

Drought Outlook Discussion for Louisiana, New Mexico, Oklahoma, and Texas

El Niño-Southern Oscillation Background:

- The El Niño-Southern Oscillation (ENSO) is a large-scale circulation pattern that affects North American weather and climate. El Niño is characterized by above normal tropical Pacific sea surface temperatures (SSTs) and La Niña is characterized by cooler than normal SSTs. Times of normal SSTs are called ENSO-neutral.
- Associated changes in the Pacific jet stream lead to changes in temperature and rain fall patterns over North America. Research has shown that certain weather patterns are associated with El Niño and La Niña, for instance, for the south central U.S. La Niña tends to bring drier conditions and El Niño tends to bring wetter conditions. Both have a stronger influence on the weather in winter than in summer. Monitoring ENSO trends allows climatologists to provide seasonal outlooks, giving several months of lead time for potentially drier or wetter conditions.

El Niño-Southern Oscillation Outlook:

- A transition from La Niña to ENSO-neutral conditions occurred during May 2011. NOAA's ENSO discussion (issued 7 July 2011) notes that over the last couple of weeks, forecasts created by the Climate Forecast System have begun to indicate the re-emergence of La Niña during Northern Hemisphere fall or early winter 2011. However, while the chance of a re-emergence of La Niña conditions has increased, neutral conditions remain more likely for summer and fall 2011.
- NOAA issues a monthly ENSO Diagnostics Discussion that includes the latest forecasts. Users should check regularly for updates.

Seasonal Outlook:

- NOAA's official seasonal precipitation outlook for July-August-September 2011 (Fig. 1, issued June 16) indicates equal chances (1/3 each), or EC, of above, normal, or below seasonal rainfall for Texas and the surrounding states.
- The seasonal temperature outlook for July-August-September 2011 (issued by NOAA on June 16) indicates an increased probability that temperatures will be above normal (in the upper third of historical conditions, above the 66th percentile) for New Mexico, Texas, and Louisiana (Fig. 2). In southern New Mexico, and parts of west Texas, the NOAA forecast indicates a greater than 50% probability of temperatures being in the upper third of historical conditions.

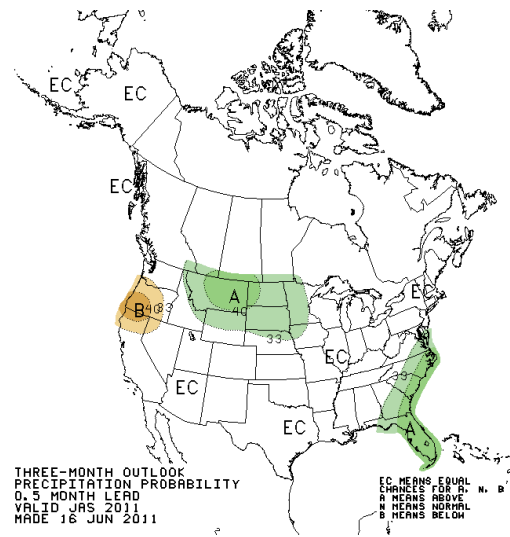


Figure 1: Seasonal precipitation outlook for July-August-September 2011. The darker green indicates greater than normal precipitation and the darker brown indicates less than normal precipitation.

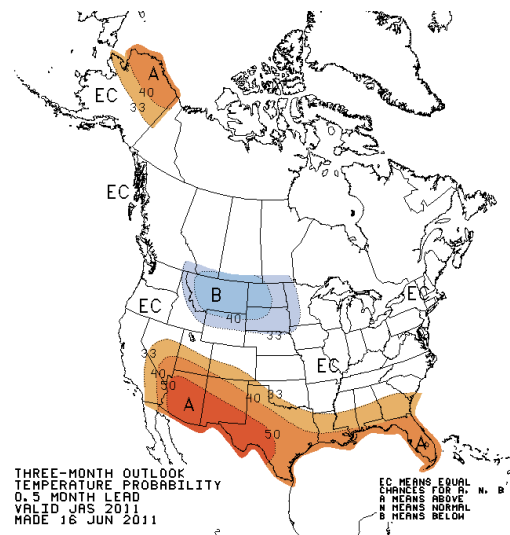


Figure 2: Seasonal temperature outlook for July-August-September 2011. The darker orange indicates warmer than normal temperatures and the darker blue indicates cooler than normal temperatures.

Atlantic Hurricane Outlook:

- NOAA's official 2011 Atlantic Hurricane Season Outlook (issued May 19) indicates a 65% chance of an above normal season (11-18 named storms; 6-10 hurricanes), though it does not speak to the probability of any of these storms making landfall.

Drought Outlook:

- The seasonal drought outlook for July-August-September 2011 (issued by NOAA on July 7, Fig. 3) indicates a persistence of drought over most of Texas, northern Louisiana, and west and central Oklahoma. Improvements in drought severity are expected in New Mexico because of the ameliorating effect of the typical summer monsoon rains. Improvement is also expected along the immediate Gulf of Mexico coast.

Summary:

- The ENSO forecast skill for the coming winter/spring will improve in the late summer/early fall.
- Texas and the surrounding states have observed one of the driest winter and spring seasons on record. The chance of a re-emergence of La Nina conditions has increased in the last month; however, neutral conditions remain more likely for summer and fall. ***Given current drought conditions, the expected above-normal temperatures, and the precipitation outlook, there is less than 5% chance that drought conditions will end in July-August-September.*** There is, however, an above average chance of having an active tropical storm season. Parts of coastal Texas and Louisiana could find drought relief due to tropical storm precipitation.

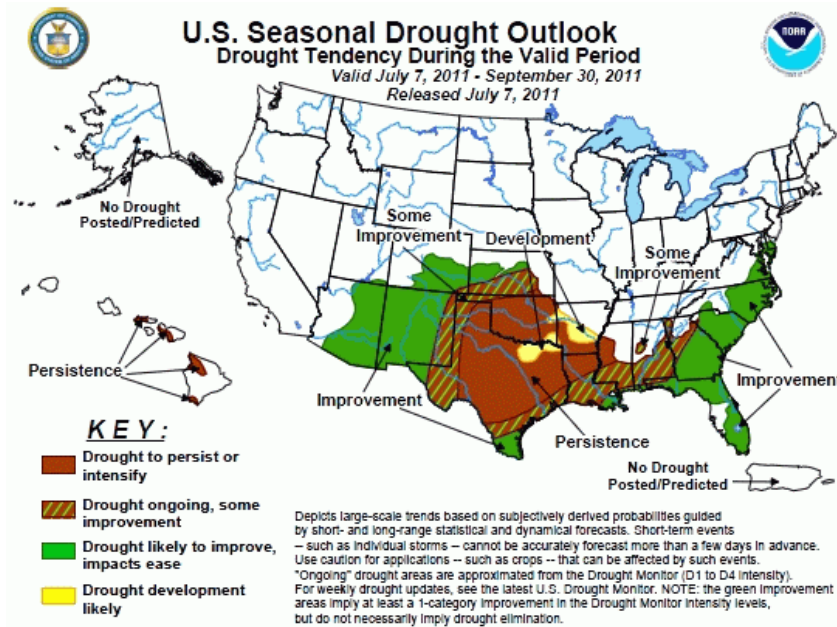


Figure 3: Drought outlook for July-August-September 2011. Dark brown indicates intensifying drought, green indicates likely improvements and the hatched area indicates an ongoing drought with some improvement.

To keep up to date on drought and ENSO conditions:

U.S. Drought Portal: <http://www.drought.gov>

- U.S. Drought Monitor

NOAA's Climate Prediction Center:

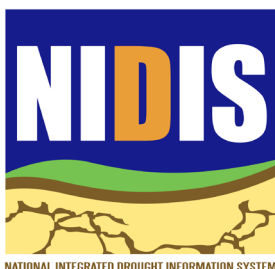
<http://www.cpc.ncep.noaa.gov/>

- ENSO Forecast, Seasonal Outlook, U.S. Drought Outlook, Atlantic Hurricane Outlook

International Research Institute for Climate and Society:

<http://portal.iri.columbia.edu>

- IRI ENSO Forecast, IRI Seasonal Climate Forecast



NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM

