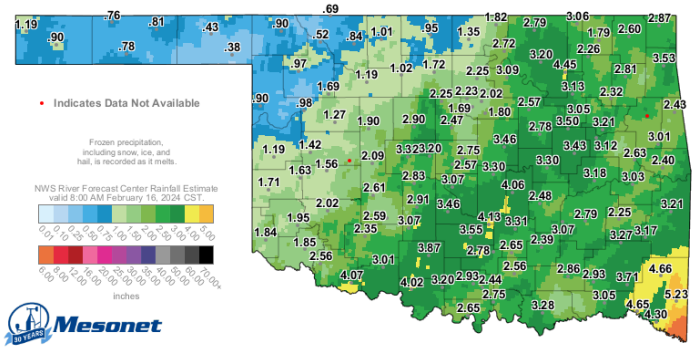
Oklahoma Water Resources Bulletin

Summary of Current Conditions

February 16, 2024

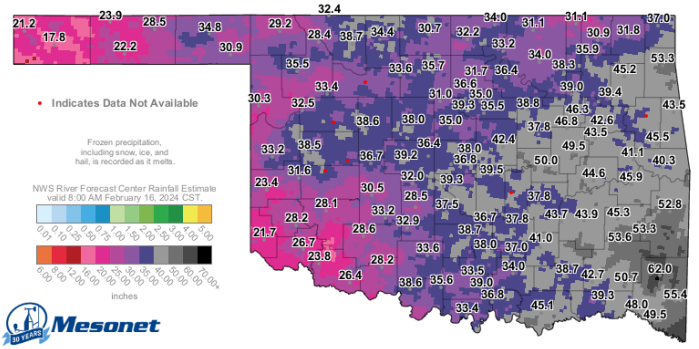
Precipitation

Last 30 Days: January 17 – February 15, 2024					Last 365 Days: February 16, 2023 – February 15, 2024			
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	0.78"	+0.14"	122%	28th wettest	26.55"	+5.97"	129%	7th wettest
N. CENTRAL	1.23"	+0.12"	111%	32nd wettest	33.45"	+2.03"	106%	29th wettest
NORTHEAST	2.93"	+1.08"	158%	19th wettest	37.84"	-4.83"	89%	42nd driest
W. CENTRAL	1.48"	+0.44"	142%	21st wettest	34.05"	+5.65"	120%	14th wettest
CENTRAL	2.82"	+1.16"	170%	14th wettest	37.12"	-0.51"	99%	37th wettest
E. CENTRAL	2.92"	+0.48"	120%	29th wettest	43.72"	-2.42"	95%	48th driest
SOUTHWEST	2.45"	+1.14"	187%	12th wettest	28.36"	-1.91"	94%	48th wettest
S. CENTRAL	3.09"	+0.95"	144%	19th wettest	37.35"	-3.36"	92%	51st driest
SOUTHEAST	3.68"	+0.43"	113%	33rd wettest	50.40"	-0.19"	100%	44th wettest
STATEWIDE	**2.38"**	**+0.68"**	**140%**	**22nd wettest**	**36.36"**	**-0.11"**	**100%**	**37th wettest**



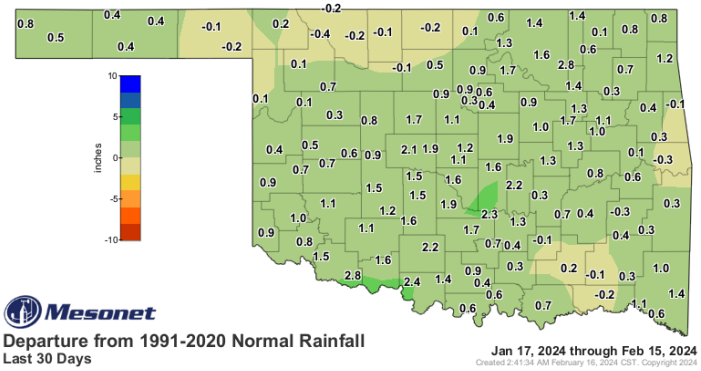
30-Day Rainfall Accumulation (inches)

9:20 AM February 16, 2024 CST



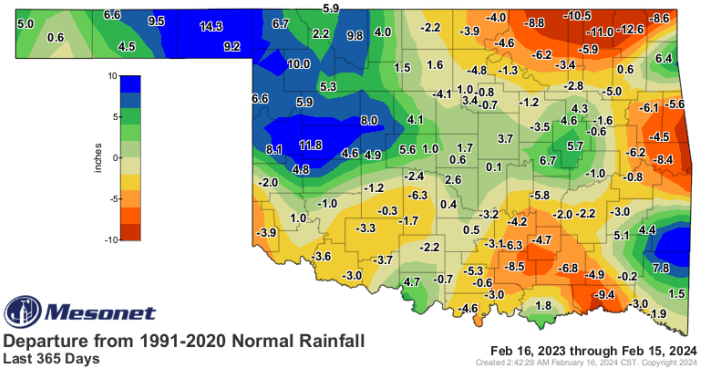
365-Day Rainfall Accumulation (inches)

9:20 AM February 16, 2024 CST



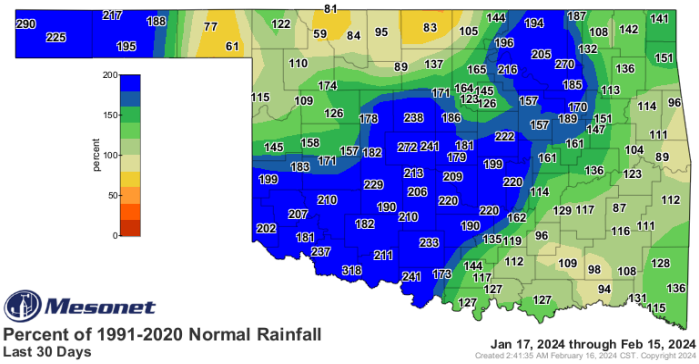
Departure from 1991-2020 Normal Rainfall
Last 30 Days

Jan 17, 2024 through Feb 15, 2024



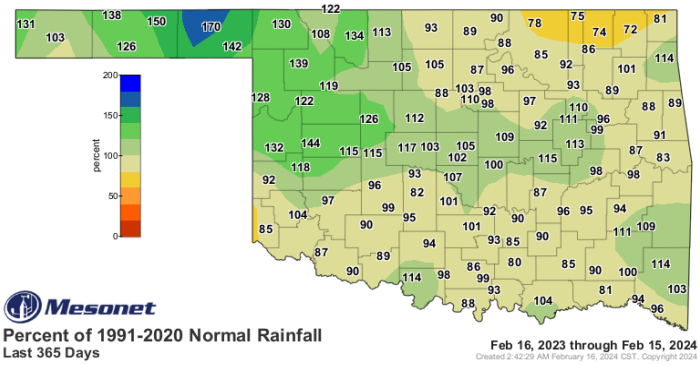
Departure from 1991-2020 Normal Rainfall
Last 365 Days

Feb 16, 2023 through Feb 15, 2024



Percent of 1991-2020 Normal Rainfall
Last 30 Days

Jan 17, 2024 through Feb 15, 2024

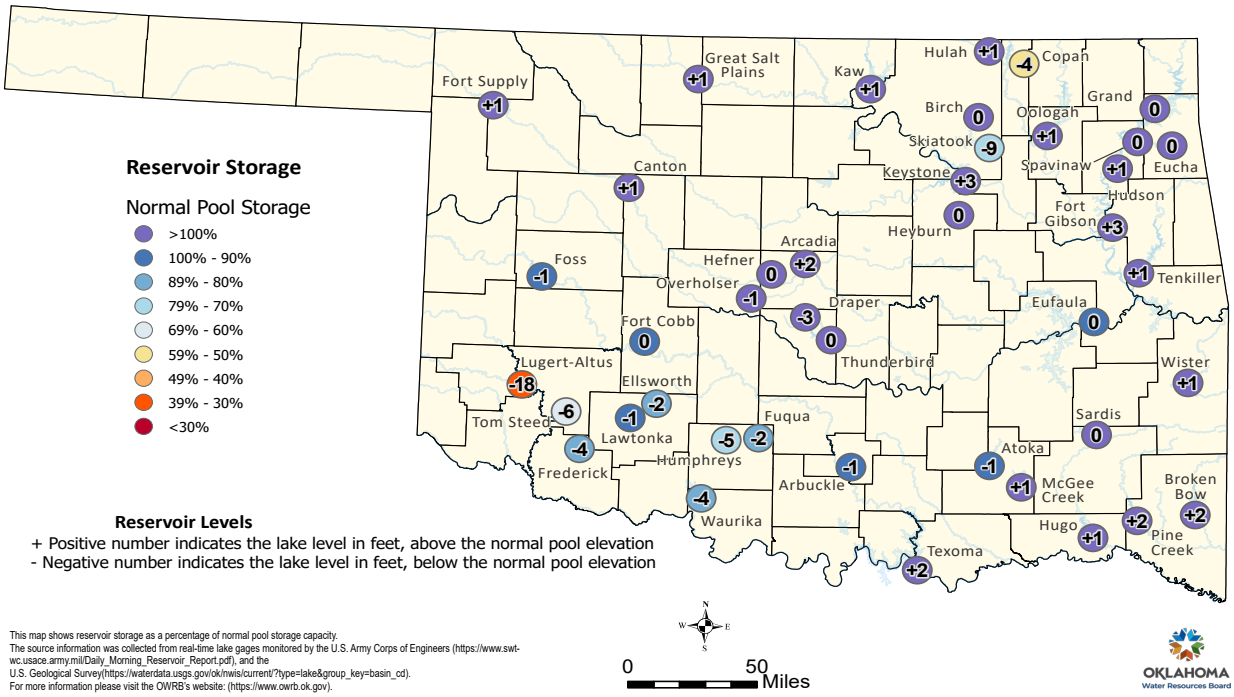


Percent of 1991-2020 Normal Rainfall
Last 365 Days

Feb 16, 2023 through Feb 15, 2024

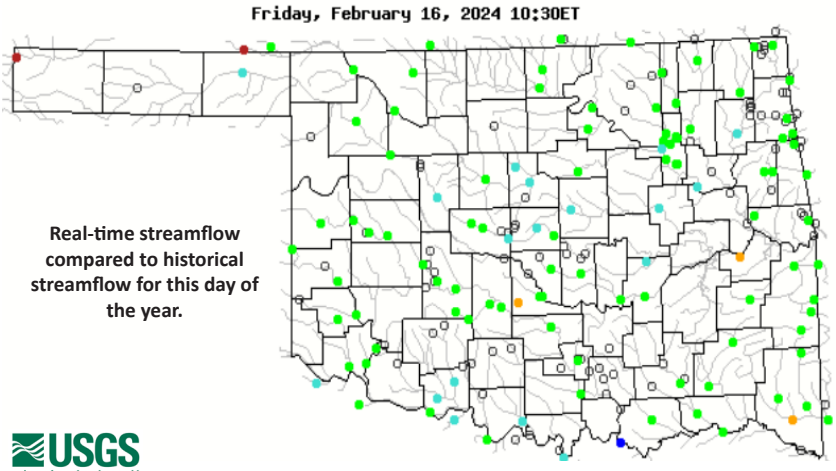
Reservoir Levels

Oklahoma Reservoir Levels and Storage as of 2/12/2024



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).

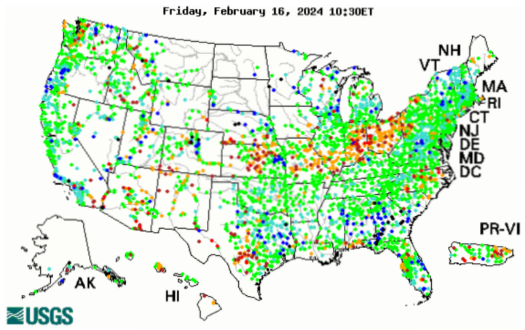
Streamflow



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

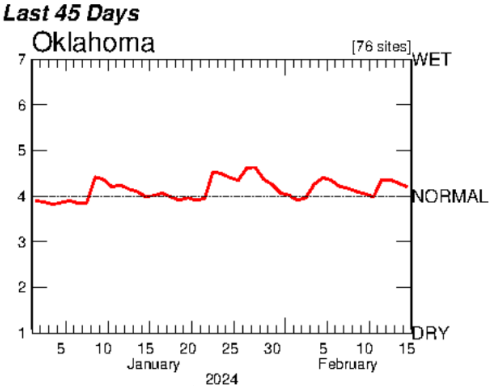
USGS science for a changing world

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

Last 45 Days



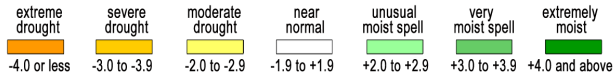
Visit waterwatch.usgs.gov for additional real-time streamflow information.

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)

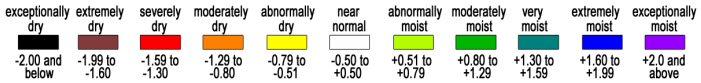
Climate Division	Status 2/10/24	Value 1/13	Value 2/10	Change in Value
NORTHWEST	Very Moist Spell	3.31	3.15	-0.16
NORTH CENTRAL	Very Moist Spell	3.6	3.61	+0.01
NORTHEAST	Near Normal	0.58	0.82	+0.24
WEST CENTRAL	Very Moist Spell	3.17	3.22	+0.05
CENTRAL	Near Normal	1.52	1.71	+0.19
EAST CENTRAL	Near Normal	1.15	0.87	-0.28
SOUTHWEST	Near Normal	1.22	1.42	+0.2
SOUTH CENTRAL	Near Normal	1.17	1.28	+0.11
SOUTHEAST	Near Normal	1.53	1.28	-0.25



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 February 10, all climate regions are Near Normal or wetter.

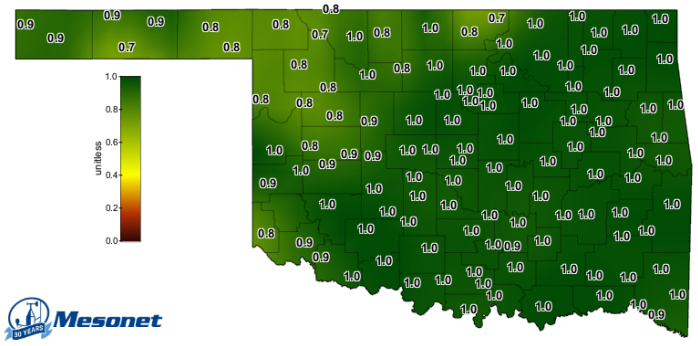
Standardized Precipitation Index (SPI)
Through January 2024

3-month	12-month	24-month
Very Moist	Extremely Moist	Near Normal
Moderately Moist	Abnormally Moist	Near Normal
Near Normal	Near Normal	Near Normal
Very Moist	Moderately Moist	Near Normal
Abnormally Moist	Abnormally Moist	Near Normal
Near Normal	Near Normal	Near Normal
Moderately Moist	Near Normal	Near Normal
Near Normal	Near Normal	Near Normal
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 January 2024, all regions were near normal or wetter for all three time periods shown.

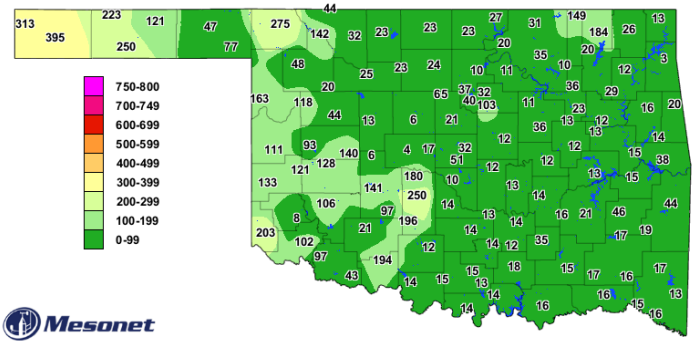
Soil Moisture



1-day Average 4-inch Bare Soil Fractional Water Index February 15, 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).

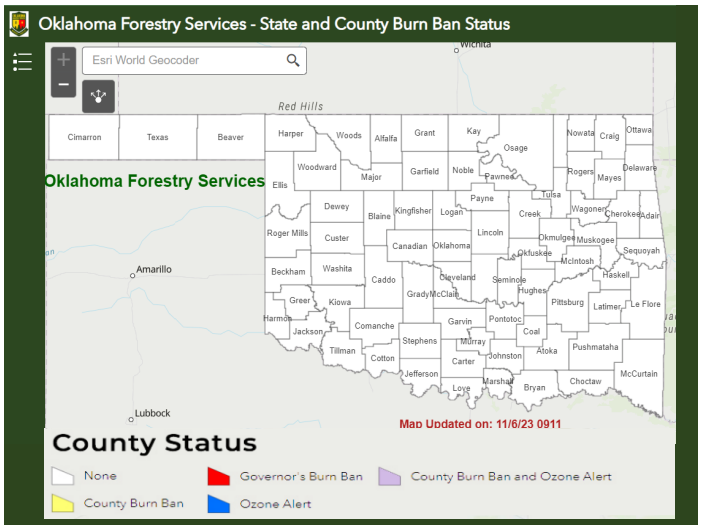
Keetch-Byram Drought Index



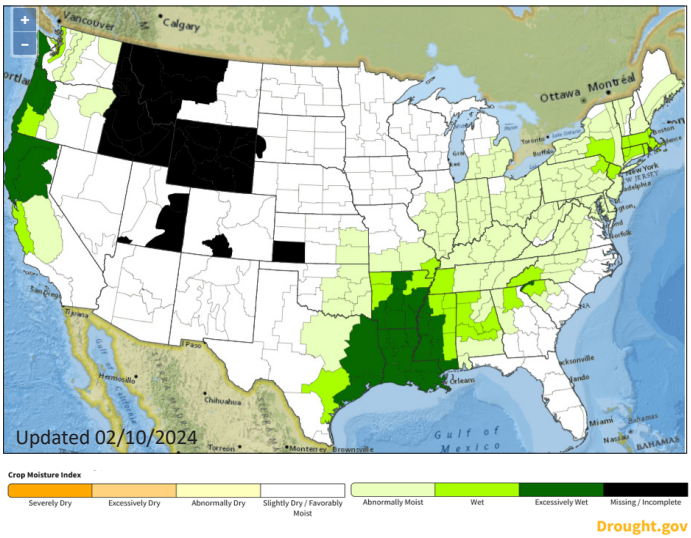
Keetch-Byram Drought Index 12:45 PM February 16, 2024 CST

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



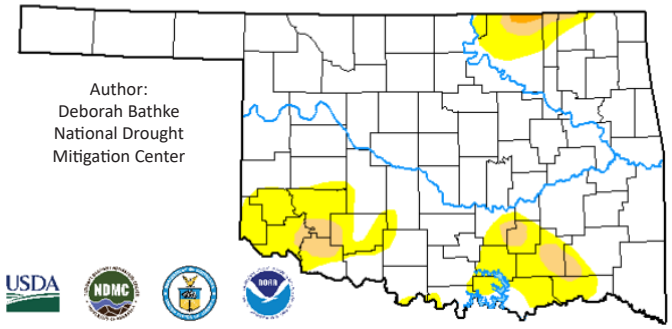
Oklahoma Drought Monitor

74
counties with USDA Drought Disaster Designations (primary)
— 0 counties since last week

~61,000
Oklahoma residents in areas of drought, according to the Drought Monitor
↓ 51.9% since last week

20th
wettest January on record (since 1895)
2.27 in. total precipitation
↑ 0.84 in. from normal

Statistics valid as of 2/13/24



Author:
Deborah Bathke
National Drought Mitigation Center

February 13, 2024
(Released Feb. 15, 2024)
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

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

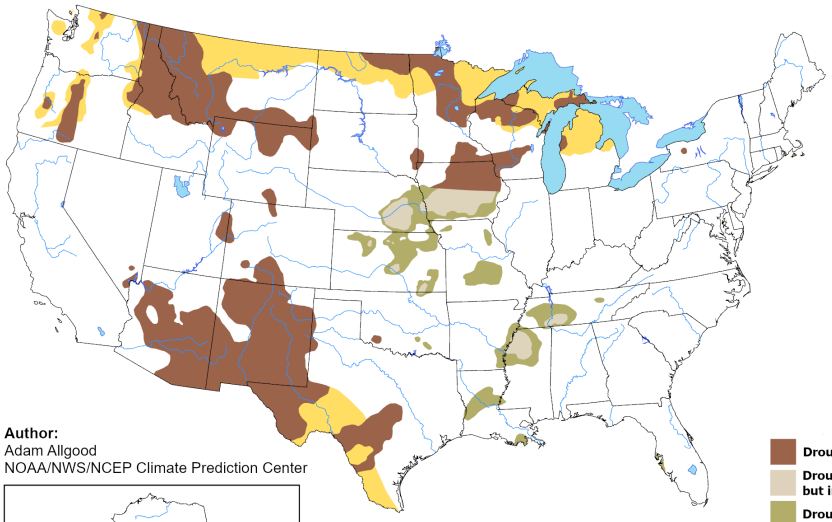
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2024-02-13	83.39	16.61	3.23	0.19	0.00	0.00	20
Last Week to Current	2024-02-06	78.52	21.48	7.18	1.36	0.00	0.00	30
3 Months Ago to Current	2023-11-14	44.35	55.65	36.34	13.68	1.16	0.00	107
Start of Calendar Year to Current	2023-12-26	53.62	46.38	21.64	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	2023-02-14	14.97	85.03	80.07	66.94	36.58	8.07	277

Drought Probability

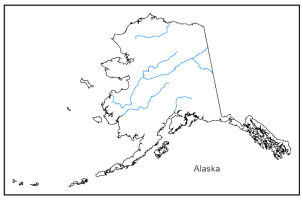
U.S. Seasonal Drought Outlook

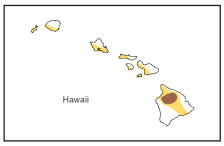
Drought Tendency During the Valid Period

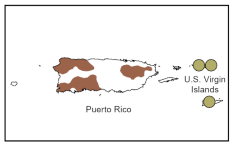
Valid for February 15 - May 31, 2024
Released February 15, 2024



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





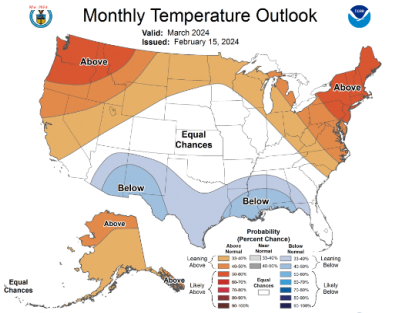


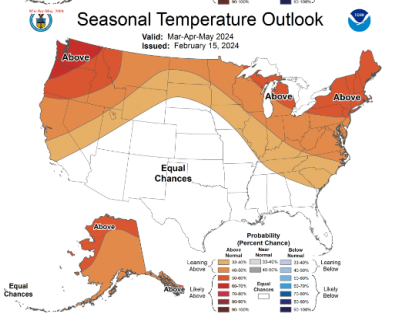
- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought

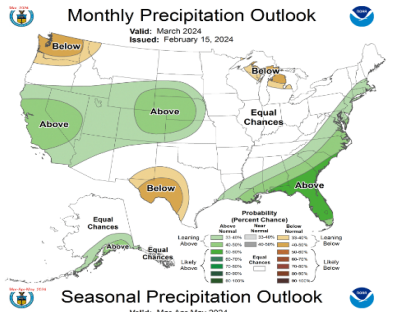
https://go.usa.gov/3eZ73

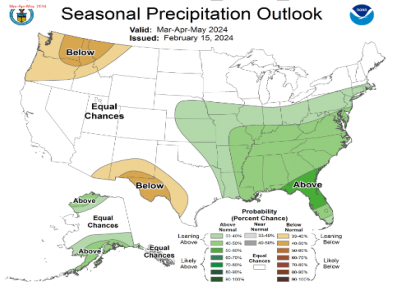
The map depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4). Tan areas imply at least a 1-category improvement in the Drought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









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