

# Oklahoma Water Resources Bulletin & Summary of Current Conditions

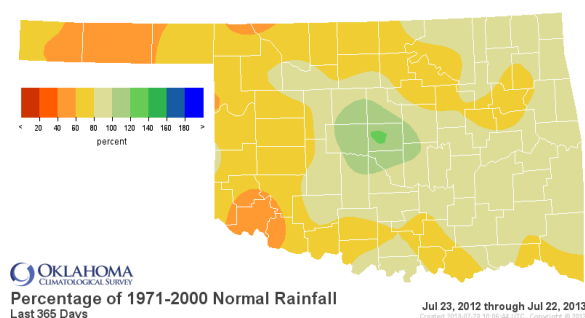
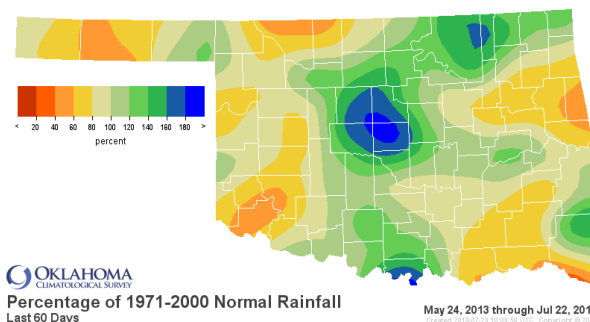


July 25, 2013

## PRECIPITATION

### Statewide Precipitation

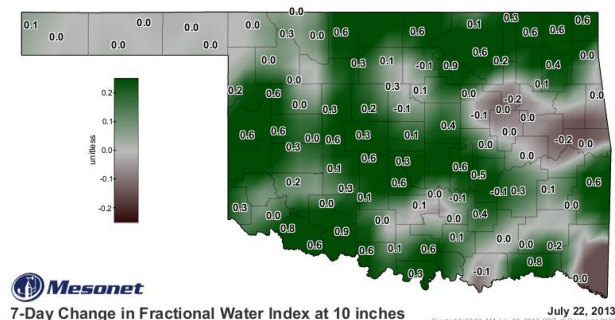
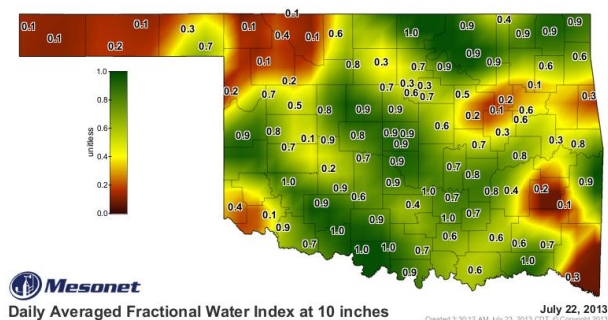
CLIMATE DIVISION	Last 60 Days May 24, 2013 – July 22, 2013				Last 365 Days July 23, 2012 – July 22, 2013			
	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	RANK SINCE 1921	TOTAL RAINFALL (INCHES)	DEPARTURE FROM NORMAL (INCHES)	PERCENT OF NORMAL	RANK SINCE 1921
Panhandle	4.71"	-0.88"	84%	33rd driest	12.42"	-8.68"	59%	4th driest
North Central	6.99"	-0.28"	96%	42nd driest	22.94"	-8.71"	72%	15th driest
Northeast	9.74"	+1.46"	118%	34th wettest	35.09"	-6.88"	84%	26th driest
West Central	5.64"	-1.00"	85%	30th driest	20.13"	-8.96"	69%	11th driest
Central	10.83"	+2.99"	138%	14th wettest	35.79"	-2.20"	94%	37th wettest
East Central	6.96"	-1.53"	82%	35th driest	38.53"	-7.56"	84%	26th driest
Southwest	5.50"	-1.49"	79%	30th driest	21.54"	-9.26"	70%	8th driest
South Central	8.35"	+0.47"	106%	34th wettest	33.14"	-7.82"	81%	27th driest
Southeast	7.49"	-1.39"	84%	39th driest	42.59"	-8.35"	84%	24th driest
Statewide	7.57"	+0.02"	100%	43rd wettest	29.34"	-7.35"	80%	22nd driest



## SOIL MOISTURE

### Fractional Water Index<sup>1</sup>

July 22, 2013



<sup>1</sup> 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

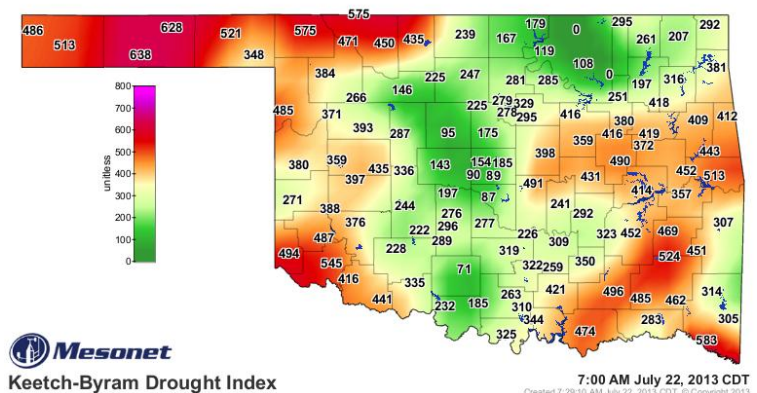
Palmer Drought Severity Index <sup>1</sup>					Standardized Precipitation Index <sup>2</sup> Through June 2013			
CLIMATE DIVISION	CURRENT STATUS 7/20/2013	VALUE		CHANGE IN VALUE	3-MONTH	6-MONTH	12-MONTH	24-MONTH
		7/20	6/22					
Northwest	EXTREME DROUGHT	-4.25	-3.90	<b>-0.35</b>	ABNORMALLY DRY	NEAR NORMAL	MODERATELY DRY	ABNORMALLY DRY
North Central	INCIPIENT DROUGHT	-0.54	-0.16	<b>-0.38</b>	NEAR NORMAL	NEAR NORMAL	SEVERELY DRY	ABNORMALLY DRY
Northwest	MILD DROUGHT	-1.05	0.56	<b>-1.61</b>	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	ABNORMALLY DRY
West Central	MODERATE DROUGHT	-2.18	-2.12	<b>-0.06</b>	MODERATELY DRY	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY
Central	NEAR NORMAL	0.16	1.57	<b>-1.41</b>	VERY MOIST	MODERATELY MOIST	NEAR NORMAL	NEAR NORMAL
East Central	MILD DROUGHT	-1.44	0.83	<b>-2.27</b>	MODERATELY MOIST	ABNORMALLY MOIST	NEAR NORMAL	ABNORMALLY DRY
Southwest	MODERATE DROUGHT	-2.33	-2.52	<b>0.19</b>	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY
South Central	MILD DROUGHT	-1.55	-0.51	<b>-1.04</b>	ABNORMALLY MOIST	ABNORMALLY MOIST	NEAR NORMAL	ABNORMALLY DRY
Southeast	MODERATE DROUGHT	-2.12	-0.29	<b>-1.83</b>	MODERATELY MOIST	MODERATELY MOIST	NEAR NORMAL	ABNORMALLY DRY

- Seven climate divisions are classified as experiencing drought conditions, according to the PDSI. Eight regions have undergone a PDSI moisture decrease since June 22. According to the latest SPI, eight climate divisions continue to experience near long-term dry conditions, at least through the last two years.

### Keetch-Byram Drought Fire Index<sup>3</sup>

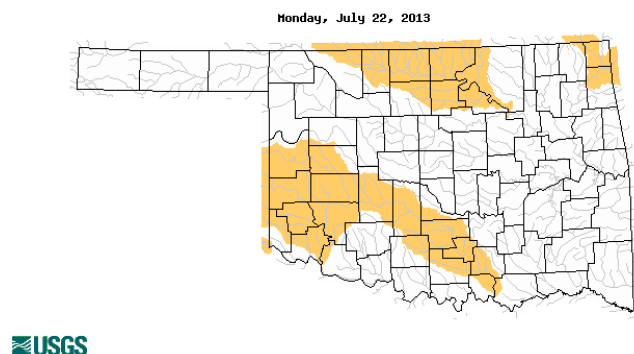
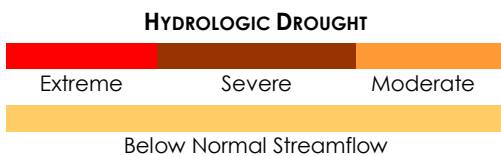
MESONET STATION	CLIMATE DIVISION	CURRENT VALUE 7/22/2013
Goodwell	Northwest	638
Hooker	Northwest	628
Idabel	Southeast	583

- Stations currently at or above 600 (July 22) = 2
- Stations above 600 on June 25 = 0



## STREAMFLOW CONDITIONS

July 22, 2013



<sup>1</sup> 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.

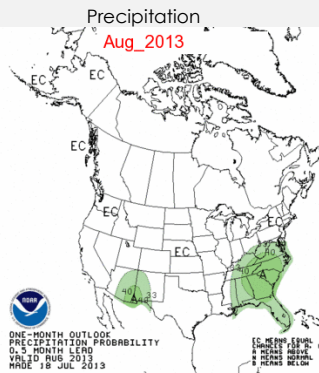
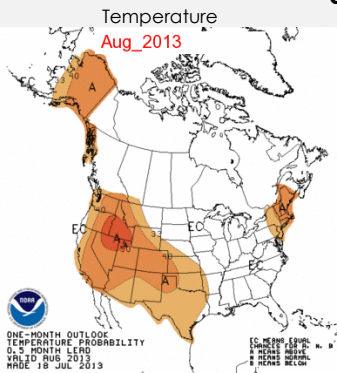
<sup>2</sup> The Standardized Precipitation Index, more sensitive than the PDSI, provides a comparison of precipitation over a specified period with precipitation totals from that same period for all years included in the historical record. The 3-month SPI provides a seasonal estimation of precipitation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

<sup>3</sup> 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.

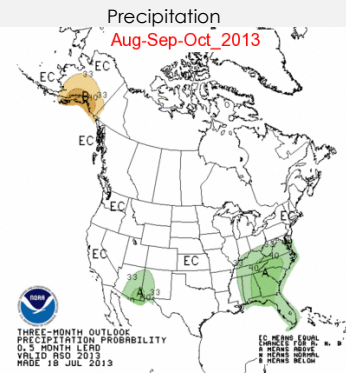
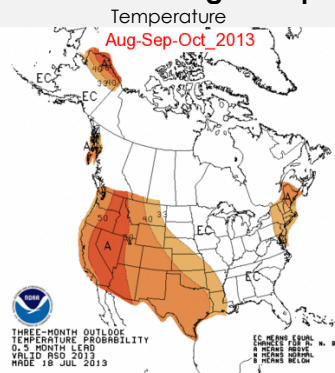
# WEATHER/DROUGHT FORECAST

## Seasonal Outlook

### August



### August-September-October



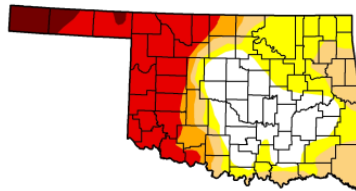
## Regional Drought Summary & Outlook

### U.S. Drought Monitor

July 23, 2013  
Valid 7 a.m. EST

#### Oklahoma

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	24.92	75.08	51.42	36.11	30.26	4.32
Last Week (07/16/2013 map)	24.92	75.08	59.05	36.18	30.29	4.32
3 Months Ago (04/23/2013 map)	10.80	89.20	72.08	53.76	30.53	5.48
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	100.00	94.89	37.06
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	99.98	95.33	42.09
One Year Ago (07/17/2012 map)	0.00	100.00	99.61	64.31	15.48	0.00



#### Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



Released Thursday, July 25, 2013

Richard Heim, National Climatic Data Center, NOAA

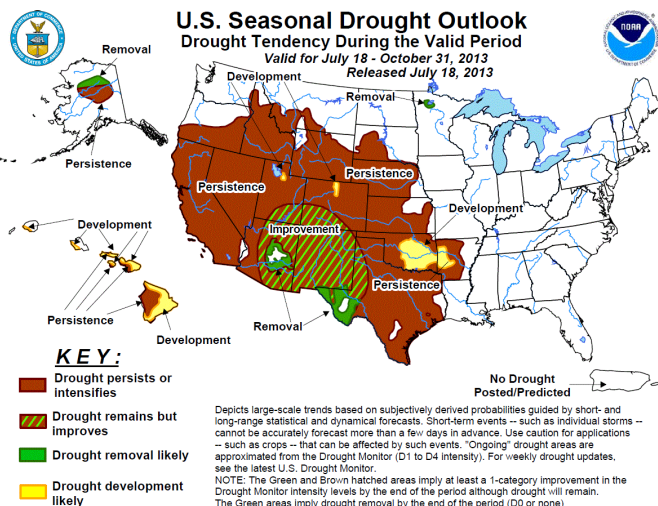
July 23—In the southern Plains, D1-D2 were pulled back in southeast Kansas-northeast Oklahoma and southeast Oklahoma where 2+ inches of rain fell. Most of Texas had above normal precipitation this week, so many parts of the state saw D1-D4 improvement. But much of the central to northern Plains was drier than normal this week. In Kansas, D0 expanded in the north and D4 (exceptional drought) in the west. A spot of D0 was added to eastern North Dakota where soil moisture and 60-day precipitation deficits were driest. With 70-71% of the topsoil moisture in Nebraska and Kansas rated short or very short, 55% of the pasture and range land in Kansas in poor to very poor condition, 30-day precipitation deficits of 2-4 inches and 12-month precipitation deficits of 10 inches or more widespread across the two states, significant rains will be needed to improve conditions.

About 30 percent of Oklahoma is classified in Extreme Drought, up four percent from one month ago and the same as three months ago. More than four percent of the state—mostly consisting of the western Panhandle region—is considered Exceptional, the most intense drought category, which is a slight improvement from last month.

According to the latest Drought Outlook (July 18), drought development is forecasted for a large section of central, southern and eastern Oklahoma. Drought is expected to persist or intensify elsewhere, including the western region of the state, through October.

### U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period  
Valid for July 18 - October 31, 2013  
Released July 18, 2013

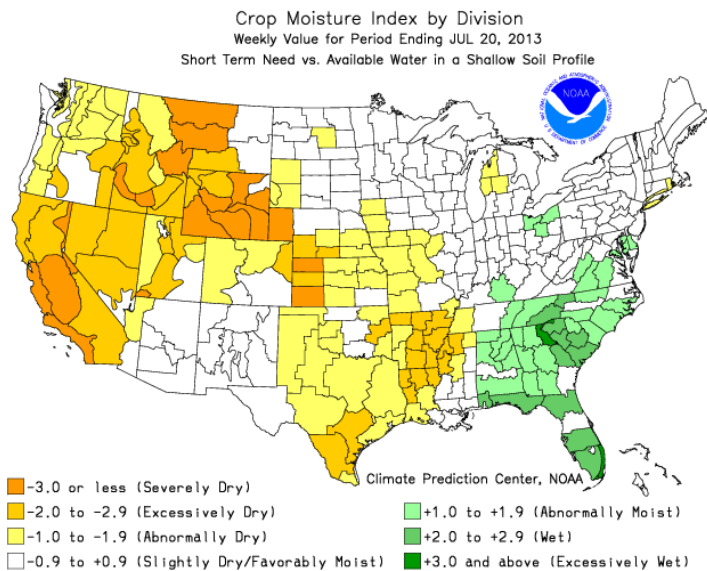


KEY:  
■ Drought persists or intensifies  
■ Drought remains but improves  
■ Drought removal likely  
■ Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor.  
 NOTE: The Green and Brown hatched 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).

## CROP REPORT SUMMARY

July 22, 2013 – Row crops made significant progress over the past week, but continued behind the five-year average for various stages of development. Conditions for corn were rated mostly good and the condition of sorghum, soybeans and peanuts were rated mostly good to fair. Cotton conditions were rated mostly fair, but had improved from the previous week. Multiple storms during the week resulted in an average rainfall of 1.3 inches for the state. More rainfall is needed to improve subsoil moisture, particularly in the Panhandle and west central Oklahoma. Temperatures averaged in the upper 70s, moderated by the recent rainfall. Pasture and range land continued to be rated mostly good to fair, with 26 percent rated poor to very poor. Limited availability of pasture in some areas meant continuing to supplement livestock herds with feed. Continued problems with grasshoppers were reported. Topsoil moisture conditions rated adequate increased to include 48 percent of the state. Subsoil moisture conditions were rated 36 percent adequate and 64 percent short to very short. There were 5.1 days suitable for fieldwork.



## RESERVOIR STORAGE

July 22, 2013

