

# Oklahoma Water Resources Bulletin

## Summary of Current Conditions

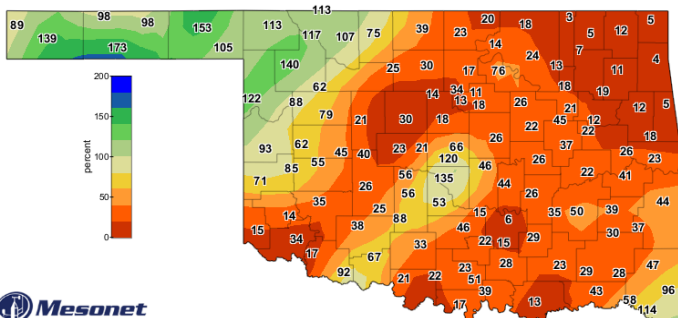
October 10, 2024

### Precipitation

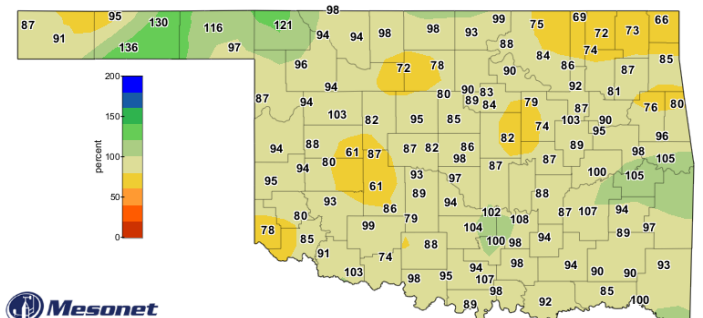
Last 30 Days: September 10, 2024, through October 9, 2024

Last 365 Days: October 11, 2023, through October 9, 2024

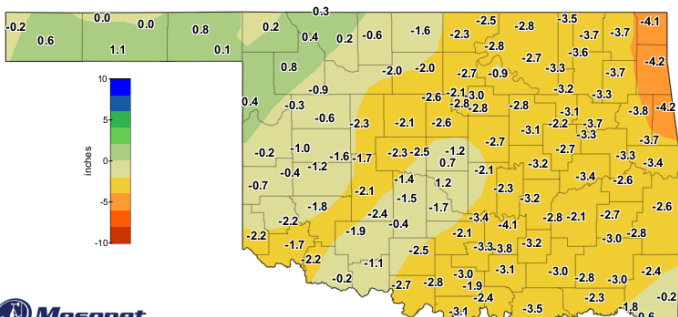
Climate Division	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Climate Division	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	RANK SINCE 1921
PANHANDLE	1.93"	+0.25"	115%	42nd wettest	PANHANDLE	20.83"	+0.31"	102%	50th wettest
N. CENTRAL	1.50"	-1.47"	51%	34th driest	N. CENTRAL	28.27"	-3.05"	90%	45th driest
NORTHEAST	0.61"	-3.80"	14%	7th driest	NORTHEAST	34.17"	-8.38"	80%	23rd driest
W. CENTRAL	1.67"	-1.15"	59%	42nd driest	W. CENTRAL	24.13"	-4.17"	85%	40th driest
CENTRAL	1.49"	-2.28"	40%	27th driest	CENTRAL	31.91"	-5.60"	85%	37th driest
E. CENTRAL	1.19"	-3.50"	25%	13th driest	E. CENTRAL	43.51"	-2.50"	95%	46th wettest
SOUTHWEST	1.05"	-1.86"	36%	21st driest	SOUTHWEST	25.17"	-4.99"	83%	34th driest
S. CENTRAL	0.98"	-2.85"	26%	10th driest	S. CENTRAL	39.10"	-1.48"	96%	41st wettest
SOUTHEAST	2.18"	-2.10"	51%	27th driest	SOUTHEAST	46.92"	-3.52"	93%	43rd driest
STATEWIDE	1.38"	-2.11"	40%	15th driest	STATEWIDE	32.58"	-3.77"	90%	42nd driest



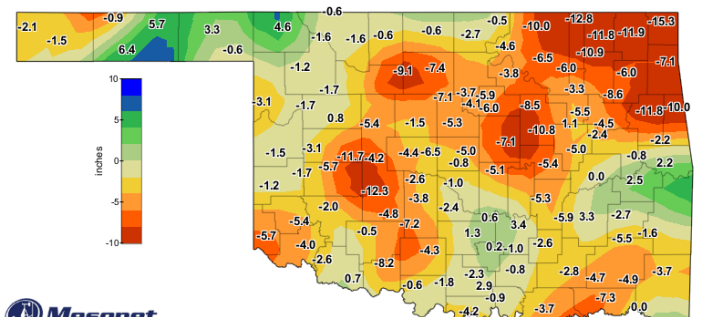
Mesonet  
Percent of 1991-2020 Normal Rainfall  
Last 30 Days  
Sep 10, 2024 through Oct 9, 2024  
Created 3:41:07 AM October 10, 2024 CDT. Copyright 2024



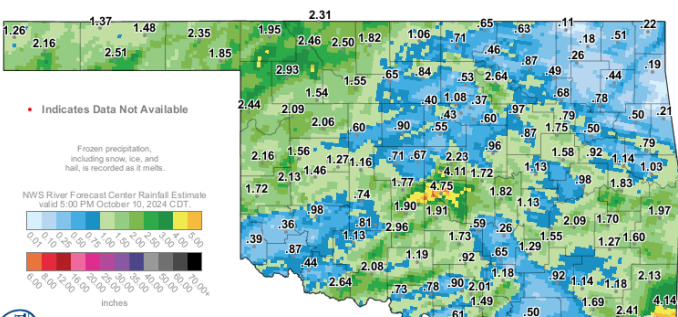
Mesonet  
Percent of 1991-2020 Normal Rainfall  
Last 365 Days  
Oct 11, 2023 through Oct 9, 2024  
Created 3:41:48 AM October 10, 2024 CDT. Copyright 2024



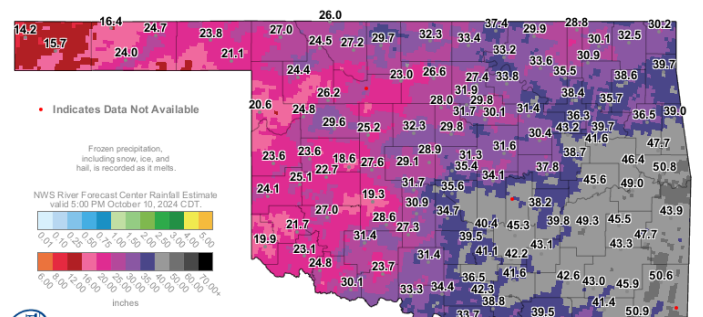
Mesonet  
Departure from 1991-2020 Normal Rainfall  
Last 30 Days  
Sep 10, 2024 through Oct 9, 2024  
Created 3:41:07 AM October 10, 2024 CDT. Copyright 2024



Mesonet  
Departure from 1991-2020 Normal Rainfall  
Last 365 Days  
Oct 11, 2023 through Oct 9, 2024  
Created 3:41:47 AM October 10, 2024 CDT. Copyright 2024



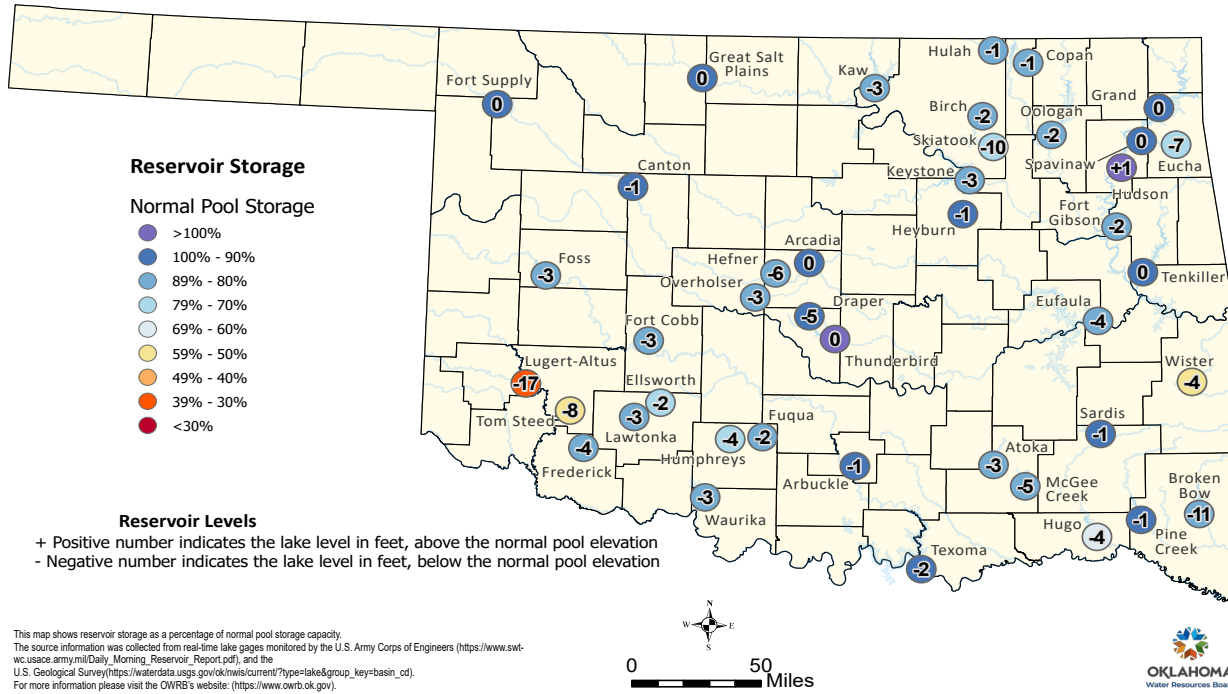
Mesonet  
30-Day Rainfall Accumulation (inches)  
6:30 PM October 10, 2024 CDT  
Created 6:37:42 PM October 10, 2024 CDT. Copyright 2024



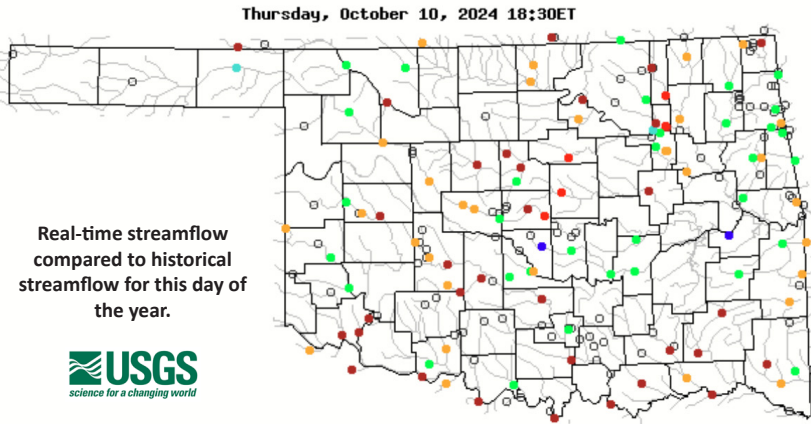
Mesonet  
365-Day Rainfall Accumulation (inches)  
6:30 PM October 10, 2024 CDT  
Created 6:37:42 PM October 10, 2024 CDT. Copyright 2024

## Reservoir Levels

### Oklahoma Reservoir Levels and Storage as of 10/7/2024



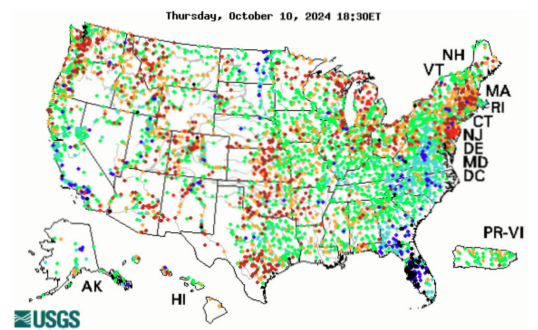
## Streamflow



Explanation - Percentile classes							
<span style="color: red;">●</span>	<span style="color: orange;">●</span>	<span style="color: yellow;">●</span>	<span style="color: lightgreen;">●</span>	<span style="color: cyan;">●</span>	<span style="color: blue;">●</span>	<span style="color: black;">●</span>	<span style="color: gray;">●</span>
<b>Low</b>	<10	10-24	25-75	76-90	>90	<b>High</b>	Not ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

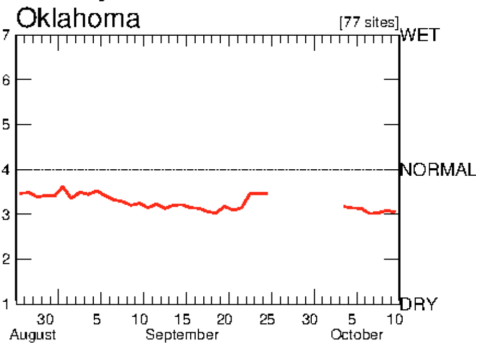
Visit [waterwatch.usgs.gov](https://waterwatch.usgs.gov) for additional real-time streamflow information.

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

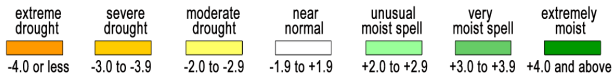
**Last 45 Days**



# Drought Conditions

## Palmer Drought Severity Index (PDSI)

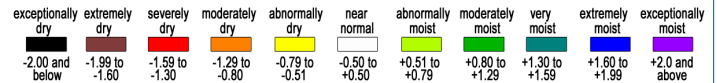
Climate Division	Status 10/05/24	Value 09/07	Value 10/05	Change in Value
PANHANDLE	Severe Drought	-5.2	-3.8	1.4
NORTH CENTRAL	Severe Drought	-3.17	-3.09	0.08
NORTHEAST	Severe Drought	-2.73	-3.08	-0.35
WEST CENTRAL	Severe Drought	-3.93	-3.61	0.32
CENTRAL	Near Normal	-2.23	-1.33	0.9
EAST CENTRAL	Near Normal	-1.87	-1.45	0.42
SOUTHWEST	Extreme Drought	-5.54	-4.85	0.69
SOUTH CENTRAL	Extreme Drought	-5.14	-4.96	0.18
SOUTHEAST	Severe Drought	-3.91	-3.35	0.56



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 5, 2024, all regions are in Severe Drought or worse except the Central and East Central regions, which are Near Normal.

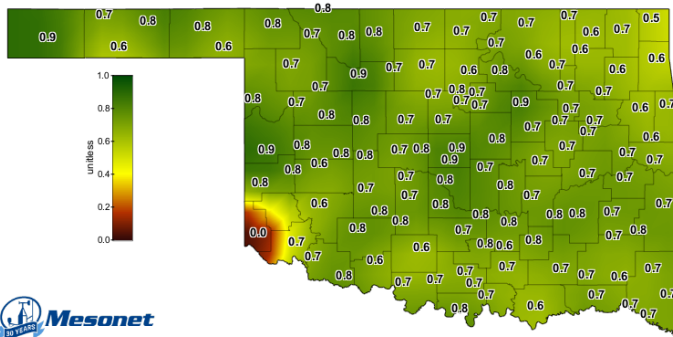
## Standardized Precipitation Index (SPI) Through August 2024

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.

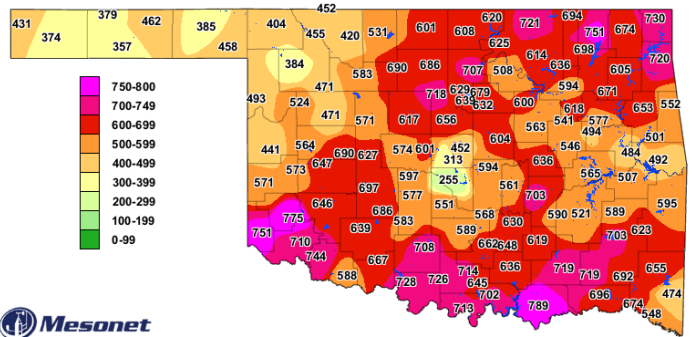
## Soil Moisture



1-day Average 4-inch Bare Soil Fractional Water Index, October 9, 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).

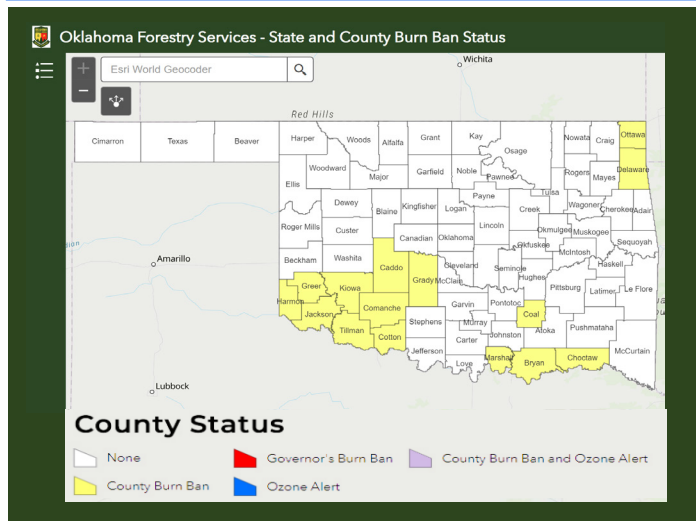
## Keetch-Byram Drought Index



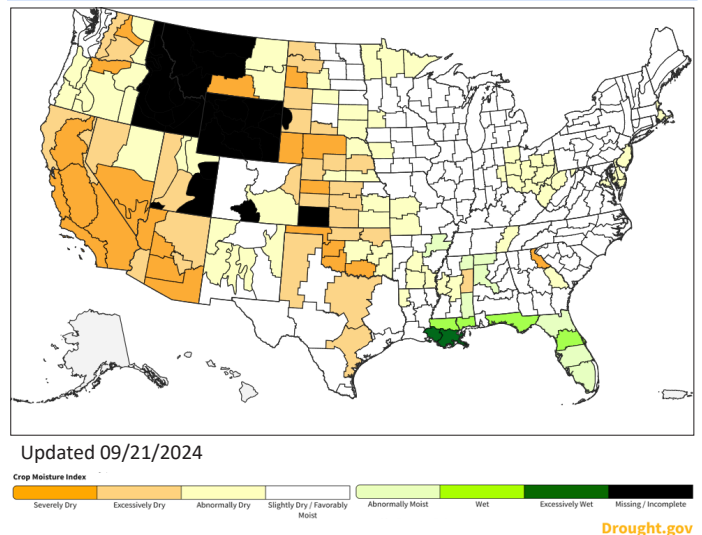
Keetch-Byram Drought Index, 5:45 PM October 10, 2024 CDT

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



# Oklahoma Drought Monitor

29

primary counties with  
USDA Drought Disaster  
Designations, according to  
the USDA Farm Service  
Agency

— 0

2.5 Million

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

↑ 41.1% 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

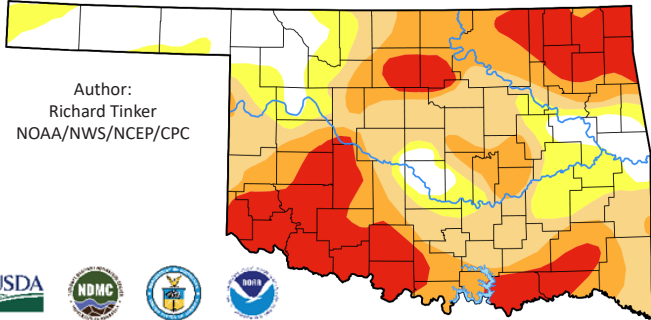
### D3 - Extreme Drought

- 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 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

Statistics valid as of 10/08/24



Author:  
Richard Tinker  
NOAA/NWS/NCEP/CPC



droughtmonitor.unl.edu

October 8, 2024  
(Released October 10, 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	2024-10-08	15.56	84.44	70.27	45.29	23.41	0.00	223
Last Week to Current	2024-10-01	22.82	77.18	61.31	37.39	11.50	0.00	187
3 Months Ago to Current	2024-07-09	40.10	59.90	17.79	3.78	0.00	0.00	81
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	2024-10-01	22.82	77.18	61.31	37.39	11.50	0.00	187
One Year Ago to Current	2023-10-10	36.68	63.32	43.11	29.44	8.48	0.00	144

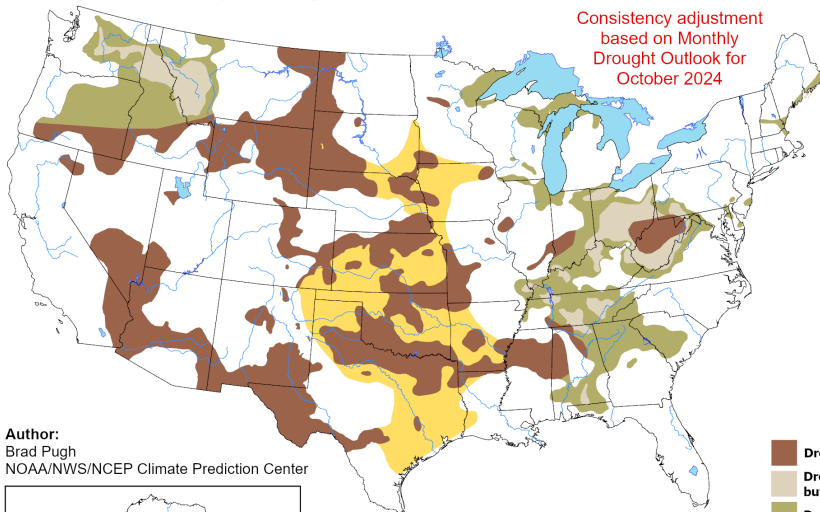
## Drought Probability

### U.S. Seasonal Drought Outlook

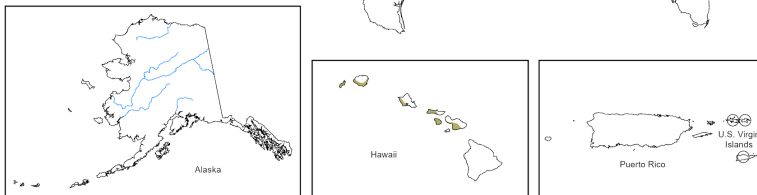
Drought Tendency During the Valid Period

Valid for October 1 - December 31, 2024  
Released September 30, 2024

Consistency adjustment  
based on Monthly  
Drought Outlook for  
October 2024



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



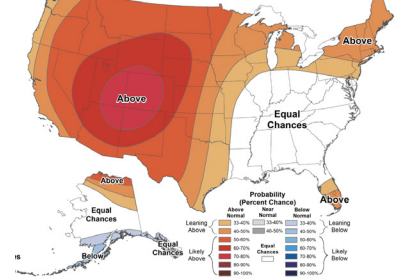
- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought

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

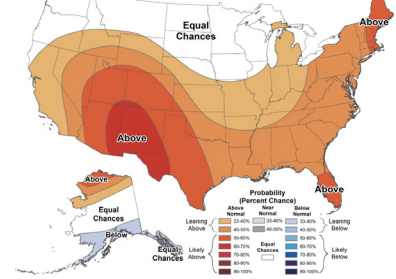
The map depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4). Tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. Green areas imply drought removal by the end of the period.

## Monthly/Seasonal Outlook

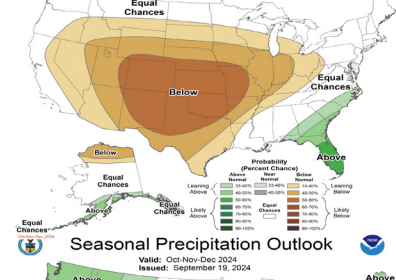
Monthly Temperature Outlook  
Valid: October 2024  
Issued: September 30, 2024



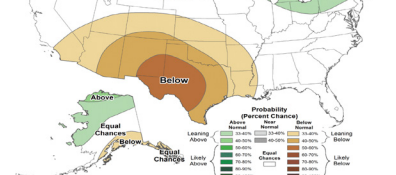
Seasonal Temperature Outlook  
Valid: Oct-Nov-Dec 2024  
Issued: September 19, 2024



Monthly Precipitation Outlook  
Valid: October 2024  
Issued: September 30, 2024



Seasonal Precipitation Outlook  
Valid: Oct-Nov-Dec 2024  
Issued: September 19, 2024



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