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CLIMATE IMPACTS & OUTLOOK

November 2017

Summary

Forecasts favor above-average temperatures and below-average precipitation for the Rio Grande/Bravo Basin through February, due to weak La Niña conditions in the tropical Pacific.

AT A GLANCE

- 1 Southwest New Mexico/Texas**
Drought conditions are predicted to develop in the region through February.
- 2 Central/East Texas**
Above-average temperatures and below-average precipitation are forecasted through January, resulting in above-average fire potential for January.
- 3 Northeast Coahuila, North/West Nuevo León**
Precipitation from August–October was 150-200% above average.



REGIONAL CLIMATE OVERVIEW AUGUST | SEPTEMBER | OCTOBER

Over the last three months (August – October) precipitation was 25–90% below average for western New Mexico and most of the Rio Grande-Bravo region (Figure 1; left). Precipitation was above average for eastern New Mexico and a small area near Laredo, Texas. Temperatures were above average (0–3 °F; 0–1.7 °C) for most of New Mexico and West and South Texas (Figure 1; right). Pockets in eastern New Mexico and Southwest Texas near Laredo experienced temperatures 0–3 °F (0–1.7 °C) below average.

Temperatures from November 1–14 were 0–8 °F (0–4.4 °C) above average for all of New Mexico and most of Texas (figure not shown). Precipitation over the same time period was 0–50% below average for most of Texas and New Mexico. Exceptions were the Paso del Norte region, from Las Cruces, NM to El Paso, TX, and southernmost Texas, where precipitation was 125–800% above average.

In August to October, below-average temperatures were observed, mainly in western and northern Coahuila, breaking the increasing temperature trend throughout the summer. Southern Chihuahua and western Durango kept the warmer-than-normal signal, where anomalies reached 5.4 °F (3 °C) above average (Figure 2, left). The regions with the highest number of days above 104 °F (40 °C) were located in most of Sonora, and to a lesser extent in northern Nuevo León (Figure 2, right).

The highest amount of rainfall (in mm) was located in southern Sinaloa and in southern Tamaulipas, and smaller amounts were concentrated in northern Baja California (Figure 3, left). Most of Northwest Mexico ended this quarter below normal, but the situation was different for most of the northern and northeastern parts of the country, mainly in the corridor from northern Coahuila to Zacatecas, which were wetter than normal (Figure 3, right).

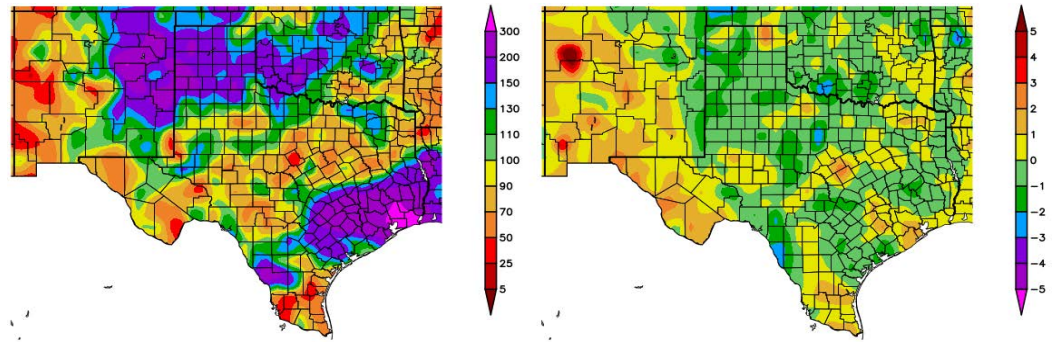


Figure 1 (above): Percent of average precipitation (left) and departure from average temperature in degrees F (right), compared to the 1981–2010 climate average, for 8/1/2017–10/31/2017. Maps from [HPRCC](#).

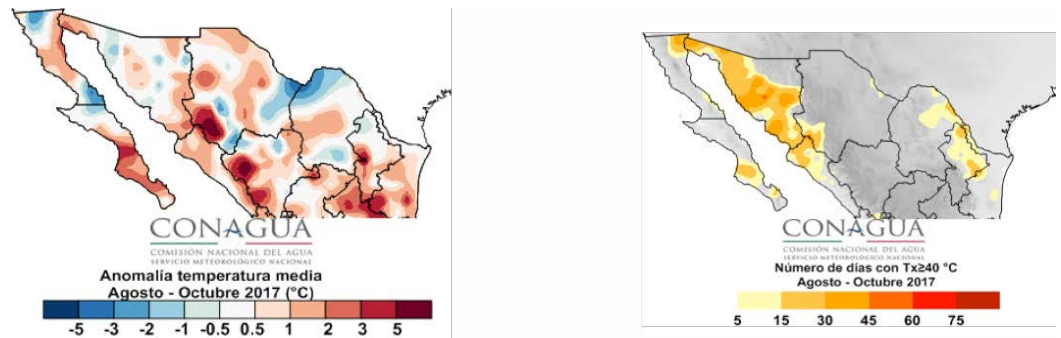


Figure 2 (above): Temperature anomalies in °C (left) and number of days with maximum temperatures at or above 40 °C (104 °F) (right) for August–October. Maps from [SMN](#).

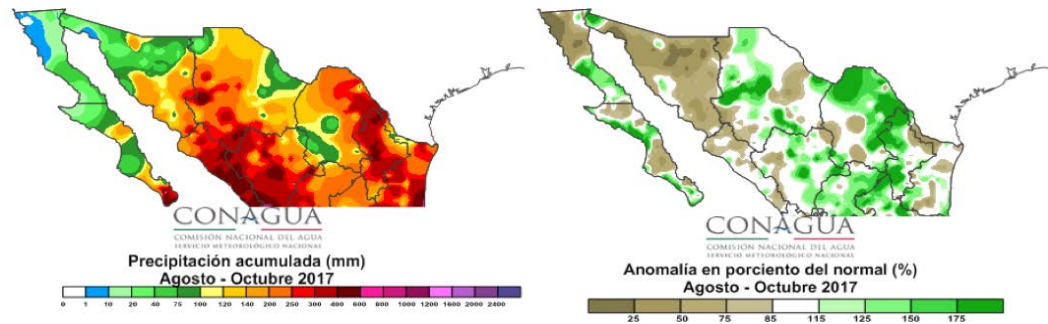


Figure 3 (above): Accumulated precipitation in mm (left) and percent of normal (right) for August–October. Maps from [SMN](#).

DROUGHT

Abnormally dry conditions remained in western New Mexico over the past month, according to the [North American Drought Monitor](#) (NADM) (Figure 4). Abnormally dry conditions also developed in areas of Central and western Texas. Moderate drought conditions remained in southern Texas and South Tamaulipas. Drought conditions in these areas are predicted to persist through February, according to the [U.S. Seasonal Drought Outlook](#). Drought is predicted to develop in Southwest New Mexico and most of Texas through February.

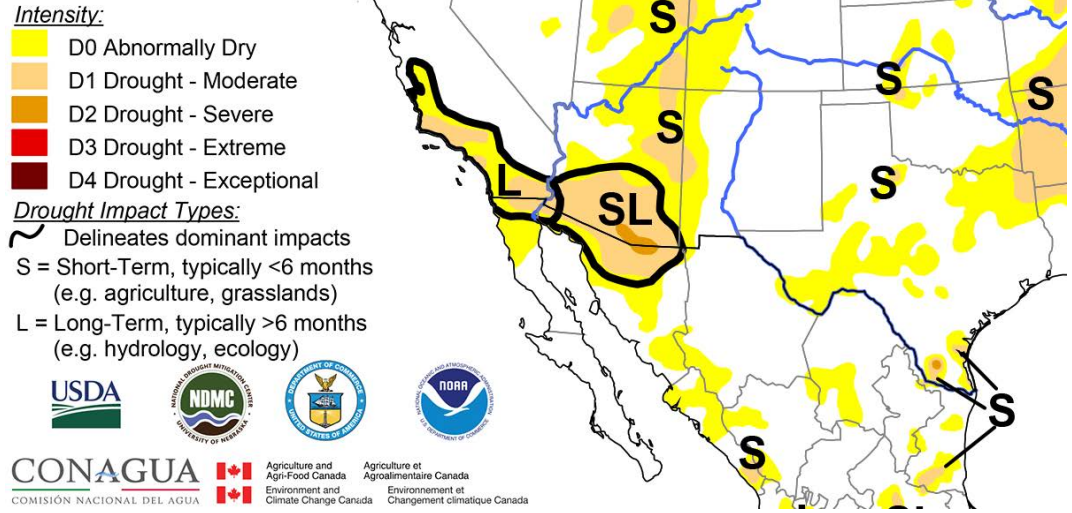


Figure 4 (right): North American Drought Monitor, released November 10, 2017.

FORECAST
DECEMBER | JANUARY | FEBRUARY

TEMPERATURE

The three-month NOAA temperature outlook (December-February; Figure 5) favors chances for above-average temperatures for all of New Mexico and Texas through February, reflective of continued La Niña conditions in the tropical Pacific Ocean through the winter.

The forecast from CONAGUA’s Servicio Meteorológico Nacional (SMN) for December predicts below-average minimum temperatures in Southeast Sonora, western Chihuahua, northern Sinaloa, and southern Coahuila and Nuevo León (Figure 6). Above-average conditions are predicted for southern and Southwest Chihuahua, Central Coahuila, Nuevo León and Tamaulipas. For January, SMN predicts below-average minimum temperatures in northern Baja California, Southwest Chihuahua and Coahuila. Above-average temperature anomalies are predicted in Central Baja California, eastern Sonora, Chihuahua, Coahuila, Nuevo León and Tamaulipas.

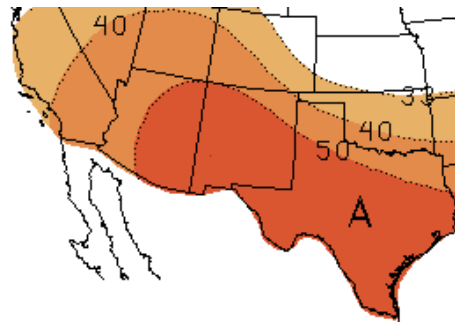


Figure 5 (left): NOAA three-month temperature outlook (December-February). Forecast made on November 16, 2017 by [CPC](#).

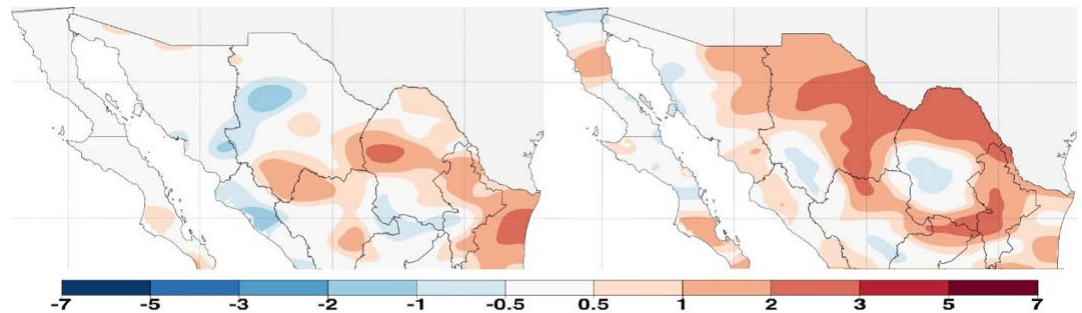


Figure 6 (below): Predicted minimum temperature anomalies for northern Mexico (in °C) for December 2017 (left) and January 2018 (right). Forecast made on November 1, 2017 by [SMN](#).

PRECIPITATION

The NOAA three-month precipitation outlook predicts chances for below-average precipitation for all of New Mexico and Texas, except for the northernmost points of both states (December-February; Figure 7). Precipitation forecasts reflect the projections for continued La Niña conditions in the tropical Pacific Ocean through the winter. La Niña conditions tend to lead to below-average precipitation in the Southwest U.S. and northern Mexico.

For December, the SMN precipitation outlook predicts above-average conditions in Baja California and Northwest Sonora, and below-average conditions in Baja California Sur, Southeast Sonora, Chihuahua, Coahuila, Nuevo León, Tamaulipas, San Luis Potosí, Zacatecas, Durango and Sinaloa (Figure 8). The precipitation forecast for January shows above-average conditions in Baja California Sur and northern Sonora and Chihuahua, and average to below-average conditions in the remainder of the country.

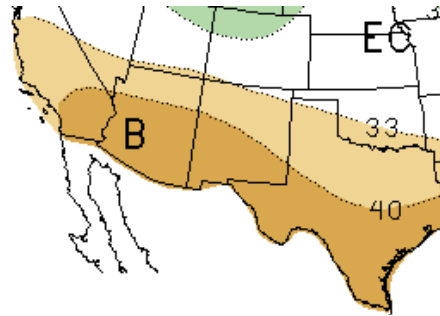


Figure 7 (left): NOAA three-month precipitation outlook (December-February). Forecast made on November 16, 2017 by [CPC](#).

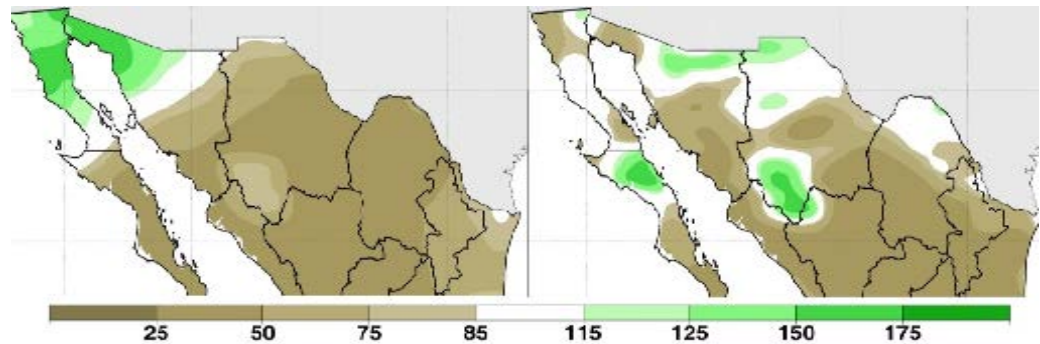


Figure 8 (below): Predicted precipitation anomalies for northern Mexico (in %) for December 2017 (left) and January 2018 (right). Forecast made on November 1, 2017 by [SMN](#).

FIRE

According to the National Interagency Fire Center ([NIFC](#)), fire risk is normal for New Mexico and Texas through December (Figure 9). However, La Niña conditions, projected to continue through the winter, are predicted to bring dry and warm conditions to the Southern Plains, including Central Texas, by January, making grasses and brush more receptive to fire. In Mexico, the potential for forest fires will be within the normal range for the northern part of the country through January.



Figure 9 (above): Fire outlook for December (left) and January (right). Red shading indicates conditions that favor increased fire potential. Green shading indicates conditions that favor decreased fire potential. Forecast made on November 13, 2017 from [NIFC](#) and [SMN](#).

EL NIÑO-SOUTHERN OSCILLATION (ENSO)

As of early-November, the tropical Pacific Ocean and atmosphere were exhibiting weak La Niña conditions (IRI; NOAA). Weak La Niña conditions are predicted to continue through approximately February-April 2018, with an ~65-75% probability of occurrence, according to the official CPC/IRI outlook (Figure 10). La Niña events generally lead to above-average temperatures and below-average precipitation in the Southwest U.S. and northern Mexico.

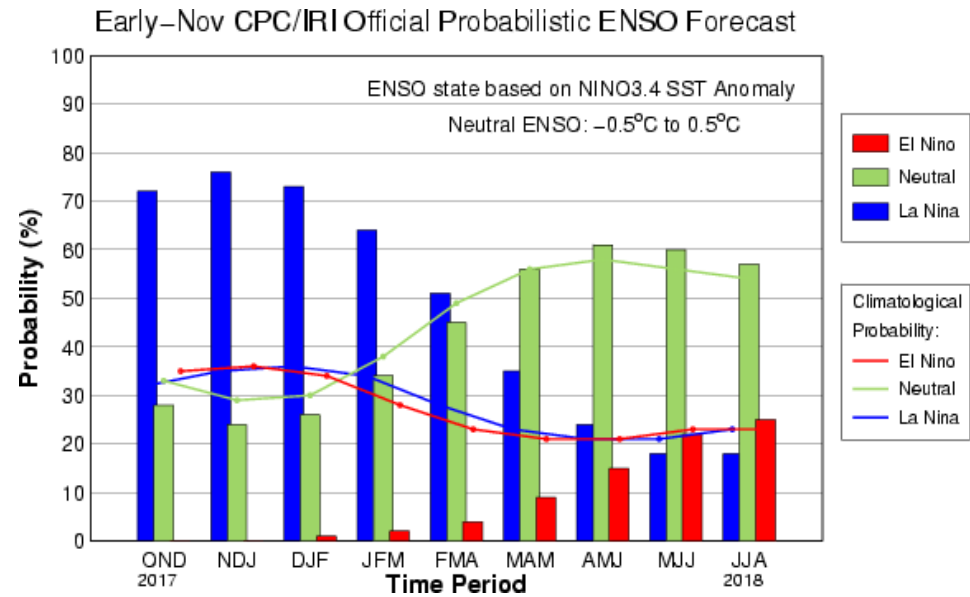


Figure 10 (above): ENSO probabilistic forecast from IRI.

For more information in:

English: <http://iri.columbia.edu/our-expertise/climate/enso/enso-essentials/> and <http://www.ncdc.noaa.gov/teleconnections/enso/>.

Español: <http://smn.cna.gob.mx/es/climatologia/diagnostico-climatico/enos> and <http://www.smn.gov.ar/?mod=biblioteca&id=68>

ANNOUNCEMENTS

AMERICAN WATER SUMMIT

The American Water Summit connects the leading decision makers in the water business, to assess the opportunities for partnerships and technology innovation. The [Summit](#) takes place November 29-30, 2017 in Austin, TX.

NGWA GROUNDWATER SUMMIT

The Groundwater Summit, taking place alongside Groundwater Week, focuses on all things groundwater instrumental to research and practice. The [Summit](#) takes place December 4-7, 2017 in Nashville, TN.

98TH ANNUAL MEETING OF THE AMERICAN METEOROLOGICAL SOCIETY

The next meeting of the [American Meteorological Society](#) (AMS) is scheduled for January 7–11, 2018 in Austin, Texas. The meeting is “the world’s largest yearly gathering for the weather, water, and climate community.”

NEWS

Snowpack and Late Storms Boost Irrigation and Storage, November 13, 2017: <https://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=60839>

NRPA Awards \$575,000 in Grant Funding to Support Local Water Restoration Project Along the Rio Grande, November 16, 2017: <https://globenewswire.com/news-release/2017/11/16/1194294/0/en/NRPA-Awards-575-000-in-Grant-Funding-to-Support-Local-Water-Restoration-Project-Along-the-Rio-Grande.html>

Parties pledge new thinking to solve interstate water fight, November 15, 2017: http://www.santafenewmexican.com/news/local_news/parties-pledge-new-thinking-to-solve-interstate-water-fight/article_94f2f1de-4da2-50f1-b4bd-4769ebe85cd2.html