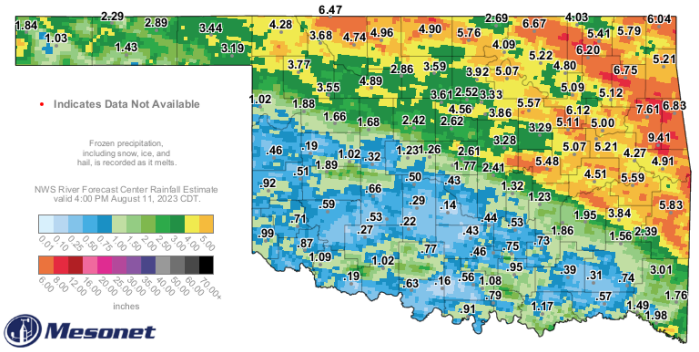
Oklahoma Water Resources Bulletin

Summary of Current Conditions

August 11, 2023

Precipitation

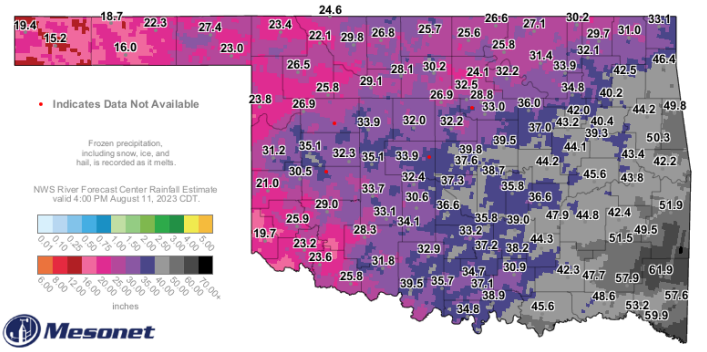
Climate Division	Last 30 Days: July 12, 2023 – August 10, 2023				Last 365 Days: August 11, 2022 – August 10, 2023			
	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
PANHANDLE	2.30"	-0.25"	90%	50th driest	20.93"	+0.35"	102%	45th wettest
N. CENTRAL	4.29"	+1.56"	157%	19th wettest	26.53"	-4.89"	84%	38th driest
NORTHEAST	5.41"	+2.25"	171%	17th wettest	34.55"	-8.12"	81%	29th driest
W. CENTRAL	1.14"	-1.11"	51%	30th driest	30.59"	+2.19"	108%	22nd wettest
CENTRAL	2.38"	-0.31"	88%	51st wettest	35.06"	-2.57"	93%	48th wettest
E. CENTRAL	4.84"	+1.73"	156%	20th wettest	44.24"	-1.90"	96%	48th wettest
SOUTHWEST	0.66"	-1.52"	30%	18th driest	28.11"	-2.16"	93%	50th wettest
S. CENTRAL	0.67"	-1.75"	28%	15th driest	37.49"	-3.22"	92%	50th wettest
SOUTHEAST	2.02"	-1.18"	63%	32nd driest	52.81"	+2.22"	104%	36th wettest
STATEWIDE	**2.70"**	**-0.01"**	**100%**	**46th wettest**	**34.17"**	**-2.30"**	**94%**	**51st driest**



Mesonet

30-Day Rainfall Accumulation (inches)

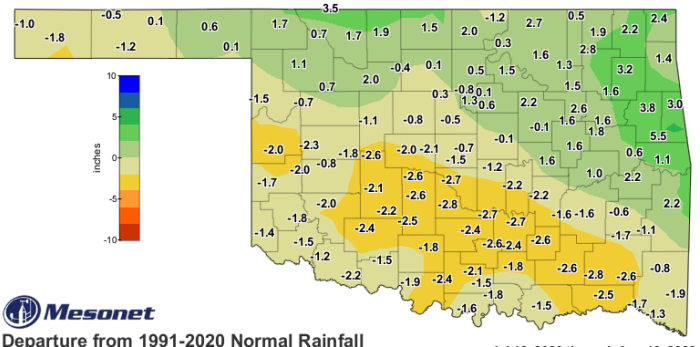
5:25 PM August 11, 2023 CDT



Mesonet

365-Day Rainfall Accumulation (inches)

5:25 PM August 11, 2023 CDT

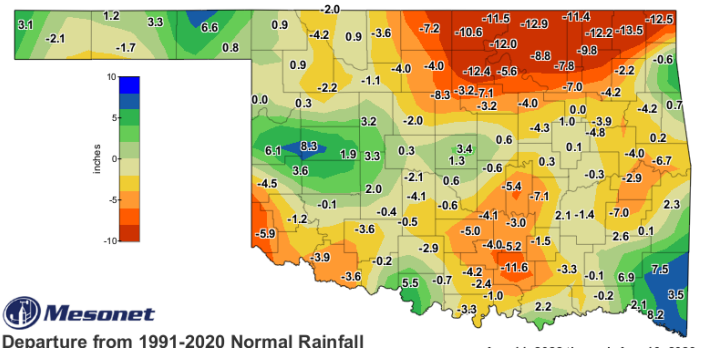


Mesonet

Departure from 1991-2020 Normal Rainfall

Last 30 Days

Jul 12, 2023 through Aug 10, 2023

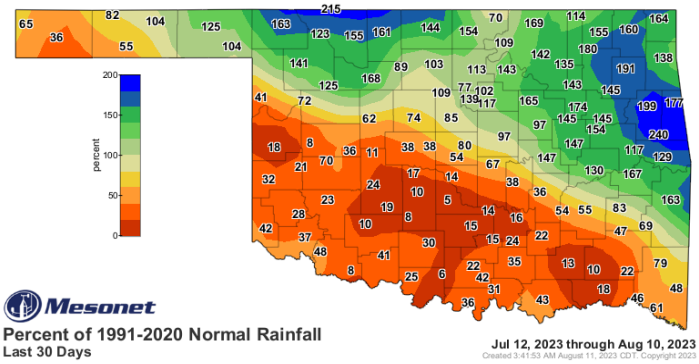


Mesonet

Departure from 1991-2020 Normal Rainfall

Last 365 Days

Aug 11, 2022 through Aug 10, 2023

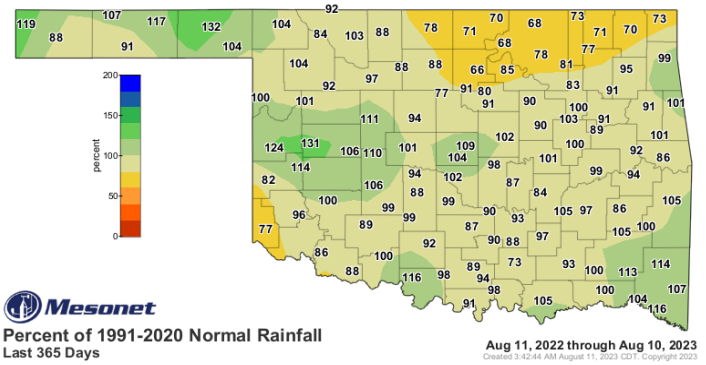


Mesonet

Percent of 1991-2020 Normal Rainfall

Last 30 Days

Jul 12, 2023 through Aug 10, 2023



Mesonet

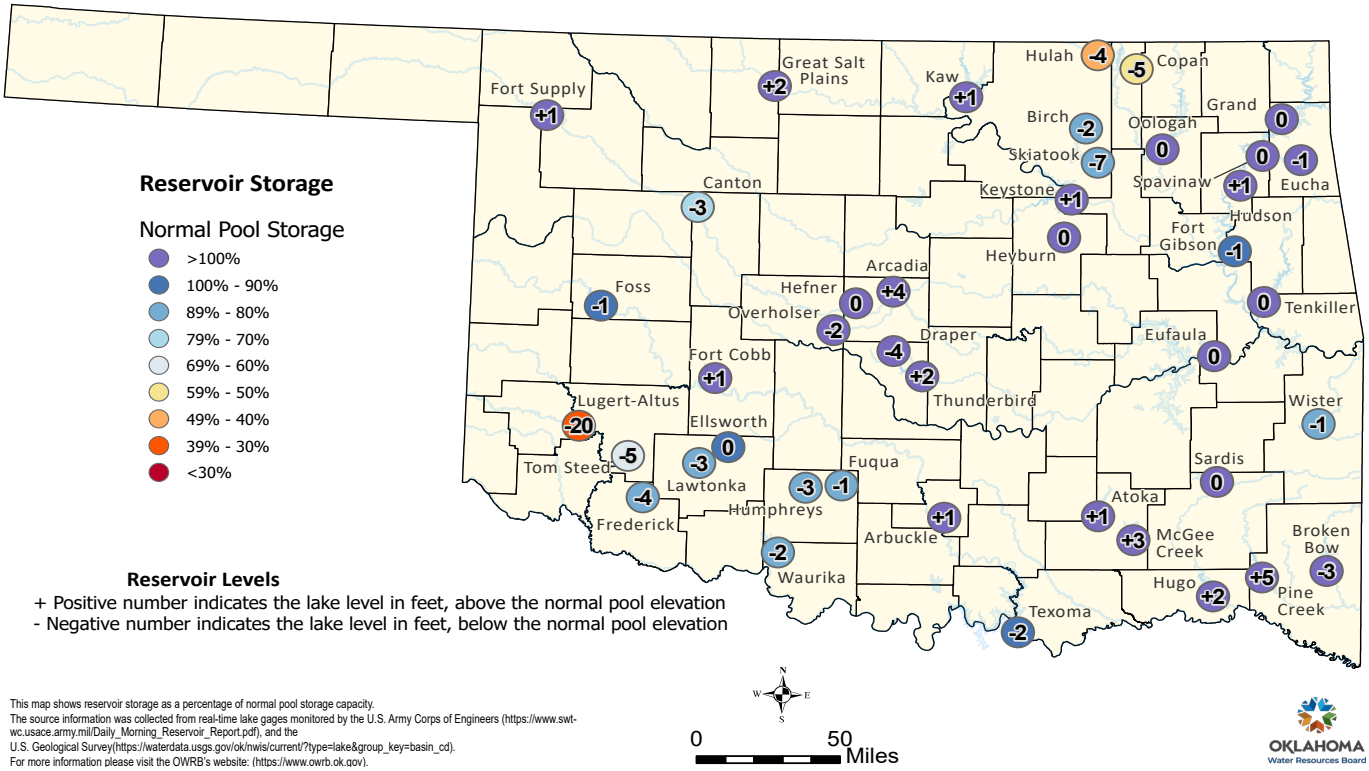
Percent of 1991-2020 Normal Rainfall

Last 365 Days

Aug 11, 2022 through Aug 10, 2023

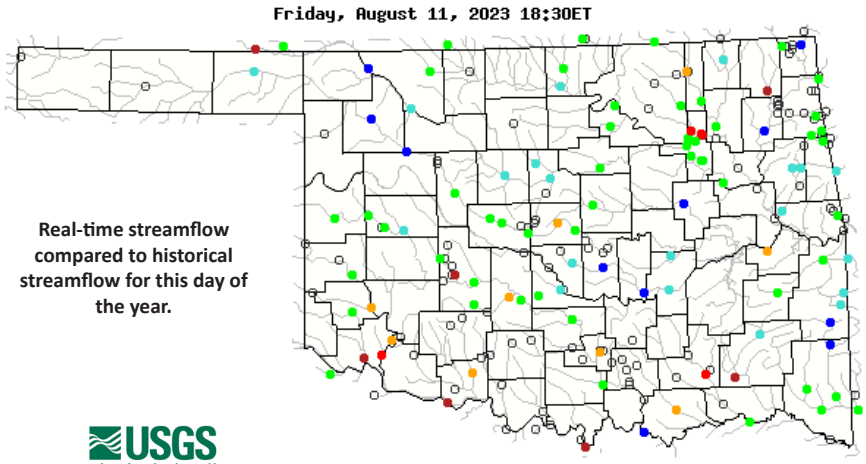
Reservoir Levels

Oklahoma Reservoir Levels and Storage as of 7/10/2023



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://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).

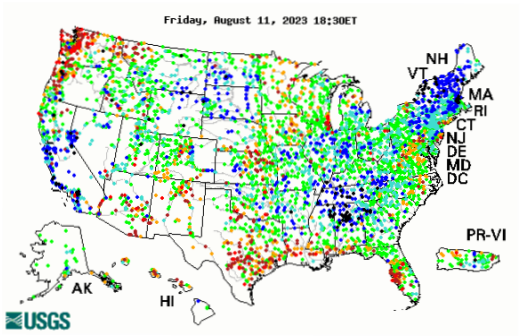
Streamflow



Real-time streamflow compared to historical streamflow for this day of the year.

USGS science for a changing world

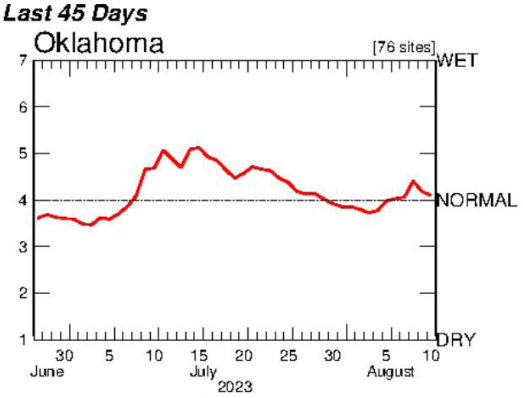
Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not ranked



Average Streamflow Index

Oklahoma or Water-Resources Regions

Last 45 Days



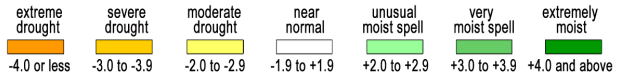
Visit waterwatch.usgs.gov for additional real-time streamflow information.

Visit the OWRB's Water Data and Analysis Portal for continuous and discrete water quality and quantity data for Oklahoma lakes, streams, and aquifers across the state.

Drought Conditions

Palmer Drought Severity Index (PDSI)

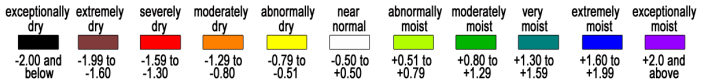
Climate Division	Status 8/5/23	Value 7/8	Value 8/5	Change in Value
NORTHWEST	Very Moist Spell	3.56	3.18	-0.38
NORTH CENTRAL	Unusual Moist Spell	1.88	2.36	0.48
NORTHEAST	Near Normal	-1.48	-1.05	0.43
WEST CENTRAL	Unusual Moist Spell	3.26	2.69	-0.57
CENTRAL	Near Normal	1.52	0.86	-0.66
EAST CENTRAL	Near Normal	-0.89	-1.11	-0.22
SOUTHWEST	Near Normal	1.36	-0.16	-1.52
SOUTH CENTRAL	Near Normal	0.04	-0.48	-0.52
SOUTHEAST	Near Normal	-0.42	-0.99	-0.57



The PDSI is based upon precipitation, temperature, and soil moisture, and is considered most effective for unirrigated cropland, spanning from -10 (dry) to +10 (wet). According to the latest PDSI, as of August 5, all climate regions are Near Normal except the Northwest, Central, and West Central regions, which are Unusually Moist or wetter.

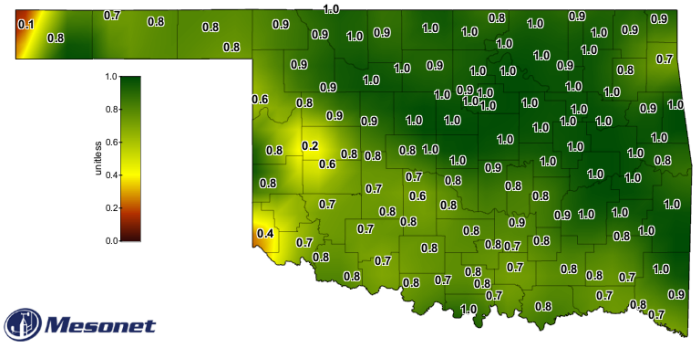
Standardized Precipitation Index (SPI)
Through July 2023

3-month	12-month	24-month
Extremely Moist	Near Normal	Abnormally Dry
Moderately Moist	Abnormally Dry	Moderately Dry
Near Normal	Moderately Dry	Moderately Dry
Extremely Moist	Abnormally Moist	Near Normal
Moderately Moist	Near Normal	Near Normal
Near Normal	Near Normal	Near Normal
Abnormally Moist	Near Normal	Moderately Dry
Near Normal	Near Normal	Abnormally Dry
Near Normal	Abnormally Moist	Near Normal



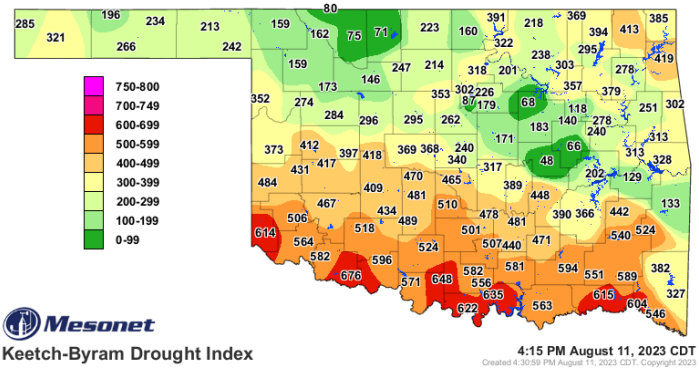
The SPI provides a comparison of precipitation over several specified time periods with totals from the periods for all years in the historical record. Through July 2023, the Northwest, Southwest, and South Central regions were dry for the 24-month period, and the North Central and Northeast were dry for the 12- and 24-month periods.

Soil Moisture



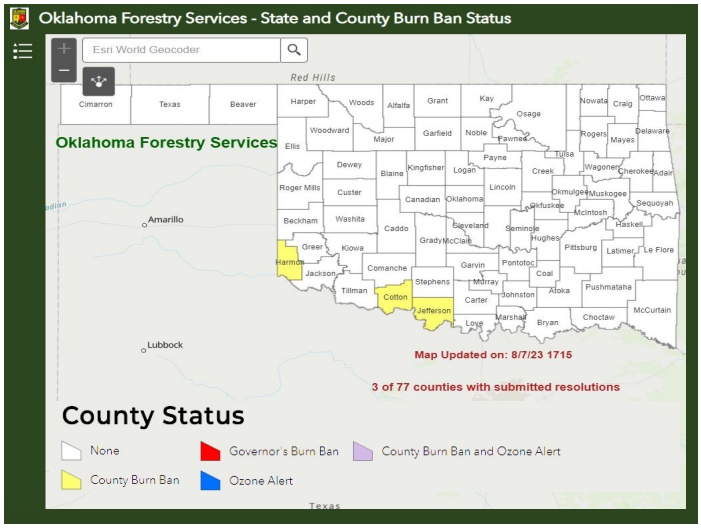
The 1-day Average 4-inch Bare Soil Fractional Water Index map displays the 24-hour-averaged soil moisture at 4 inches under bare soil for the previous day. Fractional water index ranges from 0 (as dry as the sensor can read) to 1.0 (as wet as the sensor can read).

Keetch-Byram Drought Index

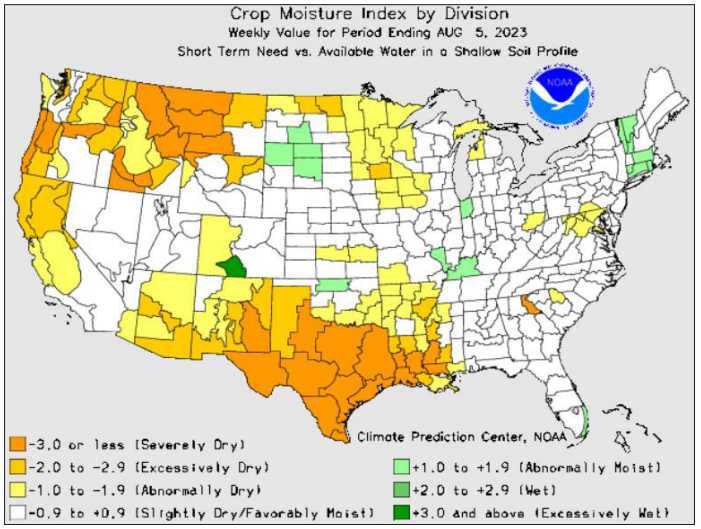


The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values > 600 are often associated with severe drought and increased wildfire occurrence.

State & County Burn Ban Status



Crop Moisture Index



Oklahoma Drought Monitor

71
counties with USDA Drought Disaster Designations (primary)
— 0 counties since last week

~268,600
Oklahoma residents in areas of drought, according to the Drought Monitor
↓ 24.9% since last week

7th
wettest July on record (since 1895)
5.61 in. total precipitation
↑ 2.76 in. from normal

39th
wettest January—July on record (since 1895)
23.44 in. total precipitation
↑ 2.79 in. from normal

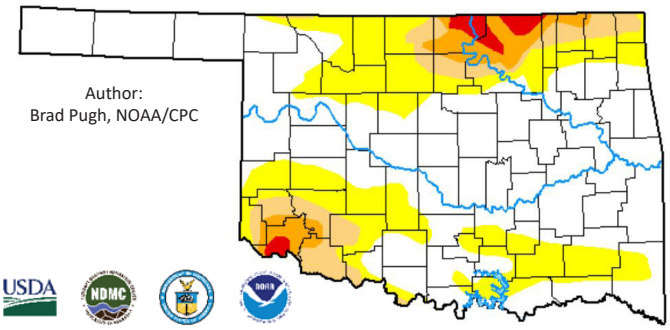
D0 - Abnormally Dry
- Crops are stressed (wheat, canola, alfalfa, pecans); winter wheat germination is delayed
- Stock pond levels decline

D1 - Moderate Drought
- Summer crop and forage yields are reduced
- Wildfire risk increases
- Lake recreation activities are affected; deer reproduction is poor

D2 - Severe Drought
- Dryland crops are severely reduced; pasture growth is stunted
- Cattle are stressed
- Burn bans begin

D3 - Extreme Drought
- Grasses are dormant, and hay is nonexistent; planting is delayed; fields are spotty; emergency CRP grazing is authorized
- Cattle have little water and feed
- Wildfires are increasing in number and severity; air quality is poor, with dust storms and smoke

D4 - Exceptional Drought
- Ground is cracking; farmers are bailing failed crops or abandoning fields; pastures are bare; land is abandoned
- Cost of hay and water is high and supplies are scarce; producers are liquidating herds
- Burn restrictions increase; fire season is long



Author:
Brad Pugh, NOAA/CPC

August 8, 2023
(Released August 10, 2023)
Valid 7 a.m. EDT

Intensity:
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

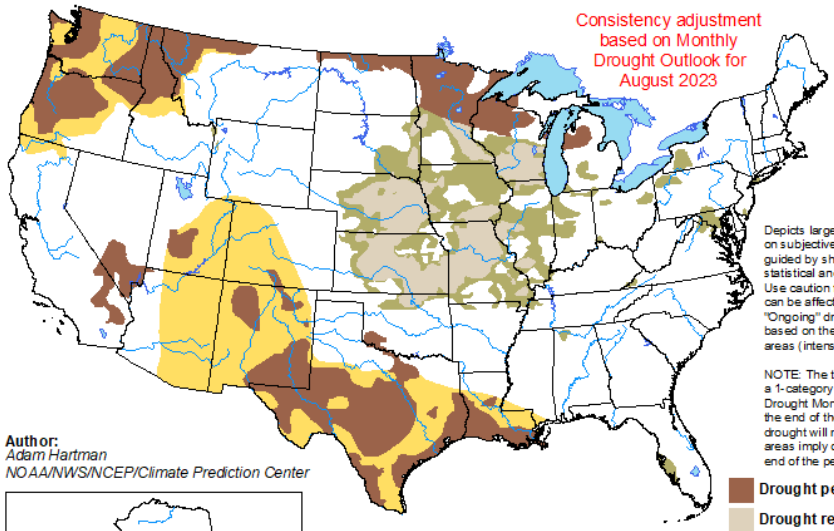
droughtmonitor.unl.edu

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	8/8/2023	62.25	37.75	12.81	5.84	1.6	0	58
Last Week to Current	8/1/2023	52.33	47.67	17.9	7.58	2.58	0	76
3 Months Ago to Current	5/9/2023	39.19	60.81	52.47	48.07	33.1	10.09	205
Start of Calendar Year to Current	12/27/2022	1.82	98.18	89.73	80.92	56.13	11.65	337
Start of Water Year to Current	9/27/2022	0	100	99.88	94.44	64.44	17.25	376
One Year Ago to Current	8/9/2022	0	100	99.33	92.45	48.83	0.67	341

Drought Probability

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

Valid for August 1 - October 31, 2023
Released July 31, 2023



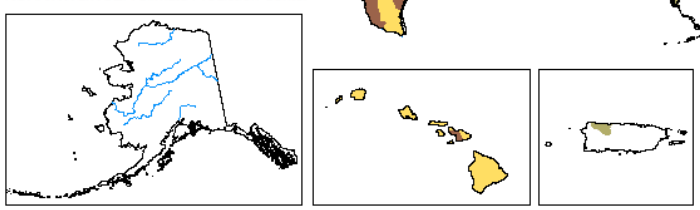
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to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

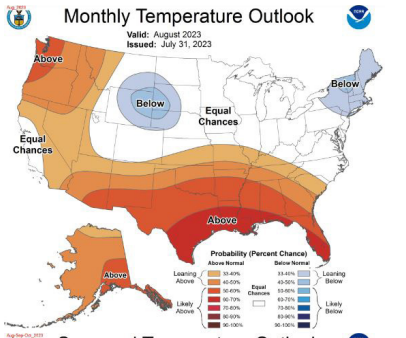
http://go.usa.gov/3eZ73

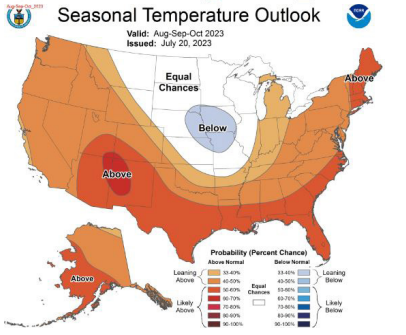
Author:
Adam Hartman
NOAA/NWS/NCEP/Climate Prediction Center

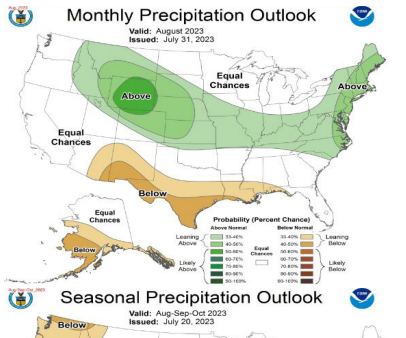


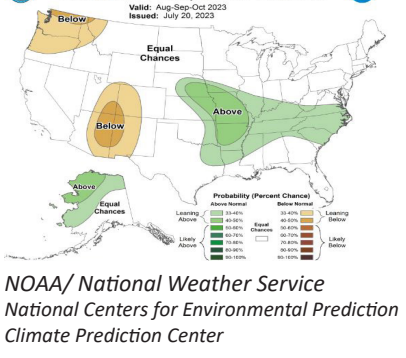
Across southern Texas and the Lower Mississippi Valley, above normal temperature probabilities are enhanced, leading to a slight expansion of drought persistence areas with an increased potential for drought development.

Monthly/Seasonal Outlook









NOAA/ National Weather Service
National Centers for Environmental Prediction
Climate Prediction Center