# Oklahoma Water Resources Bulletin & Summary of Current Conditions

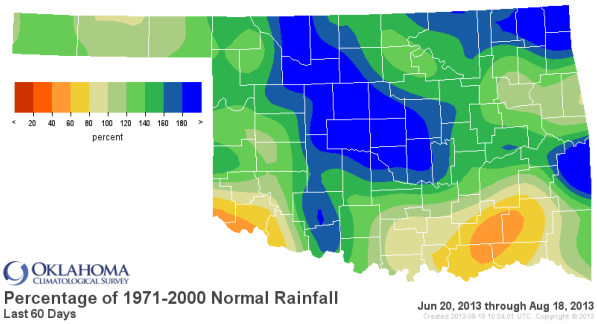
State of Oklahoma OWRB Water Resources Board the water agency

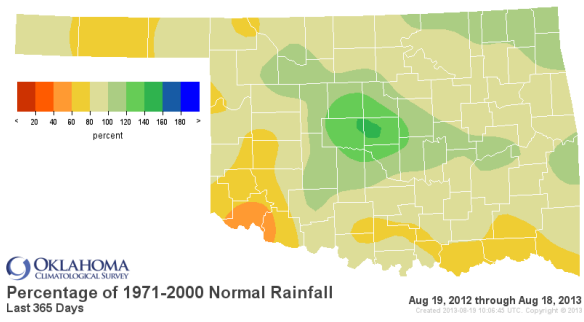
August 22, 2013

## PRECIPITATION

### Statewide Precipitation

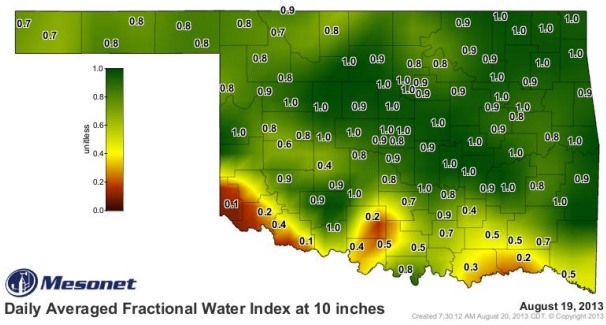
| Climate Division | Last 60 Days (June 20, 2013 – August 18, 2013) Total Rainfall (inches) | Departure From Normal (inches) | Percent Of Normal | Rank Since 1921 | Last 365 Days (August 19, 2012 – August 18, 2013) Total Rainfall (inches) | Departure From Normal (inches) | Percent Of Normal | Rank Since 1921 |
|---|---|---|---|---|---|---|---|---|
| Panhandle | 6.45" | +1.40" | 128% | 16th wettest | 16.51" | -4.59" | 78% | 18th driest |
| North Central | 10.08" | +3.88" | 163% | 10th wettest | 29.06" | -2.59" | 92% | 43rd wettest |
| Northeast | 10.64" | +3.94" | 159% | 11th wettest | 41.69" | -0.28" | 99% | 34th wettest |
| West Central | 7.18" | +2.06" | 140% | 16th wettest | 24.66" | -4.43" | 85% | 36th driest |
| Central | 10.36" | +4.59" | 179% | 9th wettest | 42.26" | +4.27" | 111% | 17th wettest |
| East Central | 8.40" | +1.97" | 131% | 25th wettest | 43.24" | -2.85" | 94% | 44th wettest |
| Southwest | 6.58" | +1.32" | 125% | 19th wettest | 25.10" | -5.70" | 81% | 33rd driest |
| South Central | 5.90" | +0.18" | 103% | 35th wettest | 34.49" | -6.47" | 84% | 34th driest |
| Southeast | 7.25" | +0.37" | 105% | 39th wettest | 43.28" | -7.66" | 85% | 24th driest |
| Statewide | 8.24" | +2.33" | 139% | 13th wettest | 33.73" | -2.96" | 92% | 44th wettest |

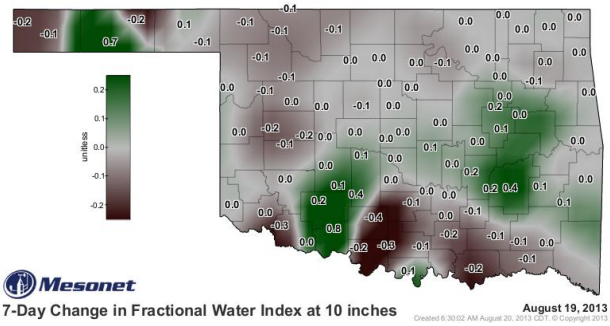



## SOIL MOISTURE

### Fractional Water Index[1] August 19, 2013




[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 8/17/2013 | VALUE 8/17 | VALUE 7/20 | CHANGE IN VALUE |
|---|---|---|---|---|
| Northwest | MILD DROUGHT | -1.22 | -4.25 | **3.03** |
| North Central | UNUSUAL MOIST SPELL | 2.45 | -0.54 | **2.99** |
| Northeast | MOIST SPELL | 1.87 | -1.05 | **2.92** |
| West Central | NEAR NORMAL | 0.08 | -2.18 | **2.26** |
| Central | UNUSUAL MOIST SPELL | 2.87 | 0.16 | **2.71** |
| East Central | INCIPIENT MOIST SPELL | 0.97 | -1.44 | **2.41** |
| Southwest | INCIPIENT DROUGHT | -0.66 | -2.33 | **1.67** |
| South Central | INCIPIENT DROUGHT | -0.87 | -1.55 | **0.68** |
| Southeast | NEAR NORMAL | -0.24 | -2.12 | **1.88** |

## Standardized Precipitation Index[2] Through July 2013

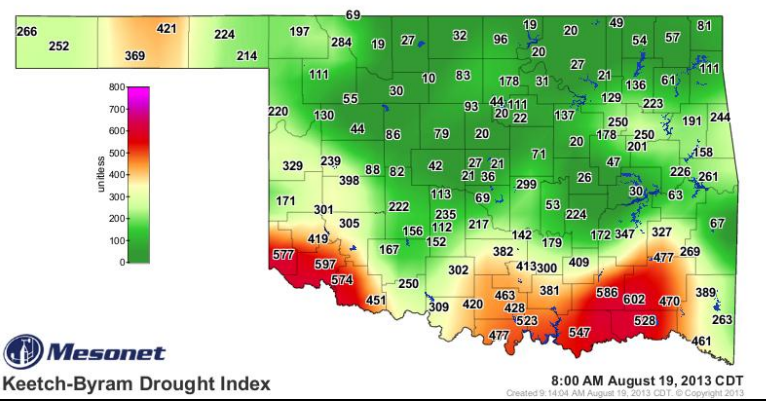
| CLIMATE DIVISION | 3-MONTH | 6-MONTH | 12-MONTH | 24-MONTH |
|---|---|---|---|---|
| Northwest | NEAR NORMAL | NEAR NORMAL | NEAR NORMAL | NEAR NORMAL |
| North Central | ABNORMALLY MOIST | MODERATELY MOIST | NEAR NORMAL | NEAR NORMAL |
| Northeast | NEAR NORMAL | ABNORMALLY MOIST | NEAR NORMAL | NEAR NORMAL |
| West Central | NEAR NORMAL | NEAR NORMAL | ABNORMALLY DRY | ABNORMALLY DRY |
| Central | VERY MOIST | EXTREMELY MOIST | MODERATELY MOIST | NEAR NORMAL |
| East Central | ABNORMALLY MOIST | ABNORMALLY MOIST | NEAR NORMAL | NEAR NORMAL |
| Southwest | NEAR NORMAL | ABNORMALLY MOIST | NEAR NORMAL | ABNORMALLY DRY |
| South Central | MODERATELY MOIST | ABNORMALLY MOIST | NEAR NORMAL | NEAR NORMAL |
| Southeast | MODERATELY MOIST | ABNORMALLY MOIST | NEAR NORMAL | NEAR NORMAL |

- Only one climate division is now classified as experiencing drought conditions, according to the PDSI. No regions have undergone a PDSI moisture decrease since July 20. According to the latest SPI, only two climate divisions are experiencing near long-term dry conditions.

## Keetch-Byram Drought Fire Index[3]

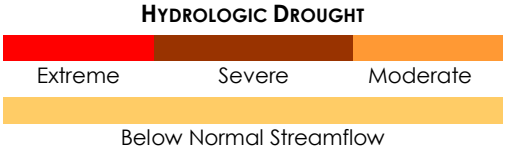
| MESONET STATION | CLIMATE DIVISION | CURRENT VALUE 8/19/2013 |
|---|---|---|
| Antlers | Southeast | 602 |
| Altus | Southwest | 597 |
| Lane | South Central | 586 |

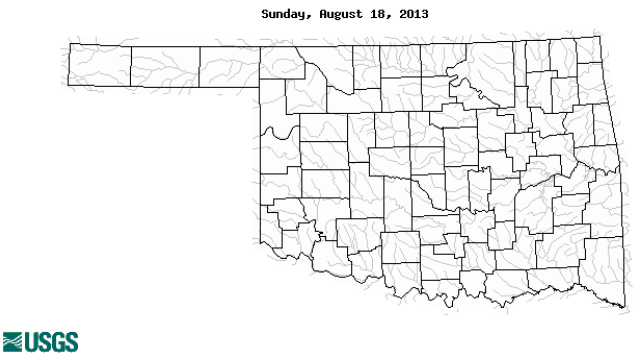
- Stations currently at or above 600 (August 19) = 1
- Stations above 600 on July 22 = 2




# STREAMFLOW CONDITIONS

## August 18, 2013




[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.*

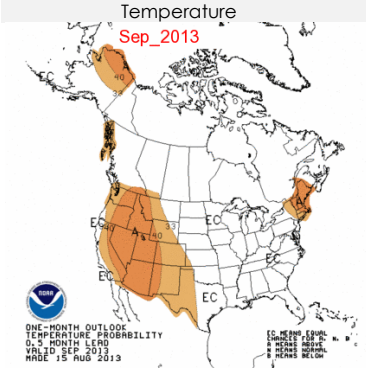
[3] *The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values of 600 and above are often associated with more severe drought and increased wildfire occurrence.*

# WEATHER/DROUGHT FORECAST

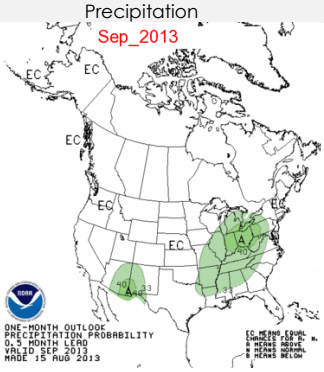
## Seasonal Outlook

### September

Temperature

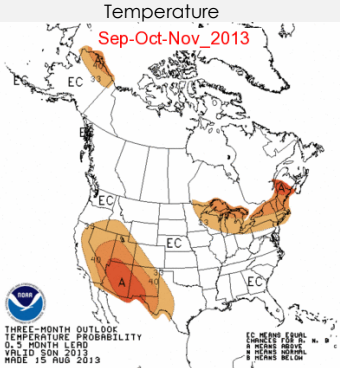



Precipitation

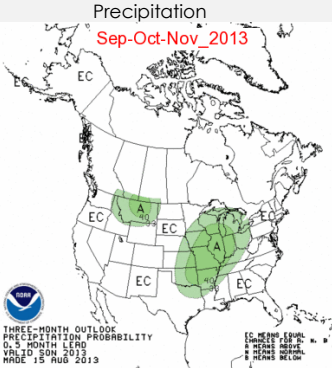



### September-October-November

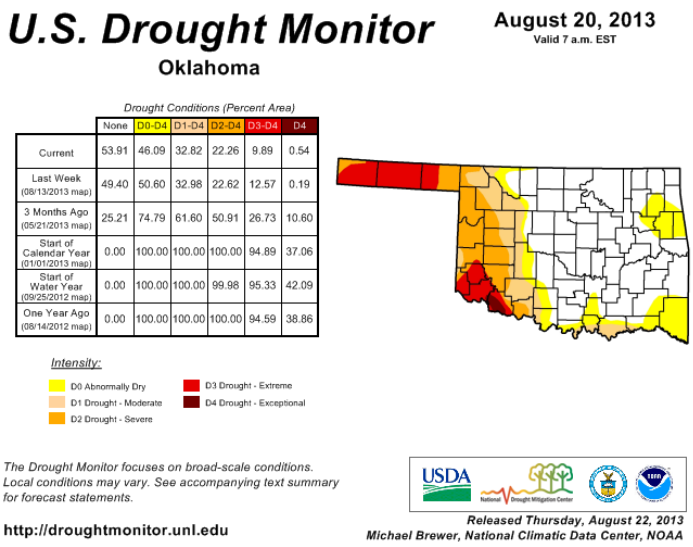
Temperature

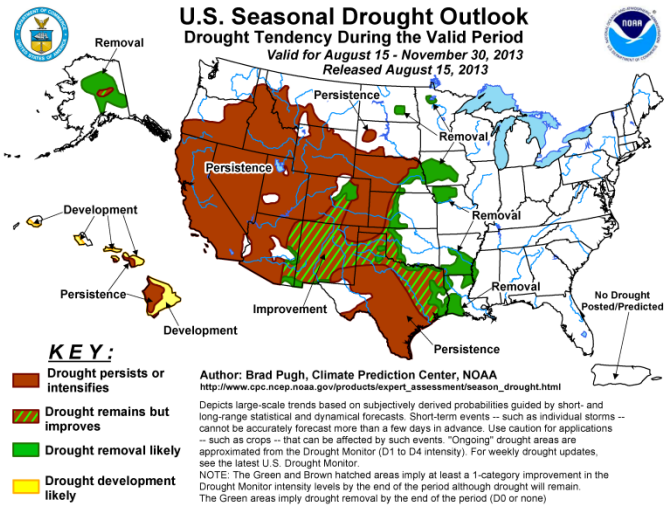



Precipitation




## Regional Drought Summary & Outlook



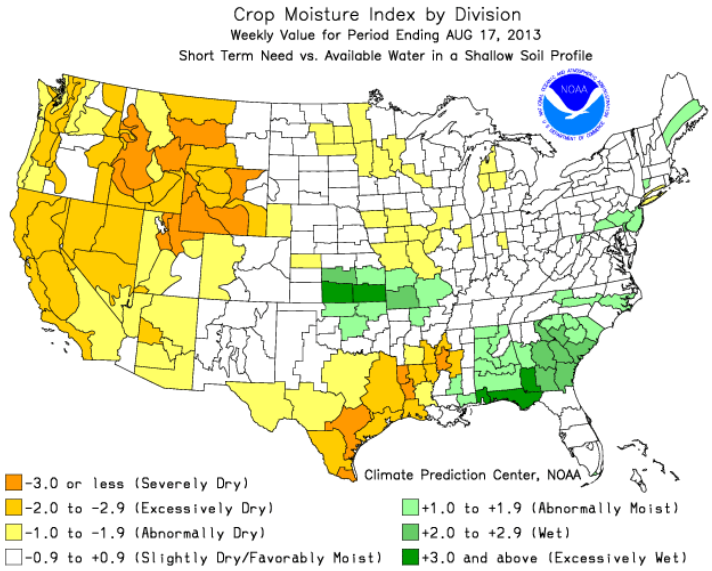

August 20—In the southern Plains, Beneficial rains fell again this week across portions of northern Texas, Oklahoma, Kansas, and Arkansas, leading to improvements in drought conditions in western and central Kansas, western and central Oklahoma, the Panhandle of Texas, south-central Arkansas, and eastern Louisiana. Conversely, Extreme (D3), Severe (D2) and Moderate Drought (D1) expanded in Texas and northern Louisiana and Abnormal Dryness (D0) expanded in Louisiana and southern Arkansas.

More than half the state is now completely free from drought due to an uncharacteristically wet and mild mid-summer period. Less than 10 percent of Oklahoma is now classified in Extreme Drought, down from 30 percent one month ago. Less than one percent of the state—a very small portion of southwest Oklahoma—is considered Exceptional, the most intense drought category.

According to the latest Drought Outlook (August 15), drought is expected to persist or intensify only in the Panhandle region of Oklahoma through November. Improvement is expected elsewhere.

## CROP REPORT SUMMARY

August 19, 2013 – Parts of the Panhandle and southwestern Oklahoma remain the hardest hit by the drought, but did receive relief this past week as 2.31 inches of rain was measured in Goodwell and almost two inches fell in Grandfield. Crop conditions for all row crops except for cotton were rated mostly in good condition, and cotton conditions improved significantly. Pastures continued to green-up and hay conditions improved slightly. Other hay cutting made very little progress due to wet conditions. Temperatures continued to be cooler than normal for August. Topsoil moisture conditions were mostly adequate, with 75 percent rated adequate or surplus and only 25 percent rated short to very short. Subsoil moisture conditions improved slightly and were rated 56 percent adequate and 43 percent short to very short. There were 4.2 days suitable for fieldwork due to wet conditions.




## RESERVOIR STORAGE

**August 19, 2013**