

# Oklahoma Water Resources Bulletin & Summary of Current Conditions

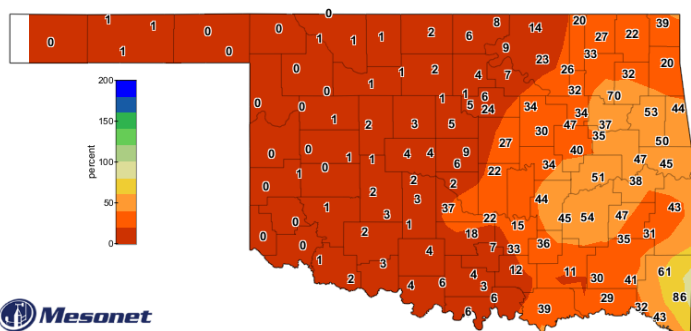


October 15, 2020

## PRECIPITATION

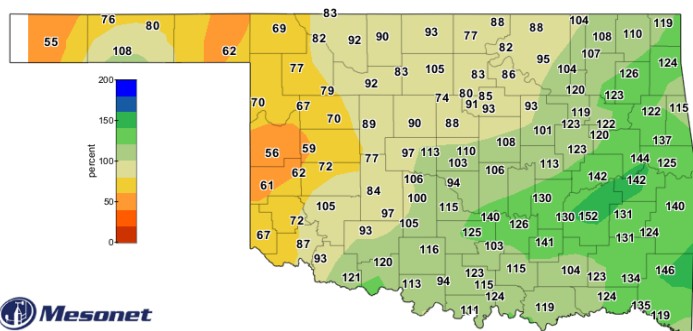
### Statewide Precipitation

Climate Division	September 15, 2020 – October 14, 2020				Last 365 Days October 16, 2019 – October 14, 2020			
	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	0.00"	-1.69"	0%	1st driest	14.17"	-6.35"	69%	11th driest
NORTH CENTRAL	0.07"	-2.94"	2%	2nd driest	27.14"	-4.18"	87%	38th driest
NORTHEAST	1.16"	-3.10"	27%	11th driest	46.37"	+3.82"	109%	24th wettest
WEST CENTRAL	0.02"	-2.82"	1%	2nd driest	19.73"	-8.57"	70%	9th driest
CENTRAL	0.52"	-3.21"	14%	6th driest	37.49"	-0.01"	100%	33rd wettest
EAST CENTRAL	2.02"	-2.52"	45%	25th driest	59.93"	+13.94"	130%	4th wettest
SOUTHWEST	0.04"	-2.89"	1%	2nd driest	28.64"	-1.52"	95%	47th wettest
SOUTH CENTRAL	0.58"	-3.22"	15%	9th driest	47.78"	+7.22"	118%	14th wettest
SOUTHEAST	2.00"	-2.30"	47%	25th driest	66.81"	+16.39"	133%	6th wettest
<b>STATEWIDE</b>	<b>0.69"</b>	<b>-2.78"</b>	<b>20%</b>	<b>5th driest</b>	<b>38.51"</b>	<b>+2.16"</b>	<b>106%</b>	<b>27th wettest</b>



**Mesonet**  
Percent of 1981-2010 Normal Rainfall  
Last 30 Days

Sep 15, 2020 through Oct 14, 2020  
Created 5:41:50 AM October 15, 2020 CDT. Copyright 2020

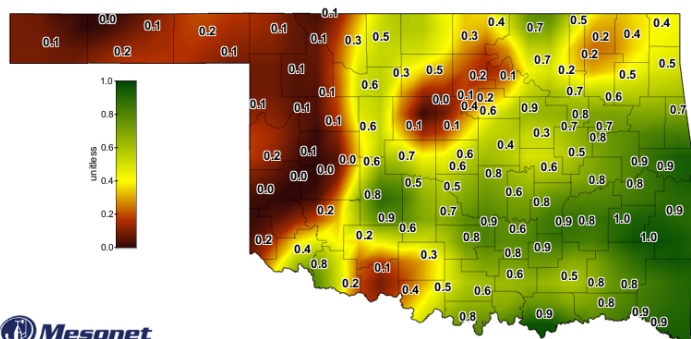


**Mesonet**  
Percent of 1981-2010 Normal Rainfall  
Last 365 Days

Oct 16, 2019 through Oct 14, 2020  
Created 3:42:21 AM October 15, 2020 CDT. Copyright 2020

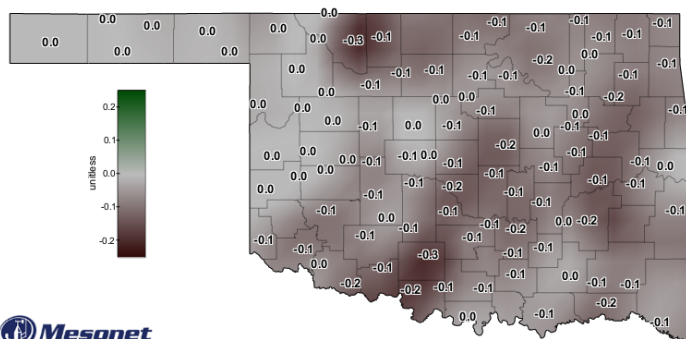
## SOIL MOISTURE

### Fractional Water Index October 14, 2020



**Mesonet**  
1-day Average 10-inch Fractional Water Index

October 14, 2020  
Created 7:30:13 AM October 15, 2020 CDT. Copyright 2020



**Mesonet**  
7-day 10-inch Fractional Water Index Change

October 14, 2020  
Created 6:30:01 AM October 15, 2020 CDT. Copyright 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)					Standardized Precipitation Index (SPI) Through September 2020		
Climate Division	Status 10/10/20	Value 09/05	Value 10/10	Change in Value	3-month	12-month	24-month
NORTHWEST	Severe Drought	-3.14	-3.18	0.04(-)	Near Normal	Abnormally Dry	Near Normal
NORTH CENTRAL	Near Normal	1.65	1.17	0.48(-)	Abnormally Moist	Near Normal	Exceptionally Moist
NORTHEAST	Near Normal	0.89	0.30	0.59(-)	Near Normal	Moderately Moist	Exceptionally Moist
WEST CENTRAL	Moderate Drought	-2.33	-2.32	0.01(+)	Near Normal	Abnormally Dry	Very Moist
CENTRAL	Near Normal	2.01	1.88	0.13(-)	Moderately Moist	Abnormally Moist	Exceptionally Moist
EAST CENTRAL	Very Moist Spell	4.21	3.86	0.35(-)	Moderately Moist	Extremely Moist	Exceptionally Moist
SOUTHWEST	Near Normal	-0.36	-0.09	0.27(+)	Near Normal	Near Normal	Very Moist
SOUTH CENTRAL	Unusual Moist Spell	3.08	2.59	0.49(-)	Moderately Moist	Very Moist	Exceptionally Moist
SOUTHEAST	Extremely Moist	4.69	4.44	0.25(-)	Extremely Moist	Exceptionally Moist	Exceptionally Moist

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

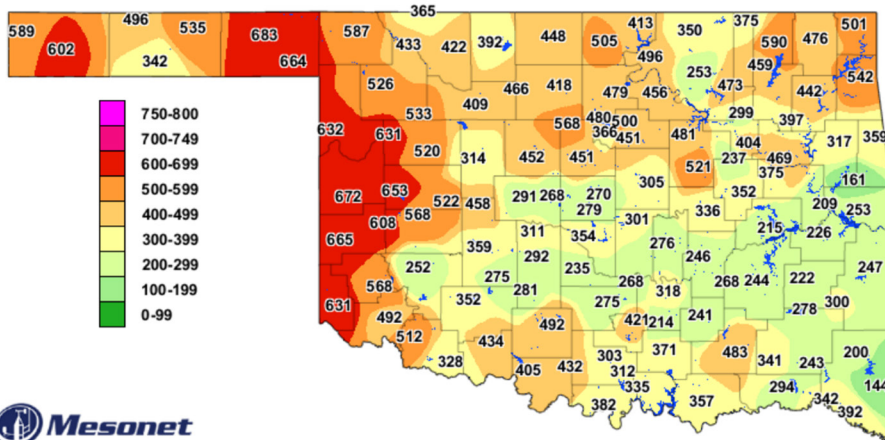
  

exceptionally dry -2.00 and below	extremely dry -1.99 to -1.60	severely dry -1.59 to -1.30	moderately dry -1.29 to -0.80	abnormally dry -0.79 to -0.51	near normal -0.50 to +0.50	abnormally moist +0.51 to +0.79	moderately moist +0.80 to +1.29	very moist +1.30 to +1.59	extremely moist +1.60 to +1.99	exceptionally moist +2.0 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 Oct. 10, the Northwest region had severe drought conditions, the West Central region had moderate drought conditions, and the rest of the state's regions were near normal or wetter.

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 12-month period, the Northwest and West Central regions were abnormally dry, but the rest of the state was near normal or wetter. For the 3-month and 24-month periods, 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.



Keetch-Byram Drought Index

10:00 AM October 15, 2020 CDT  
Created 10:16:46 AM October 15, 2020 CDT. Copyright 2020

## STREAMFLOW CONDITIONS

October 15, 2020

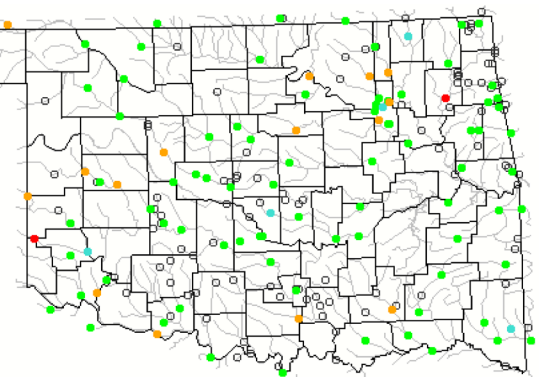
Explanation - Percentile classes							
<span style="color: red;">●</span>	<span style="color: darkred;">●</span>	<span style="color: orange;">●</span>	<span style="color: green;">●</span>	<span style="color: cyan;">●</span>	<span style="color: blue;">●</span>	<span style="color: black;">●</span>	<span style="color: grey;">●</span>
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.

Real-time streamflow on October 15, 2020, at 10:30 a.m. compared to historical streamflow for this time on this day of the year.



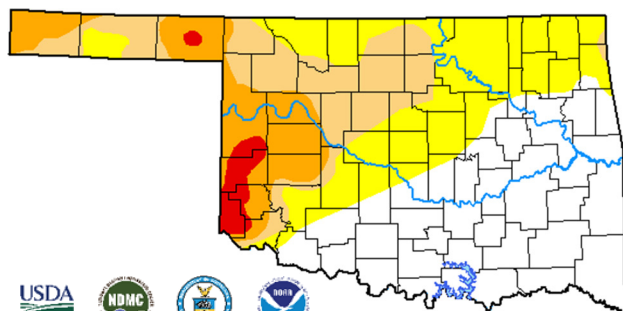
science for a changing world



# WEATHER/DROUGHT FORECAST

## Drought Summary for Oklahoma

### U.S. Drought Monitor Oklahoma



**October 13, 2020**  
(Released Thursday, Oct. 15, 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:  
Curtis Riganti, National Drought Mitigation Center

#### Drought Conditions (percent area)

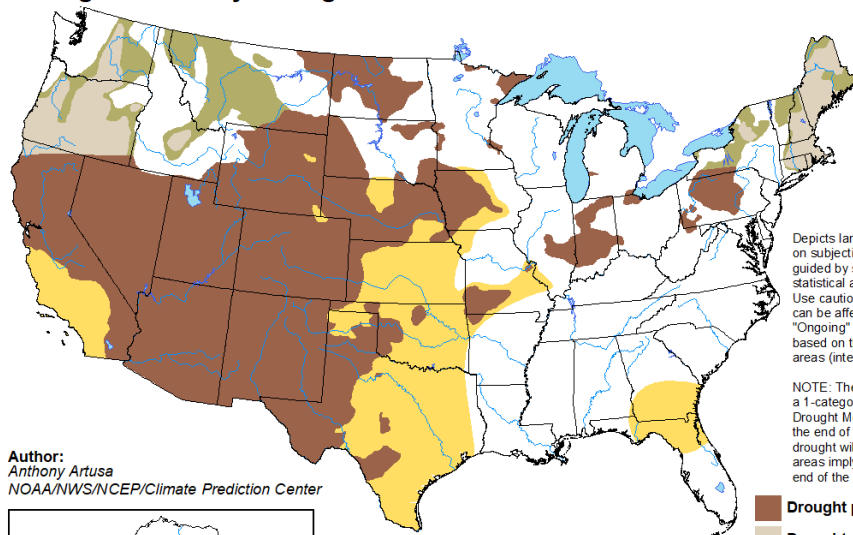
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2020-10-13	41.46	58.54	31.92	15.00	2.56	0.00	108
Last Week	2020-10-06	54.86	45.14	21.84	12.03	2.56	0.00	82
3 Months Ago	2020-07-14	39.08	60.92	43.16	18.15	2.99	0.00	125
Start of Calendar Year	2019-12-31	76.45	23.55	10.47	3.64	0.00	0.00	38
Start of Water Year	2020-09-29	66.79	33.21	17.71	11.97	1.55	0.00	64
One Year Ago	2019-10-15	70.51	29.49	8.70	1.09	0.00	0.00	39

According to the latest U.S. Drought Monitor, as of October 13, 2020, the estimated Oklahoma population living in areas experiencing drought was at 344,325, with 2.56% of the state in area experiencing Extreme Drought conditions, 15% experiencing Severe Drought (D2) conditions or worse, and 31.92% experiencing Moderate Drought (D1) conditions or worse, while 58.54% of the state had Abnormally Dry (D0) conditions or worse.

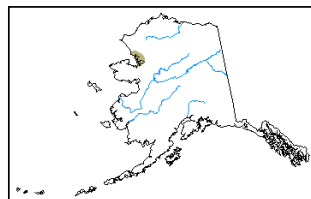
## Drought Probability

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

Valid for October 15, 2020 - January 31, 2021  
Released October 15, 2020



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).

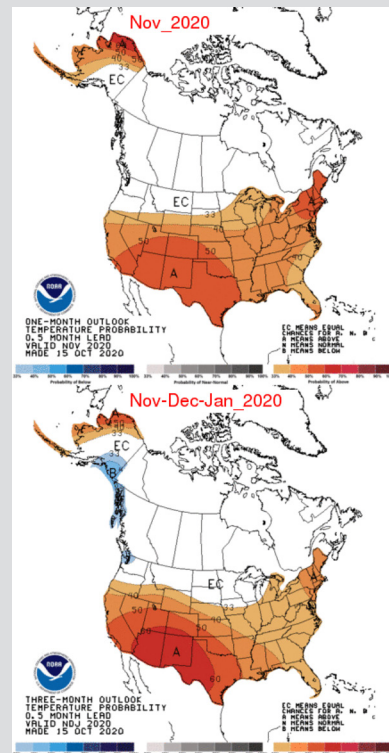
- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



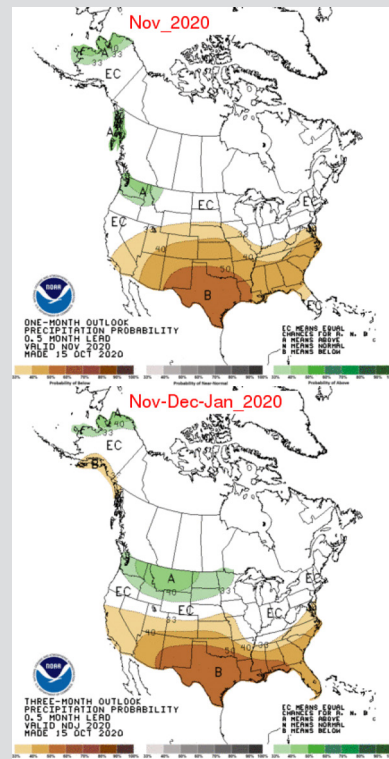
<http://go.usa.gov/3eZ73>

## 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.

# RESERVOIR STORAGE

## Oklahoma Surface Water Resources Reservoir Levels and Storage as of 10/13/2020

