Oklahoma Water Resources Bulletin & Summary of Current Conditions

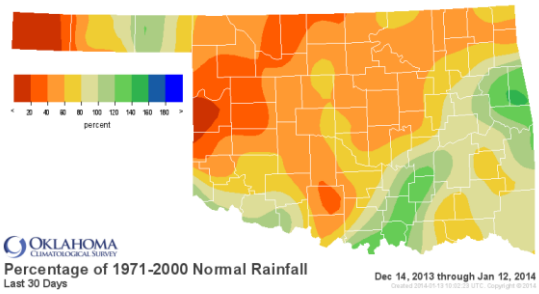
State of Oklahoma OWRB Water Resources Board the water agency

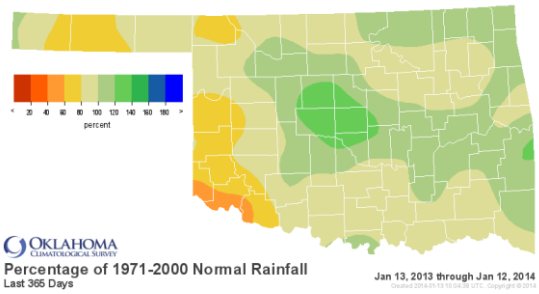
January 16, 2014

PRECIPITATION

Statewide Precipitation

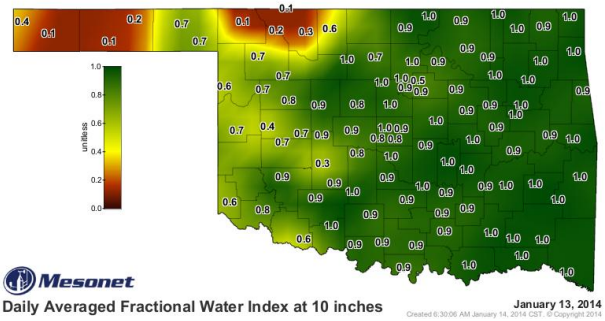
Climate Division	Last 30 Days (Dec 14, 2013 – Jan 12, 2014) Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921	Last 365 Days (Jan 13, 2013 – Jan 12, 2014) Total Rainfall (inches)	Departure From Normal (inches)	Percent Of Normal	Rank Since 1921
Panhandle	0.33"	-0.28"	54%	43rd driest	17.07"	-4.03"	81%	24th driest
North Central	0.49"	-0.63"	44%	33rd driest	30.58"	-1.07"	97%	40th wettest
Northeast	1.22"	-0.72"	63%	42nd driest	43.11"	+1.14"	103%	33rd wettest
West Central	0.35"	-0.65"	35%	28th driest	24.51"	-4.58"	84%	37th driest
Central	0.90"	-0.80"	53%	38th driest	42.01"	+4.02"	111%	15th wettest
East Central	2.67"	+0.11"	104%	31st wettest	46.28"	+0.19"	100%	34th wettest
Southwest	0.90"	-0.31"	74%	45th wettest	25.14"	-5.66"	82%	30th driest
South Central	1.95"	-0.26"	88%	37th wettest	36.71"	-4.25"	90%	40th driest
Southeast	2.86"	-0.59"	83%	39th wettest	50.92"	-0.02"	100%	39th wettest
Statewide	1.26"	-0.47"	73%	46th driest	35.38"	-1.31"	96%	39th wettest

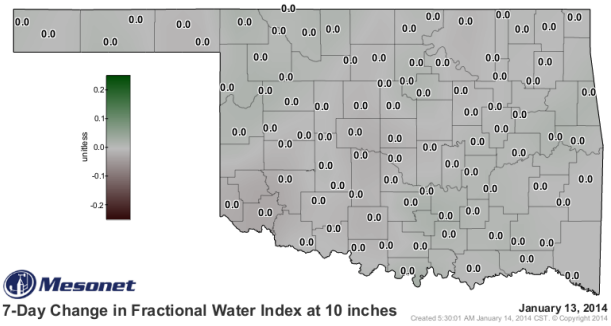




SOIL MOISTURE

Fractional Water Index[1] January 13, 2014





[1] *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[1]

Climate Division	Current Status 1/11/2014	Value 1/11	Value 12/14	Change In Value
Northwest	INCIPIENT DROUGHT	-0.98	-0.92	**-0.06**
North Central	MOIST SPELL	1.14	1.47	**-0.33**
Northeast	INCIPEINT MOIST SPELL	0.87	0.99	**-0.12**
West Central	INCIPIENT DROUGHT	-0.61	-0.24	**-0.37**
Central	MOIST SPELL	1.31	1.59	**-0.28**
East Central	INCIPEINT MOIST SPELL	0.81	0.93	**-0.12**
Southwest	MODERATE DROUGHT	-2.05	-2.05	**0.00**
South Central	NEAR NORMAL	0.48	-0.12	**0.60**
Southeast	MOIST SPELL	1.23	1.51	**-0.28**

Standardized Precipitation Index[2] Through December 2013

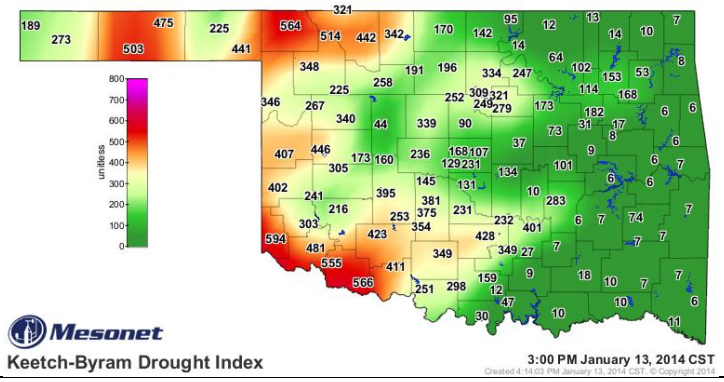
Climate Division	3-Month	6-Month	12-Month	24-Month
Northwest	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
North Central	NEAR NORMAL	MODERATELY WET	NEAR NORMAL	NEAR NORMAL
Northeast	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
West Central	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY
Central	NEAR NORMAL	NEAR NORMAL	VERY WET	NEAR NORMAL
East Central	NEAR NORMAL	MODERATELY DRY	NEAR NORMAL	MODERATELY DRY
Southwest	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
South Central	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
Southeast	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL

- Three climate divisions—all in western Oklahoma—are classified as experiencing drought (or incipient drought) conditions, according to the PDSI. Seven regions have undergone a PDSI moisture decrease since December 14.
- According to the latest SPI, only two climate divisions are experiencing longer-term dry conditions (through the last two years).

Keetch-Byram Drought Fire Index[3]

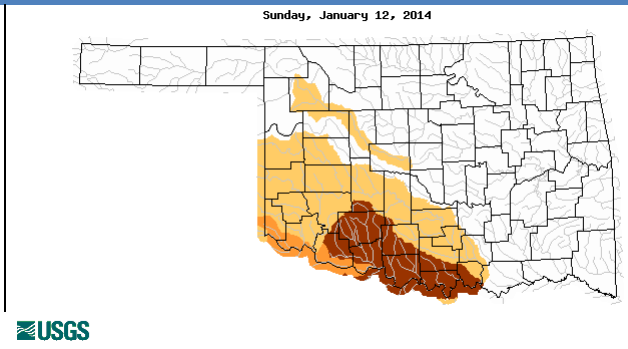
Mesonet Station	Climate Division	Current Value 1/13/2014
Hollis	Southwest	594
Grandfield	Southwest	566
Buffalo	Northwest	564

- Stations currently at or above 600 (January 13) = 0
- Stations above 600 on December 16 = 3



Streamflow Conditions

January 12, 2014



[1] *The Palmer Drought Severity Index is based upon precipitation, temperature, and soil moisture. Though widely used by government agencies and states to trigger drought relief programs, the PDSI may underestimate or overestimate the severity of ongoing dry periods.*

[2] *The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation while the 6-month SPI can be very effective in showing precipitation over distinct seasons.*

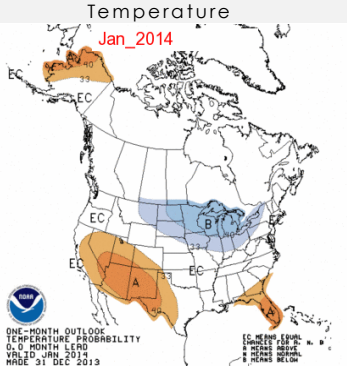
[3] *The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.*

WEATHER/DROUGHT FORECAST

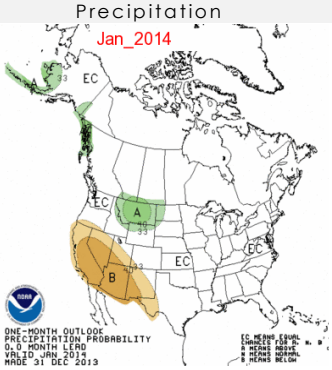
Seasonal Outlook

January

Temperature

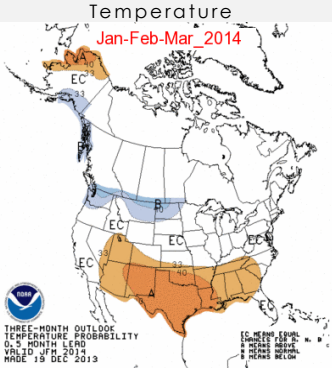


Precipitation

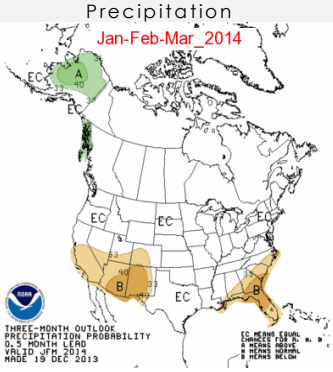


January-February-March

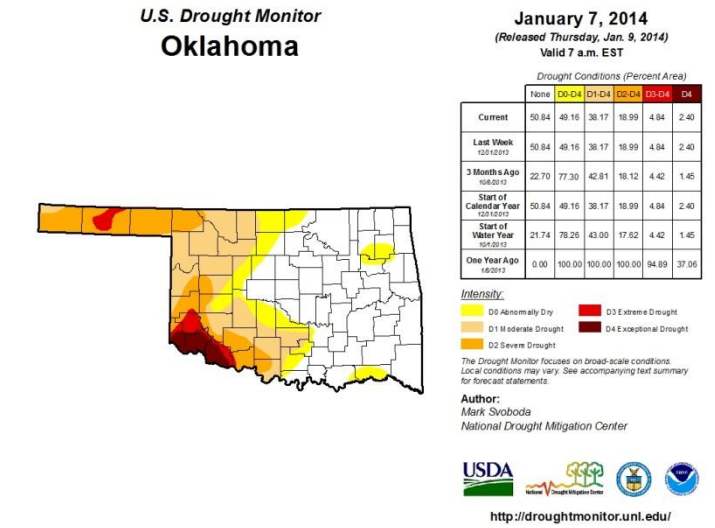
Temperature

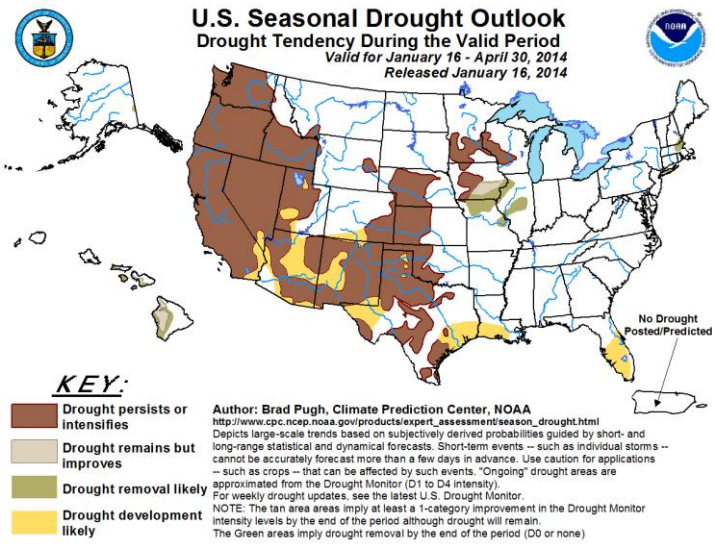


Precipitation



Regional Drought Summary & Outlook





January 14—According to the U.S. Drought Monitor, despite a pair of storms brushing the region, most of the core drought areas of Texas and the southern Plains remained dry. Rain, ice, and snow (0.25 to 1.50 inches) were limited to eastern portions of Texas and Oklahoma, offering little in the way of drought relief. Short- and long-term drought is prevalent from northern Texas into central Oklahoma, where 90-day precipitation has totaled 50 percent of normal or less (locally less than 30 percent of normal). Topsoil and subsoil moisture remained extremely limited across much of north central Texas and neighboring portions of Oklahoma; soil moisture percentile rankings are in the 5th percentile or lower in the Extreme and Exceptional Drought (D3-D4) areas of the southern Plains.

Less than five percent of Oklahoma is classified in Extreme Drought, virtually unchanged over the last few months. About 19 percent of the state is considered to be experiencing Severe Drought, and 38 percent remains in Moderate Drought as dryness continues to spread slowly eastward. A large portion of far southwestern Oklahoma (especially the area consisting of Harmon, Jackson and Tillman Counties) remains in Exceptional Drought, the worst category. The Panhandle also remains quite dry.

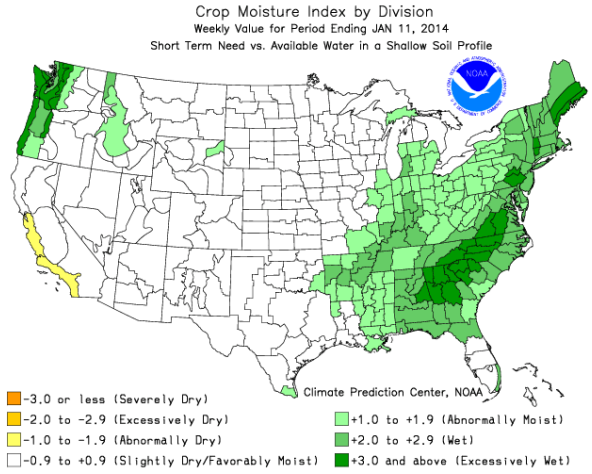
According to the latest Drought Outlook, drought is expected to persist or intensify throughout the general western half of Oklahoma through April.

Crop Report Summary

December 30, 2013 – Multiple winter storms kept temperatures below normal for the month of December and brought winter precipitation of all types. Damage to some winter forage was reported, but overall the storms brought slow melting moisture across the state. Drought conditions remained in the western half of the state, with the worst conditions in far southwestern Oklahoma. Small grain and pasture conditions were rated mostly good to fair for December, which is a big improvement over the previous year and allowed more grazing opportunities for livestock. Topsoil moisture conditions were rated mostly adequate with 43 percent rated as short to very short. Subsoil moisture conditions were rated 50 percent adequate to surplus and 50 percent short to very short.

Conditions of small grains and canola declined over the past month. Just over half of the wheat crop was rated in good condition, and canola, oats and rye were rated mostly good to fair. Thirty-two percent of the wheat crop was being grazed, even with the five-year average, and ten points more than during December 2012. Sixty-eight percent of rye was reported as grazed, 38 points more than the previous year and 11 points higher than normal. Twenty-eight percent of oats were being grazed, compared to a five-year average of 15 percent.

Pasture and range conditions continued to be rated mostly good to fair for the month of December. Cover from snow and ice temporarily prevented grazing of pasture, but the moisture received was beneficial. Grazing of small grains increased this year with improved conditions. Producers were also providing hay and supplementary feed to herds as needed. Livestock conditions continued to be rated mostly good, despite below normal temperatures.



Reservoir Storage

January 14, 2014