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The Coastal Breeze

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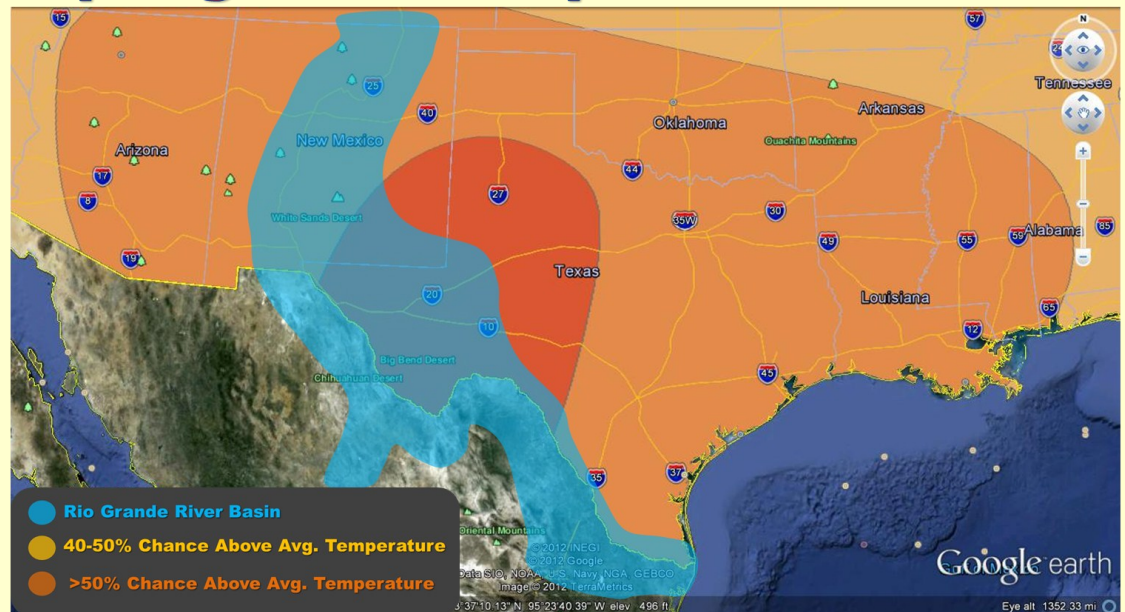
Is a Water Crisis Coming to the Rio Grande Valley?

Barry S. Goldsmith, Warning Coordination Meteorologist

The combination of an intense drought and near record warm annual temperatures has decimated water resources across the entire Rio Grande Basin. By the end of 2012, the [United States share of reservoir capacity](#) had fallen to near 45 percent at Amistad International Reservoir, and was below 25 percent at Falcon International Reservoir. Ranchers, dry land crop farmers, and an increasing number of local jurisdictions felt the impact of the heat and drought. Forage for livestock was limited or nonexistent at year end. Thus, by December 2012 irrigation districts had readied water management plans; and [water allocation limits](#) were expected for growers and ranchers in 2013. At least twenty-one Rio Grande Valley communities had issued mandatory or voluntary water restriction guidelines.

The last time the Rio Grande Basin had water levels comparable to the end of 2012 was [in the late 1990s](#). Since then, population on both sides of the U.S./Mexico Rio Grande Valley border has grown by approximately 30 percent. Market value of Rio Grande Valley crop and livestock production has nearly tripled since the early part of the 21st century, and was expected to reach \$1 billion by year's end. Given the changes, similar reduced water levels could create a more significant impact or even a crisis for residents, farmers, and ranchers in 2013.

Spring 2013 Temperature Outlook



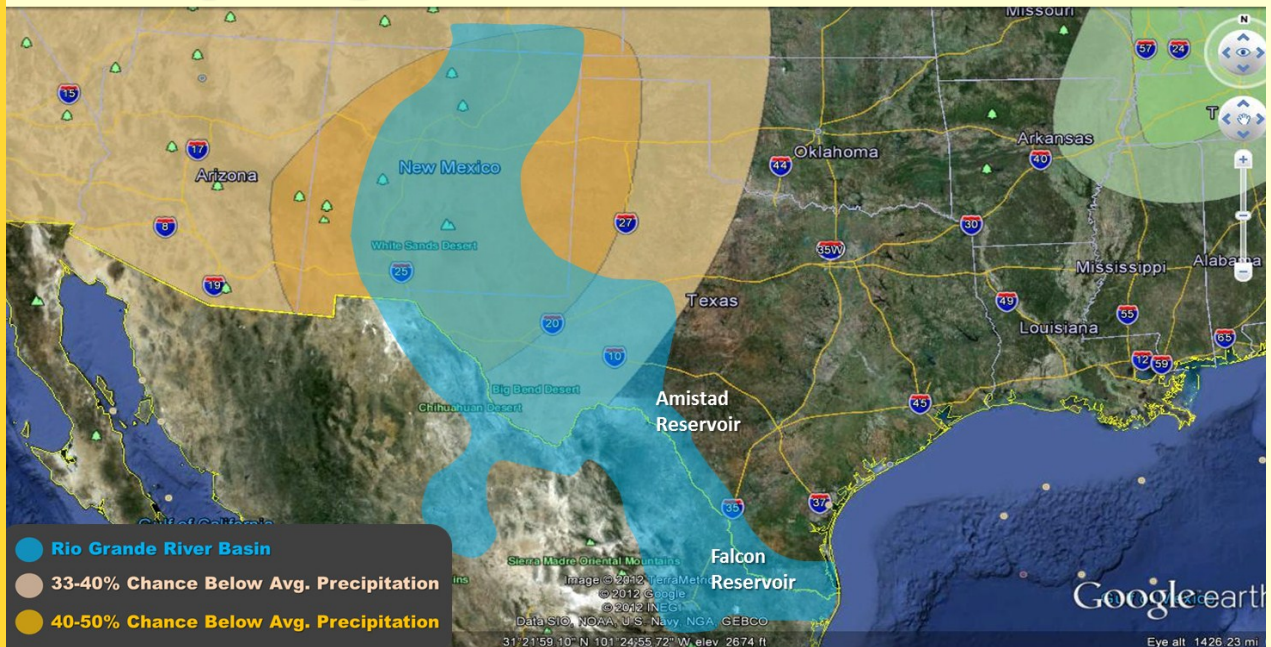
Above: Probabilistic outlook for temperatures for January through March 2013. Longer-lead outlooks (not shown) indicated above chances will continue through at least May, 2013, across the entire region shown on the map.

IS A WATER CRISIS COMING TO THE RIO GRANDE VALLEY? (CONTINUED)

A Grim Outlook

The 2013 spring and early summer forecast is not good news for the Rio Grande Valley as more of the same conditions are expected. Above average temperatures are expected for the entire basin, and below average precipitation is expected for the portion of the basin that feeds Amistad and Falcon International Reservoir. Confidence has increased for reservoir levels to reach or fall below values of the late 1990s to early 2000s before the 2013 hurricane season. A landfalling tropical cyclone or a series of tropical disturbances can saturate thirsty soil and produce reservoir replenishing runoff, and may be the region's only hope for recovery.

Spring 2013 Water Outlook



Above: Probabilistic outlook for rainfall for January through March 2013. Longer-lead outlooks (not shown) indicated below chances will continue through at least May, 2013, across the headwaters of the Rio Grande in west Texas, New Mexico, and northern Mexico.

What You Can Do

Water conservation benefits all of us. You can do your part by limiting how much water you, your family, or business use each day. Check your home or business for leaky sinks, toilets, and other sources. Install low-flow toilets. Limit irrigation or watering plants and yards, and only irrigate for a short while just before sunrise. Consider [xeriscaping or landscaping](#) with drought-hardy plants. You may even choose to collect water by cistern or rain barrel. Senior Forecaster Tim Speece, shows you how on the next page.

RAIN BARRELS: QUESTIONS AND ANSWERS

Tim Speece, Senior Forecaster

As someone who has benefitted from using rain barrels for years, I often get asked about how to use them and I recommend them. Here are some of the more frequently asked questions.

Can you explain what rain barrels are all about? Rain barrels are simply metal or plastic barrels that are placed under rain gutter downspouts to collect rainwater runoff from the roof of a house.

How did you come up with this idea? The idea of collecting rain water runoff from the roof of a structure is not a new idea. It was practiced as early as 300 B.C. in Central Asia and India for use in crop irrigation.

How did it all start? We started collecting rain water after we saw how much runoff occurred from our roof during a typical summer thunderstorm.

Has this helped you during the drought season? Harvesting rain water at our house has definitely helped keep our water bill lower. We use our collected rainwater to water plants around the house.

How much water can be collected during an average year? Using Brownsville as an example, the average yearly rainfall for the city is around 27.60 inches. If the owners of a house with a 1000 square foot roof collected all of the rainfall during an average year, it would result in 16,560 gallons of water collected during the entire year.

Where can I find out more about rain barrels and water harvesting? There are many web sites available that provide guidance and supplies for rain water collecting. A quick Google search will return quite a few good web sites. A good site for general information is the Lower Colorado River Authority (LCRA) <http://www.lcra.org/water/save/rainwater.html>. Another good source is a document titled “The Texas Manual on Rainwater Harvesting,” available from the State of Texas at:

http://www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual_3rdedition.pdf



Left: A homemade 55 gallon plastic rain barrel found in the Rio Grande Valley.

Photo courtesy of Senior Forecaster Tim Speece.

SERVING THE COMMUNITY

Maria Torres, General Forecaster

National Weather Service (NWS) offices across the country serve their communities on a daily basis, but one week a year is specifically set aside to focus on a particular charitable work. This year, the NWS team at Brownsville chose to assist the Ronald McDonald House Charities (RMHC), whose mission is to provide comfort, safety and advocacy in a home-like environment for families with critically ill or injured children who must travel to fulfill their healthcare needs. A “home-away-from-home” is the best way to describe the RMHC. Volunteers and donors help maintain the facility, and are welcome to make a meal or donate other goods and services throughout the year.



Mandy Garcia and Senior Forecaster Geoffrey Bogorad prepare a chicken dinner.

In addition to preparing meals, NWS Brownsville employees donated household items including a car seat and stroller set, five bags of nonperishable food items, clothing, and food storage containers.

Everyone agreed that serving the RMHC was a great experience. NWS Brownsville employees gave comfort, love, and care to those in need during a most difficult time.

In October, the NWS Brownsville team helped out at the RMHC of the Rio Grande Valley in Harlingen. One day, Meteorologist-in-Charge Steve Drillette, Senior Forecaster Geoffrey Bogorad, Electronics Technician Cesar Ochoa and friend Mandy Garcia prepared a meal of chicken and rice, vegetables, and brownies for three families. The next day, Warning Coordination Meteorologist Barry Goldsmith, Hydrometeorological Technician Alfredo Vega, and General Forecaster Maria Torres prepared a meal of spaghetti with meat sauce, salad, garlic bread, and provided pie for dessert.



General Forecaster Maria Torres, Warning Coordination Meteorologist Barry Goldsmith, and Hydrometeorological technician Alfredo Vega prepares spaghetti dinner.

SERVING THE COMMUNITY (CONTINUED)

Another way that NWS Brownsville serves the community is by familiarizing people with our office and about what services we provide. All employees willingly participate in career days, presentations to clubs or organizations, and expositions. General Forecaster Maria Torres said, “One of the most gratifying experiences of my job is to encourage and inspire students to reach for their dreams by believing in themselves.”



Above: General Forecaster Maria Torres speaks to interested students at the career expo.

One recent event was the Hispanic Engineering, Science and Technology (HESTEC) week at the University of Texas-Pan American in Edinburg. Warning Coordination Meteorologist Barry Goldsmith and Senior Forecaster Brian Miller used an evening social in the student union to make contact with students interested in environmental science and related careers. More than a dozen students working toward engineering, computer science and other degrees spoke with Brian and Barry about job opportunities in the weather service and in the public sector in general.



Above: General Forecaster Maria Torres and Electronics Technician Cesar Ochoa speak to students at the career expo.

The next day, Electronics Technician Cesar Ochoa joined General Forecaster Maria Torres and Senior Forecaster Brian Miller at the career expo, where they shared with students their experiences working in the NWS, handed out career information material, and discussed their interest in weather. Most of the students who expressed interest at the social returned to the NWS booth wanting to know more about job opportunities. Many students left a resume and shared their interest in volunteering or doing an internship. Forecaster Maria Torres summed it up as follows, “It was great to give students information about internships and volunteer opportunities so they can make informed career decisions, whether relating to the NWS or elsewhere. I look forward to seeing some of them again as volunteers, interns, or even as future employees of the NWS. How gratifying it will be to know I was a positive influence in some of these students’ lives, just as someone once had a positive influence on me.”

ANNUAL SKYWARN® RECOGNITION DAY A BIG SUCCESS

Brian Miller, Senior Forecaster

On December 1, 2012, the National Weather Service (NWS) Brownsville/Rio Grande Valley Office participated in the 14th SKYWARN® Recognition Day (SRD). SRD, co-sponsored by the American Radio Relay League and the NWS, is an annual 24 hour long event which recognizes amateur radio operators (Hams) for the vital public service they perform when reporting severe weather.

SRD is a fun-filled day where Hams operate at their local NWS office, making contact with other operators, including other NWS offices. A successful contact (a QSL in Ham jargon) involves exchanging current weather conditions and other information, and offices are recognized for the number of contacts they make. This year, Hams operating from our call sign, WX5BRO, made over 50 QSLs across the United States and overseas. Though propagation conditions posed a challenge, a long distance contact (DX) was made with Havana, Cuba. Continental U.S. contacts included 16 other NWS offices.



Above: UTB Physics graduate student and Ham, Martin Diaz (KF5IKN), along with Senior Forecaster Brian Miller (KE5AWU), participate in SKYWARN Recognition Day 2012 from the NWS office in Brownsville (WX5BRO).



Above: Patrick Patterson (N5SLI) is seated at the Hams net control desk.

The National Weather Service in Brownsville has been participating in SRD since 2001. Local Hams helping out this year included Patrick Patterson (N5SLI), Dr. David Woolweaver (K5RAV), and Martin Diaz (KF5IKN). WX5BRO Hams helping out during the event included Jason Straub (KE5TRC), Brian Miller (KE5AWU) and Mike Castillo (N5XMR). Jason also got on the airwaves and was able to make several of his own contacts.



NWS BROWNSVILLE/RGV PARTICIPATES IN “BOO AT THE ZOO”

Kirk Caceres, General Forecaster

Several staff members from the National Weather Service in Brownsville/RGV participated in the 2012 “Boo at the Zoo.” An annual Halloween event hosted by the Gladys Porter Zoo in Brownsville, Texas, this spooktacular event provides a safe and friendly environment for those looking for an alternative to “trick or treating” on city streets. The Gladys Porter Zoo provides dozens of “treat stations” for the kids where the candy is distributed by local businesses and organizations. Besides the treat stations, there are dozens of carnival-style games and a haunted house for all to enjoy. The annual event took place on October 30th and 31st from 5:00 pm to 9:00 pm, when over 11,000 people enjoyed the mild weather for the two night event in 2012.

Forecasters Kirk Caceres, Blair Scholl, and Meteorological Intern Erin Billings represented the NWS and distributed goodies on October 30th. On Halloween night, Warning Coordination Meteorologist Barry Goldsmith, Lead Forecaster Geoffrey Bogorad, and Hydrometeorological Technician Sam Martinez (and his wife Martha) staffed the treat station, while Lead Forecaster Joseph Tomaselli participated on both nights. The National Weather Service Brownsville/RGV are proud to have participated in the “Boo at the Zoo” event for the past 14 consecutive years!



Left: Senior Forecaster Geoffrey Bogorad shows his tornado costume to the crowd.



Right: Forecasters Kirk Caceres and Blair Scholl along with Intern Erin Billings distributes goodies to the children.

TWITTER DEBUTS AT NWS BROWNSVILLE

Justin Gibbs, General Forecaster

Twitter officially debuted on July 16, 2012 at the NWS Brownsville/Rio Grande Valley office. The decision to use Twitter was based on the huge success of Facebook, which the office began experimenting with in 2010. General Forecaster Justin Gibbs, who spearheaded the Twitter initiative, said, "The recent explosion of the use of social media like Facebook and Twitter is a great opportunity for us to increase our communication with the public." The Brownsville office uses the Twitter identifier "NWSBrownsville" to send short weather updates, post multi-media briefings, and announce upcoming outreach activities. Twitter is also used for reporting hazardous weather events, as well as for providing warning and decision support. The hashtag "#rgvwx" was created for these purposes.

Our office normally tweets approximately once per day during quiet weather. The number of tweets, however, increases when threatening weather approaches, or there is a major change in the forecast. The office also uses Twitter's powerful search capability to gather severe weather reports that might otherwise go undetected. A particularly useful aspect of Twitter is the ability to send photos, which permits a first-hand look at current weather across our area of responsibility and helps us make better forecast and warning decisions.

The "NWSBrownsville" account now has over 300 followers. We hope that the Twitter account will eventually match or exceed the tremendous success of our office's Facebook page, which had over 3,700 followers ("likes") as of December 2012, and provides timely communications between our office and those who need or want weather information. Followers of "NWSBrownsville" can also "re-tweet" (resend) information to their own followers, who can do the same, greatly increasing the number of people who see the information. People impacted by weather across the Rio Grande Valley are highly encouraged to communicate with us via our Twitter account, which we monitor 24 hours a day, 7 days a week.



NWS OPEN HOUSE

FREE!

**MARCH 16, 2013
10 AM - 4 PM**

**FREE! FOOD, GAMES,
TOURS**

**Call 956-504-1432
for more information**



The Coastal Breeze



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Location	Frequency	Station
Brownsville	162.550	WWG-34
Pharr	162.400	KHB-33
Rio Grande City	162.425	WNG-601
Riviera	162.525	WNG-609
Laredo	162.550	WXK-26

NOAA Weather Radio in Deep South Texas and the Rio Grande Valley!

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