

# Rio Grande | Bravo

## CLIMATE IMPACTS & OUTLOOK WINTER 2013-14

### SUMMARY

Drought is predicted to persist or intensify throughout almost all of the Rio Grande/Bravo basin, due to forecasted above-average temperatures and mostly below-average precipitation during the winter and spring months.

### ◀ RECAP OCTOBER | NOVEMBER | DECEMBER

#### Eastern New Mexico

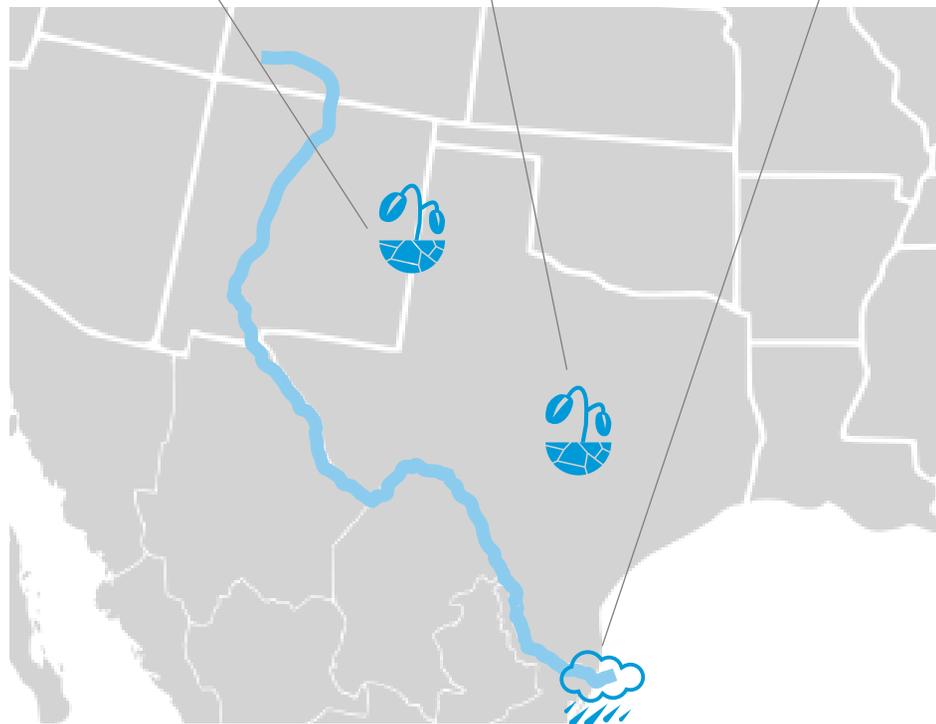
Severe and extreme drought lingers in eastern New Mexico

#### Central Texas

Texas hill country enters 2014 with near record low streamflows

#### Lower Rio Grande Valley

High precipitation in November and December delivered some relief from ongoing drought



### ▶ FORECAST FEBRUARY | MARCH | APRIL

#### Southwest US

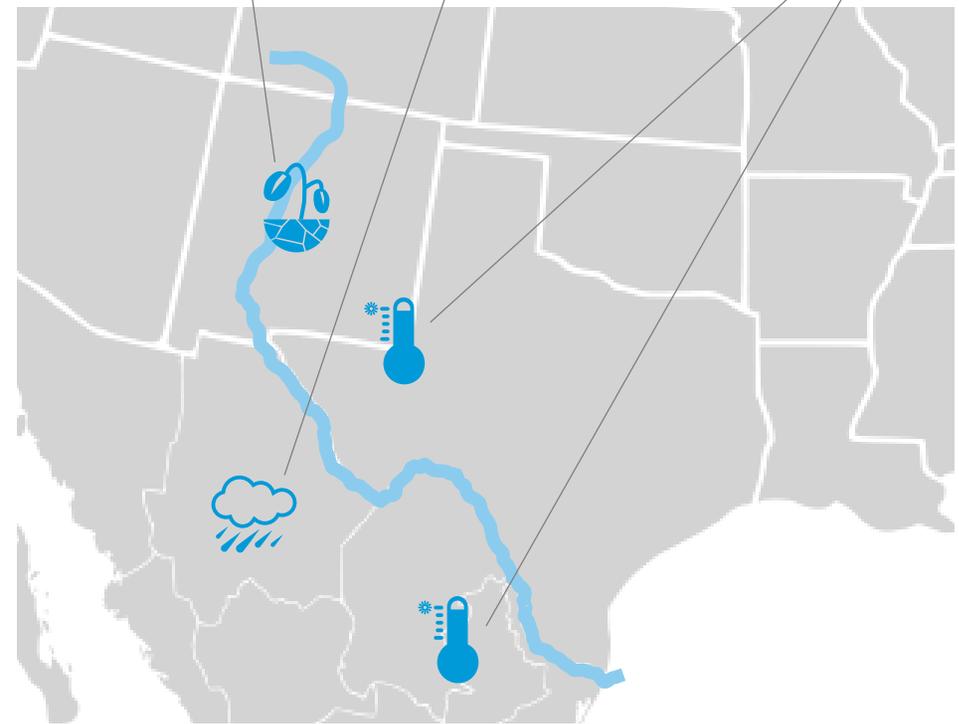
Below-average winter and spring precipitation

#### Chihuahua

Above-average February precipitation

#### Rio Grande/Bravo Basin

Increased chances for above-average winter/spring temperatures

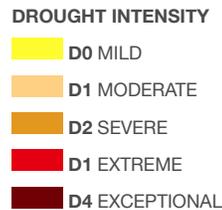
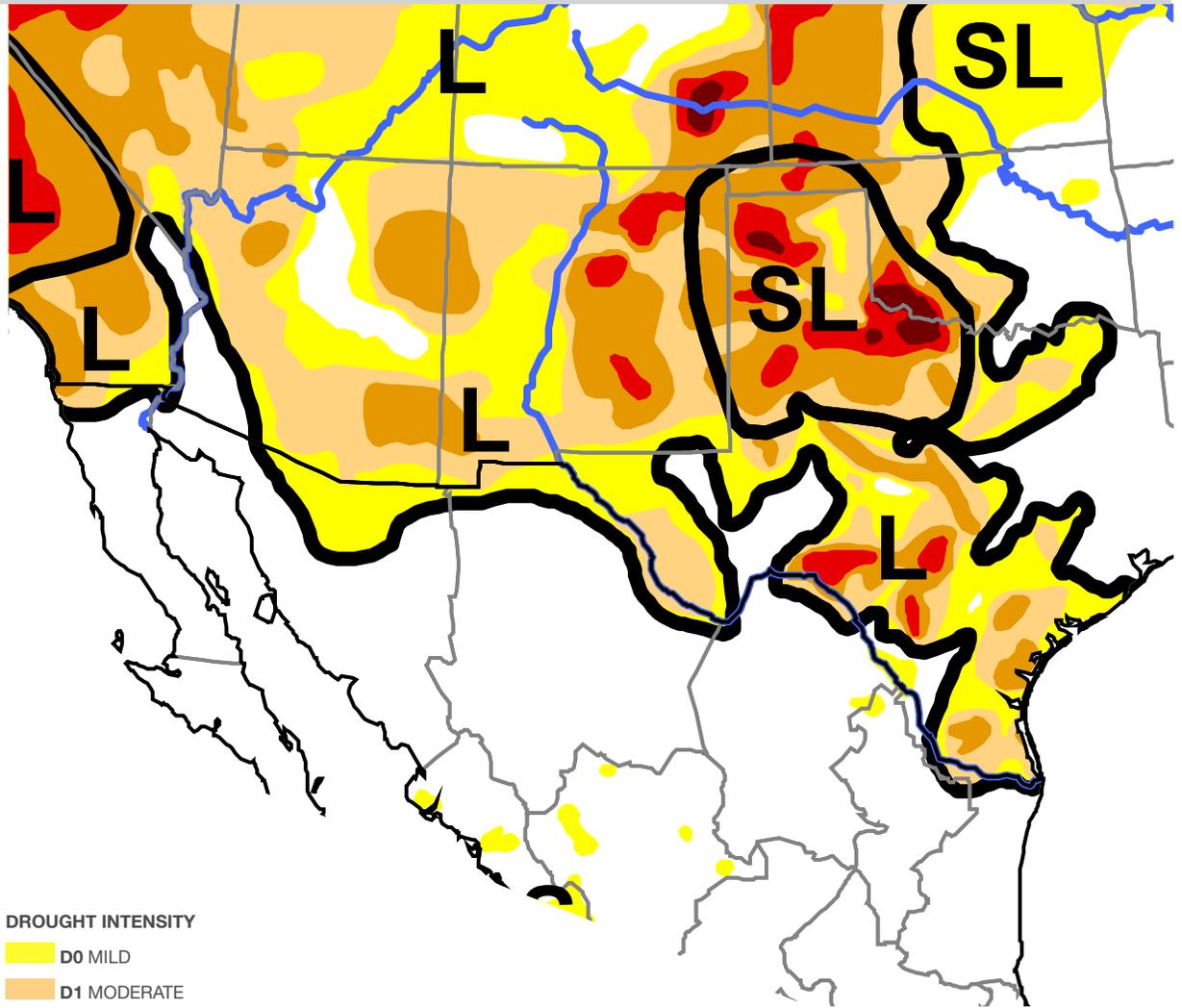




# RECAP NORTH AMERICAN DROUGHT MONITOR DECEMBER

## NORTH AMERICA DECEMBER 31, 2013

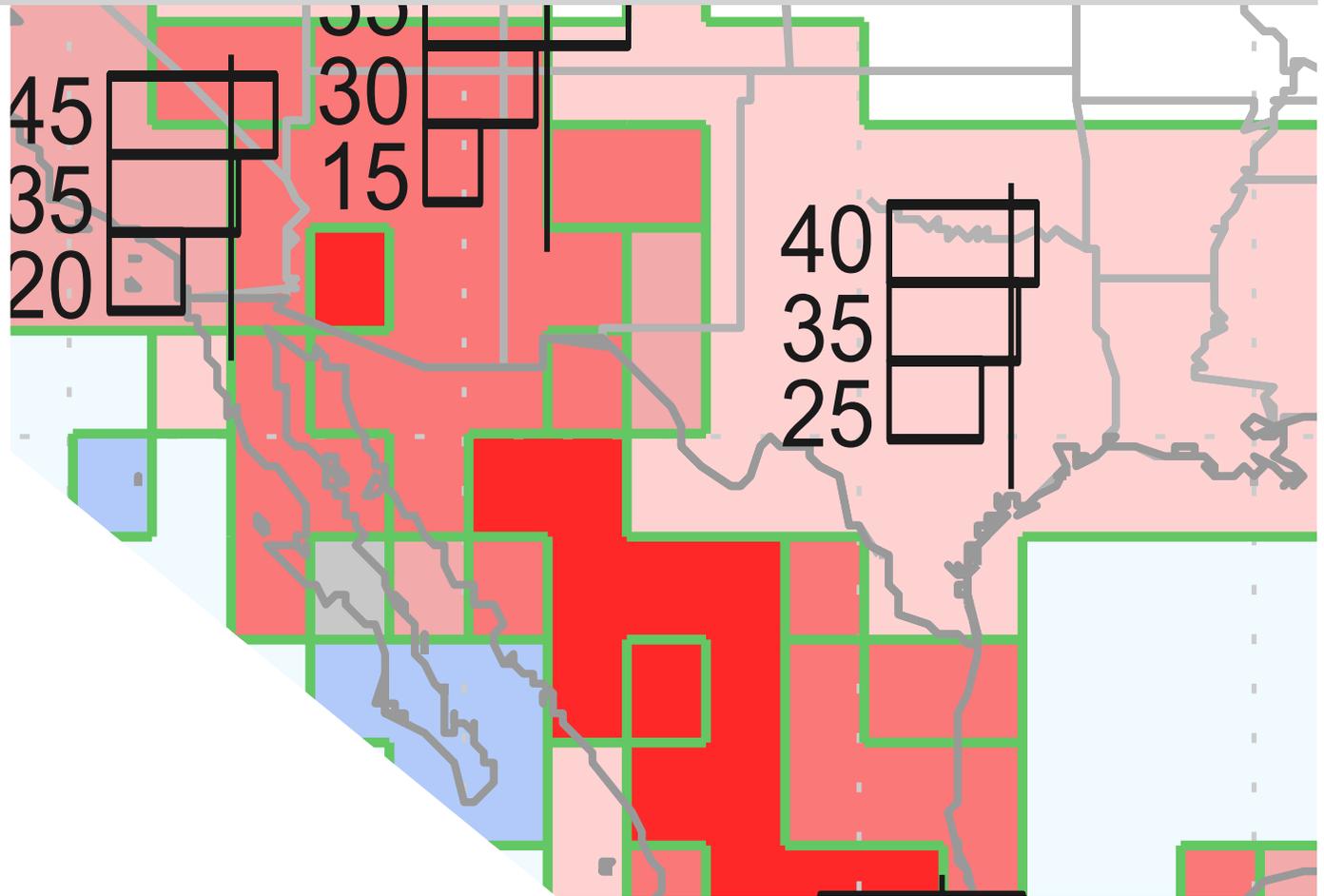
Drought conditions have lingered throughout most of the Rio Grande/Bravo Basin, north of the México-U.S. border. Some of the existing severe to extreme drought conditions, especially in southern Texas and eastern New Mexico, can be attributed to lingering long-term drought effects. Most of México, with the exception of the states bordering southern Texas, has little to no measured drought due to a wet monsoon season in the early summer months of 2013, and tropical storm activity in September, 2013.



**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).

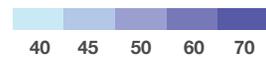
**NORTH AMERICA DECEMBER 31, 2013**

The International Research Institute for Climate and Society (IRI) predicts increased chances of above-average temperatures, during the late winter and early spring, for the entire Rio Grande/Bravo basin, with the greatest chances of above-average temperatures in southern Chihuahua and Coahuila. The predictions are based on the average of multiple statistical and dynamical model forecasts.



**PROBABILITY (%) OF MOST LIKELY CATEGORY**

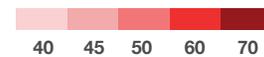
BELOW NORMAL



NORMAL



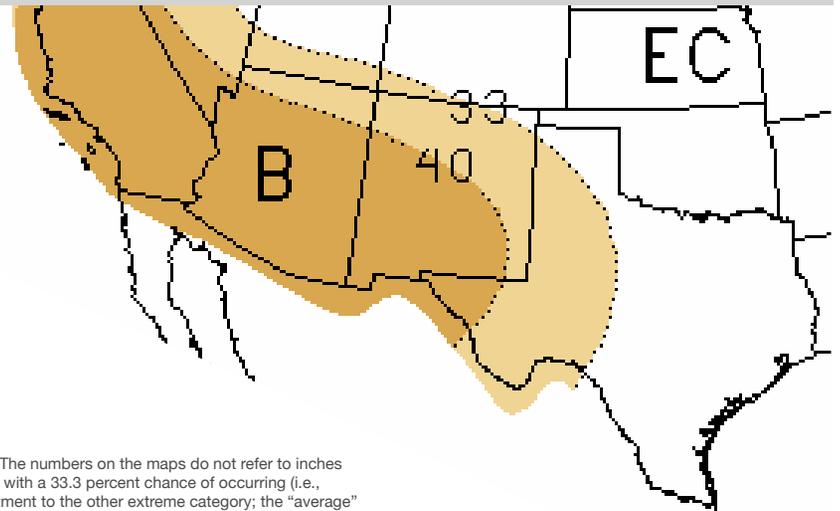
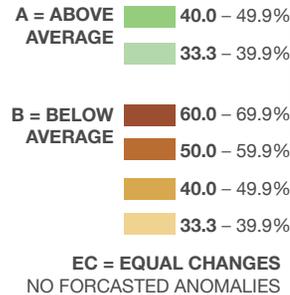
ABOVE NORMAL



**Note:** This forecast map shows the probability of temperatures being in the top, middle, or lower third of 1971-2000 temperatures. Thus, "45" means a 45% chance of temperatures being at least as high as the top 33% of temperatures experienced in that region, from 1971 to 2000.

**UNITED STATES JANUARY 16, 2014**

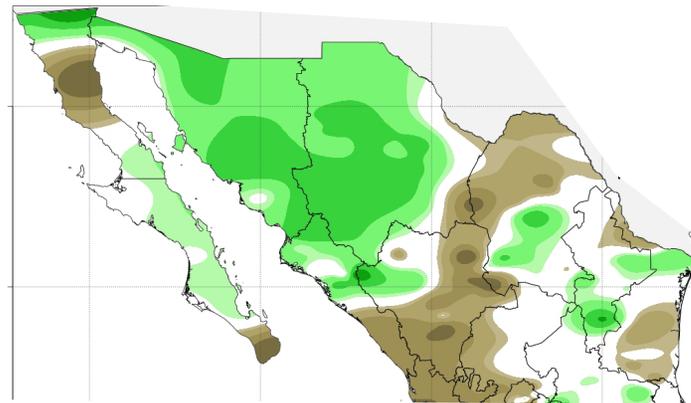
The NOAA Climate Prediction Center predicts increased chances of below-median precipitation for most of the U.S.-México border region, stretching into West Texas. The prediction is based on expert analysis of a combination of mostly dynamical models, this month. The El Niño-Southern Oscillation is in a neutral phase.



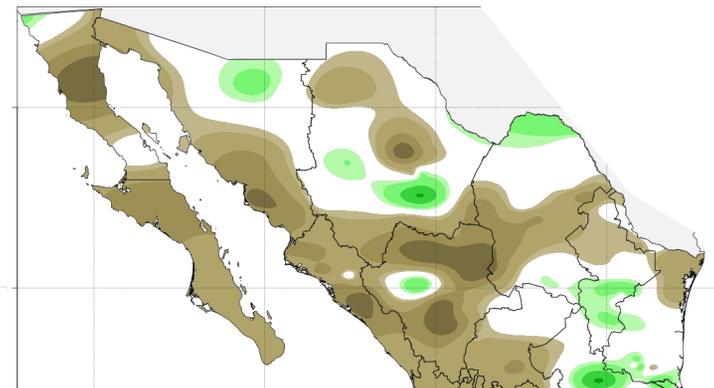
The U.S. precipitation outlook predicts the chance of above-average, average, and below-average precipitation, but not the magnitude of precipitation. The numbers on the maps do not refer to inches of precipitation. The NOAA-CPC outlooks are a 3-category forecast. As a starting point, the 1981–2010 climate record is divided into 3 categories, each with a 33.3 percent chance of occurring (i.e., equal chances, EC). The forecast indicates the likelihood of one of the extremes—above-average (A) or below-average (B)—with a corresponding adjustment to the other extreme category; the “average” category is preserved at 33.3 likelihood, unless the forecast is very strong. Equal Chances (EC) indicates areas where no forecast skill has been demonstrated or there is no clear climate signal.

**MÉXICO FEBRUARY 2014**

The Servicio Meteorológico Nacional (SMN) predicts higher than average precipitation for February 2014, for most of northwestern México, and below average precipitation for parts of Coahuila. SMN forecasts mostly near-average precipitation for March, along the border, with some areas of below- and above-average precipitation. The forecast relies on an expert assessment of multiple forecasts, including analogue years, statistical and dynamical models.



**MARCH 2014**



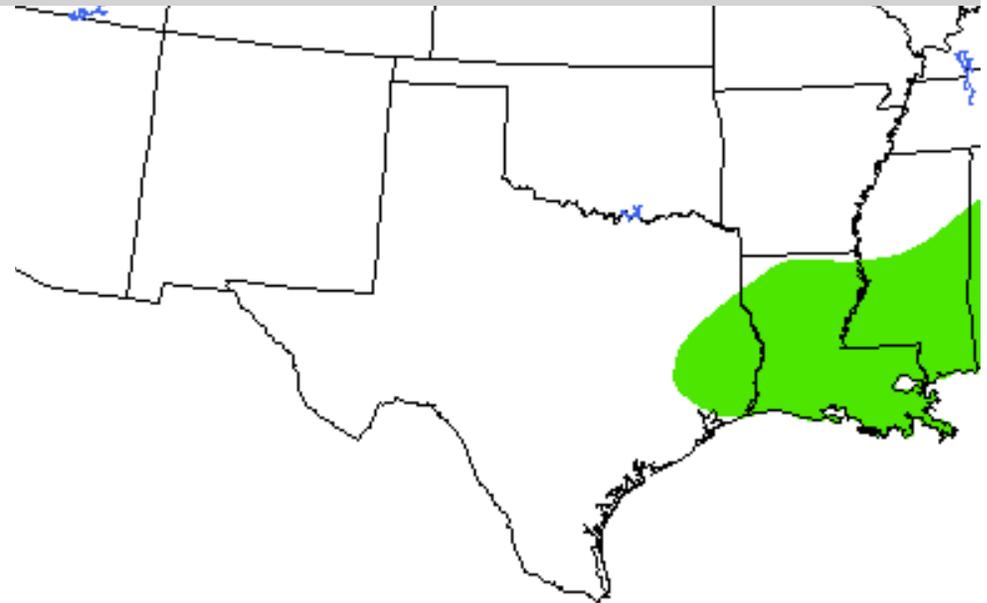


# FORECAST FIRES FEBRUARY | MARCH | APRIL

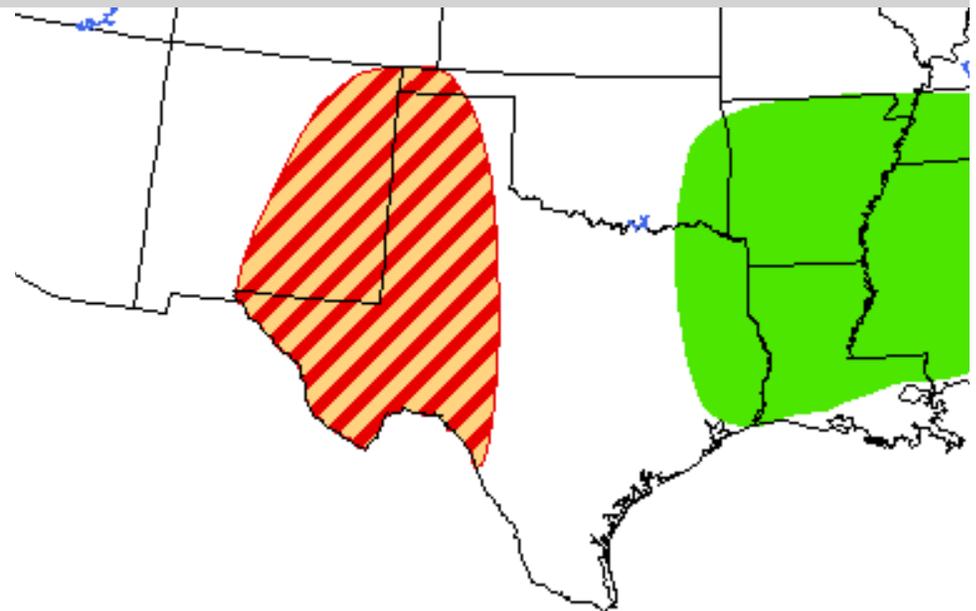
## NORTH AMERICA

### FEBRUARY

The National Interagency Coordination Center's Predictive Services Program predicts mostly normal fire potential for the U.S. border states, for February, but increasing to above-normal fire potential for the central part of the U.S.-México border region in March and April. March and April fire potential increases, due to lingering drought, enhanced fine fuels generated by fall and early winter precipitation, and seasonal wind patterns. Normal fire potential still means that there may be fires, but that they will not require an infusion of outside help to put them out.



### MARCH | APRIL



#### SIGNIFICANT WILDLAND FIRE POTENTIAL

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

WRITTEN BY **DAVID BROWN**

## Introducing the North American Climate Services Partnership

Across North America, the demand for climate services - the delivery of timely and authoritative data, products, and information - has been growing markedly in response to the economic and environmental impacts of climate variability and change. In response to this rise in demand, a Statement of Intent was signed in early 2012 between the United States (National Oceanic and Atmospheric Administration), Canada (Meteorological Service of Canada), and México (Servicio Meteorológico Nacional) to facilitate the exchange of information, technology, and management practices related to climate services. Specifically, this North American Climate Services Partnership (NACSP) focuses on the connection between climate and water, and is designed to facilitate decision-making via new and existing cooperation and collaboration mechanisms.

One early focus of the NACSP is improving climate services at regional scales. An understanding of place, context, and history is vital to shaping the development and delivery of relevant climate services. Two NACSP pilot projects, one in the Great Lakes and the other in the Rio Grande/Bravo (RGB) basin, will allow for the implementation of a place-based approach where an understanding of regional drivers and decision-making processes can be harnessed to serve as “test beds” for new and enhanced products and services.

The RGB pilot project will initially focus on four primary areas: Observations and Monitoring; Outlooks and Forecasts; Drought Impacts; and use of the North American Drought Monitor. This first issue of the RGB Outlook is a prototype activity that cuts across all four of these focus areas, to better synthesize the climate-driven challenges impacting in the basin along with the monitoring, impacts, and forecast information that can inform decision-making. Future RGB pilot activities may include the convening of a climate scenarios and adaptation workshop for natural resources managers; the expansion of cooperative community observing systems along the U.S.-México border; and investments in soil moisture monitoring and impact reporting.

### NACSP NEWS HEADLINES

» Annual U.S. National Climate and Weather Overview of 2013 – preliminary release gives reminder of low 2013 snowpack for upper Rio Grande basin  
<http://www.ncdc.noaa.gov/sotc/national/2013/13#over>  
 JANUARY 21, 2014

» Australian study shows increase in future likelihood of super El Niños  
<http://www.climatecentral.org/news/climate-change-could-make-super-el-ninos-more-likely-16976>  
 JANUARY 21, 2014

» CONAGUA plans to develop a national hurricane and severe weather center  
[http://www.bnamericas.com/story.xsql?id\\_sector=4&id\\_noticia=636649&Tx\\_idioma=1&source=](http://www.bnamericas.com/story.xsql?id_sector=4&id_noticia=636649&Tx_idioma=1&source=)  
 JANUARY 17, 2014

» U.S. Scientists find that climate change is affecting Rio Grande flows  
<http://www.abqjournal.com/318542/news/rising-temps-affecting-our-water-supply.html>  
 DECEMBER 12, 2013

» Infographic: Water management and what it means for the Texas economy  
<http://www.twdb.state.tx.us>  
 NOVEMBER 2013

### ACKNOWLEDGMENTS

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

**MORE INFORMATION** ▶ [drought.gov](http://drought.gov)



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