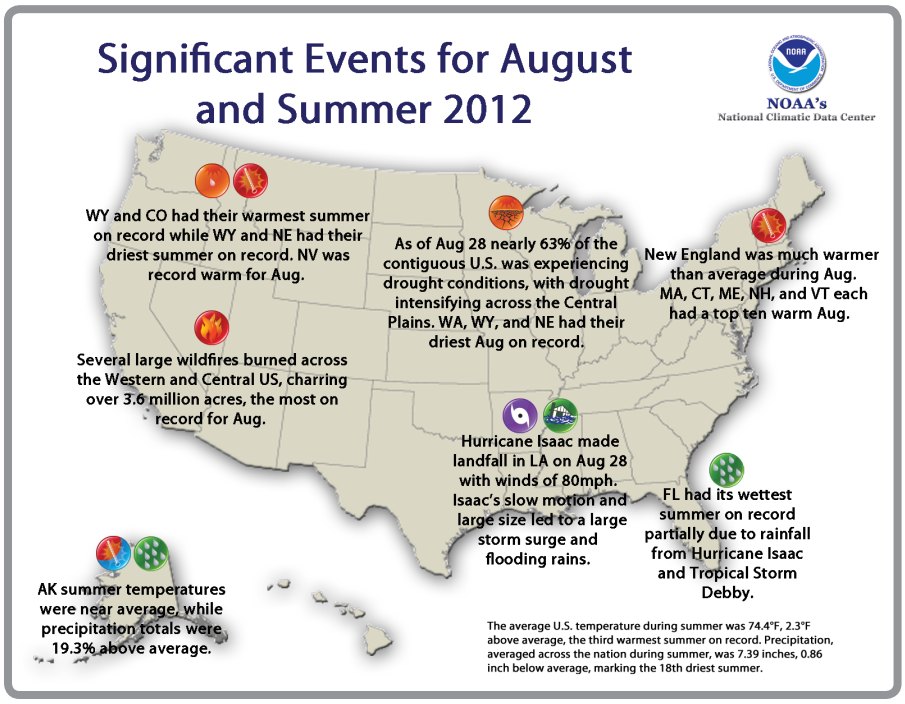
Quarterly Climate Impacts and Outlook

Southern Great Plains Region

Fall 2012

National - *Significant Events for June - August 2012*



Extreme Drought Reemerges in the Southern Plains

Oklahoma

- **91%** of the state in **extreme drought** on September 1st, up from 3% on June 1st
- **150,000+ acres burned** by wildfires in 2012

Texas

- **21%** of the state in **extreme drought** on September 1st, up from 10% on June 1st
- Many reservoirs in West Texas below last year's levels – some **at or near 0% capacity**

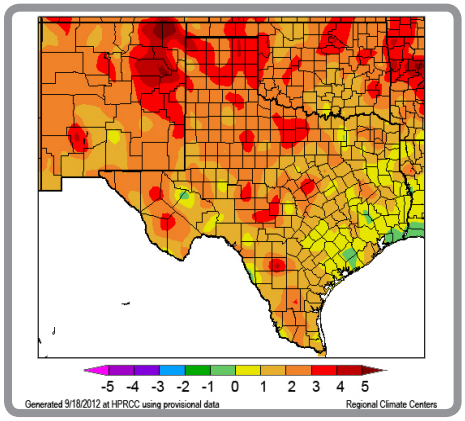
New Mexico

- State's major reservoir, Elephant Butte, at **less than 10% capacity** on Sep 1st
- **370,000+ acres burned** by wildfires in 2012

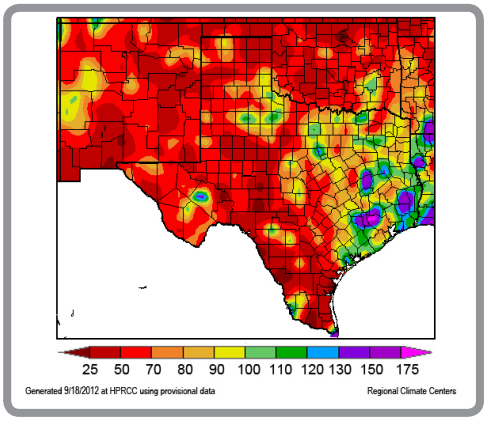
Regional - *Climate Overview for June - August 2012*

Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
6/1/2012 - 8/31/2012

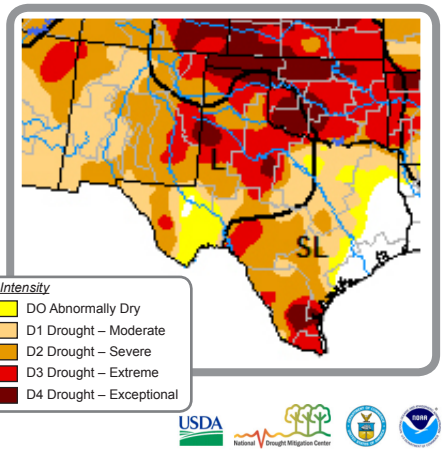


Percent of Normal Precipitation (%)
6/1/2012 - 8/31/2012



Drought

US Drought Monitor
9/13/2012



Temperature and Precipitation Rankings			
	Jun 1st-Aug 31st	Jan 1st-Aug 31st	Sep 2010-Aug 2012
Oklahoma	12th warmest	**HOTTEST**	**HOTTEST**
Texas	10th warmest	3rd warmest	**HOTTEST**
New Mexico	3rd warmest	2nd warmest	**HOTTEST**
Oklahoma	17th driest	35th driest	9th driest
Texas	39th driest	67th driest	5th driest
New Mexico	8th driest	5th driest	**DRIEST**

Provisional data courtesy of High Plains Regional Climate Center, (www.hprcc.unl.edu) and the U.S. Drought Portal, (www.drought.gov)

Above-average temperatures (above, left) and below-average precipitation (above, middle) both contributed to intense summer drought conditions in the Southern Great Plains (above, right).

2011 and 2012 have been two of the warmest years on record in the Southern Plains (left). Records date back to 1895.

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Regional Highlight - *The Historic 2010 – 2012 Drought Continues*

Climate Extremes

Since October 1st 2010 – the approximate beginning of the current historic drought – nearly all locations in Texas, Oklahoma, and New Mexico have received substantially below-average precipitation (right). Conditions have been further exacerbated by exceptional heat across much of the region.

Oklahoma and Texas

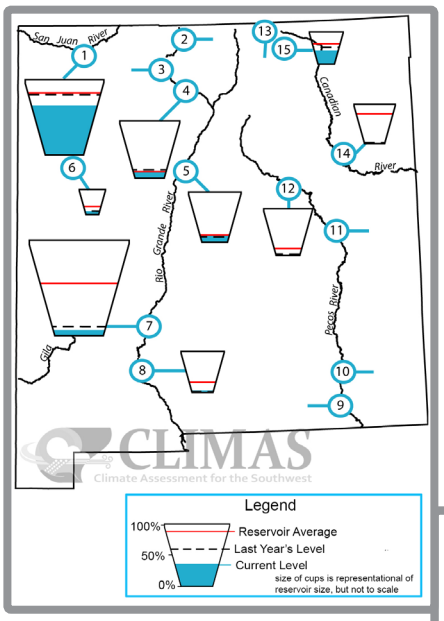
- Both states had driest 24-month period since 1956 (ending Aug 31st)
- Oklahoma on pace for its **warmest year on record** (since 1895)

New Mexico

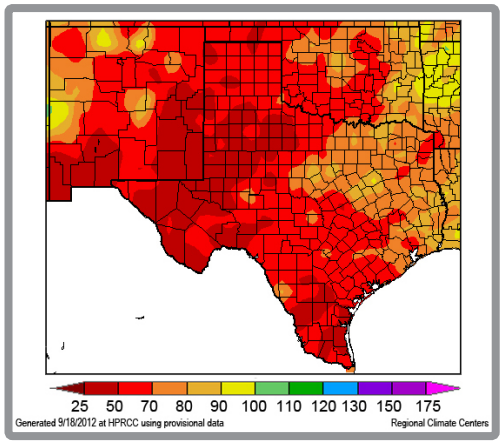
- 24-month period ending Aug 31st was both **driest** and **warmest on record** (since 1895)

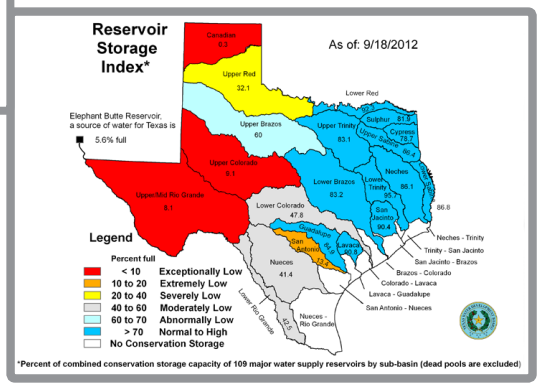
Water Resources

Among the most significant impacts of the combination of historic dryness and heat has been the reduction in reservoir capacity in New Mexico and Texas.



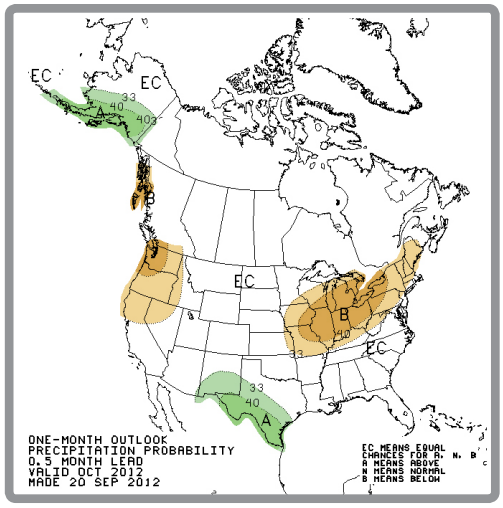
Percent of Normal Precipitation (%)
10/1/2010 – 8/31/2012

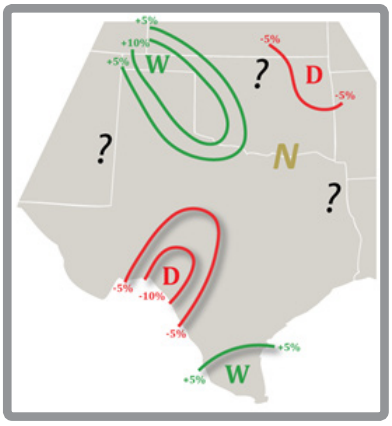




Above: www.climas.arizona.edu; conditions on August 31st
Top right: www.hprcc.unl.edu; Sep 2010 thru August 2012
Bottom right: www.twdb.state.tx.us; conditions on September 18th

Regional Outlook - *for Fall Season*





Left: www.cpc.noaa.gov, October 2012 national precipitation outlook
Above: www.esrl.noaa.gov/psd, Fall 2012 (October-December) Southern Plains precipitation outlook

Official NOAA October Precipitation Outlook

- For October, there is an **increased probability** of above-normal precipitation in portions of **south and east Texas**
- There are **equal chances** of either above- or below-normal precipitation in **Oklahoma and New Mexico**

Looking Forward: Regional Fall Forecast

- Borderline **El Nino-like** conditions are likely to persist through at least December
- There are **increased chances** of wet conditions in the **Texas and Oklahoma panhandles**
- There are **decreased chances** of wet conditions in **southwest Texas** and **eastern Oklahoma**

Southern Plains Partners

Cooperative Institute for Research in Environmental Sciences
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Climate Assessment for the Southwest
climas.arizona.edu
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Western Governors Association
westgov.org
Western Regional Climate Center
wrcc.dri.edu

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