DROUGHT CONDITIONS

IN CENTRAL OKLAHOMA

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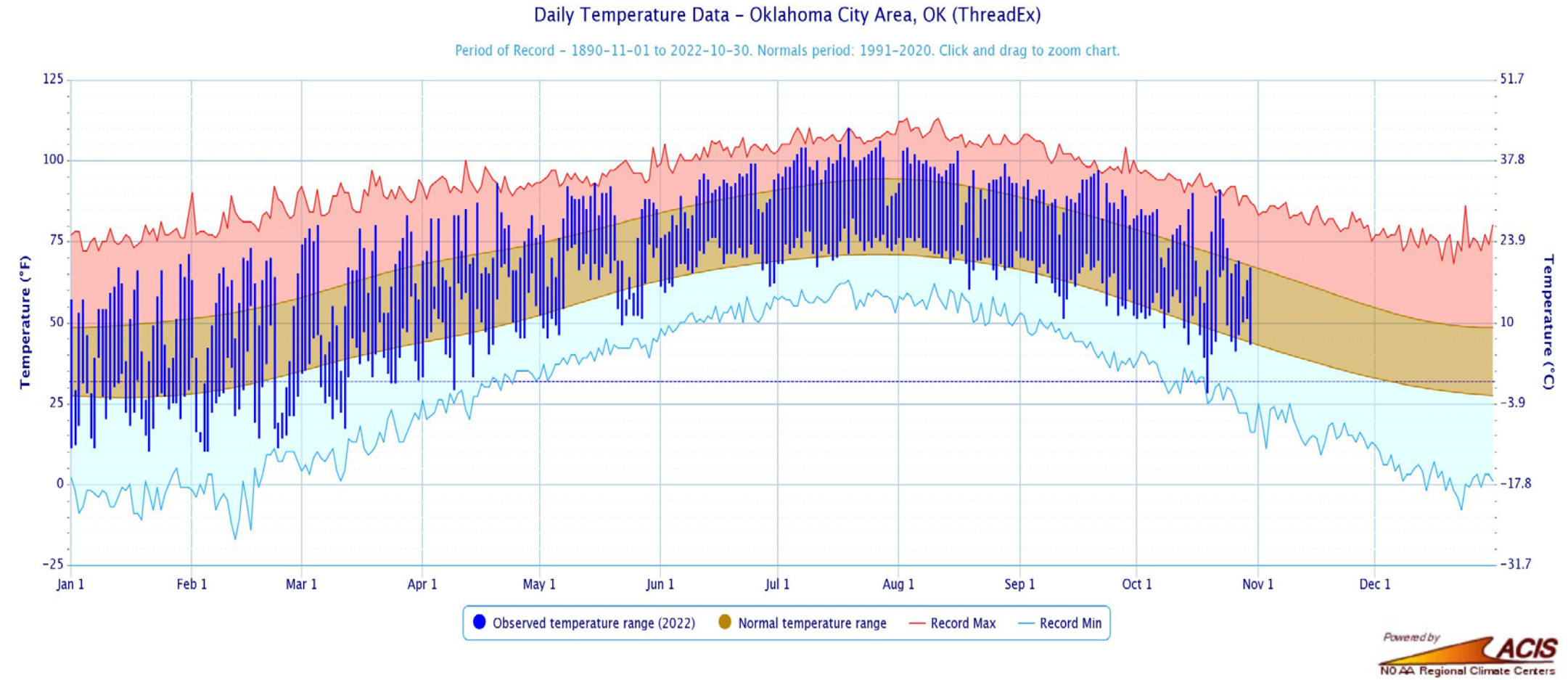
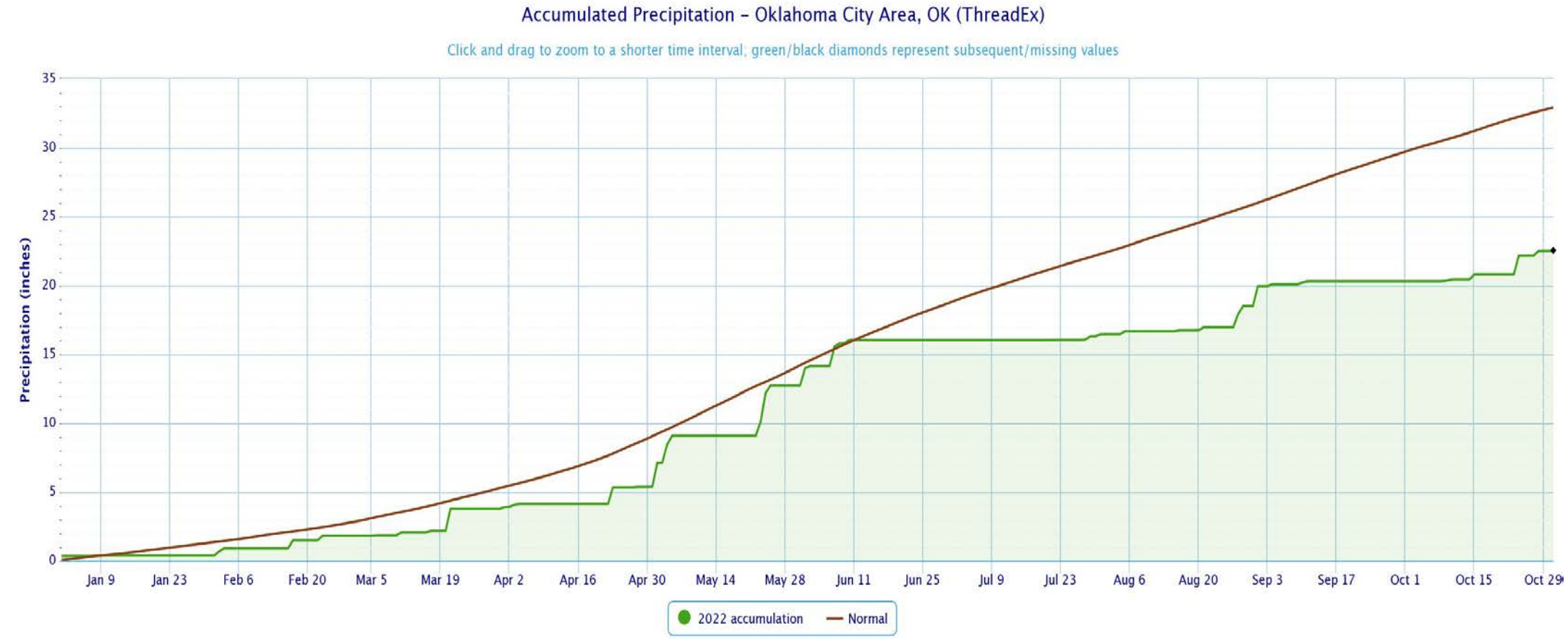
NOVEMBER 1, 2022

TEMPERATURE PLOT FOR OKLAHOMA CITY, OKLAHOMA FOR 2022



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

PRECIPITATION PLOT FOR OKLAHOMA CITY, OKLAHOMA FOR 2022



Powered by ACIS
NOAA Regional Climate Centers

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

RAINFALL SUMMARIES BY OKLAHOMA CLIMATE DIVISION

Calendar Year 01-Jan-2021 though 30-Oct-2022

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	18.68"	-6.93"	73%	15th driest	11.03" (2011)	39.94" (1941)
Central	27.18"	-5.96"	82%	27th driest	17.02" (1956)	50.80" (2007)
S. Central	25.73"	-9.46"	73%	12th driest	16.26" (1963)	55.78" (2015)
Statewide	24.85"	-6.96"	78%	16th driest	16.95" (1956)	43.62" (1957)

Water Year: 01-Oct-2021 through 30-Oct-2022

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	2.11"	-0.64"	77%	47th wettest	0.00" (1952)	8.86" (1923)
Central	2.81"	-0.81"	78%	47th wettest	0.03" (1952)	12.66" (1941)
S. Central	4.32"	+0.15"	104%	34th wettest	0.05" (1921)	14.88" (1981)
Statewide	2.91"	-0.51"	85%	47th wettest	0.13" (1952)	10.35" (1941)

Autumn Sep 01 through 30-Oct-2022

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	2.79"	-2.76"	50%	21st driest	0.26" (1952)	17.16" (1923)
Central	3.69"	-3.77"	49%	21st driest	0.57" (1952)	19.10" (1923)
S. Central	4.92"	-3.22"	60%	28th driest	0.59" (1952)	19.56" (2018)
Statewide	3.61"	-3.35"	52%	16th driest	0.82" (1952)	15.72" (1923)

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.

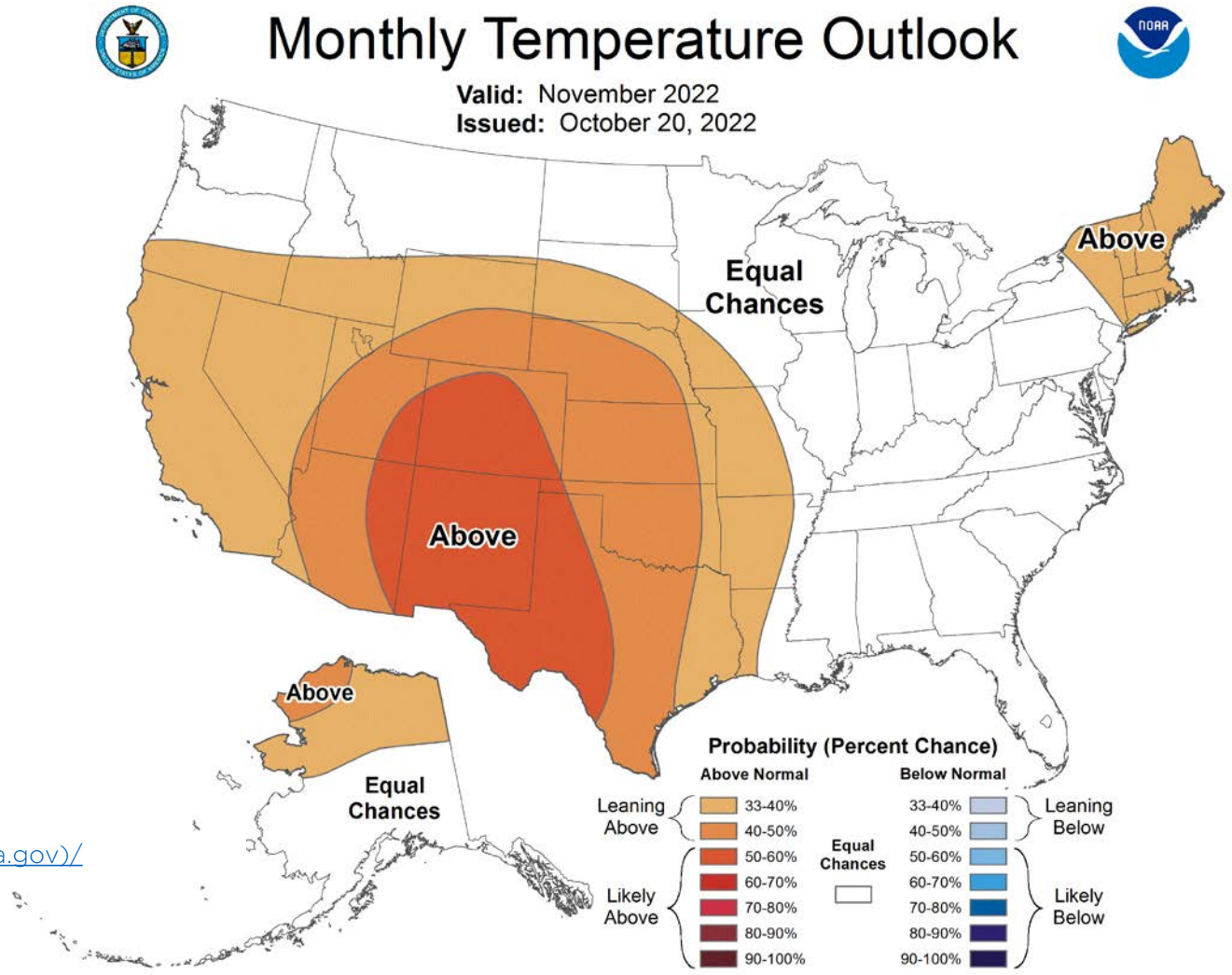
http://climate.ok.gov/index.php/drought/last_30_days/drought_wildfire

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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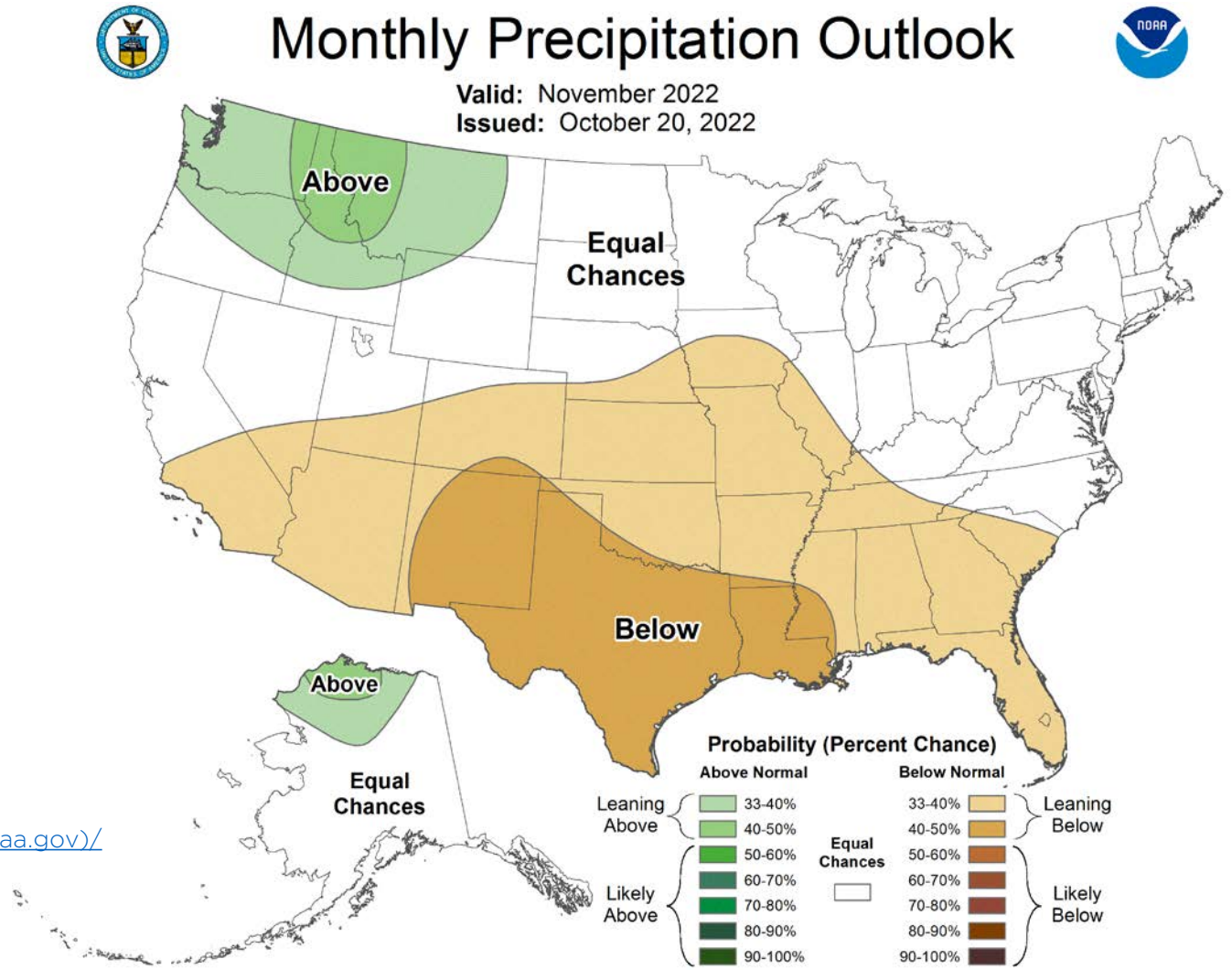
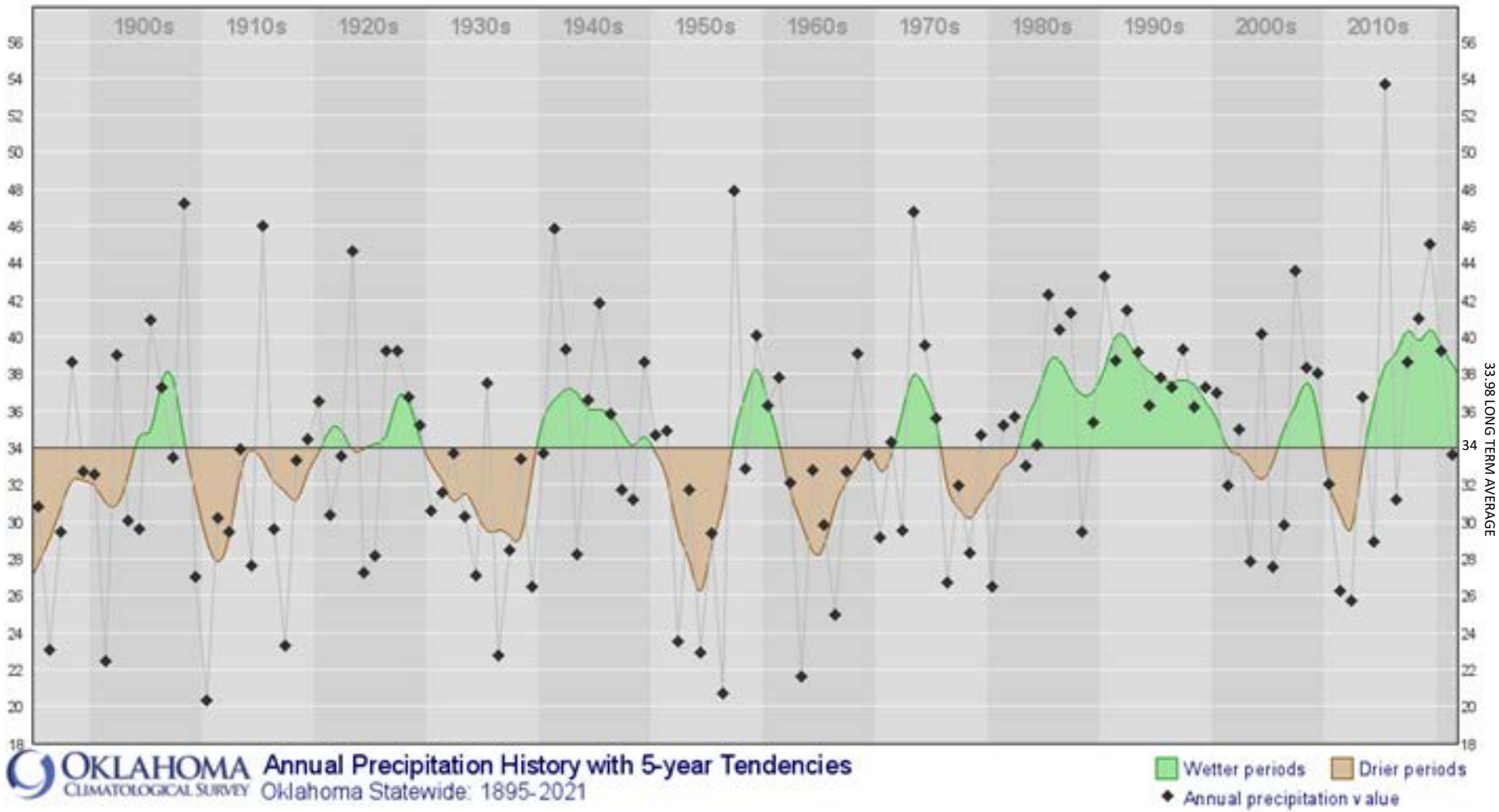


[Climate Prediction Center - Updated OFFICIAL 30-Day Forecasts (noaa.gov)/]

Annual Precipitation History with 5-Year Tendencies

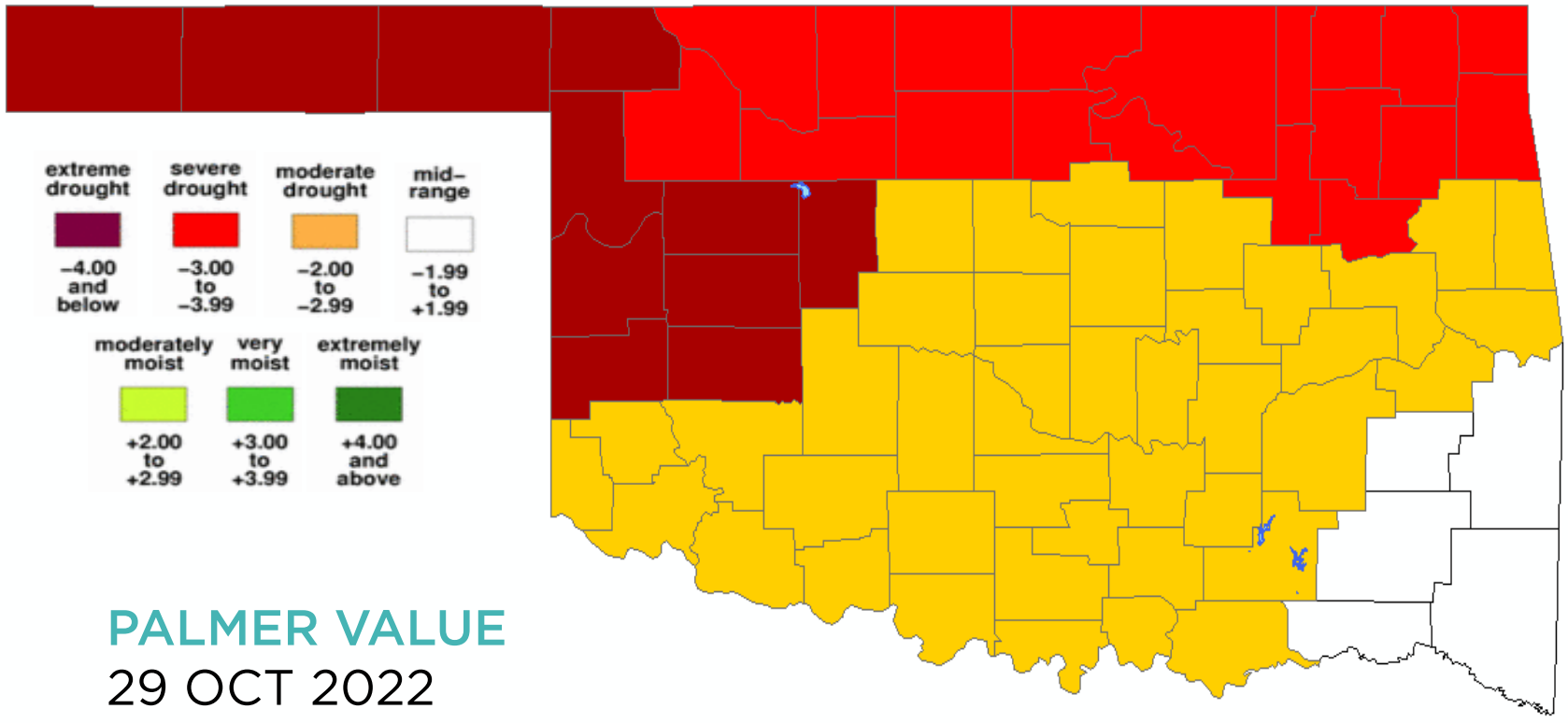


This graph shows the cyclical nature of wet and drought periods in Oklahoma. The black dots represent the annual precipitation for that particular year. The line represents the annual precipitation data smoothed over five years.

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
29 OCT 2022

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.

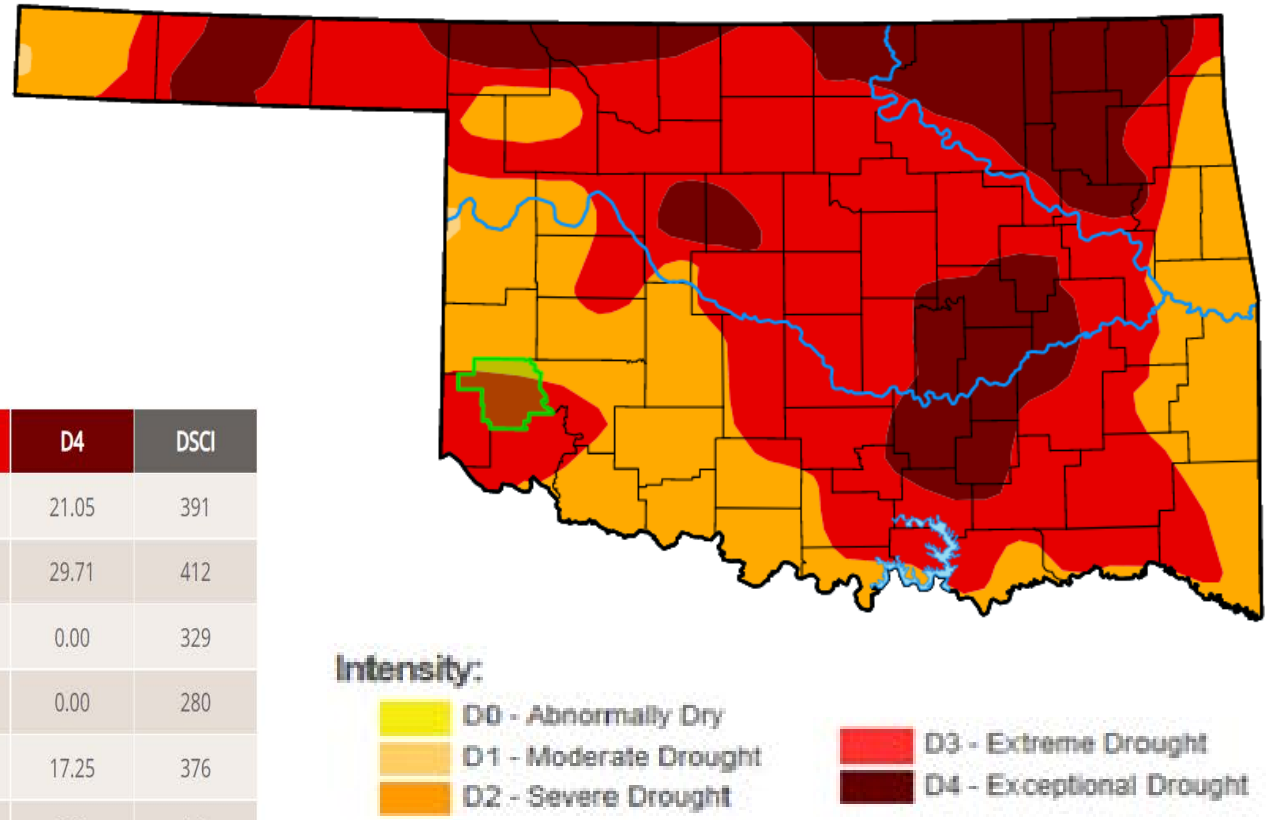
On these maps, the red shading denotes drought conditions while the green shading indicates wet conditions.

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

U.S. DROUGHT MONITOR - OKLAHOMA

Abnormal dryness or drought are currently affecting approximately 3,751,351 people in Oklahoma.

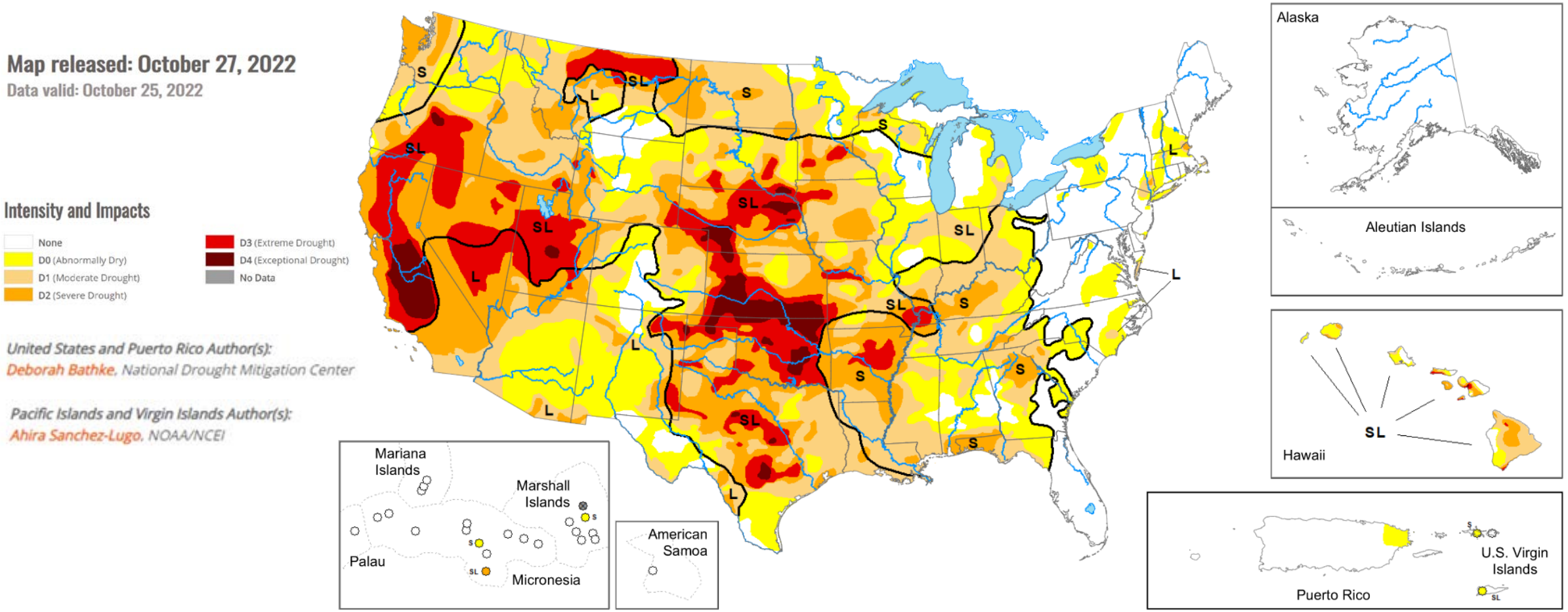
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2022-10-25	0.00	100.00	100.00	99.82	70.29	21.05	391
Last Week	2022-10-18	0.00	100.00	100.00	99.82	82.26	29.71	412
3 Months Ago	2022-07-26	0.00	100.00	99.81	92.11	37.45	0.00	329
Start of Calendar Year	2021-12-28	4.92	95.08	90.17	72.51	22.62	0.00	280
Start of Water Year	2022-09-27	0.00	100.00	99.88	94.44	64.44	17.25	376
One Year Ago	2021-10-26	5.05	94.95	40.74	10.90	0.77	0.00	147



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

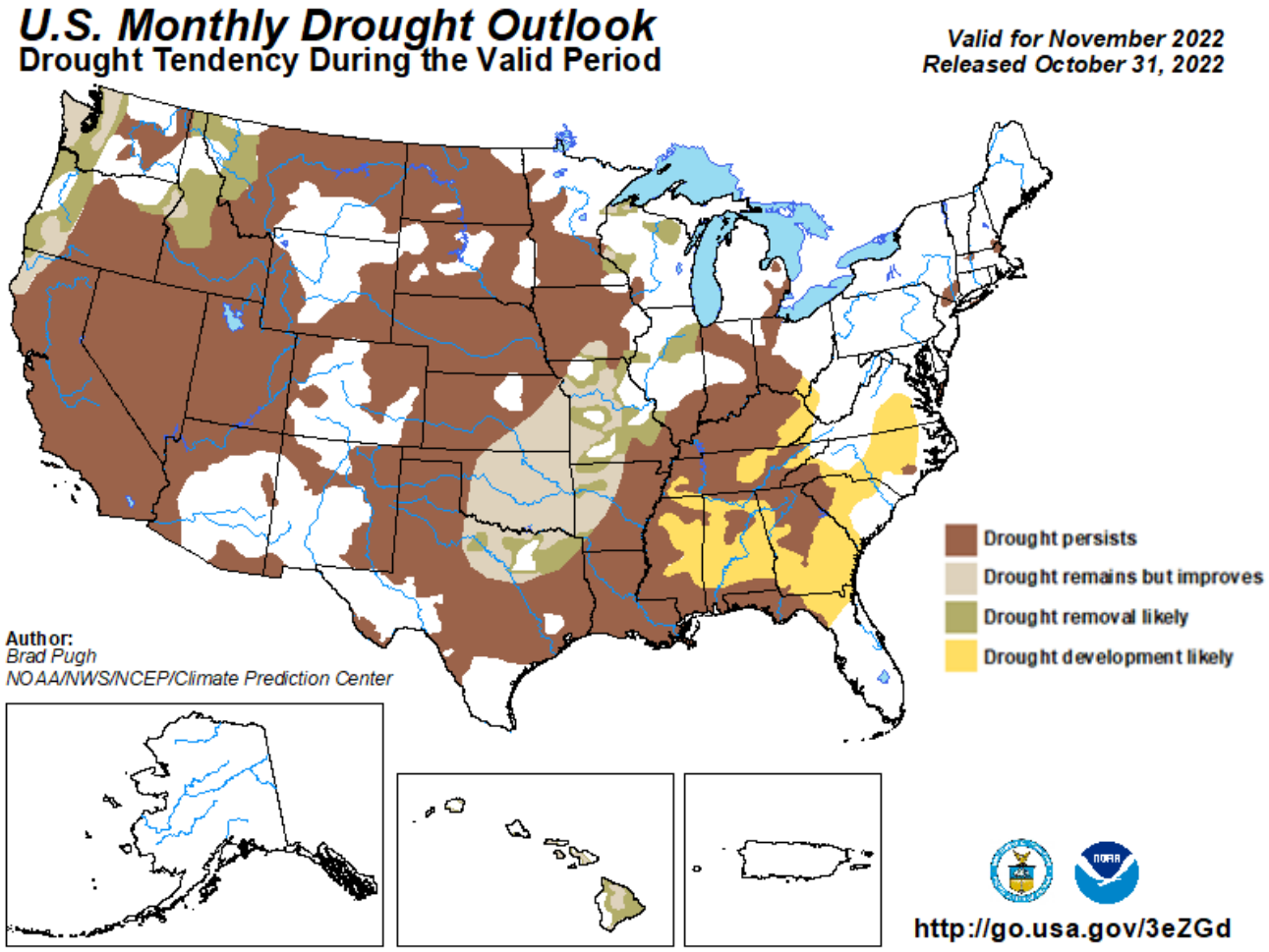
https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?OK

U.S. DROUGHT MONITOR NATIONWIDE MAP



http://droughtmonitor.unl.edu

U.S. DROUGHT MONITOR MONTHLY DROUGHT OUTLOOK MAP

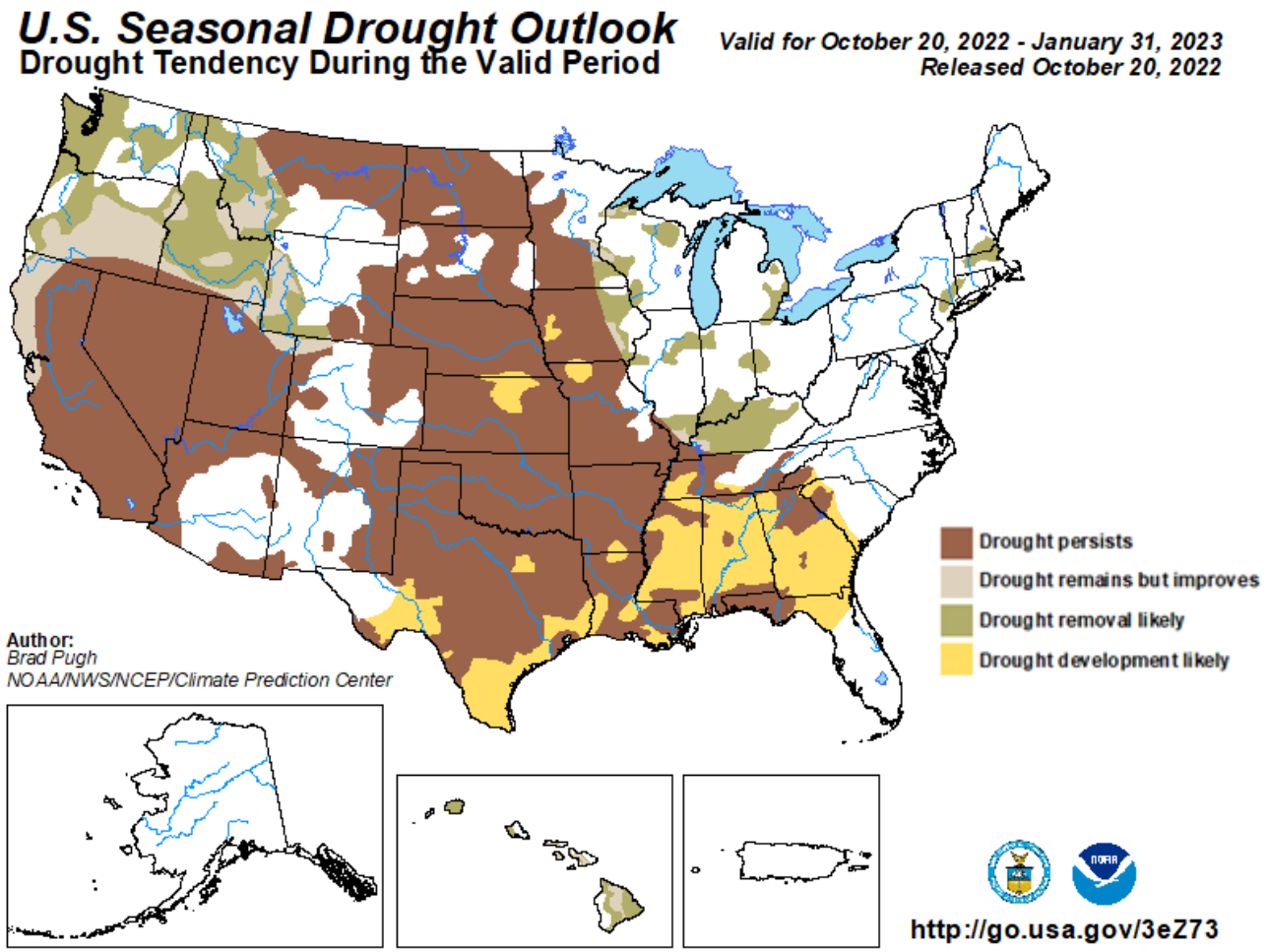


Depicts large-scale trends based on subjectively derived probabilities guided by short and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. “Ongoing” drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to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

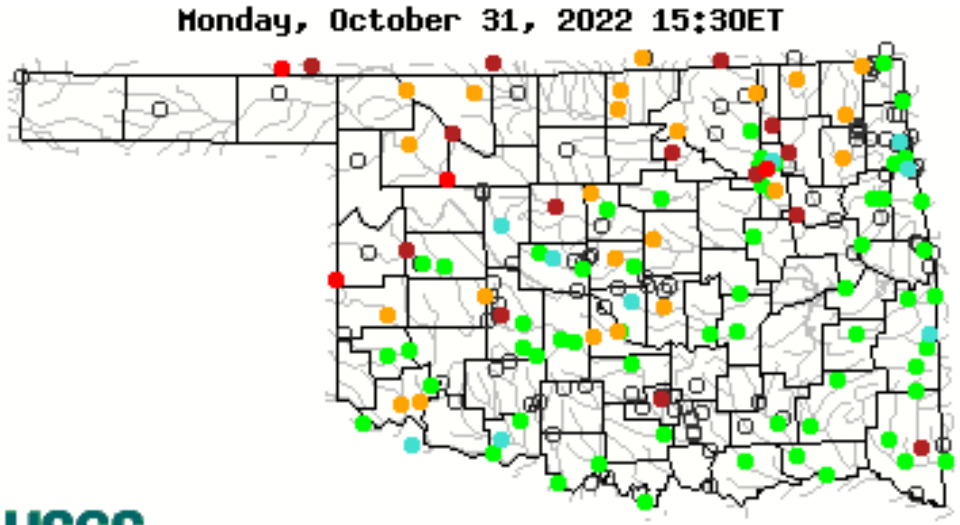


Depicts large-scale trends based on subjectively derived probabilities guided by short and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. “Ongoing” drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

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).

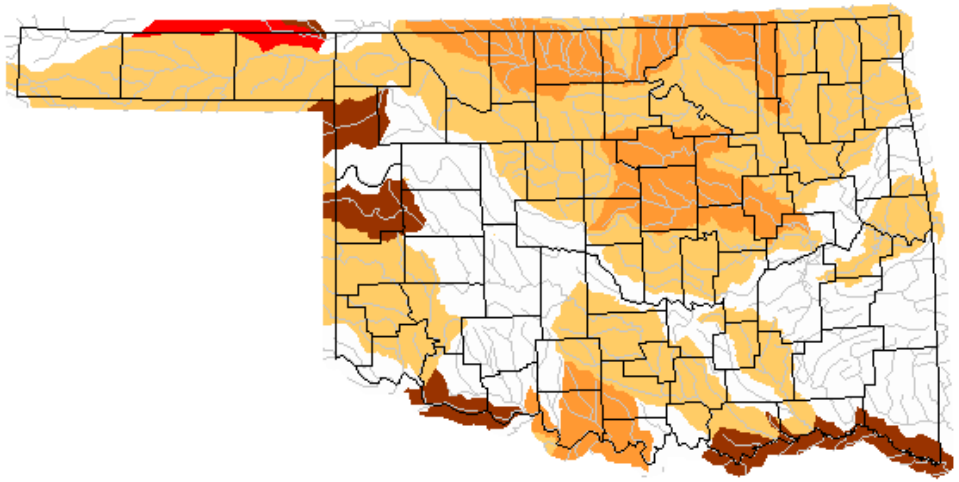
https://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php

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		



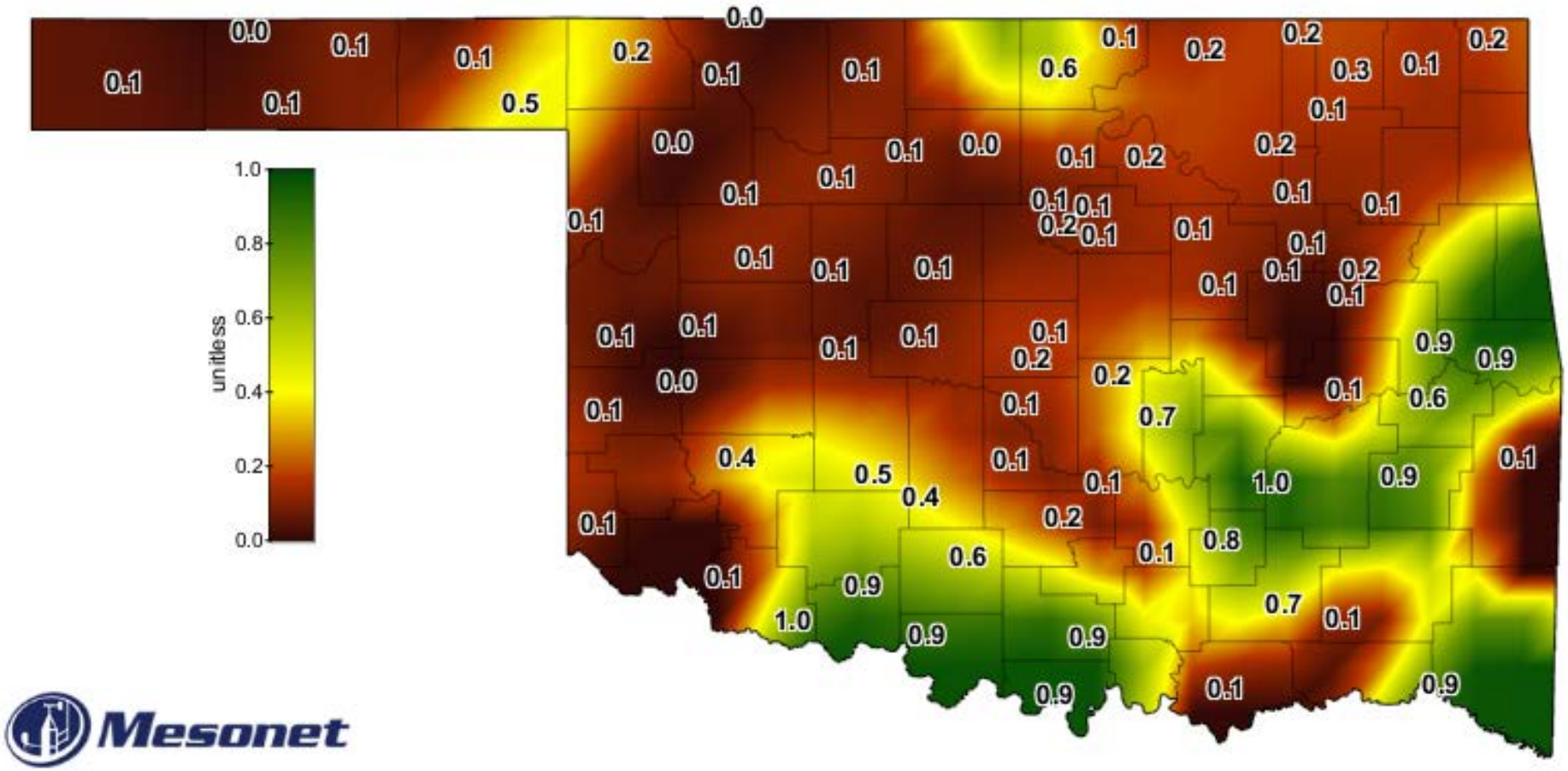
USGS

Explanation - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data for a hydrologic region
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-DAY AVERAGE 24-INCH FRACTIONAL WATER INDEX

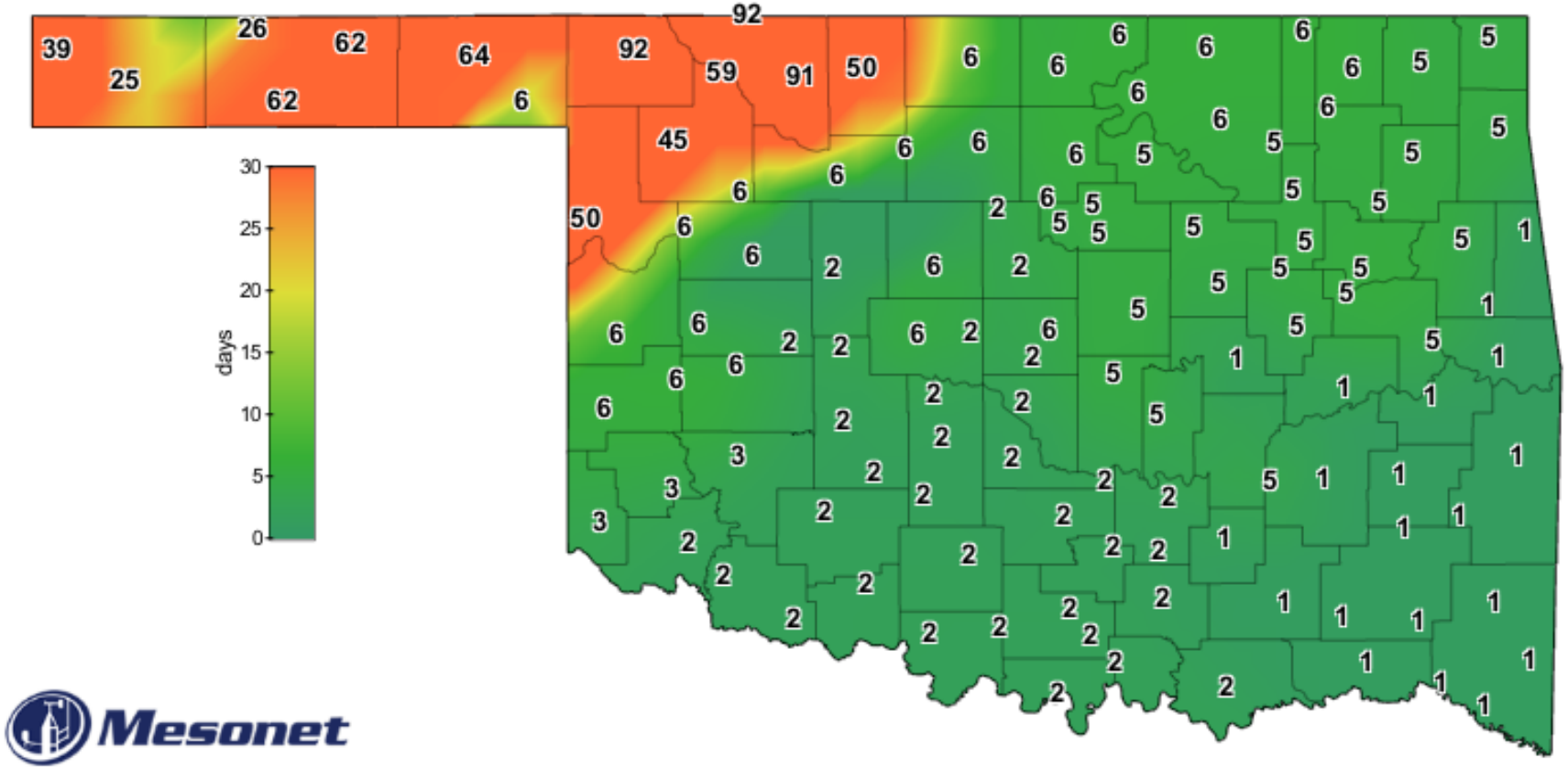
- 1.0 - 0.8 Enhanced Growth
- 0.8 – 0.5 Limited Growth
- 0.5 – 0.3 Plants Wilting
- 0.3 - 0.1 Plants Dying
- < 0.1 Barren Soil

Mesonet

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

October 30, 2022

CONSECUTIVE DAYS WITHOUT RAINFALL MAP



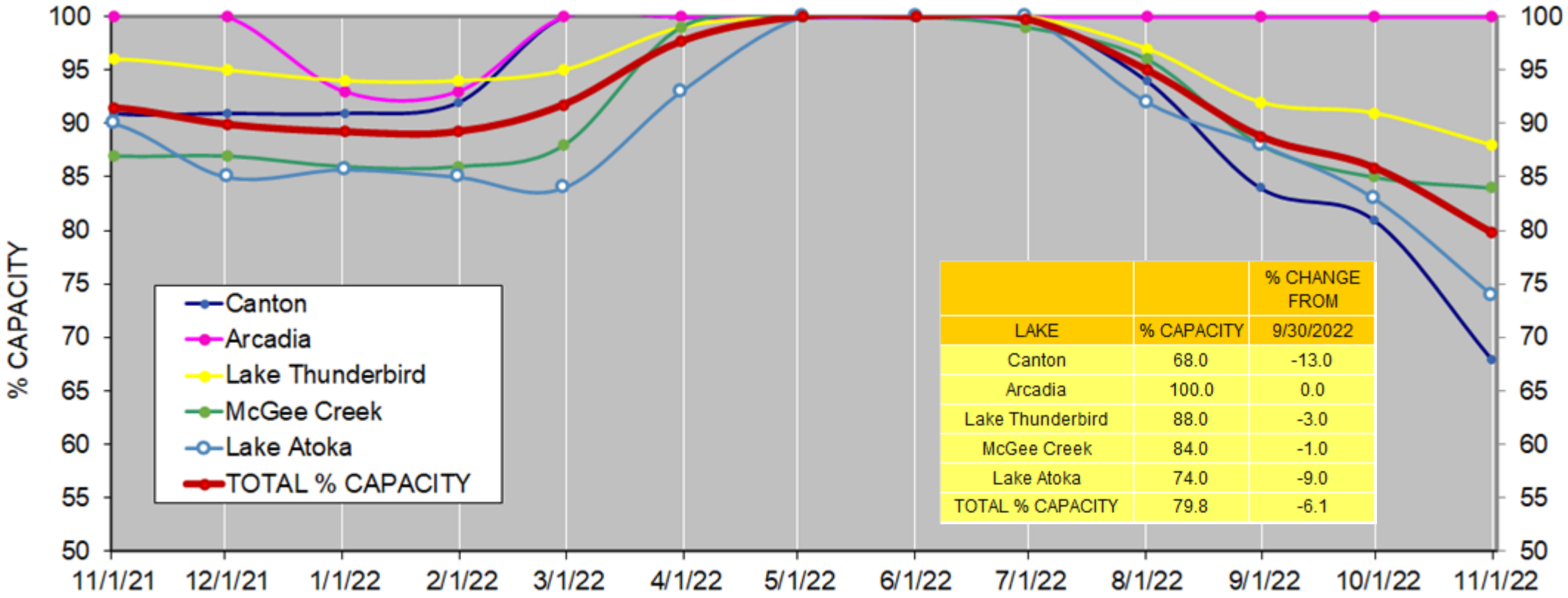
CONSECUTIVE DAYS WITH LESS THAN 0.25” RAINFALL

Mesonet

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

October 30, 2022

PERCENTAGE OF SURFACE WATER CONSERVATION CAPACITY IN CENTRAL OK RESERVOIRS

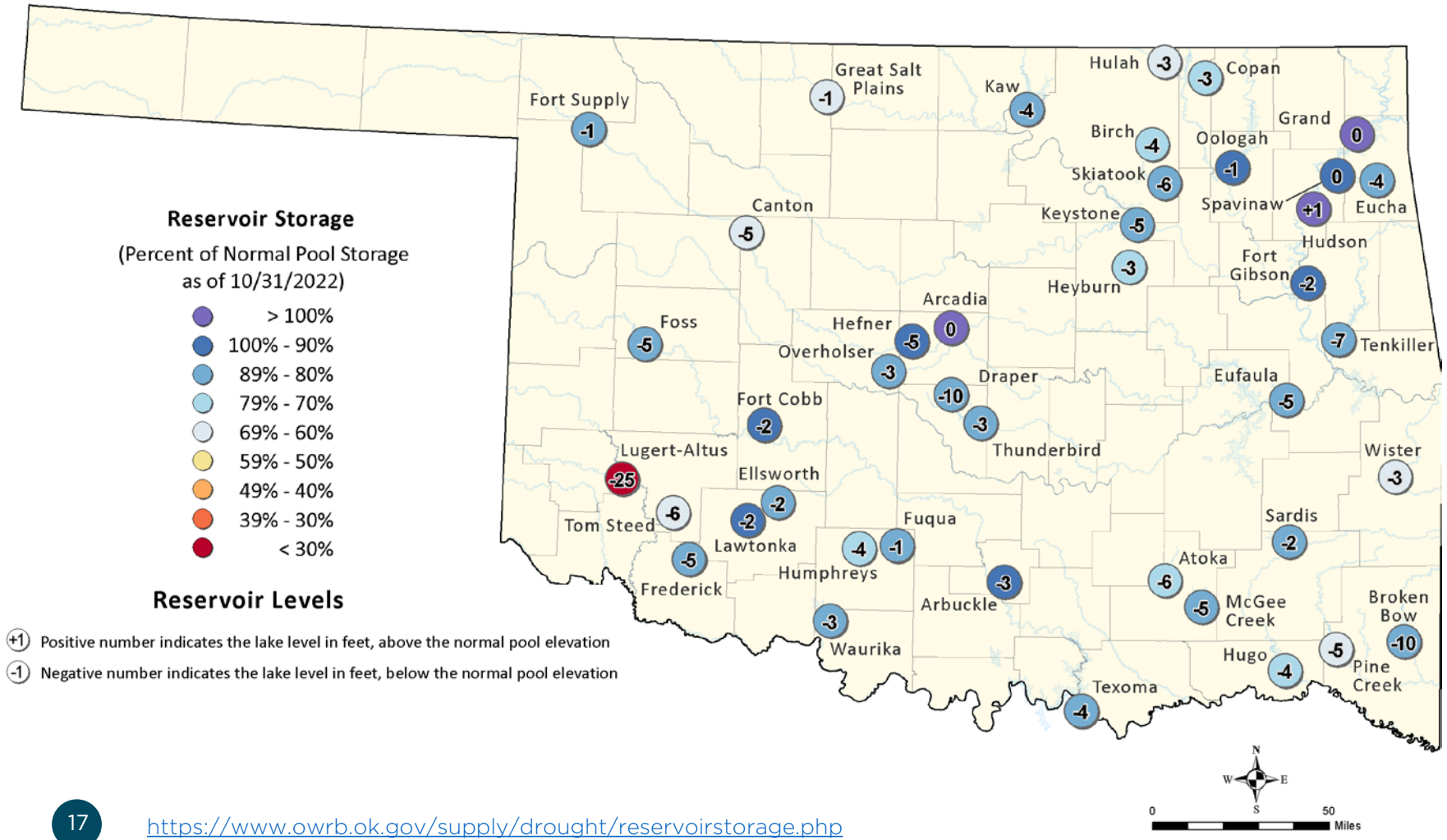


LAKE	% CAPACITY	% CHANGE FROM 9/30/2022
Canton	68.0	-13.0
Arcadia	100.0	0.0
Lake Thunderbird	88.0	-3.0
McGee Creek	84.0	-1.0
Lake Atoka	74.0	-9.0
TOTAL % CAPACITY	79.8	-6.1

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



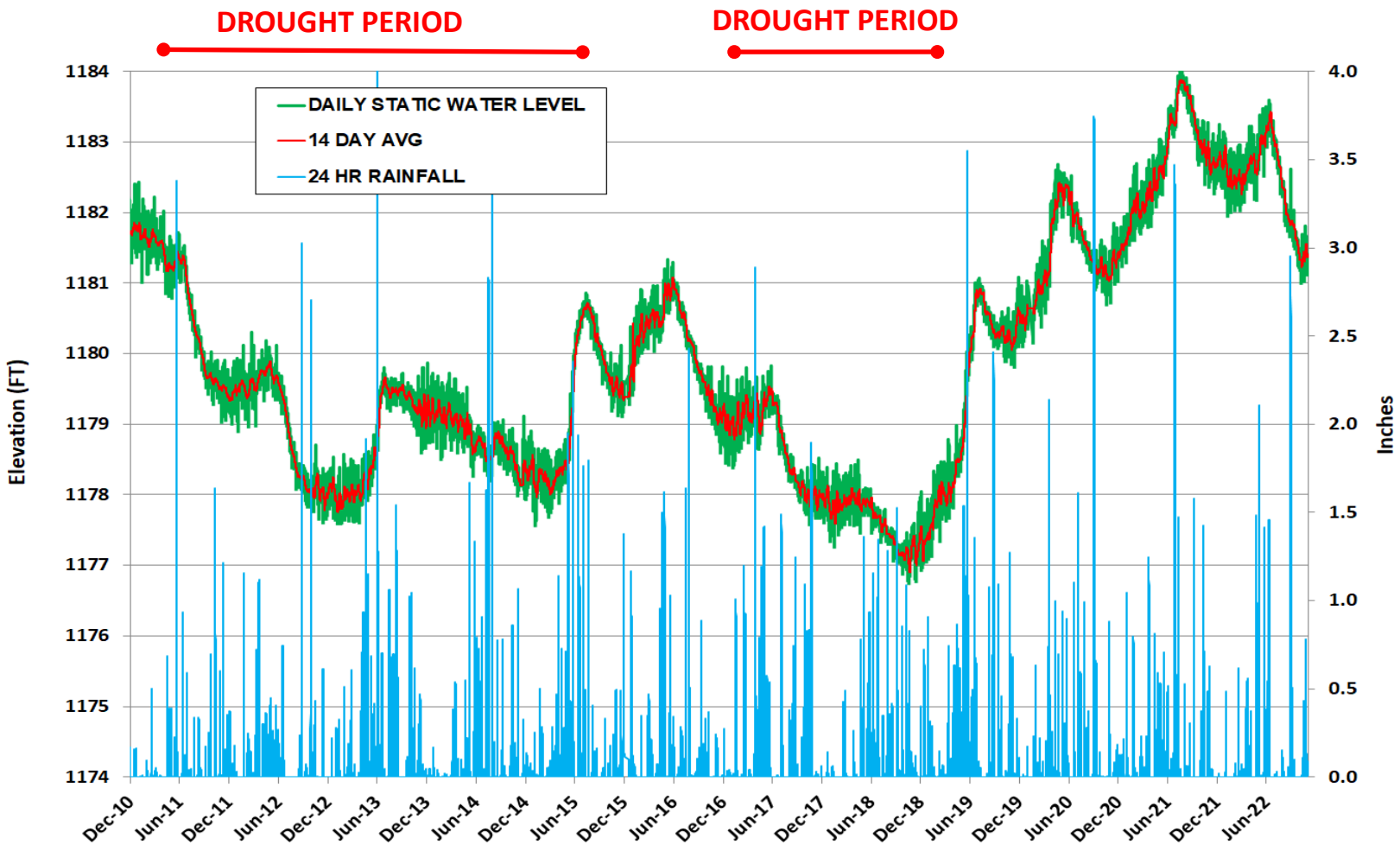
OKLAHOMA RESERVOIR LEVELS AND STORAGE AS OF 9/22/2022

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

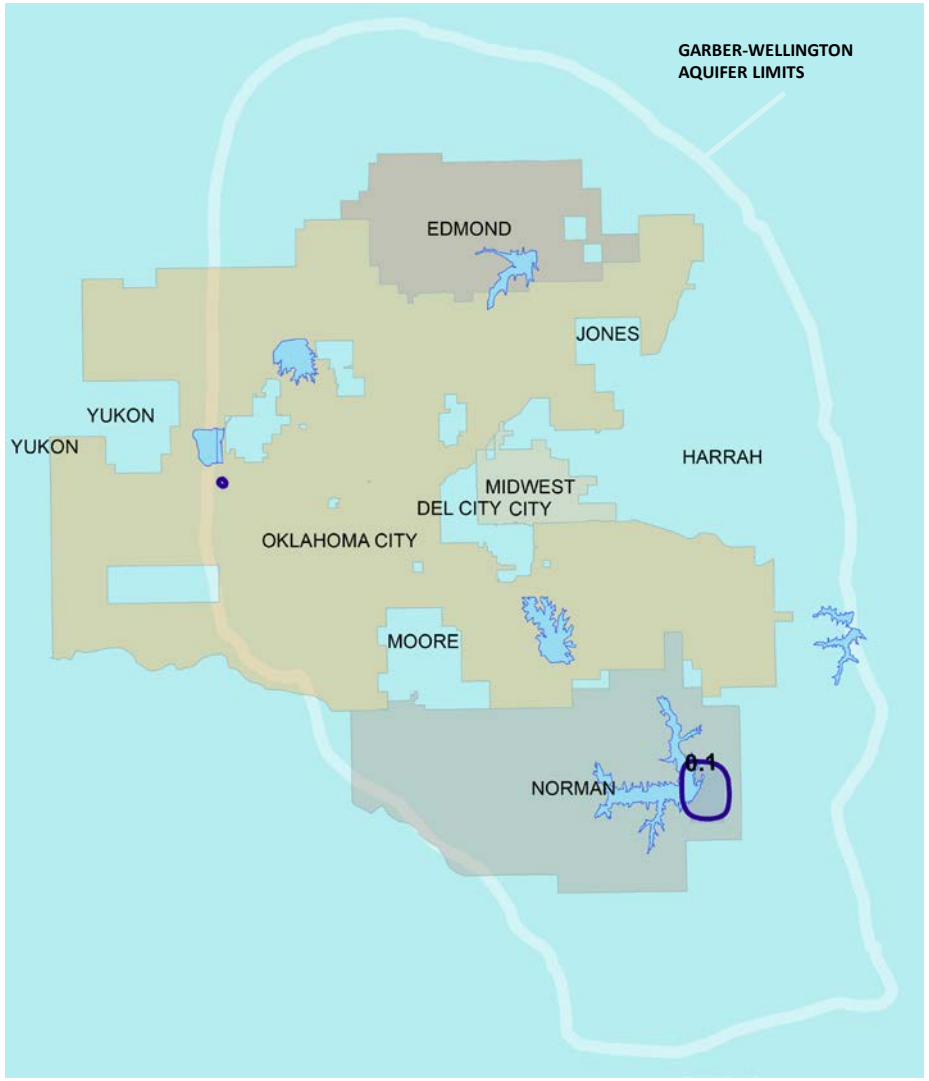
GROUNDWATER LEVELS SPENCER MESONET STATION



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

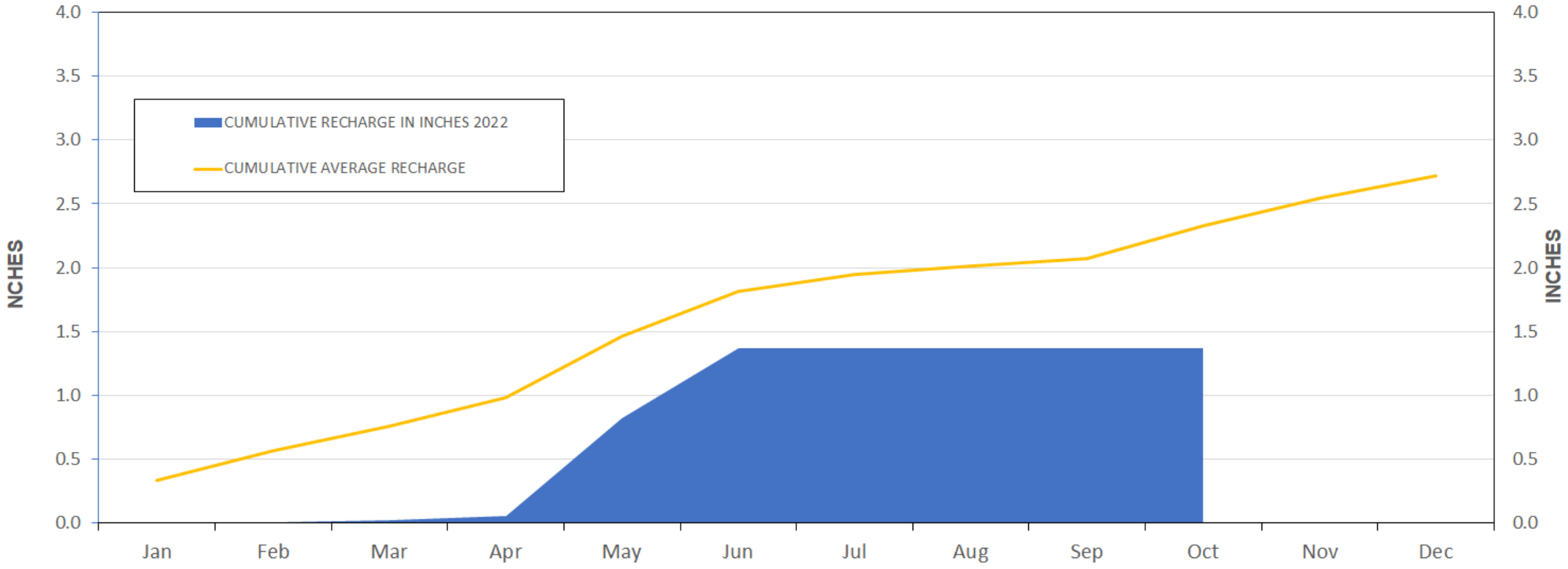
AQUIFER RECHARGE – SEPTEMBER 2022

- Aquifer recharge in October 2022 was similar to the previous month.
- With the exception of some very localized areas, recharge for the aquifer was essentially zero.



RECHARGE CHARTS CENTRAL OKLAHOMA AQUIFER SYSTEM

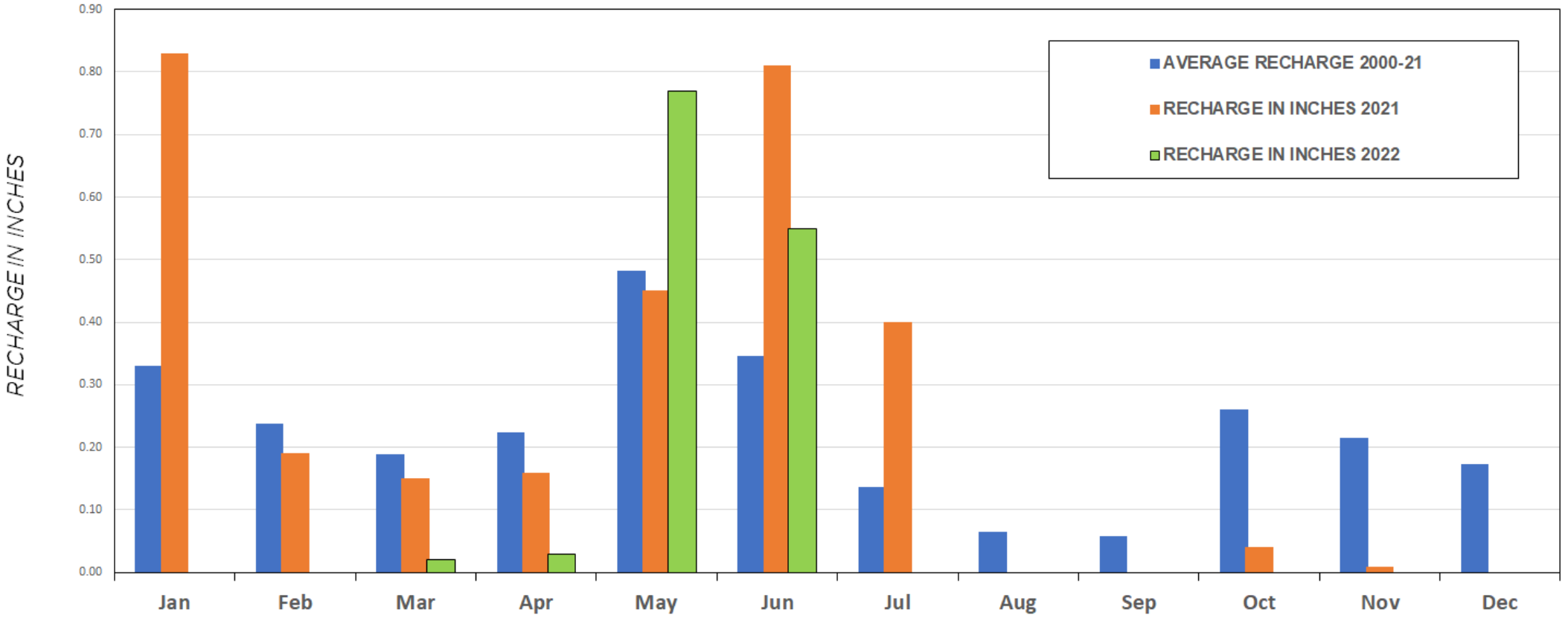
ACCUMULATED CENTRAL OKLAHOMA AQUIFER SYSTEM RECHARGE 2022



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

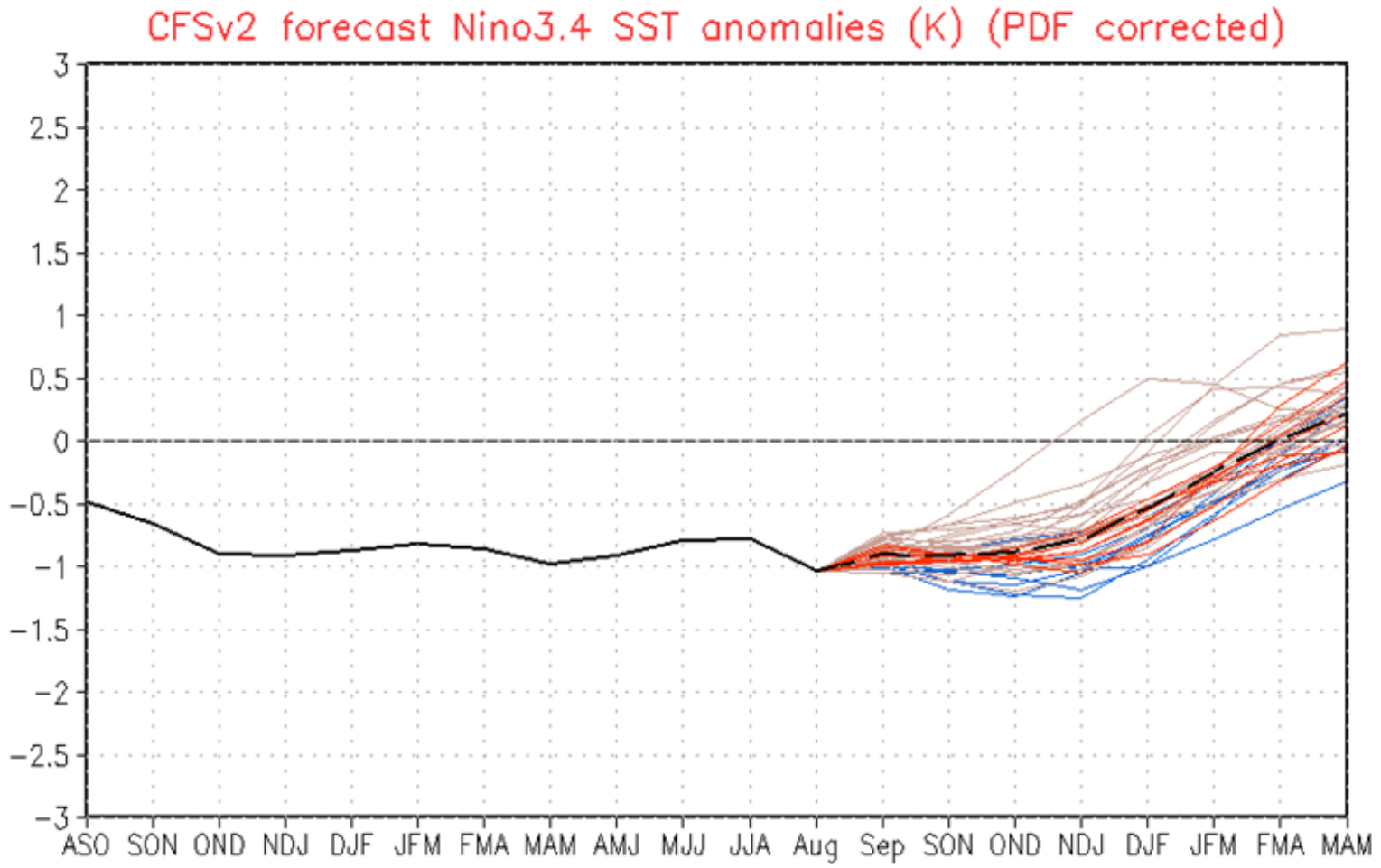
RECHARGE CHARTS CENTRAL OKLAHOMA AQUIFER SYSTEM CONTINUED

MONTHLY AQUIFER RECHARGE



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

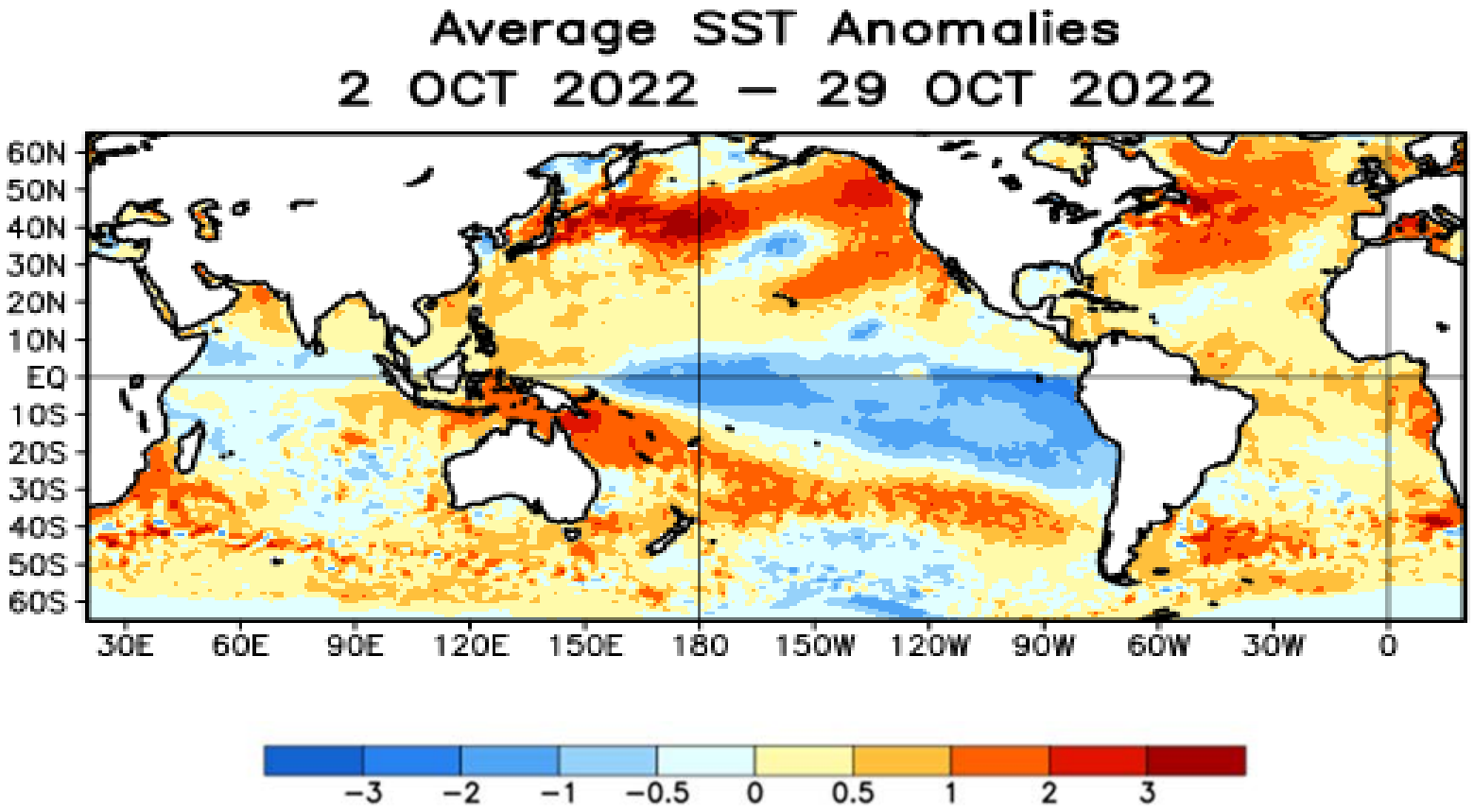
ENSO CYCLE - RECENT EVOLUTION, CURRENT STATUS AND PREDICTIONS



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

ENSO CYCLE - RECENT EVOLUTION, CURRENT STATUS AND PREDICTIONS

AVERAGE SST ANOMALIES: 31 JUL 2022 – 27 AUG 2022



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.
- There is a 75% chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a 54% chance for ENSO-neutral in February-April 2023.

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