Oklahoma Water Resources Bulletin
& Summary of Current Conditions

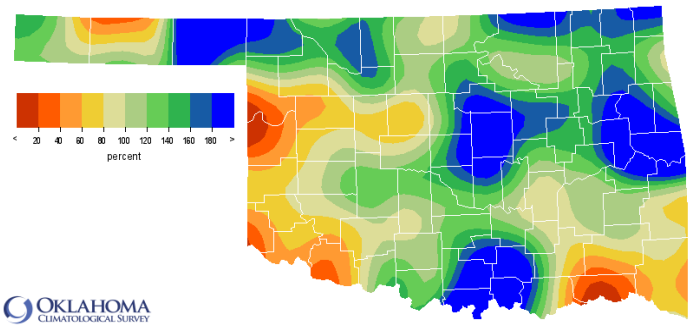
OWRB the water agency

September 12, 2019

Precipitation

Statewide Precipitation

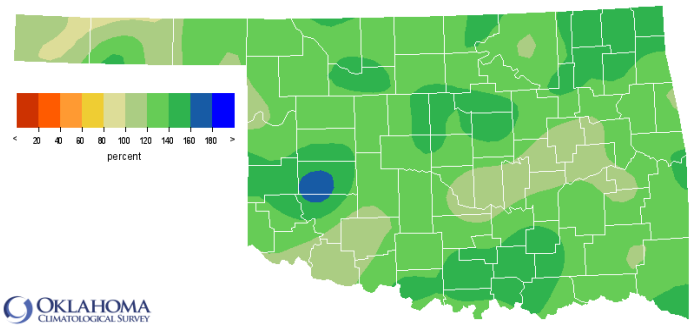
Climate Division	Last 30 Days (August 13, 2019 – September 11, 2019) Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Last 365 Days (September 12, 2018 – September 11, 2019) Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921
PANHANDLE	2.85"	+0.49"	121%	25th wettest	23.69"	+3.11"	115%	18th wettest
NORTH CENTRAL	3.67"	+0.72"	124%	32nd wettest	42.81"	+11.39"	136%	3rd wettest
NORTHEAST	5.20"	+1.66"	147%	22nd wettest	59.19"	+16.52"	139%	2nd wettest
WEST CENTRAL	2.26"	-0.62"	79%	47th driest	41.54"	+13.14"	146%	3rd wettest
CENTRAL	4.70"	+1.41"	143%	18th wettest	50.42"	+12.79"	134%	4th wettest
EAST CENTRAL	5.77"	+2.30"	166%	11th wettest	57.19"	+11.05"	124%	7th wettest
SOUTHWEST	2.39"	-0.54"	82%	47th wettest	38.24"	+7.97"	126%	10th wettest
SOUTH CENTRAL	4.79"	+1.61"	151%	22nd wettest	56.30"	+15.59"	138%	2nd wettest
SOUTHEAST	2.31"	-0.86"	73%	27th driest	64.98"	+14.39"	128%	4th wettest
STATEWIDE	3.89"	+0.80"	126%	26th wettest	48.29"	+11.82"	132%	2nd wettest



OKLAHOMA CLIMATOLOGICAL SURVEY

Percentage of 1981-2010 Normal Rainfall
Last 30 Days

Aug 13, 2019 through Sep 11, 2019



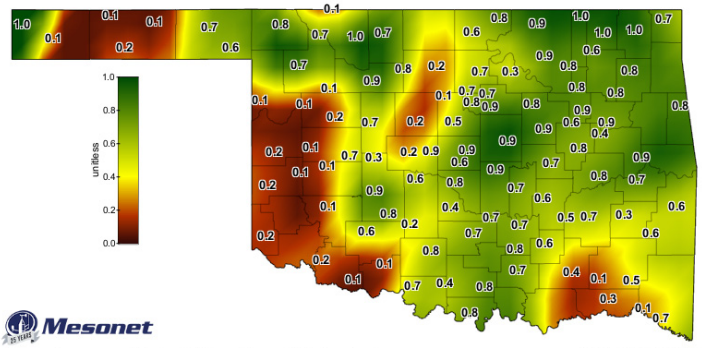
OKLAHOMA CLIMATOLOGICAL SURVEY

Percentage of 1981-2010 Normal Rainfall
Last 365 Days

Sep 12, 2018 through Sep 11, 2019

Soil Moisture

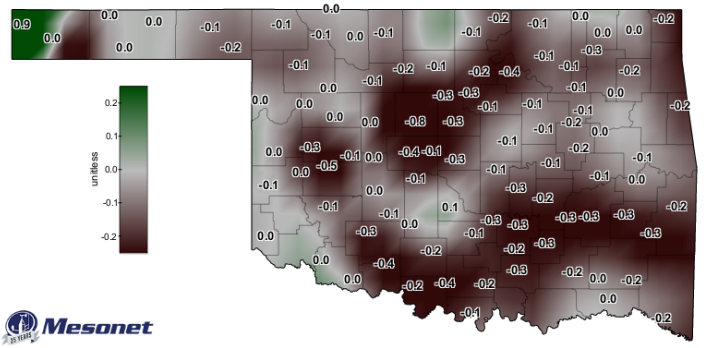
Fractional Water Index
September 11, 2019



Mesonet

1-day Average 10-inch Fractional Water Index

September 11, 2019



Mesonet

7-day 10-inch Fractional Water Index Change

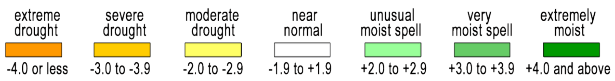
September 11, 2019

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)

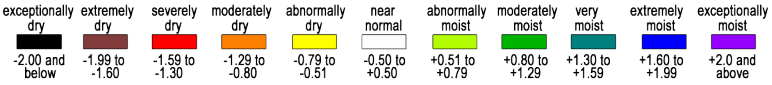
Climate Division	Status 9/7/19	Value 8/10	Value 9/7	Change in Value
NORTHWEST	Very Moist Spell	2.88	3.12	0.24(+)
NORTH CENTRAL	Extremely Moist	3.48	4.16	0.68(+)
NORTHEAST	Extremely Moist	4.29	4.69	0.4(+)
WEST CENTRAL	Unusual Moist Spell	2.65	2.10	0.55(-)
CENTRAL	Extremely Moist	2.56	4.13	1.57(+)
EAST CENTRAL	Very Moist Spell	2.05	3.06	1.01(+)
SOUTHWEST	Near Normal	0.30	-0.20	0.5(-)
SOUTH CENTRAL	Unusual Moist Spell	1.54	2.45	0.91(+)
SOUTHEAST	Unusual Moist Spell	2.56	1.97	0.59(-)



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 September 7, the Southwest region was near normal but the rest of the state's climate regions were above normal.

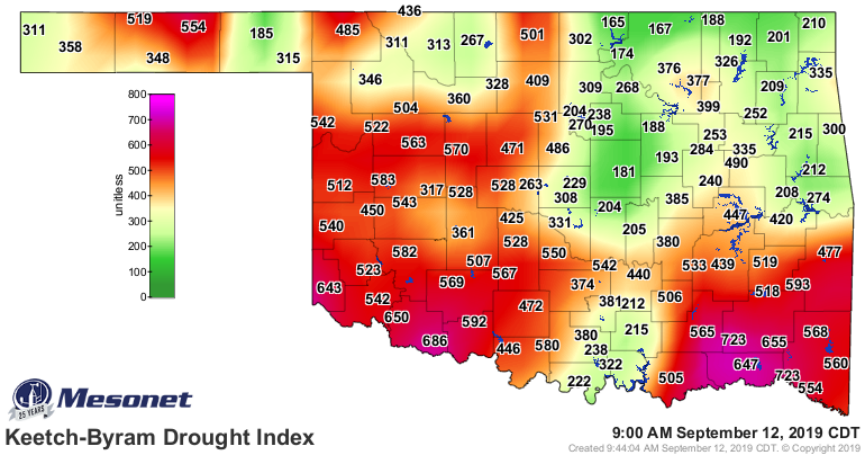
Standardized Precipitation Index (SPI)
Through August 2019

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



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 all three time periods shown, all climate regions were near normal or wetter, except the Southwest region, which was abnormally dry for the 3-month 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.

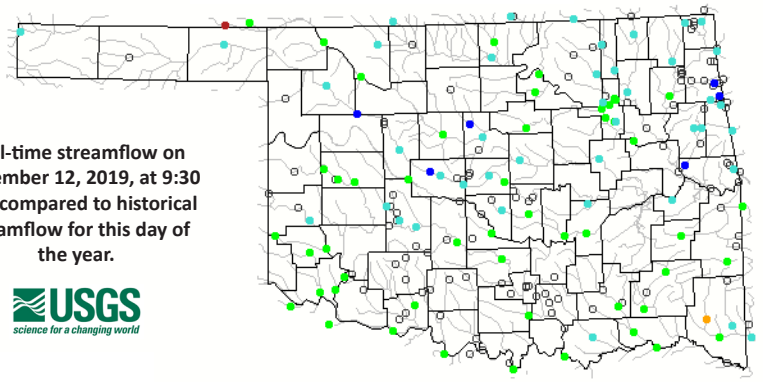
KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.

Streamflow Conditions

September 12, 2019

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

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

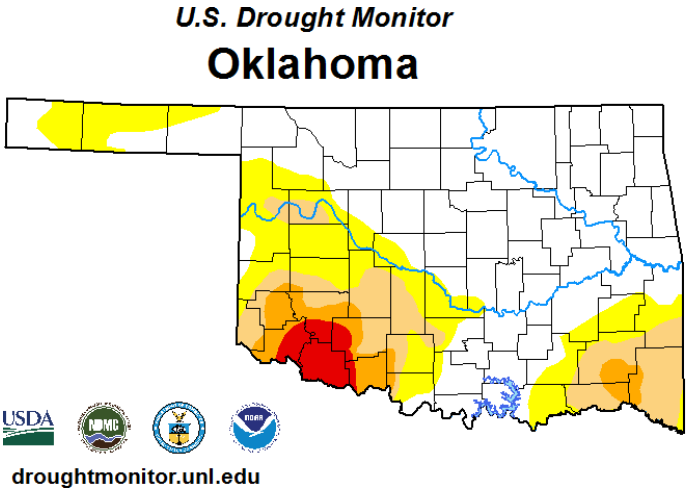


Real-time streamflow on September 12, 2019, at 9:30 a.m. compared to historical streamflow for this day of the year.

USGS science for a changing world

Weather/Drought Forecast

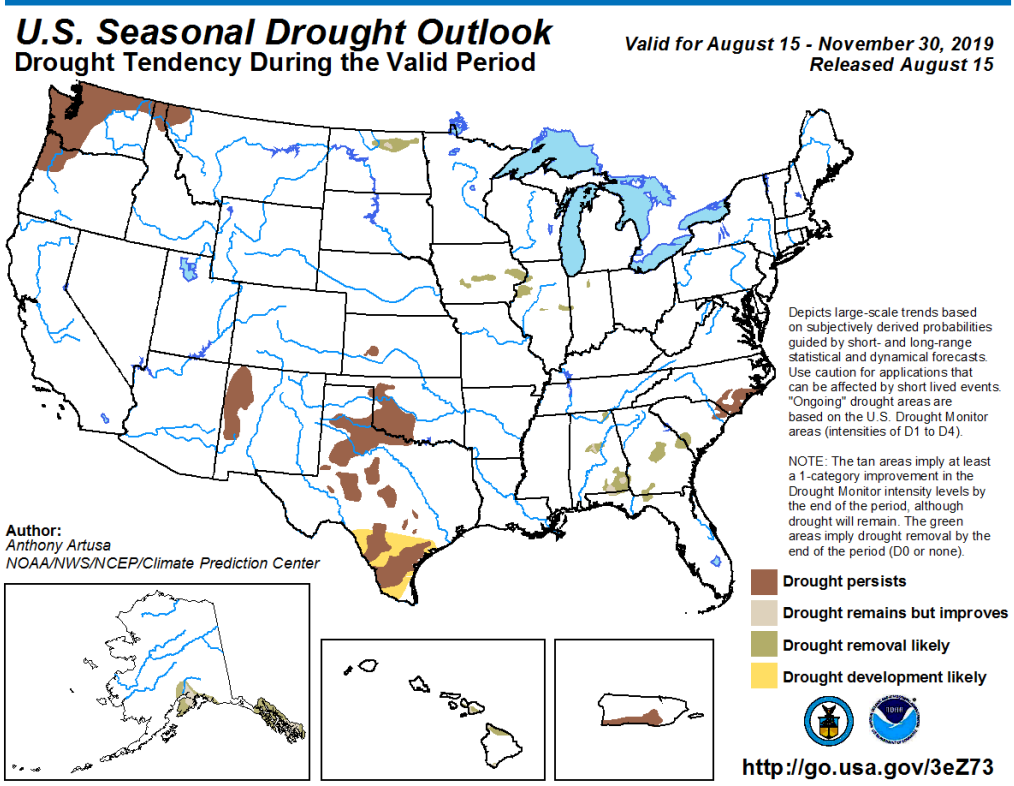
Drought Summary for Oklahoma



Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2019-09-10	60.21	39.79	19.17	7.52	2.82	0.00	69
Last Week	2019-09-03	65.89	34.11	14.07	5.19	2.01	0.00	55
3 Months Ago	2019-06-11	100.00	0.00	0.00	0.00	0.00	0.00	0
Start of Calendar Year	2019-01-01	94.85	5.15	0.00	0.00	0.00	0.00	5
Start of Water Year	2018-09-25	72.93	27.07	9.11	4.16	0.00	0.00	40
One Year Ago	2018-09-11	60.78	39.22	17.25	6.60	0.57	0.00	64

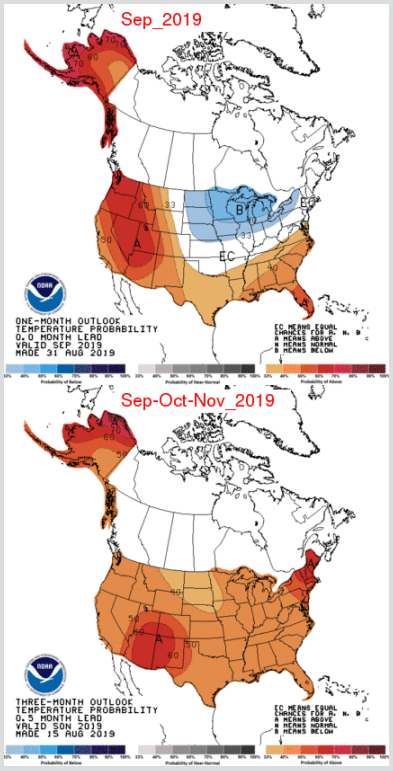
According to the latest U.S. Drought Monitor, as of September 9, 2019, the estimated Oklahoma population living in areas experiencing drought was 349,495, down by nearly 75,000 since this time last month. In Southwest Oklahoma, 2.82% of the state in area remains in the D2 (Severe Drought) intensity classification, while 19.17% of the state is in D1 (Moderate Drought) or worse.

Drought Probability

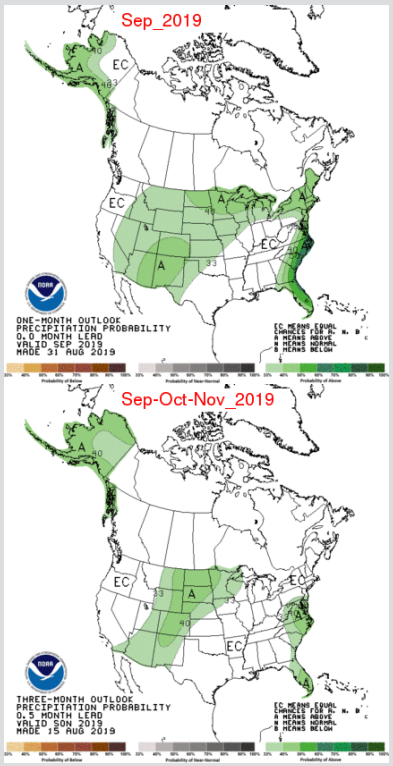


Seasonal Outlook

Temperature Probability



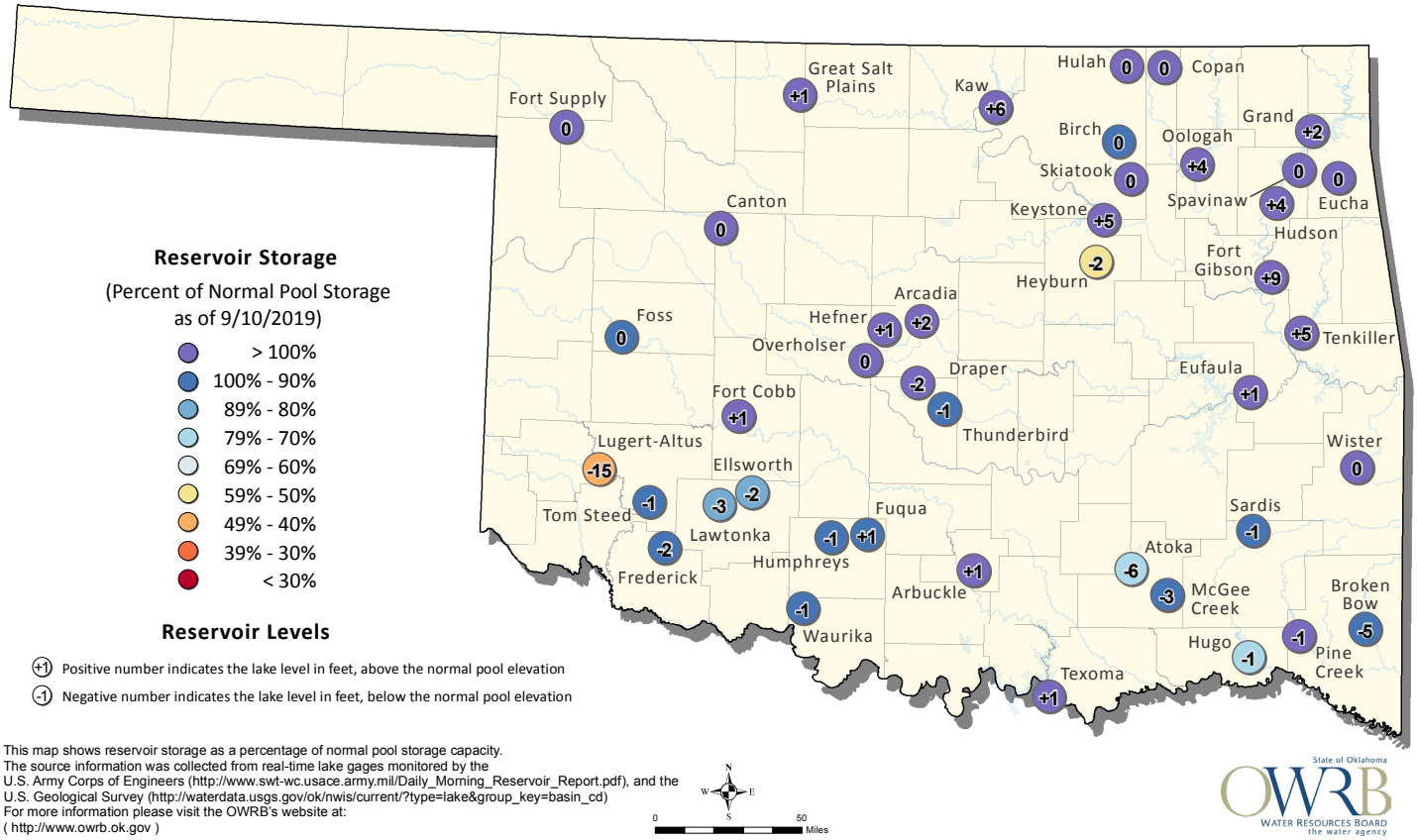
Precipitation Probability



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 9/10/2019



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