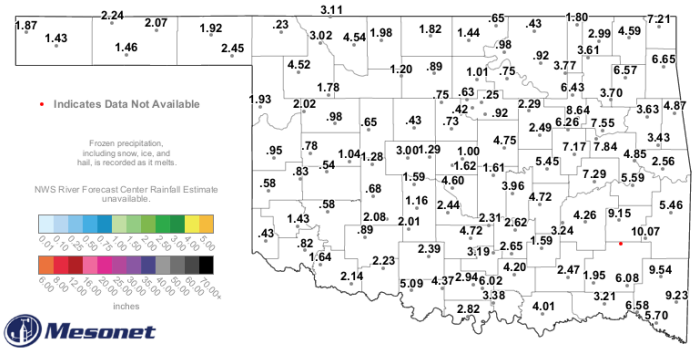
Oklahoma Water Resources Bulletin

Summary of Current Conditions

October 13, 2023

Precipitation

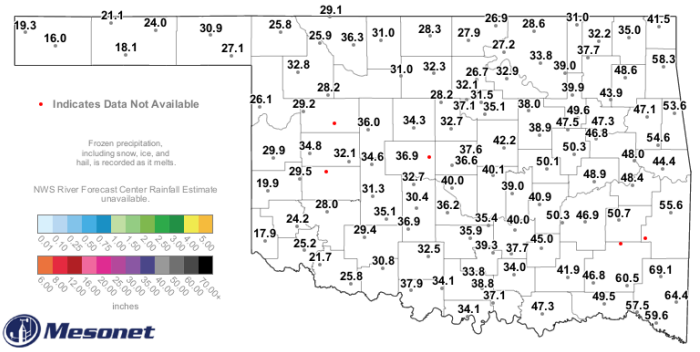
Last 30 Days: September 13, 2023 – October 12, 2023					Last 365 Days: October 13, 2022 – October 12, 2023			
Climate Division	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	RANK SINCE 1921
PANHANDLE	1.73"	+0.05"	103%	47th wettest	23.15"	+2.57"	112%	24th wettest
N. CENTRAL	2.11"	-0.88"	70%	48th driest	29.84"	-1.58"	95%	49th wettest
NORTHEAST	4.00"	-0.33"	92%	46th wettest	38.99"	-3.68"	91%	48th driest
W. CENTRAL	0.93"	-1.89"	33%	22nd driest	30.67"	+2.27"	108%	28th wettest
CENTRAL	1.94"	-1.80"	52%	38th driest	36.38"	-1.25"	97%	43rd wettest
E. CENTRAL	5.04"	+0.44"	110%	26th wettest	48.26"	+2.12"	105%	30th wettest
SOUTHWEST	1.29"	-1.62"	44%	30th driest	27.61"	-2.66"	91%	51st driest
S. CENTRAL	3.44"	-0.36"	90%	46th wettest	37.80"	-2.91"	93%	47th wettest
SOUTHEAST	6.74"	+2.46"	158%	17th wettest	57.10"	+6.51"	113%	22nd wettest
STATEWIDE	**2.97"**	**-0.50"**	**86%**	**49th wettest**	**36.35"**	**-0.12"**	**100%**	**43rd wettest**



Mesonet

30-Day Rainfall Accumulation (inches)

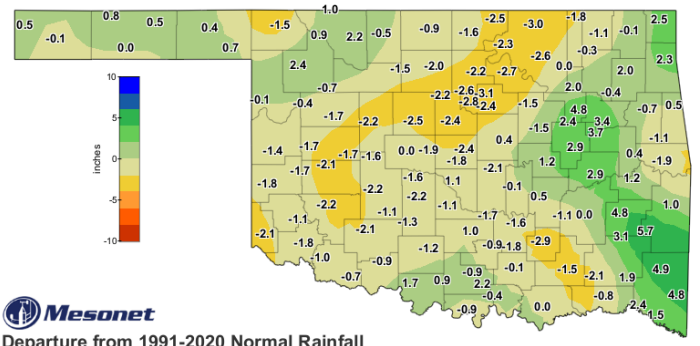
2:05 PM October 13, 2023 CDT



Mesonet

365-Day Rainfall Accumulation (inches)

2:05 PM October 13, 2023 CDT

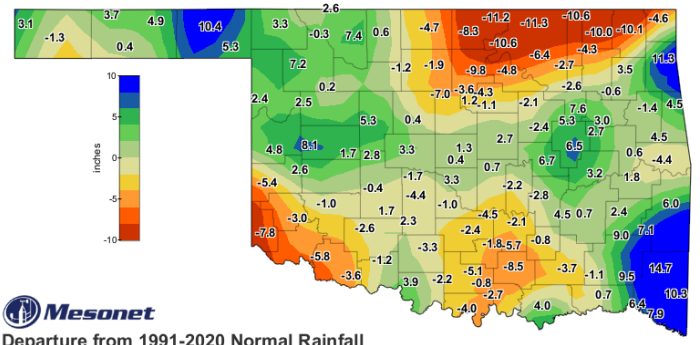


Mesonet

Departure from 1991-2020 Normal Rainfall

Last 30 Days

Sep 13, 2023 through Oct 12, 2023

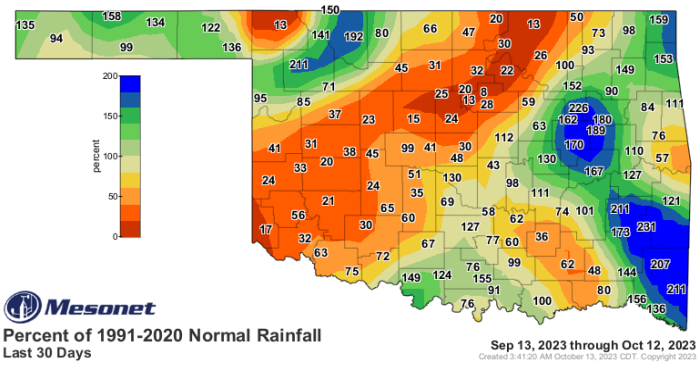


Mesonet

Departure from 1991-2020 Normal Rainfall

Last 365 Days

Oct 13, 2022 through Oct 12, 2023

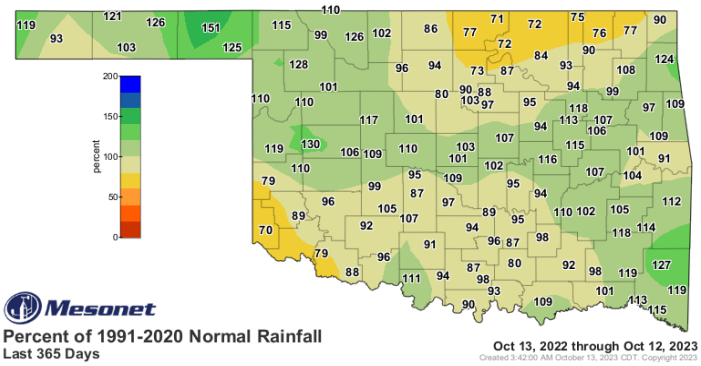


Mesonet

Percent of 1991-2020 Normal Rainfall

Last 30 Days

Sep 13, 2023 through Oct 12, 2023



Mesonet

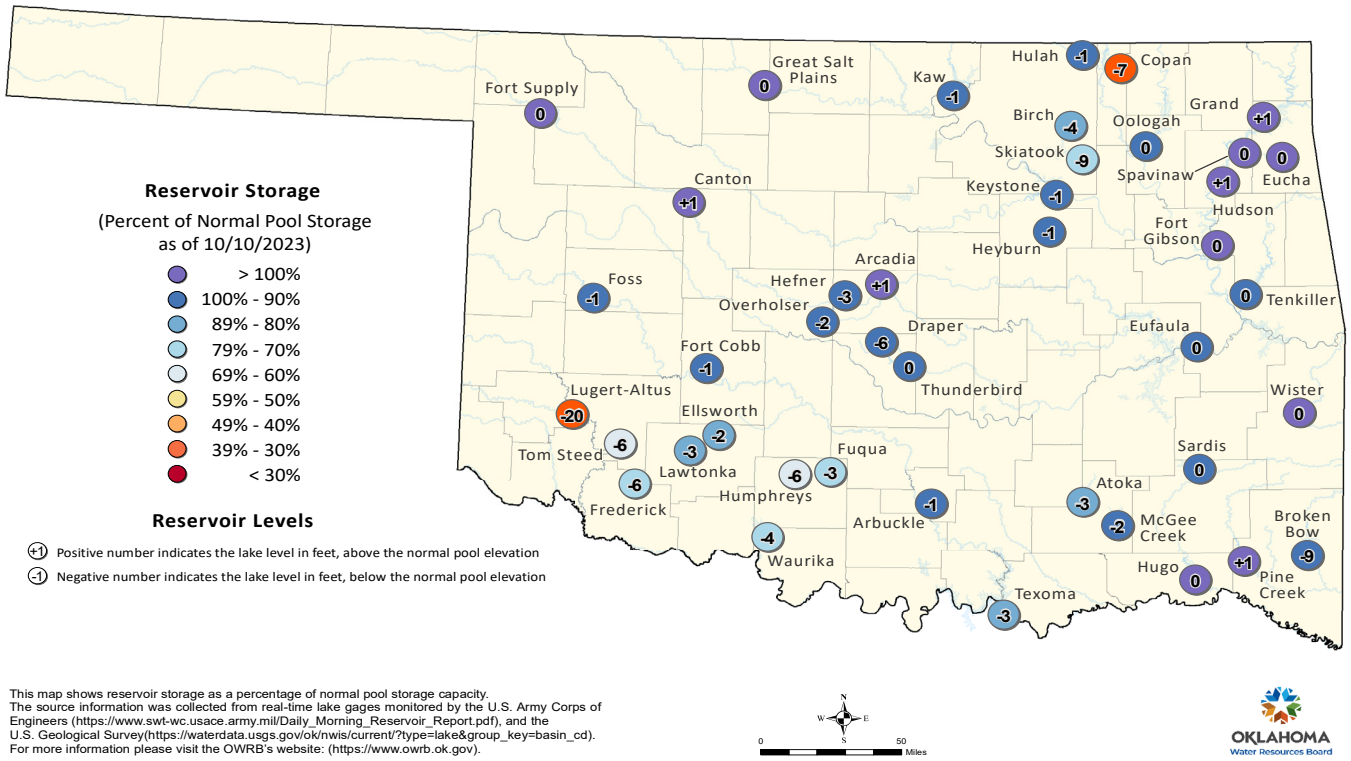
Percent of 1991-2020 Normal Rainfall

Last 365 Days

Oct 13, 2022 through Oct 12, 2023

Reservoir Levels

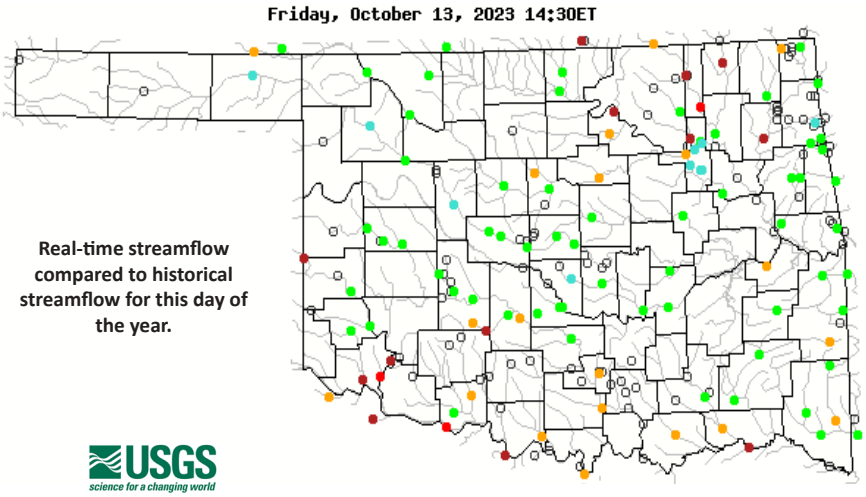
Oklahoma Reservoir Levels and Storage as of 10/10/2023



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).

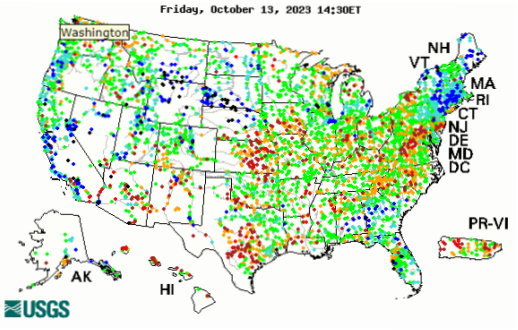
OKLAHOMA Water Resources Board

Streamflow



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

USGS science for a changing world



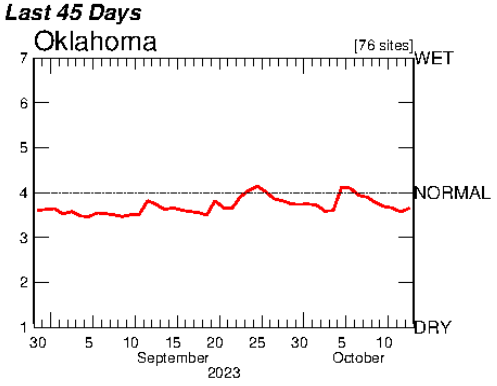
Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not ranked

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.

Average Streamflow Index

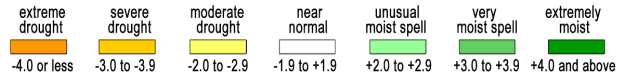
Last 45 Days



Drought Conditions

Palmer Drought Severity Index (PDSI)

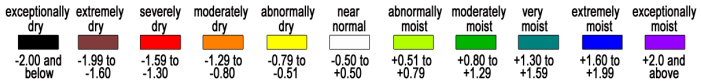
Climate Division	Status 10/7/23	Value 9/9	Value 10/7	Change in Value
NORTHWEST	Very Moist Spell	1.19	3.4	2.21
NORTH CENTRAL	Unusual Moist Spell	1.26	2.14	0.88
NORTHEAST	Near Normal	-0.89	-0.17	0.72
WEST CENTRAL	Near Normal	1.44	1.57	0.13
CENTRAL	Near Normal	0.13	0.37	0.24
EAST CENTRAL	Near Normal	-1.56	0.7	2.26
SOUTHWEST	Near Normal	-1.24	-0.8	0.44
SOUTH CENTRAL	Near Normal	-1.71	-0.86	0.85
SOUTHEAST	Near Normal	-1.77	0.76	2.53



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 October 7, all climate regions are Near Normal or wetter.

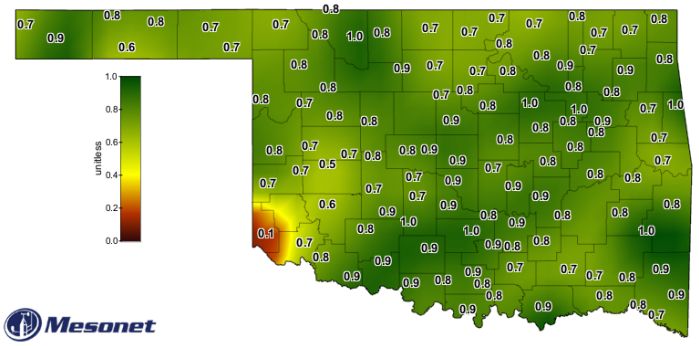
Standardized Precipitation Index (SPI)
Through September 2023

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



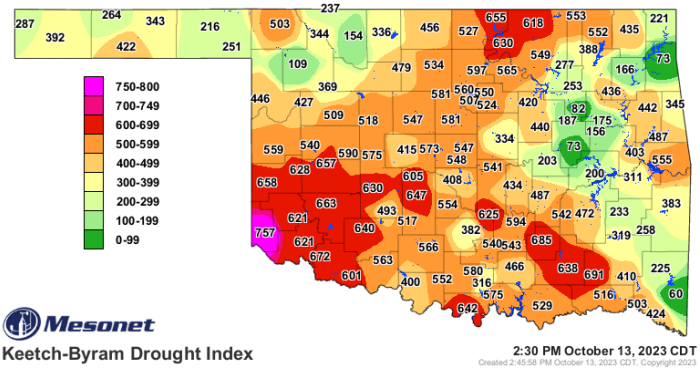
The SPI provides a comparison of precipitation over several specified time periods with totals from the periods for all years in the historical record. Through September 2023, the North Central, Northeast, West Central, Southwest, and South Central regions were abnormally dry or worse for the 24-month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

Soil Moisture



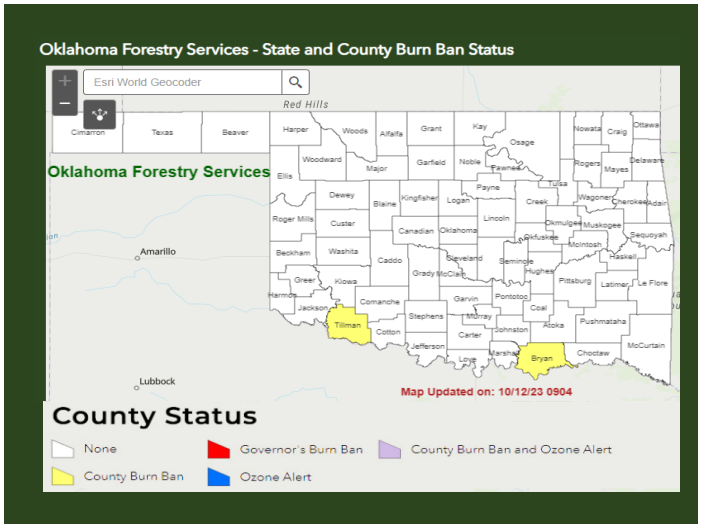
The 1-day Average 4-inch Bare Soil Fractional Water Index map displays the 24-hour-averaged soil moisture at 4 inches under bare soil for the previous day. Fractional water index ranges from 0 (as dry as the sensor can read) to 1.0 (as wet as the sensor can read).

Keetch-Byram Drought Index

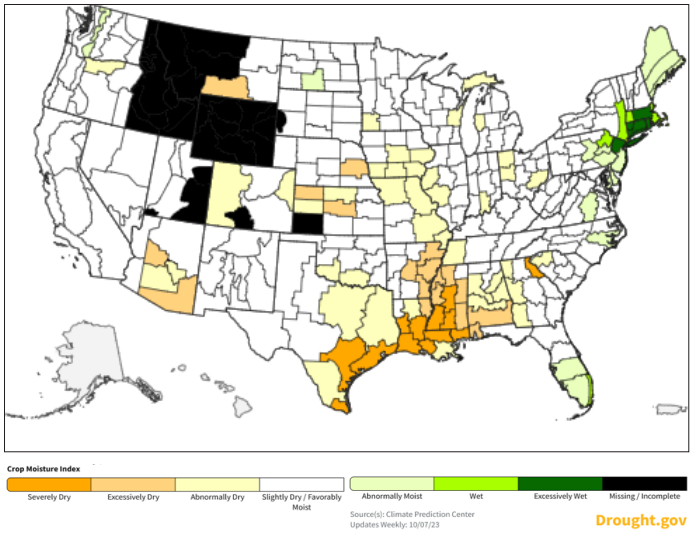


The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values > 600 are often associated with severe drought and increased wildfire occurrence.

State & County Burn Ban Status



Crop Moisture Index



Oklahoma Drought Monitor

74
counties with USDA Drought Disaster Designations (primary)
↑ 3 counties since last week

1.0 Million
Oklahoma residents in areas of drought, according to the Drought Monitor
↓ 19.2% since last week

55th
driest September on record (since 1895)
2.67 in. total precipitation
↓ 0.74 in. from normal

47th
wettest January—September on record (since 1895)
28.56 in. total precipitation
↑ 1.65 in. from normal

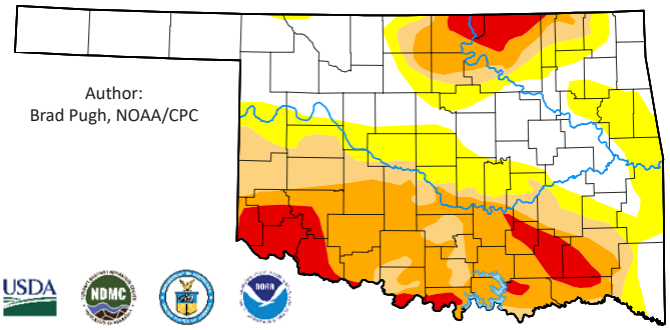
D0 - Abnormally Dry
- Crops are stressed (wheat, canola, alfalfa, pecans); winter wheat germination is delayed
- Stock pond levels decline

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

October 10, 2023
(Released October 12, 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

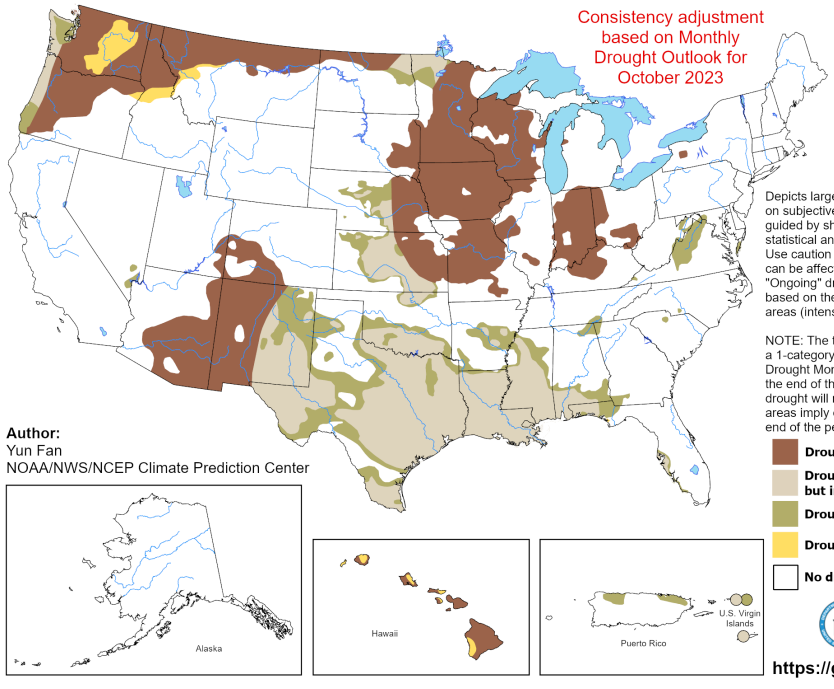
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
urrent	2023-10-10	36.68	63.32	43.11	29.44	8.48	0.00	144
Last Week to Current	2023-10-03	36.71	63.29	45.30	32.40	14.34	0.00	155
3 Months Ago to Current	2023-07-11	43.04	56.96	23.63	9.12	4.20	0.42	94
Start of Calendar Year to Current	2022-12-27	1.82	98.18	89.73	80.92	56.13	11.65	337
Start of Water Year to Current	2023-09-26	34.29	65.71	46.76	30.93	12.91	0.00	156
One Year Ago to Current	2022-10-11	0.00	100.00	100.00	99.66	85.65	29.10	414

Drought Probability

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for October 1 - December 31, 2023
Released September 30, 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).

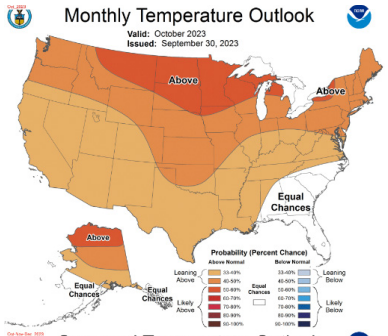
- **Drought persists**
- **Drought remains, but improves**
- **Drought removal likely**
- **Drought development likely**
- **No drought**

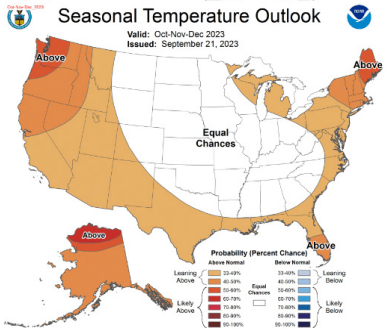
Author:
Yun Fan
NOAA/NWS/NCEP Climate Prediction Center

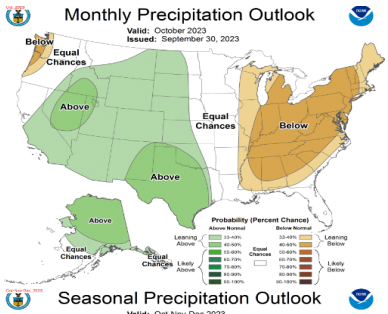
https://go.usa.gov/3eZ73

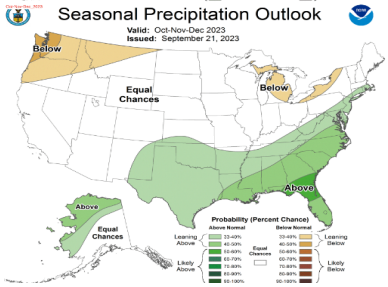
Drought improvement/removal is likely across eastern New Mexico, most of the Central and Southern Plains, parts of the Southeast and Northeast due to forecast above-normal precipitation and/or a favorable time of year for soil moisture recharge.

Monthly/Seasonal Outlook









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