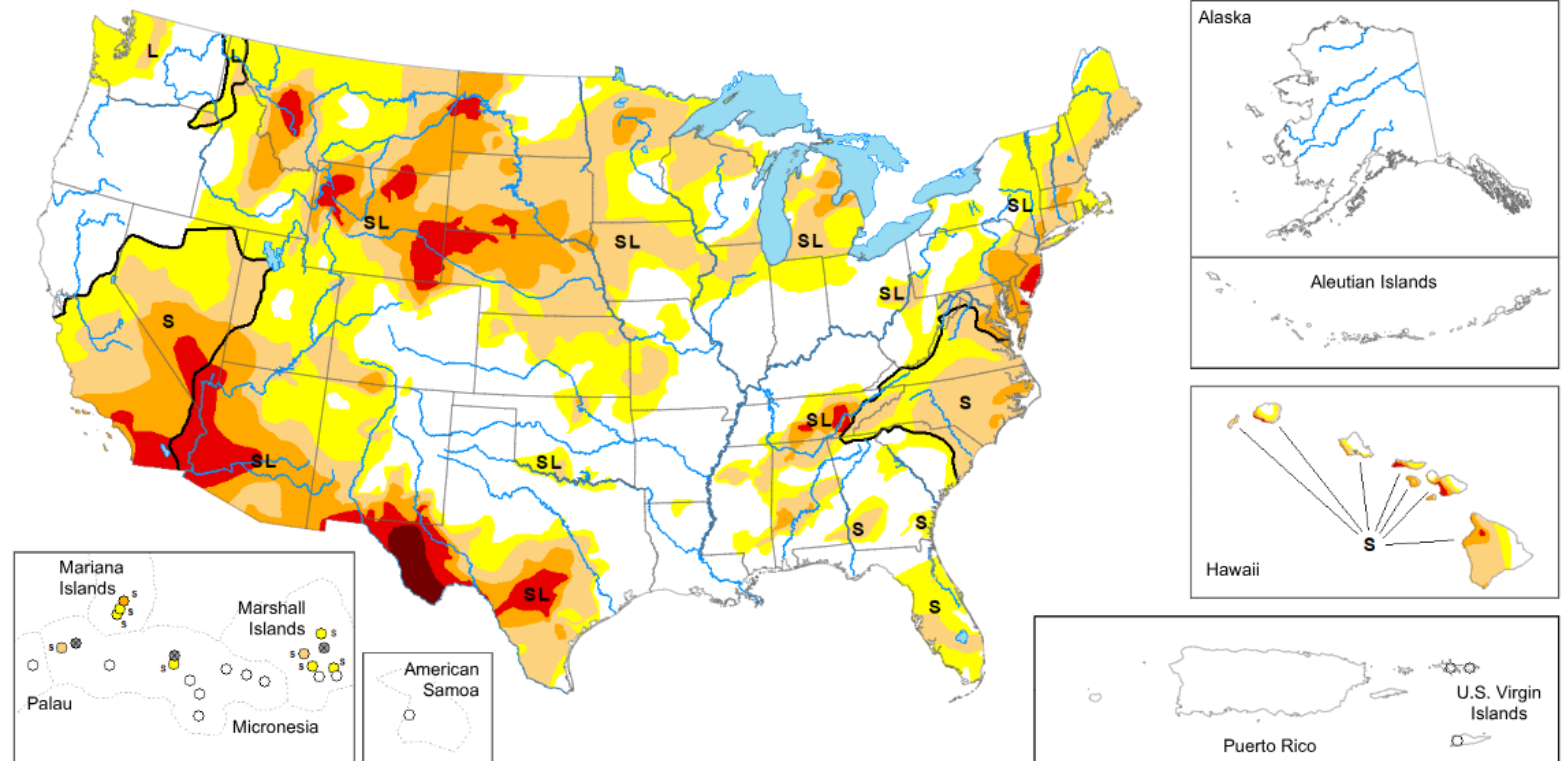
Data valid: January 28, 2025

Intensity and Impacts



United States and Puerto Rico Author(s):
Deborah Bathke, National Drought Mitigation Center

Pacific Islands and Virgin Islands Author(s):
Ahira Sanchez-Lugo, NOAA/NCEI

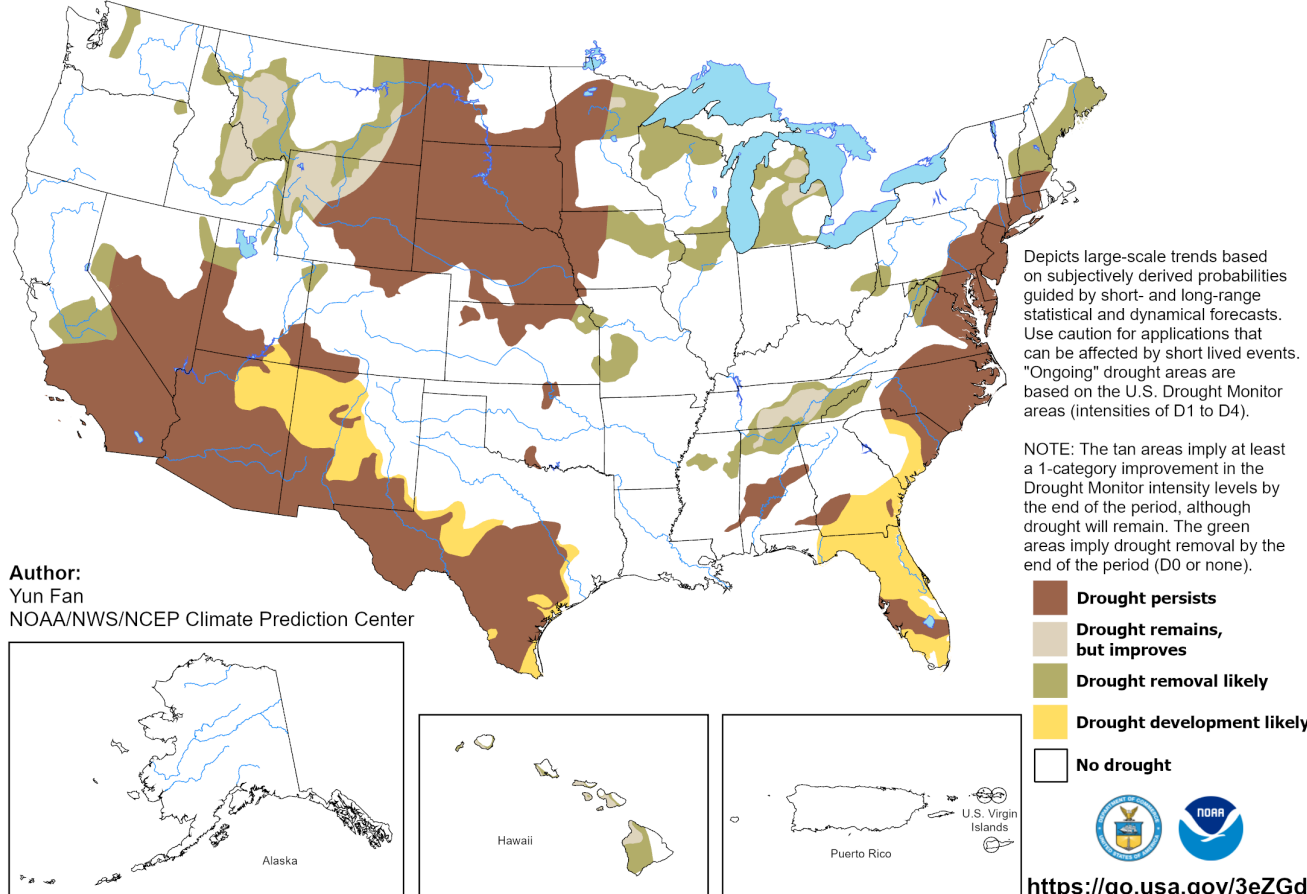


U.S. DROUGHT MONITOR MONTHLY DROUGHT OUTLOOK MAP



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

Valid for February 2025
Released January 31, 2025



Author:
Yun Fan
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).

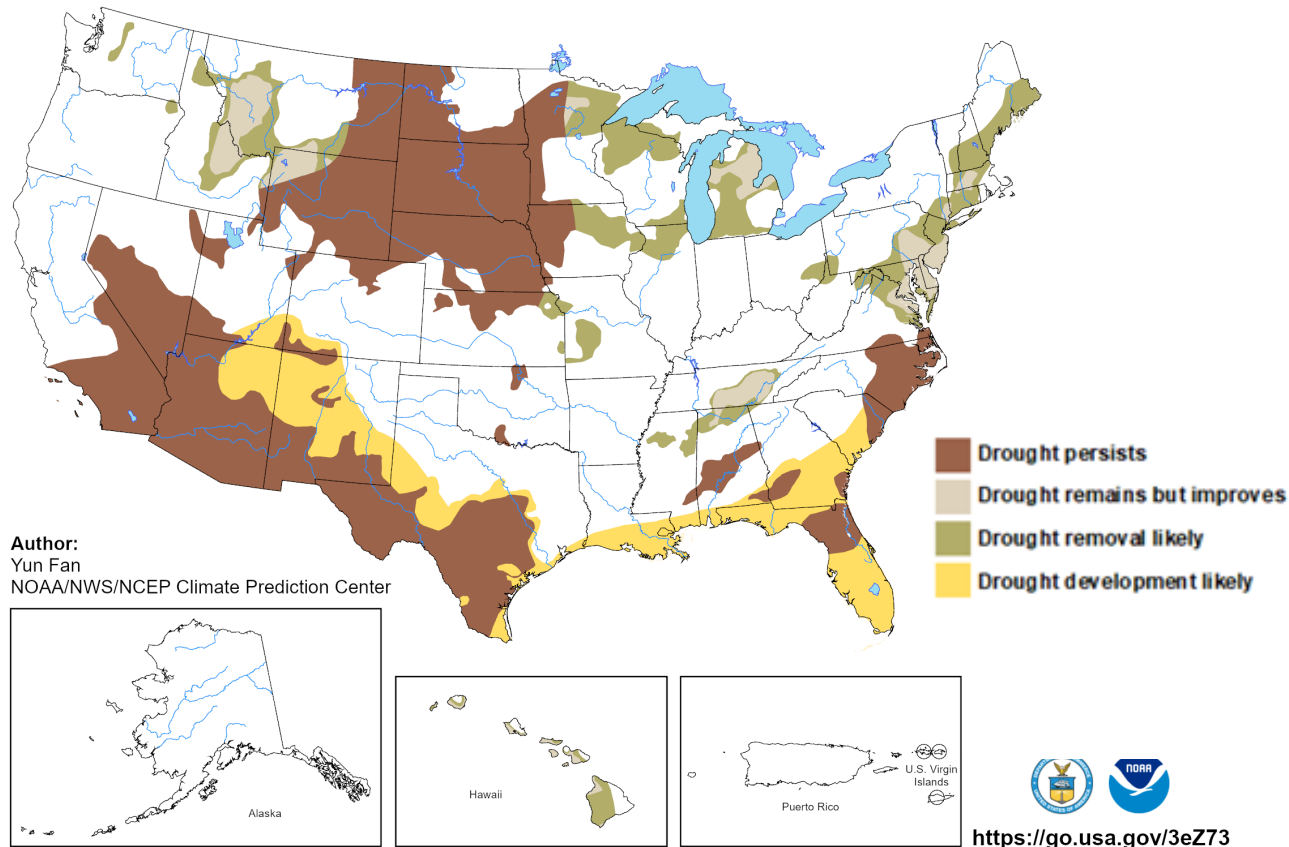
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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, 2025
Released January 16, 2025



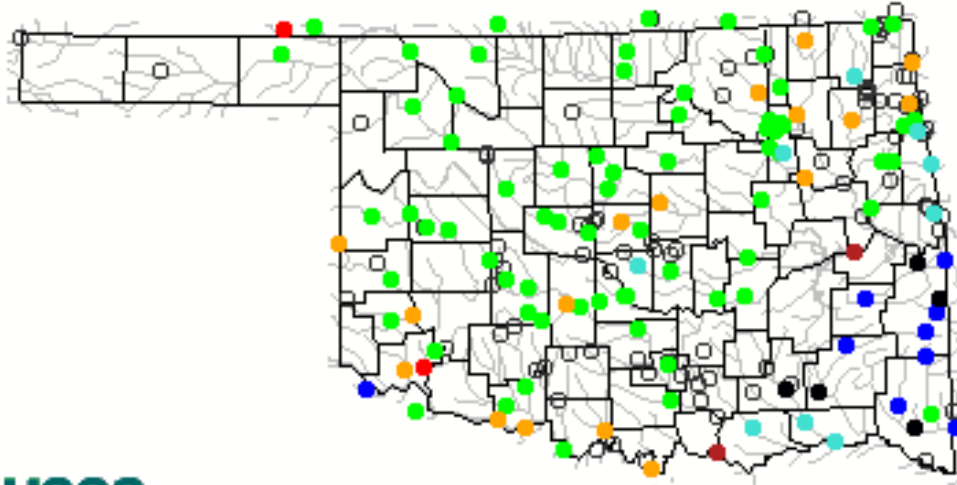
Depicts large-scale trends based on subjectively derived probabilities guided by short and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. “Ongoing” drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to 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).

USGS STREAMFLOW DATA

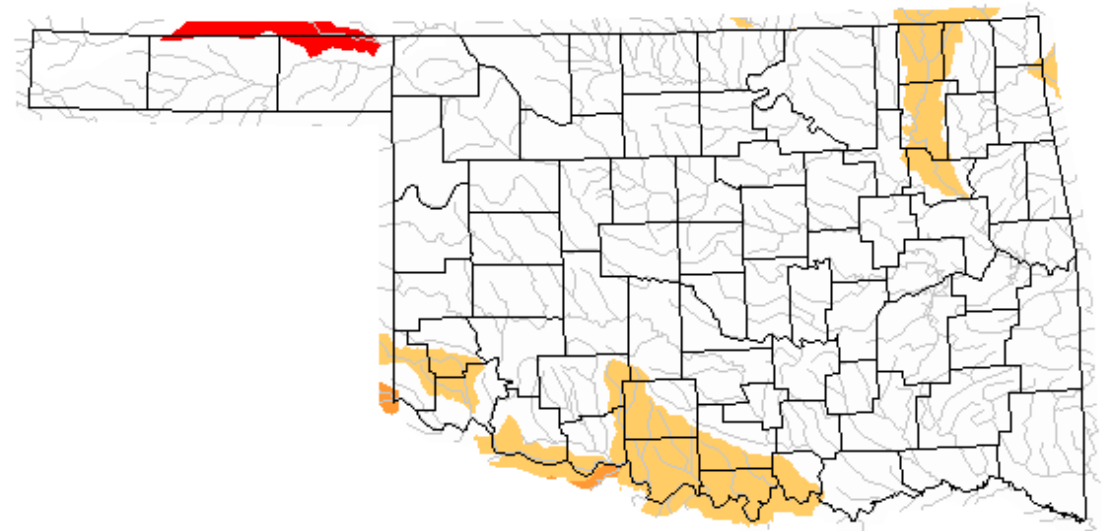


Friday, January 31, 2025 15:30ET



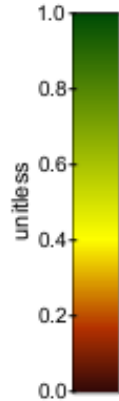
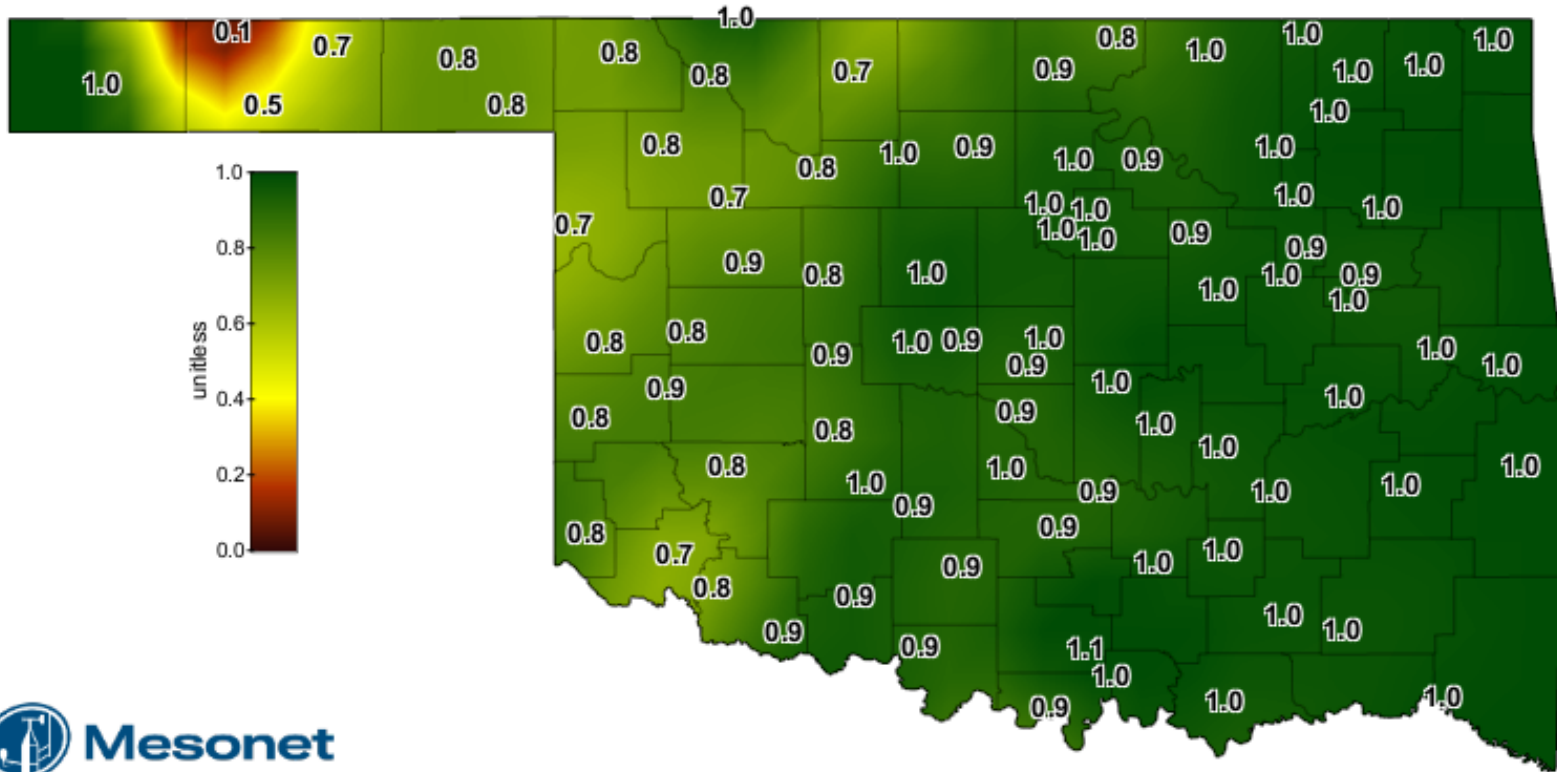
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Below normal 28-day average streamflow



Explanation - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

SOIL MOISTURE MAP

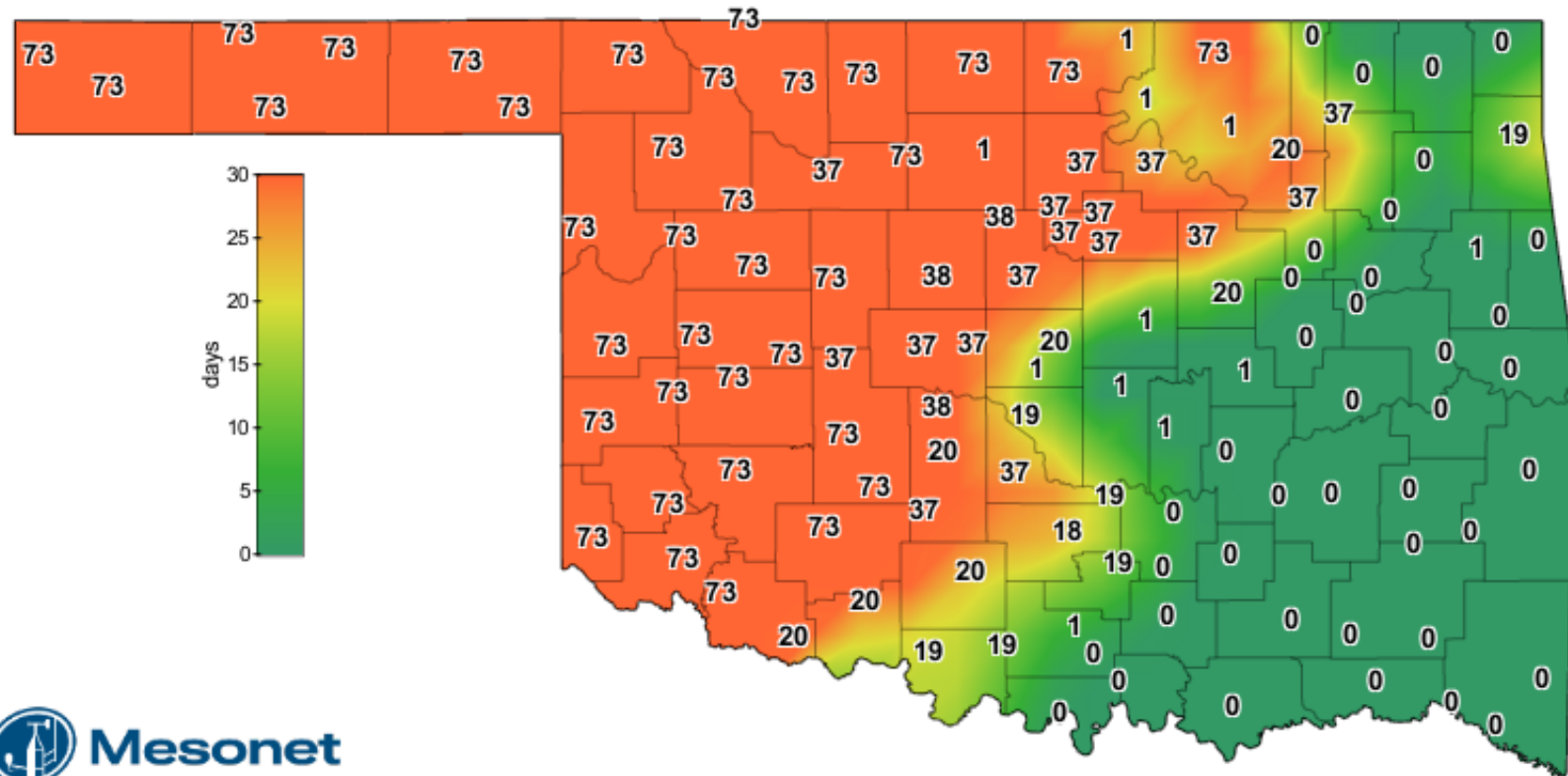


1-day Average 24-inch Fractional Water Index

January 30, 2025

Created 6:30:14 AM January 31, 2025 CST. © Copyright 2025

CONSECUTIVE DAYS WITHOUT RAINFALL MAP

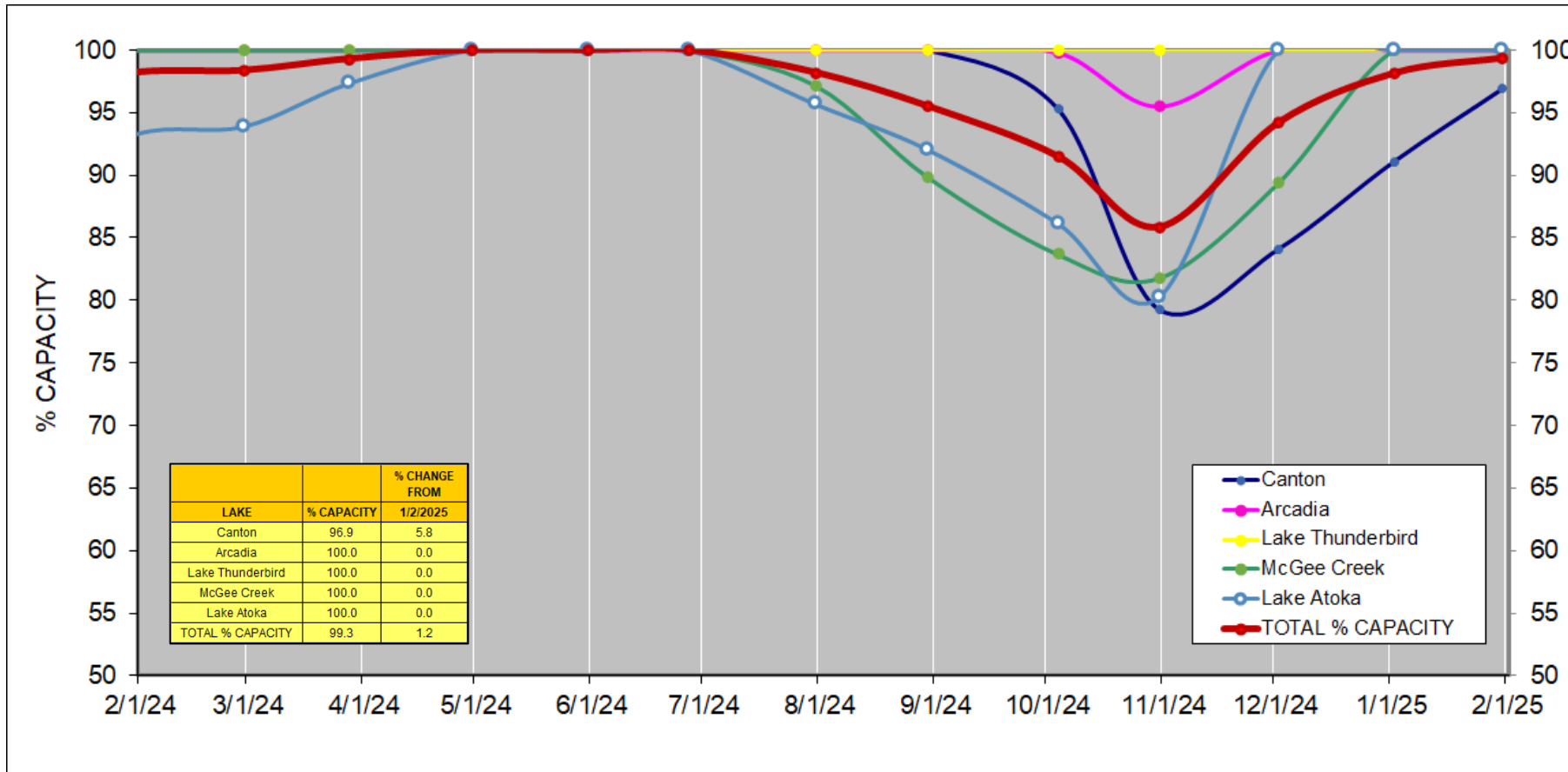


Mesonet
 Consecutive Days With Less Than 0.25" Rainfall

January 30, 2025

Created 7:15:02 AM January 31, 2025 CST. © Copyright 2025

PERCENTAGE OF SURFACE WATER CONSERVATION CAPACITY IN CENTRAL OK RESERVOIRS



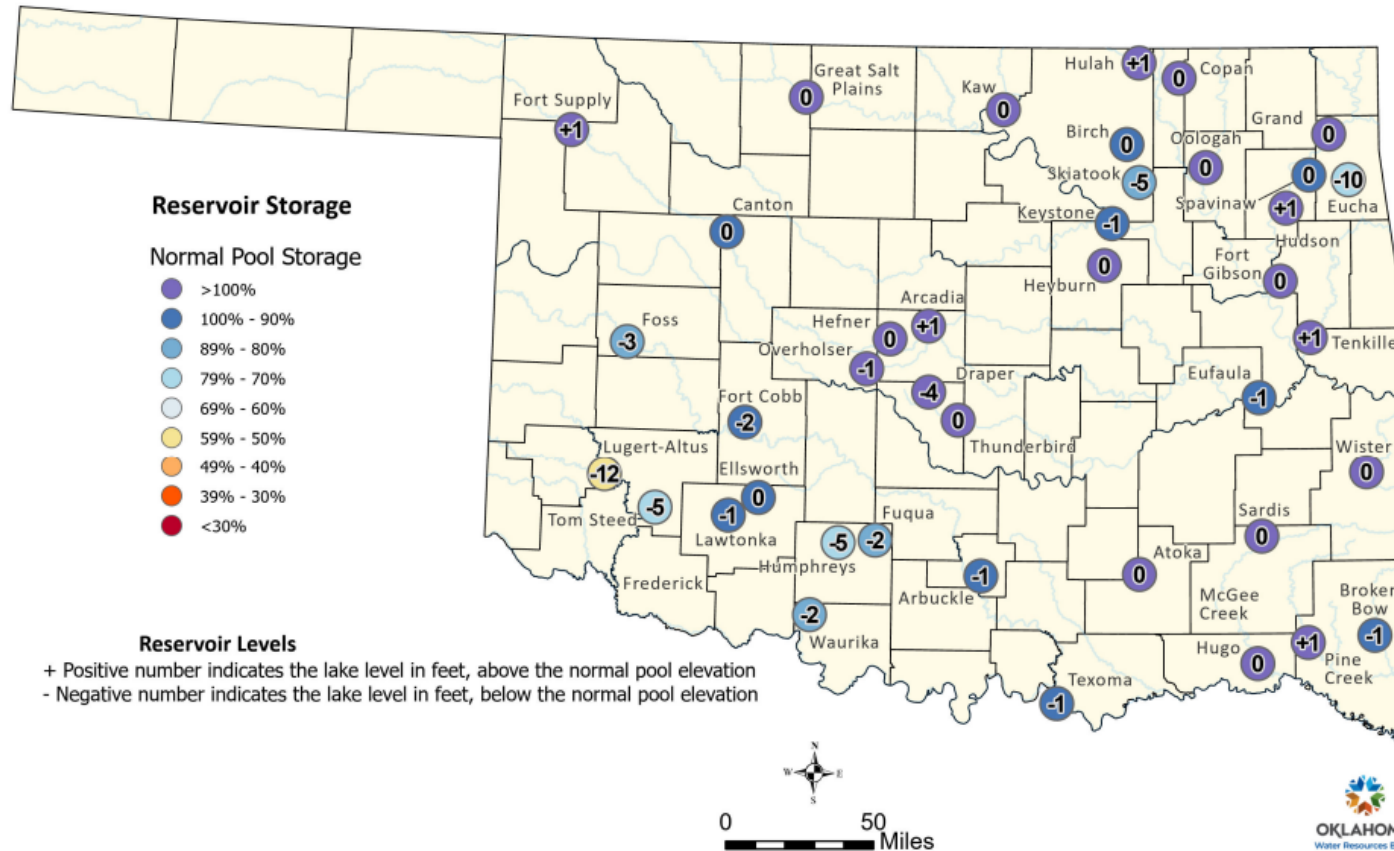
Lake Hefner and Lake Overholser are terminal storage for Canton Lake. Lake Draper is terminal storage for McGee Creek and Atoka Lakes.

OKLAHOMA RESERVOIR LEVELS AND STORAGE



OKLAHOMA RESERVOIR LEVELS AND STORAGE AS OF 11/27/2024

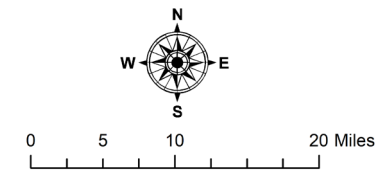
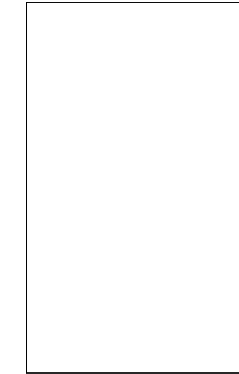
This map shows reservoir storage as a percentage of normal pool storage capacity. The source information was collected from real-time lake gages monitored by the U.S. Army Corps of Engineers (https://www.swt-wc.usace.army.mil/Daily_Morning_Reservoir_Report.pdf), and the U.S. Geological Survey ([USGS Current Conditions for USGS 07333010 Atoka Reservoir near Stringtown, OK](https://www.usgs.gov/monitoring/products-reports/07333010)). For more information, please visit the OWRB's website: [Monthly Reservoir Storage.pdf](#)



MONTHLY AQUIFER RECHARGE



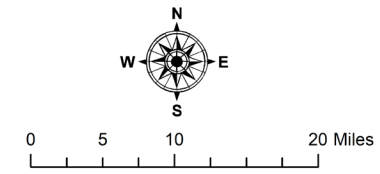
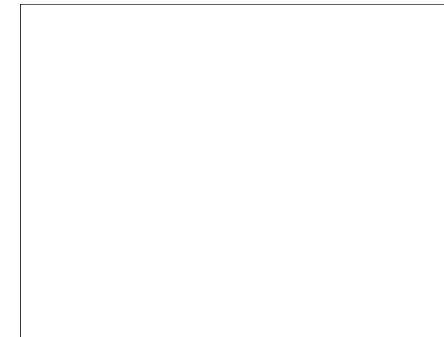
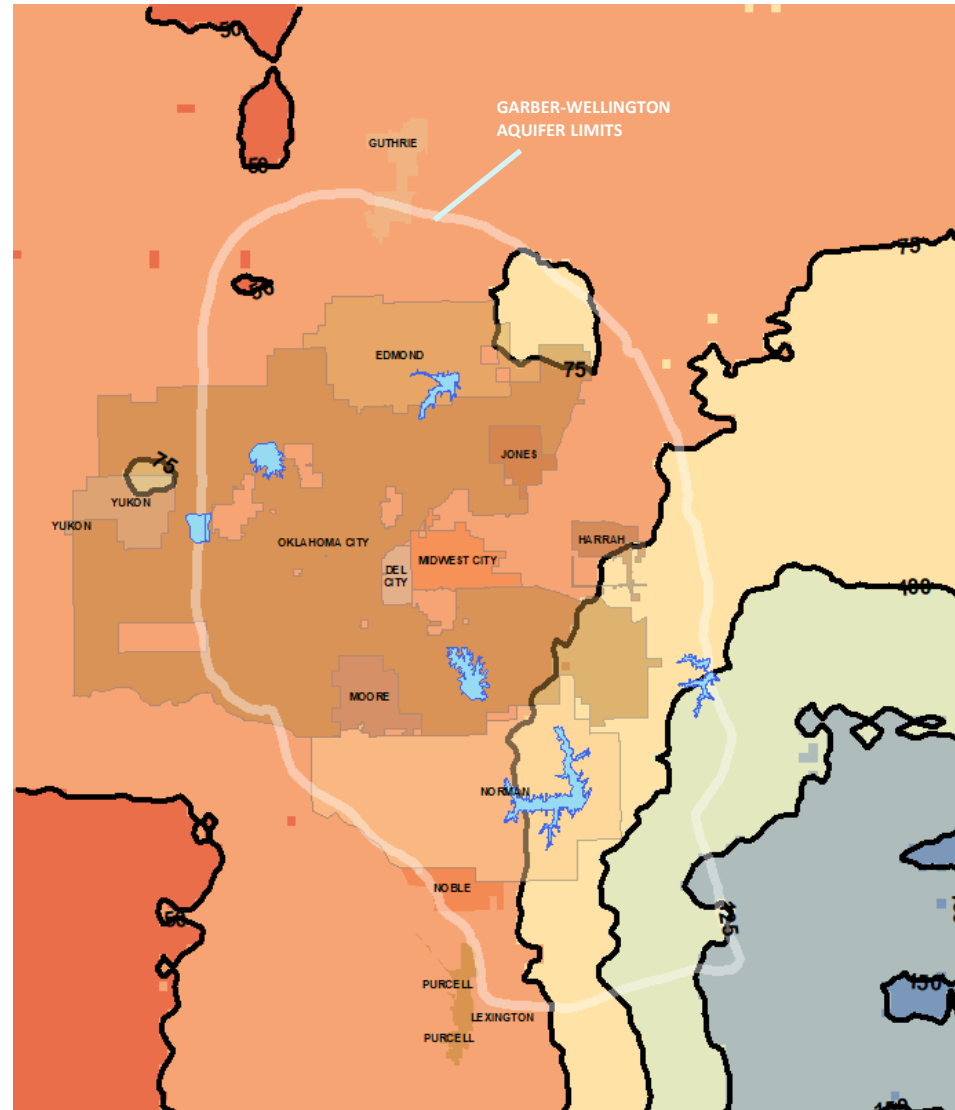
- Mean aquifer recharge in January 2025 was 0.01 inches.
- Normal mean recharge for January is 0.33 inches.
- We are -0.32 inches below normal for 2025.



PERCENT TOTAL CUMULATIVE AQUIFER RECHARGE – Last 12 Months



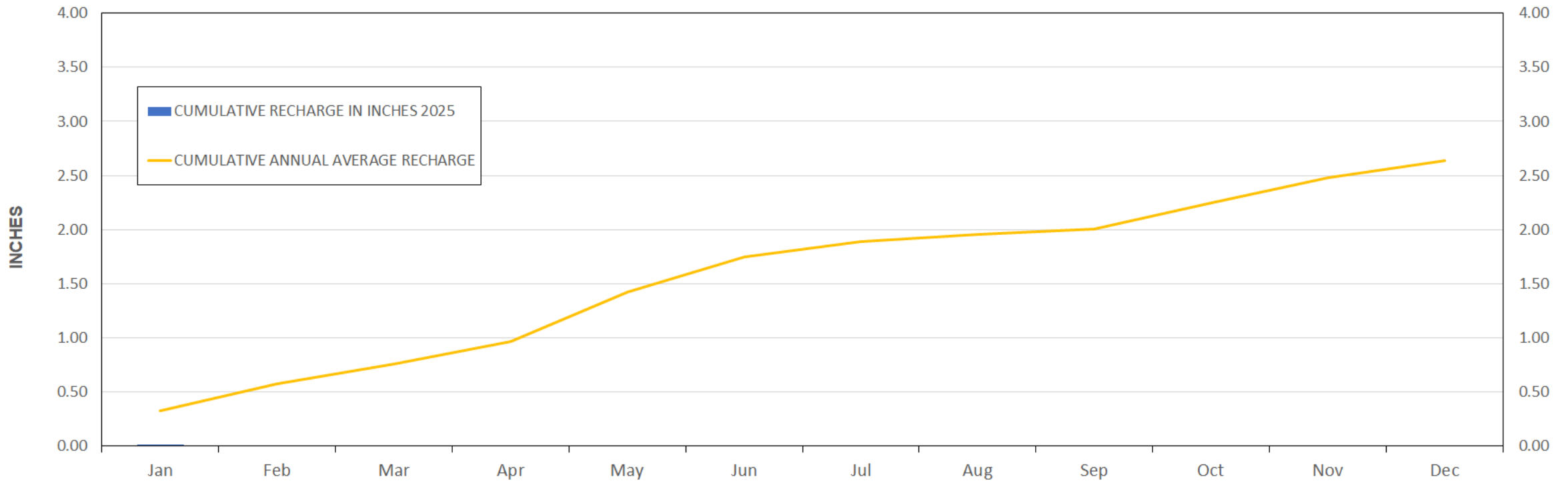
- Most of the recharge in the past 12 months was south and east of the metropolitan area.
- January 2025 had 0.01 inches of recharge. Normal mean recharge for January is 0.33 inches.
- Over the past 12 months the metropolitan area has received slightly less than normal annual recharge.



RECHARGE CHARTS CENTRAL OKLAHOMA AQUIFER SYSTEM



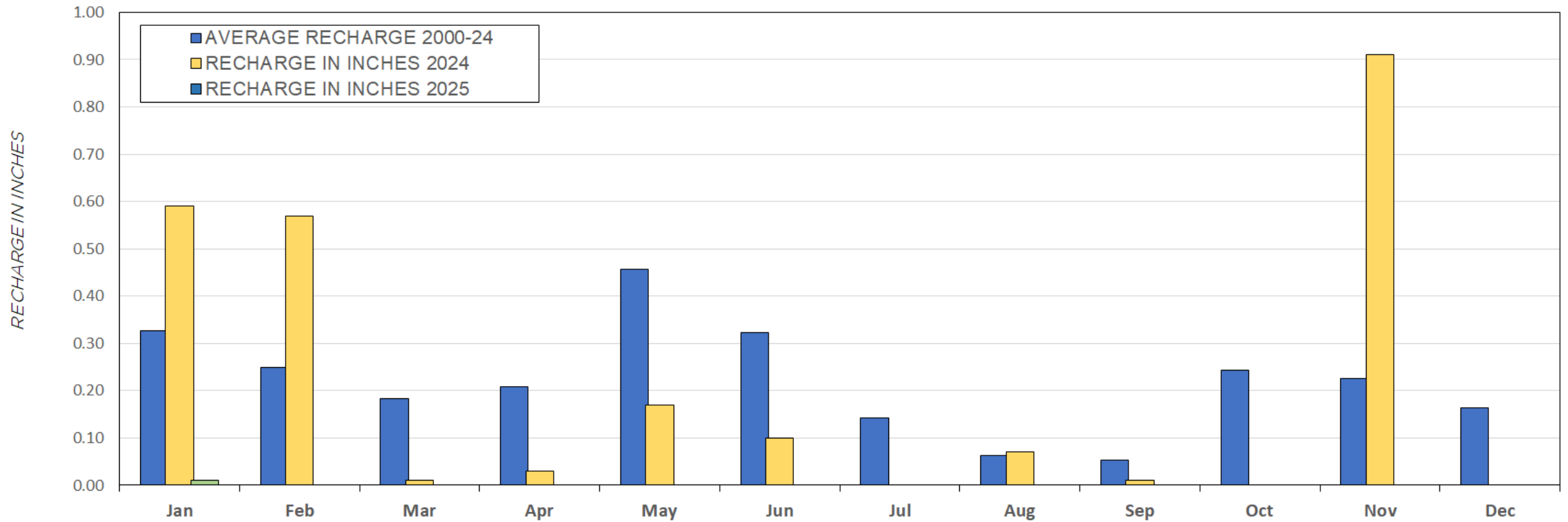
ACCUMULATED CENTRAL OKLAHOMA AQUIFER SYSTEM RECHARGE 2025



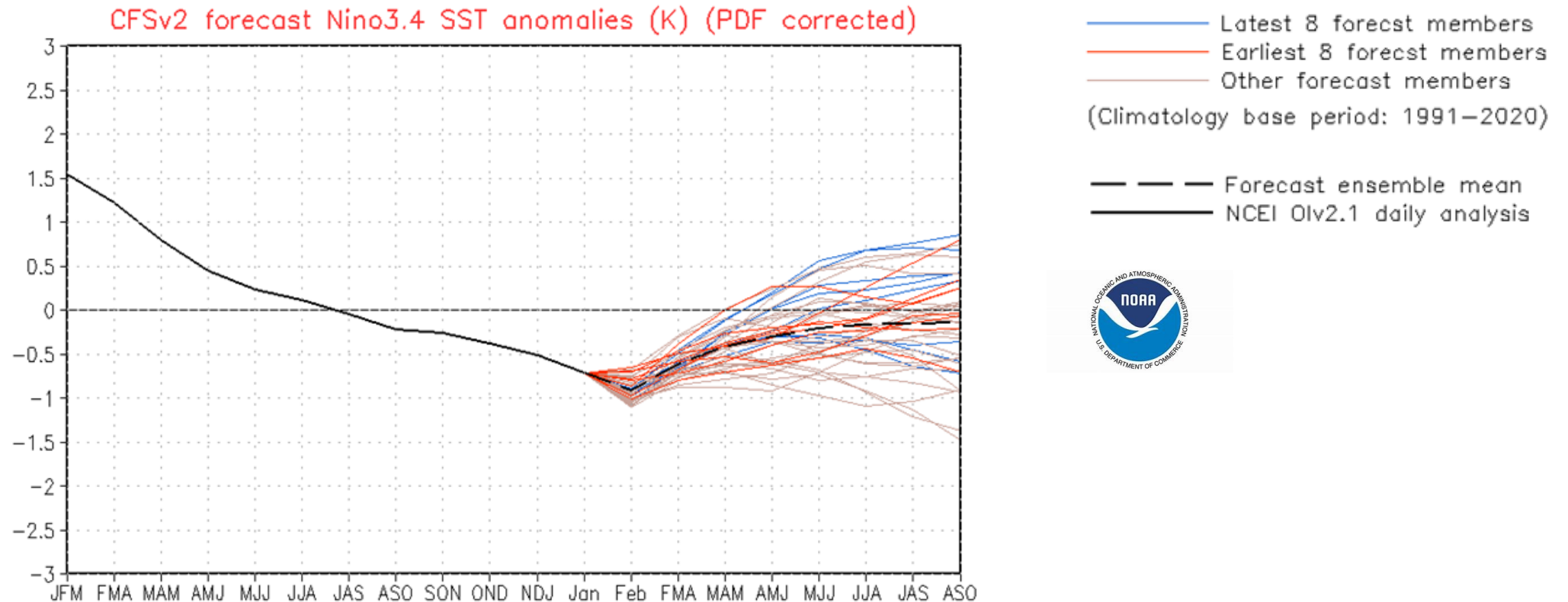
RECHARGE CHARTS CENTRAL OKLAHOMA AQUIFER SYSTEM CONTINUED



MONTHLY AQUIFER RECHARGE 2025



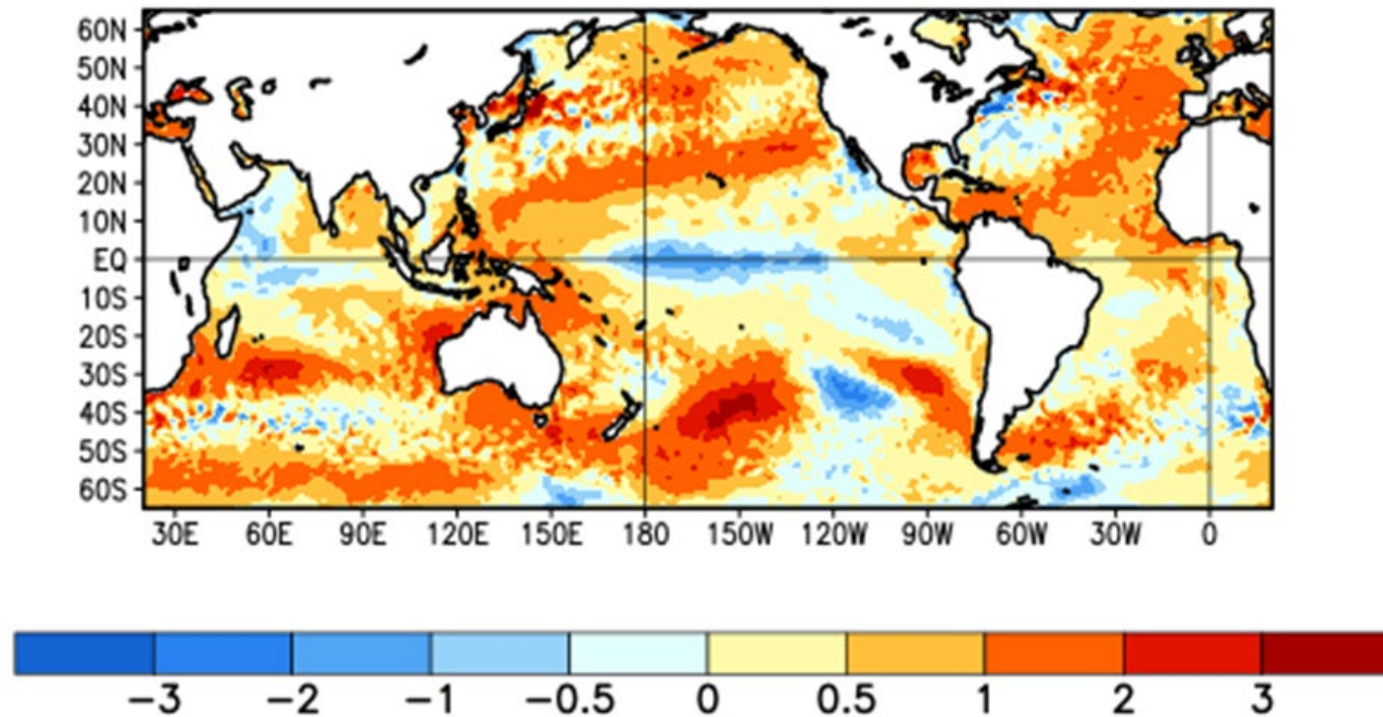
ENSO CYCLE - RECENT EVOLUTION, CURRENT STATUS AND PREDICTIONS



ENSO CYCLE - RECENT EVOLUTION, CURRENT STATUS AND PREDICTIONS



Average SST Anomalies
29 DEC 2024 – 25 JAN 2025





ENSO Alert System Status: La Niña Watch

- ENSO-neutral conditions are present.
- Equatorial sea surface temperatures (SSTs) are near-to-below-average in the central and eastern Pacific Ocean.
- La Niña conditions are expected to persist through February-April 2025 (59% chance), with a transition to ENSO-neutral likely during March-May 2025 (60% chance).



QUESTIONS?

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ASSOCIATION OF
CENTRAL OKLAHOMA
GOVERNMENTS