



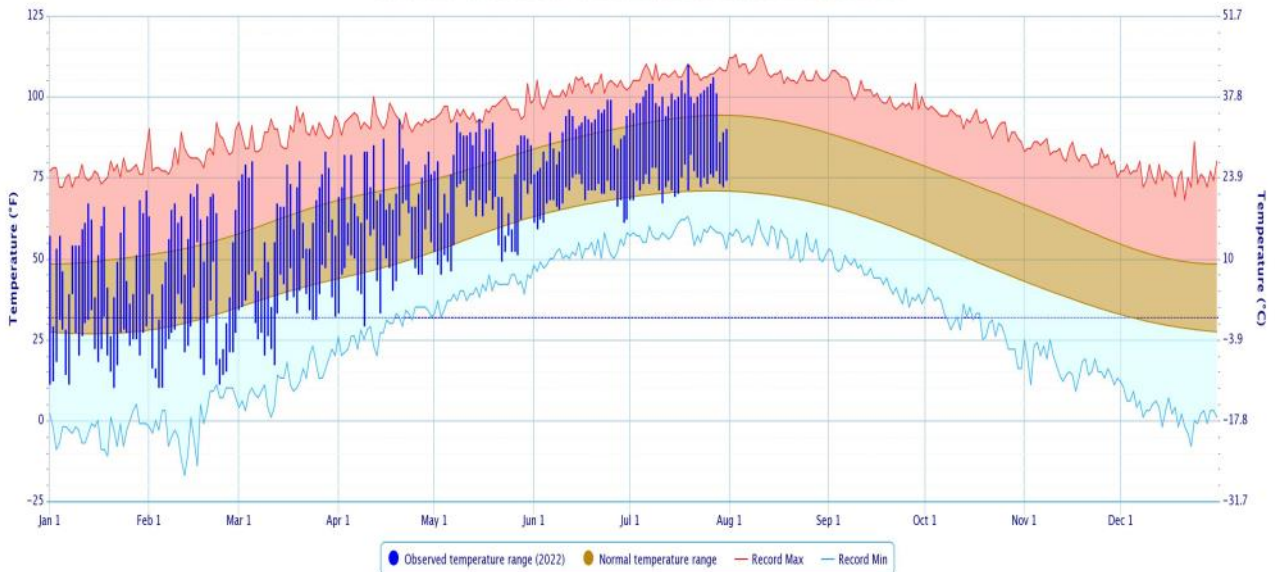
Drought Conditions in Central Oklahoma

**Water Resources Division
Association of Central Oklahoma Governments
August 01, 2022**

Temperature and Precipitation Plot for Oklahoma City, Oklahoma for 2022

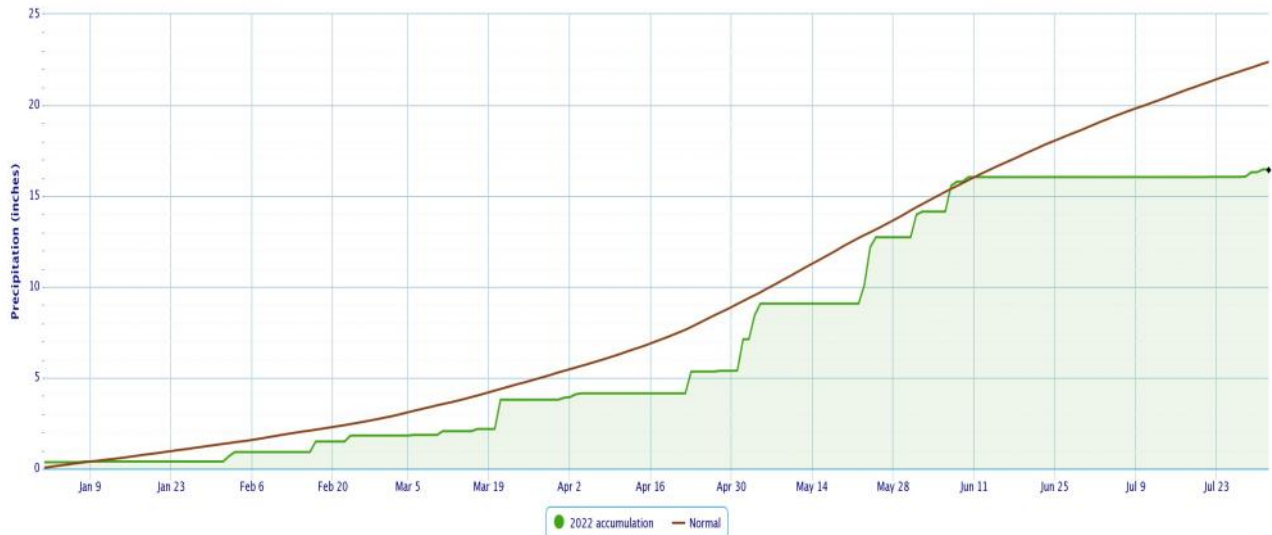
Daily Temperature Data - Oklahoma City Area, OK

Period of Record - 1890-11-01 to 2022-07-31. Normals period: 1991-2020. Click and drag to zoom chart.

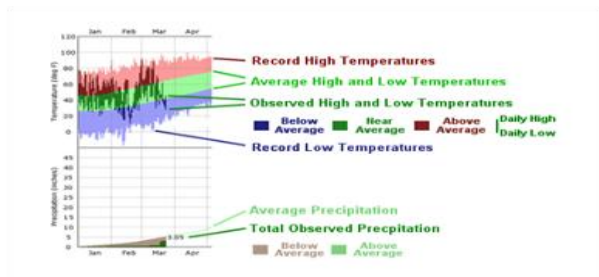


Powered by ACIS

Accumulated Precipitation—Oklahoma City Area, OK



Powered by ACIS



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

Rainfall Summaries by Oklahoma Climate Division

Calendar Year 01-Jan-2021 through

31-Jul-2022

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	13.60"	-3.45"	80%	28th driest	5.25" (2011)	28.09" (2015)
Central	21.49"	-1.09"	95%	48th wettest	8.49" (1936)	39.64" (2007)
S. Central	17.63"	-6.81"	72%	14th driest	10.84" (2011)	47.74" (2015)
Statewide	19.13"	-2.76"	87%	35th driest	9.68" (1936)	34.37" (2015)

Water Year: 01-Oct-2021 through

31-Jul-2022

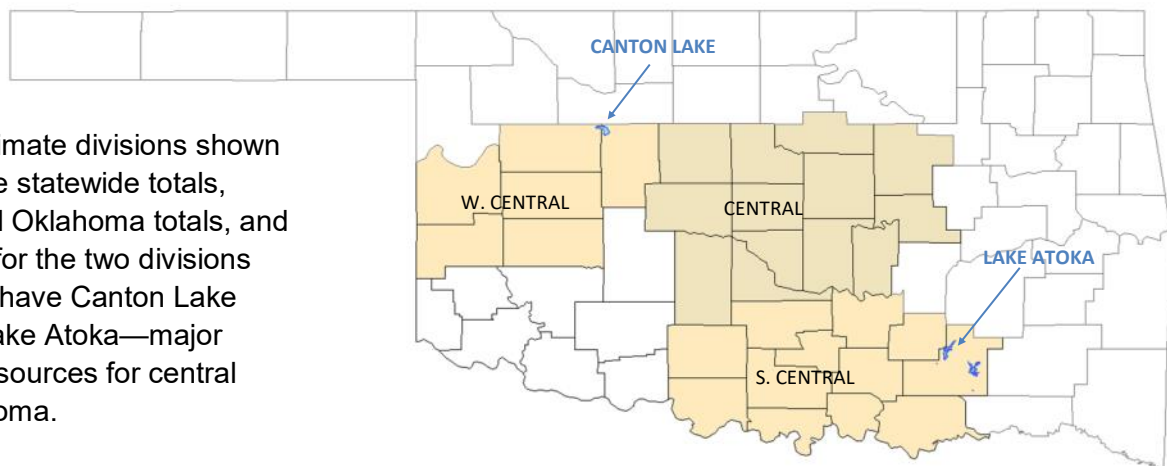
Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	15.93"	-6.66"	71%	18th driest	9.79" (2010-11)	35.76" (2018-19)
Central	27.00"	-3.69"	88%	49th driest	15.82" (1935-36)	46.65" (2006-07)
S. Central	22.83"	-11.30"	67%	11th driest	14.97" (1955-56)	56.56" (2014-15)
Statewide	24.68"	-5.29"	82%	29th driest	16.74" (1955-56)	41.20" (2014-15)

Summer Jun 01 through

31-Jul-2022

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	6.39"	+0.15"	102%	44th wettest	1.60" (2011)	12.11" (1962)
Central	5.19"	-2.58"	67%	30th driest	1.89" (1954)	19.33" (2007)
S. Central	4.19"	-3.38"	55%	23rd driest	0.59" (2011)	15.84" (2007)
Statewide	5.55"	-1.85"	75%	30th driest	1.96" (2011)	14.42" (2007)

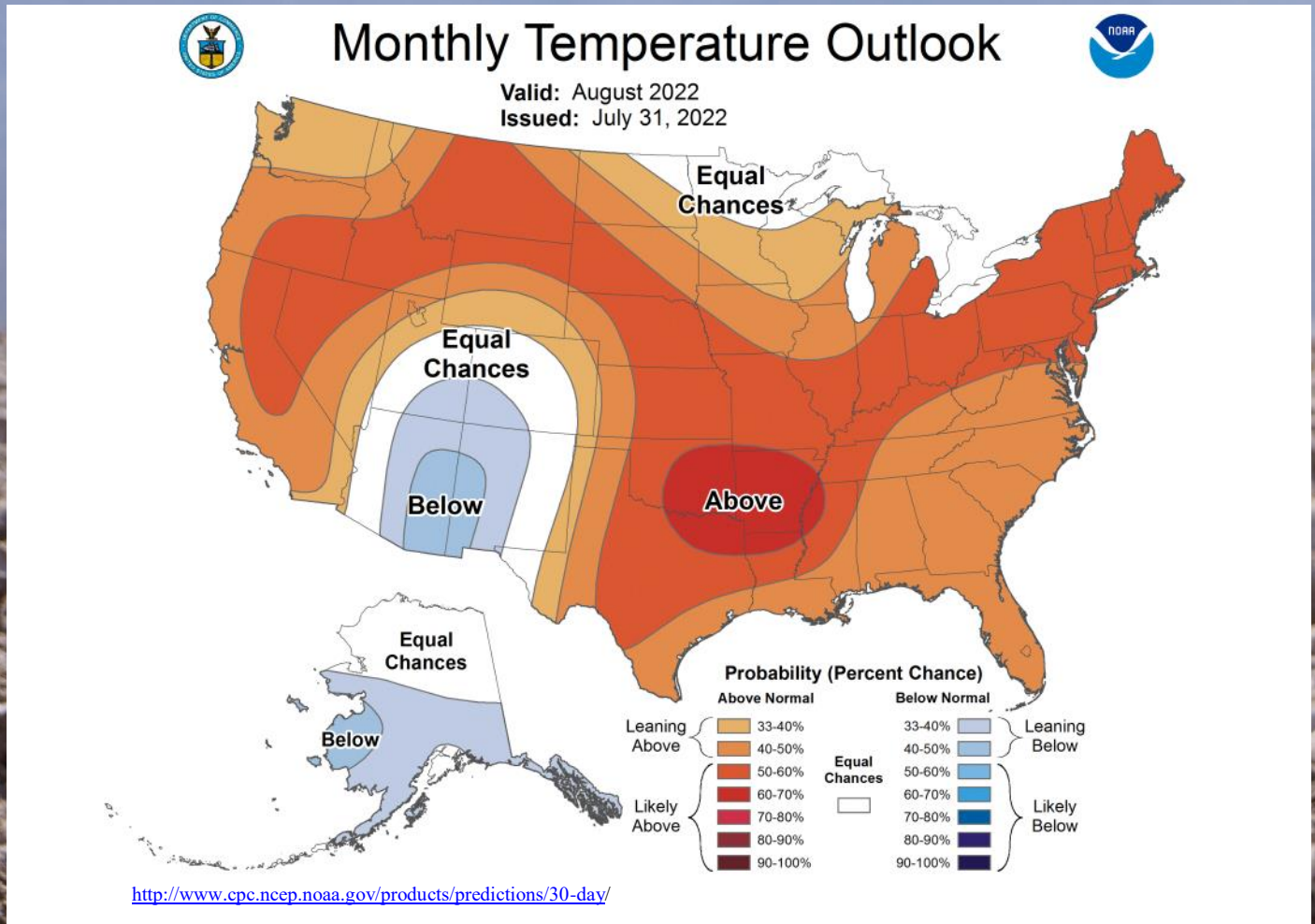
The climate divisions shown include statewide totals, central Oklahoma totals, and totals for the two divisions which have Canton Lake and Lake Atoka—major water sources for central Oklahoma.



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

OKLAHOMA
CLIMATOLOGICAL SURVEY

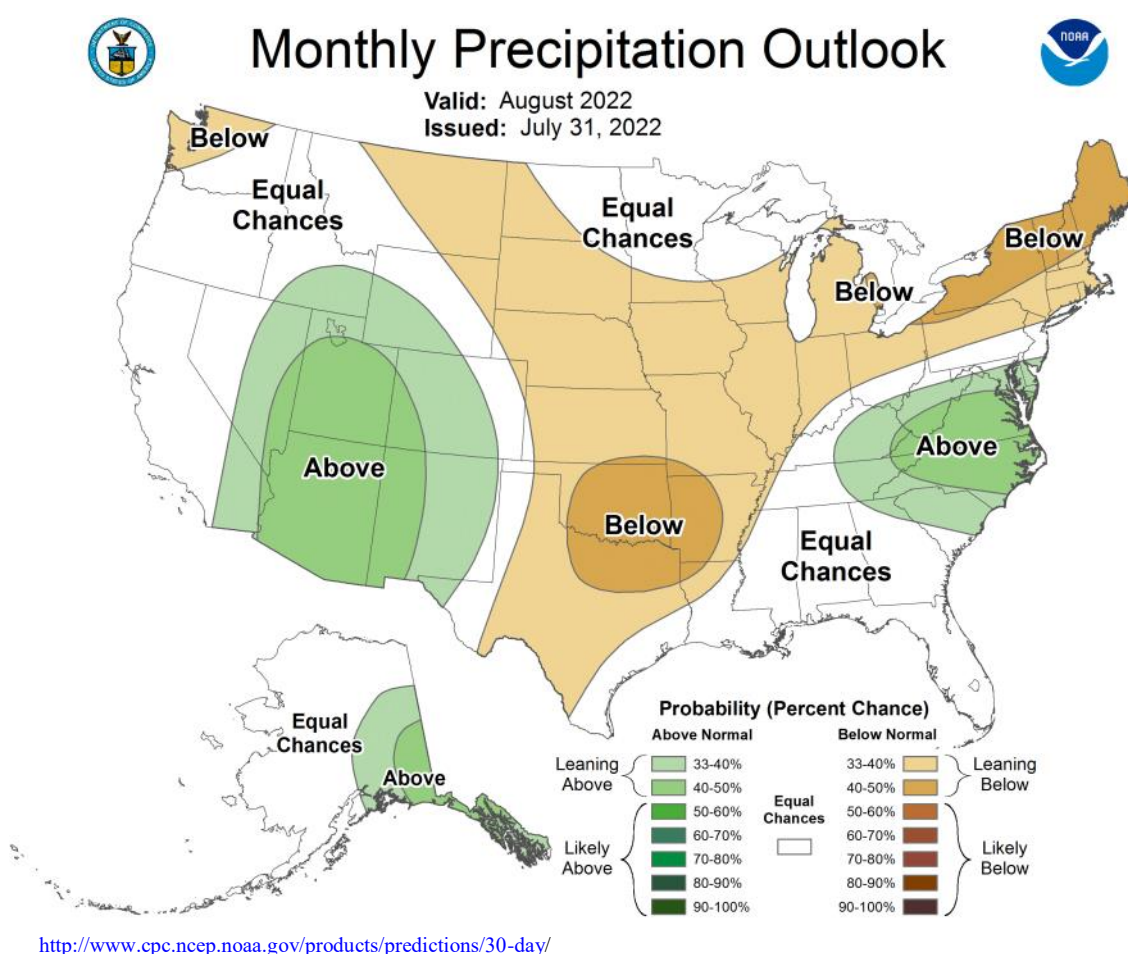
NOAA One-Month Outlook



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.

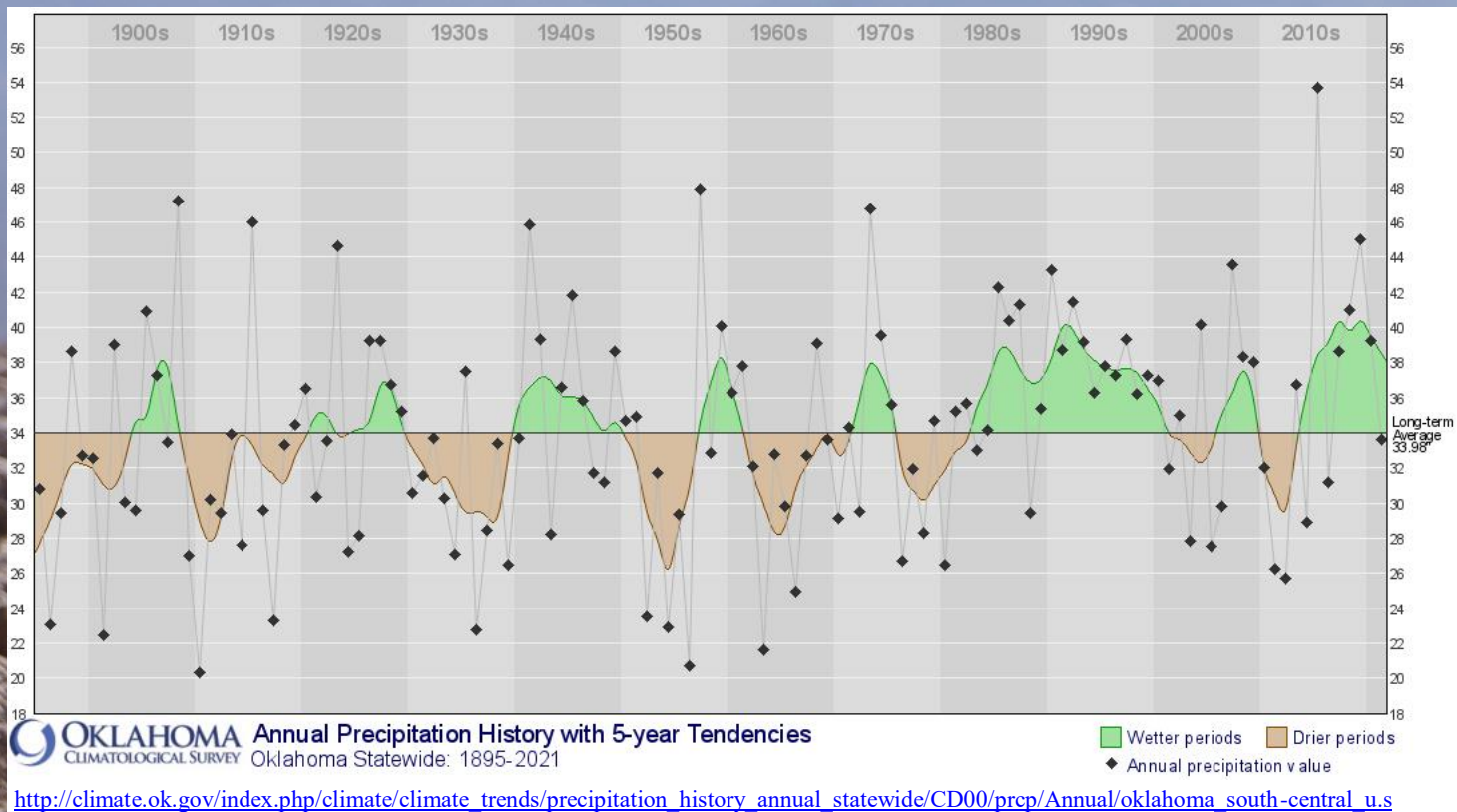
NOAA One-Month Outlook



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Annual Precipitation History with 5-Year Tendencies



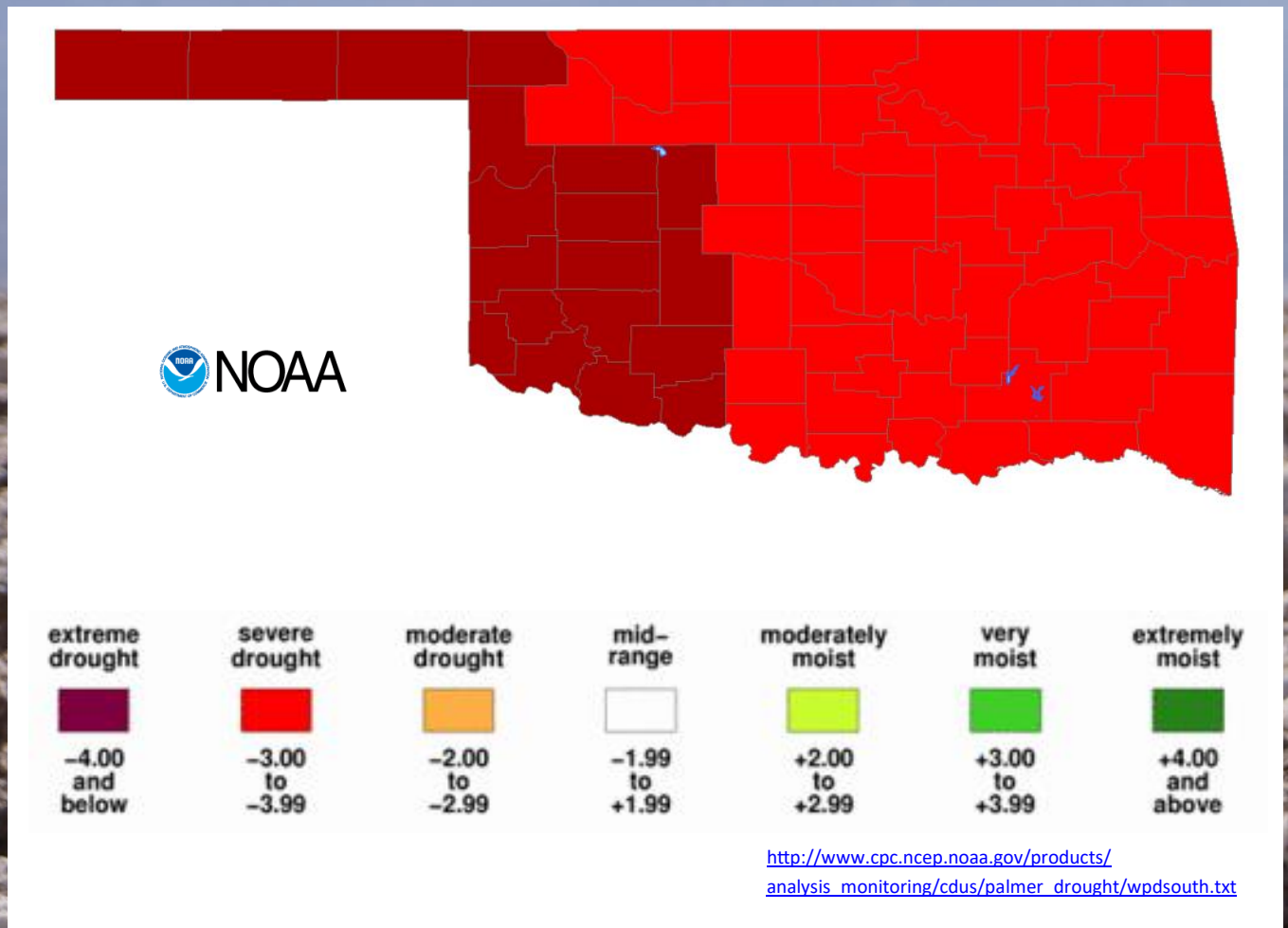
http://climate.ok.gov/index.php/climate/climate_trends/precipitation_history_annual_statewide/CD00/prcp/Annual/oklahoma_south-central_u.s

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

Palmer Value Ending 23 JUL 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 (meteorological) moisture conditions has changed over the last 12 months.

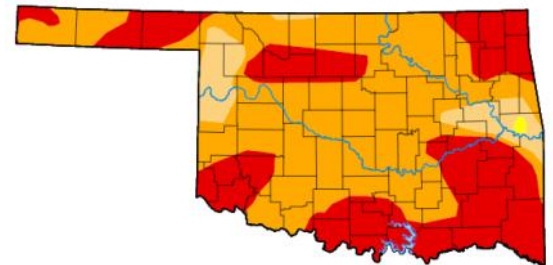
On these maps, the red shading denotes drought conditions while the green shading indicates wet conditions.

U.S. Drought Monitor

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2022-07-26	0.00	100.00	99.81	92.11	37.45	0.00
Last Week	2022-07-19	0.00	100.00	99.69	57.51	6.80	0.00
3 Months Ago	2022-04-26	22.73	77.27	65.40	55.30	39.39	11.03
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	2021-07-27	91.45	8.55	1.13	0.00	0.00	0.00

U.S. Drought Monitor Oklahoma

Abnormal dryness or drought are currently affecting approximately 3,743,378 people in Oklahoma.



Intensity:

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

■ D3 - Extreme Drought
■ D4 - Exceptional Drought

NATIONAL
INTEGRATED
DROUGHT
INFORMATION
SYSTEM



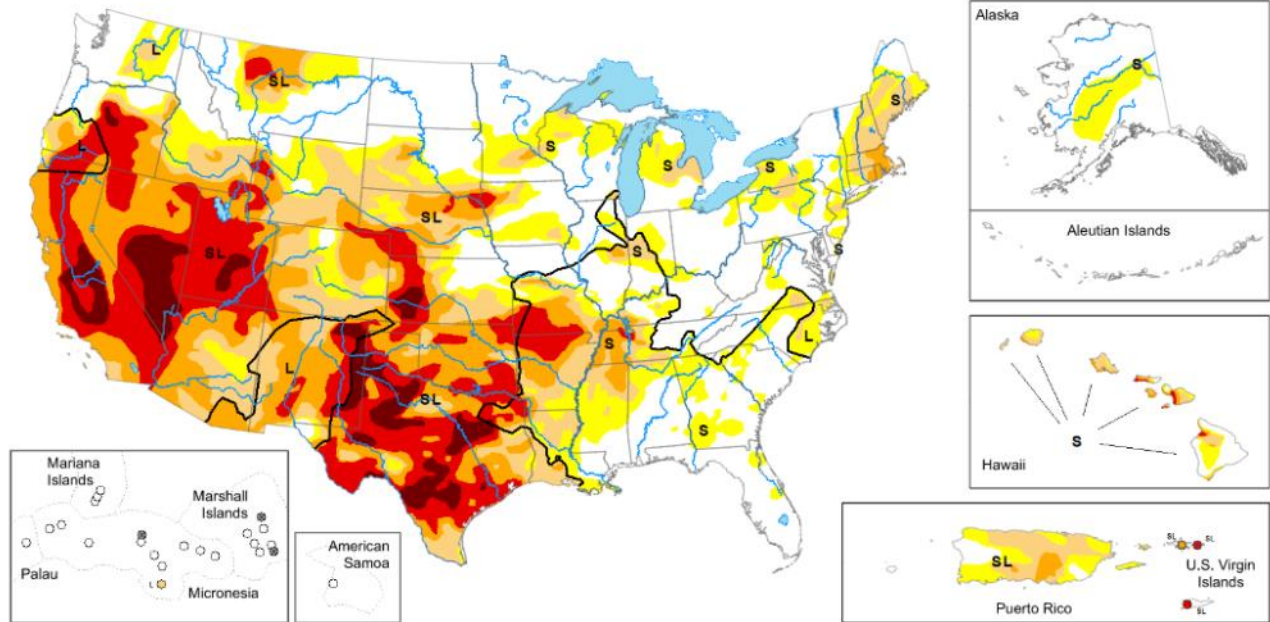
Drought.gov
U.S. Drought Portal

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

U.S. Drought Monitor Nationwide Map

Map released: July 28, 2022

Data valid: July 26, 2022



United States and Puerto Rico Author(s):
Curtis Riganti, National Drought Mitigation Center

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

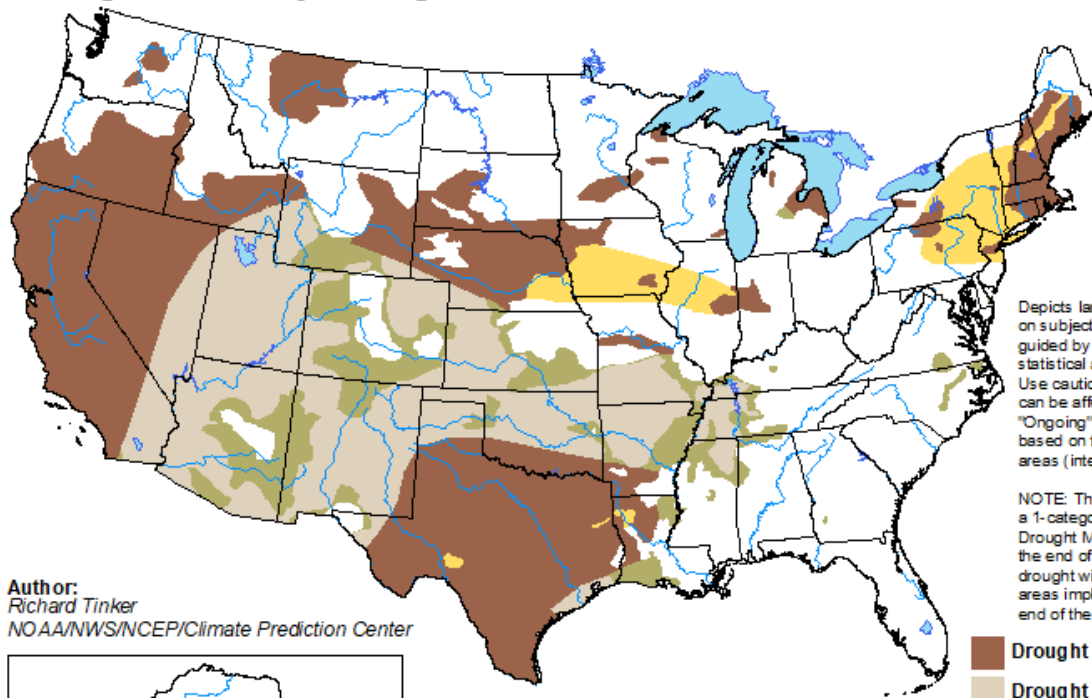
<http://droughtmonitor.unl.edu>

U.S. Drought Monitor

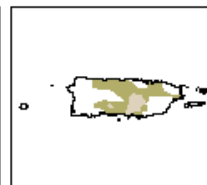
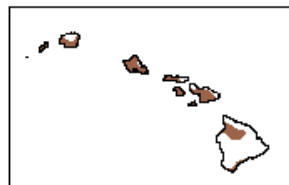
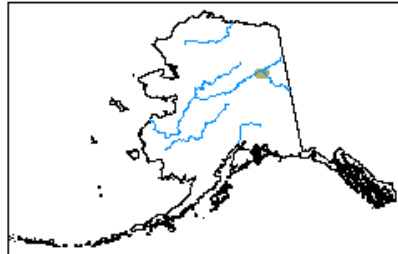
Monthly Drought Outlook Map

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

Valid for August 2022
Released July 31, 2022



Author:
Richard Tinker
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).

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZGd>

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

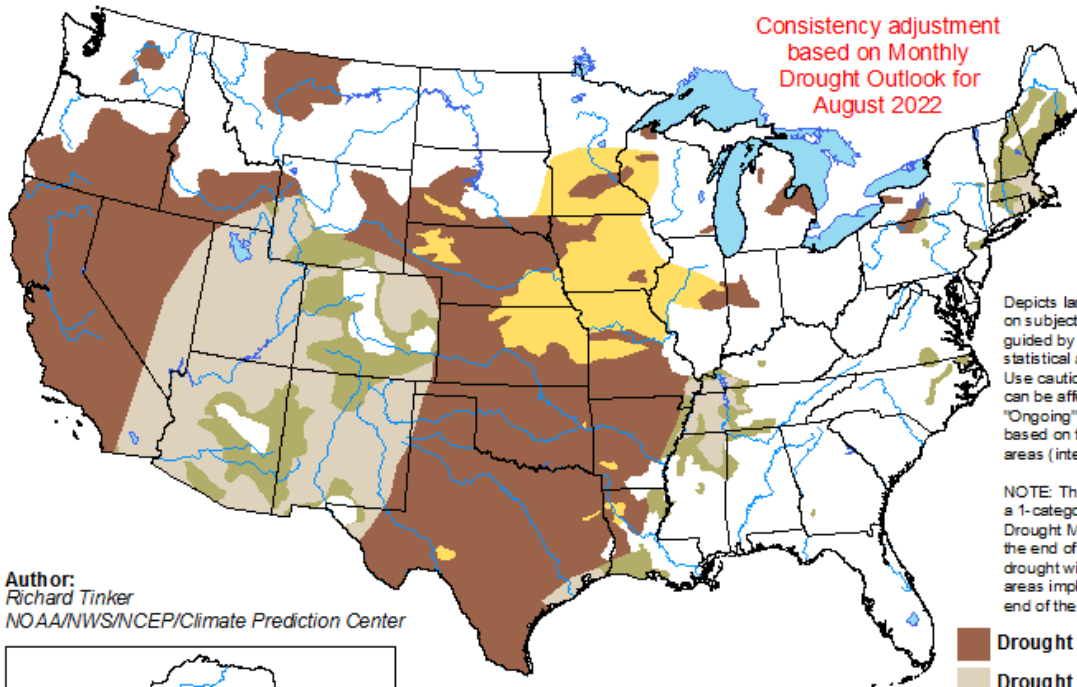
U.S. Drought Monitor

Seasonal Drought Outlook Map

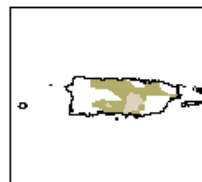
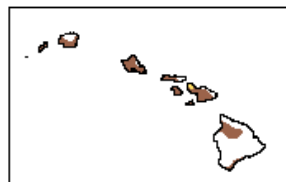
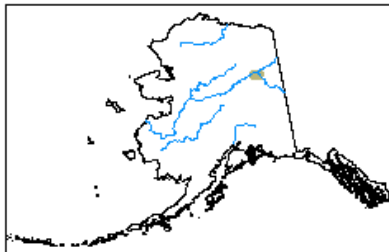
U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for August 1 - October 31, 2022
Released July 31, 2022

Consistency adjustment
based on Monthly
Drought Outlook for
August 2022



Author:
Richard Tinker
NOAA/NWS/NCEP/Climate Prediction Center



- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

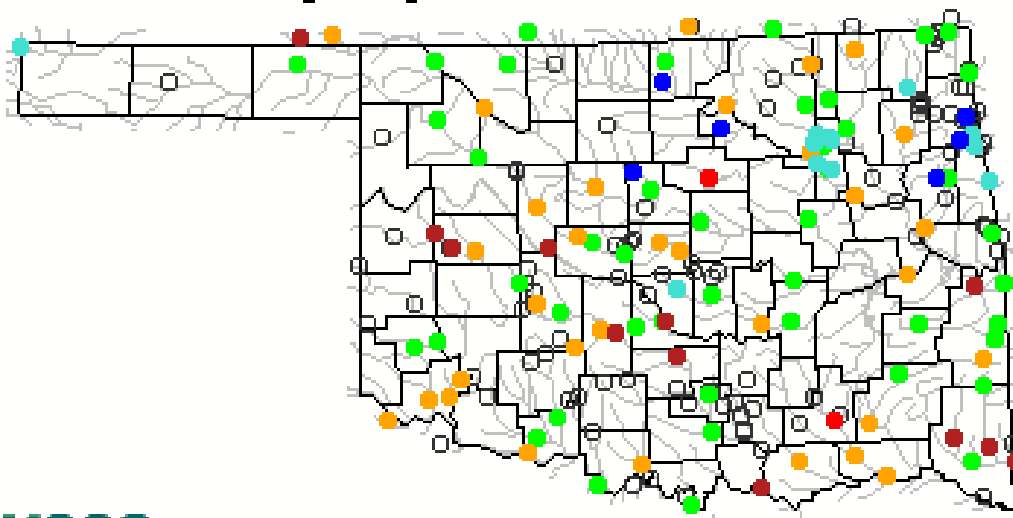


<http://go.usa.gov/3eZ73>

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

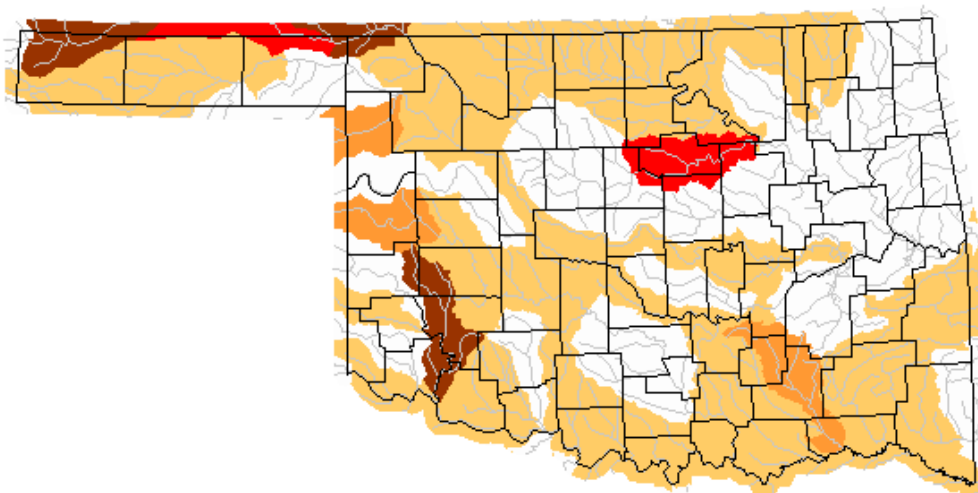
USGS Streamflow Data

Monday, August 01, 2022 10:30ET



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

Sunday, July 31, 2022



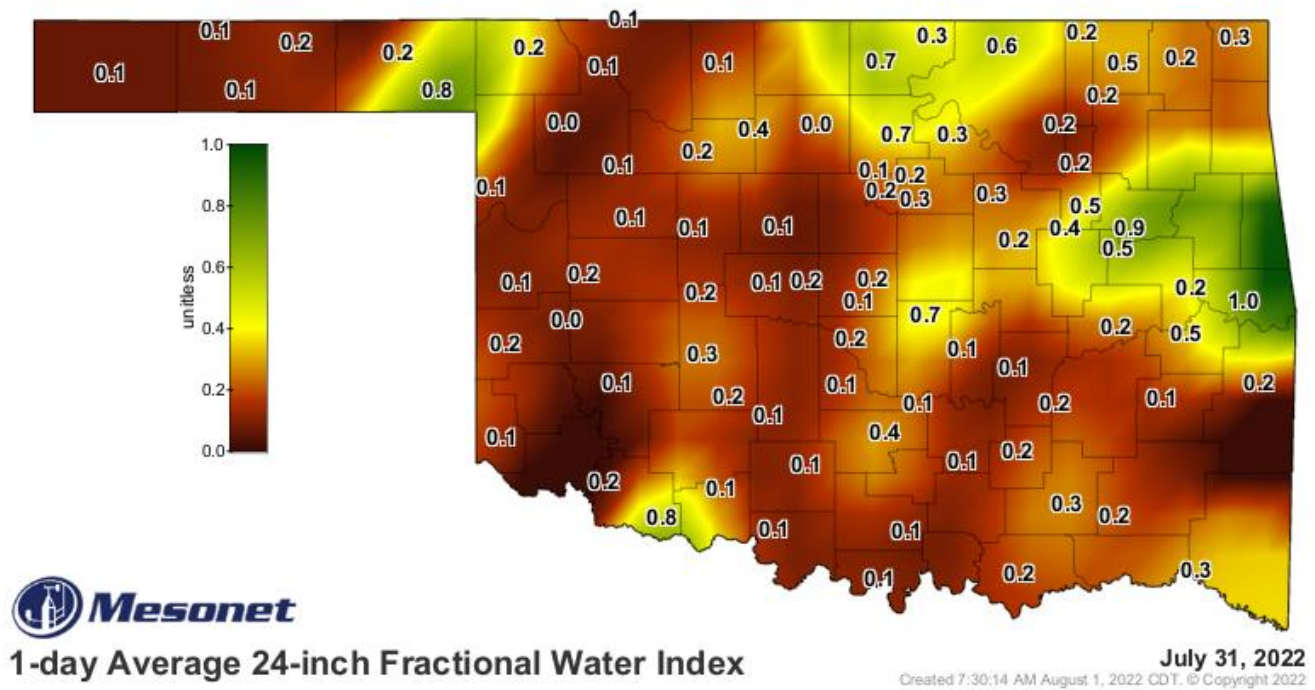
Below normal 28-day average streamflow

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>

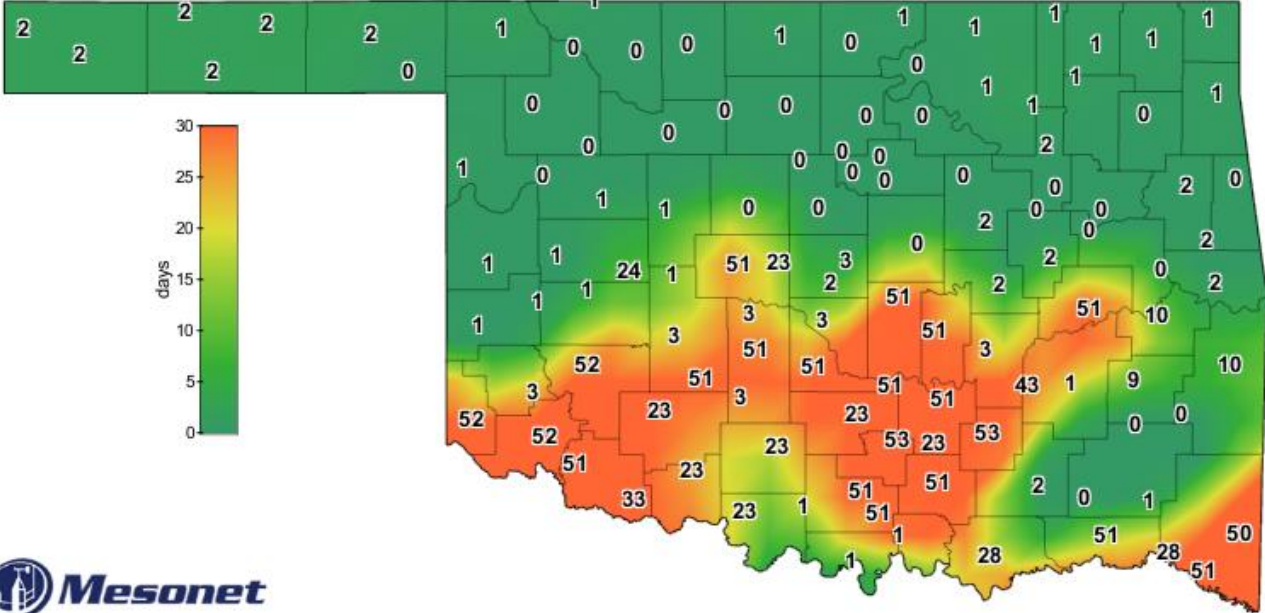
https://waterwatch.usgs.gov/index.php?id=pa28d_dry&sid=w_map|m_pa28d_dwc&r=ok

SOIL MOISTURE MAP



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

CONSECUTIVE DAYS WITHOUT RAINFALL MAP



Mesonet
Consecutive Days With Less Than 0.25" Rainfall

July 31, 2022
Created 8:15:02 AM August 1, 2022 CDT. © Copyright 2022

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

acog

PAGE 14

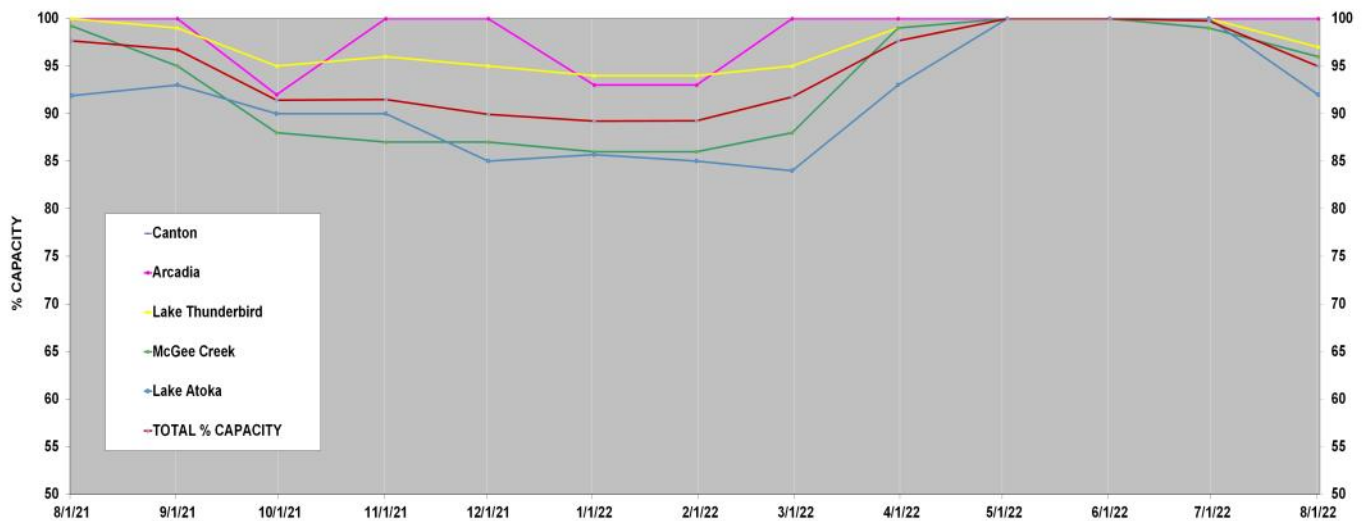


July 31, 2022

Created 8:15:02 AM August 1, 2022 CDT. © Copyright 2022

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Percent of Surface Water Conservation Storage Central OK Reservoirs



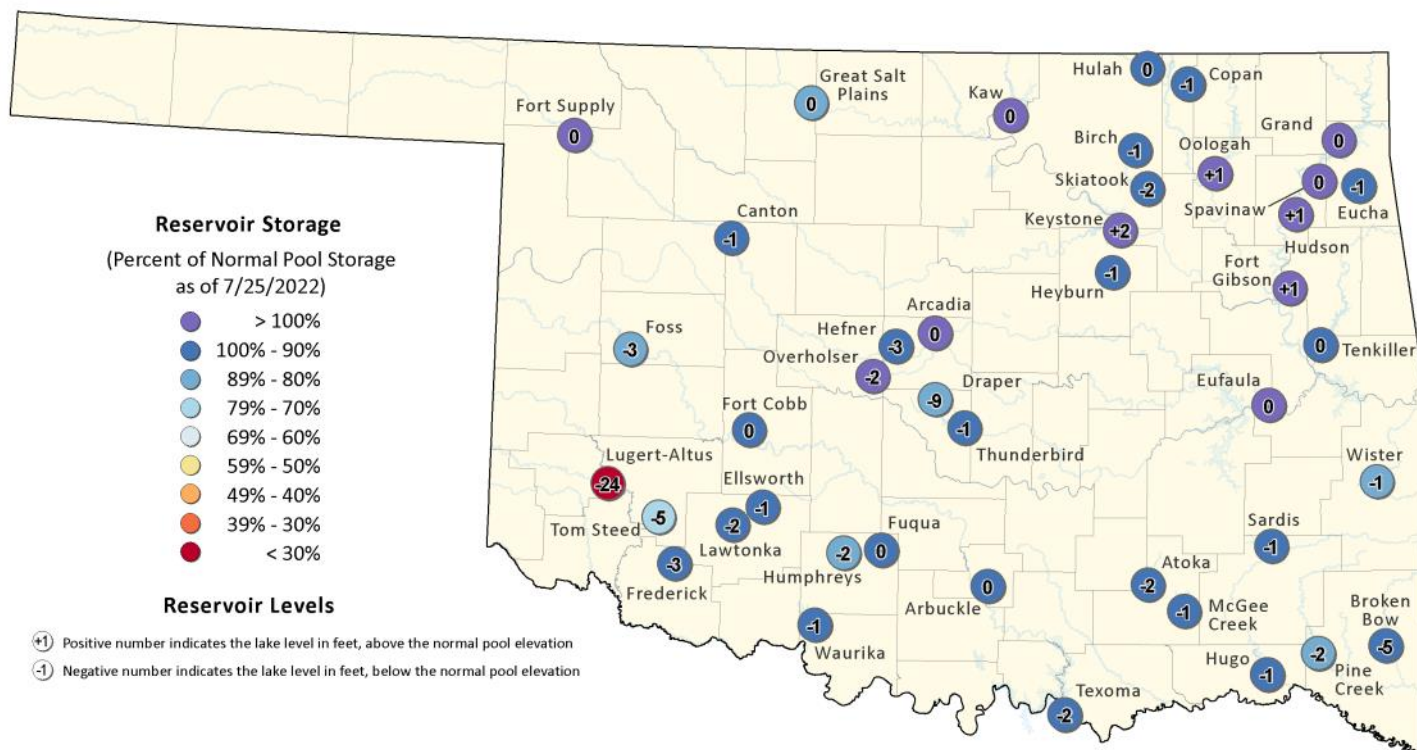
Lake Hefner and Lake Overholser are terminal storage for Canton Lake. Lake Draper is terminal storage for McGee Creek and Atoka Lakes.

LAKE	% CAPACITY	% CHANGE FROM 6/30/2022
Canton	94.0	-6.0
Arcadia	100.0	0.0
Lake Thunderbird	97.0	-3.0
McGee Creek	96.0	-3.0
Lake Atoka	92.0	-8.0
TOTAL % CAPACITY	95.0	-4.8

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

The graph is the amount of water stored in five major lakes that supply water to central Oklahoma as a percent of capacity over the past year.

Oklahoma Reservoir Levels and Storage as of 7/25/2022



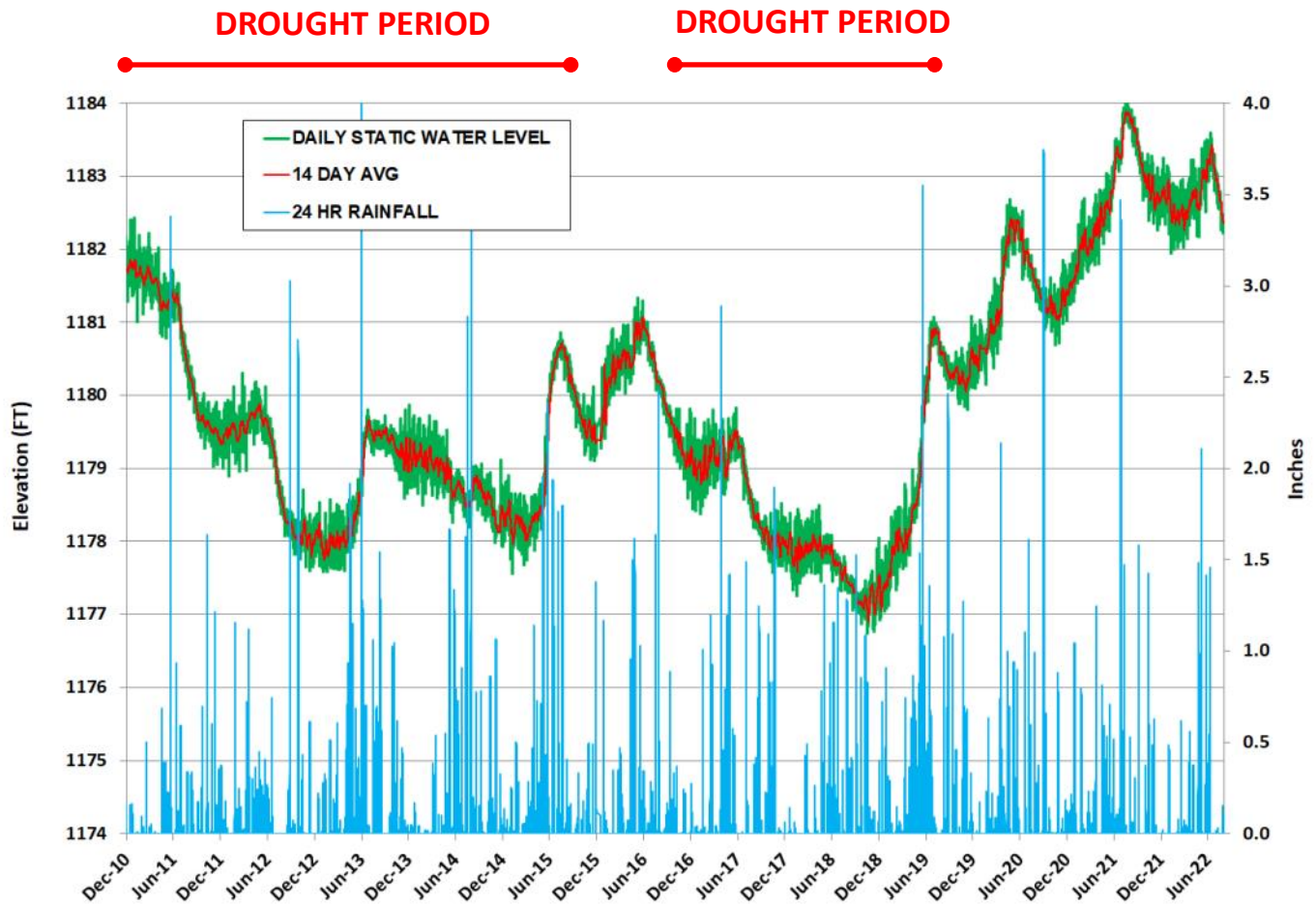
This map shows reservoir storage as a percentage of normal pool storage capacity. The source information was collected from real-time lake gages monitored by the U.S. Army Corps of Engineers (https://www.swt-wc.usace.army.mil/Daily_Morning_Reservoir_Report.pdf), and the U.S. Geological Survey (https://waterdata.usgs.gov/ok/nwis/current/?type=lake&group_key=basin_cd). For more information please visit the OWRB's website: (<https://www.owrb.ok.gov>).



the water agency

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

Groundwater Levels Spencer Mesonet Station

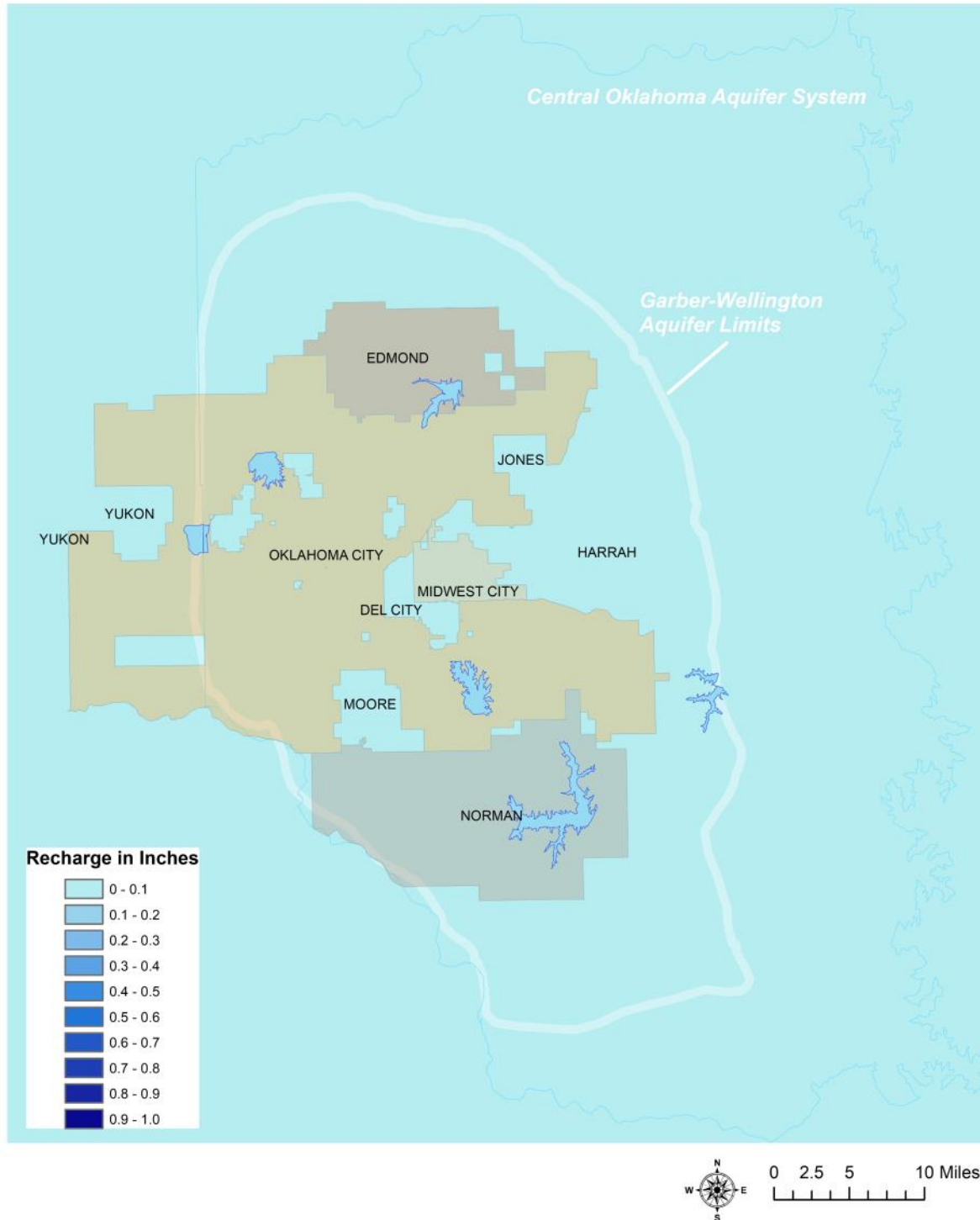


<http://www.mesonet.org/index.php/weather/groundwater>



Recharge Map Central Oklahoma Aquifer System

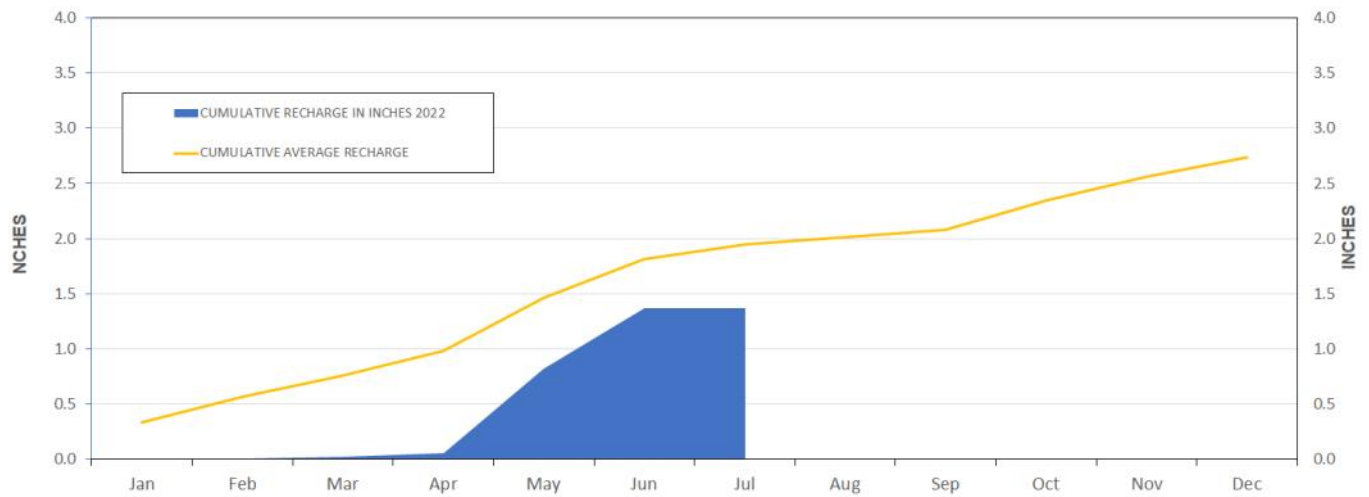
AQUIFER RECHARGE JULY 2022



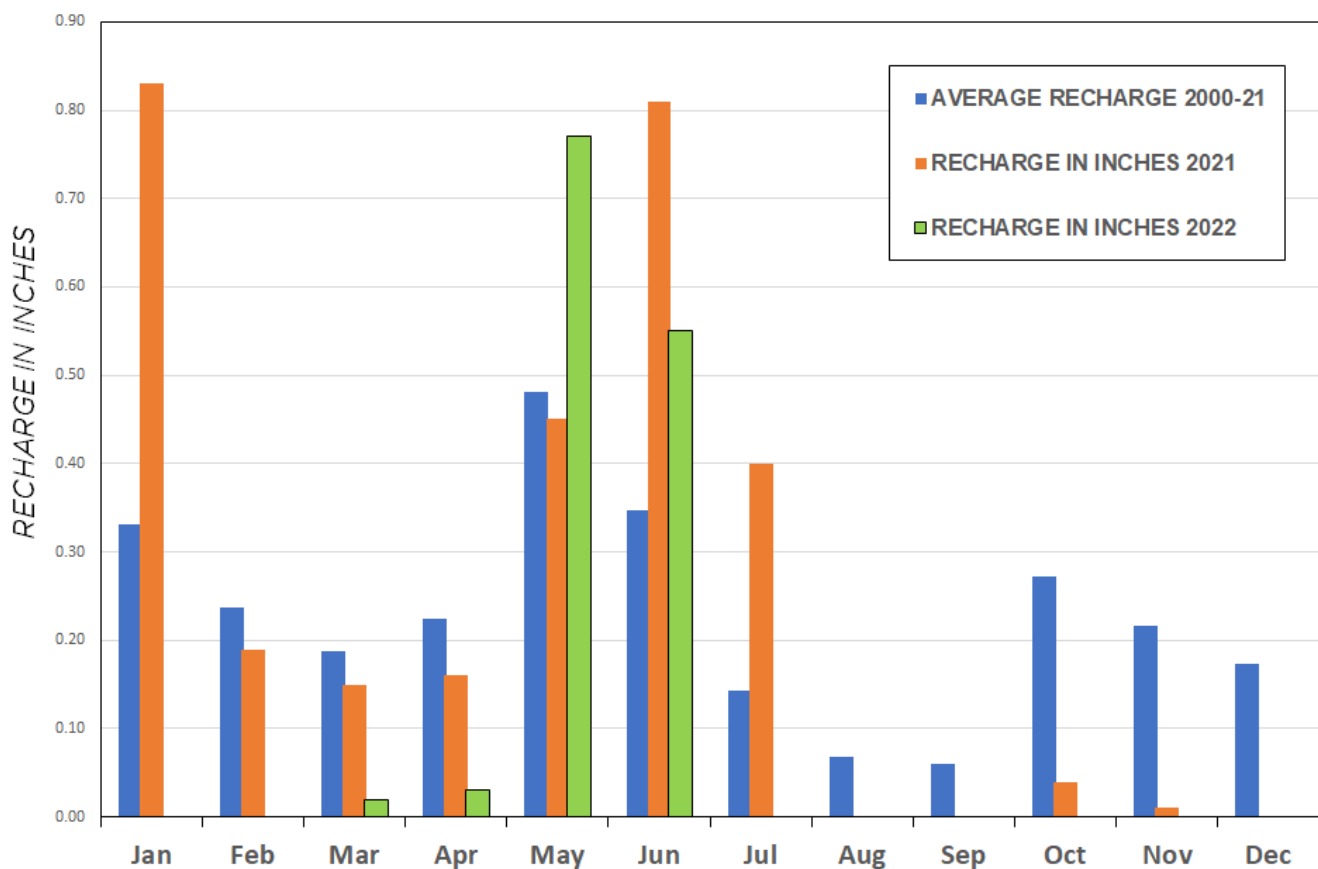
Recharge Charts

Central Oklahoma Aquifer System

ACCUMULATED RECHARGE 2022

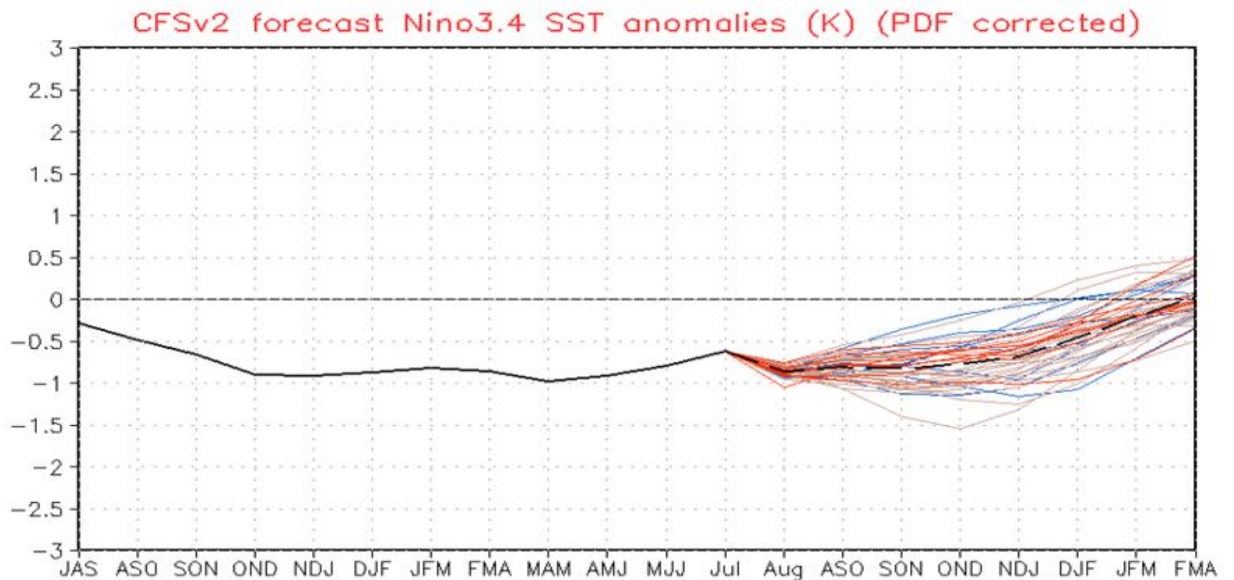


MONTHLY AQUIFER RECHARGE

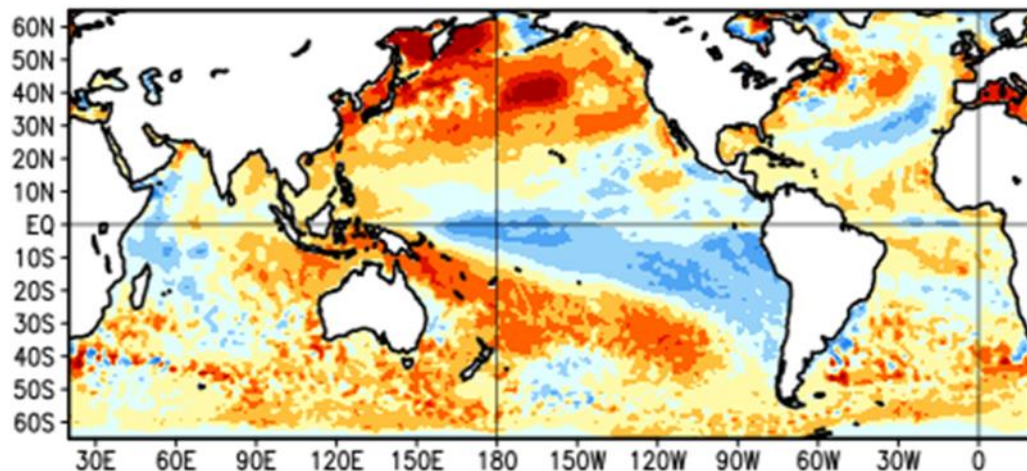


ENSO Cycle

Recent Evolution, Current Status and Predictions



Average SST Anomalies
3 JUL 2022 – 30 JUL 2022



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 favored to continue through 2022 with the odds for La Niña decreasing into the Northern Hemisphere late summer (60% chance in July-September 2022) before increasing through the Northern Hemisphere fall and early winter 2022 (62-66% chance).