



DROUGHT CONDITIONS IN CENTRAL OKLAHOMA

John Harrington

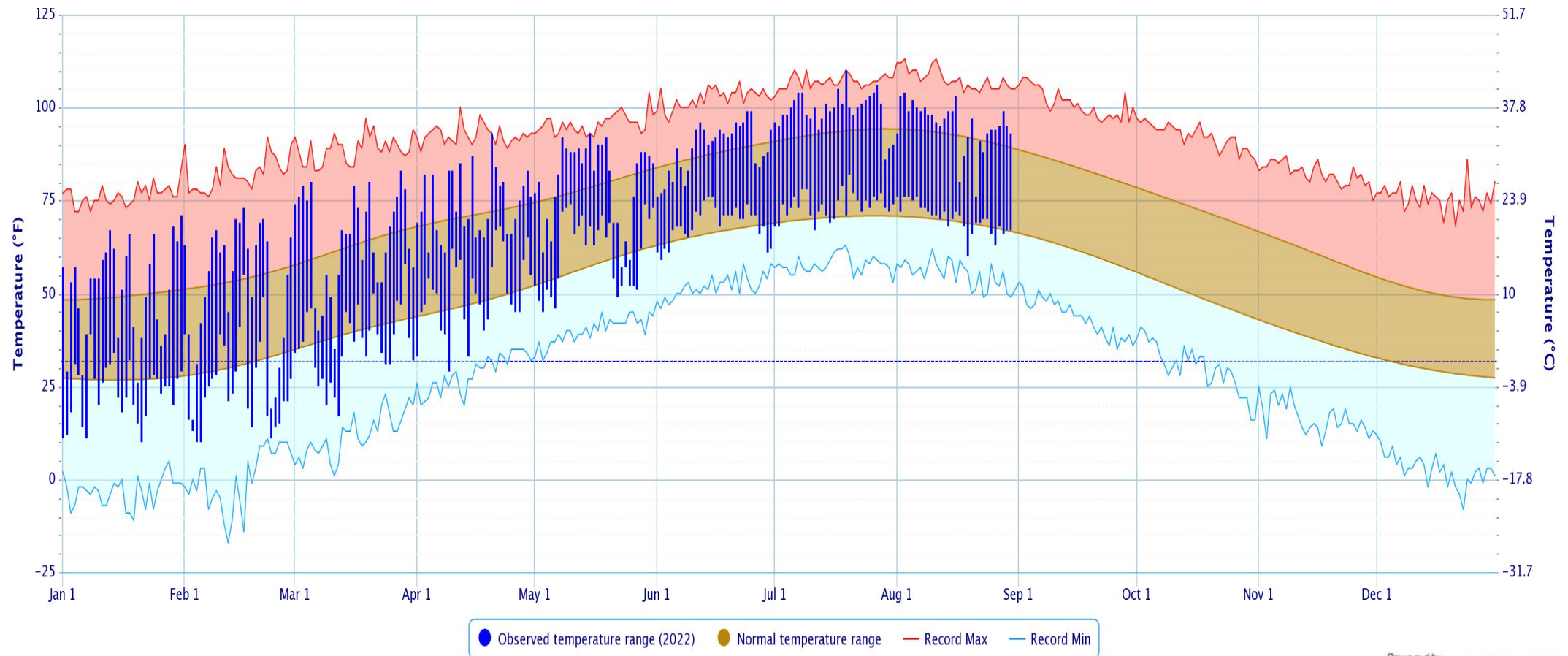
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SEPTEMBER 1, 2022

Temperature Plot for Oklahoma City, Oklahoma for 2022



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

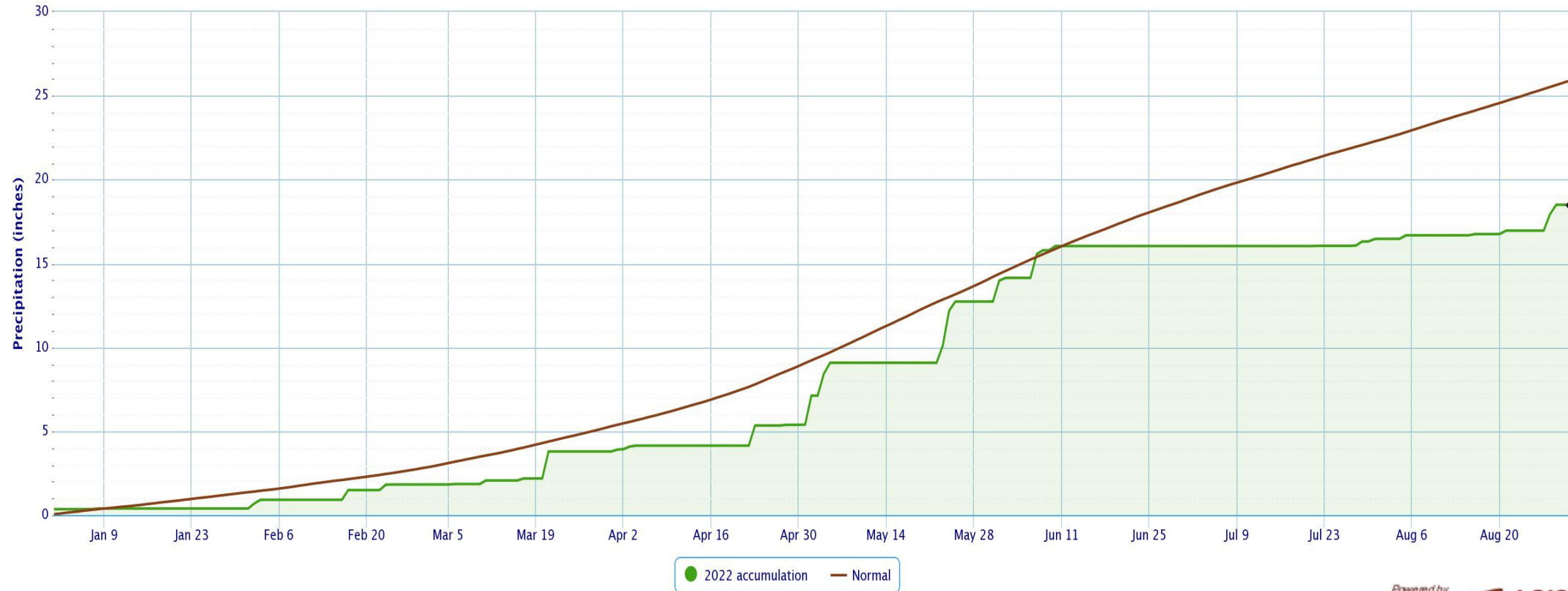
Powered by
ACIS
NOAA Regional Climate Centers

Precipitation Plot for Oklahoma City, Oklahoma for 2022



Accumulated Precipitation – Oklahoma City Area, OK (ThreadEx)

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



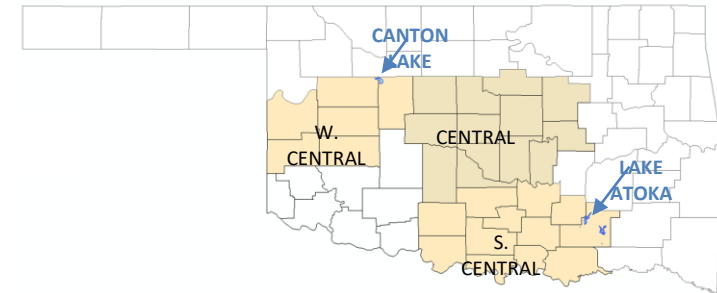
<http://xmacis.rcc-acis.org/>

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NOAA Regional Climate Centers

Rainfall Summaries by Oklahoma Climate Division



Calendar Year 01-Jan-2021 through		30-Aug-2022				
Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	15.89"	-4.07"	80%	29th driest	7.15" (2011)	32.23" (2007)
Central	23.47"	-2.11"	92%	49th driest	8.59" (1936)	44.43" (2007)
S. Central	20.82"	-6.12"	77%	19th driest	11.94" (2011)	48.47" (2015)
State wide	21.23"	-3.51"	86%	28th driest	9.90" (1936)	36.68" (2015)
Water Year: 01-Oct-2021 through		30-Aug-2022				
Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	18.21"	-7.29"	71%	19th driest	11.69" (2010-11)	38.38" (2006-07)
Central	28.98"	-4.71"	86%	45th driest	15.93" (1935-36)	51.43" (2006-07)
S. Central	26.02"	-10.61"	71%	11th driest	15.79" (1955-56)	57.30" (2014-15)
State wide	26.78"	-6.04"	82%	24th driest	17.81" (1935-36)	44.79" (2018-19)
Summer Jun 01 through		30-Aug-2022				
Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	8.67"	-0.48"	95%	51st wettest	2.58" (1980)	15.95" (1995)
Central	7.17"	-3.60"	67%	25th driest	2.15" (1936)	24.11" (2007)
S. Central	7.38"	-2.69"	73%	32nd driest	1.69" (2011)	19.00" (1945)
State wide	7.65"	-2.60"	75%	26th driest	2.93" (1936)	17.72" (2007)



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.

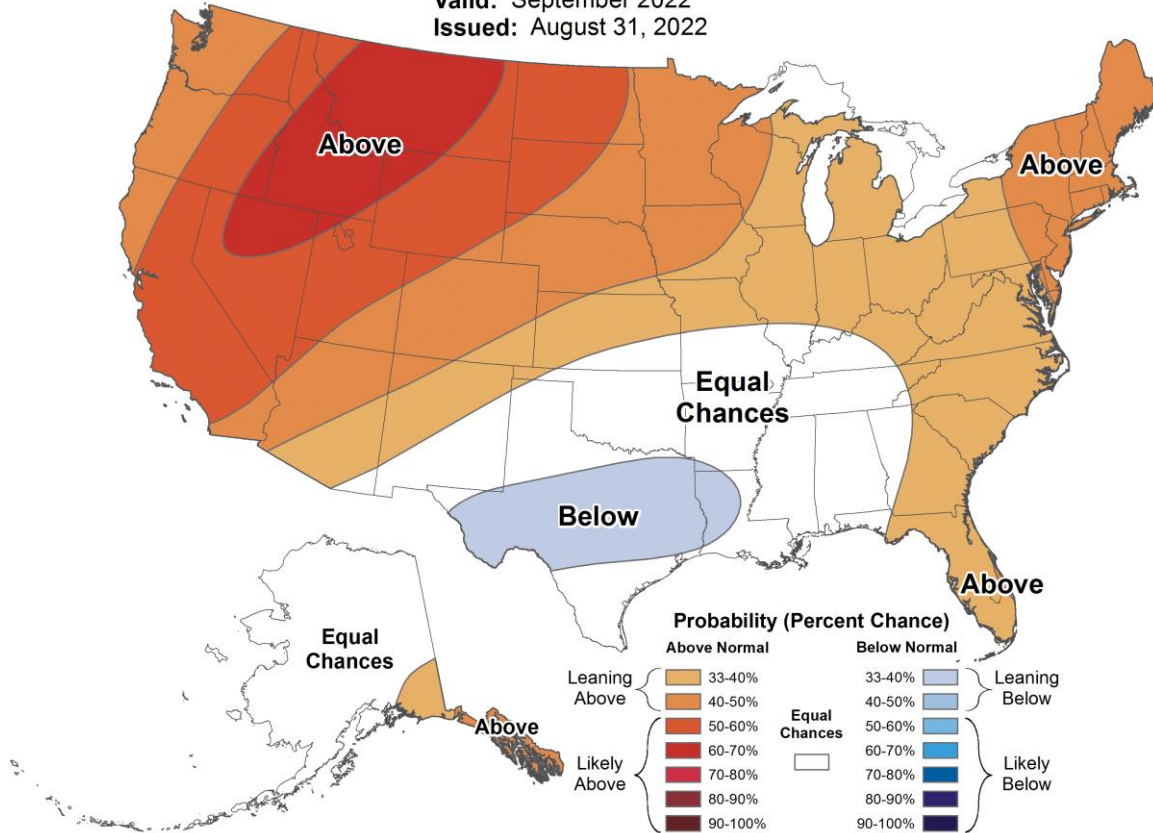
NOAA One-Month Temperature Outlook



Monthly Temperature Outlook



Valid: September 2022
Issued: August 31, 2022



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.

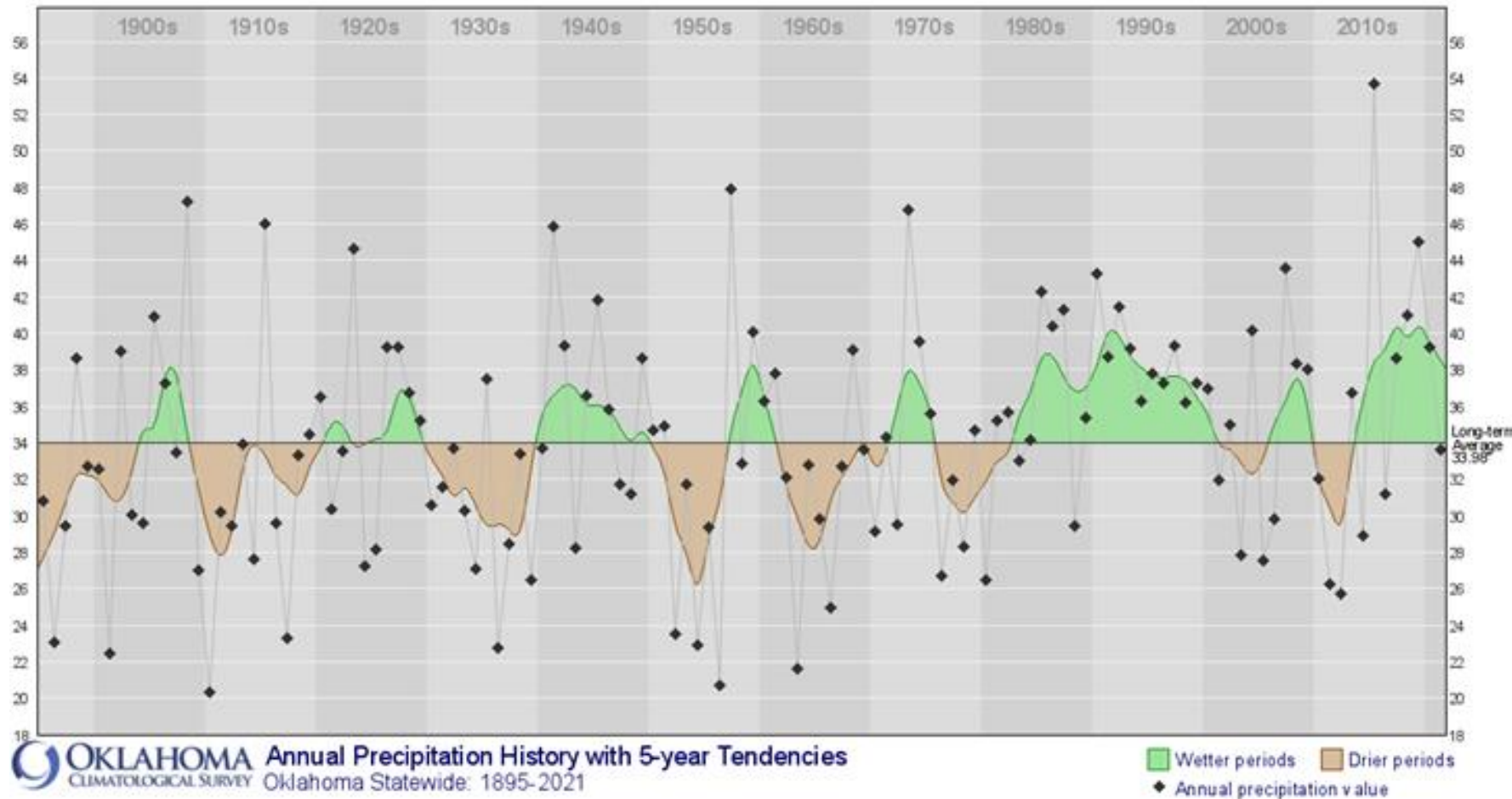
That doesn't mean that there are equal chances of each of the categories occurring – it means that currently there is no skill in identifying the most likely category. In these areas, it is best to be prepared for all possibilities.

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



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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.

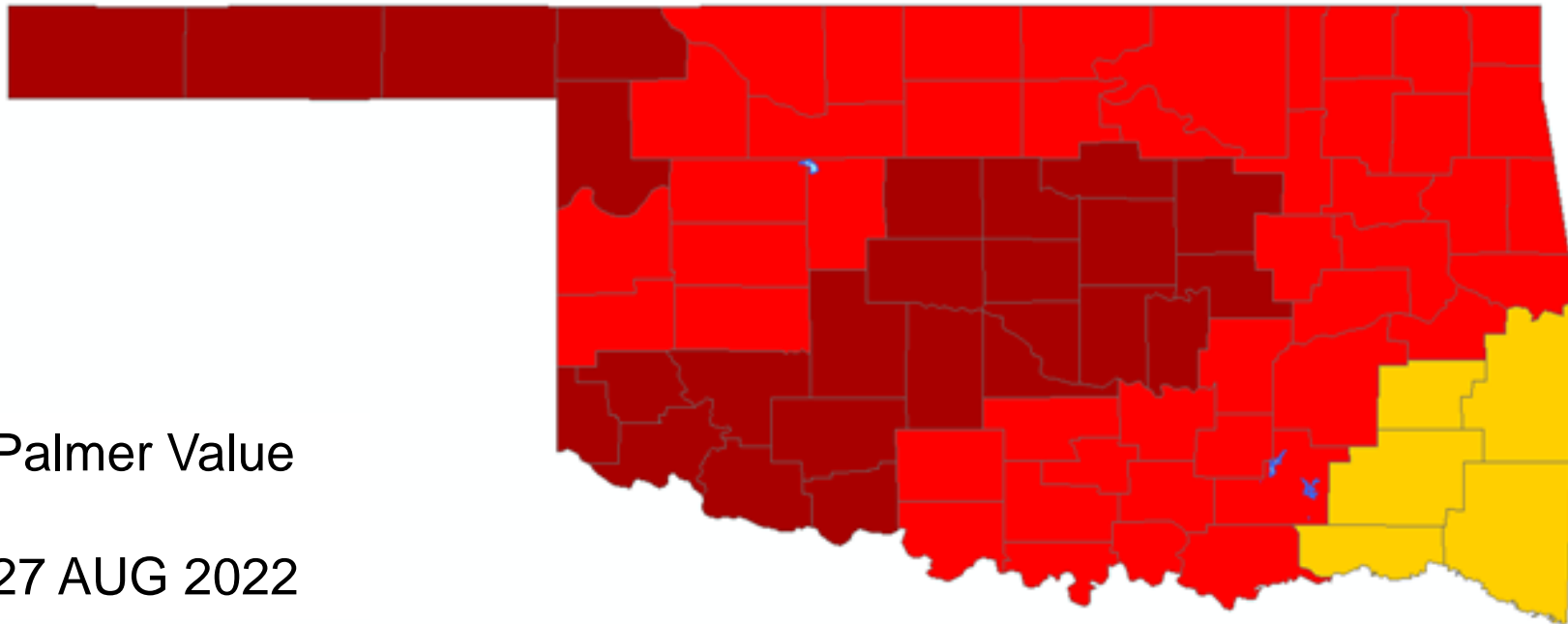
http://climate.ok.gov/index.php/climate/climate_trends/precipitation_history_annual_statewide/CD00/prcp/Annual/oklahoma_south-central_u.s

Drought Severity Index by Climate Division



Palmer Value

27 AUG 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.



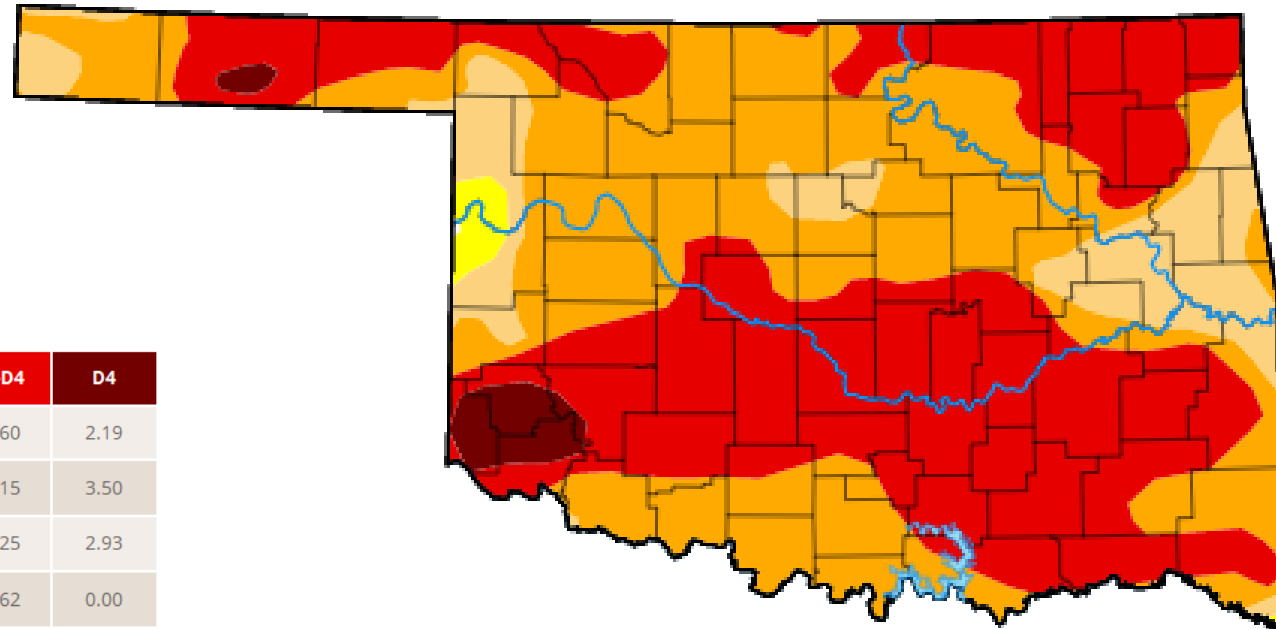
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cdus/palmer_drought/wpdsouth.txt

U.S. Drought Monitor - Oklahoma



Abnormal dryness or drought are currently affecting approximately 3,748,266 people in Oklahoma.

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2022-08-23	0.02	99.98	98.64	89.68	48.60	2.19
Last Week	2022-08-16	0.00	100.00	99.33	90.63	59.15	3.50
3 Months Ago	2022-05-24	46.90	53.10	43.63	35.97	18.25	2.93
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	2021-08-24	88.12	11.88	4.74	0.00	0.00	0.00



Intensity:

D0 - Abnormally Dry
D1 - Moderate Drought
D2 - Severe Drought

D3 - Extreme Drought
D4 - Exceptional Drought

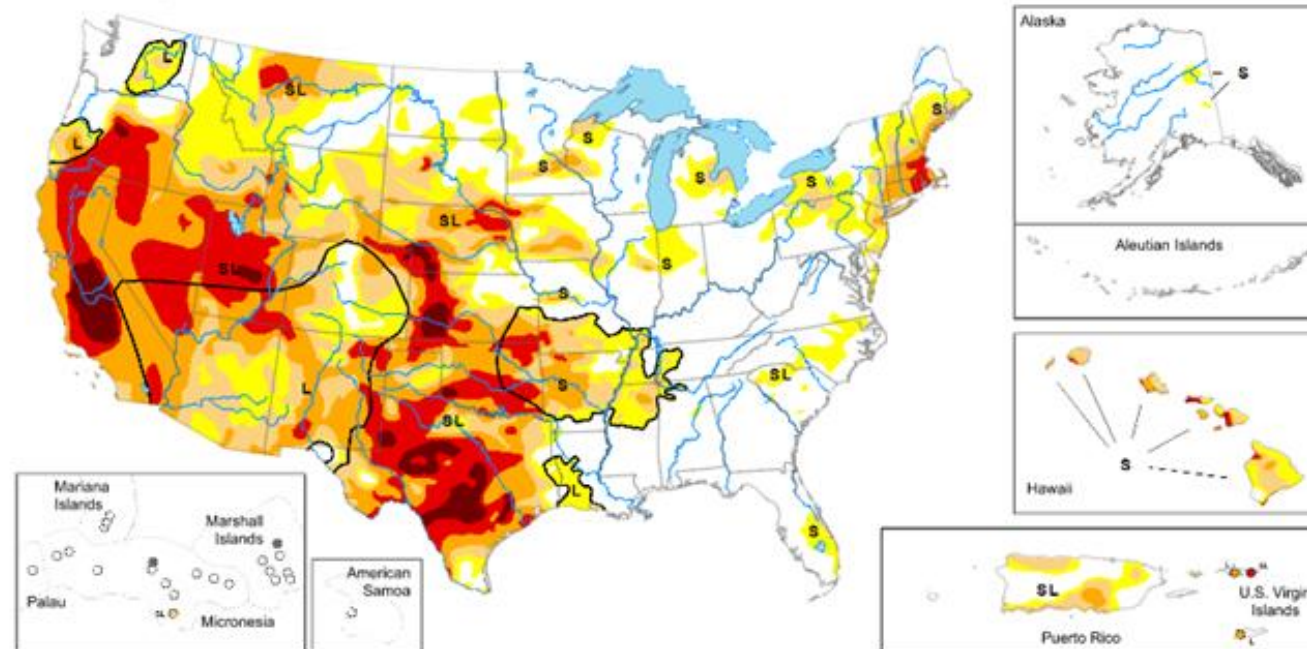
<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?OK>

U.S. Drought Monitor Nationwide Map



Map released: August 25, 2022

Data valid: August 23, 2022



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

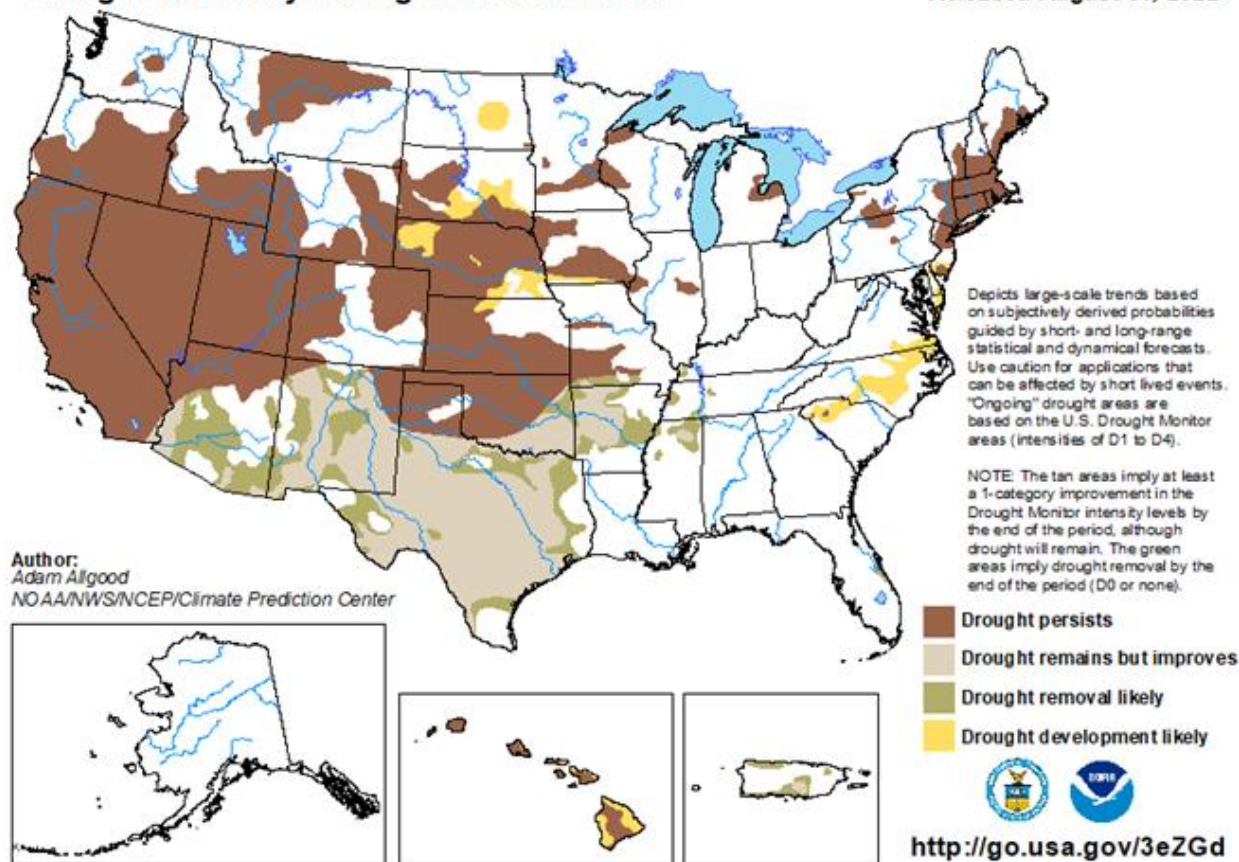


<http://droughtmonitor.unl.edu>

U.S. Drought Monitor Monthly Drought Outlook Map

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

Valid for September 2022
Released August 31, 2022



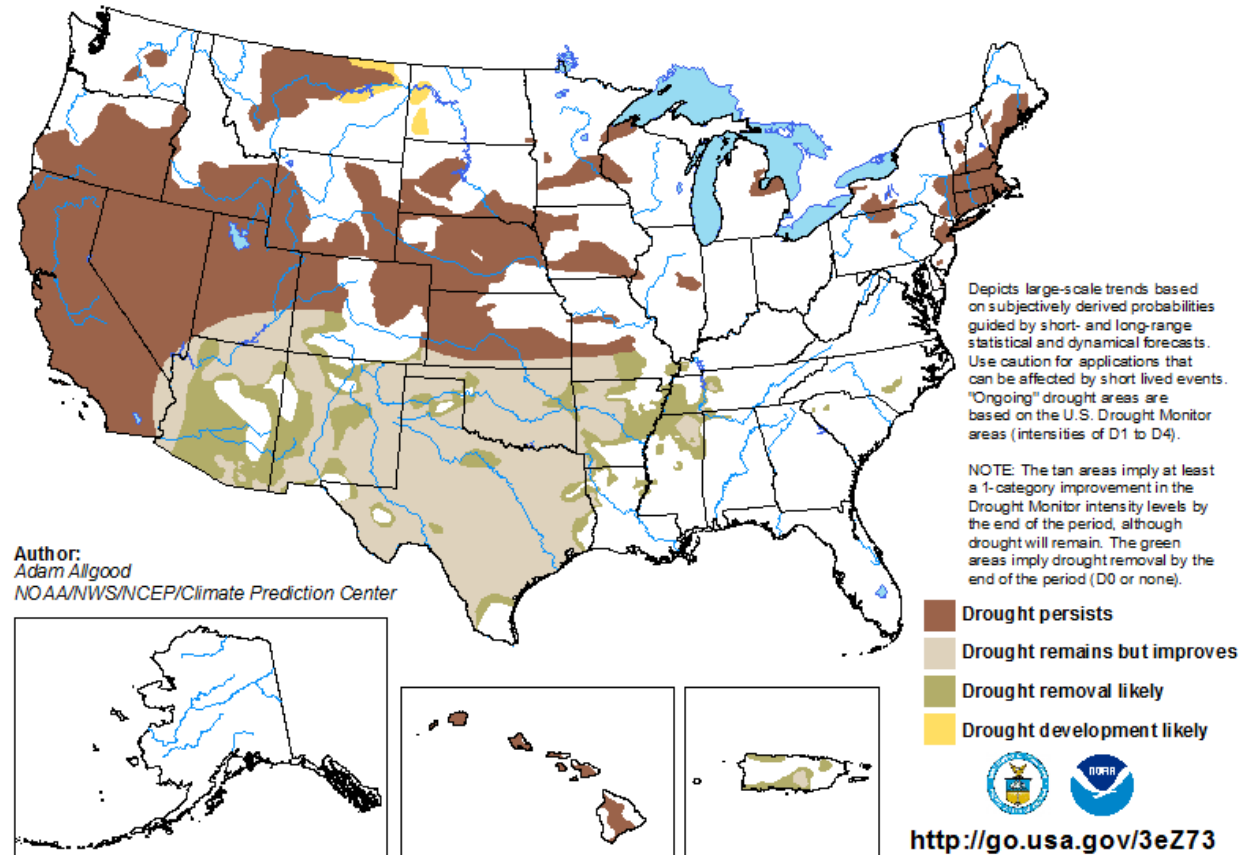
http://www.cpc.ncep.noaa.gov/products/expert_assessment/mdo_summary.php

U.S. Drought Monitor Seasonal Drought Outlook Map



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

Valid for August 18 - November 30, 2022
Released August 18

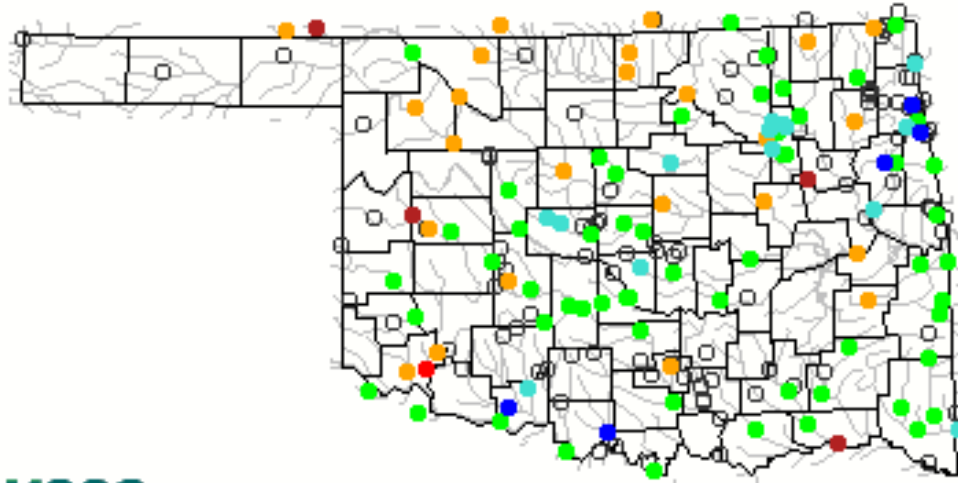


http://www.cpc.ncep.noaa.gov/products/expert_assessment/mdo_summary.php

USGS Streamflow Data

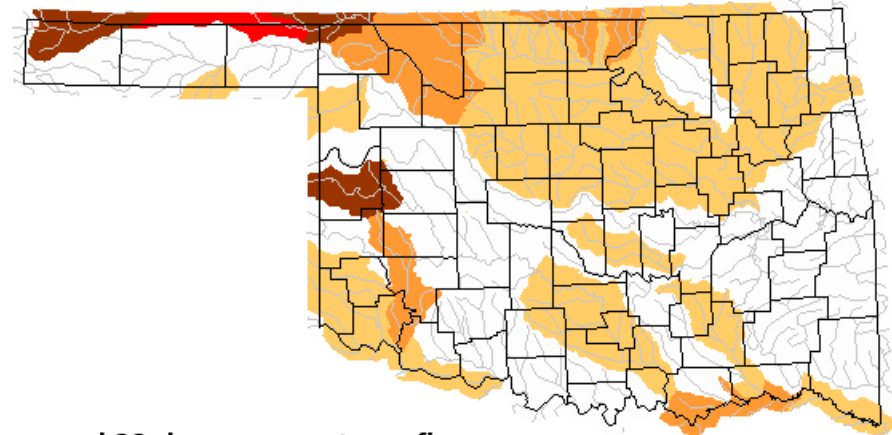


Wednesday, August 31, 2022 15:30ET



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

Tuesday, August 30, 2022



Below normal 28-day average streamflow

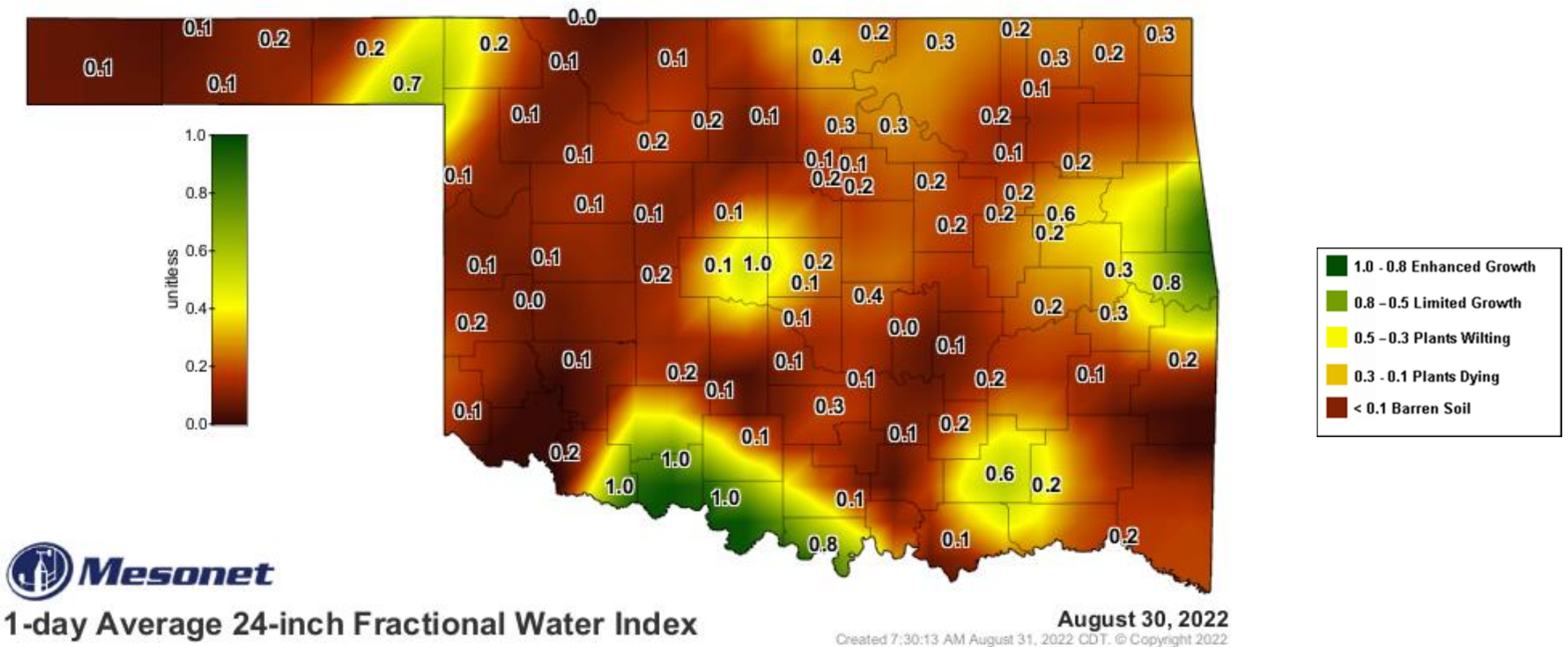


Explanation - Percentile classes				
Low	≤5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

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

https://waterwatch.usgs.gov/index.php?id=pa28d_dry&sid=w_map|_pa28d_dwc&r=ok

SOIL MOISTURE MAP



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

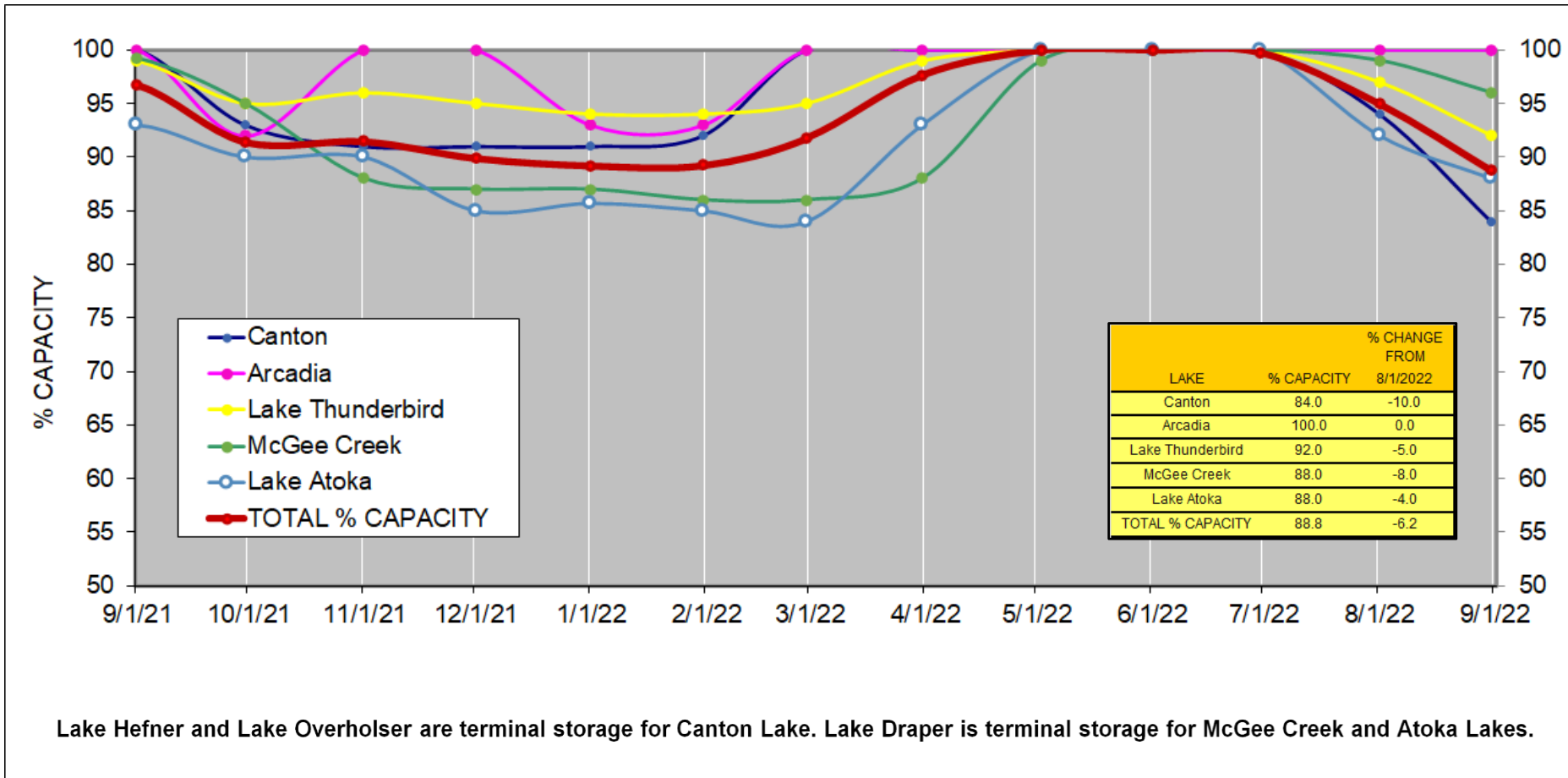


August 30, 2022

Created 8:15:02 AM August 31, 2022 CDT. © Copyright 2022

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% of Surface Water Conservation Capacity Central OK Reservoirs

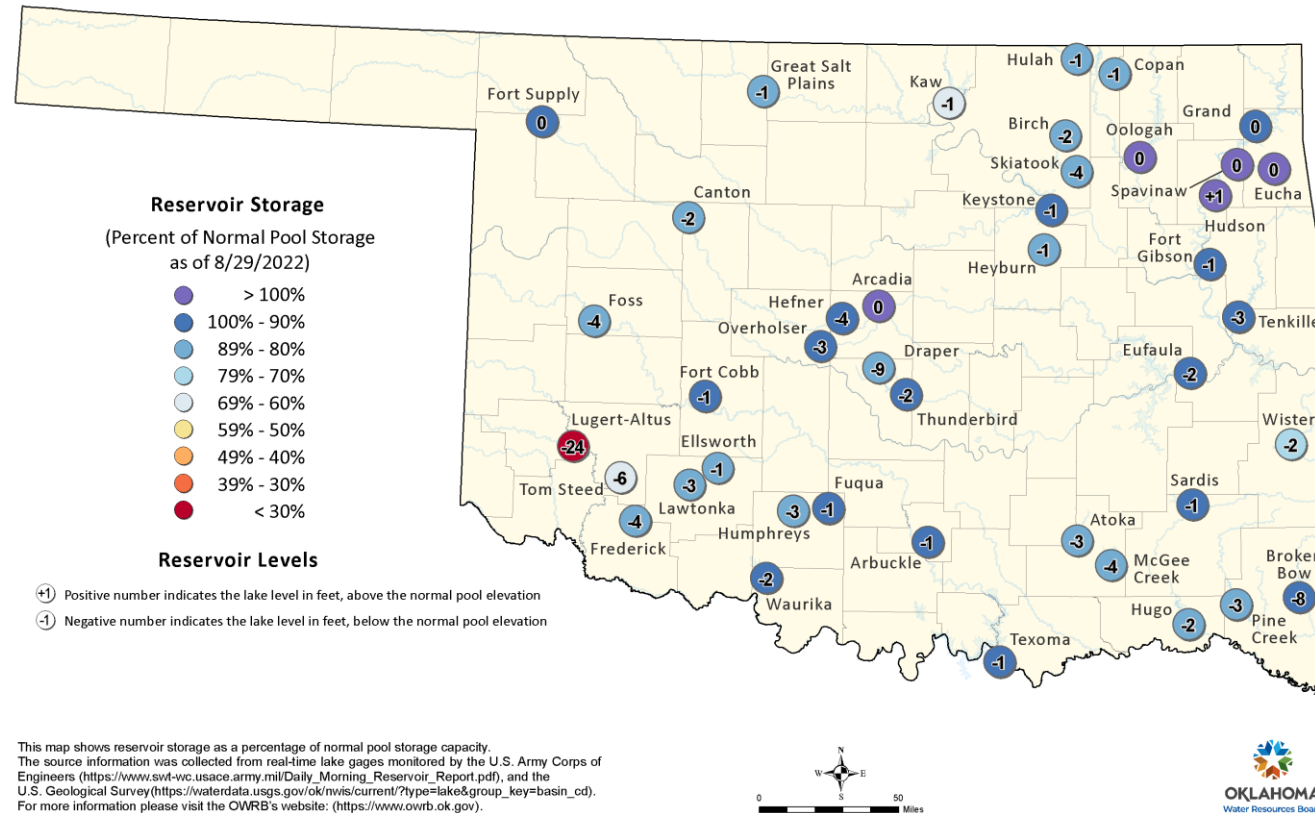


<https://www.owrb.ok.gov/supply/drought/reservoirstorage.php>

Oklahoma Reservoir Levels and Storage

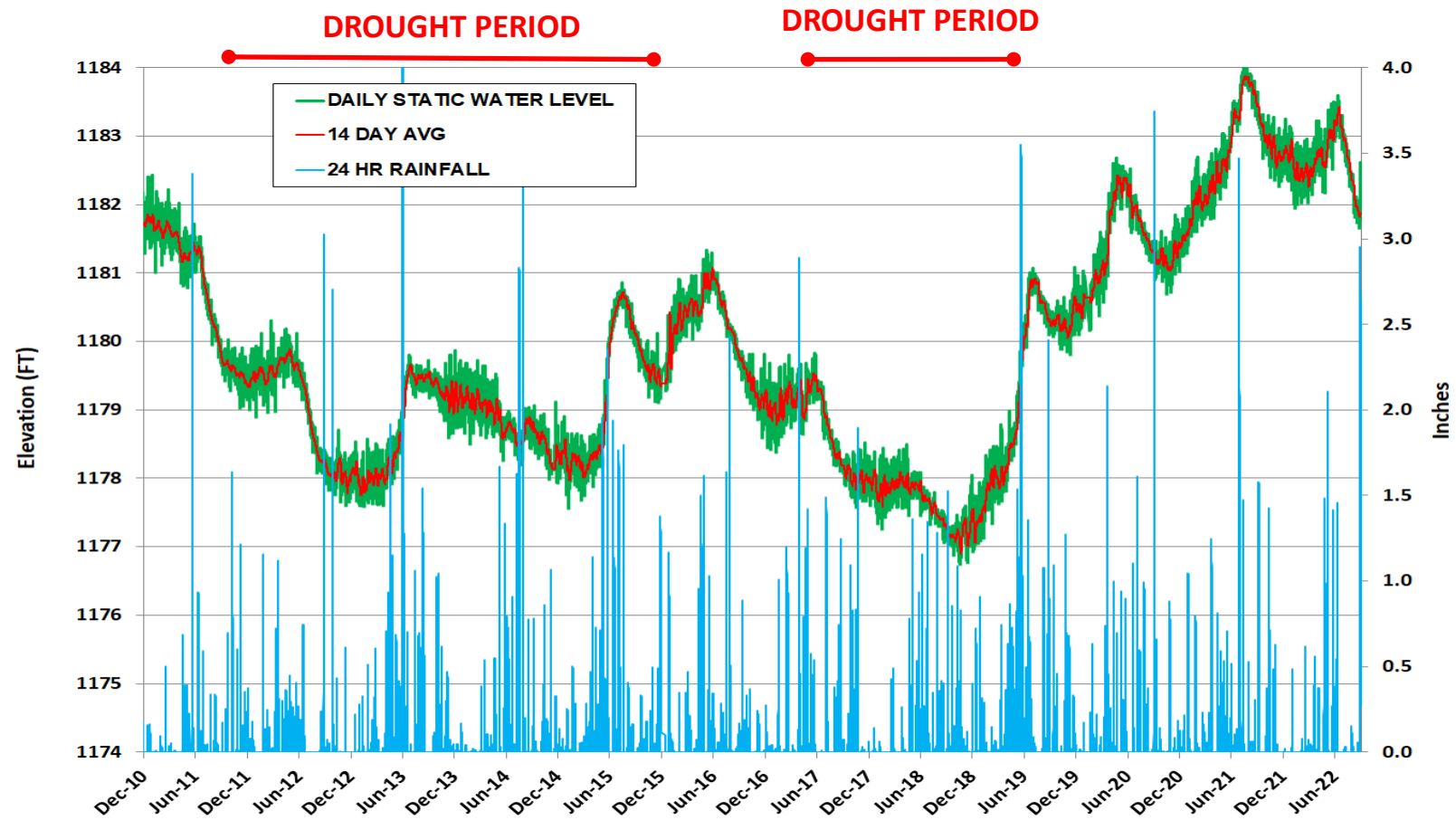


Oklahoma Reservoir Levels and Storage as of 8/29/2022



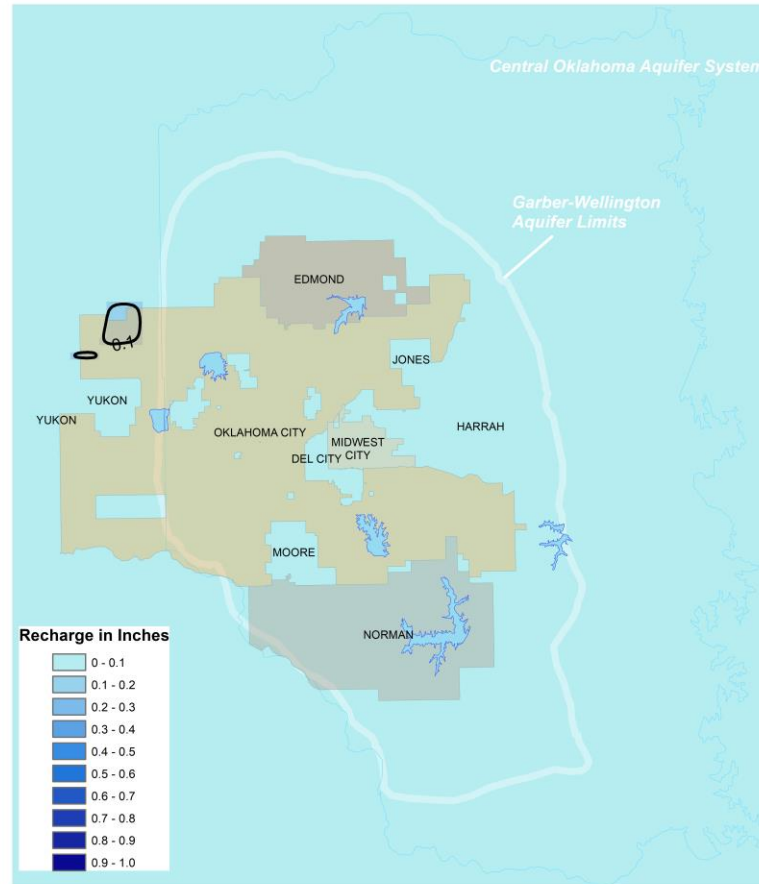
<https://www.owrb.ok.gov/supply/drought/reservoirstorage.php>

Groundwater Levels Spencer Mesonet Station

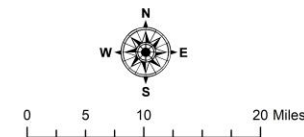


<http://www.mesonet.org/index.php/weather/groundwater>

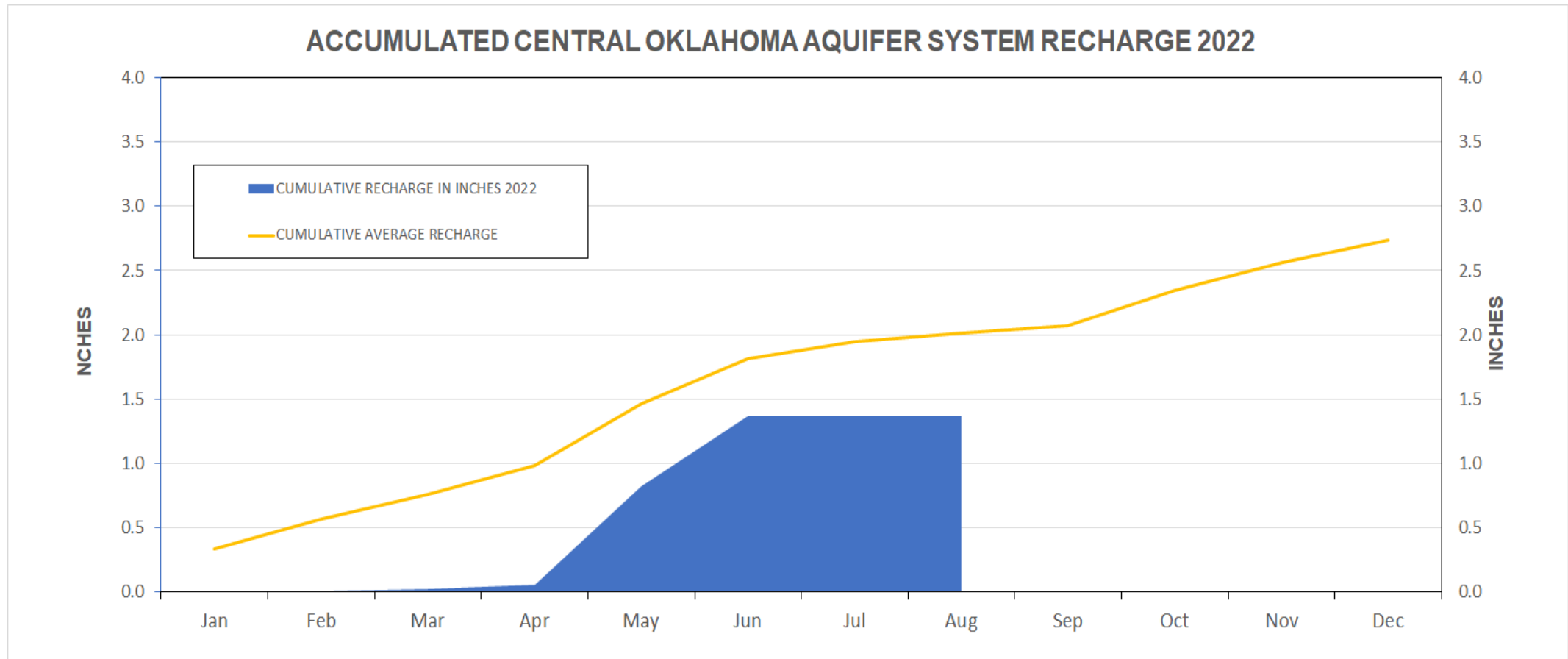
Oklahoma Reservoir Levels and Storage



AQUIFER RECHARGE AUG 2022

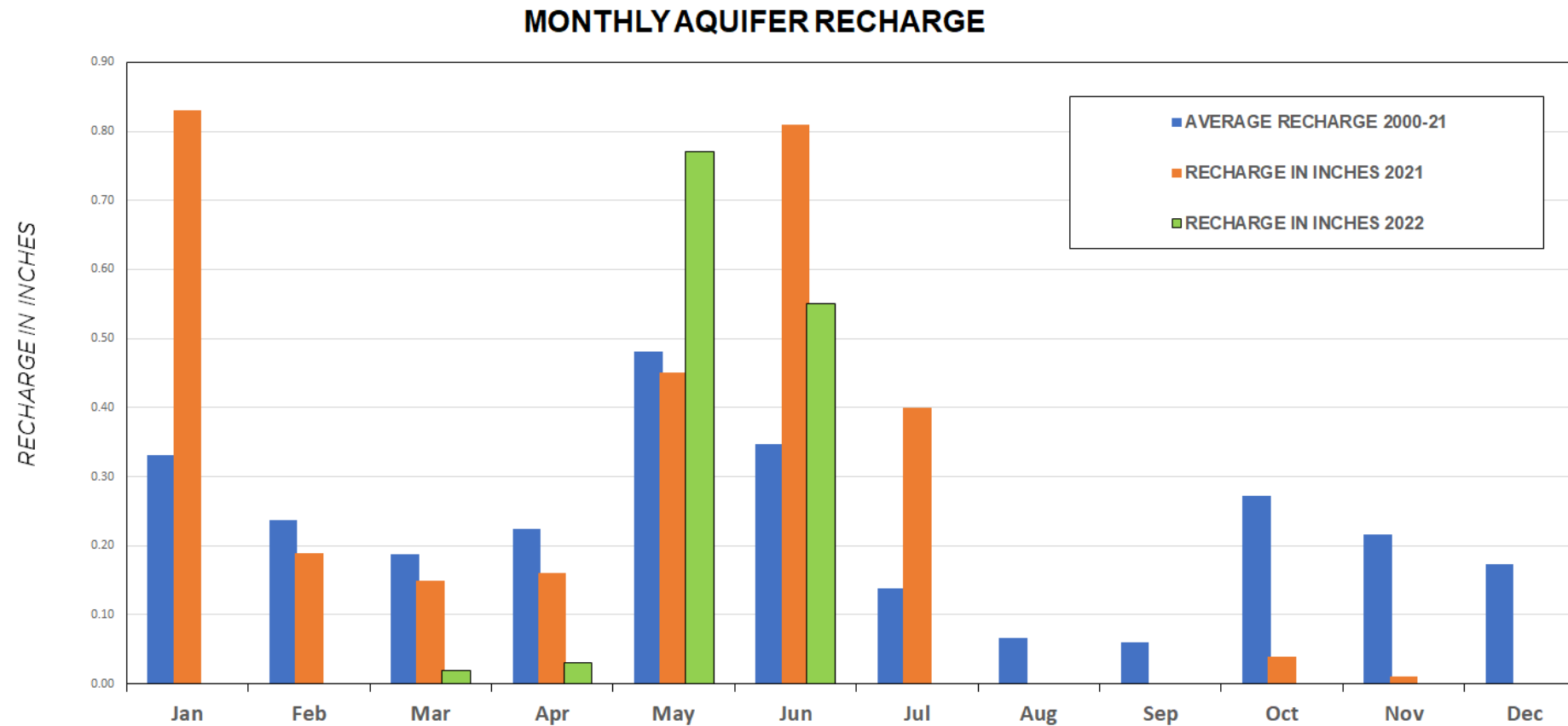


Recharge Charts Central Oklahoma Aquifer System



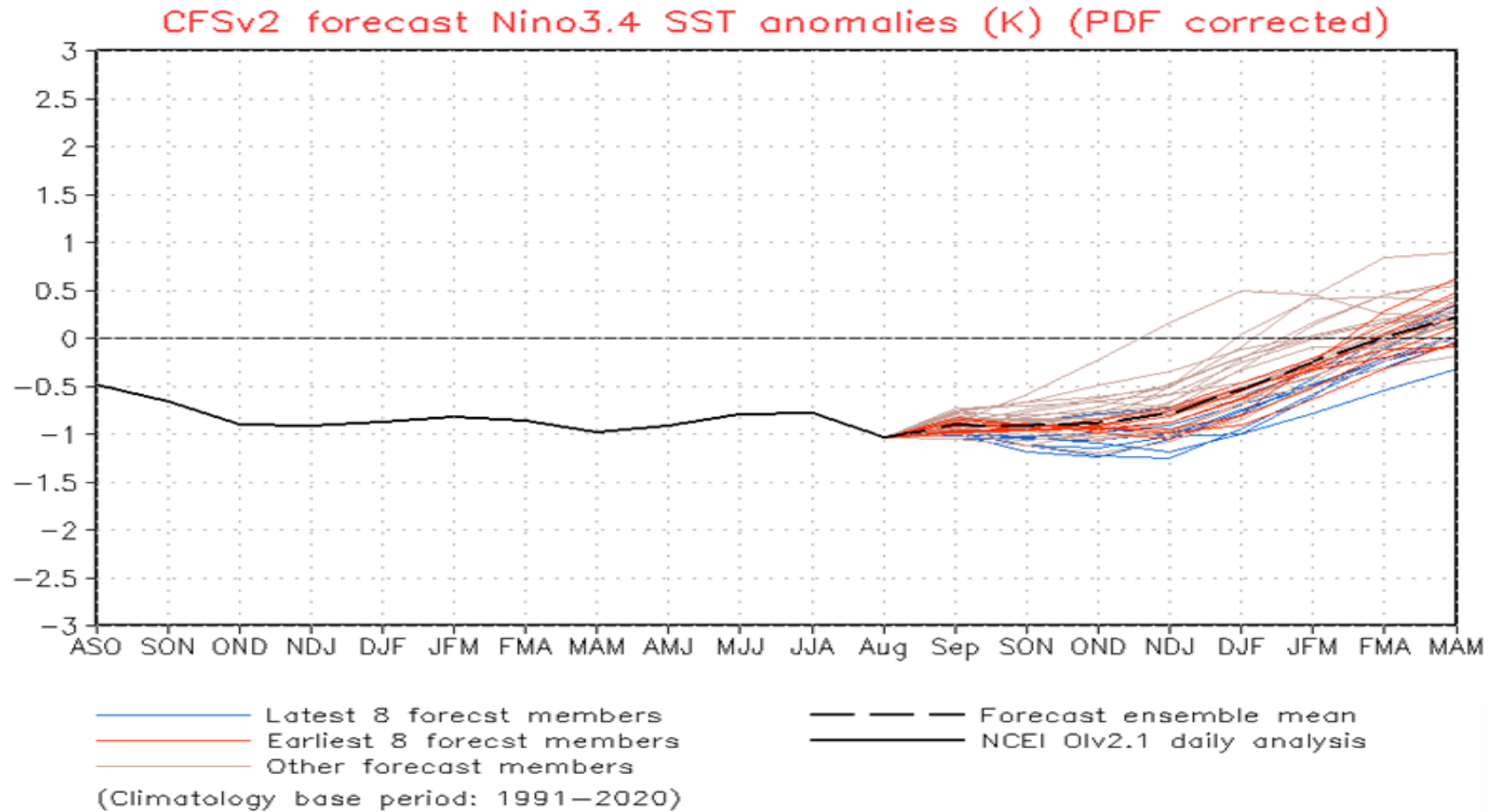
<https://www.owrb.ok.gov/supply/drought/reservoirstorage.php>

Recharge Charts Central Oklahoma Aquifer System



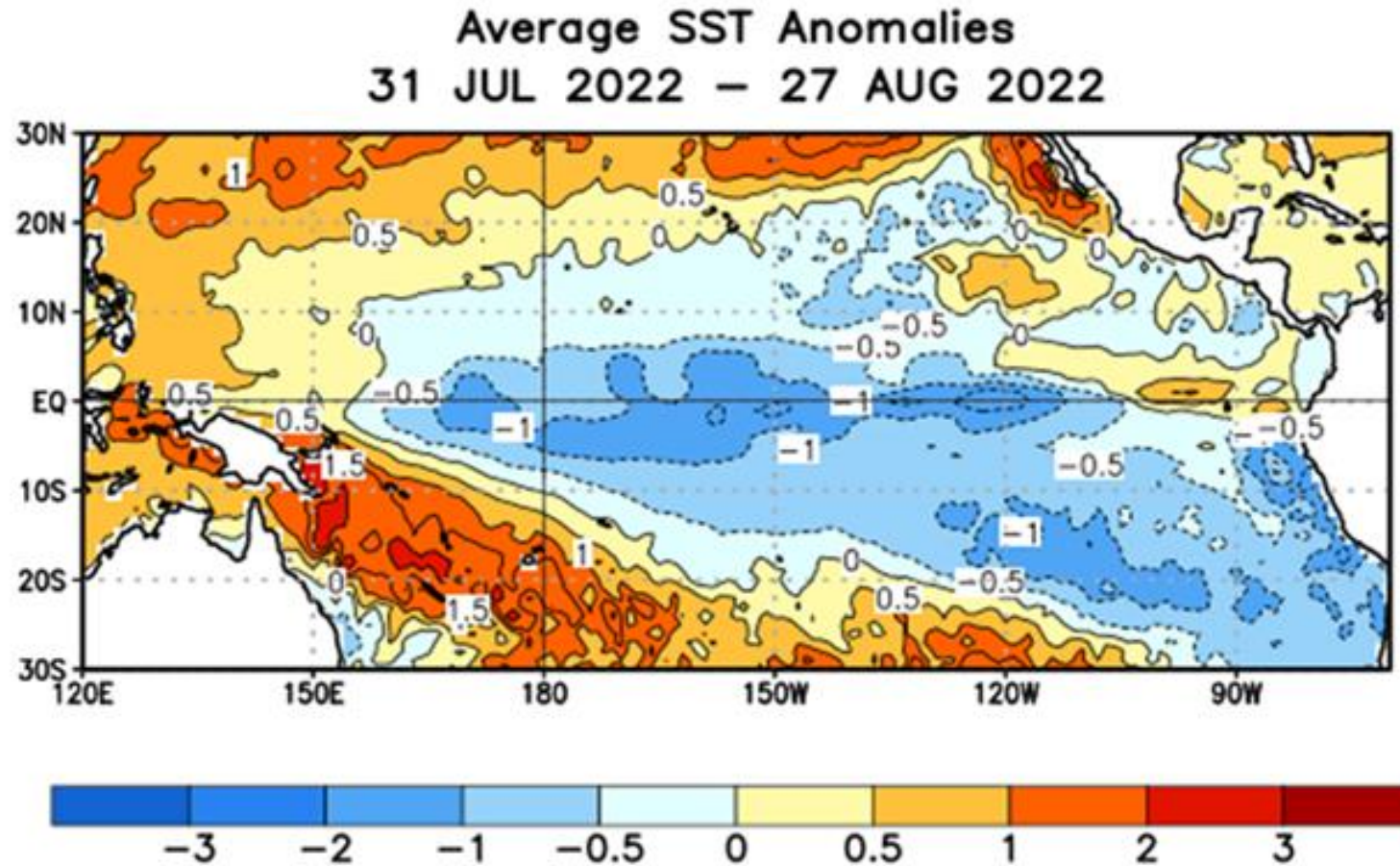
<https://www.owrb.ok.gov/supply/drought/reservoirstorage.php>

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



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



Summary

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.
- La Niña is expected to continue, with chances for La Niña gradually decreasing from 86% in the coming season to 60% during December-February 2022-23.

HEADLINE MODERN - 28pts



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HEADLINE MOODERN - 28pts



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HEADLINE MODERN - 28pts



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PAGE IMAGE
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GOTHAM BOLD - 28 pts

HEADLINE MOODERN - 28pts



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SUMMARY



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SUBJECT TITLE MOODERN

- 50 pts



QUESTIONS?

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Title

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ASSOCIATION OF
CENTRAL OKLAHOMA
GOVERNMENTS