DROUGHT CONDITIONS

IN CENTRAL OKLAHOMA

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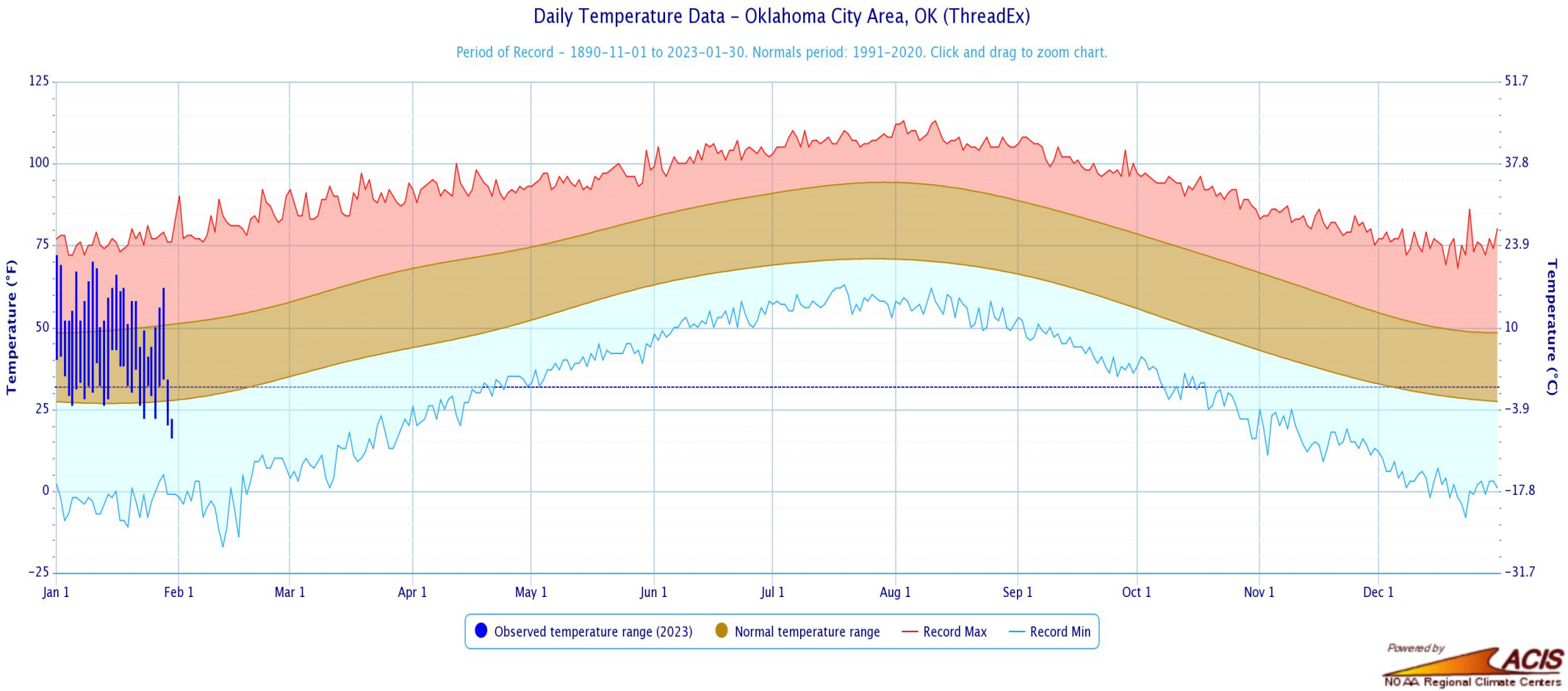
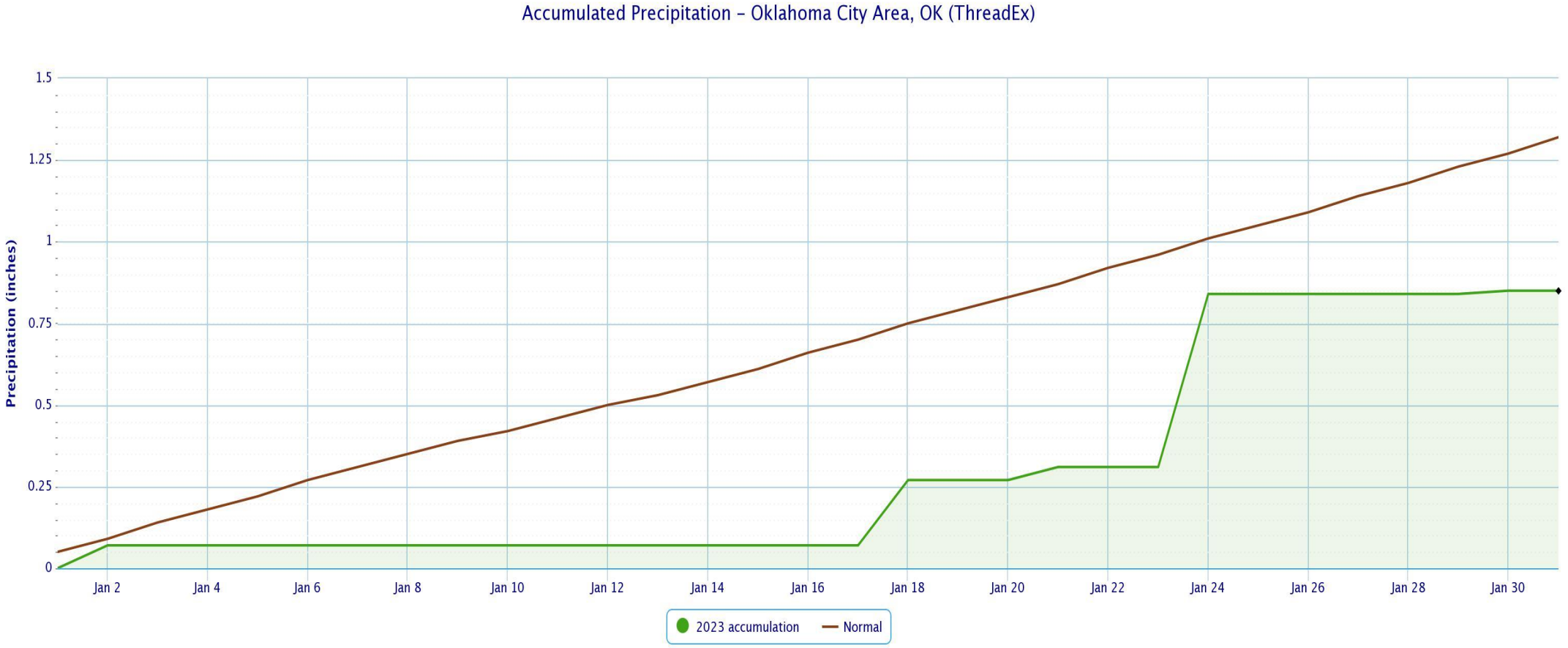
FEBRUARY 1, 2023

TEMPERATURE PLOT FOR OKLAHOMA CITY, OKLAHOMA FOR 2023



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

PRECIPITATION PLOT FOR OKLAHOMA CITY, OKLAHOMA FOR 2023



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

RAINFALL SUMMARIES BY OKLAHOMA CLIMATE DIVISION

Calendar Year 01-Jan-2022 though 30-Jan-2023

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	0.66"	-0.25"	72%	51st driest	0.00" (1986)	3.92" (1949)
Central	1.10"	-0.28"	79%	48th driest	0.00" (1986)	5.71" (1949)
S. Central	1.25"	-0.70"	64%	41st driest	0.02" (2003)	6.86" (1932)
Statewide	1.17"	-0.35"	77%	49th driest	0.04" (1986)	5.27" (1949)

Water Year: 01-Oct-2021 through 30-Jan-2023

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	5.79"	-0.66"	90%	44th wettest	1.10" (1950-51)	13.41" (1986-87)
Central	8.04"	-1.45"	85%	47th wettest	2.39" (1921-22)	17.17" (1984-85)
S. Central	11.03"	-0.61"	95%	41st wettest	2.10" (1950-51)	22.55" (2015-16)
Statewide	8.61"	-0.99"	90%	44th wettest	2.44" (1950-51)	15.80" (2015-16)

Winter Dec 01 through 30-Jan-2023

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	1.81"	-0.32"	85%	42nd wettest	0.07" (2017-18)	5.20" (1984-85)
Central	3.20"	-0.17"	95%	37th wettest	0.49" (2010-11)	9.11" (1984-85)
S. Central	3.23"	-1.31"	71%	40th driest	0.93" (1951-52)	10.95" (1997-98)
Statewide	3.02"	-0.57"	84%	49th driest	0.99" (1955-56)	7.43" (1997-98)

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.

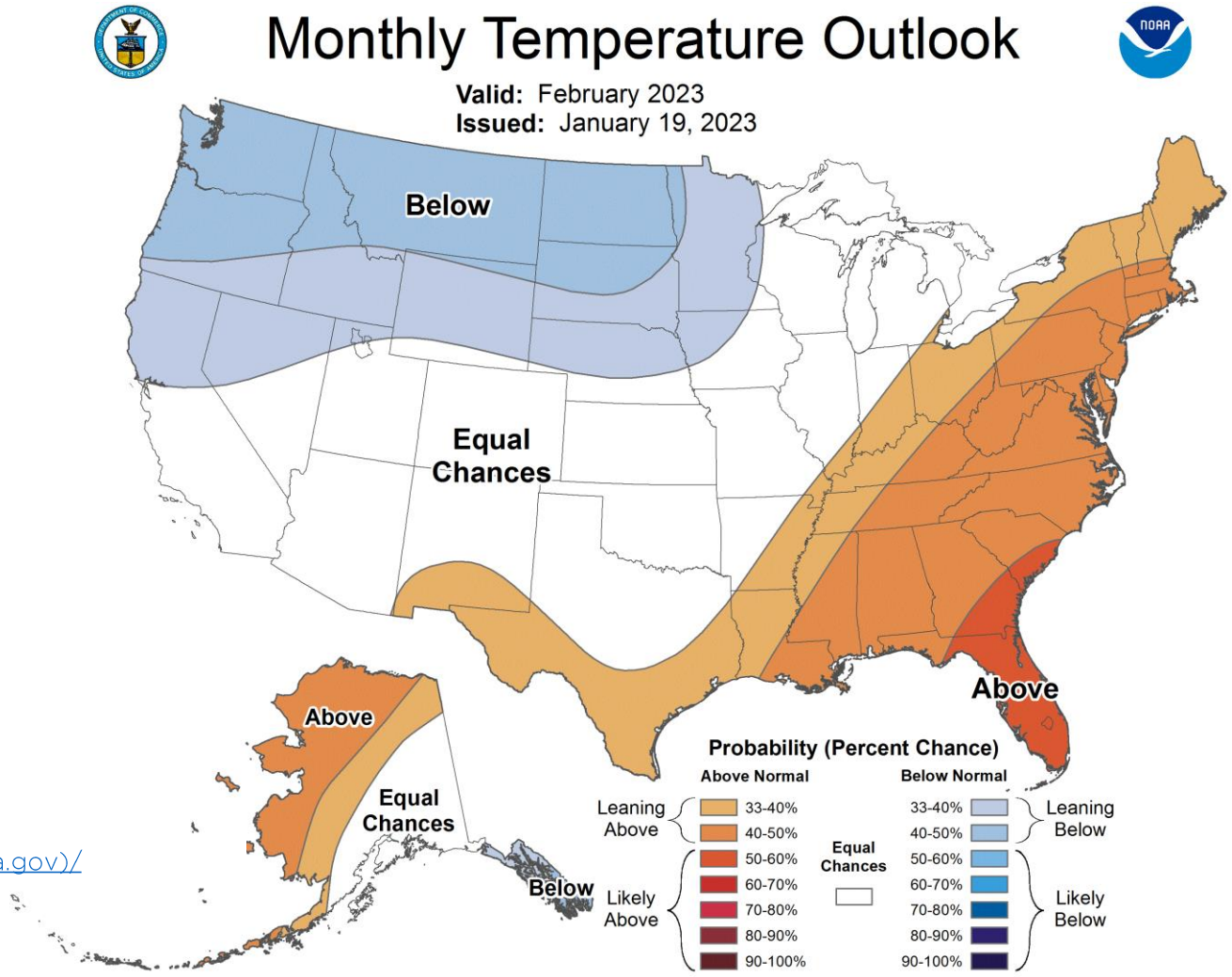
http://climate.ok.gov/index.php/drought/last_30_days/drought_wildfire

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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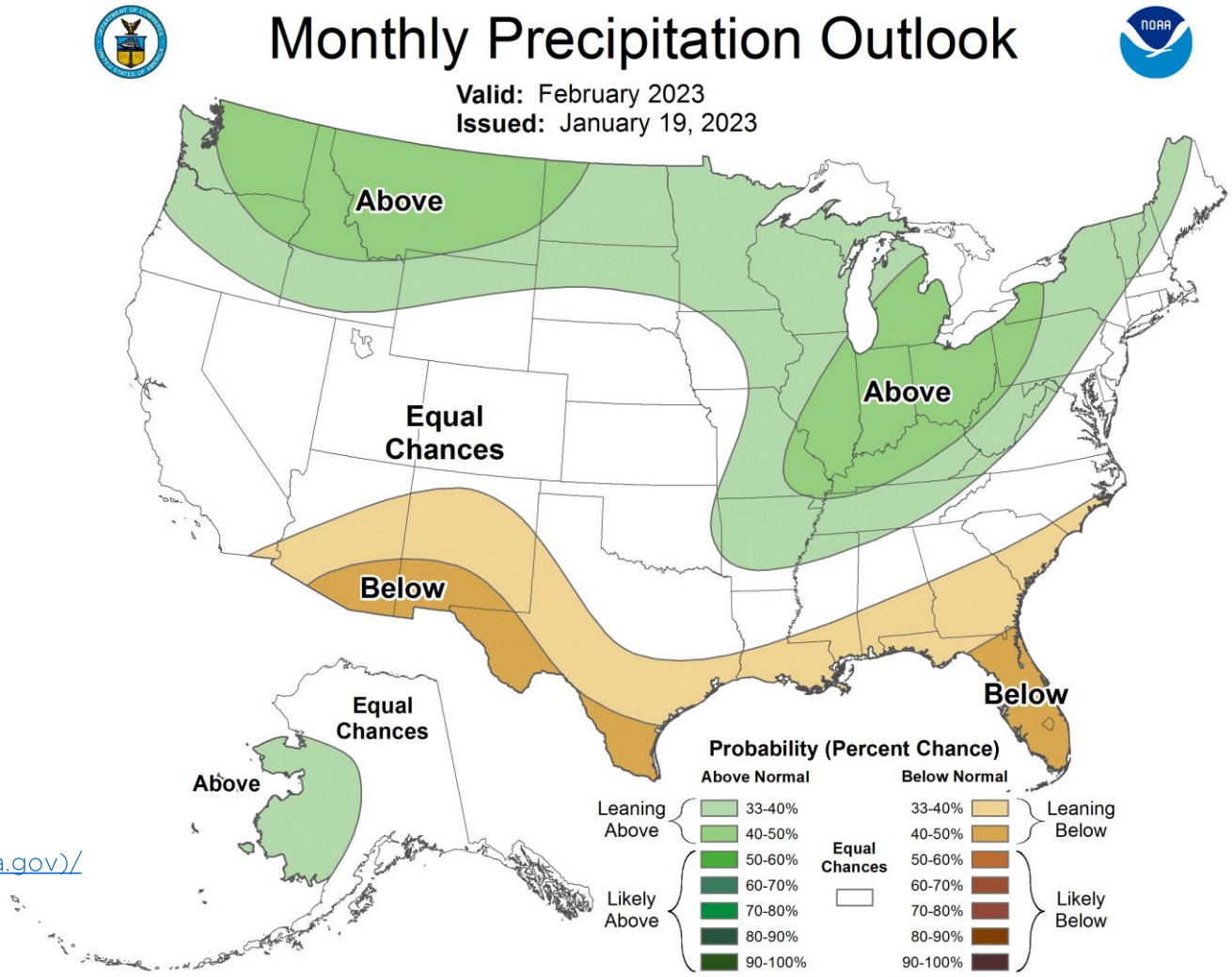
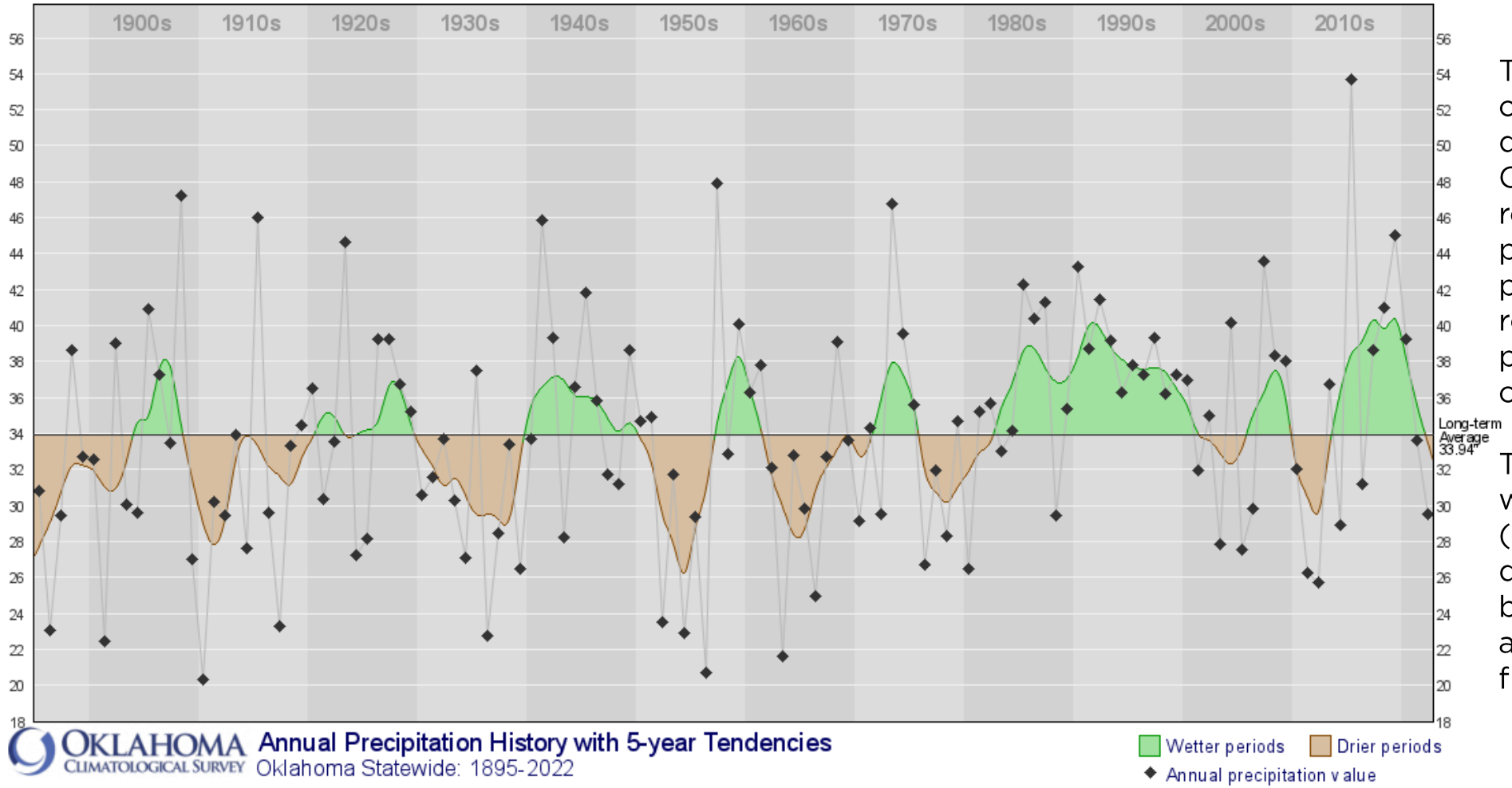


Annual Precipitation History with 5-Year Tendencies

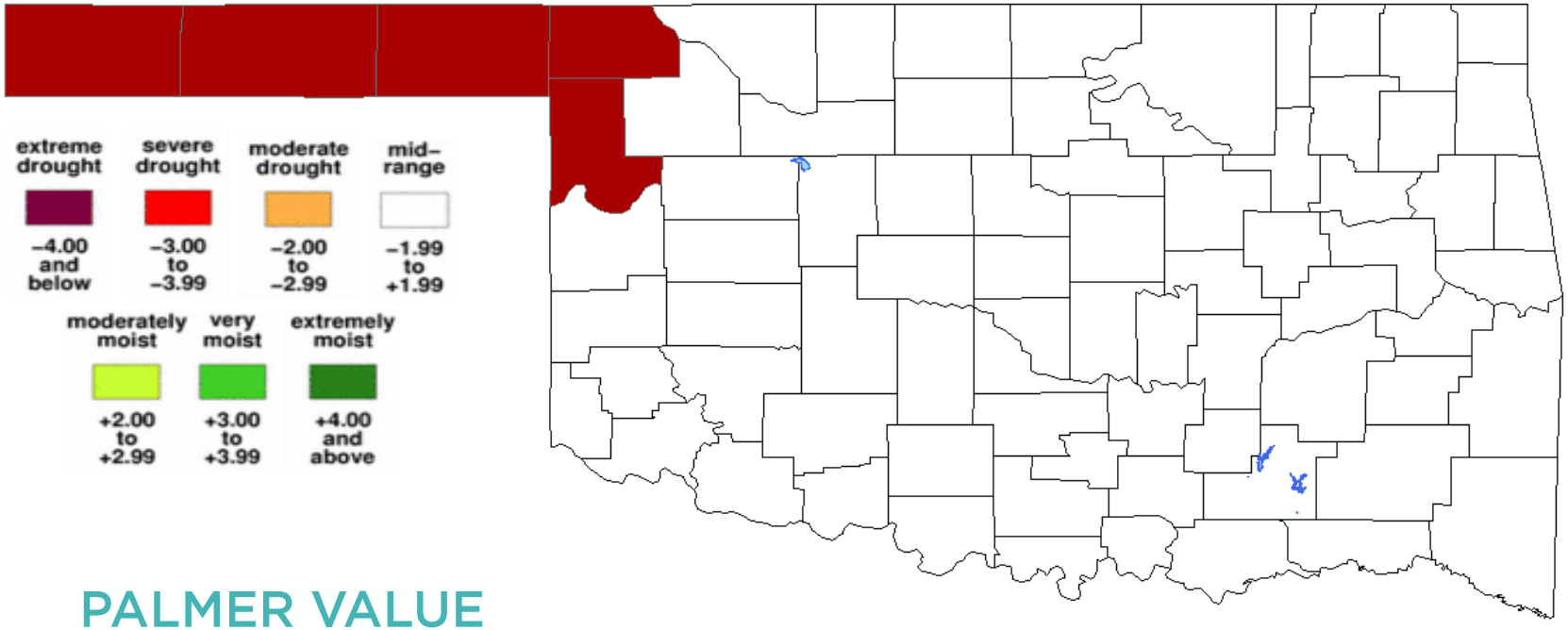


This graph shows the cyclical nature of wet and drought periods in Oklahoma. The black dots represent the annual precipitation for that particular year. The line represents the annual precipitation data smoothed over five years.

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 JAN 2023

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.

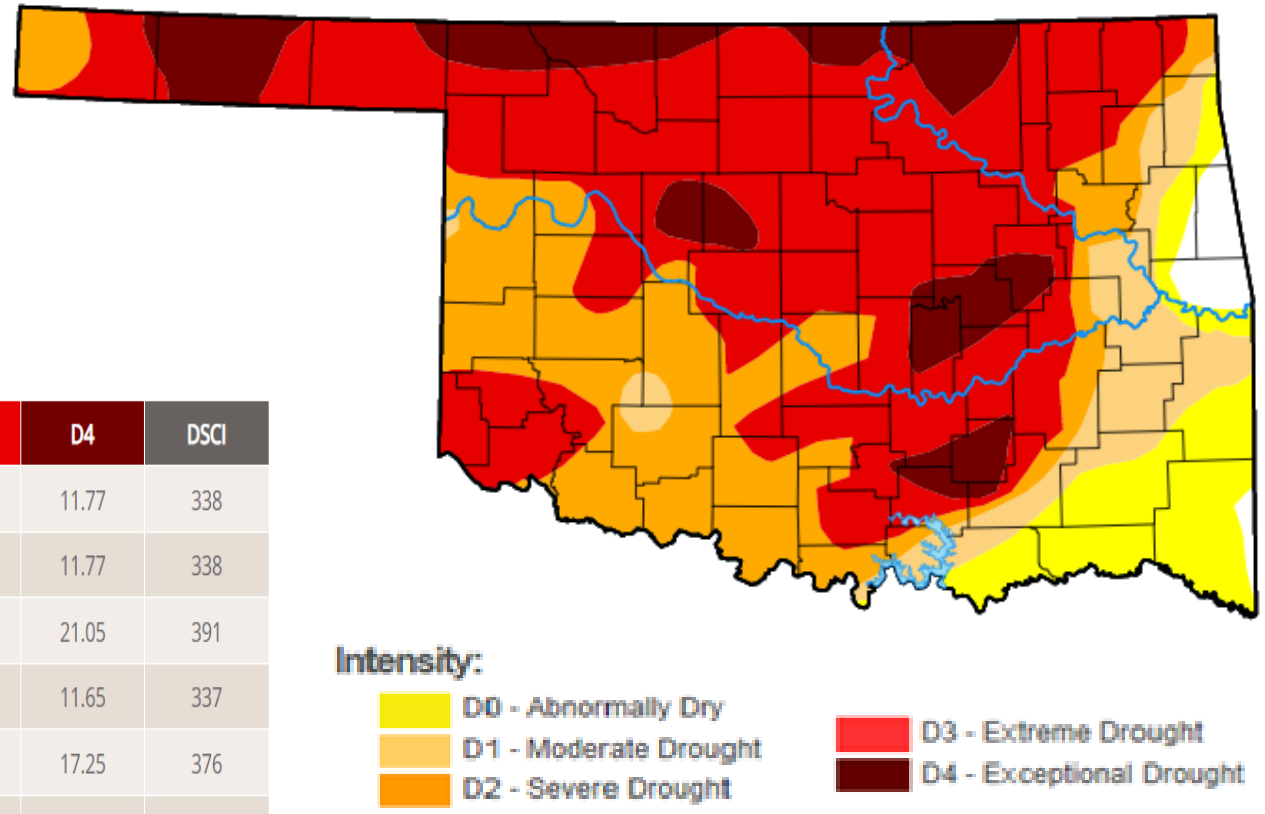
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cdus/palmer_drought/wpdsouth.txt

U.S. DROUGHT MONITOR - OKLAHOMA

January 24, 2023

Abnormal dryness or drought are currently affecting approximately 3,522,506 people in Oklahoma.

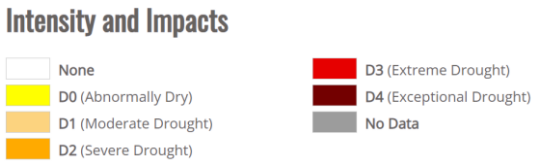
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2023-01-24	2.04	97.96	89.12	81.01	57.90	11.77	338
Last Week	2023-01-17	2.04	97.96	89.12	81.01	57.90	11.77	338
3 Months Ago	2022-10-25	0.00	100.00	100.00	99.82	70.29	21.05	391
Start of Calendar Year	2022-12-27	1.82	98.18	89.73	80.92	56.13	11.65	337
Start of Water Year	2022-09-27	0.00	100.00	99.88	94.44	64.44	17.25	376
One Year Ago	2022-01-25	3.91	96.09	88.23	77.66	49.17	2.90	314



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

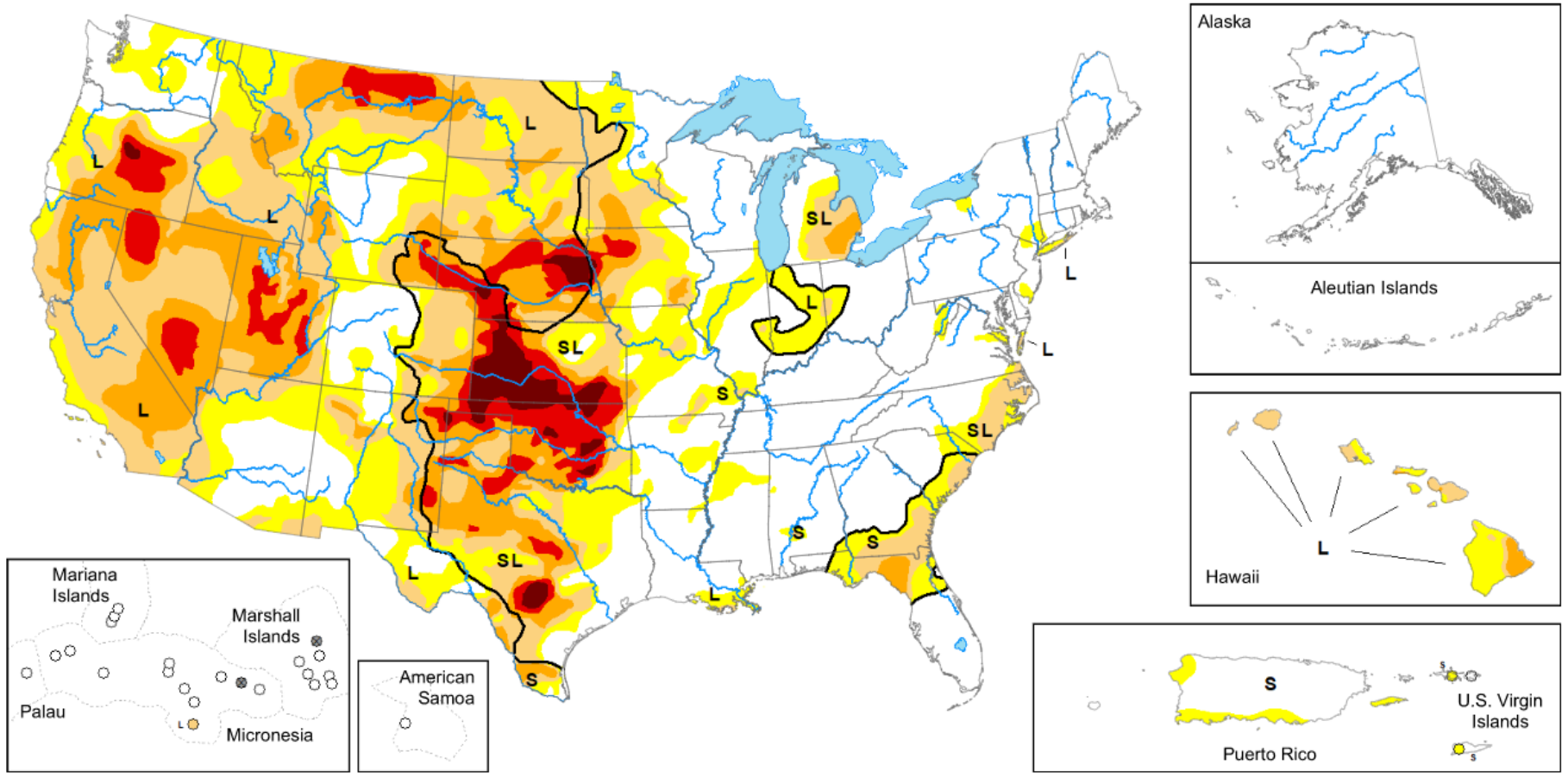
U.S. DROUGHT MONITOR NATIONWIDE MAP

Map released: January 26, 2023
Data valid: January 24, 2023



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

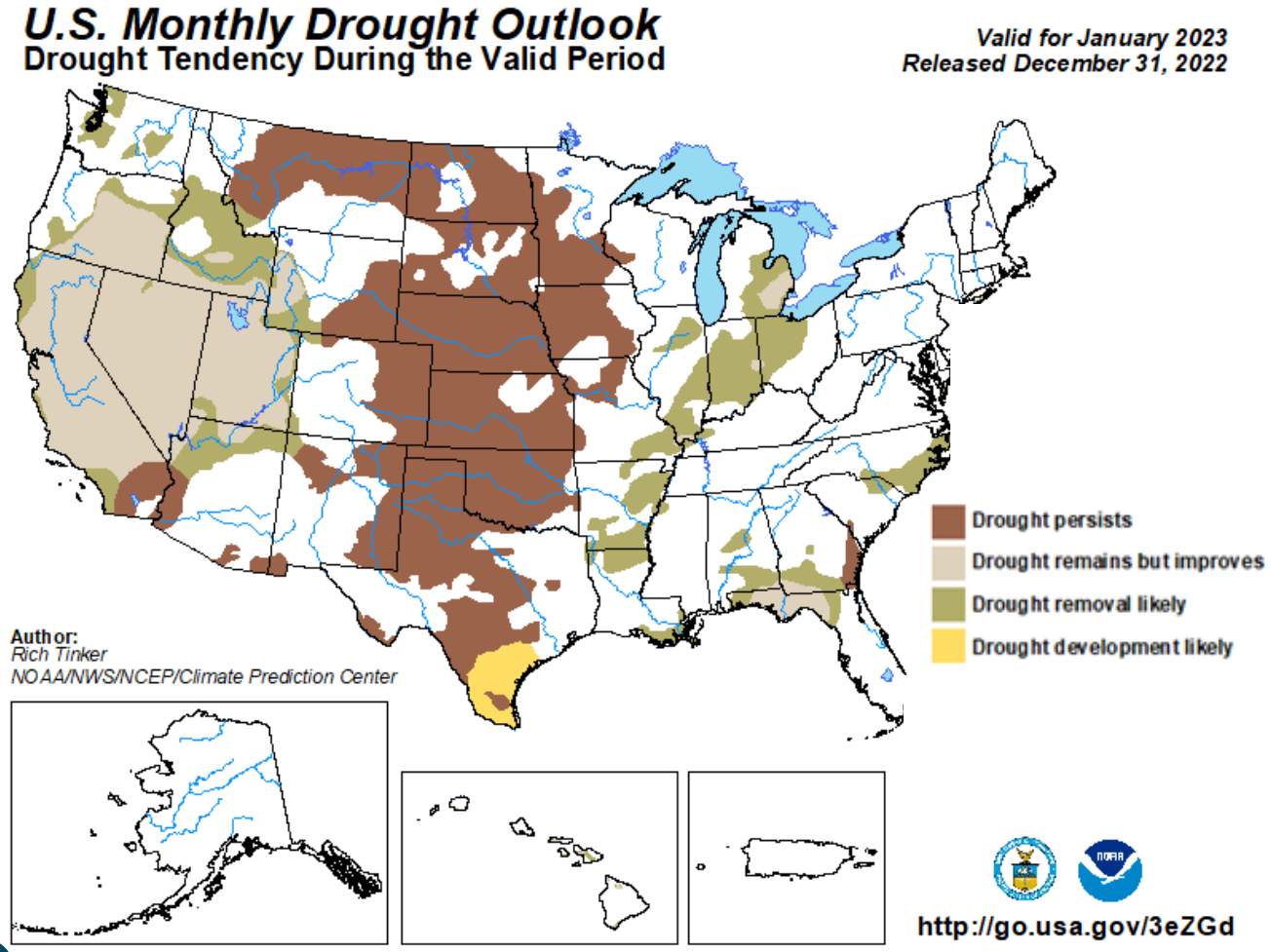
Pacific Islands and Virgin Islands Author(s):
Ahira Sanchez-Lugo, NOAA/NCEI



http://droughtmonitor.unl.edu

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

U.S. DROUGHT MONITOR MONTHLY DROUGHT OUTLOOK MAP

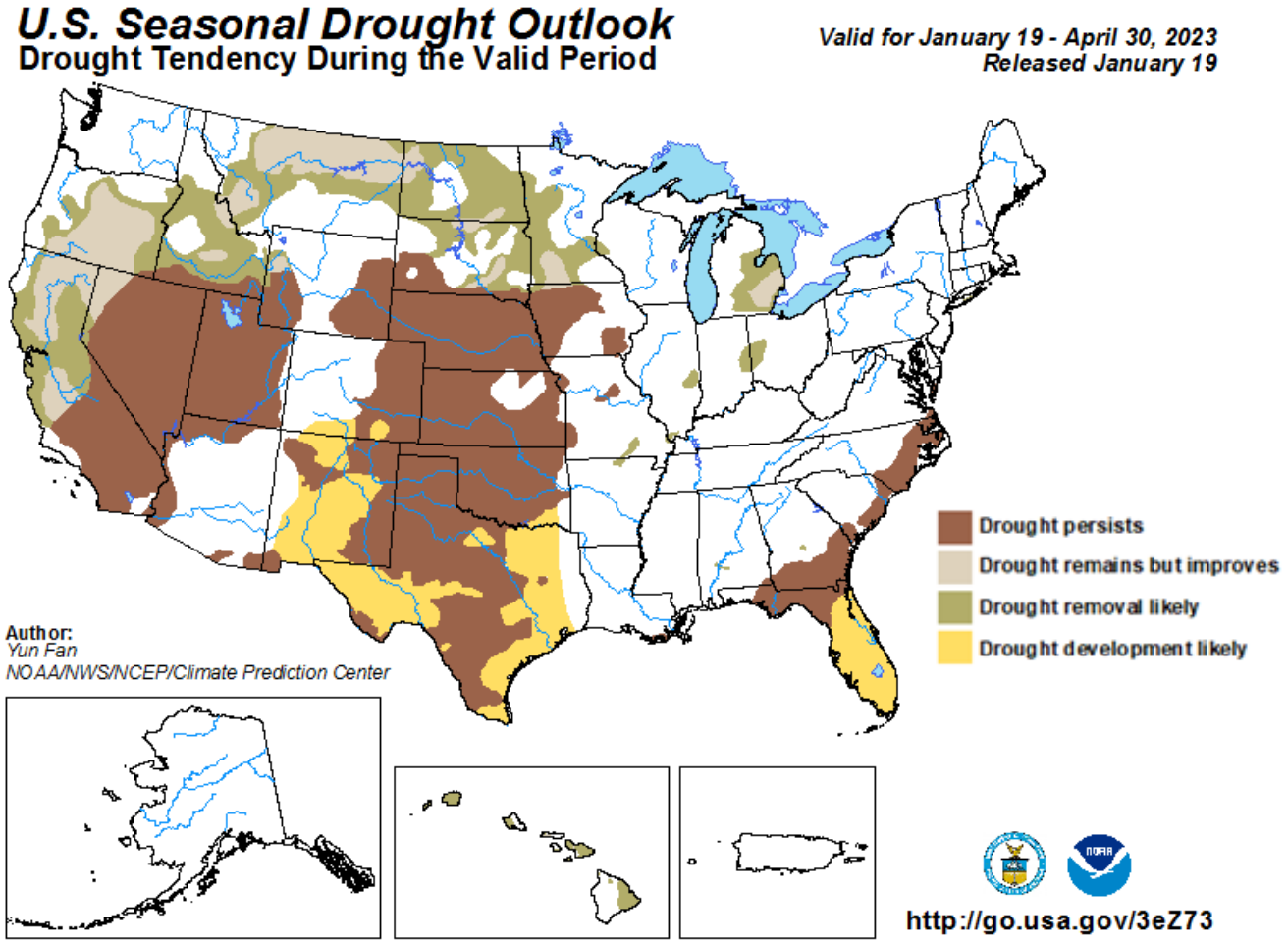


Depicts large-scale trends based on subjectively derived probabilities guided by short and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. “Ongoing” drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to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



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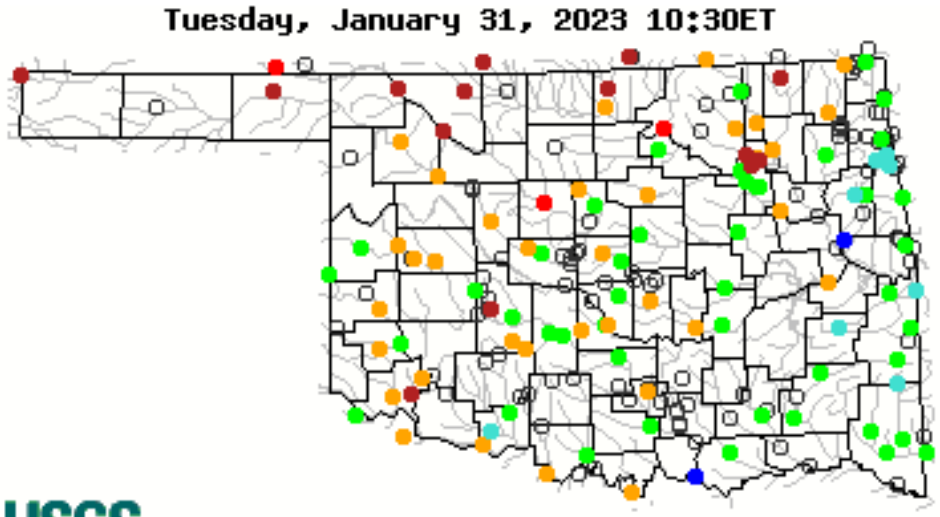
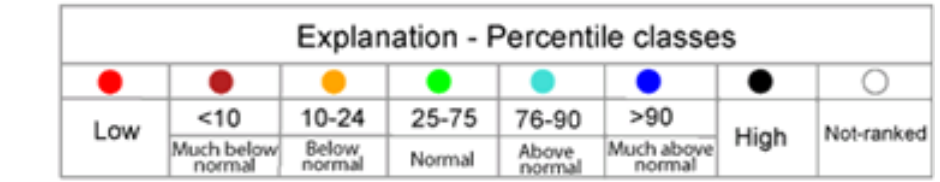
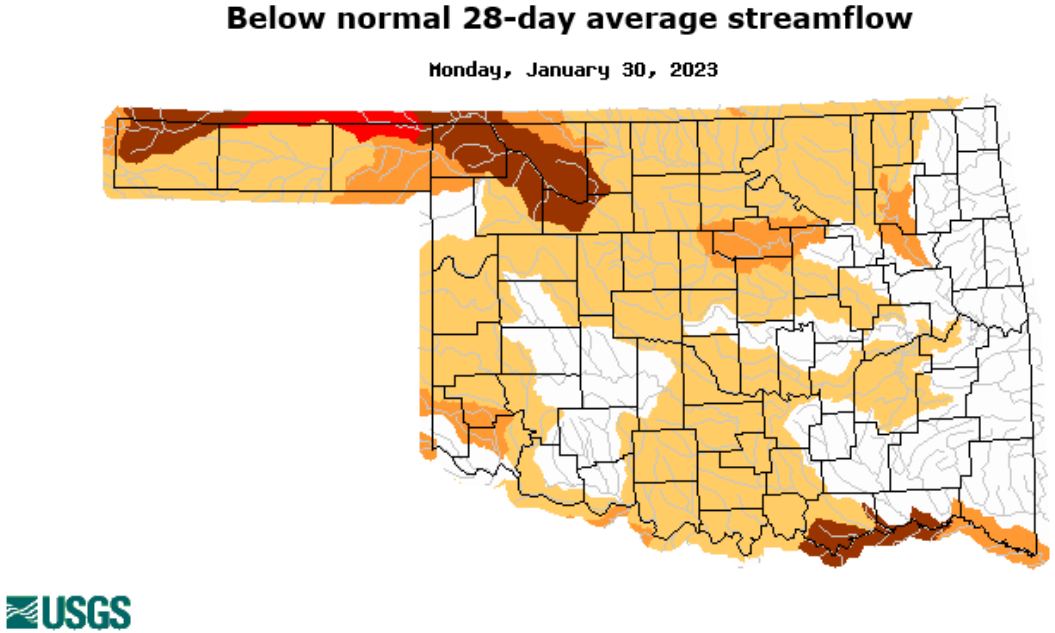
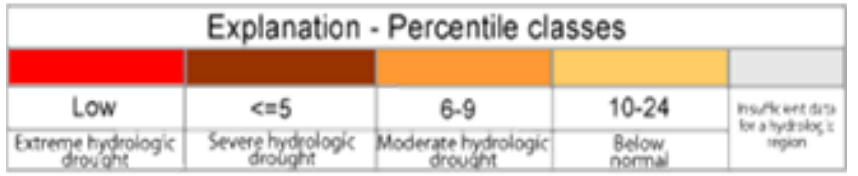
https://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php

USGS STREAMFLOW DATA





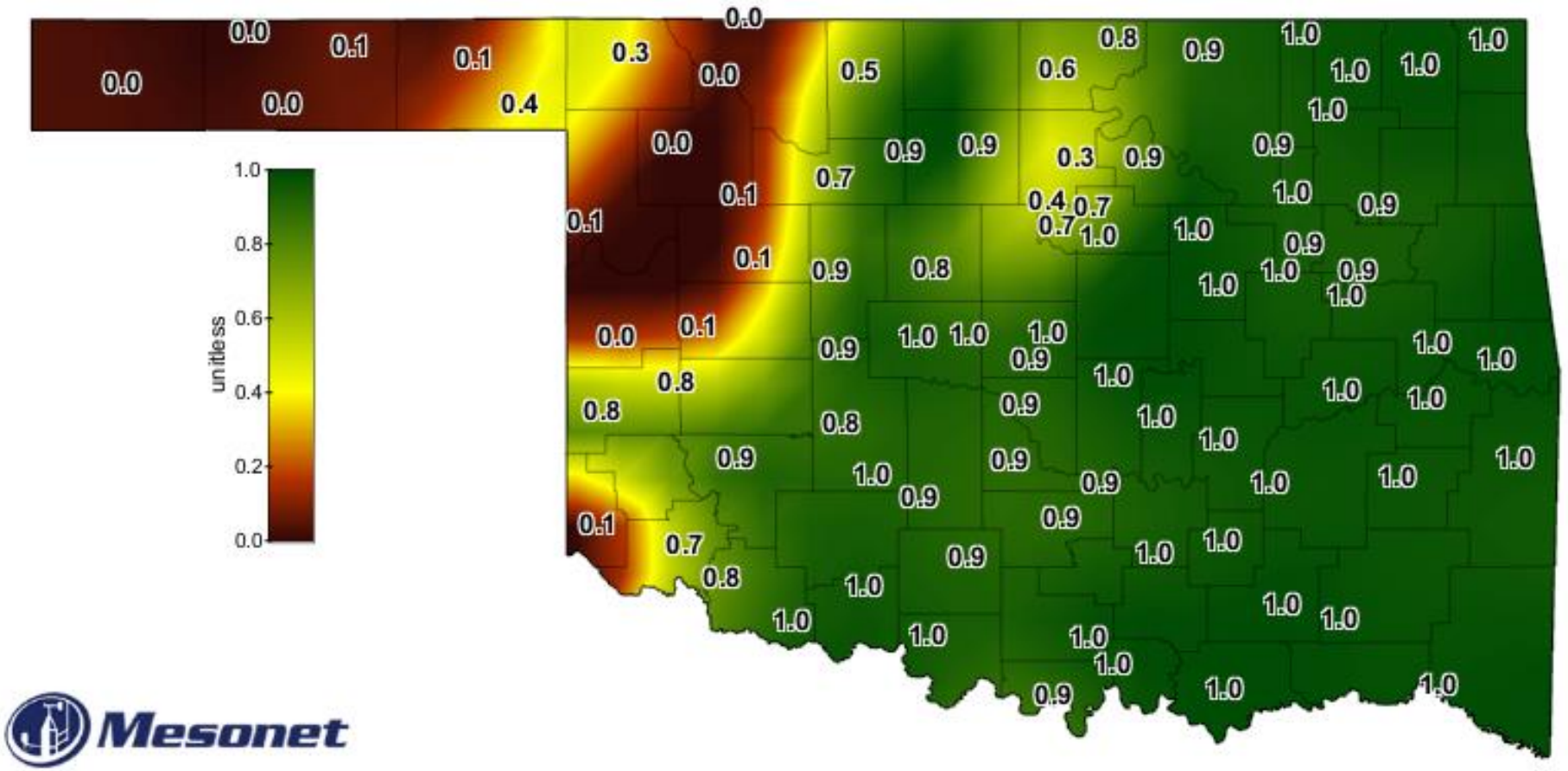




https://waterdata.usgs.gov/ok/nwis/rt

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

SOIL MOISTURE MAP



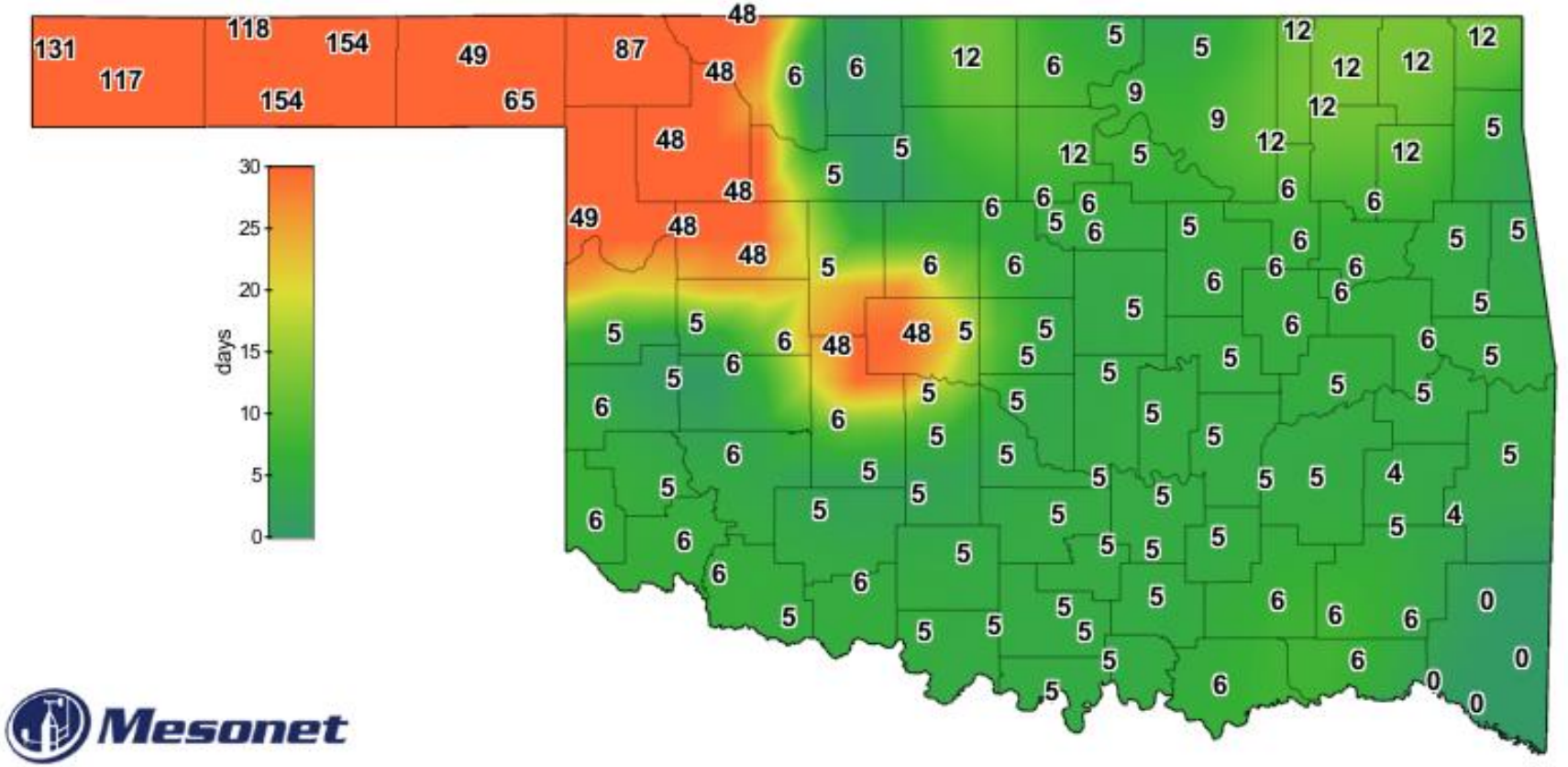
1-DAY AVERAGE 24-INCH FRACTIONAL WATER INDEX

- 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

Mesonet

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

CONSECUTIVE DAYS WITHOUT RAINFALL MAP

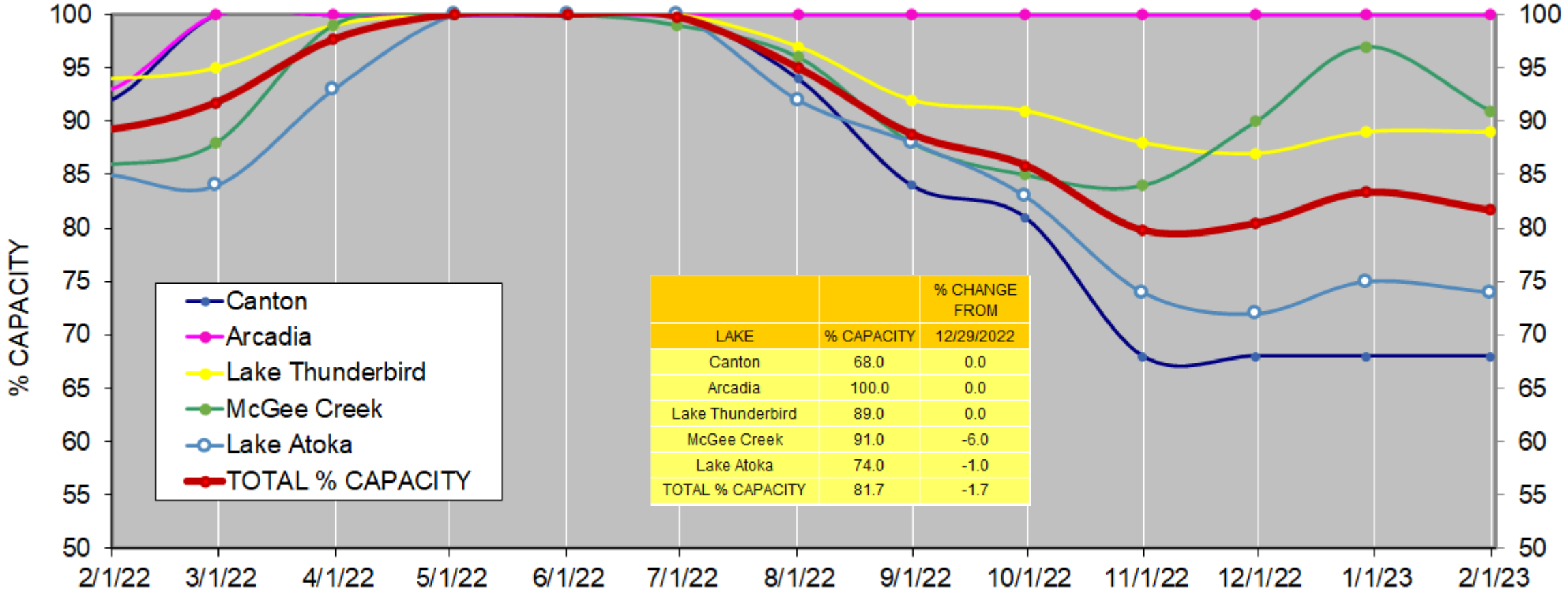


CONSECUTIVE DAYS WITH LESS THAN 0.25” RAINFALL

Mesonet

http://www.mesonet.org/index.php/weather/map/consecutive_days_with_less_than_0.25_inches_Rainfall/rainfall

PERCENTAGE OF SURFACE WATER CONSERVATION CAPACITY IN CENTRAL OK RESERVOIRS

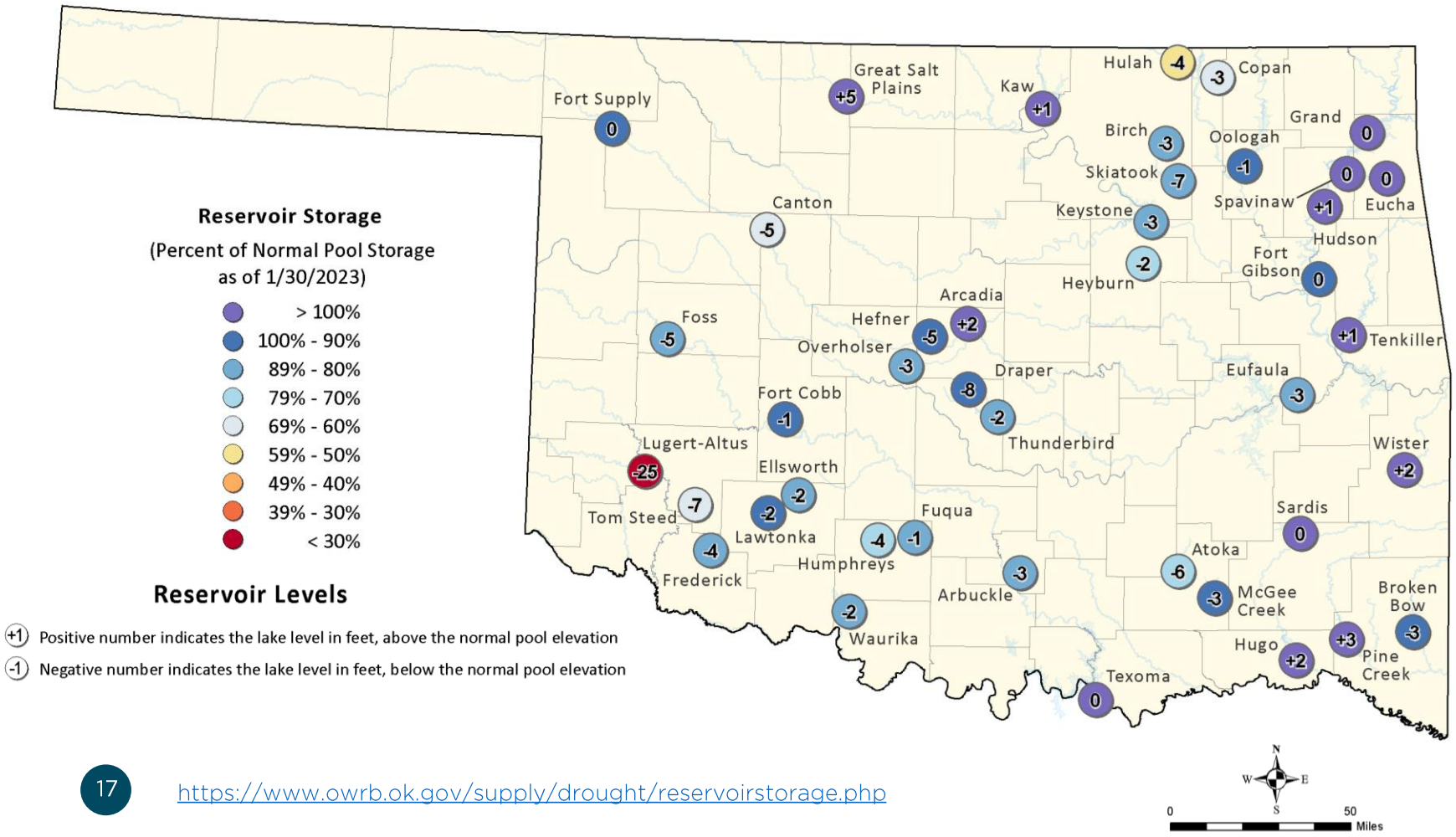


LAKE	% CAPACITY	% CHANGE FROM 12/29/2022
Canton	68.0	0.0
Arcadia	100.0	0.0
Lake Thunderbird	89.0	0.0
McGee Creek	91.0	-6.0
Lake Atoka	74.0	-1.0
TOTAL % CAPACITY	81.7	-1.7

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

https://www.owrb.ok.gov/supply/drought/reservoirstorage.php

OKLAHOMA RESERVOIR LEVELS AND STORAGE



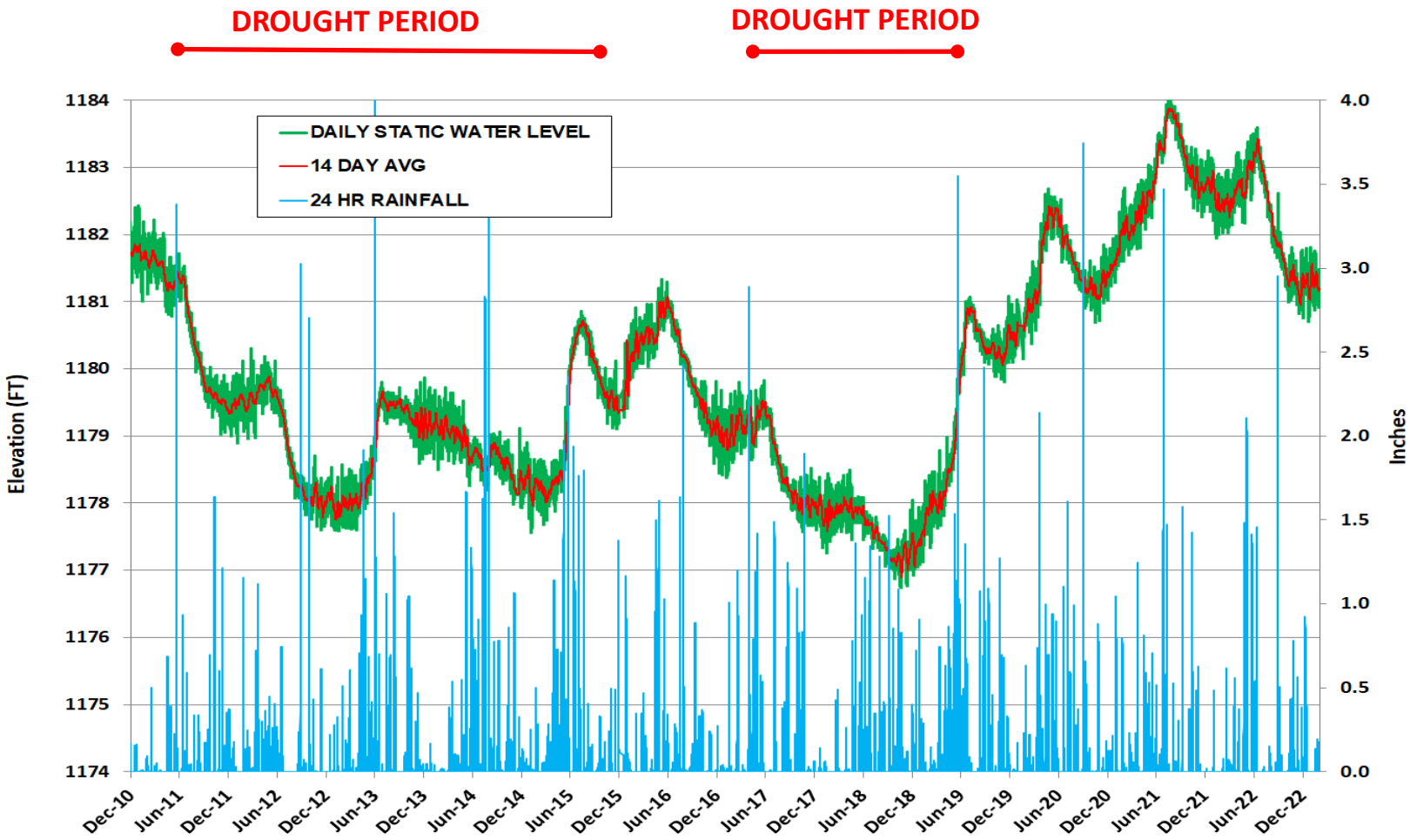
OKLAHOMA RESERVOIR LEVELS AND STORAGE AS OF 1/30/2023

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 (https://www.waterdata.usgs.gov/ok/nwis/current/?type=lake&group_key=basin_cd). For more information, please visit the OWRB's website: (https://www.owrb.ok.gov).

OKLAHOMA Water Resources Board

https://www.owrb.ok.gov/supply/drought/reservoirstorage.php

GROUNDWATER LEVELS SPENCER MESONET STATION



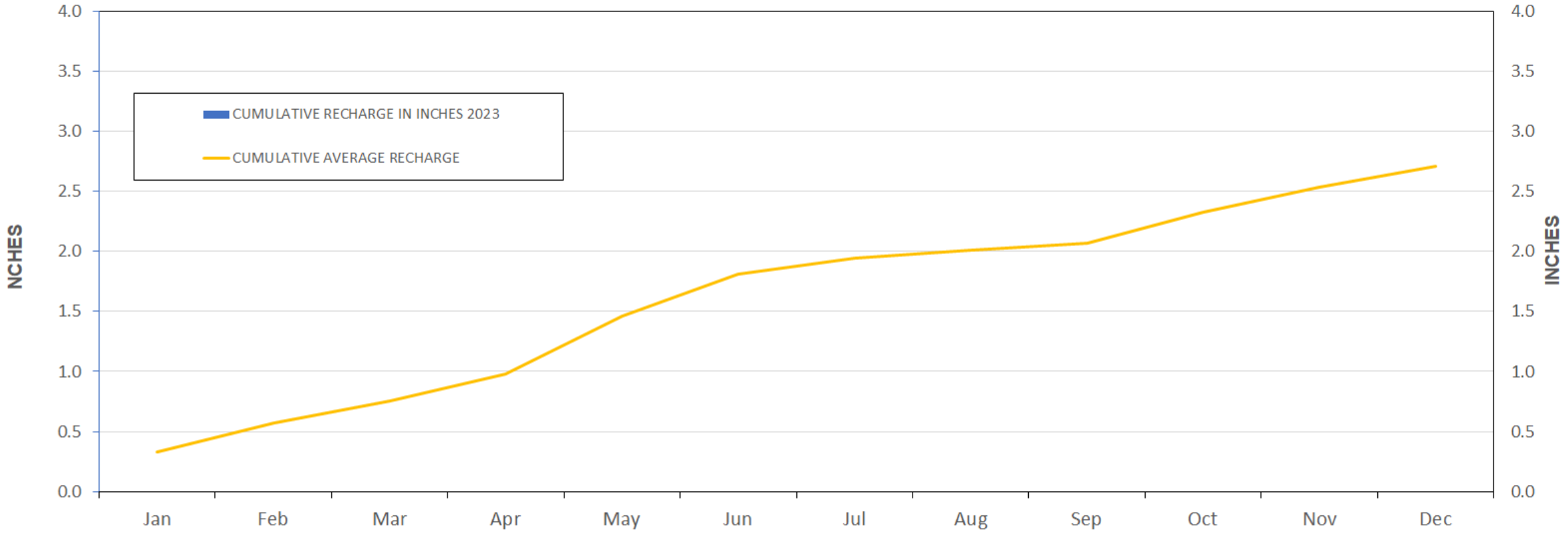
http://www.mesonet.org/index.php/weather/groundwater

AQUIFER RECHARGE – January 2023

- Aquifer recharge in January 2023 was 0.00 inches.
- Normal recharge for January is 0.33 inches.
- This is two Januarys in a row where there has been no recharge.

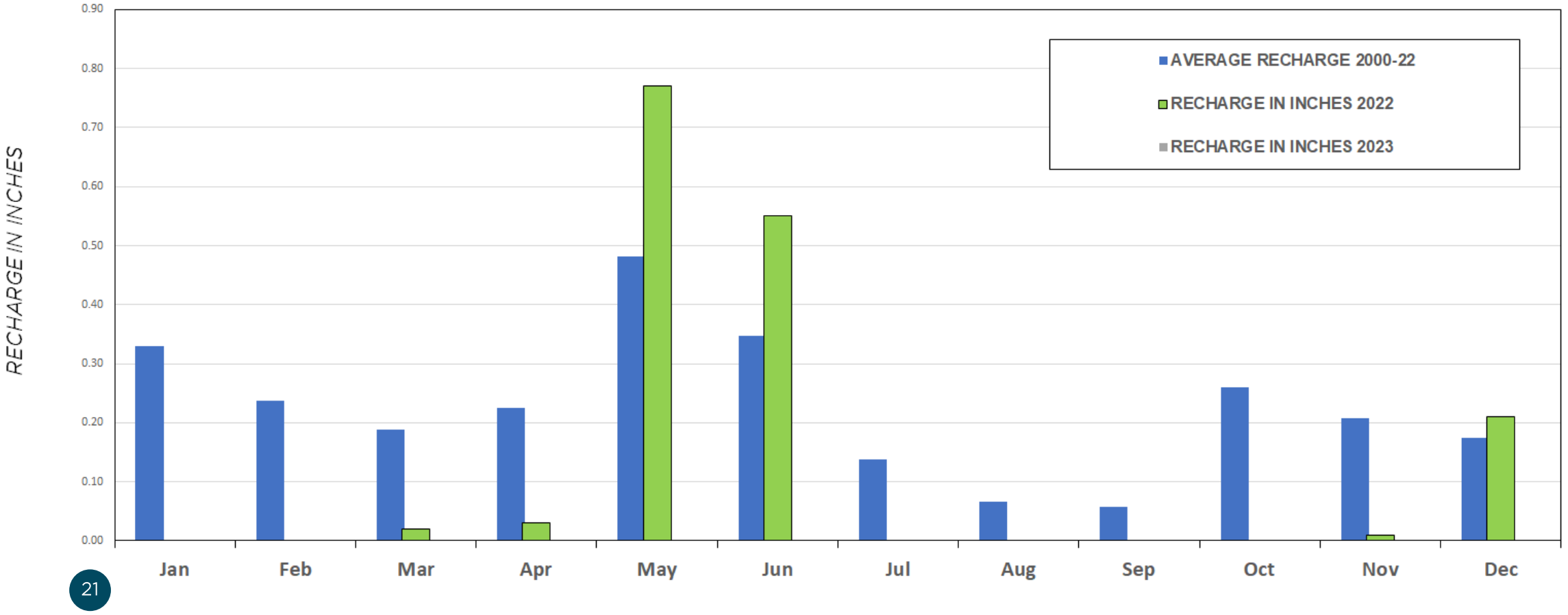
RECHARGE CHARTS CENTRAL OKLAHOMA AQUIFER SYSTEM

ACCUMULATED CENTRAL OKLAHOMA AQUIFER SYSTEM RECHARGE 2022

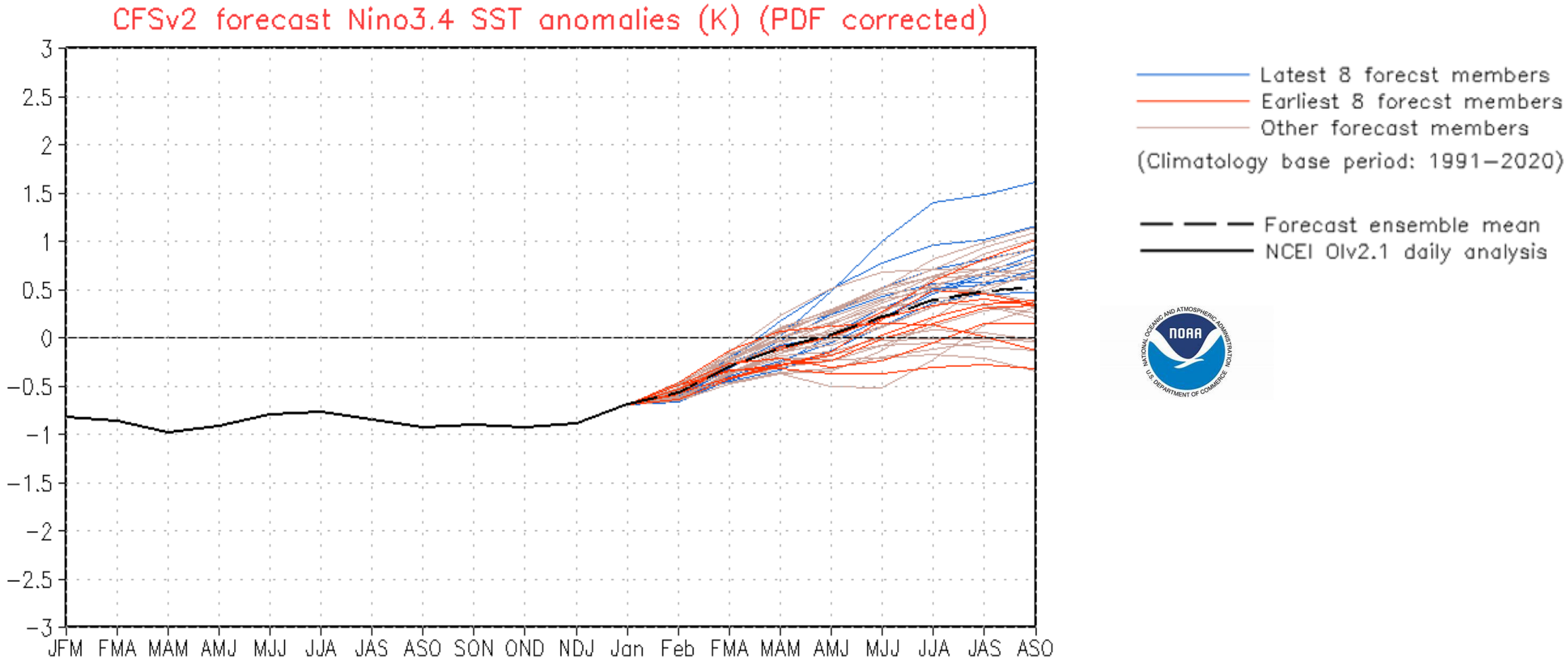


RECHARGE CHARTS CENTRAL OKLAHOMA AQUIFER SYSTEM CONTINUED

MONTHLY AQUIFER RECHARGE



ENSO CYCLE - RECENT EVOLUTION, CURRENT STATUS AND PREDICTIONS



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

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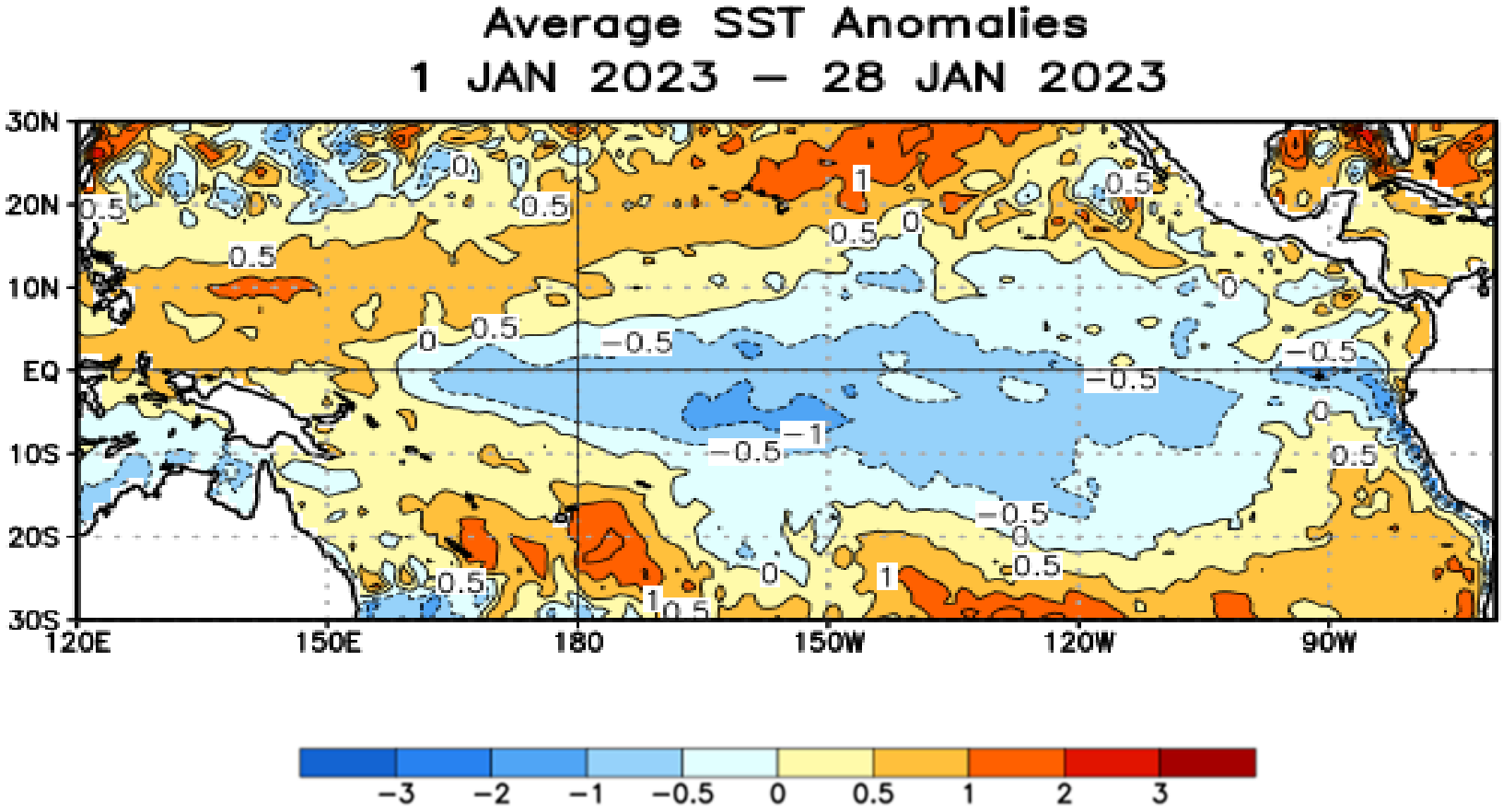

https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt

ENSO ALERT SYSTEM STATUS: LA NIÑA ADVISORY

- La Niña is present.
- Equatorial sea surface temperatures (SSTs) are below average across most of the Pacific Ocean.
- The tropical Pacific atmosphere is consistent with La Niña.
- A transition from La Niña to ENSO-neutral is anticipated during the February-April 2023 season. By Northern Hemisphere spring (March-May 2023), the chance for ENSO-neutral is 82%.

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