

# Rio Grande|Bravo

## CLIMATE IMPACTS & OUTLOOK SPRING 2014

### SUMMARY

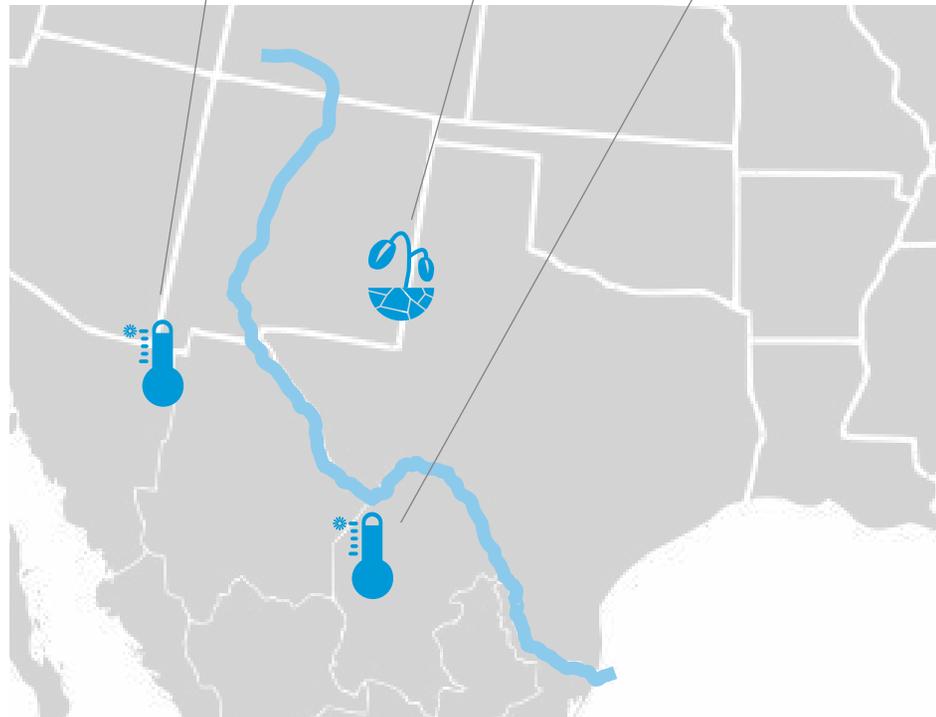
Drought is predicted to persist or develop throughout most of the Rio Grande basin in the U.S. Below average precipitation is predicted for northeastern Mexico, for June and July.

#### ◀ RECAP FEBRUARY | MARCH | APRIL

**Mexico-US border**  
2014 began with very warm temperatures.

**New Mexico and Texas**  
Extreme and exceptional drought have expanded, with impacts from dust storms and early season crop damage.

**Rio Grande/Bravo Basin**  
Below average precipitation for much of 2014.

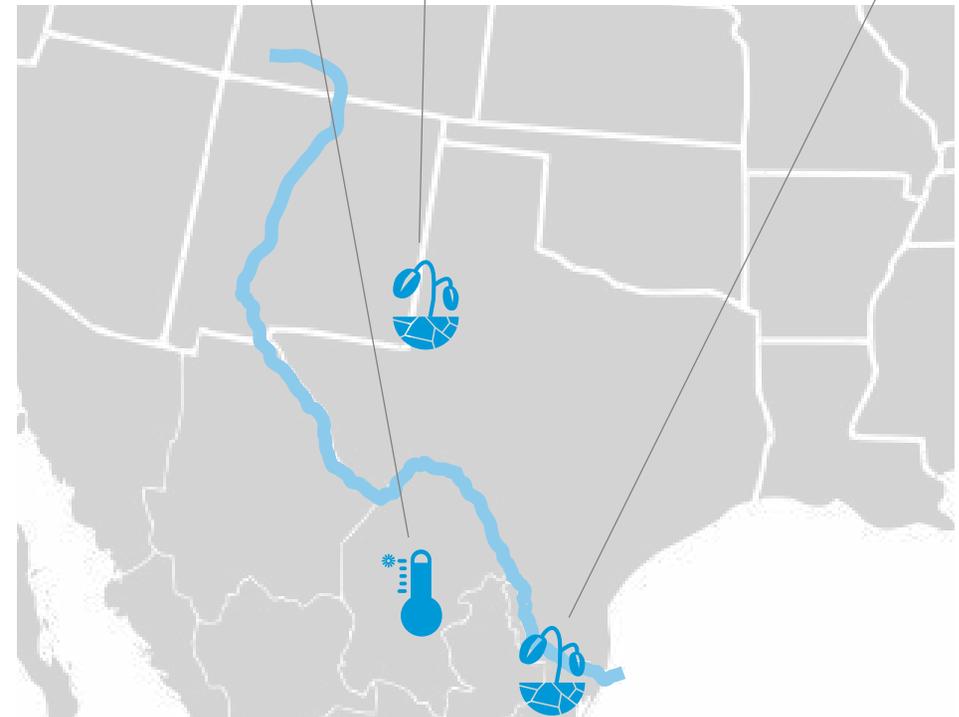


#### ▶ FORECAST JUNE | JULY | AUGUST

**Rio Grande/Bravo Basin**  
Increased chances of above-average beginning of summer temperatures.

**New Mexico and West Texas**  
Drought is expected to persist.

**Northeastern Mexico**  
Below-average summer precipitation is predicted.

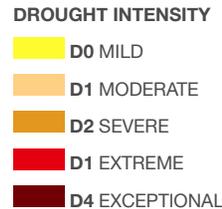
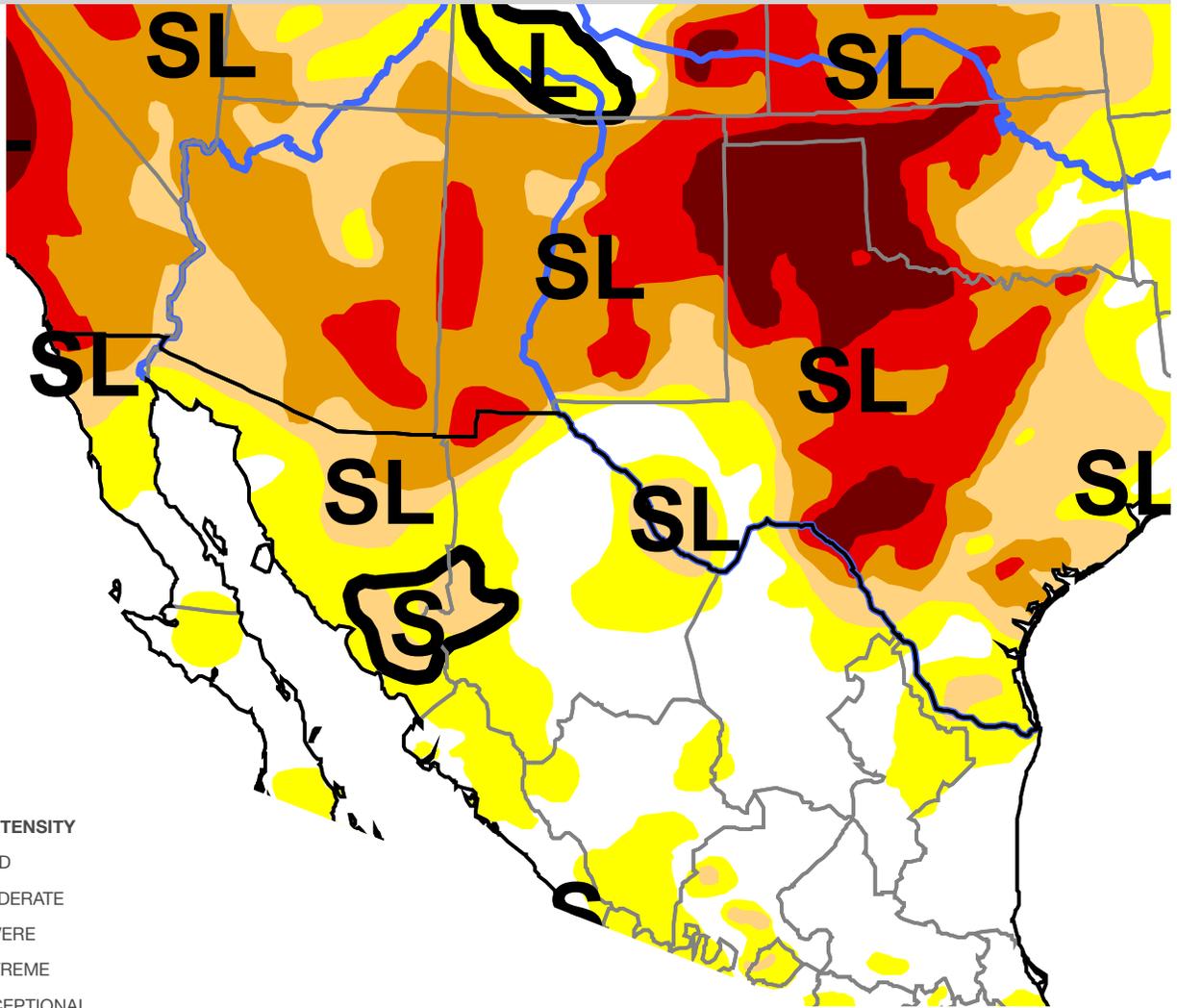




# RECAP NORTH AMERICAN DROUGHT MONITOR APRIL

## NORTH AMERICA APRIL 30, 2014

Drought has intensified this winter and spring across much of the Rio Grande/Bravo Basin, north of the Mexico-US border. Areas of Texas are in extreme to exceptional drought, due to a drier than normal start to 2014, and to long term impacts from the Southern Plains drought since 2010. In New Mexico, most of the state is in severe to extreme drought, due to below-average winter snowpack and low reservoirs. Some areas of abnormal dryness or drought are present in western Chihuahua, due to a drier and warmer than normal start to the year.



**Note:** The North American Drought Monitor (NADM) is the source of this drought map. The NADM is produced collaboratively by the Agriculture and Agri-Food Canada, Environment Canada, the National Oceanic and Atmospheric Administration (U.S. Department of Commerce), the U.S. Department of Agriculture, the National Drought Mitigation Center, and Servicio Meteorológico Nacional (CONAGUA).

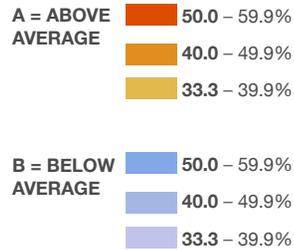
<https://www.ncdc.noaa.gov/temp-and-precip/drought/nadm/nadm-maps.php>

# FORECAST TEMPERATURE JUNE | JULY | AUGUST

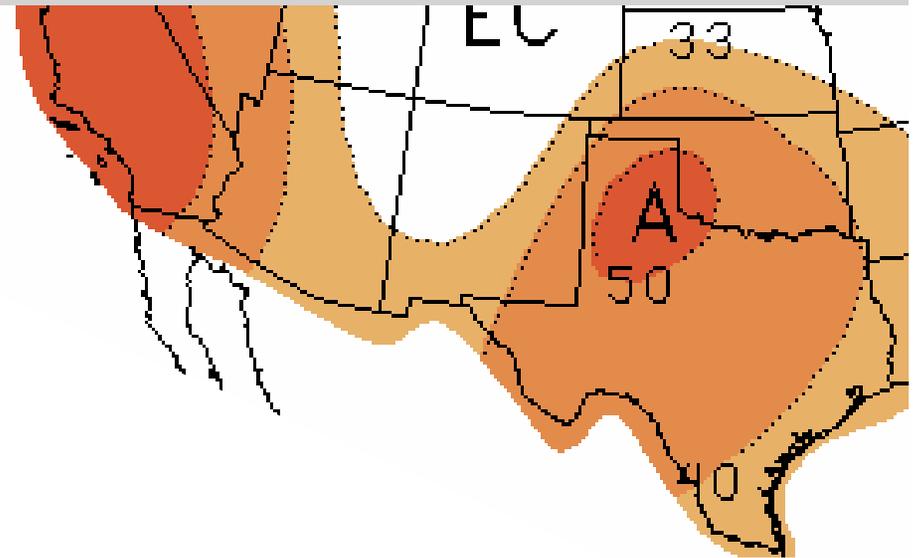
## UNITED STATES

FORECAST MADE MAY 15, 2014

The NOAA Climate Prediction Center indicates increased chances for above-average temperature for the entire US-Mexico border region during June through August. The areas of predicted above-average temperatures in the western and southwestern United States are due to the expected persistence of a western ridge of high pressure that has been present for much of the year, thus far. High pressure favors warm, dry conditions.



**EC = EQUAL CHANCES**  
NO FORCASTED ANOMALIES



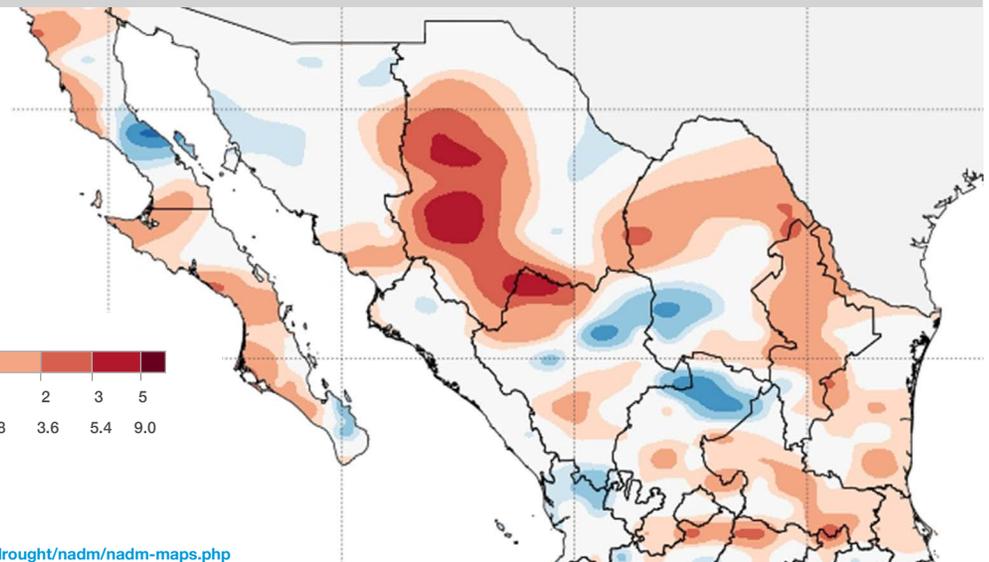
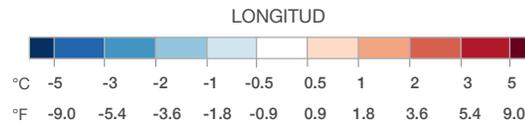
[http://www.climas.arizona.edu/sites/default/files/SWClimateOutlook\\_jul11.pdf](http://www.climas.arizona.edu/sites/default/files/SWClimateOutlook_jul11.pdf)

## MÉXICO

FORECAST MADE JUNE 2014

The Servicio Meteorológico Nacional (Mexican National Weather Service) predicts above-average maximum temperatures for June 2014, across northern Mexico.

JUNE PRECIPITATION AMOUNTS

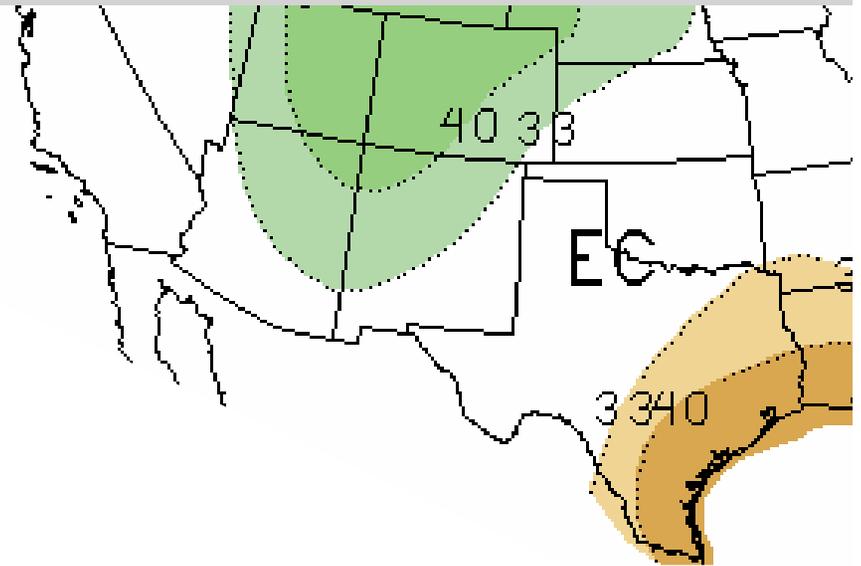
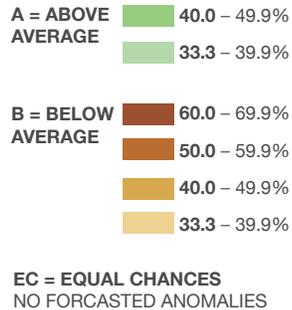


<https://www.ncdc.noaa.gov/temp-and-precip/drought/nadm/nadm-maps.php>

# FORECAST PRECIPITATION JUNE | JULY | AUGUST

## UNITED STATES FORECAST MADE MAY 15, 2014

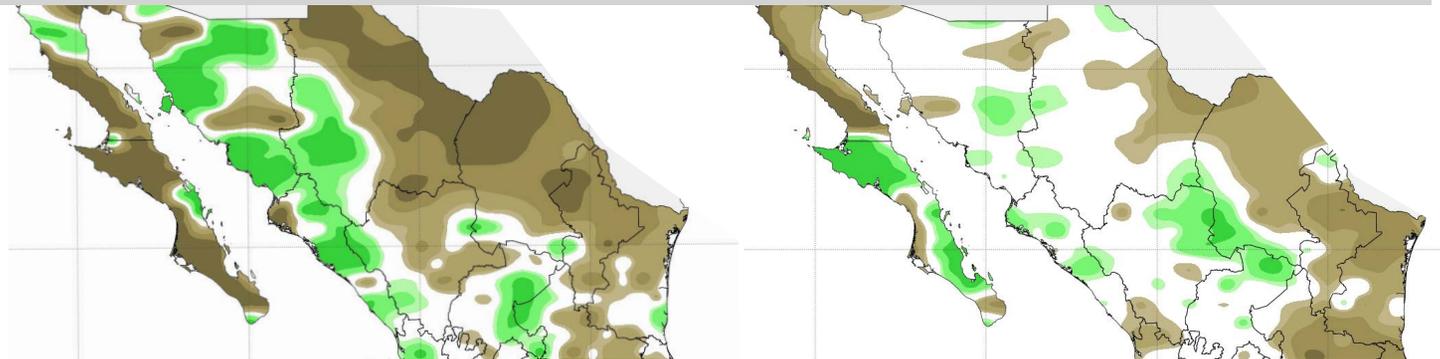
The NOAA Climate Prediction Center forecasts increased chances of above-average precipitation across the southern Rocky Mountains during June through August, and below-average precipitation along the southern Rio Grande/Bravo basin. Climate model forecasts and historical data, from previous summers with a developing El Niño episode, support the prediction of increased chances of above-average precipitation in the US.



[http://www.cpc.ncep.noaa.gov/products/predictions/long\\_range/lead01/off01\\_prpcp.gif](http://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead01/off01_prpcp.gif)

## MÉXICO FORECAST MADE JUNE 2014

The Servicio Meteorológico Nacional predicts below-average precipitation for June and July across the Rio Grande/Bravo Basin, south of the Mexico-US border. El Niño episodes, such as the one predicted to develop this summer, favor the flow of tropical moisture into western Mexico, through enhanced west-to-east winds. However, El Niño episodes typically inhibit the flow of tropical storm moisture into eastern Mexico.

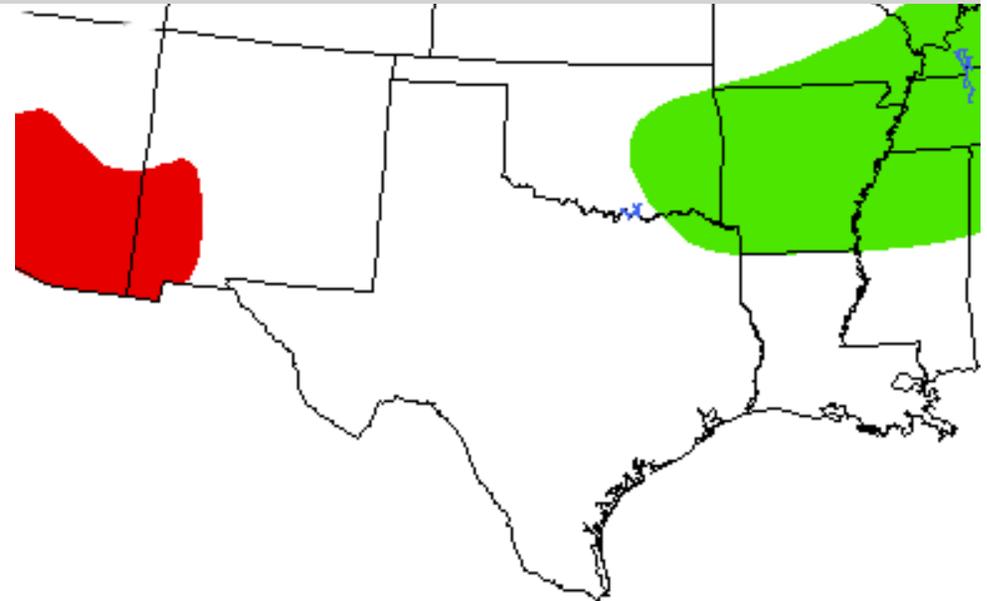


[http://smn.cna.gob.mx/index.php?option=com\\_content&view=article&id=119:siguientes-2-meses&catid=12:climatologia&Itemid=52](http://smn.cna.gob.mx/index.php?option=com_content&view=article&id=119:siguientes-2-meses&catid=12:climatologia&Itemid=52)

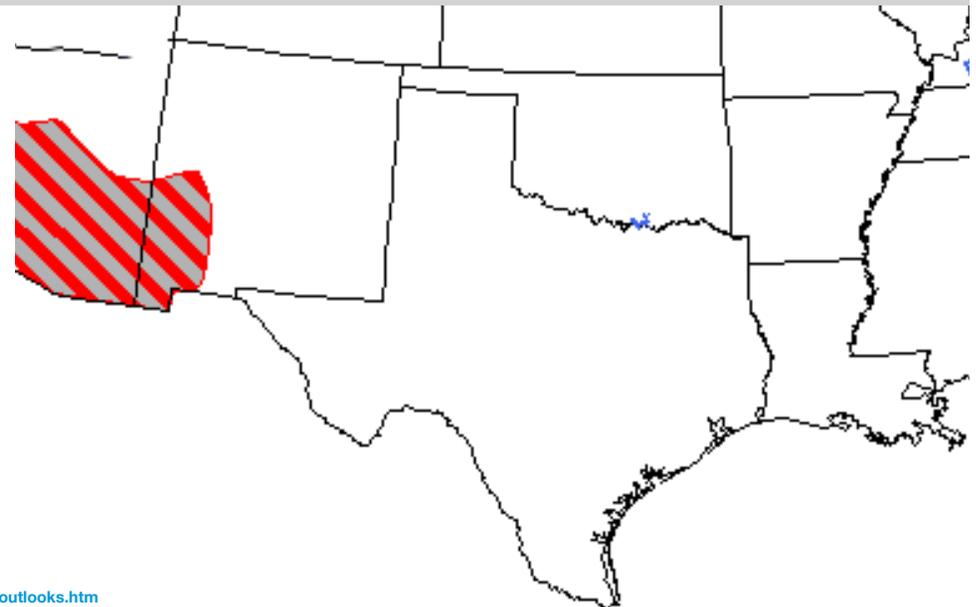
**NORTH AMERICA**

**JUNE**

The National Interagency Coordination Center's Predictive Services Program predicts above-normal fire potential across portions of southern Arizona and New Mexico for June, and normal fire potential elsewhere. Drought conditions and above-average temperatures contribute to the increased likelihood of fire. For July and August, the fire potential outlook indicates a return to normal conditions in Arizona and New Mexico, and normal elsewhere. Even during normal conditions, wildland fires are still expected to occur. Forecast made in May, 2014.



**JULY | AUGUST**



**SIGNIFICANT WILDLAND FIRE POTENTIAL**

-  ABOVE NORMAL
-  BELOW NORMAL
-  NORMAL
-  INCREASING TO ABOVE NORMAL
-  DECREASING TO BELOW NORMAL
-  RETURNING TO NORMAL

<http://www.predictiveservices.nifc.gov/outlooks/outlooks.htm>

WRITTEN BY **ALEK KRAUTMANN AND RAMÓN FUENTES**

## Developing El Niño Conditions

El Niño is a pattern of unusually warm sea surface temperatures that develops in the central and eastern tropical Pacific Ocean and has important consequences for weather and climate around the world. This spring, sea surface temperatures have already been above average in the central and eastern Pacific near the equator. The U.S. Climate Prediction Center is expecting this trend to continue and is forecasting a 65% chance that an El Niño episode will develop during the summer.

In the United States, during El Niño, west-to-east winds are enhanced in the U.S.-Mexico border region, and the jet stream typically shifts in a way that brings above-average late fall and wintertime precipitation to the lower Rio Grande/Bravo Basin. Therefore, with the increased chances for El Niño to develop, the likelihood of above-average precipitation in the Rio Grande Basin will increase late in the year and into early 2015.

In northern Mexico during El Niño, in the months June to September, precipitation is typically below average. This is due to the combination of (a) a southward displacement a band of towering clouds and thunderstorms called the Inter Tropical Convergence Zone, and (b) the intensification of west-to-east winds (“westerlies”), which causes a decrease in the landfalling tropical cyclones that bring summer and early fall moisture to northeastern Mexico. However, the connection between El Niño and summer precipitation over Northern Mexico is erratic; therefore, based on the current and predicted conditions of the tropical Pacific Ocean, average to below-average summer precipitation may be expected over the north-central and northeastern Mexican states (Chihuahua, Coahuila, Nuevo León and Tamaulipas).

If El Niño develops this summer and continues during the winter, then wetter than average conditions are expected for northern Mexico, by the end of 2014. Baja California, Sonora, Tamaulipas and Nuevo León are particularly affected by winter El Niño precipitation.

### NACSP NEWS HEADLINES

- » **Third National Climate Assessment products available in Spanish**  
<http://www.ccass.arizona.edu/NCA>  
 MAY 8, 2014
- » **Water allocations to southern New Mexico and West Texas Rio Grande irrigators**  
[http://www.lcsun-news.com/las\\_cruces-news/ci\\_25658730/rio-grande-start-flowing-near-las-cruces-late](http://www.lcsun-news.com/las_cruces-news/ci_25658730/rio-grande-start-flowing-near-las-cruces-late)  
 APRIL 29, 2014
- » **SMN predicts the intensification of drought in central and northern Mexico**  
<http://www.elnorte.com/aplicaciones/articulo/default.aspx?id=218683&impresion=1>
- » **Drought takes emotional toll, some praying for rain**  
<http://www.timesrecordnews.com/news/2014/may/11/drought-takes-emotional-toll-some-praying-rain/>

### ACKNOWLEDGMENTS

**David Brown**  
 Southern Region Climate Services Director  
**NOAA National Climatic Data Center**

**Gregg Garfin**  
 Climatologist  
**Climate Assessment for the Southwest (CLIMAS)**

**Mark Shafer**  
 Director of Climate Services  
**Southern Climate Impacts Planning Program (SCIPP)**

**Alek Krautmann**  
 Research Associate  
**Southern Climate Impacts Planning Program (SCIPP)**

**Ramón Fuentes Franco**  
 Postdoctoral Researcher  
**International Centre for Theoretical Physics**

**Christina Guerrero Harmon**  
 Translator

### MORE INFORMATION ► [drought.gov](http://drought.gov)



FACEBOOK.COM/PAGES/NATIONAL-INTEGRATED-DROUGHT-INFORMATION-SYSTEM-NIDIS



TWITTER.COM/DROUGHT\_INFO



**CONAGUA**  
 COMISIÓN NACIONAL DEL AGUA  
 SERVICIO METEOROLÓGICO NACIONAL

