Oklahoma Water Resources Bulletin
& Summary of Current Conditions

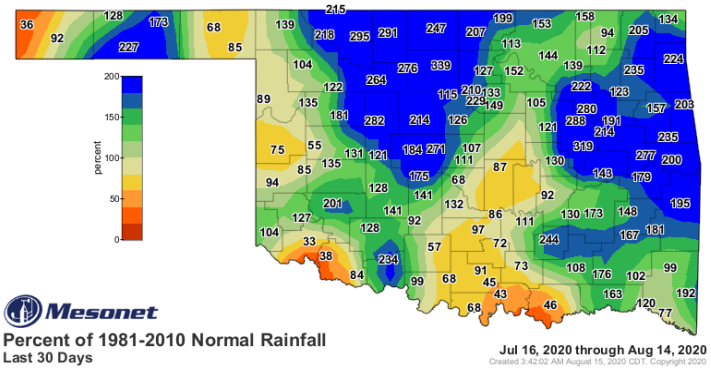
OWRB the water agency

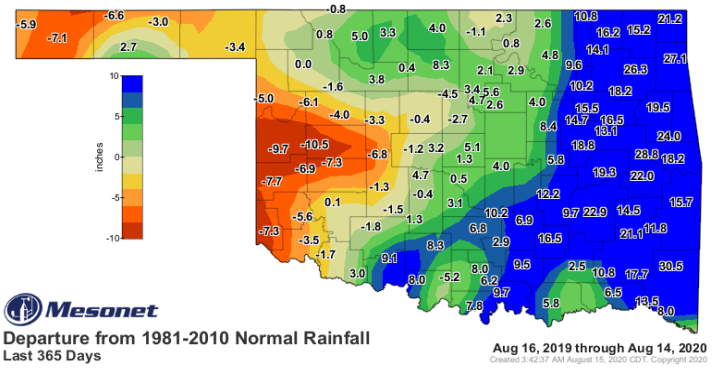
August 14, 2020

Precipitation

Statewide Precipitation

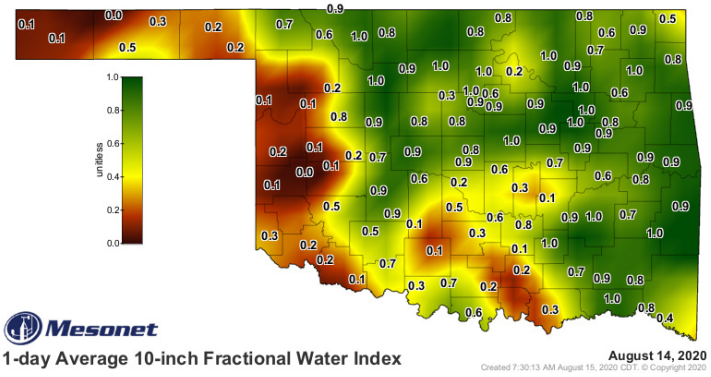
Climate Division	July 16, 2020 – August 14, 2020 Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Last 365 Days August 16, 2019 – August 14, 2020 Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
PANHANDLE	2.83"	+0.21"	108%	31st wettest	16.47"	-4.02"	80%	24th driest
NORTH CENTRAL	6.56"	+3.76"	234%	6th wettest	33.39"	+2.07"	107%	27th wettest
NORTHEAST	5.32"	+2.18"	169%	16th wettest	55.82"	+13.25"	131%	7th wettest
WEST CENTRAL	3.36"	+0.95"	139%	20th wettest	22.64"	-5.66"	80%	27th driest
CENTRAL	4.14"	+1.38"	150%	20th wettest	40.57"	+3.04"	108%	25th wettest
EAST CENTRAL	6.19"	+3.12"	202%	9th wettest	64.28"	+18.23"	140%	2nd wettest
SOUTHWEST	3.00"	+0.76"	134%	22nd wettest	29.28"	-0.90"	97%	40th wettest
SOUTH CENTRAL	2.34"	-0.04"	98%	38th wettest	47.47"	+6.83"	117%	17th wettest
SOUTHEAST	4.56"	+1.49"	149%	25th wettest	66.43"	+15.92"	132%	6th wettest
STATEWIDE	**4.27"**	**+1.54"**	**156%**	**16th wettest**	**41.79"**	**+5.41"**	**115%**	**17th wettest**

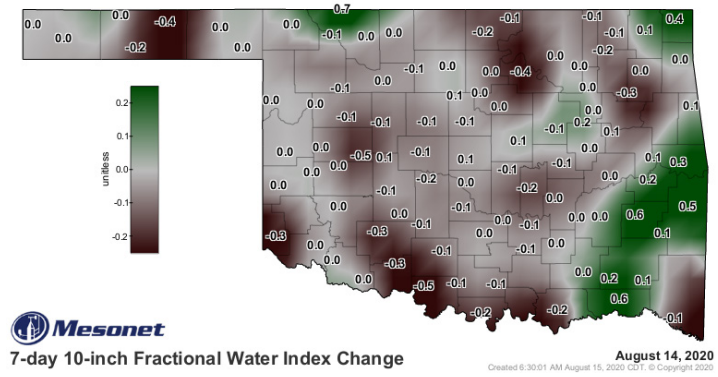




Soil Moisture

Fractional Water Index
August 14, 2020





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 08/08/20	Value 07/11	Value 08/08	Change in Value
NORTHWEST	Moderate Drought	-3.24	-2.47	0.77(+)
NORTH CENTRAL	Unusual Moist Spell	-0.18	2.80	2.98(+)
NORTHEAST	Near Normal	1.87	1.59	0.28(-)
WEST CENTRAL	Near Normal	-2.36	-1.89	0.47(+)
CENTRAL	Near Normal	0.83	1.21	0.38(+)
EAST CENTRAL	Near Normal	1.93	1.76	0.17(-)
SOUTHWEST	Near Normal	-0.74	-0.56	0.18(+)
SOUTH CENTRAL	Near Normal	1.66	0.67	0.99(-)
SOUTHEAST	Near Normal	2.31	1.08	1.23(-)

extreme drought	severe drought	moderate drought	near normal	unusual moist spell	very moist spell	extremely moist
-4.0 or less	-3.0 to -3.9	-2.0 to -2.9	-1.9 to +1.9	+2.0 to +2.9	+3.0 to +3.9	+4.0 and above

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 August 8, the Northwest region was experiencing moderate drought conditions, the North Central Region was unusually moist, and the rest of the state had near normal conditions.

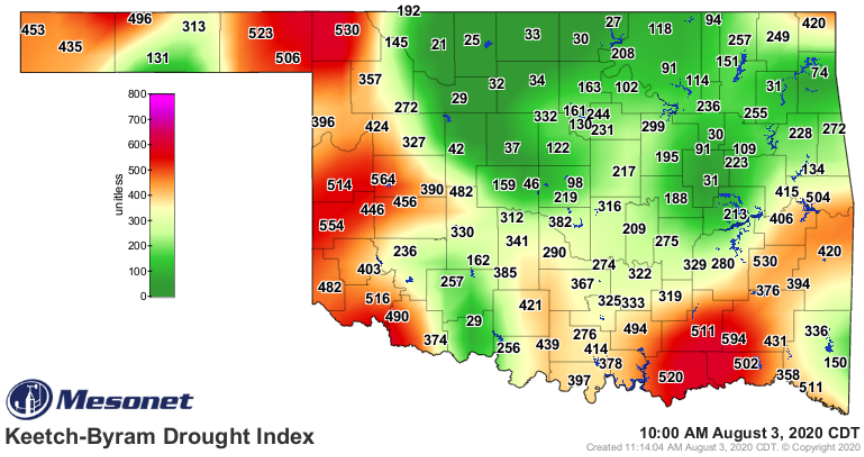
Standardized Precipitation Index (SPI)
Through July 2020

3-month	12-month	24-month
Abnormally Dry	Near Normal	Moderately Moist
Near Normal	Moderately Moist	Exceptionally Moist
Near Normal	Extremely Moist	Exceptionally Moist
Abnormally Dry	Near Normal	Extremely Moist
Near Normal	Moderately Moist	Exceptionally Moist
Near Normal	Extremely Moist	Exceptionally Moist
Near Normal	Near Normal	Extremely Moist
Near Normal	Moderately Moist	Exceptionally Moist
Near Normal	Very Moist	Exceptionally Moist

exceptionally dry	extremely dry	severely dry	moderately dry	abnormally dry	near normal	abnormally moist	moderately moist	very moist	extremely moist	exceptionally moist
-2.00 and below	-1.99 to -1.60	-1.59 to -1.30	-1.29 to -0.80	-0.79 to -0.51	-0.50 to +0.50	+0.51 to +0.79	+0.80 to +1.29	+1.30 to +1.59	+1.60 to +1.99	+2.0 and above

The SPI provides a comparison of precipitation over several specified periods with totals from the same periods for all years included in the historical record. For the three-month period, the Northwest and West Central regions were abnormally dry, but the rest of the state was near normal. For the 12-month and 24-month period, all regions were near normal or wetter.

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.

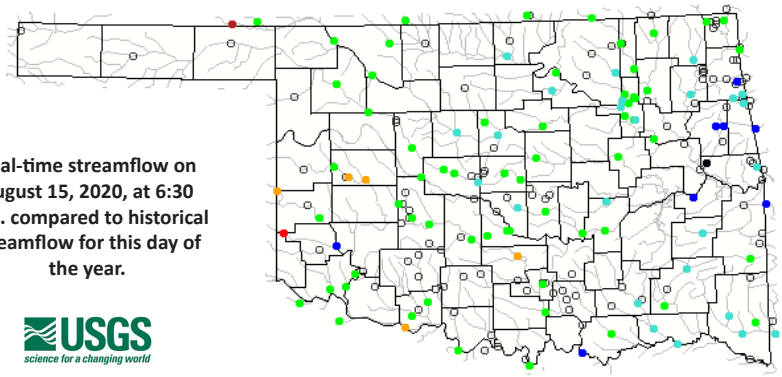
KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.

Streamflow Conditions

August 15, 2020

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 on August 15, 2020, at 6:30 p.m. compared to historical streamflow for this day of the year.

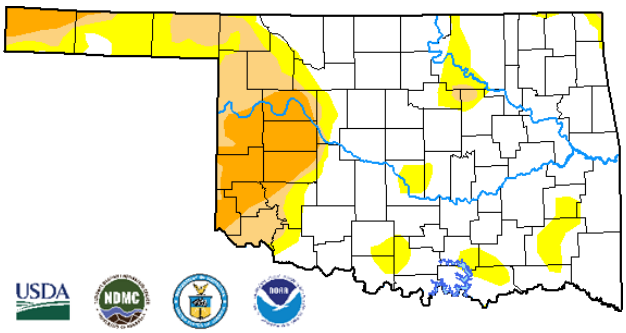
USGS science for a changing world

Weather/Drought Forecast

Drought Summary for Oklahoma

U.S. Drought Monitor

Oklahoma



droughtmonitor.unl.edu

August 11, 2020
(Released Thursday, August 13, 2020)
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: Brian Fuchs
National Drought Mitigation Center

Drought Conditions (percent area)

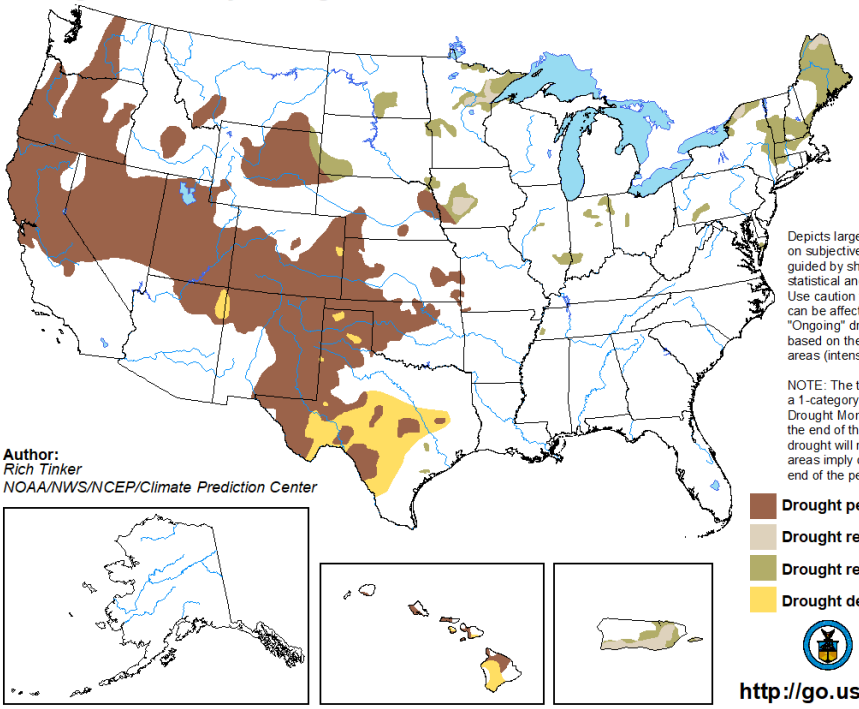
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2020-08-11	66.91	33.09	18.62	9.35	0.00	0.00	61
Last Week	2020-08-04	60.23	39.77	21.12	9.56	0.73	0.00	71
3 Months Ago	2020-05-12	74.20	25.80	6.49	3.37	0.00	0.00	36
Start of Calendar Year	2019-12-31	76.45	23.55	10.47	3.64	0.00	0.00	38
Start of Water Year	2019-10-01	71.94	28.06	11.08	1.01	0.00	0.00	40
One Year Ago	2019-08-13	53.29	46.71	23.63	6.91	0.00	0.00	77

According to the latest U.S. Drought Monitor, as of August 11, 2020, the estimated Oklahoma population living in areas experiencing drought was 156,250, with 9.35% of the state in area experiencing Severe Drought (D2) conditions or worse and 18.62% experiencing Moderate Drought (D1) conditions or worse, while 33.09% of the state had Abnormally Dry (D0) conditions or worse.

Drought Probability

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for July 16 - October 31, 2020
Released July 16



Author:
Rich Tinker
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).

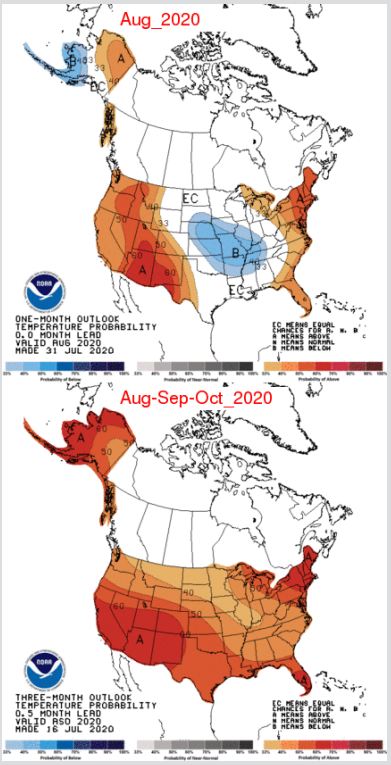
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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

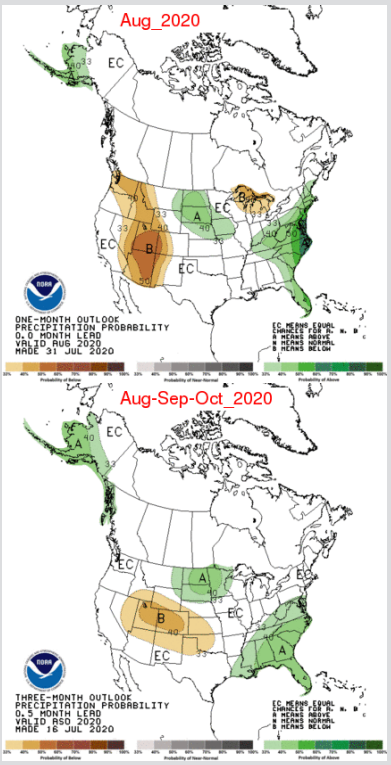
http://go.usa.gov/3eZ73

Seasonal Outlook

Temperature Probability



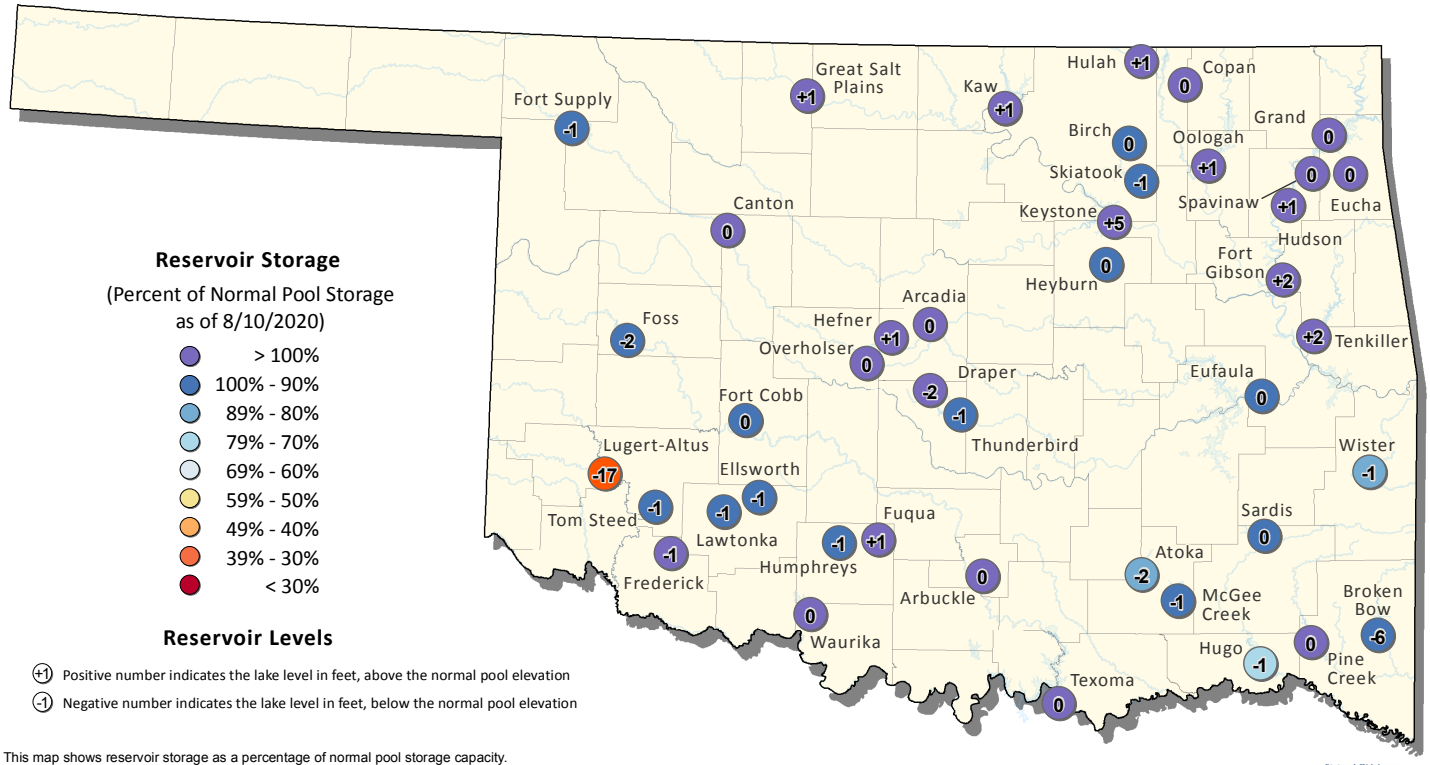
Precipitation Probability



The contours on the maps above show the total probability of three categories. "Above" is indicated by the letter "A"; "Below" is indicated by the letter "B"; "EC" indicates "Equal Chances" for A or B.

Oklahoma Surface Water Resources

Reservoir Levels and Storage as of 8/10/2020



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 (http://www.swt-wc.usace.army.mil/Daily_Morning_Reservoir_Report.pdf), and the U.S. Geological Survey (http://waterdata.usgs.gov/ok/nwis/current/?type=lake&group_key=basin_cd)
For more information please visit the OWRB's website at:
(http://www.owrb.ok.gov)

State of Oklahoma OWRB Water Resources Board the water agency

The Oklahoma Water Resources Bulletin is compiled and distributed monthly by the Oklahoma Water Resources Board utilizing products and information developed by the Oklahoma Climatological Survey, Oklahoma Mesonet, National Oceanic and Atmospheric Administration, National Drought Mitigation Center, US Geological Survey, US Army Corps of Engineers, and US Department of Agriculture. For questions or comments contact Darla Whitley, Editor.