

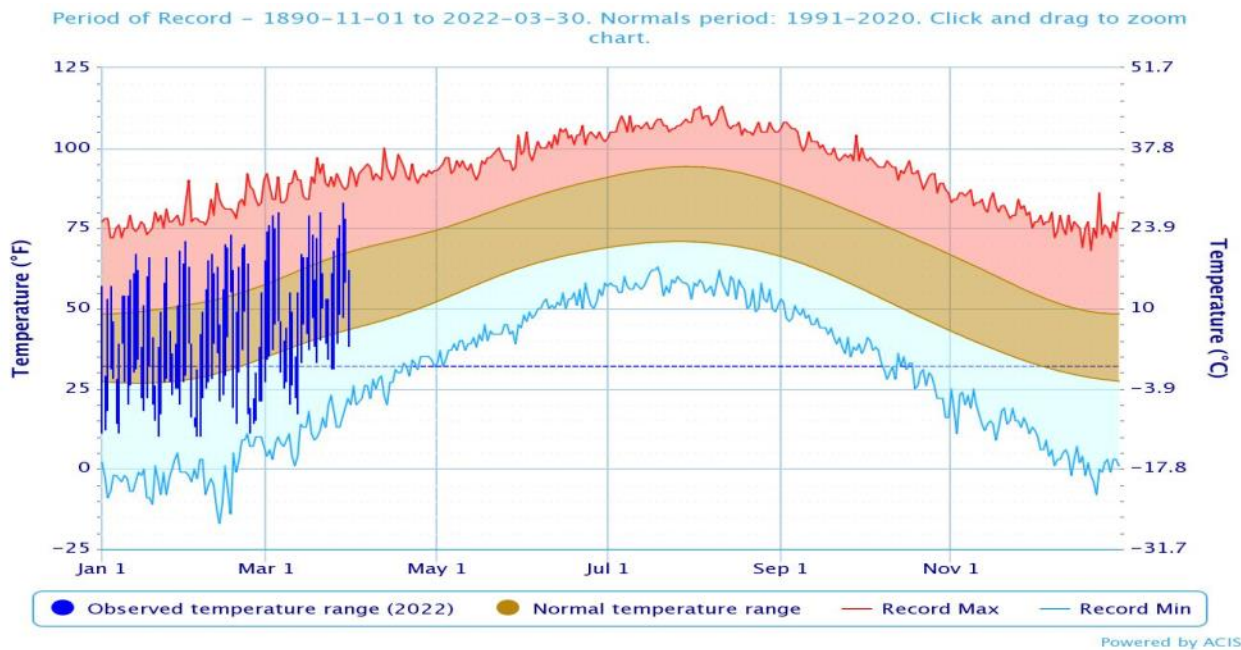


Drought Conditions in Central Oklahoma

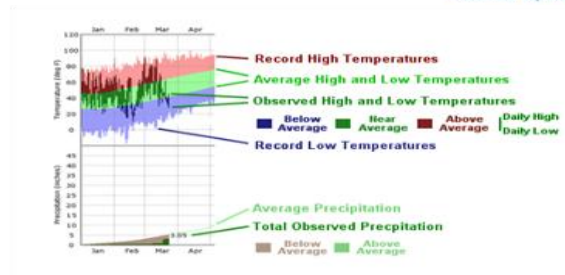
**Water Resources Division
Association of Central Oklahoma Governments
April 01, 2022**

Temperature and Precipitation Plot for Oklahoma City, Oklahoma for 2022

Daily Temperature Data - Oklahoma City Area, OK



Accumulated Precipitation—Oklahoma City Area, OK



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

Rainfall Summaries by Oklahoma Climate Division

Calendar Year 01-Jan-2021 through 30-Mar-2022

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	1.99"	-2.29"	47%	21st driest	0.40" (1972)	8.99" (1973)
Central	4.80"	-1.47"	77%	44th driest	0.93" (1936)	13.97" (1990)
S. Central	4.81"	-2.85"	63%	25th driest	1.68" (1972)	16.50" (1990)
Statewide	4.57"	-1.74"	72%	33rd driest	1.36" (1936)	12.61" (1990)

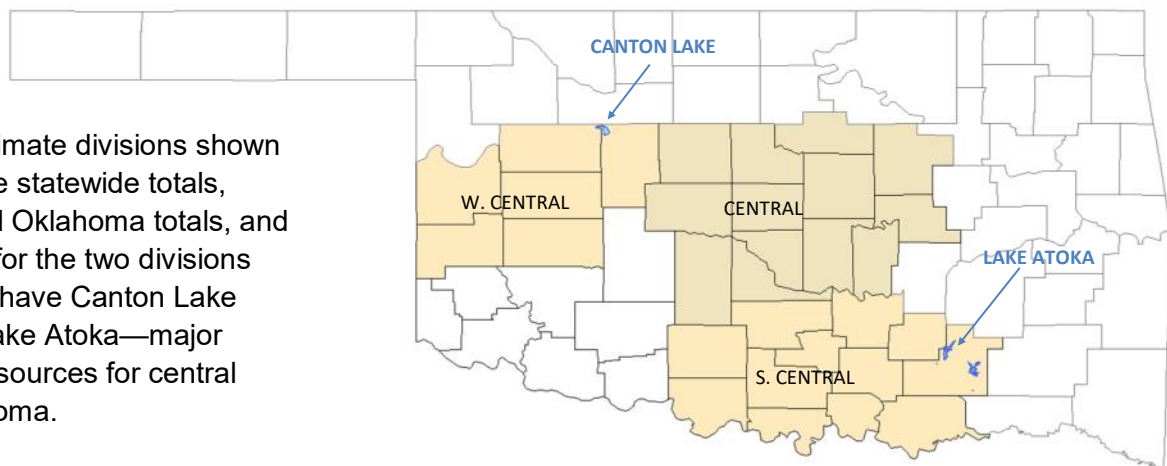
Water Year: 01-Oct-2021 through 30-Mar-2022

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	4.32"	-5.50"	44%	10th driest	2.25" (1966-67)	18.54" (1986-87)
Central	10.31"	-4.07"	72%	37th driest	4.42" (1966-67)	28.04" (1984-85)
S. Central	10.01"	-7.34"	58%	14th driest	5.19" (1966-67)	28.92" (1984-85)
Statewide	10.11"	-4.28"	70%	29th driest	4.77" (1966-67)	23.73" (1984-85)

Spring Mar 01 through 30-Mar-2022

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	1.06"	-1.15"	48%	34th driest	0.00" (1971)	6.28" (1973)
Central	2.73"	-0.31"	90%	38th wettest	0.10" (1971)	7.75" (1990)
S. Central	2.25"	-1.07"	68%	36th driest	0.22" (1950)	8.10" (1945)
Statewide	2.45"	-0.47"	84%	49th wettest	0.40" (1971)	6.85" (1973)

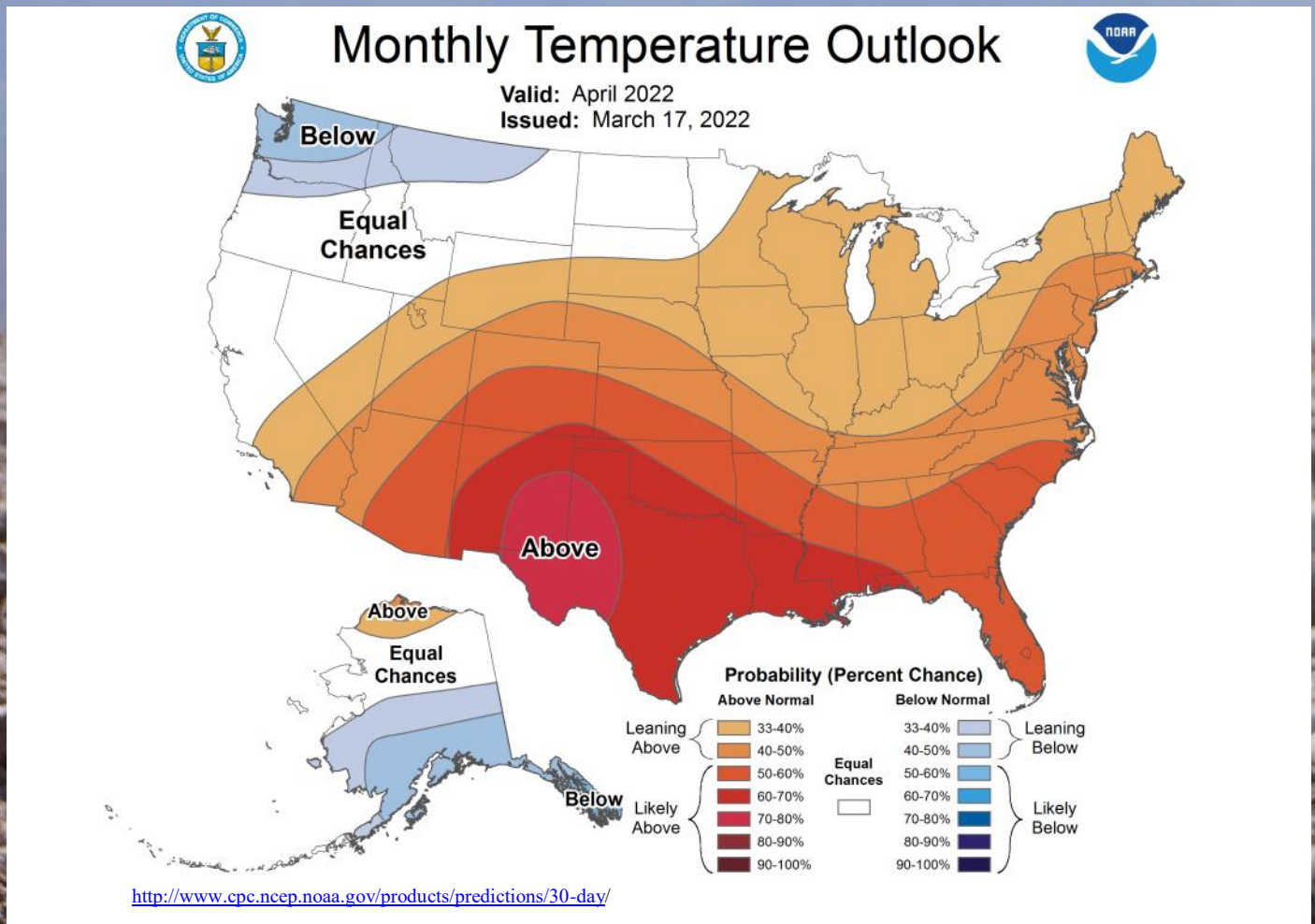
The climate divisions shown include statewide totals, central Oklahoma totals, and totals for the two divisions which have Canton Lake and Lake Atoka—major water sources for central Oklahoma.



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

OKLAHOMA
CLIMATOLOGICAL SURVEY

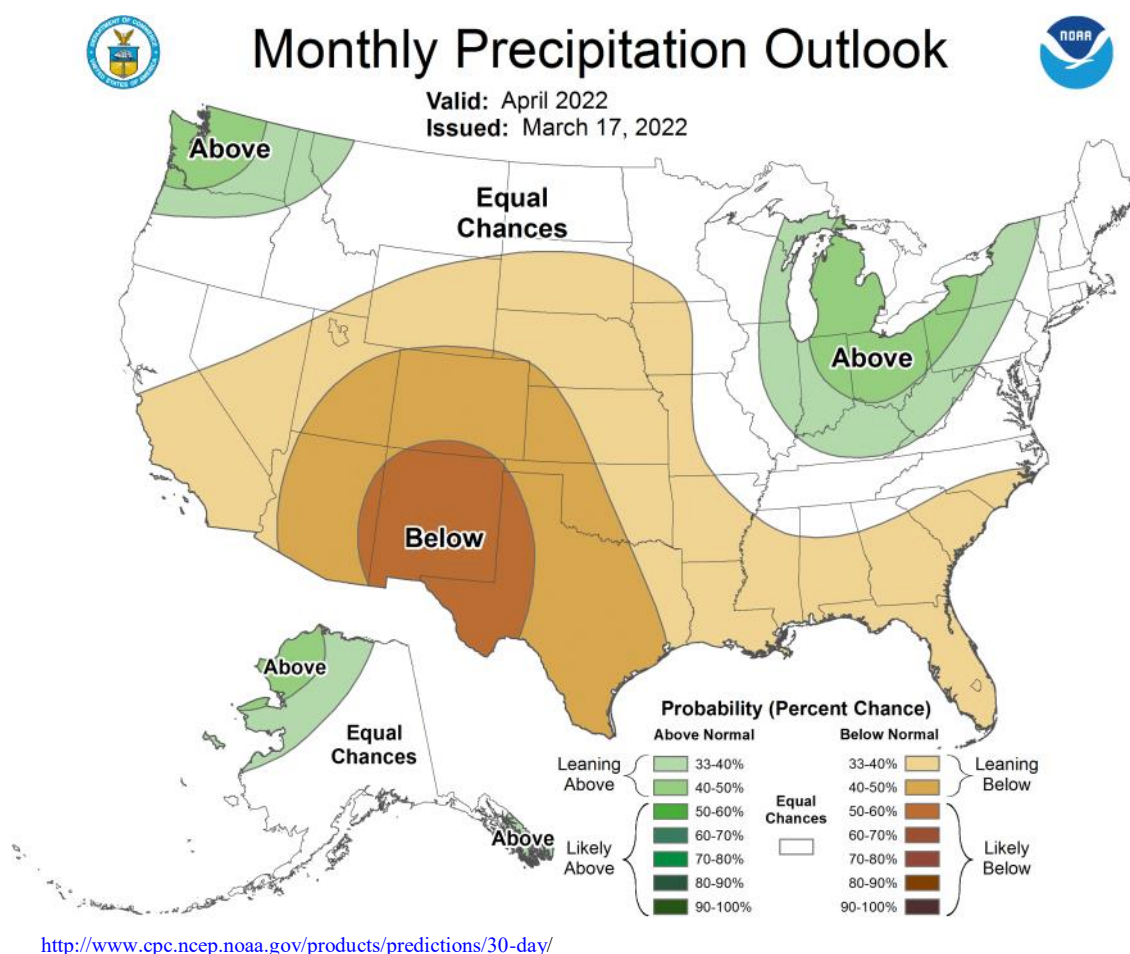
NOAA One-Month Outlook



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.

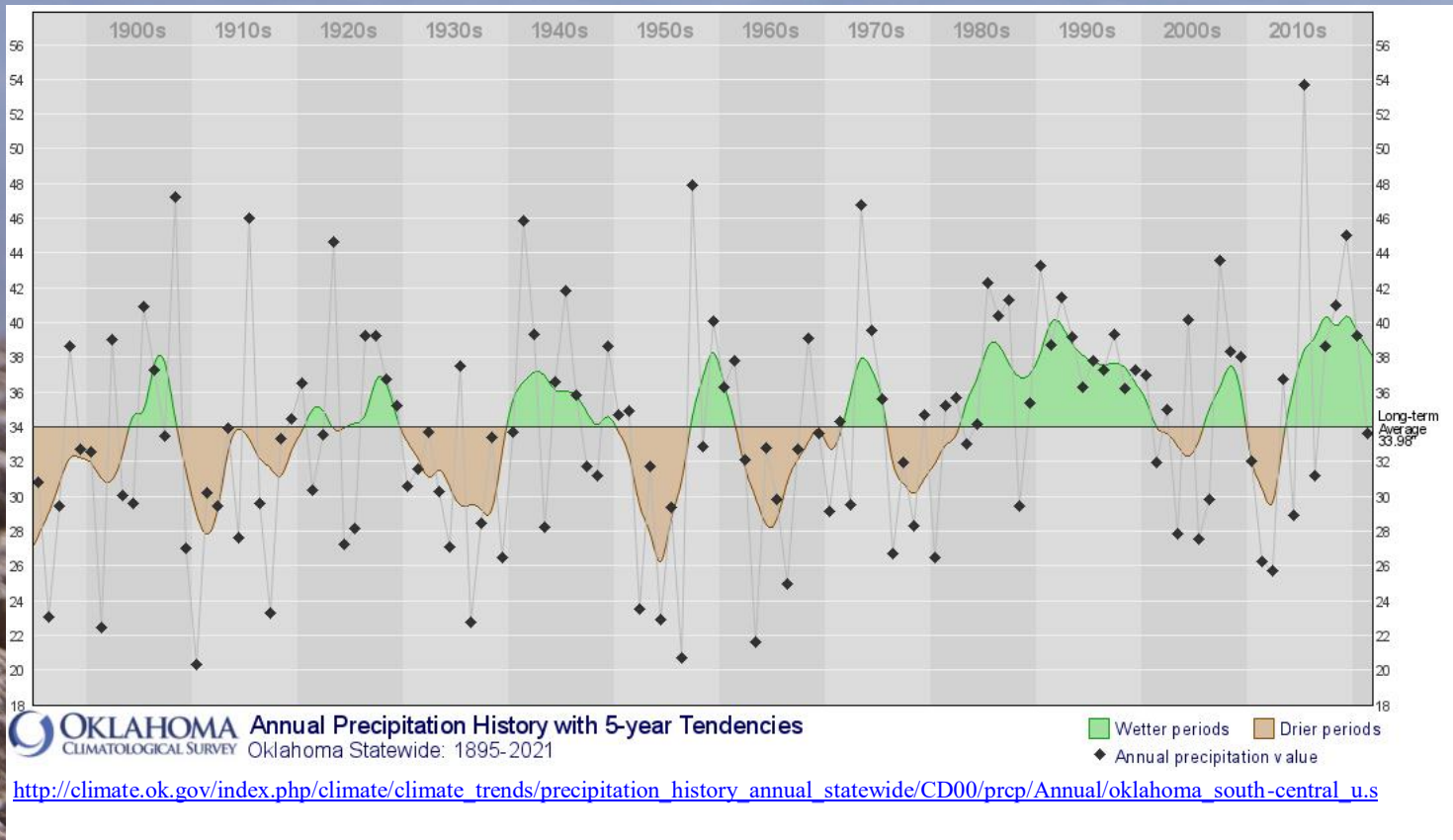
NOAA One-Month Outlook



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.

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Annual Precipitation History with 5-Year Tendencies

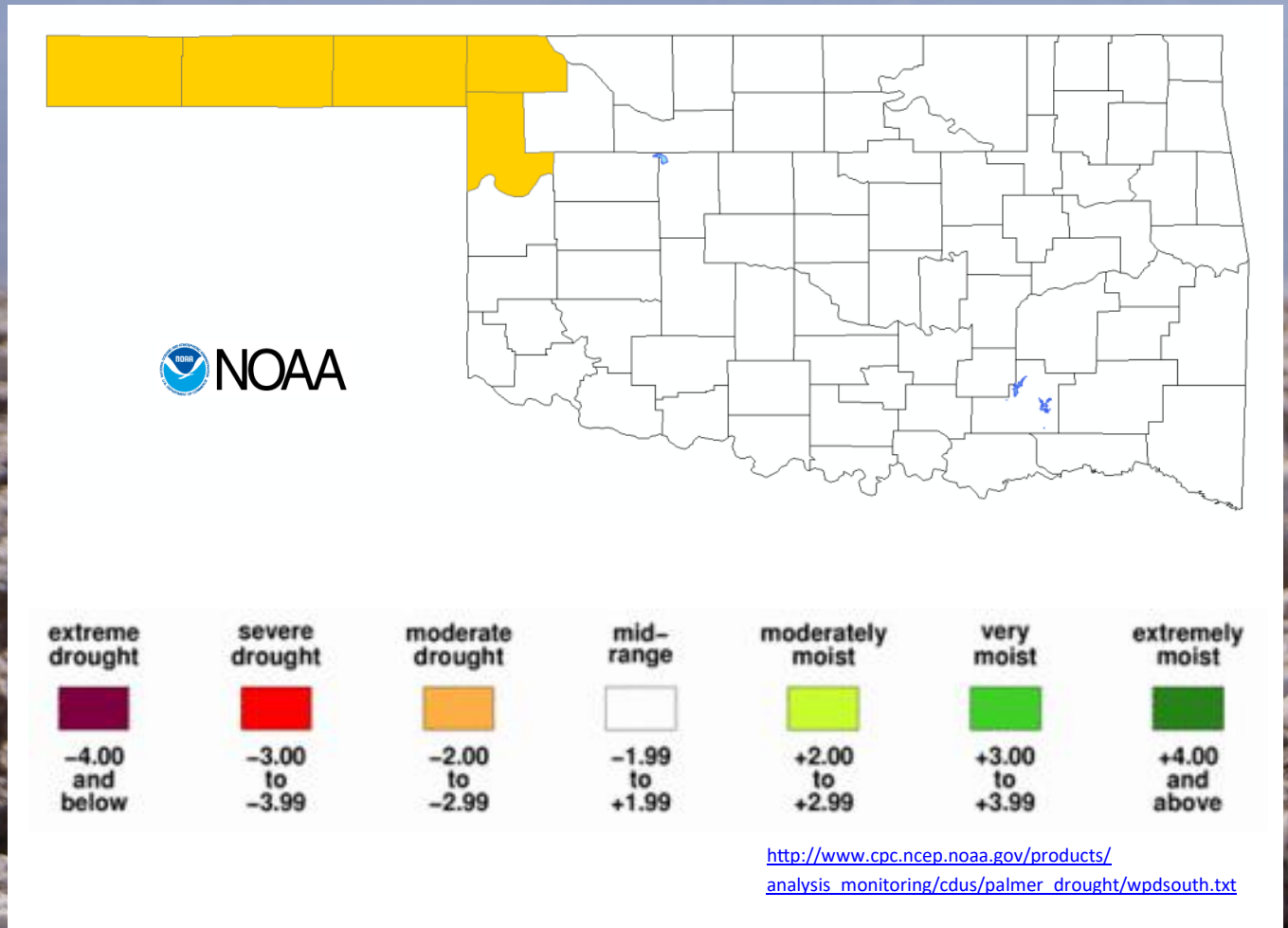


This graph shows the cyclical nature of wet and drought periods in Oklahoma. The black dots represent the annual precipitation for that particular year. The line represents the annual precipitation data smoothed over five years.

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.

Drought Severity Index by Climate Division

Palmer Value Ending 26 MAR 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.

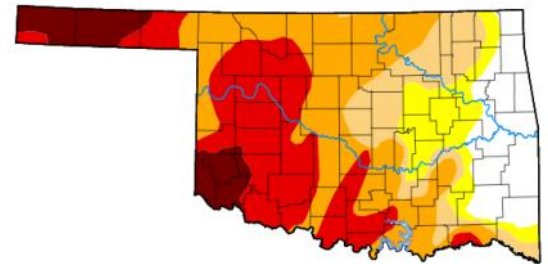
On these maps, the red shading denotes drought conditions while the green shading indicates wet conditions.

U.S. Drought Monitor

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2022-03-29	13.76	86.24	76.49	63.34	33.90	8.32
Last Week	2022-03-22	12.94	87.06	77.01	64.10	33.90	7.81
3 Months Ago	2021-12-28	4.92	95.08	90.17	72.51	22.62	0.00
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	2021-03-30	63.05	36.95	10.71	3.42	0.08	0.00

U.S. Drought Monitor Oklahoma

Abnormal dryness or drought are currently affecting approximately 2,913,864 people in Oklahoma.



Intensity:

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

■ D3 - Extreme Drought
■ D4 - Exceptional Drought

NATIONAL
INTEGRATED
DROUGHT
INFORMATION
SYSTEM



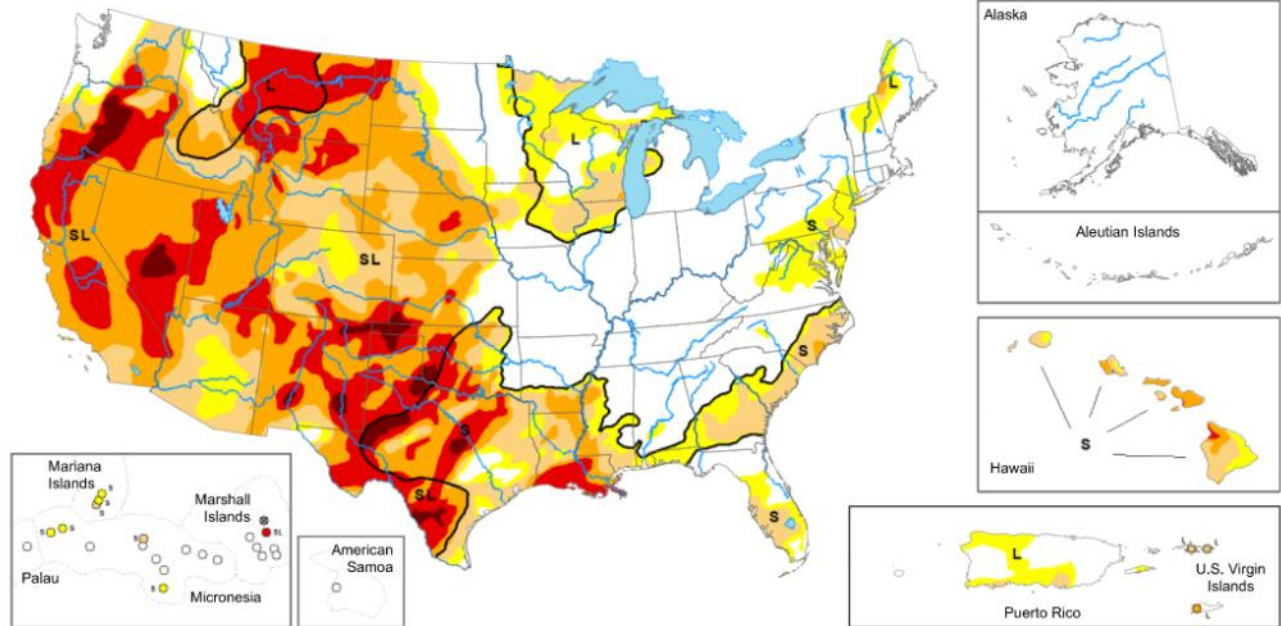
Drought.gov
U.S. Drought Portal

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

U.S. Drought Monitor Nationwide Map

Map released: March 31, 2022

Data valid: March 29, 2022



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

Pacific Islands and Virgin Islands Author(s):
Richard Heim, NOAA/NCEI

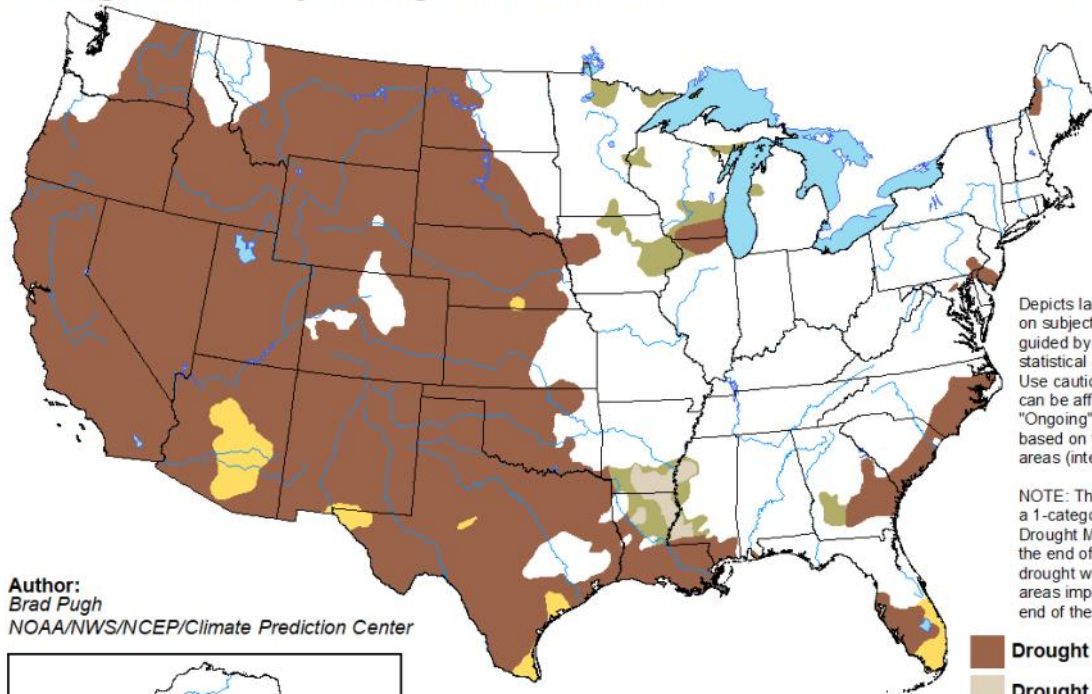
<http://droughtmonitor.unl.edu>

U.S. Drought Monitor

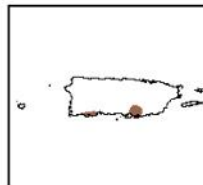
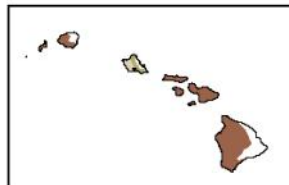
Monthly Drought Outlook Map

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

Valid for April 2022
Released March 31, 2022



Author:
Brad Pugh
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>

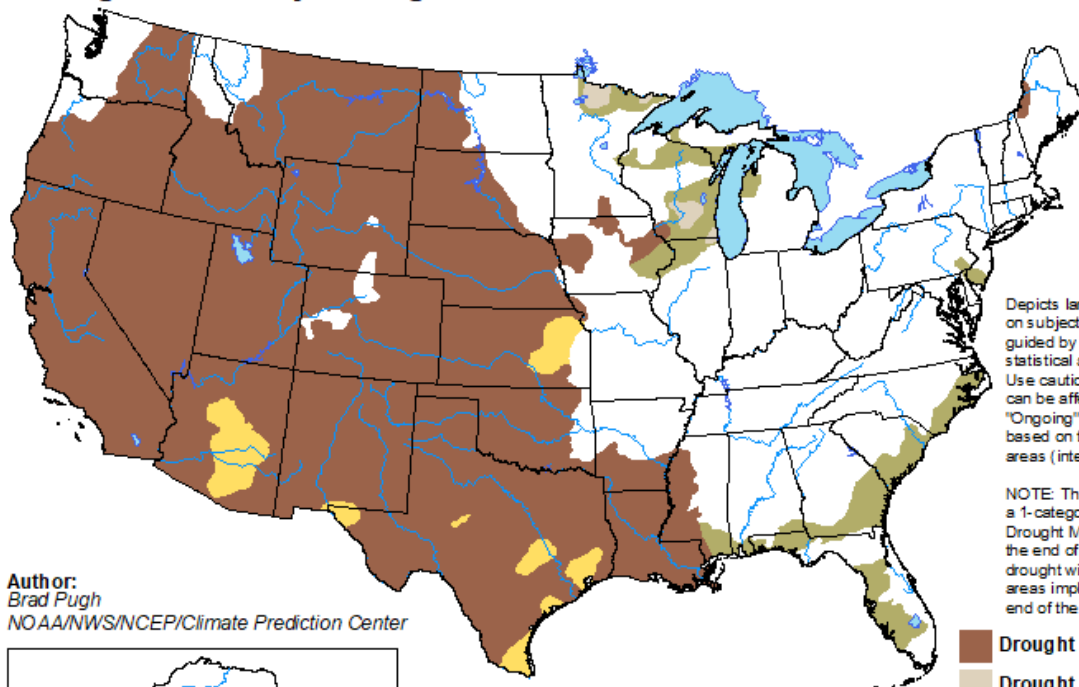
http://www.cpc.ncep.noaa.gov/products/expert_assessment/mdo_summary.php

U.S. Drought Monitor

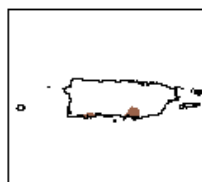
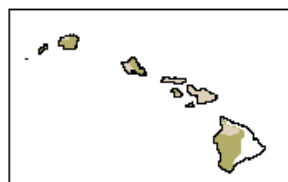
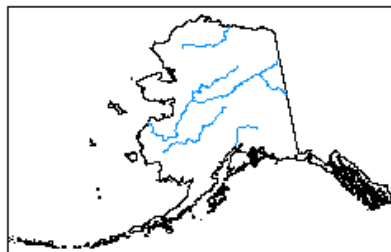
Seasonal Drought Outlook Map

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

Valid for March 17 - June 30, 2022
Released March 17



Author:
Brad Pugh
NOAA/NWS/NCEP/Climate Prediction Center



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

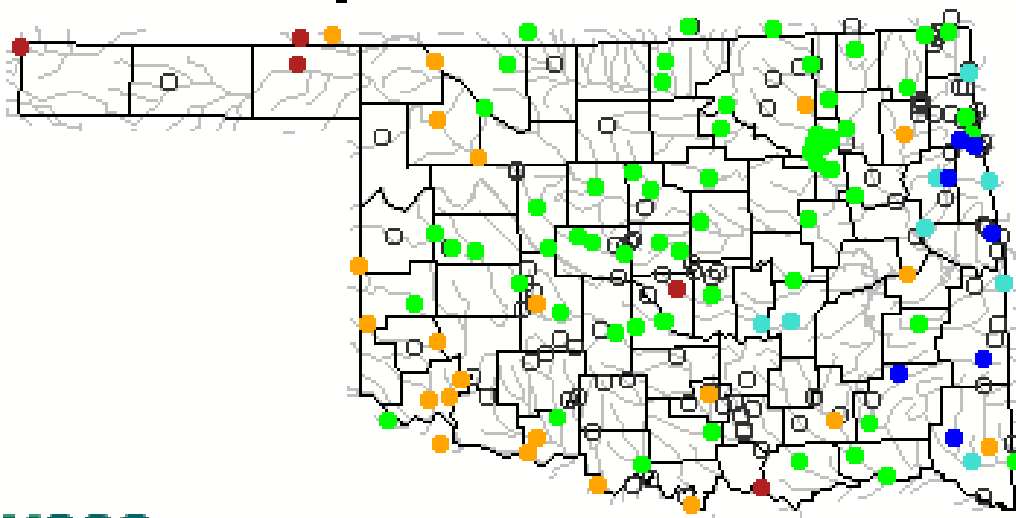


<http://go.usa.gov/3e273>

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

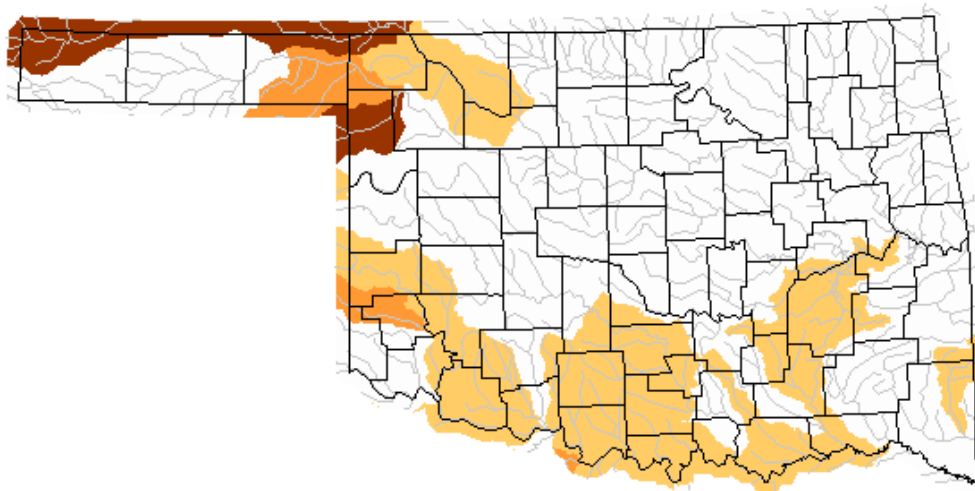
USGS Streamflow Data

Thursday, March 31, 2022 09:30ET



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

Wednesday, March 30, 2022



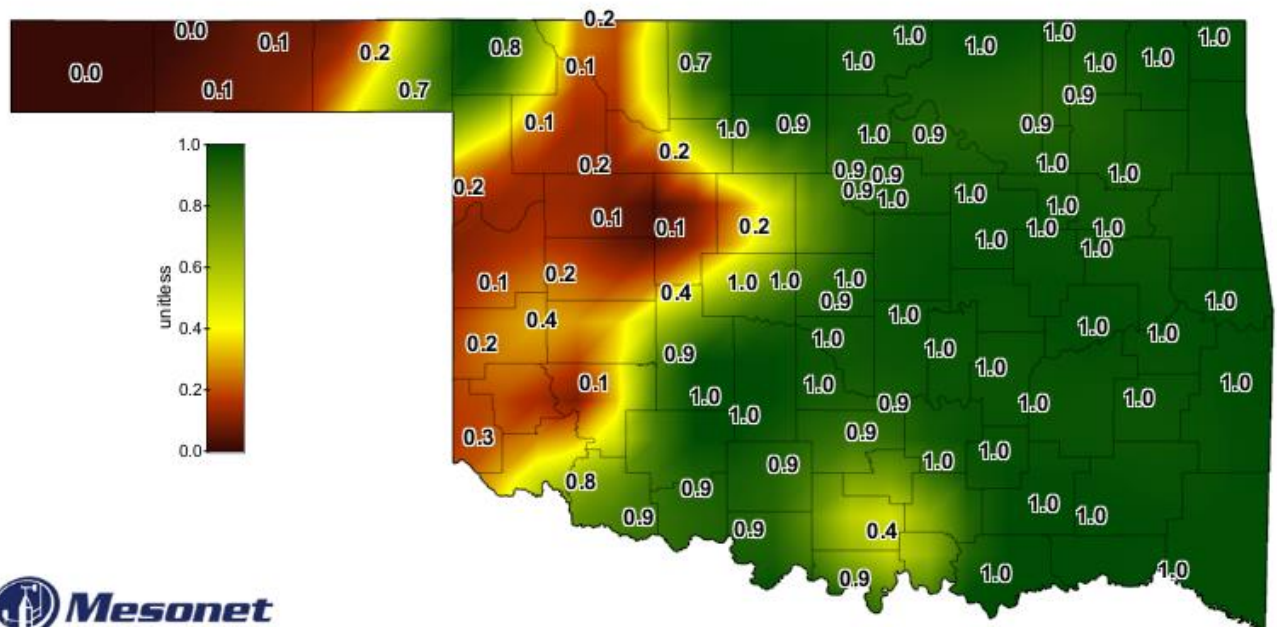
Below normal 28-day average streamflow

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|m_pa28d_dwc&r=ok

SOIL MOISTURE MAP



1-day Average 24-inch Fractional Water Index

March 30, 2022

Created 7:30:14 AM March 31, 2022 CDT. © Copyright 2022



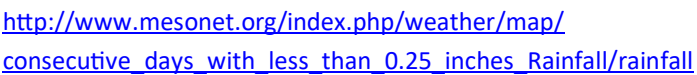
http://www.mesonet.org/index.php/weather/map/24-inch_fractional_water_index/soil_moisture

CONSECUTIVE DAYS WITHOUT RAINFALL MAP

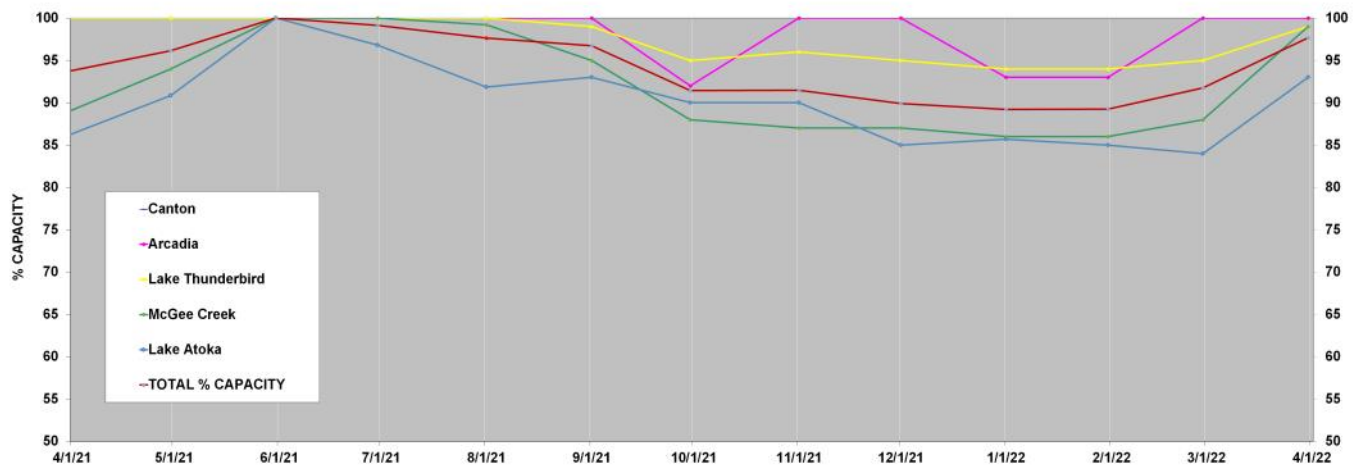
Mesonet
Consecutive Days With Less Than 0.25" Rainfall

March 30, 2022
Created 8:15:04 AM March 31, 2022 CDT. © Copyright 2022

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



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.

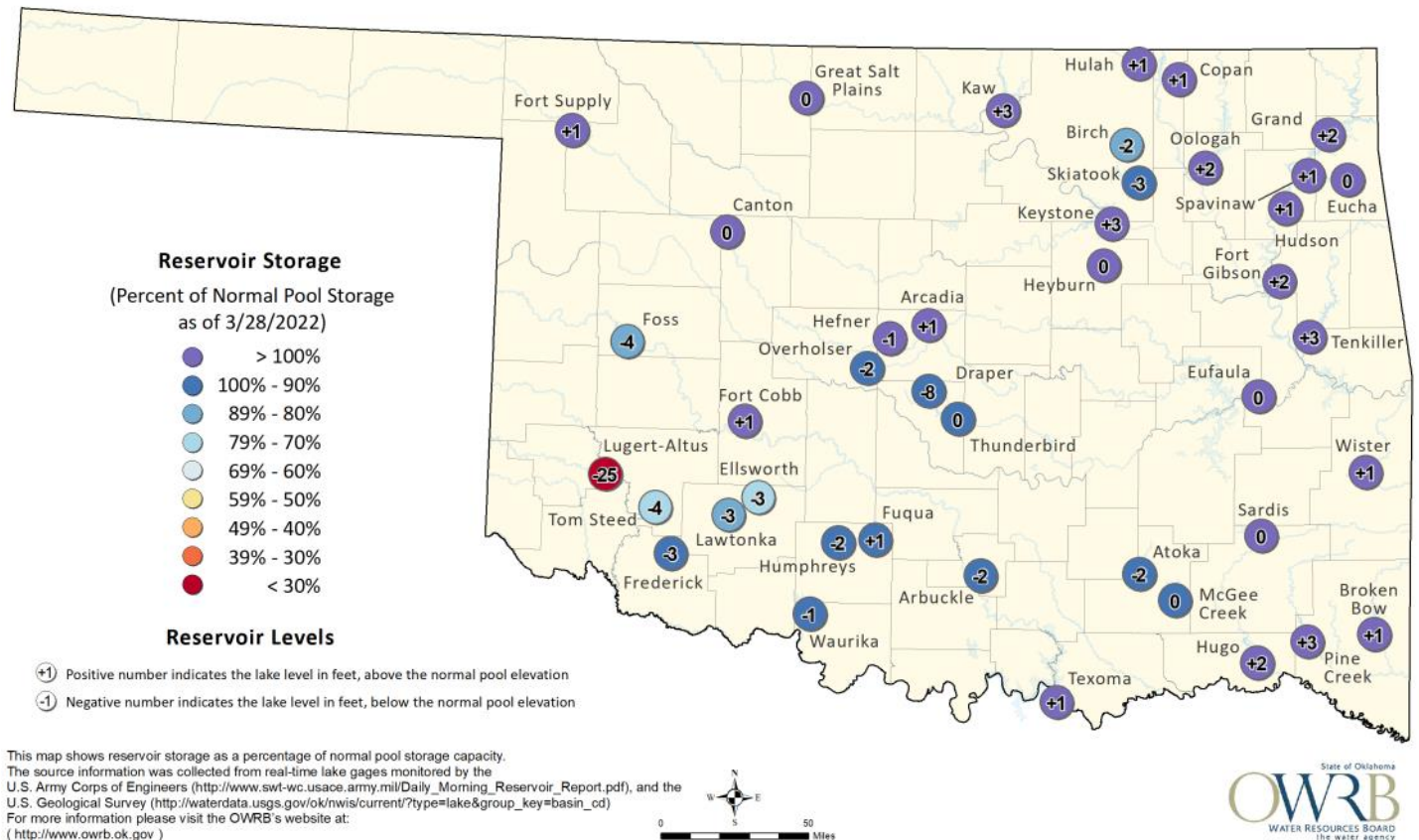
LAKE	% CAPACITY	% CHANGE FROM 2/28/2022
Canton	91.0	0.0
Arcadia	93.0	0.0
Lake Thunderbird	94.0	4.0
McGee Creek	86.0	11.0
Lake Atoka	85.7	9.0
TOTAL % CAPACITY	89.2	5.9

<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.

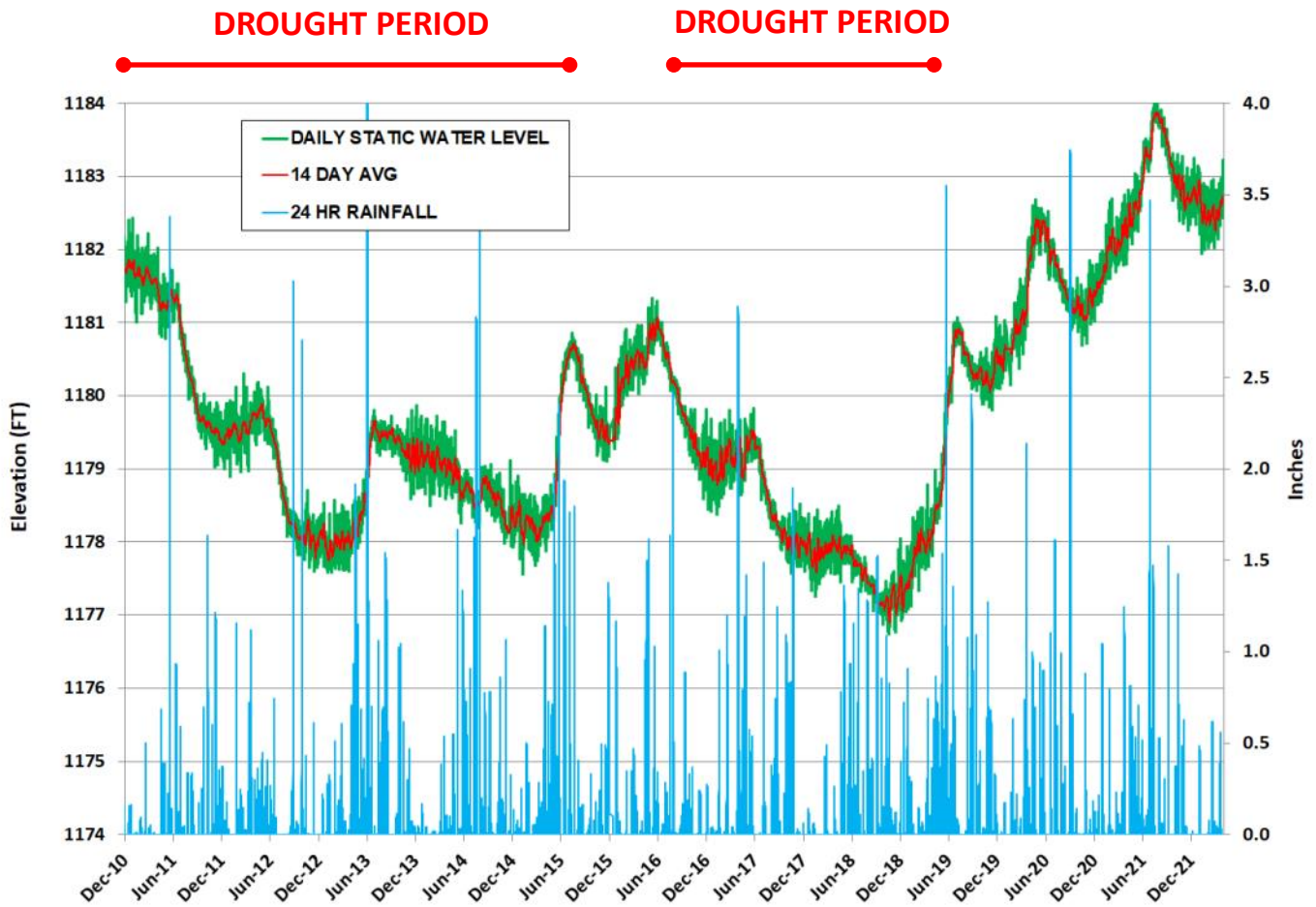
Oklahoma Surface Water Resources

Reservoir Levels and Storage as of 3/28/2022



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

Groundwater Levels Spencer Mesonet Station

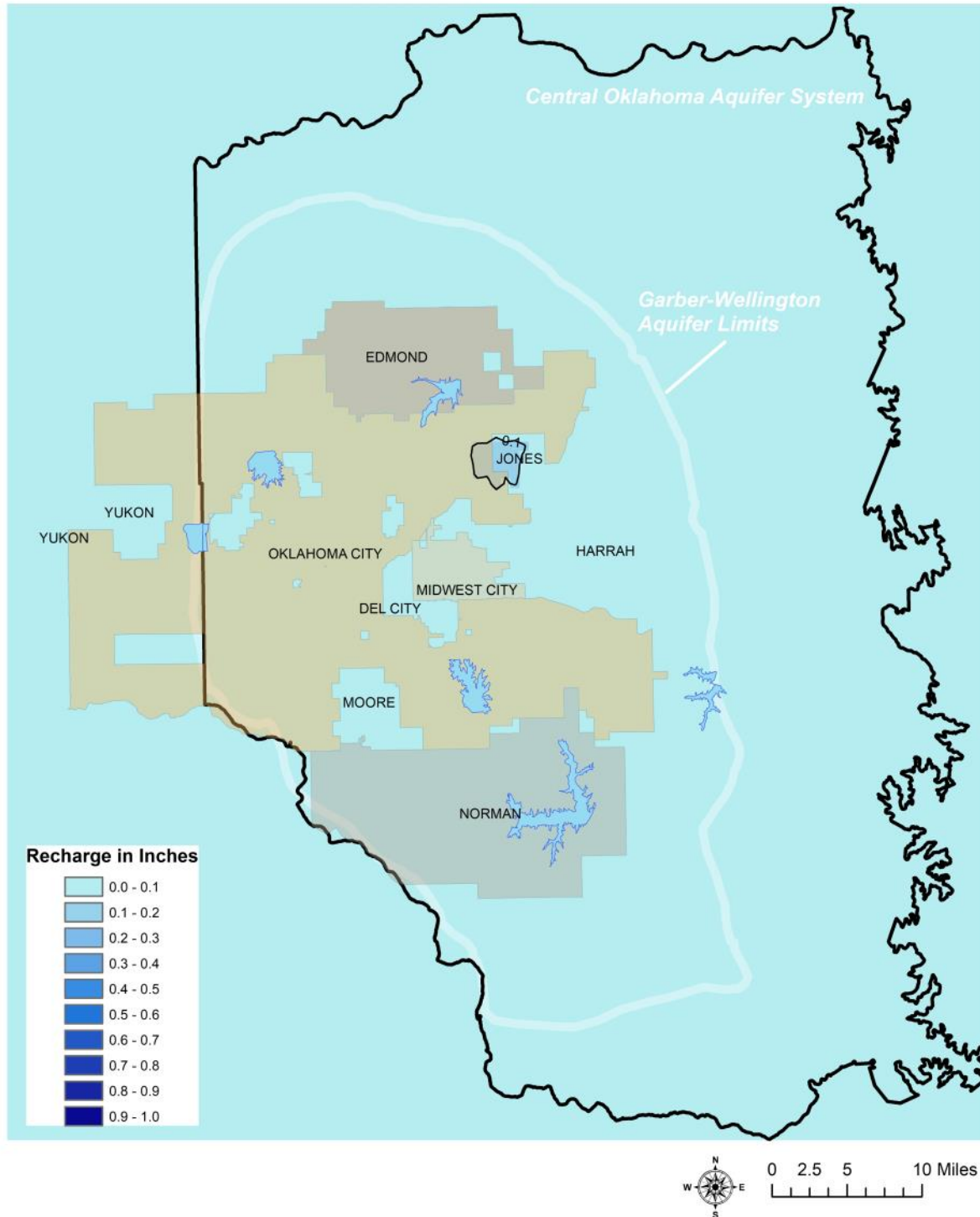


<http://www.mesonet.org/index.php/weather/groundwater>



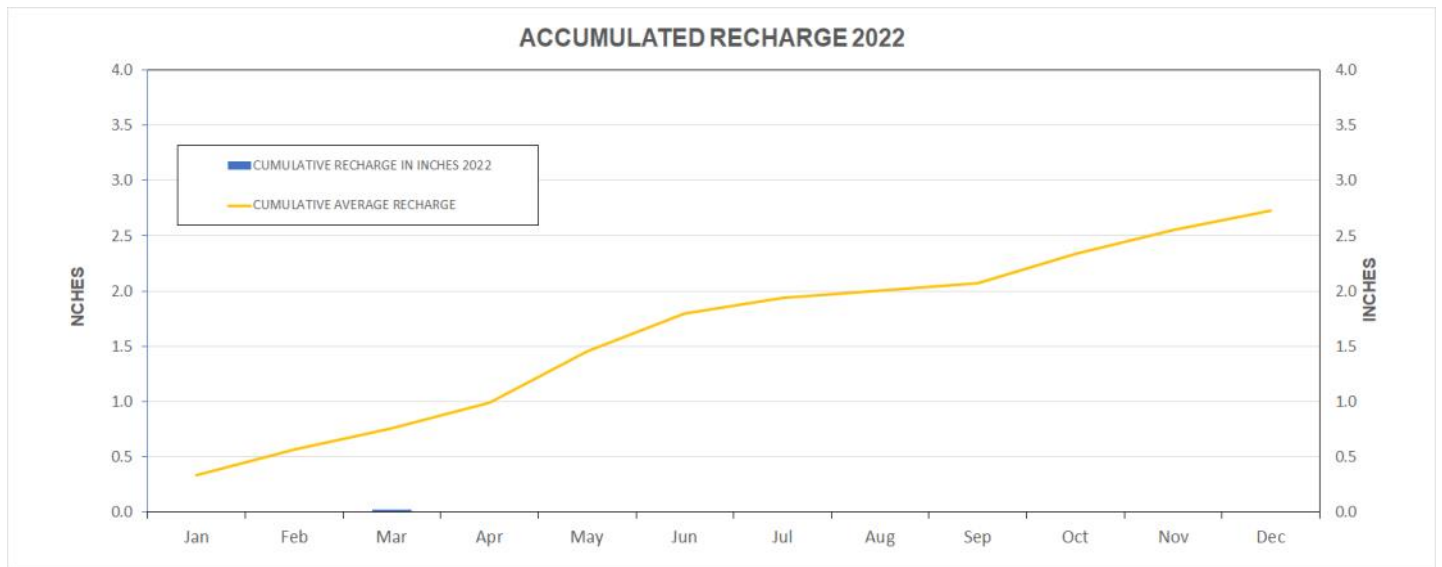
Recharge Map Central Oklahoma Aquifer System

AQUIFER RECHARGE MAR 2022

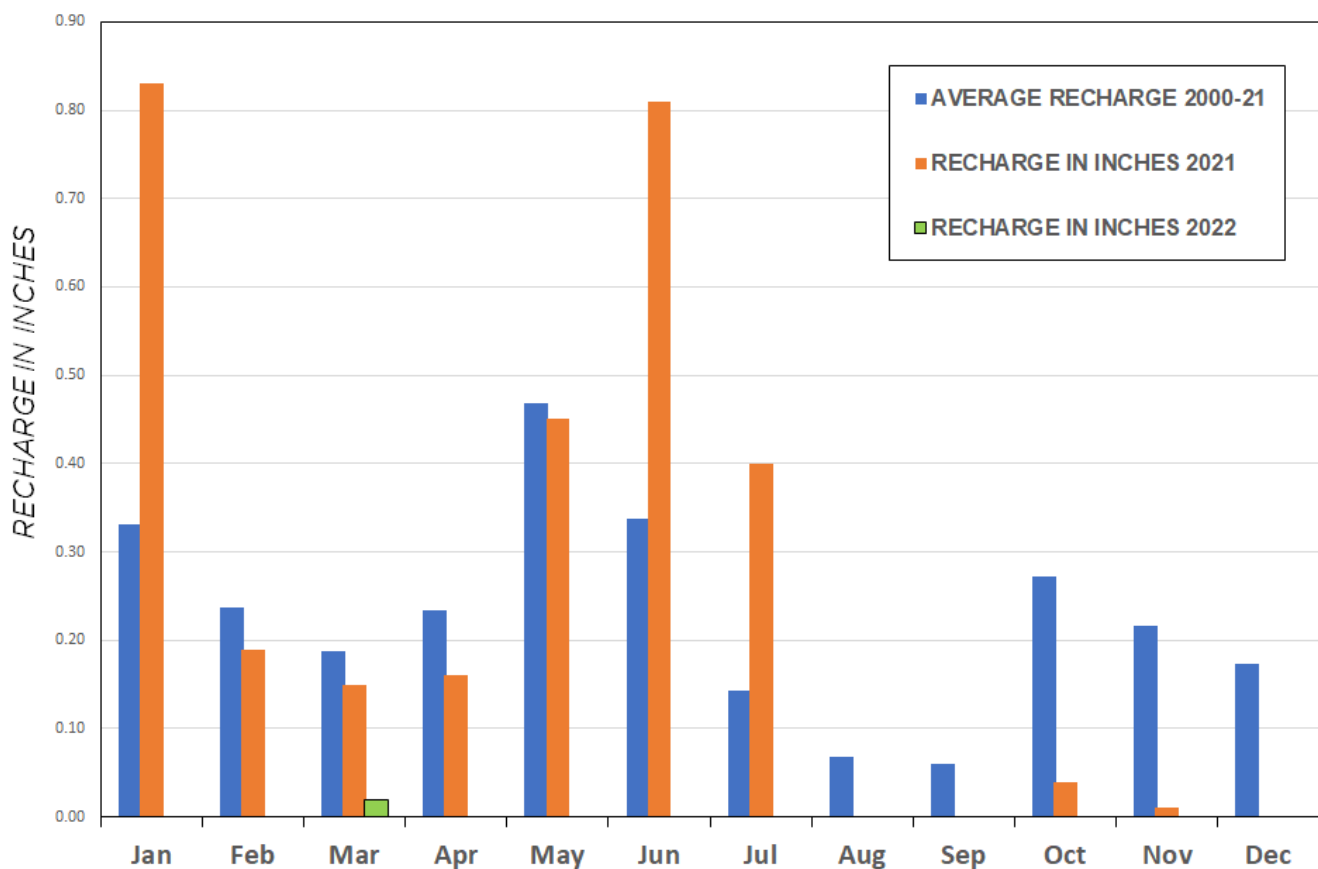


Recharge Charts

Central Oklahoma Aquifer System

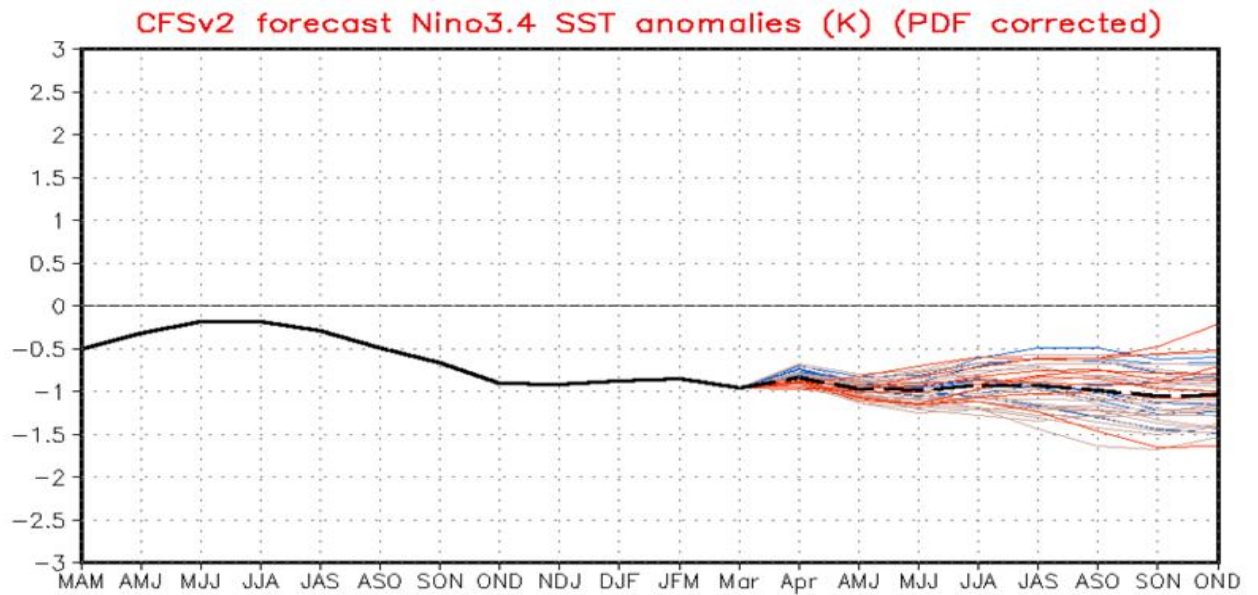


MONTHLY AQUIFER RECHARGE

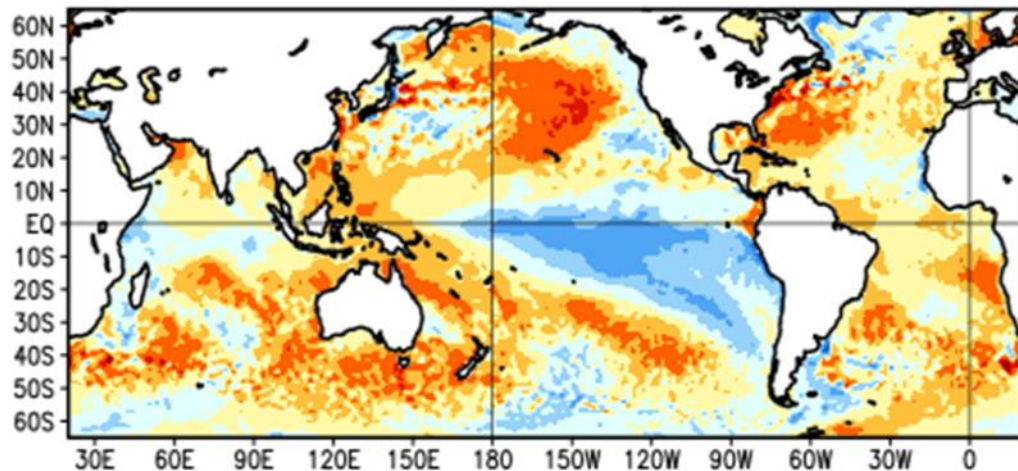


ENSO Cycle

Recent Evolution, Current Status and Predictions



Average SST Anomalies
27 FEB 2022 – 26 MAR 2022



Summary



ENSO Alert System Status: La Niña Advisory

- La Niña is present.
- Equatorial sea surface temperatures (SSTs) are below average across the central and east-central Pacific Ocean.
- The tropical Pacific atmosphere is consistent with La Niña.
- La Niña is favored to continue into the Northern Hemisphere summer (53% chance during June-August 2022), with a 40-50% chance of La Niña or ENSO-neutral thereafter.