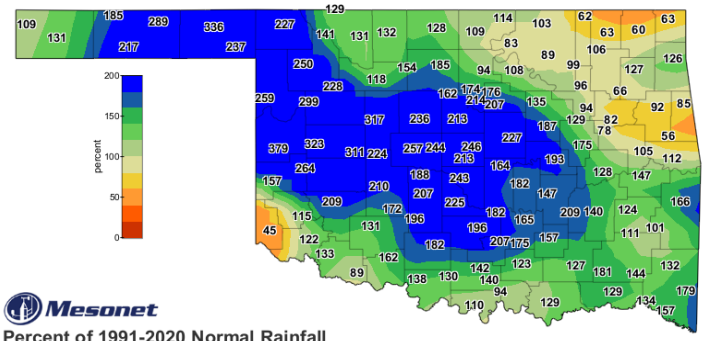
Oklahoma Water Resources Bulletin
& Summary of Current Conditions

July 14, 2023

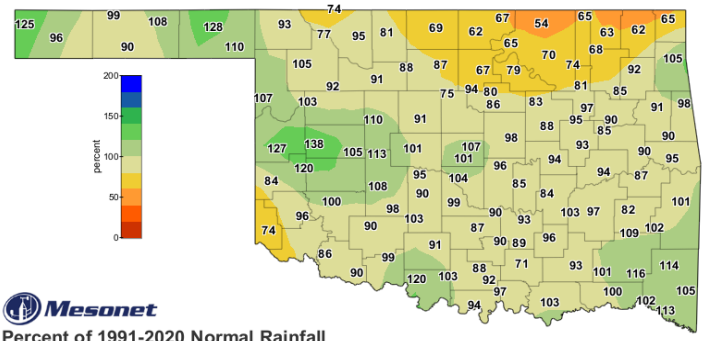
Statewide Precipitation

Climate Division	Last 30 Days (June 14, 2023 – July 13, 2023) Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Last 365 Days (July 14, 2022 – July 13, 2023) Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
PANHANDLE	6.25"	+3.44"	223%	1st wettest	20.77"	+0.19"	101%	46th wettest
N. CENTRAL	5.57"	+1.77"	147%	12th wettest	24.98"	-6.44"	80%	27th driest
NORTHEAST	3.90"	-0.36"	92%	51st wettest	32.30"	-10.37"	76%	18th driest
W. CENTRAL	9.22"	+6.21"	306%	1st wettest	31.05"	+2.65"	109%	20th wettest
CENTRAL	8.23"	+4.28"	208%	5th wettest	34.48"	-3.15"	92%	48th wettest
E. CENTRAL	5.21"	+1.34"	135%	23rd wettest	42.87"	-3.27"	93%	48th wettest
SOUTHWEST	4.78"	+1.49"	145%	13th wettest	28.23"	-2.04"	93%	48th wettest
S. CENTRAL	5.68"	+1.92"	151%	14th wettest	37.50"	-3.22"	92%	51st driest
SOUTHEAST	5.60"	+1.51"	137%	17th wettest	52.63"	+2.04"	104%	39th wettest
STATEWIDE	**6.05"**	**+2.38"**	**165%**	**7th wettest**	**33.51"**	**-2.96"**	**92%**	**50th driest**



Percent of 1991-2020 Normal Rainfall
Last 30 Days

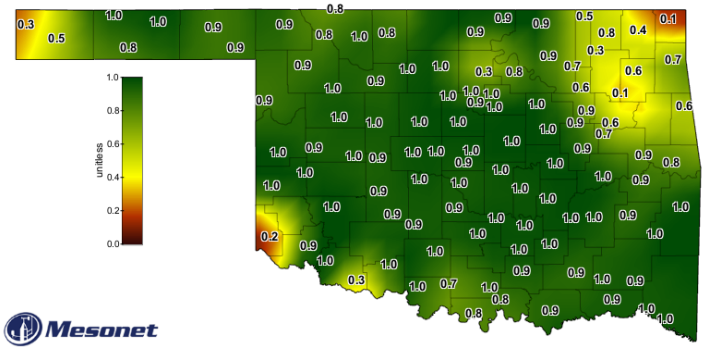
Jun 14, 2023 through Jul 13, 2023



Percent of 1991-2020 Normal Rainfall
Last 365 Days

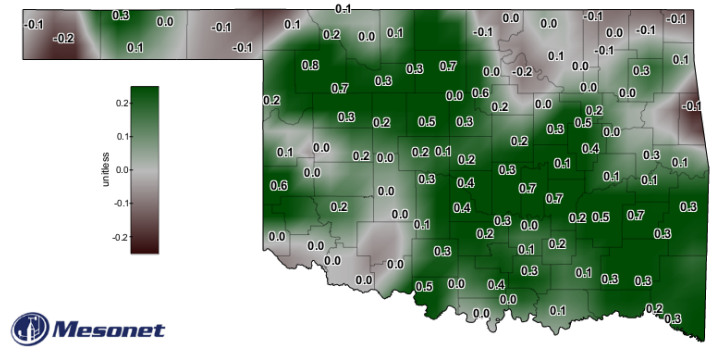
Jul 14, 2022 through Jul 13, 2023

Soil Moisture



1-day Average 10-inch Fractional Water Index

July 13, 2023



7-day 10-inch Fractional Water Index Change

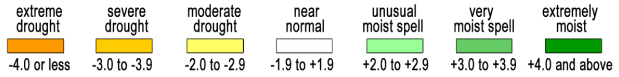
July 13, 2023

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)

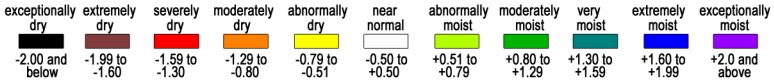
Climate Division	Status 7/8/23	Value 6/10	Value 7/8	Change in Value
NORTHWEST	Very Moist Spell	0.07	3.56	+3.49
NORTH CENTRAL	Near Normal	0.61	1.88	+1.27
NORTHEAST	Near Normal	-1.12	-1.48	-0.36
WEST CENTRAL	Very Moist Spell	1.54	3.26	+1.72
CENTRAL	Near Normal	0.52	1.52	+1
EAST CENTRAL	Near Normal	-0.50	-0.89	-0.39
SOUTHWEST	Near Normal	1.07	1.36	+0.29
SOUTH CENTRAL	Near Normal	-0.09	0.04	+0.13
SOUTHEAST	Near Normal	-0.12	-0.42	-0.3



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 July 8, all climate regions are Near Normal except the Northwest and West Central, which are at Very Moist Spell status.

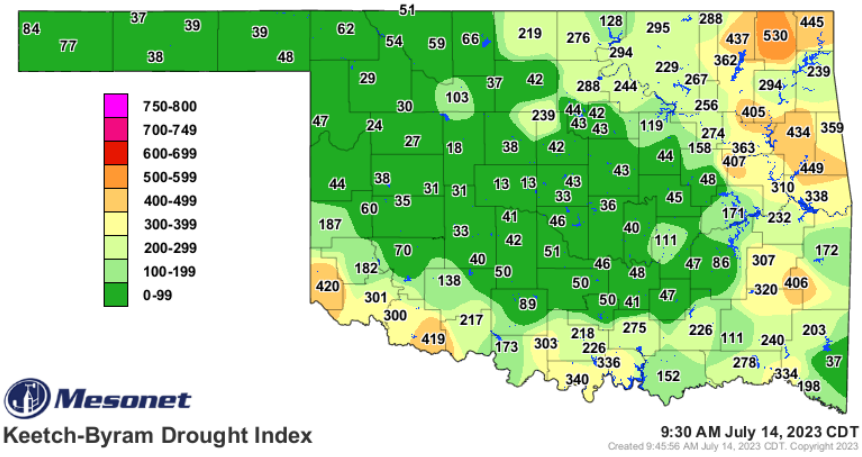
Standardized Precipitation Index (SPI)
Through May 2023

3-month	12-month	24-month
Near Normal	Moderately Dry	Extremely Dry
Abnormally Dry	Severely Dry	Extremely Dry
Moderately Dry	Severely Dry	Abnormally Dry
Abnormally Dry	Moderately Dry	Moderately Dry
Near Normal	Abnormally Dry	Near Normal
Near Normal	Near Normal	Near Normal
Abnormally Dry	Abnormally Dry	Abnormally Dry
Near Normal	Abnormally Dry	Moderately Dry
Near Normal	Near Normal	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 May 2023, the Northwest and North Central regions were Extremely Dry for the 24-month period, the North Central and Northeast were Severely Dry during the 12-month period. All other regions except the Southeast experienced Abnormally Dry or worse conditions for one or more period.

Keetch-Byram Drought Fire Index



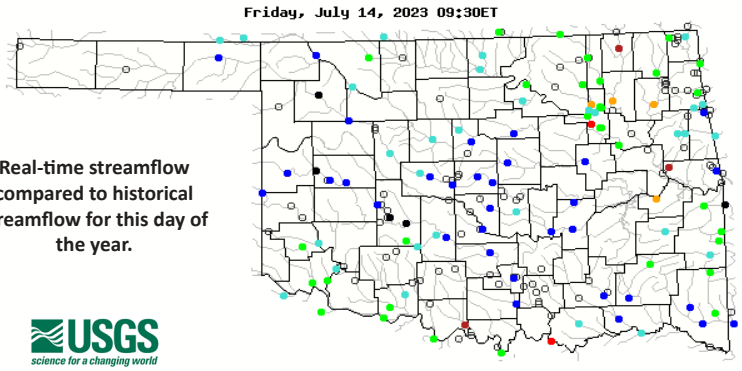
The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.

State & County Burn Ban Status

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 for additional real-time streamflow information.



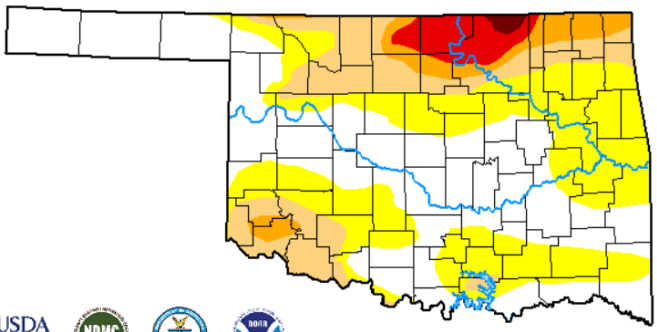
Real-time streamflow compared to historical streamflow for this day of the year.

USGS science for a changing world

Drought Summary for Oklahoma

U.S. Drought Monitor

Oklahoma



July 11, 2023
(Released July 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:
Richard Tinker, NOAA/NWS/NCEP/CPC

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	2023-07-11	43.04	56.96	23.63	9.12	4.20	0.42	94
Last Week to Current	2023-07-04	26.23	73.77	35.88	14.26	4.79	0.52	129
3 Months Ago to Current	2023-04-11	40.29	59.71	53.68	48.59	39.00	16.53	217
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	2022-09-27	0.00	100.00	99.88	94.44	64.44	17.25	376
One Year Ago to Current	2022-07-12	0.00	100.00	62.75	22.39	2.87	0.00	188

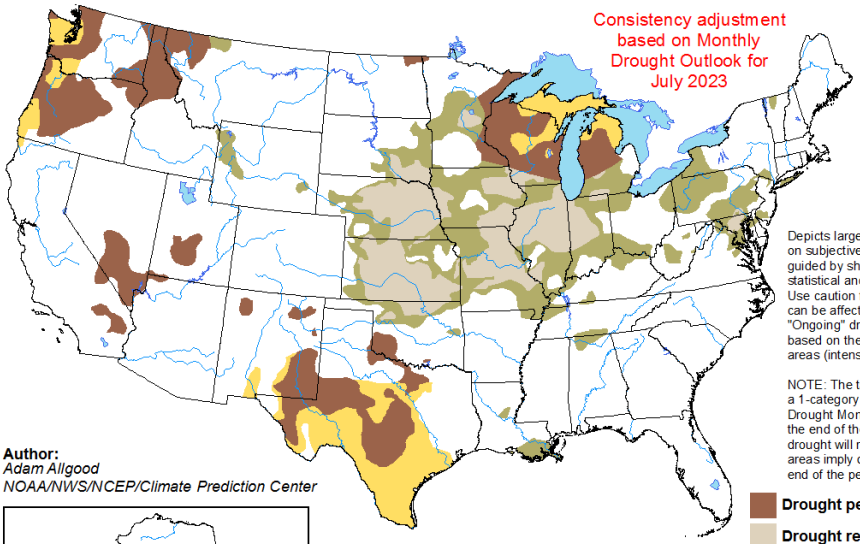
According to the latest U.S. Drought Monitor, as of July 11, 2023, an estimated 511,813 people in Oklahoma (23.63% of the state in area) were experiencing drought conditions, including 0.42% of the state in Exceptional Drought (D4), 4.20% in Extreme Drought (D3) or worse, and 9.12% in Severe Drought (D2) or worse.

Drought Probability

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for July 1 - September 30, 2023
Released June 30, 2023



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

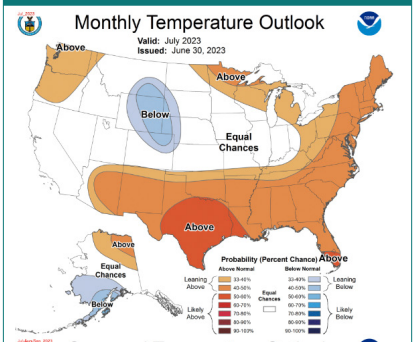
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

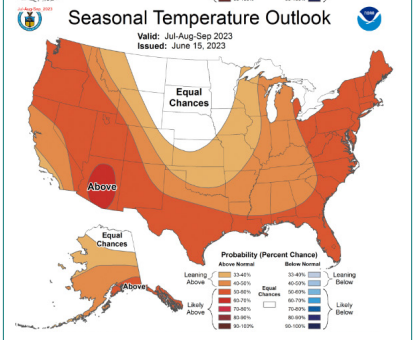
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

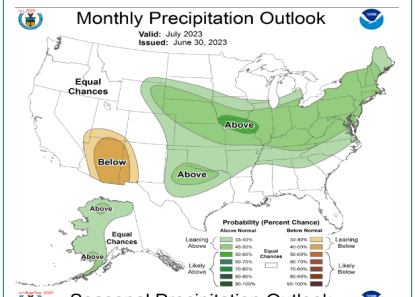
- **Drought persists**
- **Drought remains but improves**
- **Drought removal likely**
- **Drought development likely**

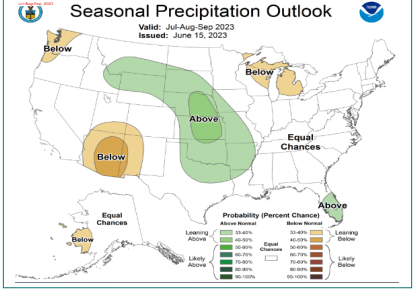
http://go.usa.gov/3eZ73

Monthly/Seasonal Outlook









Reservoir Levels