

Oklahoma Water Resources Bulletin

Summary of Current Conditions

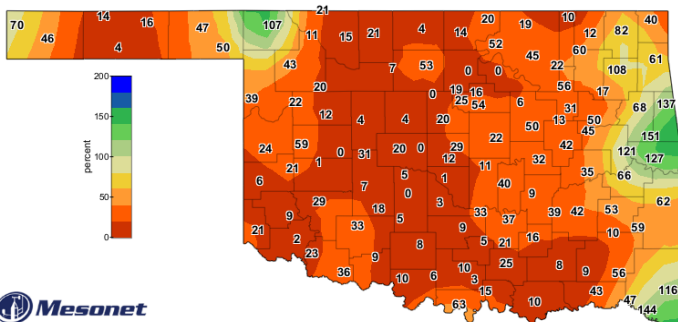
September 13, 2024

Precipitation

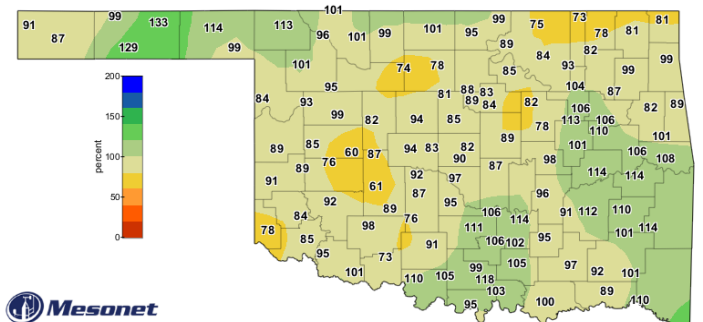
Last 30 Days: August 14, 2024, through September 12, 2024

Last 365 Days: September 14, 2023, through September 12, 2024

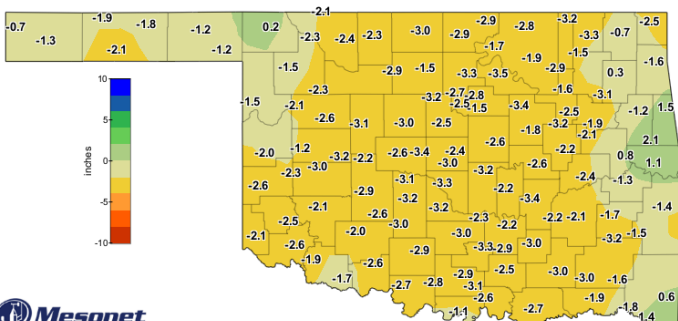
Climate Division	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Climate Division	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	RANK SINCE 1921
PANHANDLE	1.01"	-1.31"	43%	17th driest	PANHANDLE	20.57"	+0.04"	100%	46th wettest
N. CENTRAL	0.68"	-2.27"	23%	4th driest	N. CENTRAL	28.70"	-2.63"	92%	52nd wettest
NORTHEAST	1.55"	-2.03"	43%	16th driest	NORTHEAST	37.56"	-4.95"	88%	42nd driest
W. CENTRAL	0.45"	-2.42"	16%	7th driest	W. CENTRAL	23.31"	-5.00"	82%	36th driest
CENTRAL	0.59"	-2.72"	18%	8th driest	CENTRAL	32.31"	-5.19"	86%	41st driest
E. CENTRAL	2.67"	-0.88"	75%	45th driest	E. CENTRAL	47.36"	+1.39"	103%	37th wettest
SOUTHWEST	0.57"	-2.37"	19%	8th driest	SOUTHWEST	25.31"	-4.86"	84%	35th driest
S. CENTRAL	0.57"	-2.67"	18%	9th driest	S. CENTRAL	41.52"	+0.95"	102%	36th wettest
SOUTHEAST	2.05"	-1.18"	64%	25th driest	SOUTHEAST	52.46"	+2.02"	104%	37th wettest
STATEWIDE	1.10"	-2.02"	35%	10th driest	STATEWIDE	34.21"	-2.14"	94%	52nd wettest



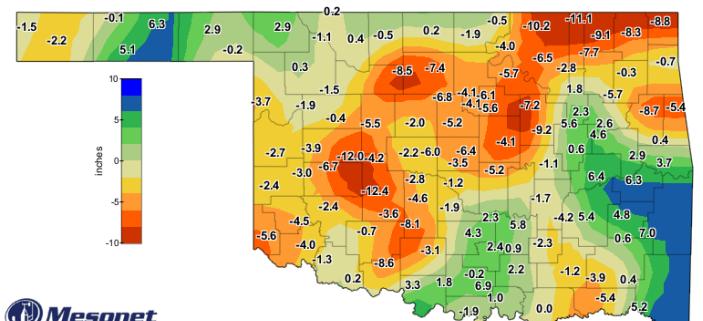
Mesonet
Percent of 1991-2020 Normal Rainfall
Last 30 Days
Aug 14, 2024 through Sep 12, 2024
Created 3:41:50 AM September 13, 2024 CDT. Copyright 2024



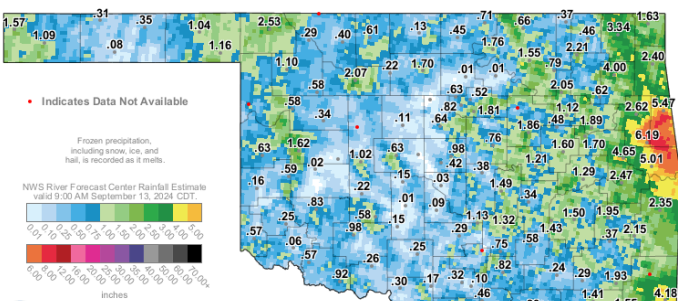
Mesonet
Percent of 1991-2020 Normal Rainfall
Last 365 Days
Sep 14, 2023 through Sep 12, 2024
Created 3:42:28 AM September 13, 2024 CDT. Copyright 2024



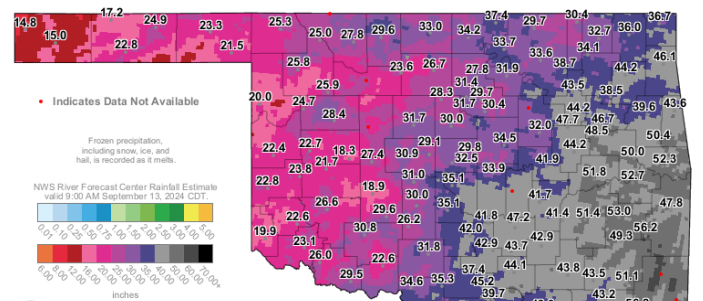
Mesonet
Departure from 1991-2020 Normal Rainfall
Last 30 Days
Aug 14, 2024 through Sep 12, 2024
Created 3:41:49 AM September 13, 2024 CDT. Copyright 2024



Mesonet
Departure from 1991-2020 Normal Rainfall
Last 365 Days
Sep 14, 2023 through Sep 12, 2024
Created 3:42:27 AM September 13, 2024 CDT. Copyright 2024



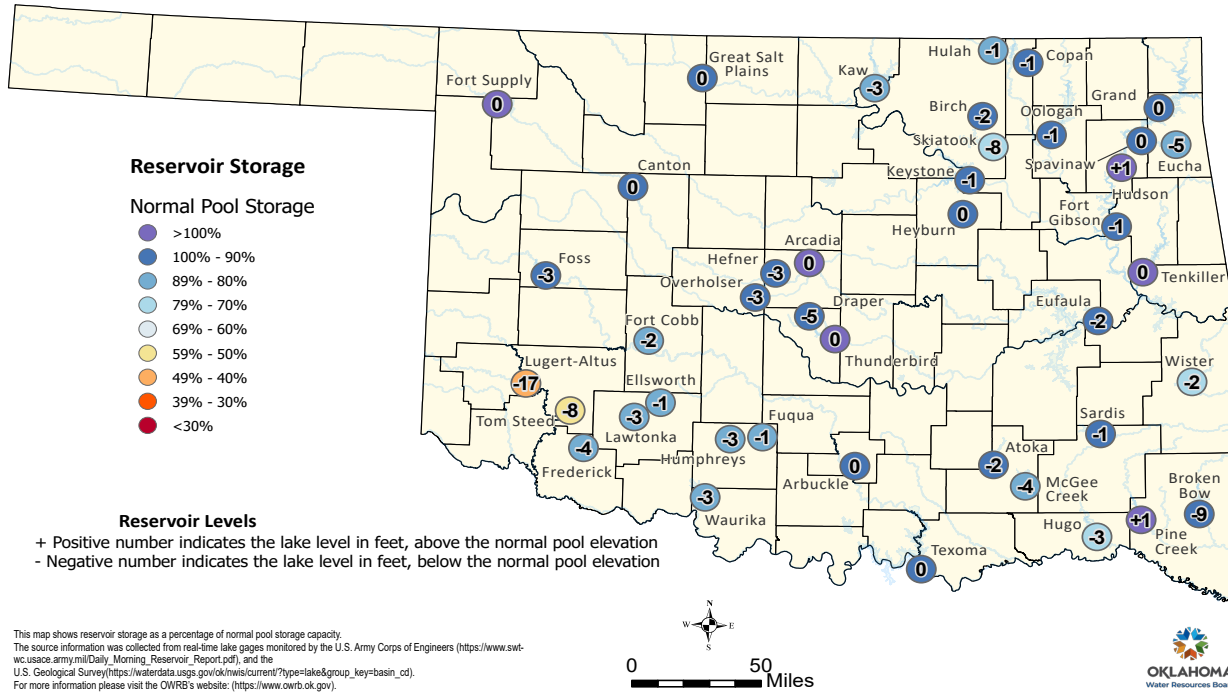
Mesonet
30-Day Rainfall Accumulation (inches)
10:15 AM September 13, 2024 CDT
Created 10:22:41 AM September 13, 2024 CDT. Copyright 2024



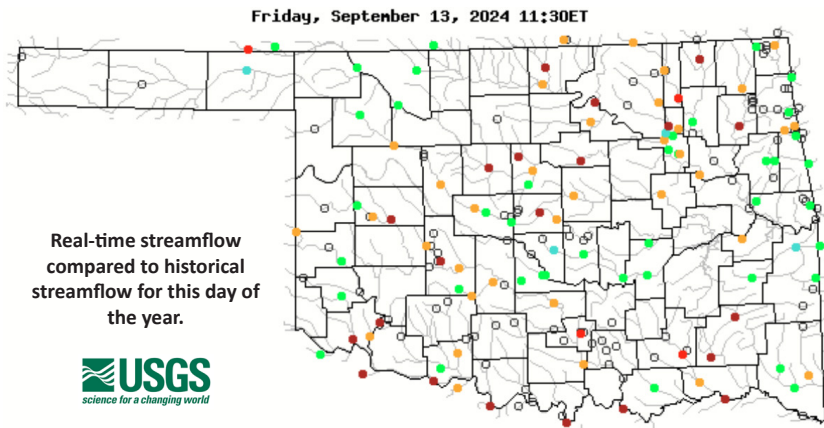
Mesonet
365-Day Rainfall Accumulation (inches)
10:15 AM September 13, 2024 CDT
Created 10:22:41 AM September 13, 2024 CDT. Copyright 2024

Reservoir Levels

Oklahoma Reservoir Levels and Storage as of 9/9/2024



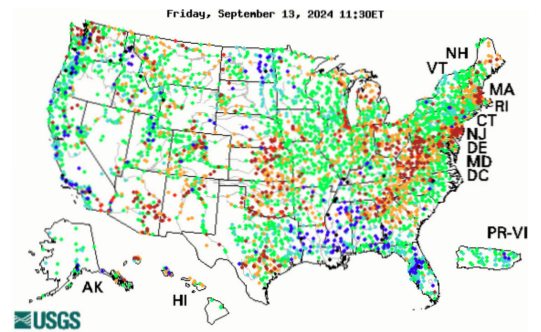
Streamflow



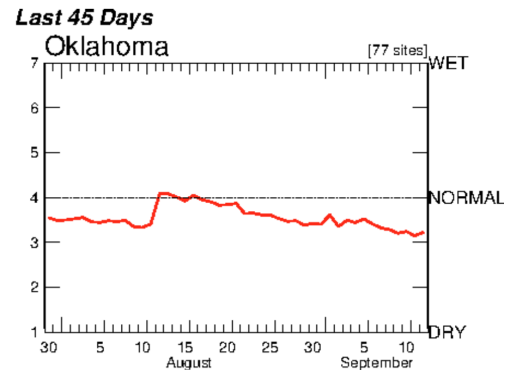
Explanation - Percentile classes							
	●	●	●	●	●	●	○
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not ranked

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.



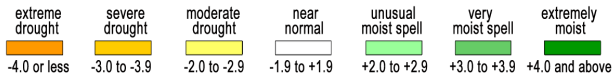
Average Streamflow Index



Drought Conditions

Palmer Drought Severity Index (PDSI)

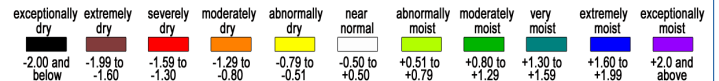
Climate Division	Status 09/07/24	Value 08/10	Value 09/07	Change in Value
PANHANDLE	Severe Drought	-3.87	-5.2	-1.33
NORTH CENTRAL	Severe Drought	-1.69	-3.17	-1.48
NORTHEAST	Moderate Drought	-1.73	-2.73	-1
WEST CENTRAL	Severe Drought	-1.85	-3.93	-2.08
CENTRAL	Moderate Drought	0.23	-2.23	-2.46
EAST CENTRAL	Near Normal	-1.25	-1.87	-0.62
SOUTHWEST	Severe Drought	-3.72	-5.54	-1.82
SOUTH CENTRAL	Severe Drought	-3.44	-5.14	-1.7
SOUTHEAST	Severe Drought	-2.5	-3.91	-1.41



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 September 7, 2024, all regions are in Moderate Drought or worse except the East Central region, which is Near Normal.

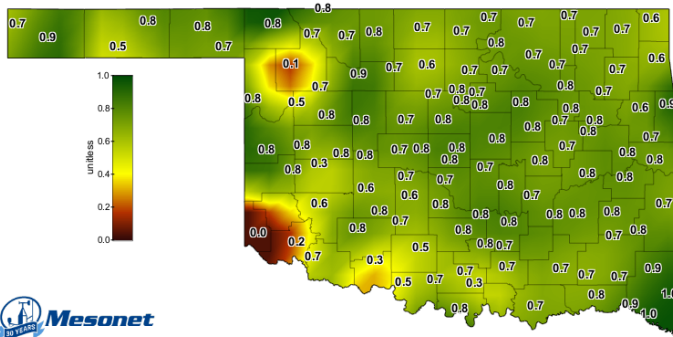
Standardized Precipitation Index (SPI) Through August 2024

Climate Division	3-month	12-month	24-month
PANHANDLE	Abnormally Moist	Near Normal	Abnormally Moist
NORTH CENTRAL	Abnormally Dry	Near Normal	Near Normal
NORTHEAST	Abnormally Dry	Near Normal	Near Normal
WEST CENTRAL	Abnormally Dry	Near Normal	Near Normal
CENTRAL	Near Normal	Near Normal	Near Normal
EAST CENTRAL	Abnormally Moist	Abnormally Moist	Near Normal
SOUTHWEST	Moderately Dry	Near Normal	Near Normal
SOUTH CENTRAL	Near Normal	Abnormally Moist	Near Normal
SOUTHEAST	Near Normal	Near Normal	Abnormally Moist



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 August 2024, the North Central, Northeast, and West Central regions were Abnormally Dry for the three-month period and the Southwest region was Moderately Dry for the three-month period.

Soil Moisture

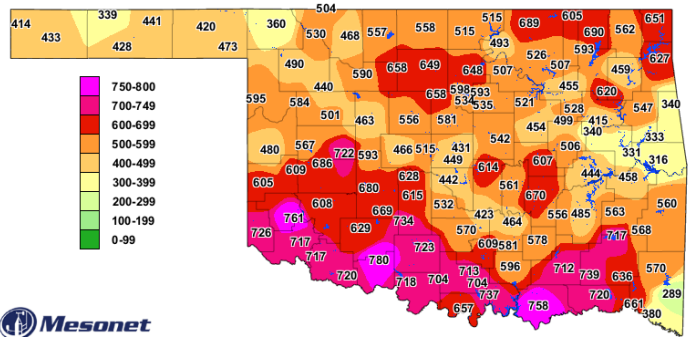


1-day Average 4-inch Bare Soil Fractional Water Index September 12, 2024

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

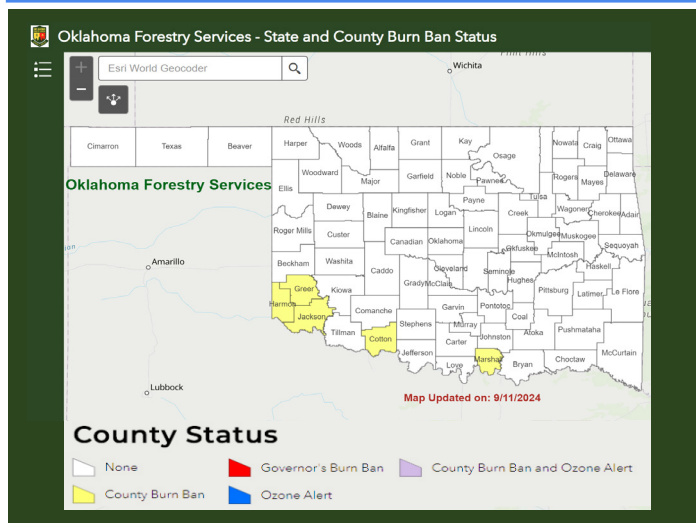


Keetch-Byram Drought Index 10:45 AM September 13, 2024 CDT

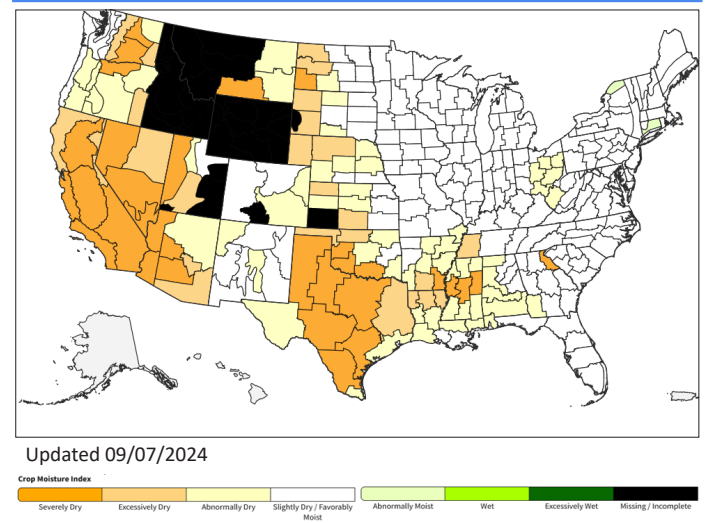
The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values > 600 are often associated with severe drought and increased wildfire occurrence.



State & County Burn Ban Status



Crop Moisture Index



Updated 09/07/2024



Oklahoma Drought Monitor

18
counties with USDA Drought Disaster Designations (primary)

— 0 counties since last week

1.6 Million
Oklahoma residents in areas of drought, according to the Drought Monitor

↑ 20.5% since last week

55th
driest August on record (since 1895)

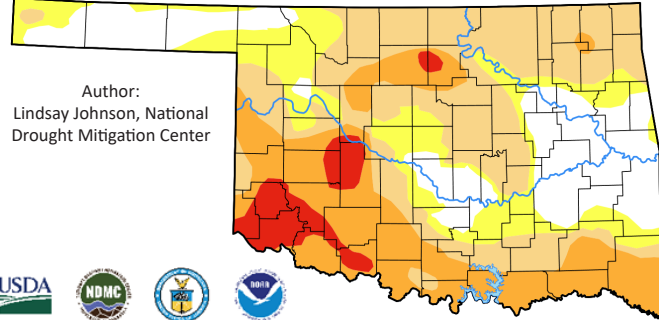
2.49 in. total precipitation
↓ 0.36 in. from normal

51st
wettest January–August on record (since 1895)

24.45 in. total precipitation
↑ 0.96 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 baling 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

Statistics valid as of 08/13/24



Author:
Lindsay Johnson, National Drought Mitigation Center



September 10, 2024
(Released September 12, 2024)
Valid 8 a.m. EDT

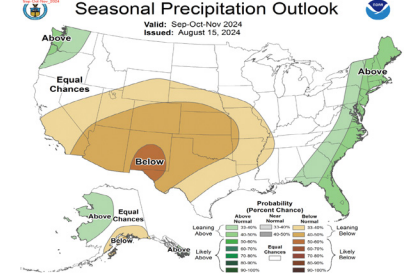
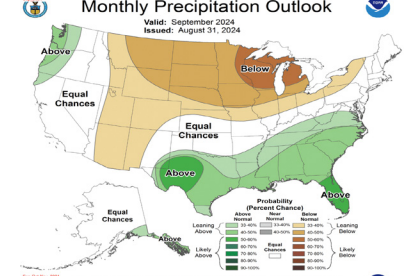
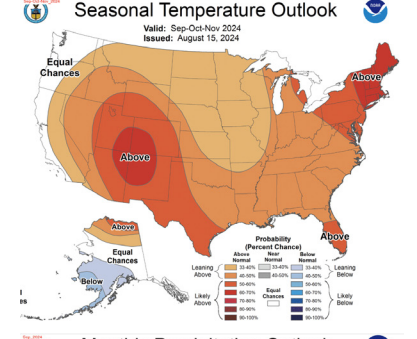
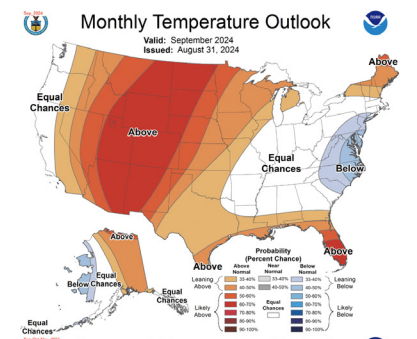
Intensity:

- 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.

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2024-09-10	21.42	78.58	60.63	28.36	5.62	0.00	173
Last Week to Current	2024-09-03	25.64	74.36	48.22	18.44	5.31	0.00	146
3 Months Ago to Current	2024-06-11	72.78	27.22	15.79	1.20	0.00	0.00	44
Start of Calendar Year to Current	2023-12-26	53.62	46.38	21.64	3.08	0.00	0.00	71
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	2023-09-12	37.93	62.07	45.00	29.80	3.51	0.00	140

Monthly/Seasonal Outlook



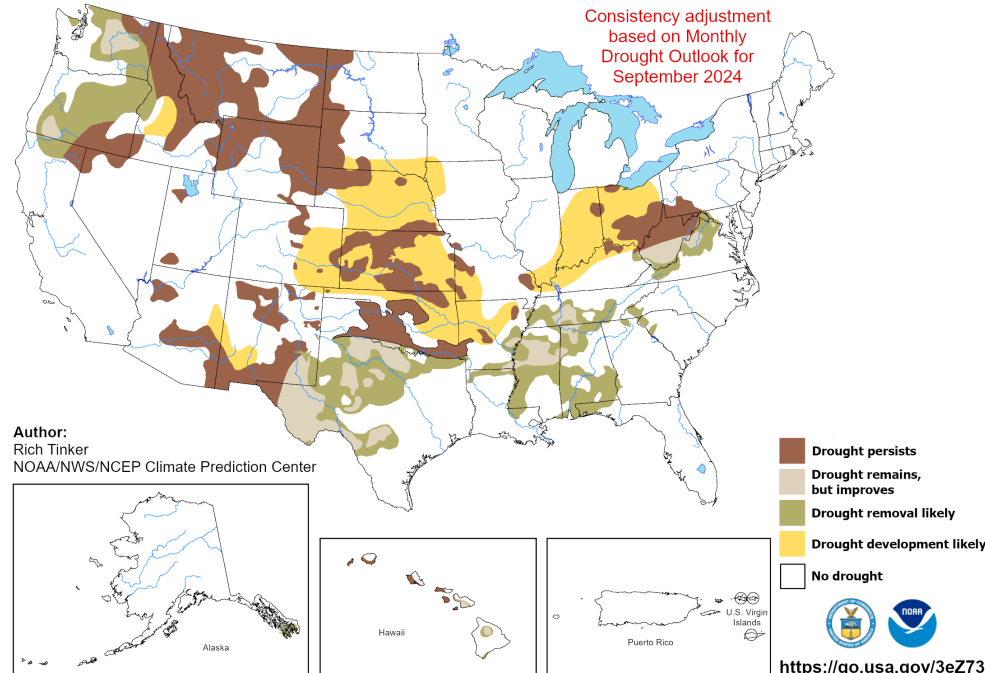
Drought Probability

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for September 1 - November 30, 2024
Released August 31, 2024

Consistency adjustment based on Monthly Drought Outlook for September 2024



The map depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4). 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. Green areas imply drought removal by the end of the period.

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