Oklahoma Water Resources Bulletin
& Summary of Current Conditions

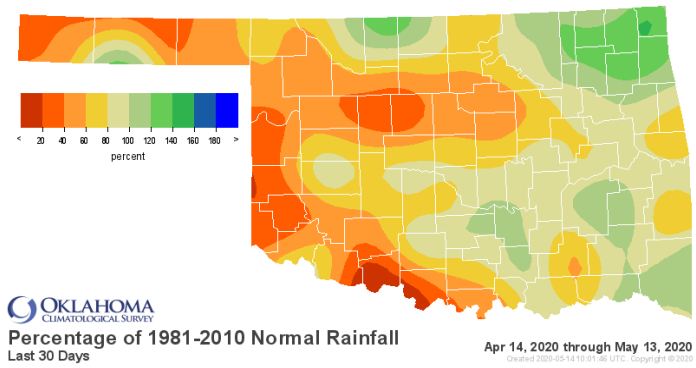
OWRB the water agency

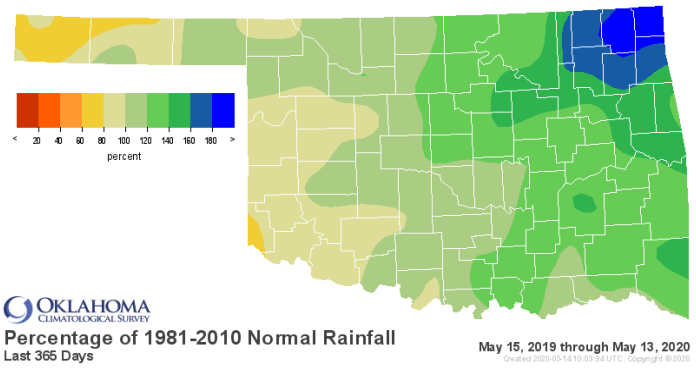
May 14, 2020

Precipitation

Statewide Precipitation

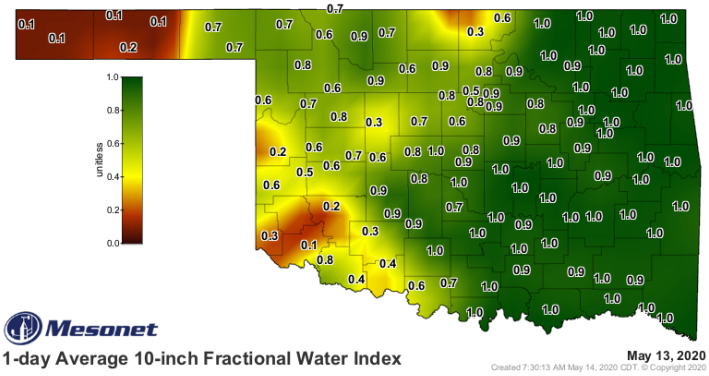
Climate Division	Last 30 Days April 14, 2020 – May 13, 2020: Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Last 365 Days May 15, 2019 – May 13, 2020: Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
PANHANDLE	1.04"	-0.93"	53%	23rd driest	18.74"	-1.76"	91%	39th driest
NORTH CENTRAL	2.43"	-1.01"	71%	30th driest	36.65"	+5.36"	117%	19th wettest
NORTHEAST	5.18"	+0.37"	108%	38th wettest	66.30"	+23.82"	156%	1st wettest
WEST CENTRAL	1.61"	-1.31"	55%	19th driest	27.78"	-0.49"	98%	38th wettest
CENTRAL	2.73"	-1.39"	66%	24th driest	45.73"	+8.27"	122%	9th wettest
EAST CENTRAL	4.36"	-0.60"	88%	37th driest	63.30"	+17.36"	138%	4th wettest
SOUTHWEST	1.72"	-1.59"	52%	16th driest	29.09"	-1.04"	97%	46th wettest
SOUTH CENTRAL	3.65"	-0.90"	80%	41st driest	47.74"	+7.21"	118%	12th wettest
SOUTHEAST	5.26"	-0.15"	97%	40th driest	65.09"	+14.72"	129%	6th wettest
STATEWIDE	**3.11"**	**-0.84"**	**79%**	**27th driest**	**44.69"**	**+8.38"**	**123%**	**7th wettest**

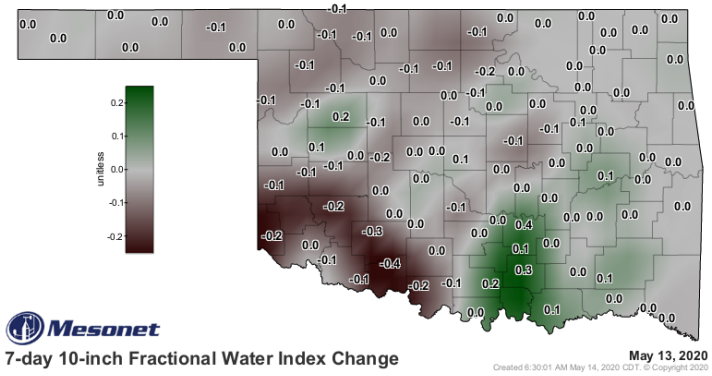




Soil Moisture

Fractional Water Index
May 13, 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 05/09/20	Value 04/11	Value 05/09	Change in Value
NORTHWEST	Near Normal	1.36	-0.04	1.4(-)
NORTH CENTRAL	Unusual Moist Spell	3.44	2.73	0.71(-)
NORTHEAST	Extremely Moist	5.06	4.94	0.12(-)
WEST CENTRAL	Near Normal	1.70	0.50	1.2(-)
CENTRAL	Extremely Moist	4.67	3.97	0.7(-)
EAST CENTRAL	Extremely Moist	4.93	4.54	0.39(-)
SOUTHWEST	Near Normal	2.73	0.64	2.09(-)
SOUTH CENTRAL	Very Moist Spell	4.40	3.65	0.75(-)
SOUTHEAST	Extremely Moist	4.64	4.41	0.23(-)

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 May 9, the Northwest, West Central, and Southwest regions were near normal but the rest of the state's climate regions were above normal.

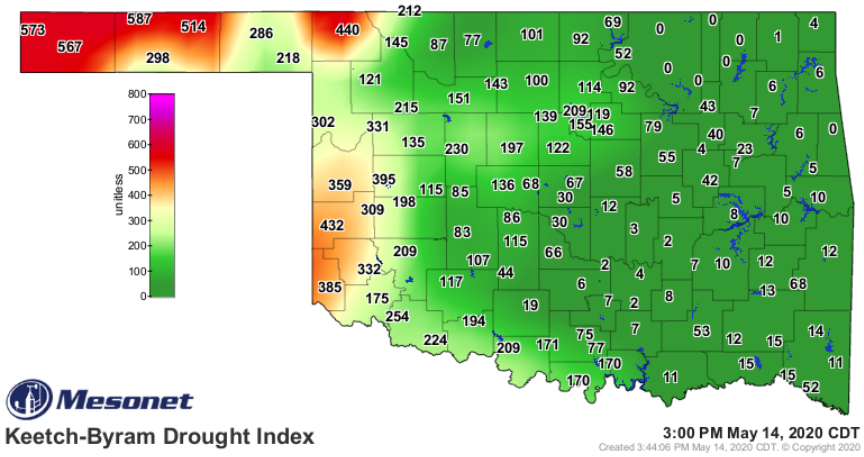
Standardized Precipitation Index (SPI)
Through April 2020

Climate Division	3-month	12-month	24-month
NORTHWEST	Near Normal	Abnormally Moist	Extremely Moist
NORTH CENTRAL	Near Normal	Exceptionally Moist	Exceptionally Moist
NORTHEAST	Very Moist	Exceptionally Moist	Exceptionally Moist
WEST CENTRAL	Near Normal	Moderately Moist	Extremely Moist
CENTRAL	Abnormally Moist	Extremely Moist	Exceptionally Moist
EAST CENTRAL	Very Moist	Exceptionally Moist	Exceptionally Moist
SOUTHWEST	Abnormally Moist	Abnormally Moist	Very Moist
SOUTH CENTRAL	Very Moist	Extremely Moist	Exceptionally Moist
SOUTHEAST	Very Moist	Extremely 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, North Central, and West Central regions were near normal. For all other time periods shown, all climate regions were abnormally moist 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.

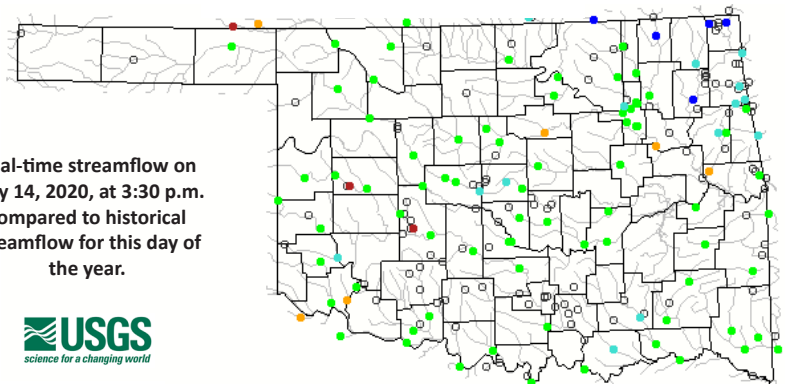
KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.

Streamflow Conditions

May 14, 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 May 14, 2020, at 3:30 p.m. compared to historical streamflow for this day of the year.

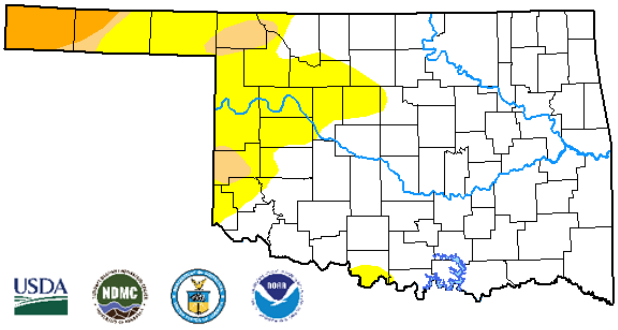
USGS science for a changing world

Weather/Drought Forecast

Drought Summary for Oklahoma

U.S. Drought Monitor

Oklahoma



droughtmonitor.unl.edu

May 12, 2020
(Released Thursday, May 14, 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: Richard Tinker
NOAA/NWS/NCEP/CPC

Drought Conditions (percent area)

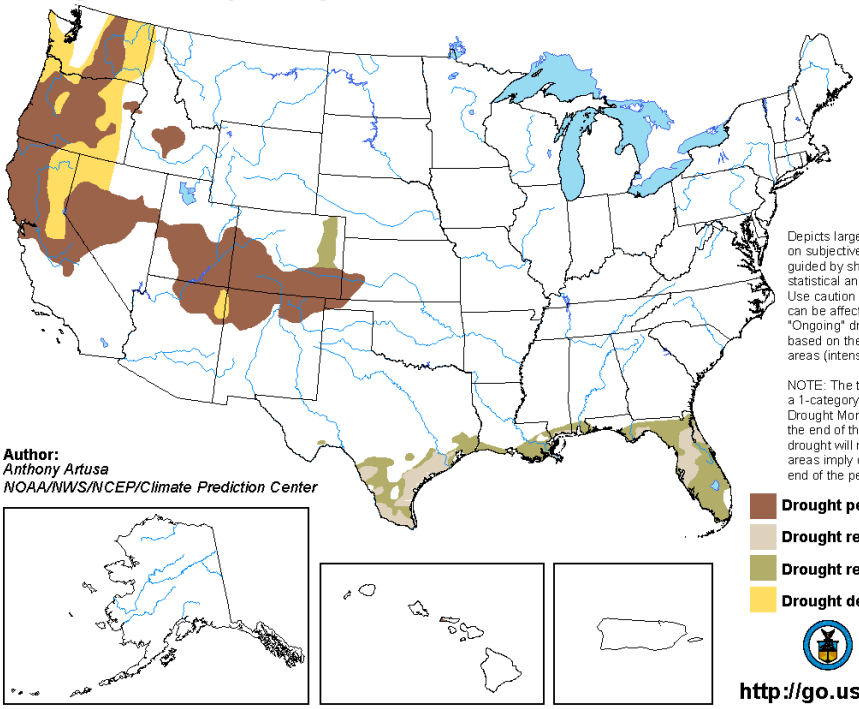
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2020-05-12	74.20	25.80	6.49	3.37	0.00	0.00	36
Last Week	2020-05-05	76.46	23.54	5.44	2.40	0.00	0.00	31
3 Months Ago	2020-02-11	84.31	15.69	6.77	0.85	0.00	0.00	23
Start of Calendar Year	2019-12-31	76.45	23.55	10.47	3.64	0.00	0.00	38
Start of Water Year	2019-10-01	71.94	28.06	11.08	1.01	0.00	0.00	40
One Year Ago	2019-05-14	100.00	0.00	0.00	0.00	0.00	0.00	0

According to the latest U.S. Drought Monitor, as of May 12, 2020, the estimated Oklahoma population living in areas experiencing drought was 31,691, with 3.37% of the state in area experiencing Severe Drought (D2) conditions and 6.49% experiencing Moderate Drought (D1) conditions or worse. A total of 25.80% of the state has Abnormally Dry (D0) conditions or worse.

Drought Probability

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

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



Author:
Anthony Artusa
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).

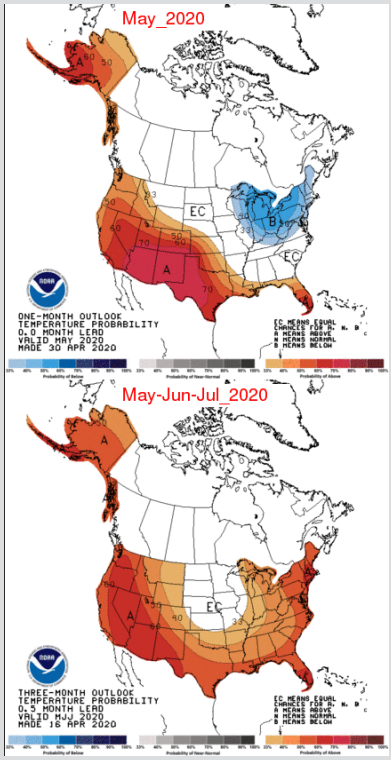
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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

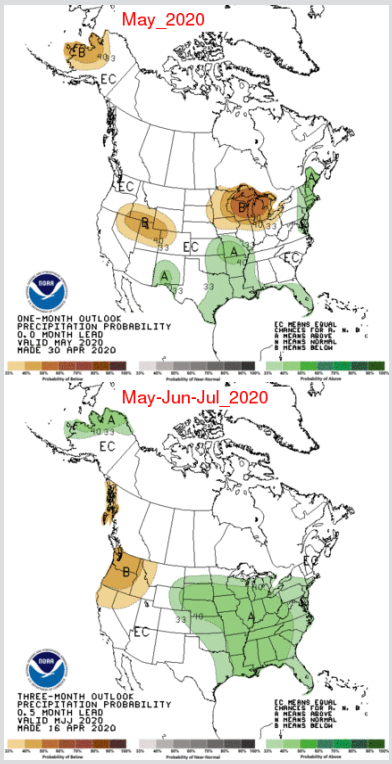
http://go.usa.gov/3eZ73

Seasonal Outlook

Temperature Probability



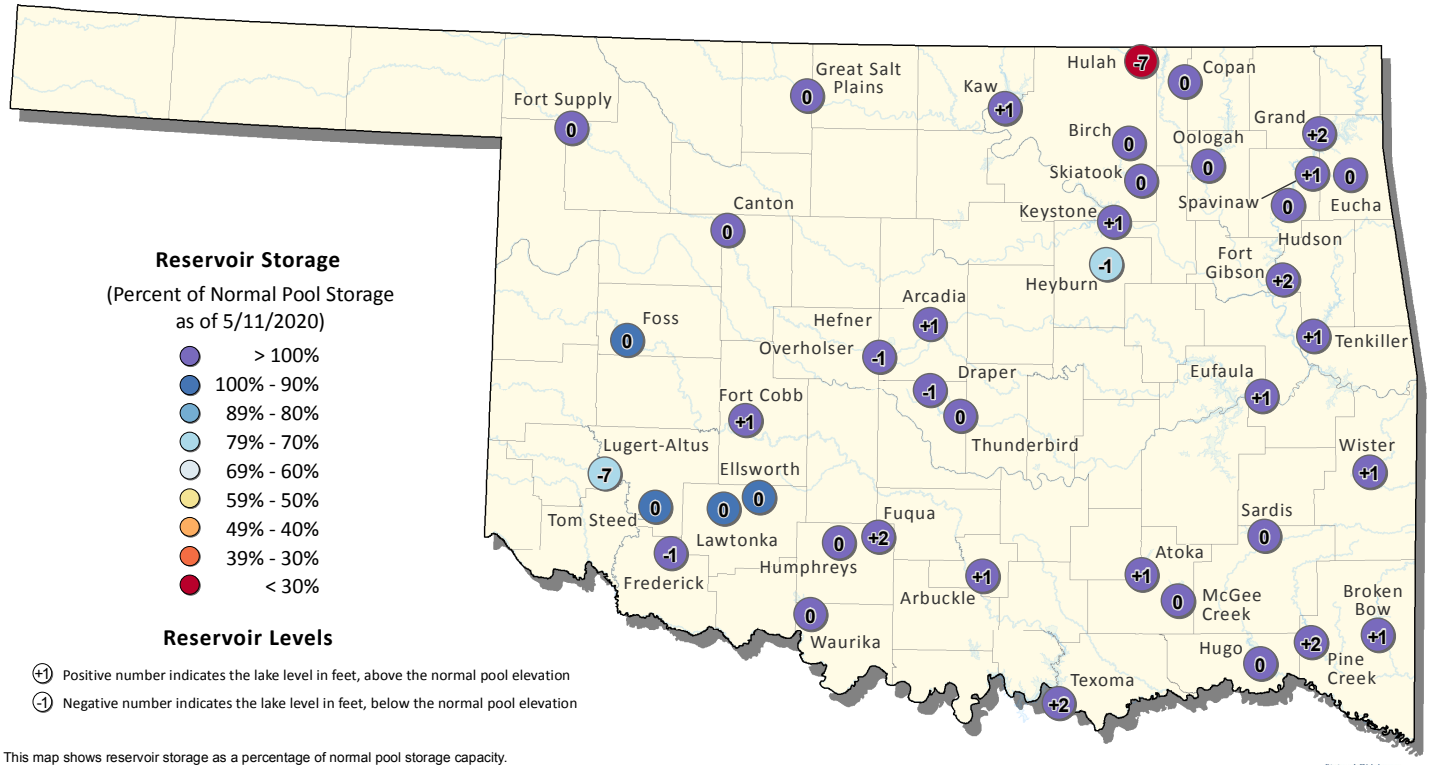
Precipitation Probability



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 5/11/2020



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

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