



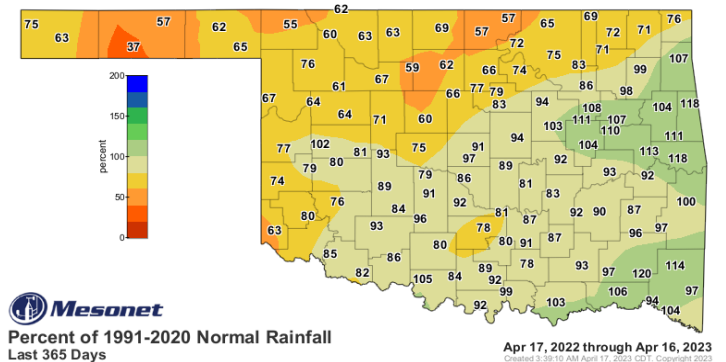
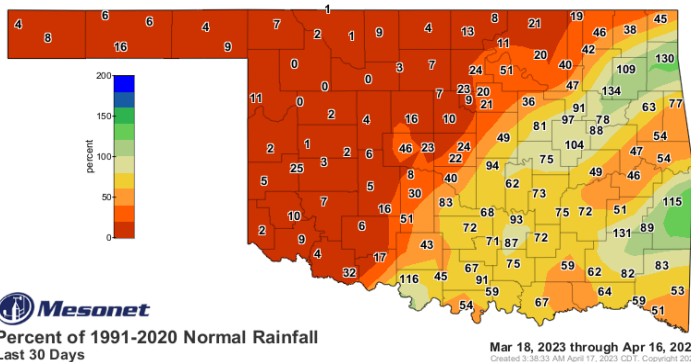
# Oklahoma Water Resources Bulletin & Summary of Current Conditions



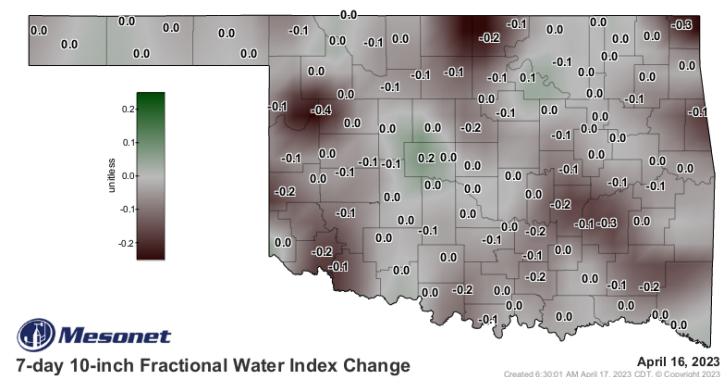
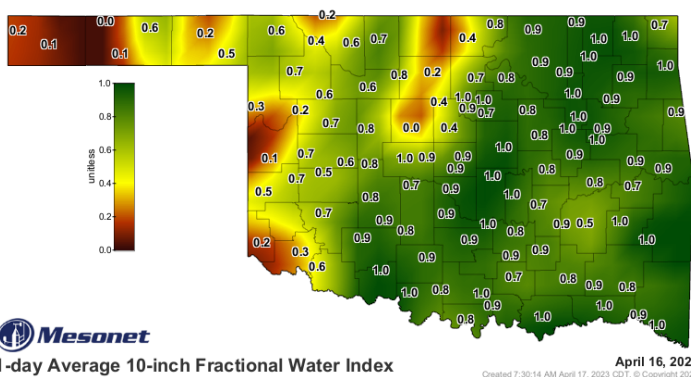
April 17, 2023

## Statewide Precipitation

Climate Division	Last 30 Days March 18, 2023 – April 16, 2023				Last 365 Days April 17, 2022 – April 16, 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	0.11"	-1.45"	7%	3rd driest	11.77"	-8.81"	57%	1st driest
N. CENTRAL	0.17"	-2.49"	6%	2nd driest	19.65"	-11.77"	63%	8th driest
NORTHEAST	2.25"	-1.34"	63%	28th driest	35.42"	-7.25"	83%	28th driest
W. CENTRAL	0.11"	-2.12"	5%	5th driest	21.27"	-7.13"	75%	17th driest
CENTRAL	1.24"	-1.86"	40%	14th driest	31.33"	-6.30"	83%	30th driest
E. CENTRAL	2.90"	-0.88"	77%	39th driest	47.78"	+1.64"	104%	32nd wettest
SOUTHWEST	0.26"	-2.01"	12%	7th driest	24.74"	-5.53"	82%	30th driest
S. CENTRAL	2.44"	-0.83"	75%	39th driest	35.64"	-5.07"	88%	41st driest
SOUTHEAST	3.59"	-0.60"	86%	42nd driest	51.07"	+0.48"	101%	43rd wettest
<b>STATEWIDE</b>	<b>1.45"</b>	<b>-1.51"</b>	<b>49%</b>	<b>18th driest</b>	<b>30.71"</b>	<b>-5.76"</b>	<b>84%</b>	<b>24th driest</b>



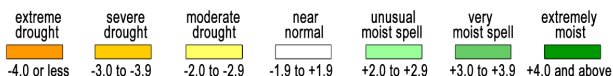
## Soil Moisture



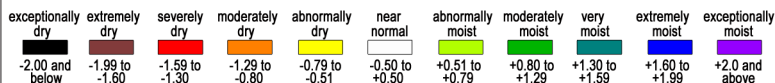
The Fractional Water Index ranges from very dry soil having a value of 0 to soil at field capacity illustrated by a value of 1. [1.0-0.8 = Enhanced Growth; 0.8-0.5 = Limited Growth; 0.5-0.3 = Plants Wilting; 0.3-0.1 = Plants Dying; <0.1 = Barren Soil.]

# DROUGHT INDICES

Palmer Drought Severity Index (PDSI)					Standardized Precipitation Index (SPI) Through March 2023		
Climate Division	Status 4/15/23	Value 3/11 4/15		Change in Value	3-month	12-month	24-month
NORTHWEST	Extreme Drought	-4.88	-5.44	0.56(-)	Moderately Dry	Extremely Dry	Exceptionally Dry
NORTH CENTRAL	Moderate Drought	-1.37	-2.72	1.35(-)	Moderately Dry	Severely Dry	Extremely Dry
NORTHEAST	Near Normal	1.00	0.21	0.79(-)	Near Normal	Near Normal	Near Normal
WEST CENTRAL	Severe Drought	-1.82	-2.93	1.11(-)	Moderately Dry	Moderately Dry	Moderately Dry
CENTRAL	Near Normal	0.55	0.27	0.28(-)	Near Normal	Near Normal	Near Normal
EAST CENTRAL	Near Normal	2.52	1.25	1.27(-)	Very Moist	Abnormally Moist	Abnormally Moist
SOUTHWEST	Near Normal	0.59	-0.12	0.71(-)	Near Normal	Near Normal	Near Normal
SOUTH CENTRAL	Near Normal	2.35	1.36	0.99(-)	Moderately Moist	Near Normal	Near Normal
SOUTHEAST	Unusual Moist Spell	3.19	2.03	1.16(-)	Extremely Moist	Abnormally Moist	Abnormally Moist

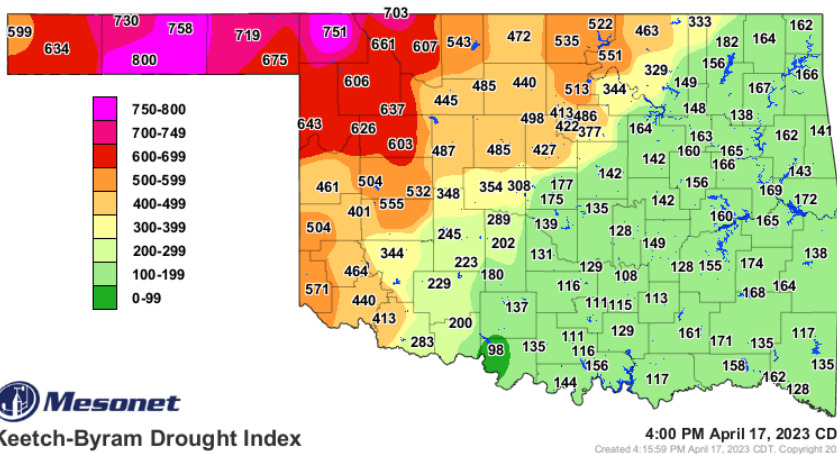


The PDSI is based upon precipitation, temperature, and soil moisture, and is considered most effective for unirrigated cropland, spanning from -10 (dry) to +10 (wet). According to the latest PDSI, as of April 15, 2023, the Northwest remained in Extreme Drought and North Central and West Central were in Moderate Drought. All other climate regions were Near Normal or wetter.



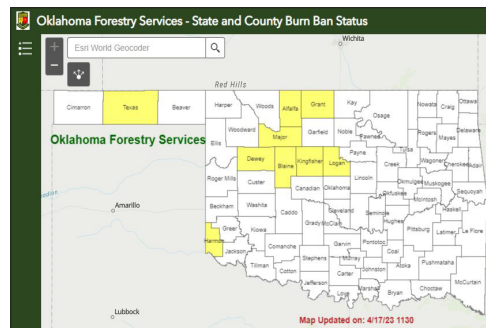
The SPI provides a comparison of precipitation over several specified time periods with totals from the periods for all years in the historical record. Through March 2023, the Northwest was Exceptionally Dry for the 24-month, Extremely Dry for the 12-month, and Moderately Dry for the 3-month period. North Central was Extremely Dry for the 24-month, Severely Dry for the 12-month, and Moderately Dry for the 3-month period. West Central was Moderately Dry for all three periods.

## Keetch-Byram Drought Fire 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 of 600 and above are often associated with more severe drought and increased wildfire occurrence.

## State & County Burn Ban Status

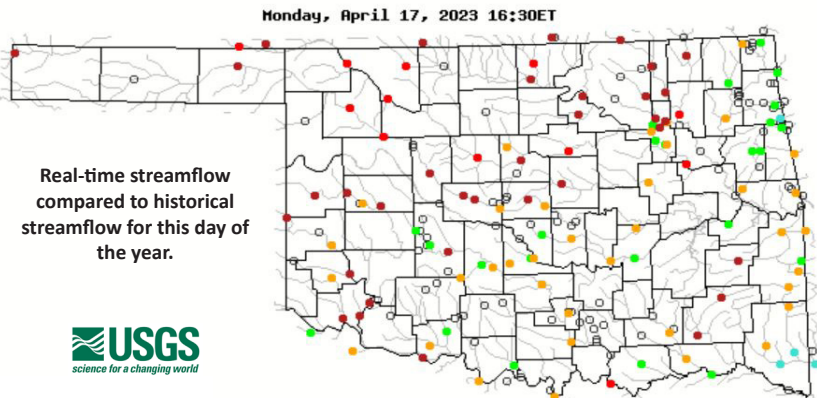


Mesonet  
Keetch-Byram Drought Index

## Streamflow Conditions

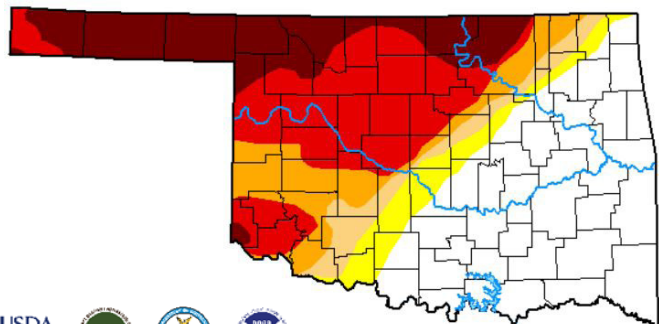
Explanation - Percentile classes							
●	●	●	●	●	●	●	○
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not ranked

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



# Drought Summary for Oklahoma

## U.S. Drought Monitor Oklahoma



**April 11, 2023**  
(Released April 13, 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.

Author:  
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Western Regional Climate Center

**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**

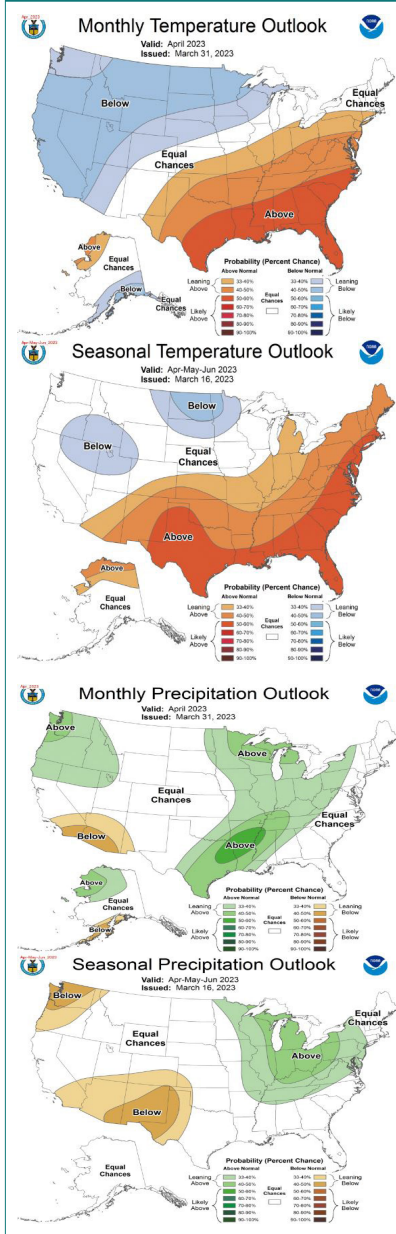
- Ground is cracking; farmers are bailing failed crops or abandoning fields; pastures are bare; land is abandoned
- Cost of hay and water is high and supplies are scarce; producers are liquidating herds
- Burn restrictions increase; fire season is long



Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2023-04-11	40.29	59.71	53.68	48.59	39.00	16.53	217
Last Week	2023-04-04	39.70	60.30	53.65	48.59	37.99	15.27	216
3 Months Ago	2023-01-10	2.54	97.46	89.12	81.01	57.21	11.77	337
Start of Calendar Year	2022-12-27	1.82	98.18	89.73	80.92	56.13	11.65	337
Start of Water Year	2022-09-27	0.00	100.00	99.88	94.44	64.44	17.25	376
One Year Ago	2022-04-12	15.37	84.63	74.19	59.93	32.15	8.93	260

According to the latest U.S. Drought Monitor, as of April 11, 2023, an estimated 1,542,191 people in Oklahoma (59.71% of the state in area) were experiencing drought conditions, including 16.53% of the state in area in Exceptional Drought (D4), 39% in Extreme Drought (D3) or worse, and 48.59% in Severe Drought (D2) or worse.

## Monthly/Seasonal Outlook



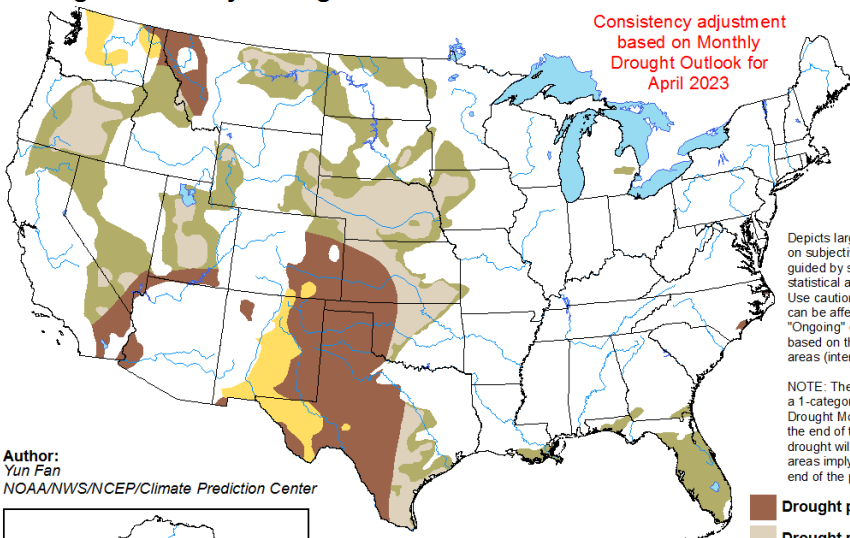
## Drought Probability

### U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for April 1 - June 30, 2023  
Released March 31, 2023

Consistency adjustment based on Monthly Drought Outlook for April 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



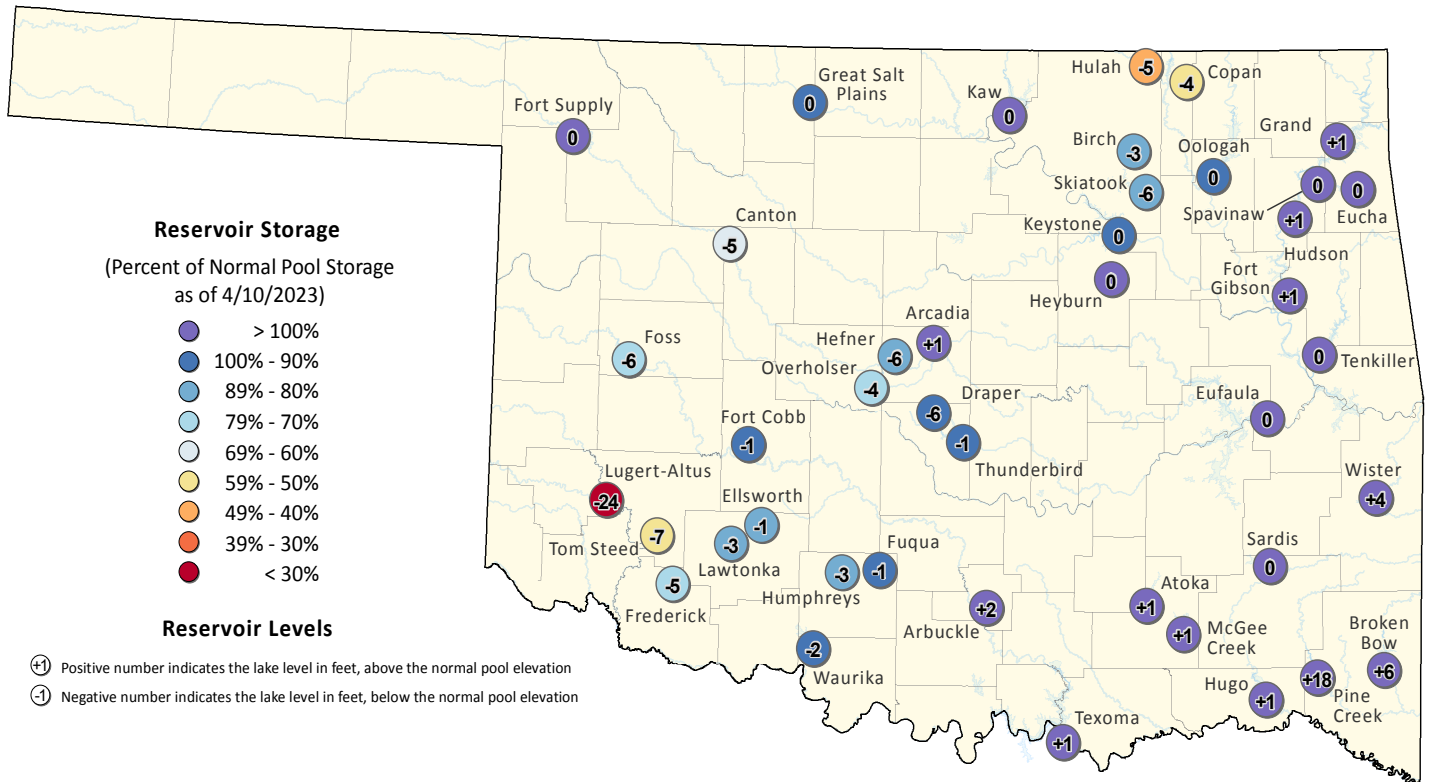
<http://go.usa.gov/3eZ73>

Author:  
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NOAA/NWS/NCEP/Climate Prediction Center





# Oklahoma Reservoir Levels and Storage as of 4/10/2023



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](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](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>).

