DROUGHT CONDITIONS

IN CENTRAL OKLAHOMA

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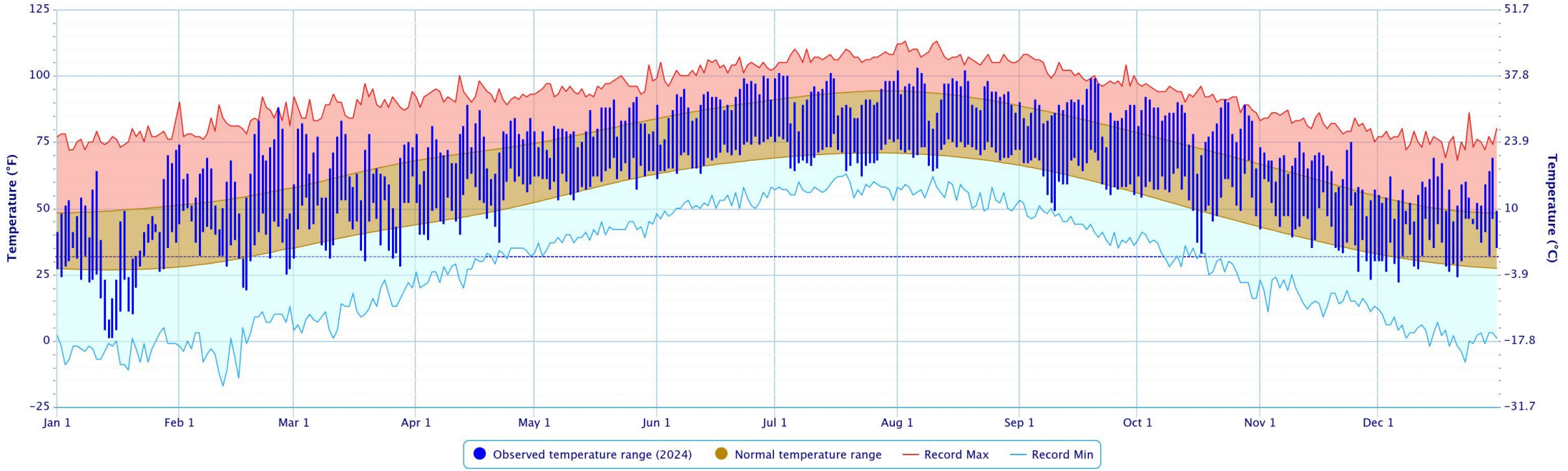
January 2025

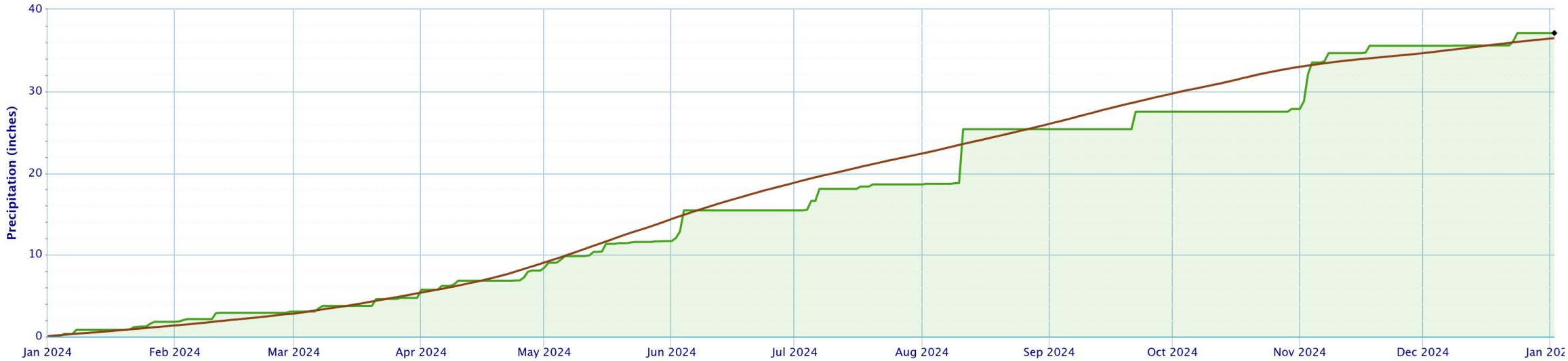
TEMPERATURE PLOT FOR OKLAHOMA CITY, OKLAHOMA FOR 2024



Powered by ACIS
NOAA Regional Climate Centers

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

PRECIPITATION PLOT FOR OKLAHOMA CITY, OKLAHOMA FOR 2024



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NOAA Regional Climate Centers

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

RAINFALL SUMMARIES BY OKLAHOMA CLIMATE DIVISION

Calendar Year 01-Jan-2024 though 01-Jan-2025

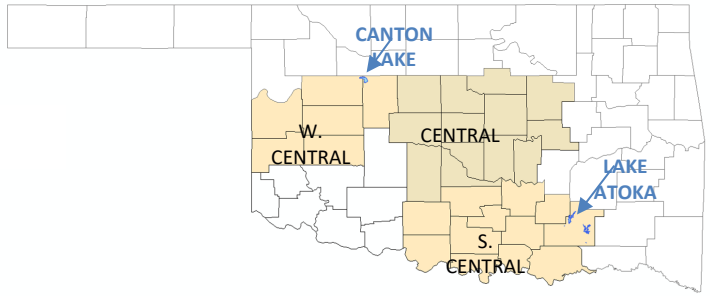
Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	26.09"	-2.34"	92%	50th driest	14.18"	43.12"
Central	36.01"	-1.67"	96%	51st driest	20.07"	53.90"
S. Central	40.84"	+0.06"	100%	35th wettest	20.12"	72.46"
Statewide	35.78"	-0.74"	98%	48th wettest	20.81"	54.03"

Water Year: 01-Oct-2023 through 01-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	8.50"	+2.93"	153%	10th wettest	0.14"	11.99"
Central	10.58"	+2.42"	130%	16th wettest	0.92"	16.24"
S. Central	10.50"	+0.74"	108%	31st wettest	0.97"	21.86"
Statewide	10.20"	+2.07"	125%	22nd wettest	1.12"	15.26"

Winter Dec 01 through 01-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	0.14"	-1.11"	11%	9th driest	0.00"	4.28"
Central	1.14"	-0.90"	56%	44th driest	0.10"	8.06"
S. Central	2.17"	-0.49"	82%	47th wettest	0.07"	7.16"
Statewide	1.51"	-0.61"	71%	49th driest	0.09"	5.79"



Mesonet
Oklahoma's Weather Network

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.

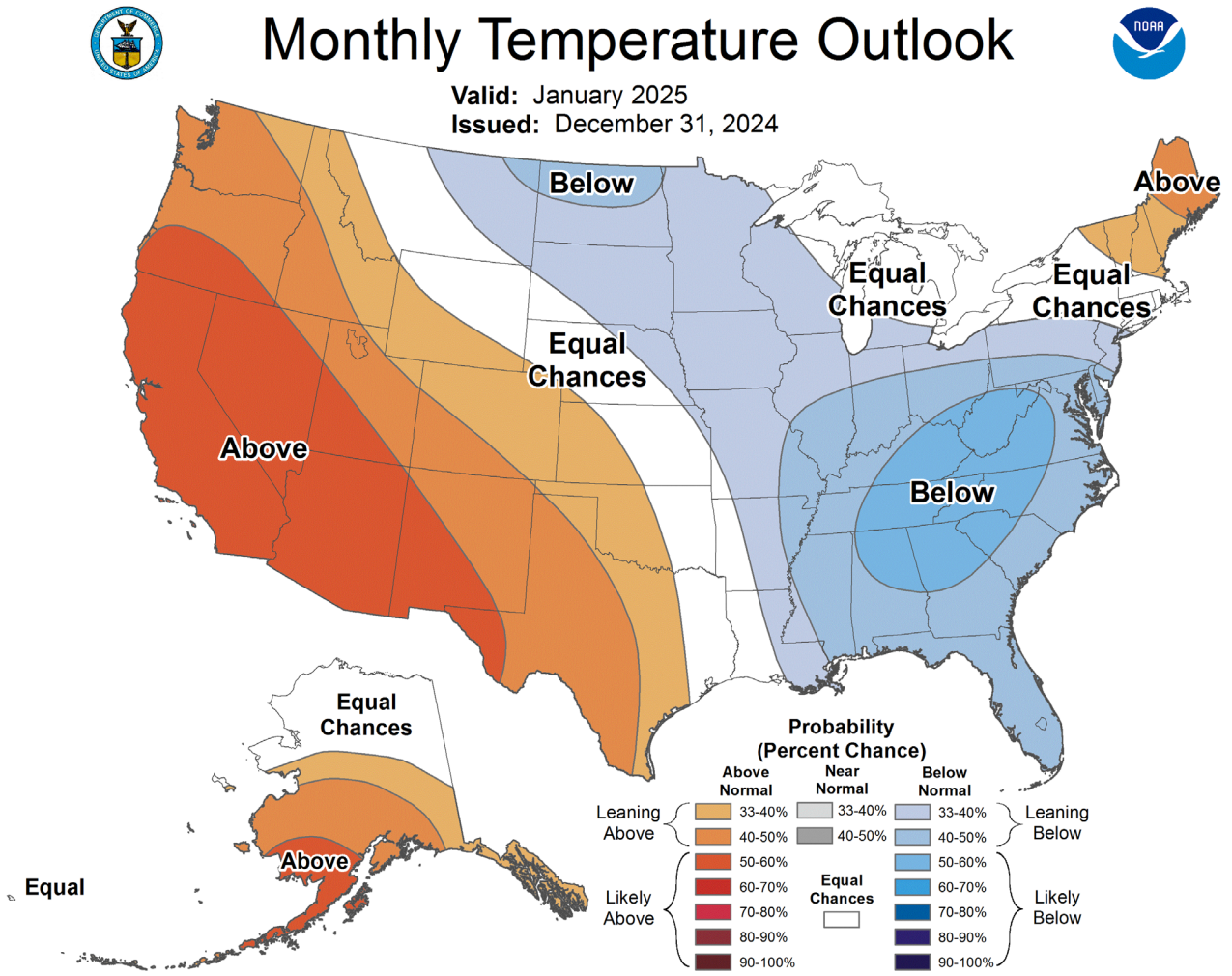
http://climate.ok.gov/index.php/drought/last_30_days/drought_wildfire

NOAA ONE-MONTH TEMPERATURE OUTLOOK

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)/



NOAA ONE-MONTH PRECIPITATION OUTLOOK

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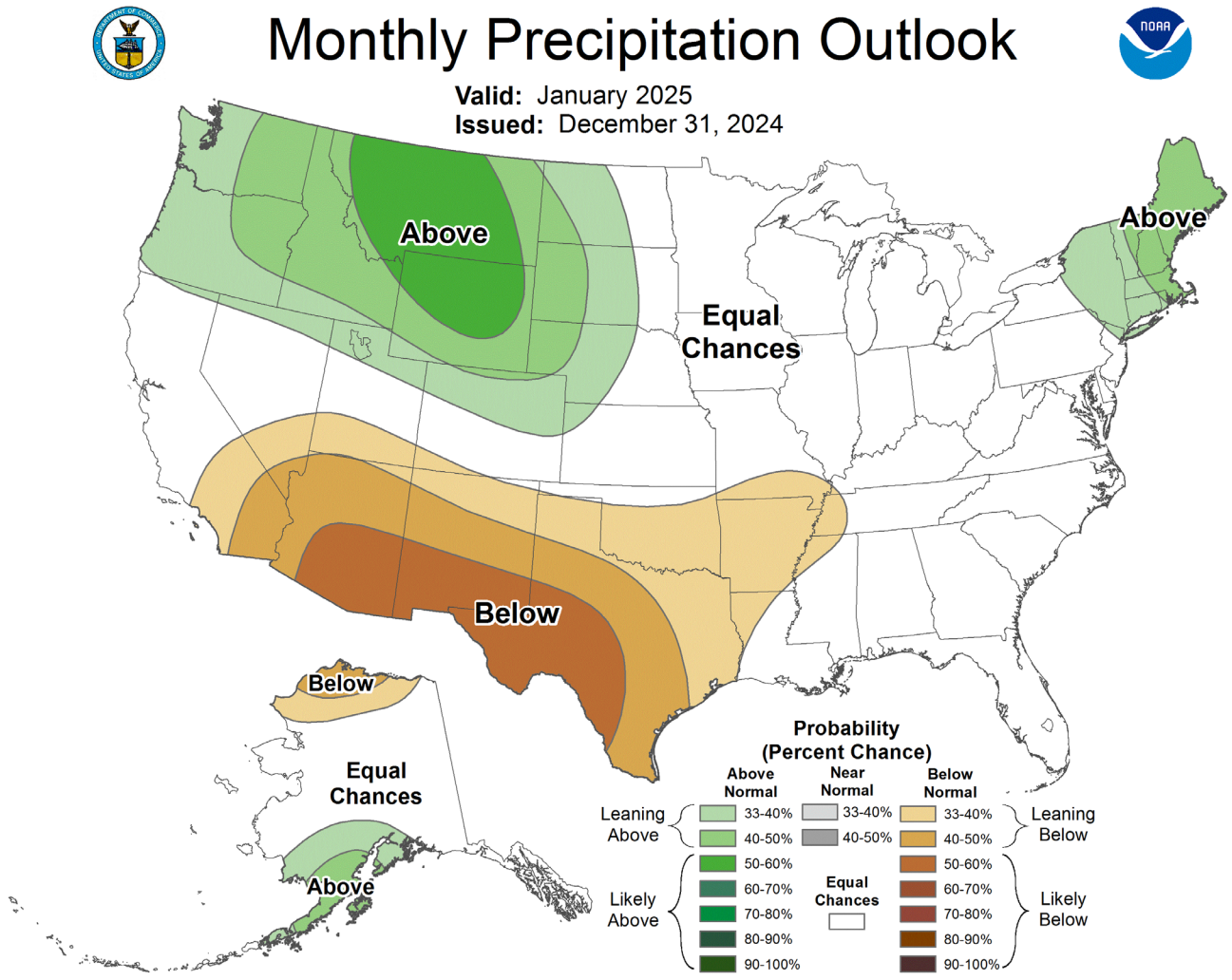
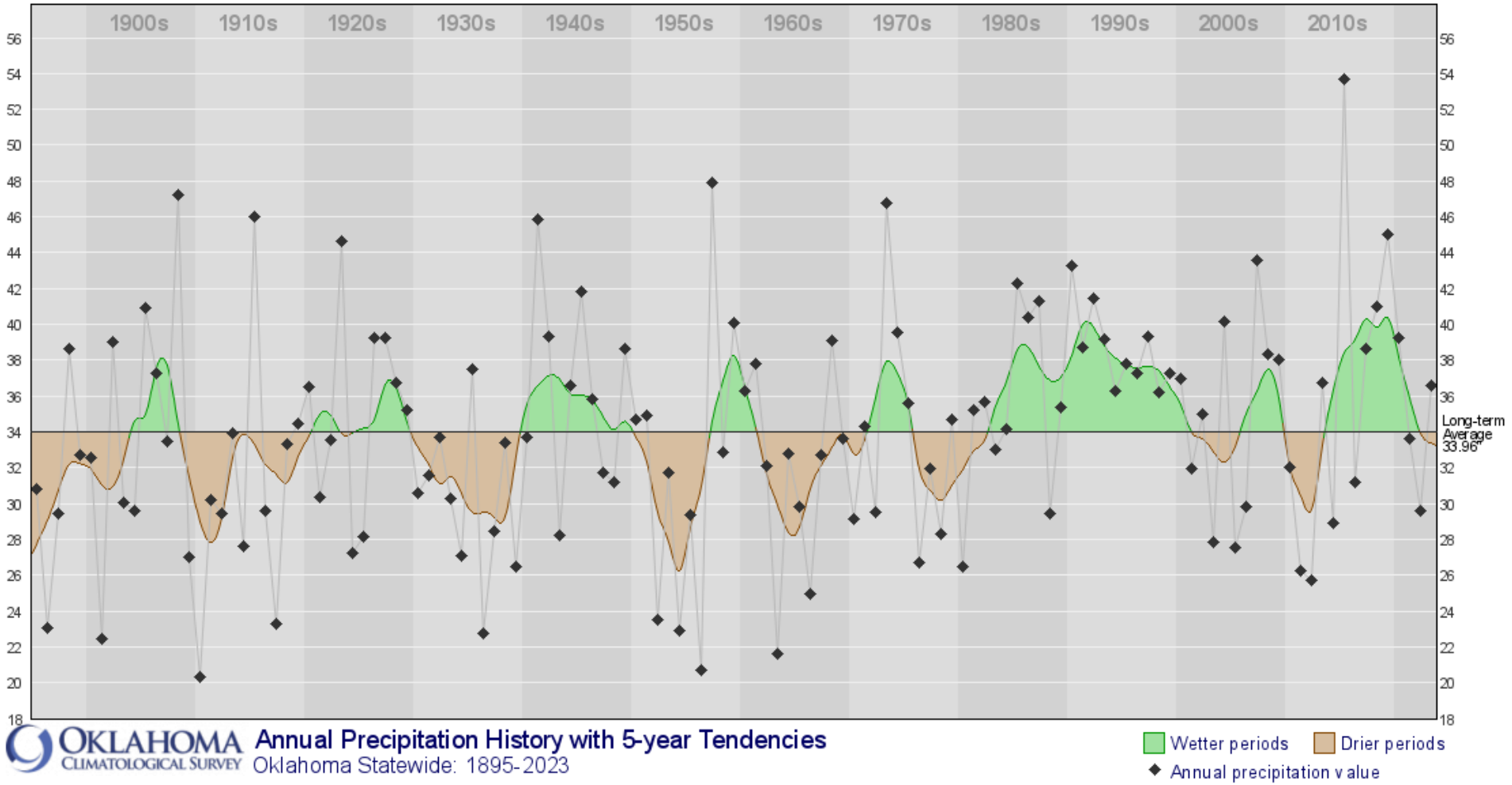


Annual Precipitation History with 5-Year Tendencies

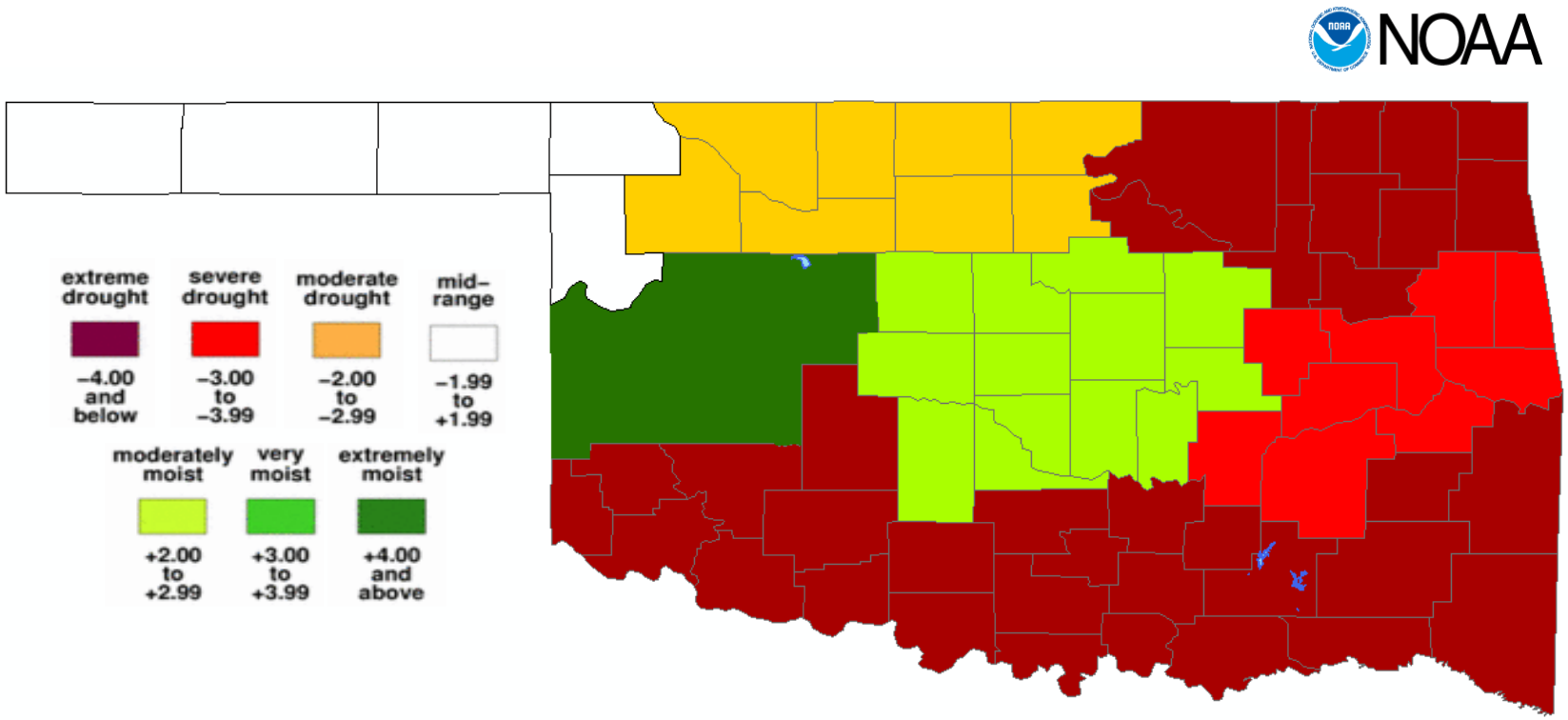


This graph shows the cyclical nature of wet and drought periods in Oklahoma. The black dots represent the annual precipitation for that particular year. The line represents the annual precipitation data smoothed over five years.

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.

http://climate.ok.gov/index.php/climate/climate_trends/precipitation_history_annual_statewide/CD00/prcp/Annual/oklahoma_south-central_u.s

DROUGHT SEVERITY INDEX BY CLIMATE DIVISION



PALMER VALUE

28 DEC 2024

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.

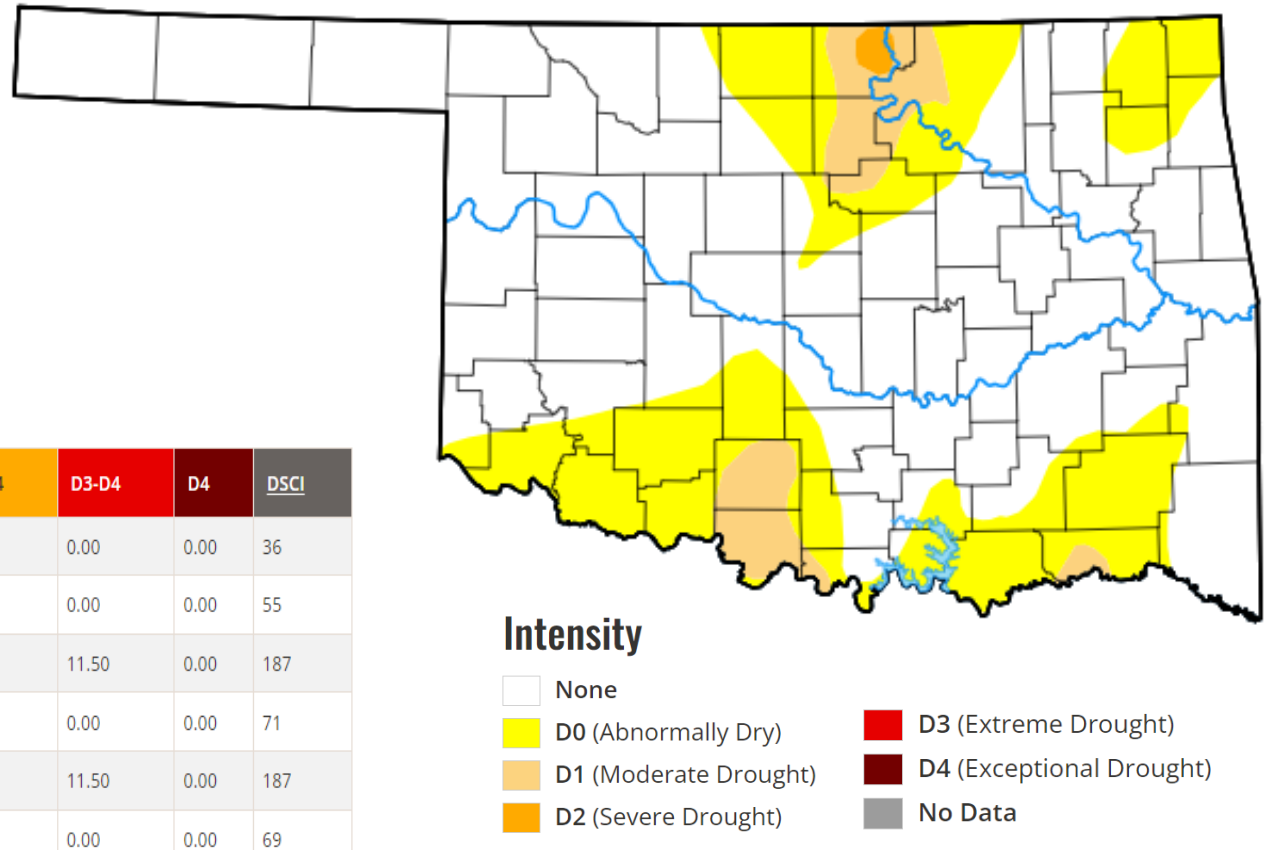
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cdus/palmer_drought/wpdsouth.txt

U.S. DROUGHT MONITOR - OKLAHOMA

January 1, 2025

Abnormal dryness or drought is currently affecting approximately 127,139 people in Oklahoma.

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2024-12-31	70.28	29.72	5.52	0.33	0.00	0.00	36
Last Week to Current	2024-12-24	56.78	43.22	11.54	0.59	0.00	0.00	55
3 Months Ago to Current	2024-10-01	22.82	77.18	61.31	37.39	11.50	0.00	187
Start of Calendar Year to Current	2023-12-26	53.62	46.38	21.64	3.08	0.00	0.00	71
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	2024-01-02	55.32	44.68	21.64	3.08	0.00	0.00	69



https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?OK

U.S. DROUGHT MONITOR NATIONWIDE MAP

Intensity and Impacts

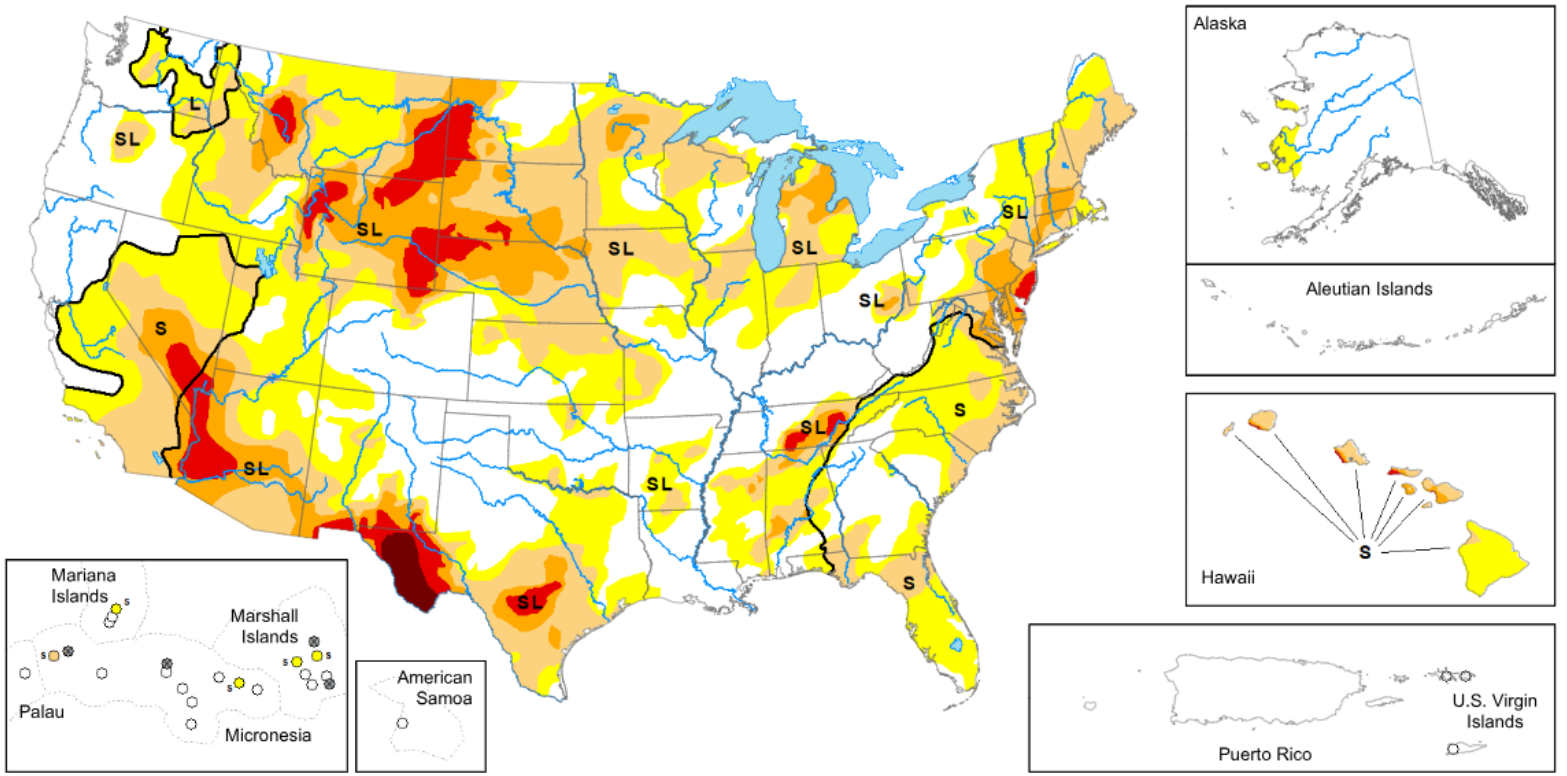
- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

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

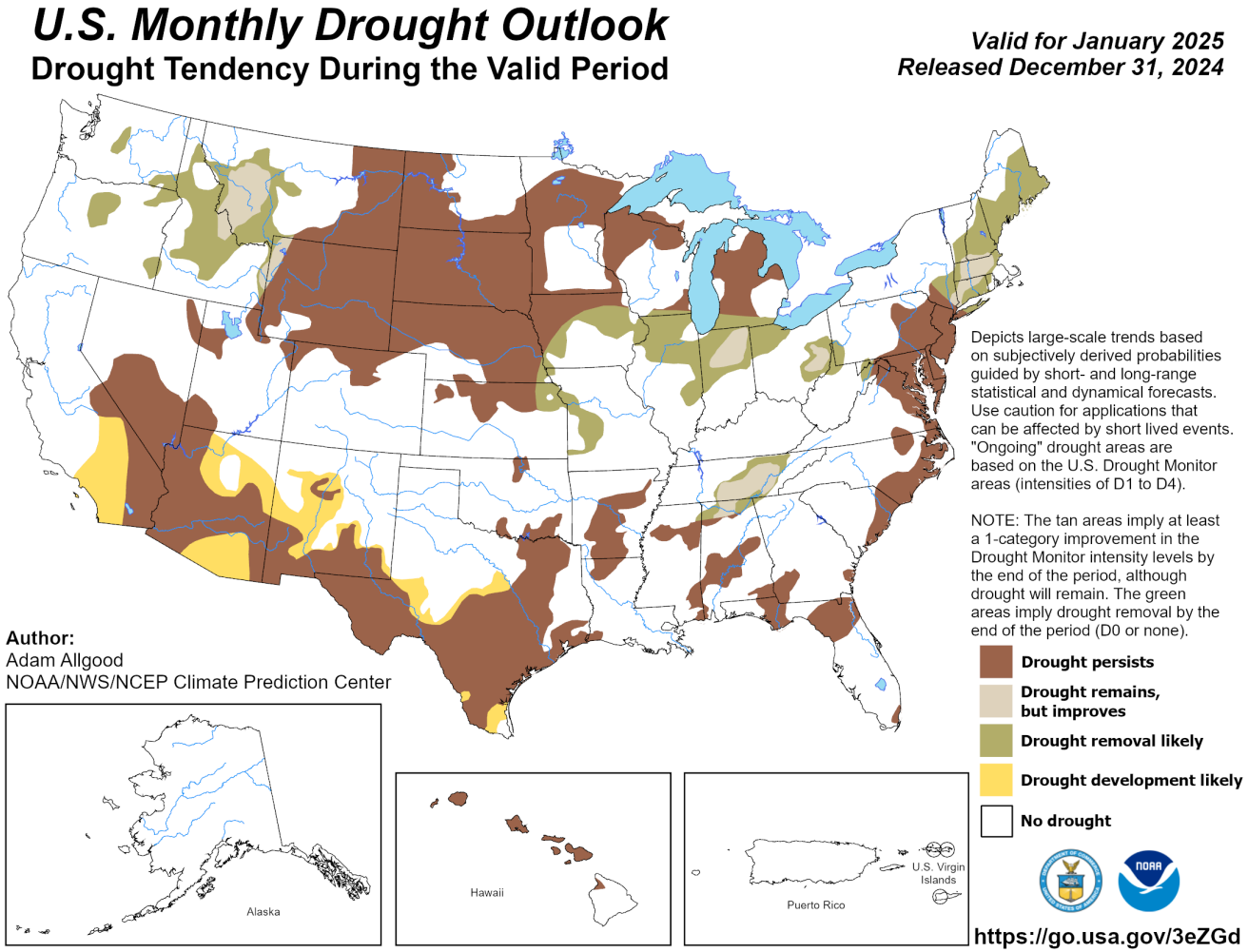
Map released: January 1, 2025

Data valid: December 31, 2024



NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM | NIDIS | Drought.gov U.S. Drought Portal

U.S. DROUGHT MONITOR MONTHLY DROUGHT OUTLOOK MAP

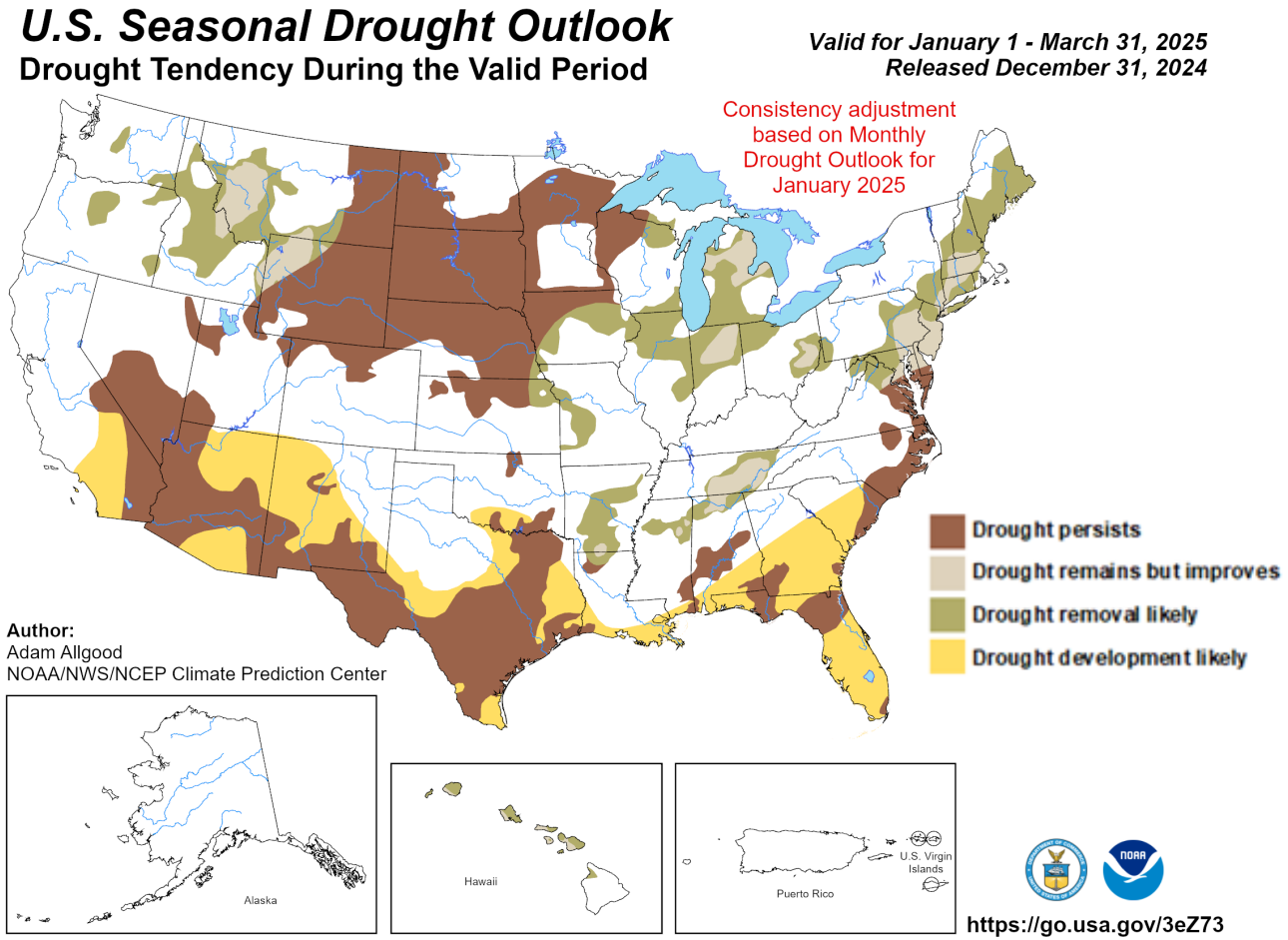


Depicts large-scale trends based on subjectively derived probabilities guided by short and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. “Ongoing” drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to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

http://www.cpc.ncep.noaa.gov/products/expert_assessment/mdo_summary.php

U.S. DROUGHT MONITOR SEASONAL DROUGHT OUTLOOK MAP



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).

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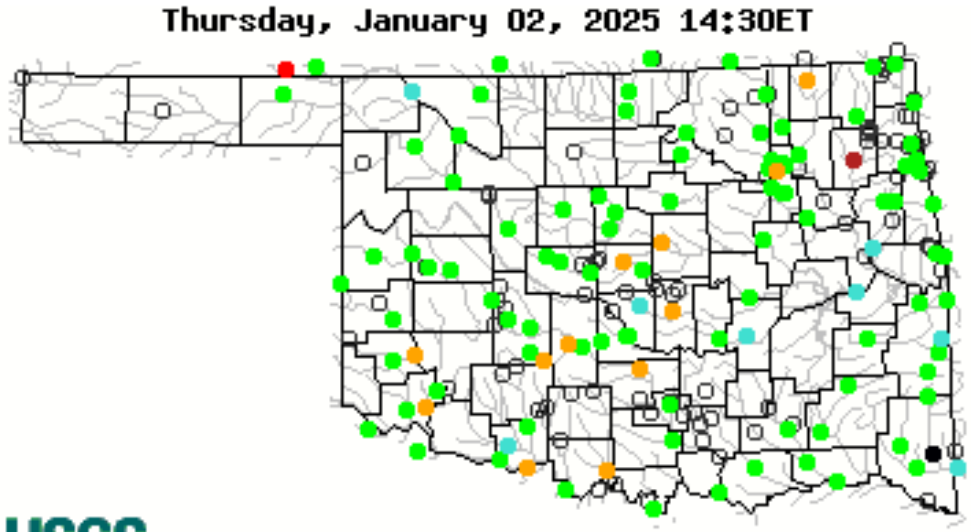
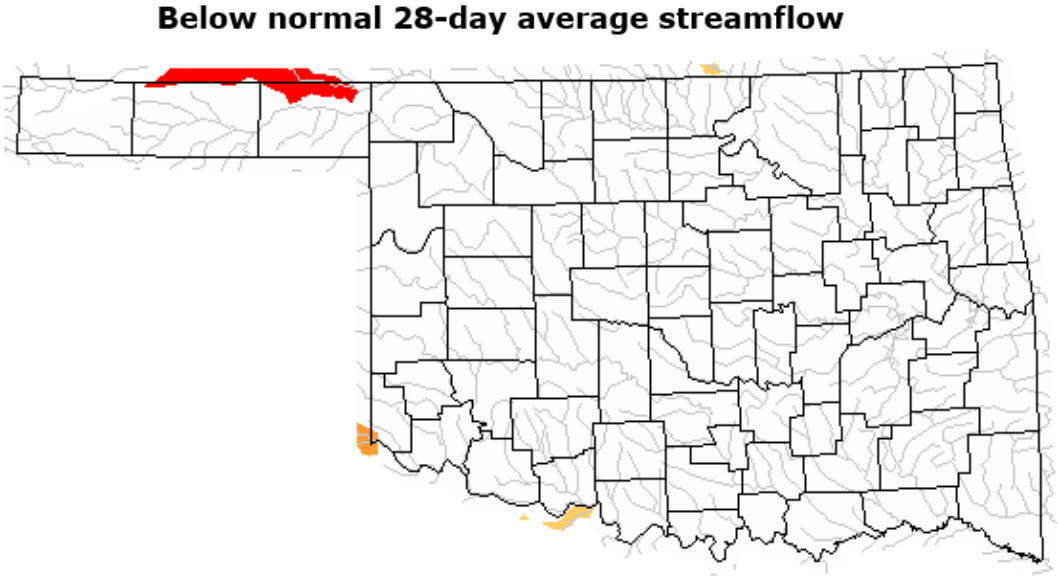
https://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php

USGS STREAMFLOW DATA



USGS

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		



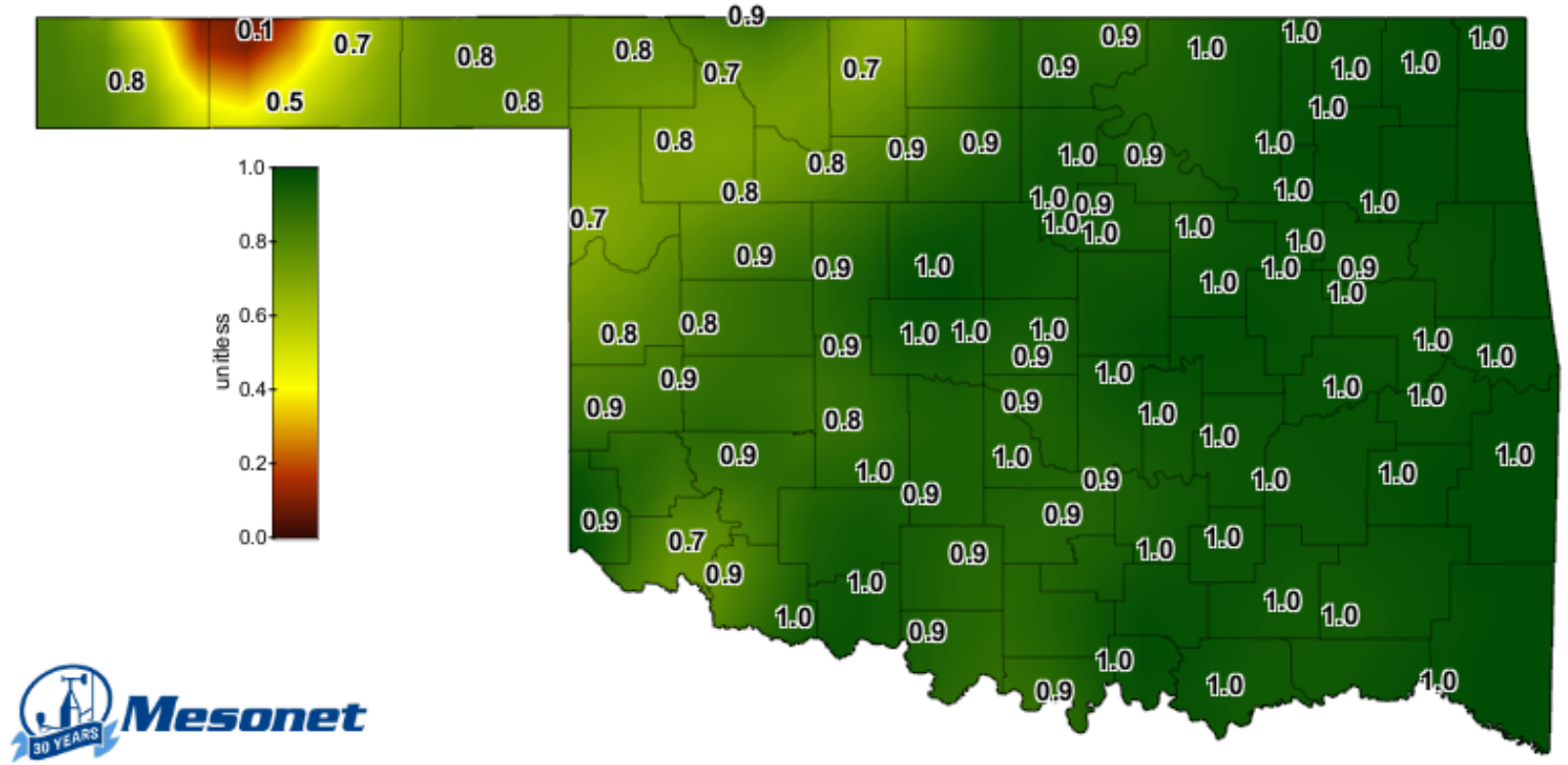
USGS

Explanation - Percentile classes				
Low	<=5	6-9	10-24	
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

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

https://waterwatch.usgs.gov/index.php?id=pa28d_dry&sid=w__map|m__pa28d_dwc&r=o_

SOIL MOISTURE MAP



1.0 - 0.8 Enhanced Growth

0.8 – 0.5 Limited Growth

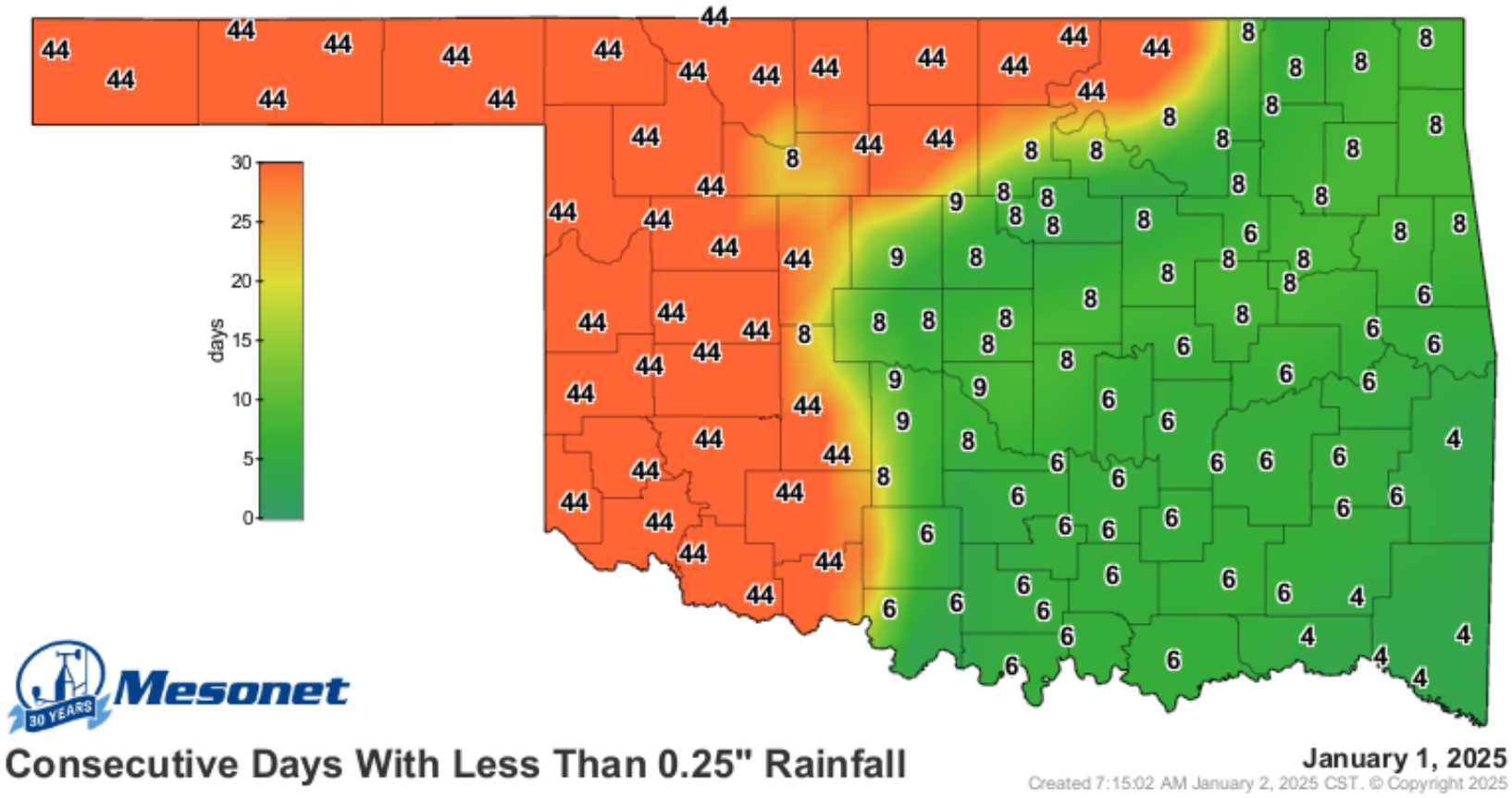
0.5 – 0.3 Plants Wilting

0.3 - 0.1 Plants Dying

< 0.1 Barren Soil

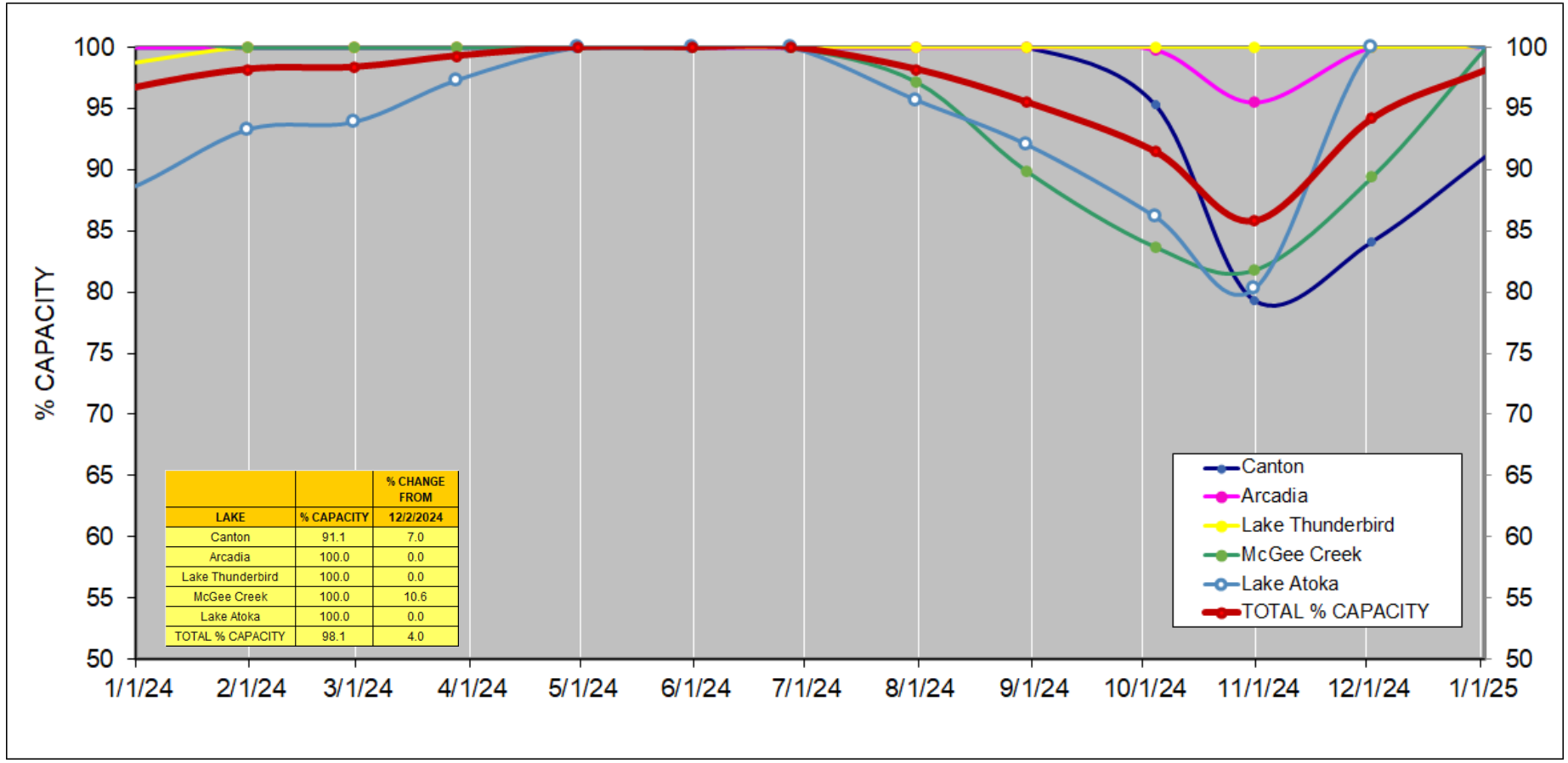
http://www.mesonet.org/index.php/weather/map/24-inch_fractional_water_index/soil_moisture

CONSECUTIVE DAYS WITHOUT RAINFALL MAP



Consecutive Days with Less Than 0.25 inches Rainfall | Mesonet

PERCENTAGE OF SURFACE WATER CONSERVATION CAPACITY IN CENTRAL OK RESERVOIRS

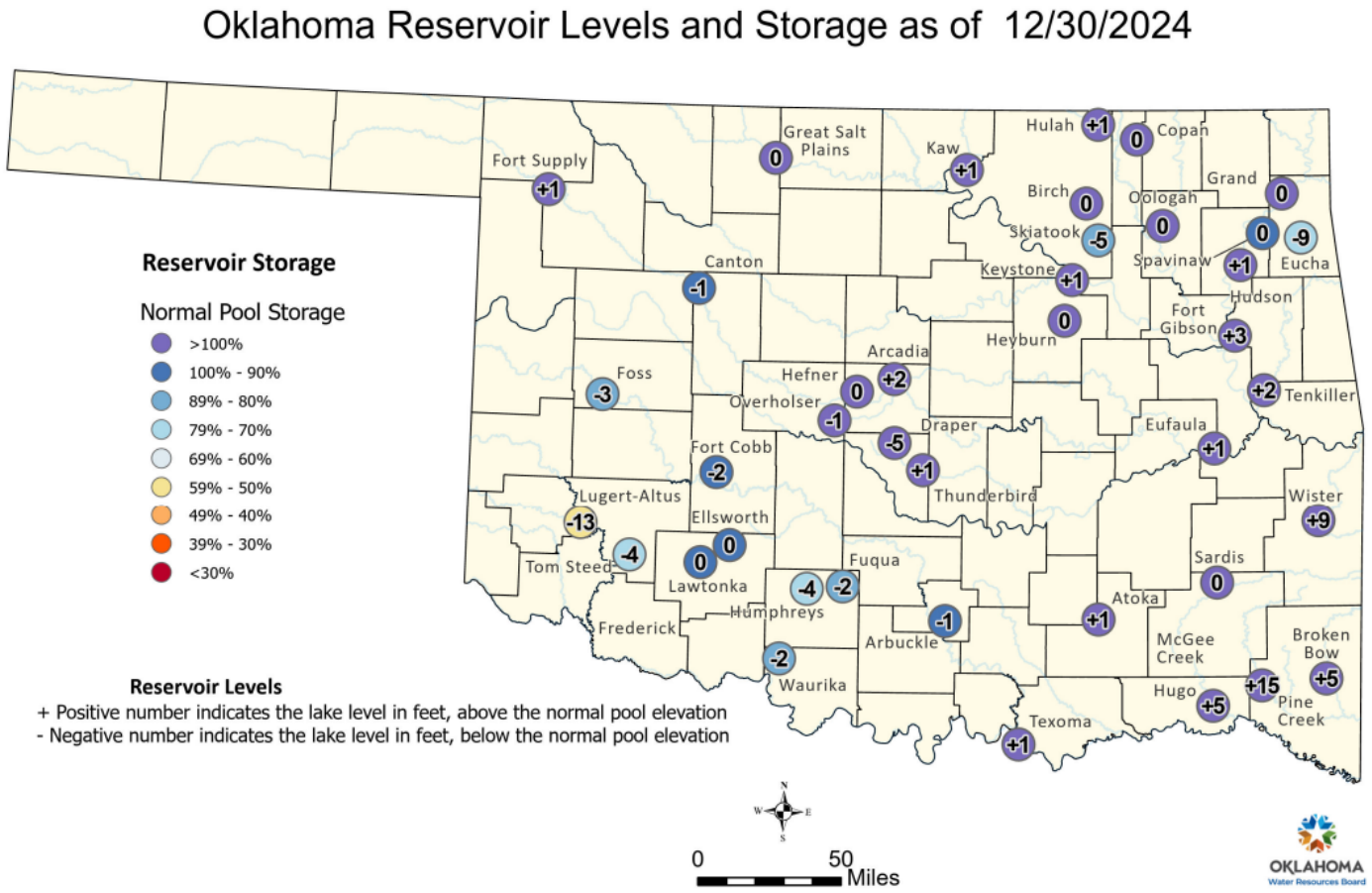


LAKE	% CAPACITY	% CHANGE FROM 12/2/2024
Canton	91.1	7.0
Arcadia	100.0	0.0
Lake Thunderbird	100.0	0.0
McGee Creek	100.0	10.6
Lake Atoka	100.0	0.0
TOTAL % CAPACITY	98.1	4.0

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

https://www.swt-wc.usace.army.mil/Daily_Morning_Reservoir_Report.pdf

OKLAHOMA RESERVOIR LEVELS AND STORAGE



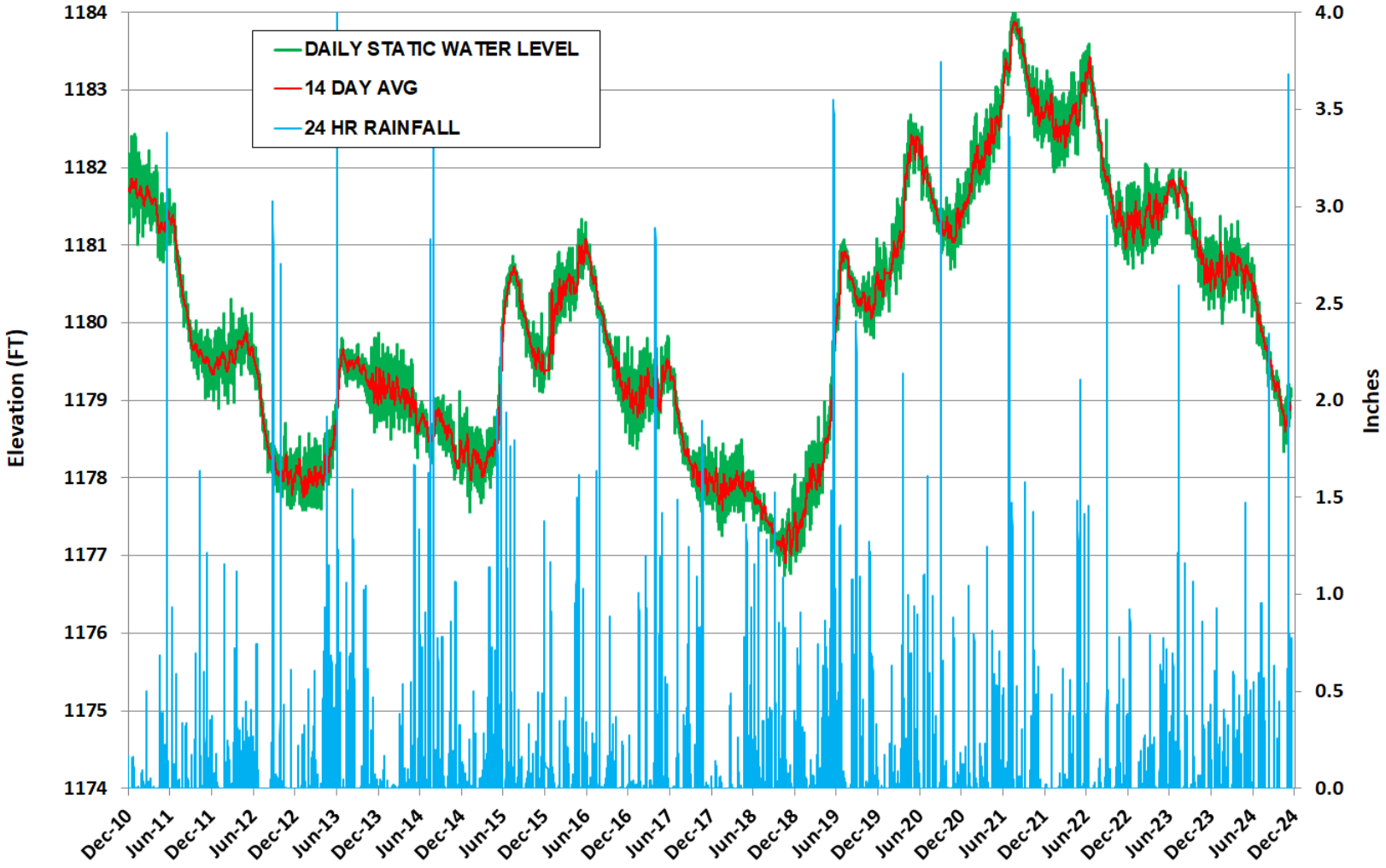
OKLAHOMA RESERVOIR LEVELS AND STORAGE AS OF 11/27/2024

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). For more information, please visit the OWRB's website: Monthly Reservoir Storage.pdf

OKLAHOMA
Water Resources Board

https://www.owrb.ok.gov/supply/drought/Lake_Levels_files/Monthly%20Reservoir%20Storage.pdf

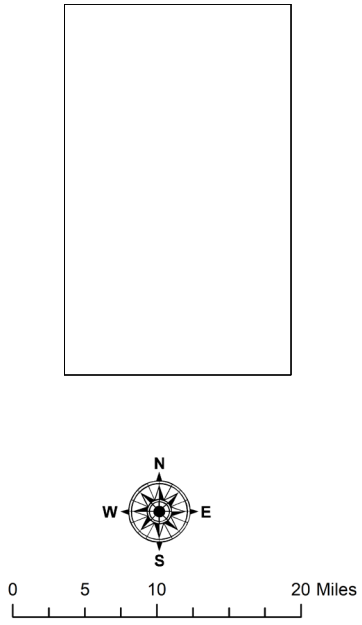
GROUNDWATER LEVELS SPENCER MESONET STATION



http://xwww.mesonet.org/index.php/weather/groundwater/

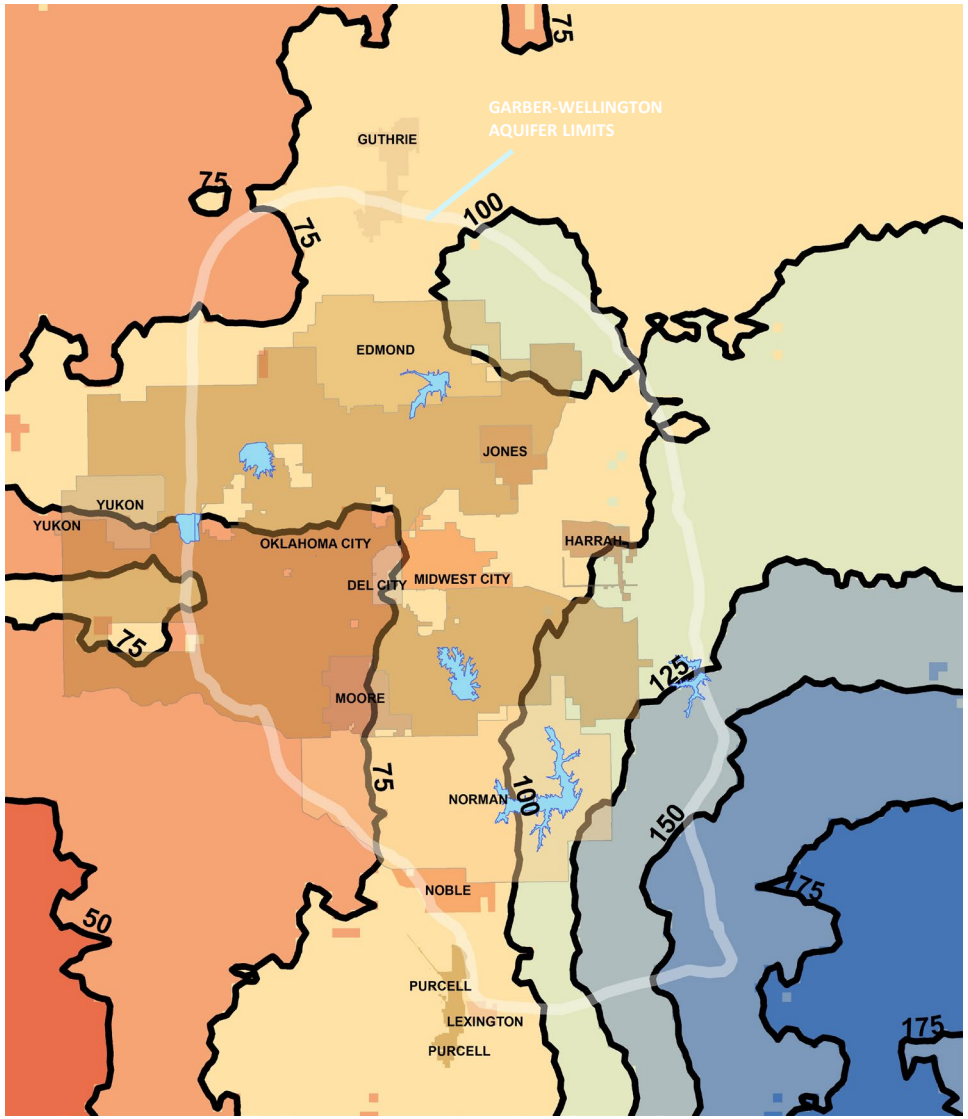
MONTHLY AQUIFER RECHARGE

- Mean aquifer recharge in December 2024 was 0.00 inches.
- Normal mean recharge for December is 0.16 inches.
- We are -0.18 inches below normal for 2024.



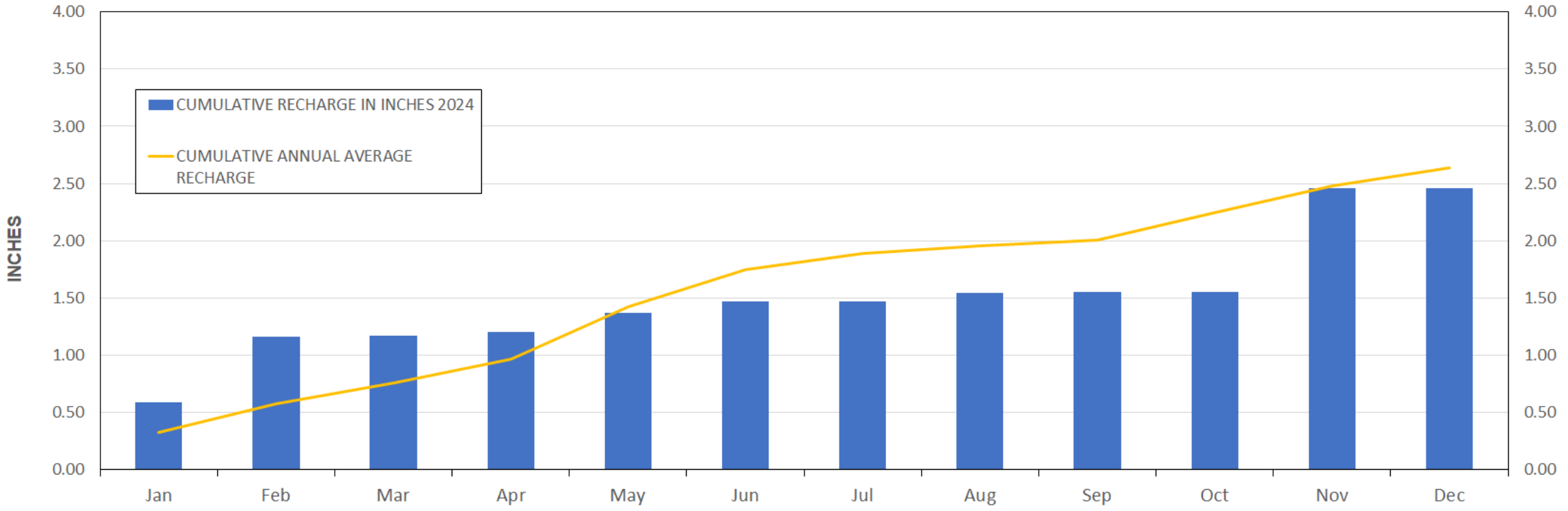
PERCENT TOTAL CUMULATIVE AQUIFER RECHARGE – Last 12 Months

- Most of the recharge in the past 12 months was south and east of the metropolitan area.
- December 2024 had 0.00 inches of recharge. Average December recharge is 0.16 inches.
- Over the past 12 months the metropolitan area has received normal annual recharge.



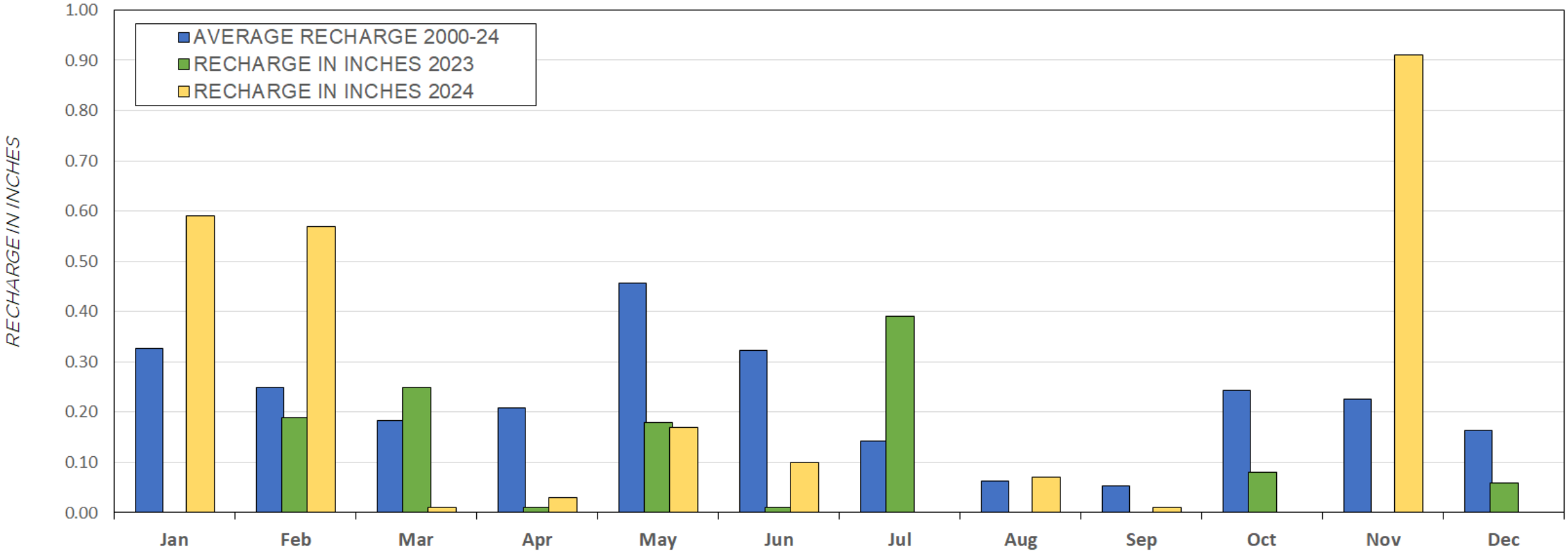
RECHARGE CHARTS CENTRAL OKLAHOMA AQUIFER SYSTEM

ACCUMULATED CENTRAL OKLAHOMA AQUIFER SYSTEM RECHARGE 2024

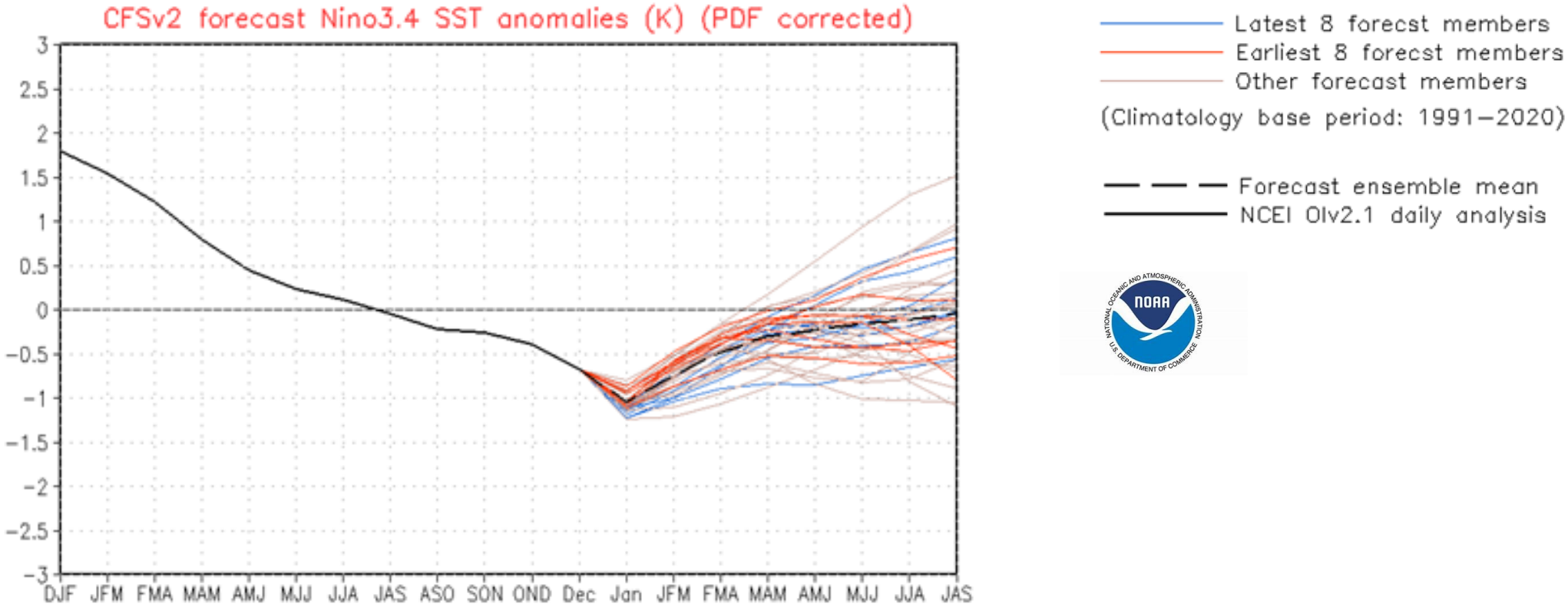


RECHARGE CHARTS CENTRAL OKLAHOMA AQUIFER SYSTEM CONTINUED

MONTHLY AQUIFER RECHARGE 2024

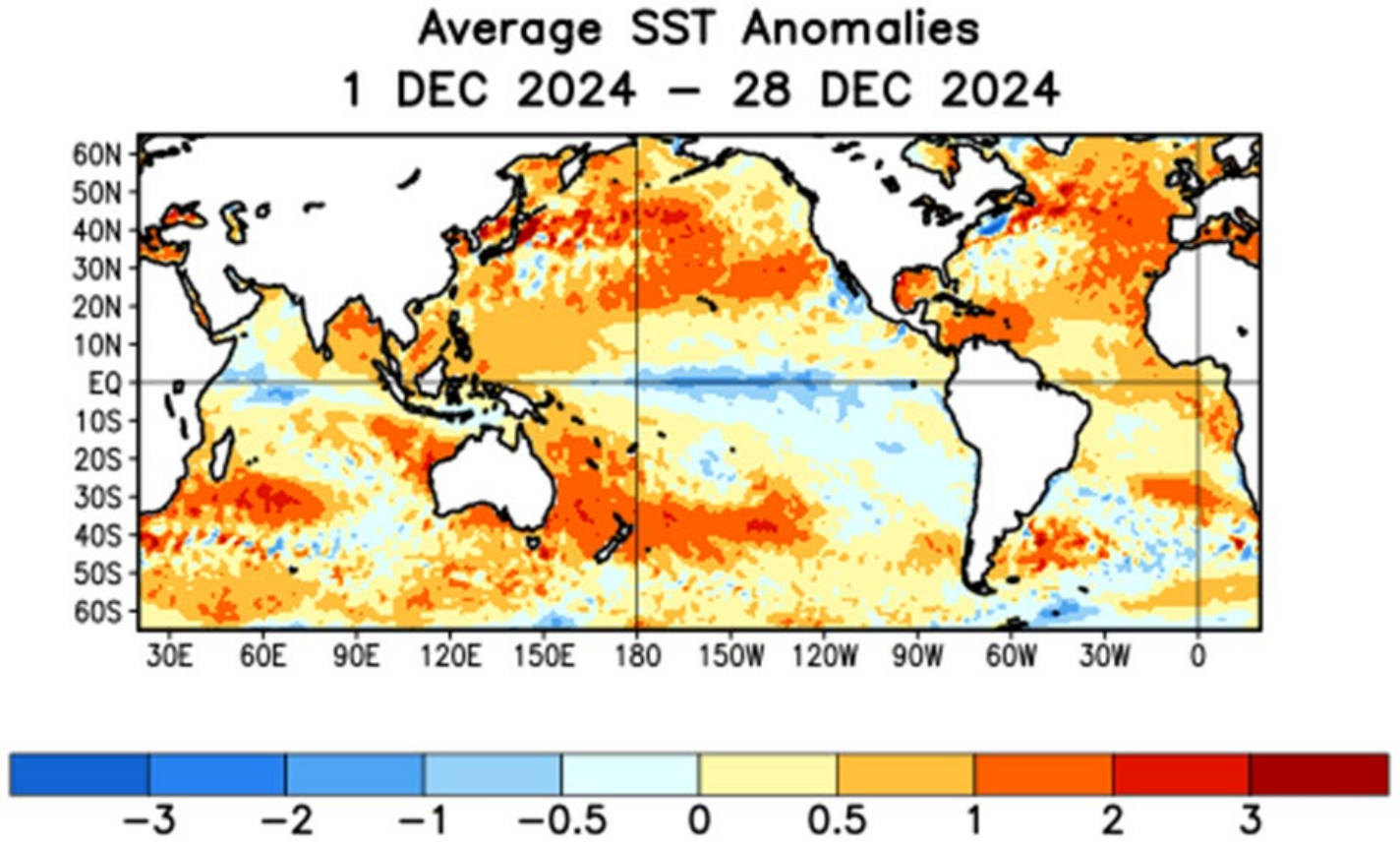


ENSO CYCLE - RECENT EVOLUTION, CURRENT STATUS AND PREDICTIONS



https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt

ENSO CYCLE - RECENT EVOLUTION, CURRENT STATUS AND PREDICTIONS



https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt

SUMMARY

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 most likely to emerge in November 2024 – January 2025 (59% chance), with a transition to ENSO-neutral most likely by March-May 2025.

https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt

QUESTIONS?

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ASSOCIATION OF
CENTRAL OKLAHOMA
GOVERNMENTS