



The Coastal Breeze

Official Newsletter of
National Weather Service - Brownsville, TX



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2016 Hurricane Season Outlook: More Cyclones Likely than in 2015, But #ItOnlyTakesOne!

By Barry Goldsmith, Warning Coordination Meteorologist

At the end of May, NOAA released the initial [2016 seasonal outlooks](#) for the Atlantic and Pacific (central and eastern) Basin [The Atlantic Basin includes the Caribbean Sea and Gulf of Mexico]. For the Atlantic Basin, the totals, including January's Hurricane Alex and late May's Tropical Storm Bonnie, were for 10 to 16 named storms, 4 to 8 hurricanes, and 1 to 4 major (Category 3, or >110 mph wind) hurricanes. For the Eastern Pacific Basin, the expected totals were 13 to 20 named storms, 6 to 11 hurricanes, and 3 to 6 major hurricanes. Each of these forecast totals fall within the average number for each basin; For the Atlantic, averages are 12 named cyclones, 6 hurricanes, and 2 majors and for the Eastern Pacific, averages are 15 named cyclones, 9 hurricanes, and 4 majors. The Eastern Pacific forecast is worth mentioning since the Rio Grande Valley can be impacted by remnants and rainfall flooding, as was the case in October 2015 with the [remnants of Hurricane Patricia](#).

Uncertainty Dominates the Forecast

In 2015, confidence was high in the relatively low number of forecast storms; the pre-season number of 6 to 11 named cyclones (11 occurred), 3 to 6 hurricanes (4 occurred), and zero to 2 majors (2 occurred) had a 70 percent likelihood of verifying in this "below" average category, and only a 10 percent likelihood of "busting" in the "above" average category. The realized expectation of a moderate to strong El Niño by the heart of the 2015 season and the [accompanying westerly wind shear across the Caribbean and western Atlantic](#) bore the fruit that either killed off tropical cyclones that dared enter these regions or stopped them from forming altogether. Cooler than average eastern Atlantic waters and weaker than average western African waves ensured the confident forecast bore fruit.

2016 Atlantic storm names

Alex	Lisa
Bonnie	Matthew
Colin	Nicole
Danielle	Otto
Earl	Paula
Fiona	Richard
Gaston	Shary
Hermine	Tobias
Ian	Virginie
Julia	Walter
Karl	

For 2016, there is high confidence that El Niño oscillates back to La Niña by the peak of the season (August through October). The simple reaction might be: La Niña is the reverse of El Niño, so a "big" season is forthcoming! Not so fast. There are other pieces in the jigsaw puzzle that describe the global, and tropical, environment, and those pieces can push the impact of La Niña to the back of the line of influential parameters that determine the number, location, and scope of the Atlantic Basin's cyclones. The difficulty in putting together the seasonal jigsaw puzzle with so many pieces not shaped, or even formed, in May led to only a 45 percent confidence in an average season, with a 30 percent confidence (1 in 3 chance) of an above average season and still a 25 percent (1 in 4 chance) of a *below* average season.

2016 Hurricane Season Outlook: More Cyclones Likely than in 2015, But #ItOnlyTakesOne! (Continued)

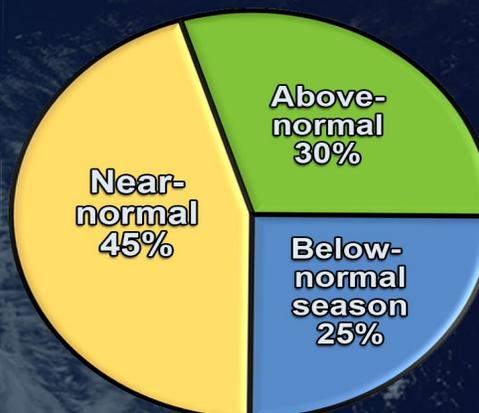
This year's tricky pieces include:

- Potential for cooler than average sea surface temperatures in the [eastern Atlantic](#), which could signal the start of the next below average tropical cyclone cycle
- Still plenty of western wind shear to begin the season across the Gulf, Caribbean, and much of the Atlantic's Main Development Region, generally defined as an area bounded on the west by 72°W Longitude and on the east by the West African Coast; on the north by the Tropic of Cancer (23.5°N Latitude) and on the south by 8°N Latitude
- The phase of the [North Atlantic Oscillation](#). A negative phase through summer and fall, when combined with La Niña, can set up a steering pattern that favors cyclones recurving into the Atlantic Ocean away from land, and Caribbean cyclones that remain well south of Texas and impact southern Mexico and Central America

2016 Atlantic Hurricane Season Outlook

Named storms: 10 - 16
Hurricanes: 4 - 8
Major hurricanes: 1 - 4

Outlook
probability



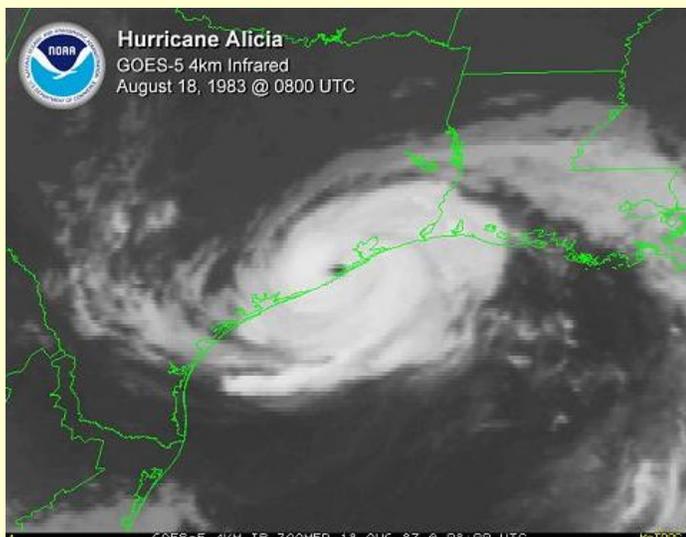
Be prepared: Visit hurricanes.gov
and follow @NWS and @NHC_Atlantic on Twitter

Now You Know The "Numbers", Please Forget Them!

We can't stress enough: #ItOnlyTakesOne catastrophic tropical event in the Rio Grande Valley, no matter the pre-season forecast, to make the season unforgettable. For us, that storm remains 1967's Hurricane Beulah. In 1967, Beulah was only the second named storm and didn't arrive until late September.

Beulah's unprecedented (in modern times) rainfall turned the region into a lake and left thousands homeless from rainfall flooding in all areas, and hundreds homeless from wind and storm surge flooding near the coast. In 1967, there were *only* eight named cyclones, five hurricanes, and one major – Beulah.

In 1983, a year with a nearly identical strength and trend of the El Niño/Southern Oscillation, which shifted from a strong El Niño in the



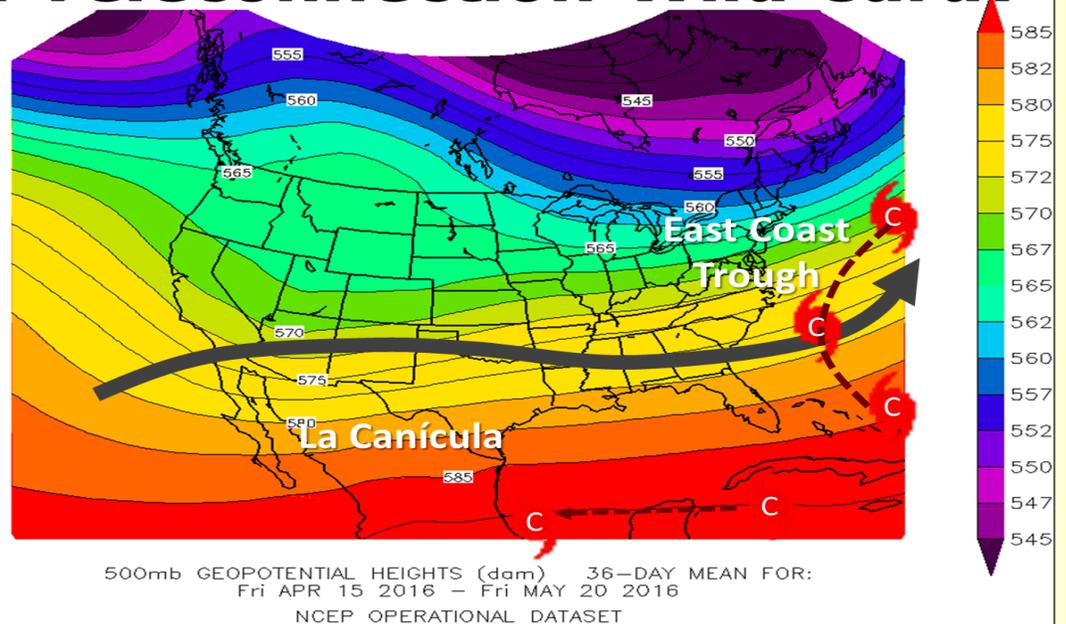
Left: Hurricane Alicia at landfall along the Upper Texas coast on August 18th, 1983.

2016 Hurricane Season Outlook: More Cyclones Likely than in 2015, But #ItOnlyTakesOne! (Continued)

the winter of 1982/83 to nearly a La Niña by August-October, a tropical cyclone formed along an old front in the central Gulf of Mexico and would become Category 3 Hurricane Alicia by the time it reached the Houston/Galveston region in mid August. Alicia, which caused more than \$6 billion (2015 dollars) in damage in Texas, occurred in one of the quietest seasons on record: Four named cyclones, three hurricanes, and one major – Alicia, Texas' storm!

2016: Teleconnection Wild Card?

\$64M
**Question: Will
Combo of La
Niña and
Negative NAO
Keep Storm
Tracks Away
From USA?**



Above : The atmospheric steering pattern (gray arrow) could look somewhat like this (though a bit farther north than shown) during the August-October 2016 time frame, should a La Niña (or lean toward La Niña) and the negative phase of the NAO fit together. Such a pattern would tend to spare the U.S. western Gulf of Mexico states a significant impact. But one cyclone is all it takes if a window of opportunity opens at any time!

Now You've Forgotten the Numbers, Get #HurricaneStrong!

It's never too late to prepare. In 2016, NOAA, FEMA, and the Federal Alliance for Safe Homes (FLASH) have partnered to build awareness, preparedness, and **resilience** for you and your community! Many are familiar with building a preparedness kit (non-perishable food, water, flashlights, batteries, etc.) and an evacuation plan, but have you considered:

If you need flood insurance, even if not in a designated flood zone?

Adding bracing, new trusses/beams, or hurricane straps and clips to your attic?

Sealing cracks in your exterior walls or foundation to home connection?

Repairing your fence and trimming trees and brush?

Anchoring sheds and other outbuildings?

#HurricaneStrong has these answers, and much more – in Spanish, too! For more, begin your tour at <http://hurricanestrong.org>. And let's all have a safe 2016 Hurricane Season, no matter what Mother Nature brings!



#HURRICANESTRONG

Hail to the Winners!
NWS Brownsville/Rio Grande Valley Staff Earn the NOAA Bronze Award
 By Barry Goldsmith , Warning Coordination Meteorologist



Current and former NWS Brownsville/Rio Grande Valley staff join NOAA and NWS leadership with a Group Bronze Medal for Superior performance characterized by outstanding or significant contributions which have increased the efficiency and effectiveness of the National Weather Service. Front Row, from left: Undersecretary for Oceans and Atmosphere Dr. Kathryn Sullivan, Matthew Duplantis (NWS Shreveport, LA); Maria Torres, Barry Goldsmith, Kirk Caceres, NWS Deputy Director Laura Furgione. Back Row: Justin Gibbs (Warning Decision Training Branch, Norman, OK), Steve Drillette (NWS Little Rock, AR), Paul Schaafsma, and Pablo Gonzalez. Not pictured: Douglas Butts (NWS Mobile, AL).

On May 24, current and former members of NWS Brownsville/Rio Grande Valley staff, along with one staffer from NWS Shreveport, LA, joined more than 200 NOAA line office peers to receive the 2016 NOAA Bronze Medal, the highest honorary award granted by head of an operating unit or Secretarial Officer (Department of Commerce). The efforts by the group were recognized based on the following achievements of excellence, as cited:

For exceptional development and implementation of outreach and warning services to Spanish language citizens.

The group is honored for innovations and developments allowing over one million Spanish-speaking residents to receive critical weather information directly from the NWS in the Lower Rio Grande Valley of South Texas. A corresponding outreach and education campaign educated thousands on weather dangers and how to economically prepare and take protective action in dangerous weather. These efforts reached out to a highly socioeconomically vulnerable population in exceptional ways and will undoubtedly save lives in future disasters.

This award included a combination of efforts that included the two NOAA Weather Radio Spanish language stations, the Spanish Hurricane Local Statement, Web-based unique Spanish language hazardous weather and public safety pages and “slide guides”, and the Spanish version of the Texas Hurricane Guide, Rio Grande Valley Edition. The award is only the start, as efforts continue to further promote hazardous weather awareness and preparedness through the first Faith-Based Integrated Weather Team Workshop, and planned efforts to bring NOAA Weather Radio receivers to hundreds of vulnerable communities and more work to connect through social media. The group thanks our community for their unparalleled support, for without you, none of this is possible!

Another Cooperative Observer Station Providing Evaporation Data for the Lower Rio Grande Valley

By Mike Castillo, Senior Forecaster and Hydrology Program Manager

On May 1st, 2016, a new cooperative observer site was established in Brownsville, Texas, at our weather forecast office here in Brownsville, Texas. In addition to providing daily maximum and minimum temperatures, as well as daily rainfall amounts, to provide backup climate data for the city of Brownsville, the site is also one of six to provide evaporation rates in Deep South Texas. It is also the first to provide evaporation rates for the lower portions of the Rio Grande River.

Why is that important? Hydrologists at the United States International Boundary Water Commission (USIBWC) use this data in their water accounting for the international reservoirs along the Rio Grande River, mainly the Amistad and Falcon Lake reservoirs. The evaporation data helps them to determine how much water is lost downstream of Falcon Dam due to evaporation. During the irrigation season, this information is critical in determining how much reservoir water the United States and Mexico releases from both Amistad and Falcon. Those water releases are used by many irrigation districts downstream of Falcon along the lower portions of the Rio Grande River. If drought conditions return to the Rio Grande valley area in the future, this data will be essential to the river operations of the USIBWC and the Texas Commission on Environment Quality (TCEQ) along the Rio Grande River in the state of Texas. For more information, please contact Mike Castillo or our Observation Program Leader, Erin Billings.



Above: The giant pan, seen in the picture with Forecaster Maria Torres, is full of water that we use to measure the displacement of water each 24-hour period. We also measure the amount of wind that flows over the pan each day, which can have a substantial factor on evaporation rates of soil.

Meet Josh Schroeder: NWS Brownsville's New Science and Operations Officer

By Josh Schroeder, Science and Operations Officer

Joshua Schroeder came on-board as the new Science and Operations Officer (SOO) at the National Weather Service Office in Brownsville, TX in late February 2016. Josh holds a M. S. degree in Atmospheric Sciences and a B. S. in Astronomy, both from the University of Illinois at Urbana-Champaign (Go Illini!). For 5+ years before coming to Brownsville, he was Chief Forecaster at White Sands Missile Range, NM. Overall he spent 13 years living in Las Cruces, NM while working at the missile range and so is no stranger to the Border. While there, he forecasted the weather and performed wind-weighting calculations for a variety of rocket and missile tests in locations such as Hawaii and Australia, in addition to New Mexico. He also worked in an ongoing capacity with scientists and software engineers at the National Center for Atmospheric Research to develop new tools for the forecasters at White Sands and other Army test ranges.

Most people in our field have one formative experience with weather at a young age which drives their future career path. Mine was at age 7, when I remember being huddled in the basement of our house in Mendota, IL, as I heard the sound of golf-ball sized hailstones, driven by 70-mph winds, breaking windows, and seeing the lights go out due to loss of power. Of course, we needed a new roof afterwards as well!

Josh has very much enjoyed his first few months on the job with the National Weather Service. While he has a great deal of training to catch up on, the work is very interesting, and there is clearly a great team in place here in Brownsville. Also, never having lived near the ocean before, having South Padre Island only a 25-minute drive from home is a huge plus! Josh and his wife, Margarita, have been married for eleven years and currently reside in Los Fresnos with their three children: Elijah (9), Nicholas (6), and Bethany (3). Outside of work, he enjoys the occasional round of golf, spending time with family, reading biographies, and following the Chicago Cubs and Chicago Bears.



Above: Josh Schroeder, Science and Operations Officer

Farewell to Our Rising Stars! Forecasters Maria Torres and Blair Scholl Spread Their Wings and Fly By Barry Goldsmith , Warning Coordination Meteorologist



Above: Maria Torres, Forecaster and Spanish Language Liaison at NWS Brownsville/Rio Grande Valley, receives Certificate of Appreciation for efforts to improve hazardous weather communication to vulnerable Spanish-speaking residents of the Rio Grande Valley from Texas Department of Public Safety Region 3

In May and June 2016, NWS Brownsville/Rio Grande Valley bade farewell to two of its brightest stars, each who said goodbye to the Border Region and said hello to the other side of the pond we call the Gulf of Mexico – the State of Florida. Since 2012, **Maria Torres** and **Blair Scholl** contributed greatly to the success of our office, both as forecasters and ambassadors for the office throughout the Rio Grande Valley, Texas, and the Nation when it came to communicating weather information and training others to understand what it means to be Weather Ready.

Maria Torres arrived by the end of 2011, and quickly became the “face” of the National Weather Service for the Spanish-speaking communities of the Rio Grande Valley. By the end of her four and one-half year tenure, she put NWS Brownsville/Rio Grande Valley on vanguard of building a Weather Ready Nation from the roots – defined as some of the most vulnerable residents in the U.S. for which Spanish is the common language from which life-saving decisions are made. She embodied the best in servant leadership, finding time to serve far beyond the forecast shift rotation and truly make a difference in so many lives inside and outside of the office, while juggling the most important responsibilities of being a great mother

and wife! Maria is the sunshine that always brightens any room. Just a few of the many highlights of her fantastic time here in Brownsville included:

Successfully leading the Marketing and Outreach Team, which included:

- Two Rio Grande Valley Weather Festivals (2013 and 2015), which drew nearly 2,000 visitors for a day of fun and learning at the office
- Developing a kiosk display for the Mission, Texas, Historical Museum
- Producing more than a dozen descriptive posters of office operations and weather education, which are used repeatedly at trade shows, career fairs, and expositions
- Producing online “slide guides” in English and Spanish to promote hazardous weather safety

She led the office to local, regional, and national prominence in Spanish Language Services by:

- Translating all local preparedness web pages into Spanish to reach larger audiences
- Translating the keystone tropical text product, the Hurricane Local Statement, into grammatically correct Spanish to serve the Rio Grande Valley region
- Assisting the NWS Team tasked with bringing two NOAA Weather Radio Spanish language stations online by checking and adjusting the Spanish dictionaries
- Organizing the NWS First Faith-Based Integrated International Weather Team to plant the seeds to be able to reach the most vulnerable residents through trusted religious leaders

Finally, Maria was, and remains, a stellar example for young female Hispanic students who dream to achieve greatness while balancing career and family life.

Farewell to Our Rising Stars! Forecasters Maria Torres and Blair Scholl Spread Their Wings and Fly

By Barry Goldsmith , Warning Coordination Meteorologist

Blair Scholl arrived in early 2012, and quickly became a floor leader for forecast operations and Impact-Based Decision Support Services (IDSS) at the office. Blair's leadership credentials were sharply honed through his prior and current military experience, which served him well during his four year tenure. He could always be counted on as the steady hand at the helm during weather fair and foul, and became one of the office's most trusted staffers for activities weather-wise and otherwise.

Some of Blair's many accomplishments included:

IDSS support provided to the Rio Grande Valley Air Fiesta from 2013-2016, garnering high praise from officials, aviators, and aerial acrobat teams who were kept safe when the forecast was too dangerous, Management of the office transition to Impact-Based Warnings, which provide customers a clearer picture of damage that could occur to natural and man-made infrastructure during severe weather, Program Leader for Skywarn® Storm Spotter Training from 2013-2016, where hundreds of new spotters were added to our rolls, Aviation Program Leader, which included successful implementation of an Airport Weather Warning system at Valley International Airport and an update of a similar system for Brownsville/South Padre Island International, Office Training Leader from 2015 through early 2016, including assignment of several dozen on-line courses to staff on a tight deadline, Goodwill Team leader, where fun activities inside and outside the office are created, discussed, and done!

Maria has headed back to family and a position at the Miami Weather Forecast Office; **Blair** has been promoted to Senior Meteorologist at the Tallahassee Weather Forecast Office. Happy trails to both of you, and thanks for your superior service to the residents of the Rio Grande Valley!



Above: Forecaster Blair Scholl answers questions from one of several hundred visitors to the NWS Booth at the annual Winter Texan Expo in McAllen.



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Location	Frequency	Station
Brownsville	162.550	WWG-34
Pharr	162.400	KHB-33
Rio Grande City	162.425	WNG-601
Harlingen (Spanish)	162.450	WZ-2542
Pharr (Spanish)	162.475	WZ-2541

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

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