

# THE COASTAL BREEZE

Volume XII, Issue 1

WINTER 2024



Brownsville/Rio Grande Valley

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## **Happy New Year!**

I know, it is already February, but we hope you all had a happy holiday season. We have been pretty busy over the past few months. In this issue you will read about just some of what has been happening at NWS BRO! We also say farewell to some great forecasters and our Science and Operations Officer as well as introduce our newest forecaster!

### **We want to hear from you!**

Do you have suggestion for articles or weather photos you want to show off? Send them our way! For any photos make sure to include: date, time, location and name of photographer for credit!

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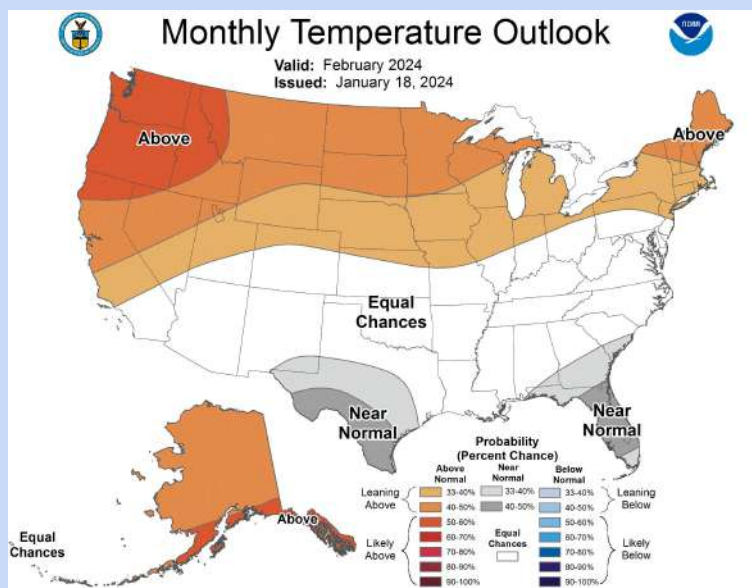


**[weather.gov/rgv](https://www.weather.gov/rgv)**

# MIC Minute

By Mike Buchanan

After an Arctic Outbreak produced widespread freezing temperatures on January 15-17, 2024 across the Rio Grande Valley and Northern Ranchlands, many folks are now wondering if that was the last freeze of the season. The simple answer is that we do not know. Over the first 1-2 weeks of February, a freeze is highly unlikely given the anticipated atmospheric weather pattern. But that does not mean a freeze will not be possible in the second half of February or even in early to mid March. Climatologically, the last freeze for the RGV typically occurs in mid to late January and in mid February across the Northern Ranchlands. However, freezing temperatures have occurred as late as March. A very rare freezing event, perhaps the latest freeze on record, occurred on April 5, 1920 in Falfurrias with an observed temperature of 30 degrees! The official prediction for February from the National Weather Service's Climate Prediction Center indicates that temperatures will be near normal over the entire month. This does not mean that every day in February across our area will observe near normal temperatures. Cold fronts are still quite common in February and can bring in much cooler conditions to our region. Though climatologically, temperatures continue to slowly climb through the month of February and continue that trend into March and beyond. So, while the current weather pattern is not conducive for freezing temperatures for our area, there is always a possibility of experiencing a freeze in February with much lower chances in March.



Climate Prediction Center's February temperature forecast.

# One Home, One Neighborhood, One Community: Beginning the Process of Building Windstorm Resilience Across the Rio Grande Valley

By Barry Goldsmith

In the [Summer 2021 Edition](#) of the *Coastal Breeze* (pages 17 and 18), we described the need to engage vulnerable communities across the Valley to improve resilience and reduce risk to weather hazards. Since then, NWS Brownsville/Rio Grande Valley, along with partners who serve these communities directly, have moved the process forward toward actions that, in time, will make a difference for thousands of residents who currently are at high to extreme risk for devastation from windstorms.

## **Restarting the Effort - 2022**

In early 2022, as the Covid-19 pandemic began to wane and partners were reconnecting at meetings and conferences, there was an increased effort to work toward building community resilience - spurred by the impacts of the pandemic but also by weather - and climate-related impacts from floods, windstorms, cold, and heat to vulnerable communities across the Rio Grande Valley and beyond. At the South Texas All-Hazards Conference (STAHC) in March, we presented on the two kinds of resilience necessary for successful readiness: **Physical Resilience** - strengthening infrastructure to be able to withstand hazardous wind and flood events, and **Knowledge Resilience** - understanding the weather threat and the ACES (Awareness, Communications, Escape Routes, and Safe Zones) in order for families to be safe. That summer, we attended a Flood Resilience Workshop at the Museum of South Texas History in Edinburg - and made face-to-face contact with other government, community, and academic stakeholders where we focused on *colonias* and the need to address each type of resilience and how to apply it in order to reduce flood risk. Attendees included representatives of [Emergency Support Functions](#) from Hidalgo County and the State of Texas, researchers from University of Texas - Austin and UTRGV, Hidalgo County Drainage District Number One, and community liaisons from Arise Adelante, Proyecto Azteca, and others.

In November, NWS Brownsville/Rio Grande Valley and the Lower Rio Grande Valley Development Council co-hosted a hybrid meeting in Weslaco to discuss plans to focus on windstorm resilience in *colonias*, with plans to work closely

with trusted *colonia* liaisons and other state and local supporters to begin the process of improving windstorm resilience. The Texas General Land Office, Texas Windstorm Insurance Association, UT-Austin's Texas Advanced Computing Center and Texas Disaster information System, and Entravision media were among the attendees. Action items that arose from the meeting included:

- **Outreach** - Connecting with community organizations who work in *colonias* and have them promote windstorm resilience. This would also include work with local hardware stores to provide low-cost materials to build the physical resilience - of the community, by the community, for the community.
- **Research** - Understanding why *colonia* residents do/do not spend on residential improvements, who they trust to provide information to keep their families safe, and how they engage with others inside and outside of the neighborhood.
- **Government/Political** - How to develop or apply building codes in rural/unincorporated areas of Texas to ensure that structures are anchored, braced, and connected (the "A-B-C's of construction) sufficiently to stand up to most windstorm events.

### **Actions and Results: 2023 and early 2024**

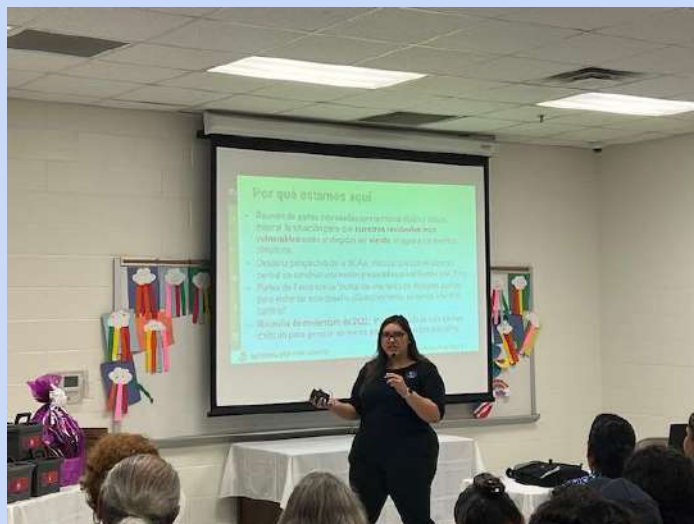
Updated resilience presentations, focused on windstorms and the impact on *colonias* or similar neighborhoods across the Rio Grande Valley and beyond, began at the 2023 STAHC and continued through late summer. During this time, the Valley was strafed by several damaging windstorms, beginning in [late April](#) and culminating with the deadly [Laguna Heights tornado](#) on May 13th, which killed one and injured eleven - all in *substandard, unanchored buildings* that were demolished. These events added a new urgency to the resilience effort - and by summer 2023, the "From 60 to 90" Project began. "From 60 to 90" means providing materials to improve the "A-B-C's" sufficiently for *colonia* residents to safely shelter-in-place during winds up to 90 mph and survive. The materials can be provided or purchased at low enough cost for most limited-income residents to afford, and skilled community residents or family members can quickly learn how to make the repairs to meet the goal.

At the 2023 STAHC, we connected with [Proyecto Azteca](#) and described our plans to work with them and similar groups on structural resilience in *colonias*.

Though Proyecto's main mission is to "provide quality affordable housing for low and very-low income families," they also participate in helping build bridges between the very substandard initial *colonia* residence and a brand new house built to code. Those bridges include the A-B-Cs for initial substandard structures, until financing is available for the family(-ies) to build the new home.

In August 2023, NWS Brownsville/Rio Grande Valley presented at the first Conferencia de Preparación para Emergencias at the Tower Road Community Center in Alamo. Bianca Garcia, a lead meteorologist at the office, gave our presentation, "Construyendo resiliencia en comunidades vulnerables". The presentation connected knowledge and physical resilience to windstorms in *colonias* - and opened the event. Other talks on preparedness followed, from the Texas Division of Emergency Management to Proyecto Azteca. A packed room listened intently and asked several questions on the topic.

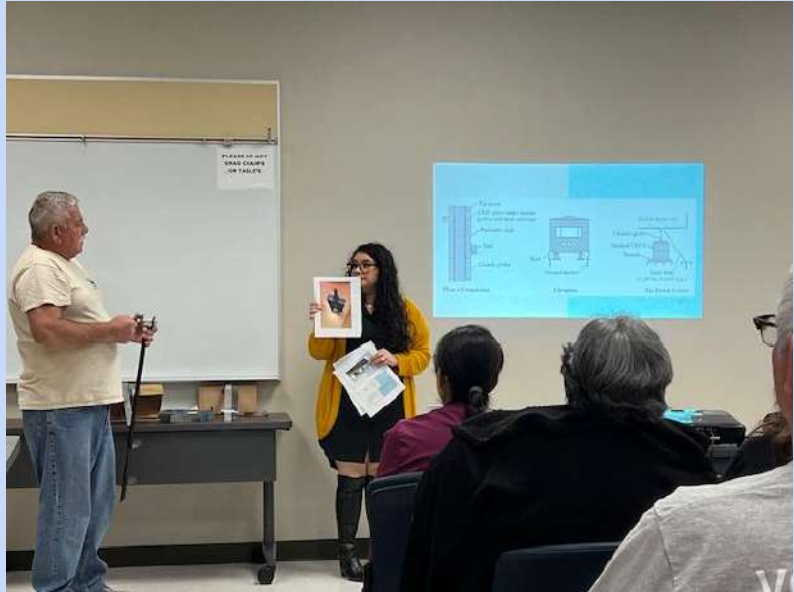
Response to the August meeting spread from Hidalgo to Cameron County, and by autumn, Cameron County Emergency Management, Proyecto Azteca, and others met to schedule a set of multi-city "mini" conferences in early 2024. Those conferences became reality in November, and in late January, the Cameron County Emergency Preparedness Conference was held.



*Bianca Garcia of NWS Brownsville/Rio Grande Valley gives a presentation on building resilience to Spanish-speaking residents of colonias in Alamo, Texas, on August 25, 2023.*



Three separate meetings drew nearly 50 *colonia* or similar residents, in Santa Rosa, Port Isabel, and Brownsville. For this event, NWS Brownsville/Rio Grande Valley opened the discussion, which segued into an updated presentation by Proyecto Azteca, who described in a show-and-tell format easy, low-cost methods to anchor trailer-type structures.



### **2024 and Beyond**

The success of these initial conferences is the springboard for more conferences and actions across the Rio Grande Valley this year. The group is looking at additional evening or weekend events to draw residents unable to attend during weekday business hours, and future plans include bringing in more construction experts, as well as material providers (hardware stores), to provide more demonstrations.

We're also looking at working with community liaisons to create videos of success stories where the "A-B-C's" were improved by residents, as a way to spread the word of the importance of



*Amber Arriaga-Salinas and Juan "Compadre" Martinez of Proyecto Azteca explain the techniques required to secure trailer-style structures to the ground. The second slide showed the low cost for a 24-piece anchoring "kit", which was under \$200.*

resilience-building to protect families of all means. Reducing risk from windstorms is a critical piece of building a Weather-Ready Nation - and one that can turn future nightmares such as Laguna Heights into life-saving success stories - one home, one neighborhood, and one community at a time.



*Panorama view of the Brownsville Central Library, filled with residents ready to learn about windstorm resilience and overall preparedness from government and non-government organizations serving Cameron County.*

**CONFERENCIA DE PREPARACIÓN PARA EMERGENCIAS** 1/23, 1/24 & 1/26  
9 am - 12 pm  
Santa Rosa, Laguna Heights & Brownsville

Con el apoyo de los socios del Grupo de Trabajo de Vivienda de Voces Unidas RGV



¡Gracias a nuestros colaboradores!



*Brochure/flyer for the Cameron County Conferencias de preparación para emergencias in January, 2024.*

# The Impacts of Eastern Pacific Tropical Cyclones on Texas

By Jeremy Katz

While tropical cyclones develop in oceans all over the world, normally, the focus is on the Atlantic Ocean and the Gulf of Mexico when we are focused on developing tropical cyclones. However, in some circumstances what happens in the eastern Pacific has impacts on Texas. Given the nature of the mountainous terrain in Mexico, tropical cyclones that develop in the eastern Pacific will not make it to the valley, but the remnants can. Recent eastern Pacific hurricanes Norma and Otis have sent moisture that helped develop showers and thunderstorms over Texas. The influence of eastern Pacific hurricanes is not that unusual actually. There have been many times where an eastern Pacific hurricane has brought moisture to some part of Texas. While we have needed the beneficial rainfall this season, there have been instances in the past where the remnants have helped to produce floods throughout the state of Texas. Looking at hurricanes starting in the 1980s, Hurricane Tico brought 5 to 7 inches of rain to parts of the Texas Panhandle after merging with a cold front. 1986, saw a devastating combo from Hurricanes Paine and Roslyn. First, the remnants from Paine moved over Texas and combined with a cold front to bring heavy rain to isolated areas, then a couple of weeks later the remnants of Roslyn moved over Texas while also combining with a cold front to bring more widespread heavy rainfall and flooding. The highest record rainfall from this event took place in Matagorda, Texas where 13.8 inches fell from the remnants of Roslyn.

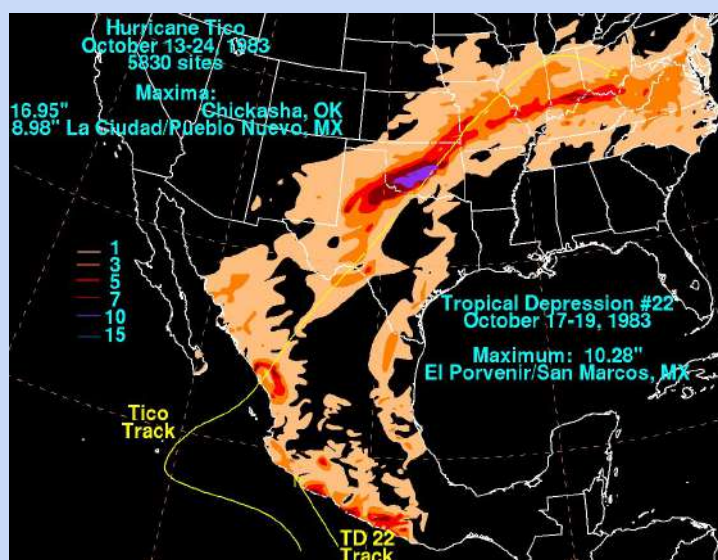


Figure 1 Above: Rainfall summary of Tico for the US



The state of Texas not only gets impacts from hurricane from the Gulf of Mexico but also from the Pacific. However, most of the time the moisture from the Pacific really manifests as upper-level clouds This train of moisture is not uncommon at all and occurs throughout the year. However, the impacts are much great with tropical cyclones. Even resulting in floods happening as mentioned previously.

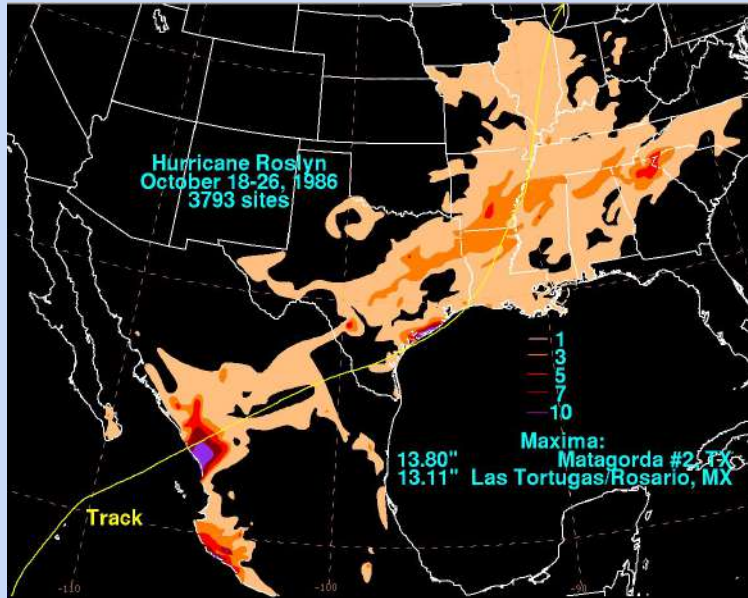
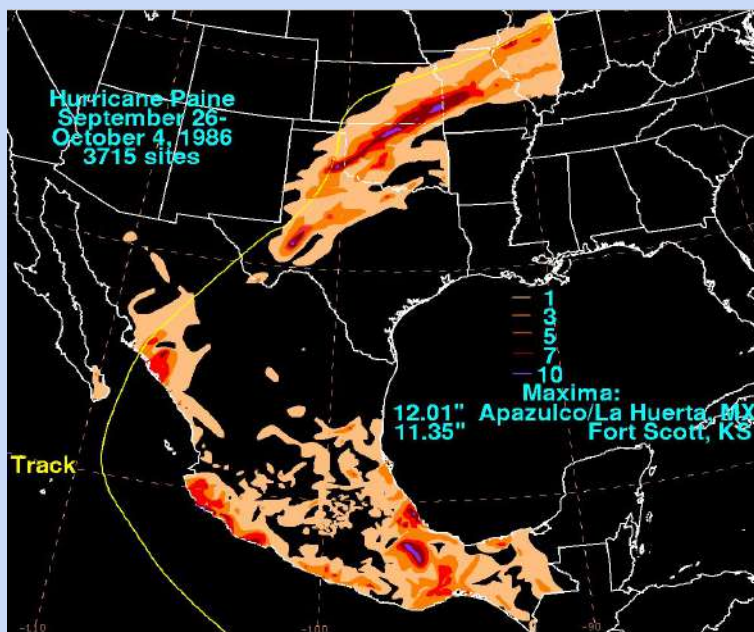


Figure 2 Above: Rainfall summary of Roslyn for the US

Figure 3 Below: Rainfall summary of Paine



# WFO Brownsville Participated in the Valley International Airport Full-Scale Exercise

By Kirk Caceres

Every three years, each of the three Rio Grande Valley airports are required to conduct a full-scale emergency exercise which is mandated by the Federal Aviation Administration (FAA). The purpose of the exercise was to evaluate the preparedness and capabilities of the airport, its tenants and the local response agencies.

This year's Valley International Airport full-scale exercise was conducted on the morning of October 12, 2023 and was organized by Valley International Airport and The Response Group (TRG). The exercise simulated a crash of an airliner on final approach with 80 passengers and 5 crew. In the scenario, the plane suddenly loses altitude quickly on the approach and hits the outer area of the runway, collapsing the main landing gear. The plane is observed skidding on the runway before stopping in the middle of the runway. Fire erupts on both sides of the wing. Students from the Texas State Technical College in Harlingen volunteered as injured or deceased passengers in this mass casualty staged event. Some of the victims were triaged on site while others were transported to either Harlingen Medical Center or Valley Baptist Medical Center. Numerous agencies and organizations across the Rio Grande Valley participated in this full-scale exercise including airport personnel, airline personnel, law enforcement, first responders and the Red Cross.

Meteorologist and Aviation Program Manager Kirk Caceres attended the planning pre-drill meeting which took place in late September. He was deployed to Valley International Airport on October 12th, to provide brief IDSS and then was chosen to be a field observer. Kirk was met with several members from the City of Harlingen and Cameron County to witness the live exercise on the airfield. This full-scale exercise was an opportunity for WFO Brownsville to gain deployment and decision support experience.

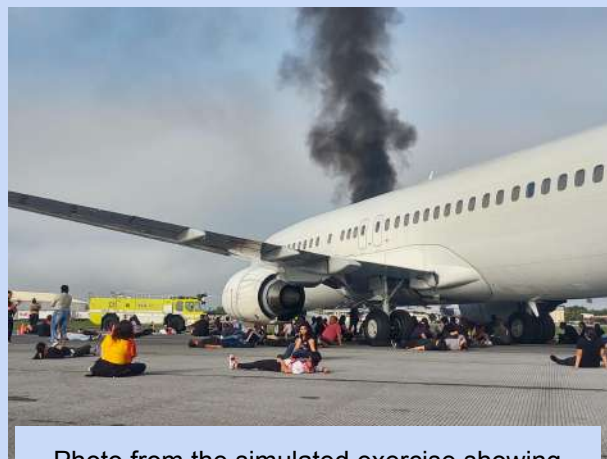


Photo from the simulated exercise showing the fire on the wing.

## Tri-Annual Brownsville/SPI International Airport Emergency Exercise

By Amber McGinnis

On October 18, 2023 NWS Brownsville was invited to participate in the 2023 Tri-Annual Full-Scale Emergency Response Exercise. The purpose of this exercise was to evaluate the airport's emergency readiness, which is required by the Federal Aviation Administration (FAA). These exercises help prepare emergency response teams for potential airport emergencies.

This year's exercise simulated an aircraft traveling from Mexico City to Washington D.C. being diverted to the Brownsville-SPI International Airport because of a fentanyl outbreak on the plane with an engine fire upon landing.

Meteorologists Kirk Caceres, Amber McGinnis and Ben Ellzey represented WFO Brownsville where Kirk and Amber briefed on a weather scenario that would bring a cold front through the airport near the time of landing bringing the chance of thunderstorms with heavy rain, gusty winds and lightning, along with a wind shift due to the cold front passage. Kirk and Amber provided 5 weather injects during the exercise that were passed on to emergency response teams on site. These weather conditions prompted emergency services to change strategies on how they responded to the emergency.

The forecast of changing weather conditions help emergency responders prepare for future events in which weather will play a factor in the response. Participating in these exercises is important to build relationships with partners. Partners look to the National Weather Service in order to make important and life saving decisions when dealing with emergencies.



Emergency response vehicle and Emergency Managers briefing responders on the weather scenario.

## Welcome Our Newest Forecaster

Greetings! My name is Andrei Evbuoma. I have a Bachelor of Science degree in Meteorology and Climatology from Northern Illinois University and a Master of Science degree in Environmental Science and Policy with a focus on climate, energy, and risk management from The Johns Hopkins University. Prior to joining the National Weather Service (NWS) in Brownsville, I obtained 4 years of experience at the NWS Albany, where I started my NWS career. Prior to joining the federal government, I spent about 10 years of my career in the private sector. During my time there, I applied my meteorological and climatological expertise in the investment banking sector, energy and agriculture commodities, utilities, transportation, and broadcasting.



I am an active member of the American Meteorology Society (AMS) where I serve as a Board Member for the Board of Government Meteorologist (BOGM) and a Committee Member of the Weather and Analysis Forecasting (WAF) Committee. Furthermore, I serve as a Program Chair for WAFs 2nd Symposium on the Future of Forecasting, Weather, and Practice where I helped to lead and construct the symposium that's scheduled to take place at the 104th AMS Annual Meeting in Baltimore January 28-February 1, 2024.

During my spare time, I enjoy spending time with my wife, traveling, catching up with family and friends, playing and watching sports including fantasy football and March Madness tournaments, drumming, and watching movies.

My wife and I decided to become Texans because Texas, in addition to the warmer weather, is very diverse, culturally rich, and is growing. We chose Brownsville in particular because of the fantastic staff at the Weather Forecast Office, greater opportunities that align with my career goals here, and a fantastic resort town and beach that is South Padre Island.

Favorite foods: Oxtail Stew, Jollof Rice and Plantain, Chicago's Deep Dish Pizza, 49er Flapjacks from the Original House of Pancakes.

## ***Farewell to Brownsville and the Rio Grande Valley***

By Joshua Schroeder, Past Science and Operations Officer

Happy 2024! I had the privilege of being the Science and Operations Officer at the Brownsville/RGV office from February 2016 through early December 2023. At that time, I relocated to take the same position at WFO Albuquerque, New Mexico.

Now that I've had a little time to reflect on my time in Brownsville, I can say that I really enjoyed my time there. It was also a great place for personal and professional growth. I had somewhat of a non-traditional path to becoming the SOO, as I was hired in from outside the National Weather Service, my previous position having been the Chief Forecaster at the U. S. Army's test facility at White Sands Missile Range, New Mexico.

Although there has been some “changing of the guard” in terms of personnel at the office, there is a very solid foundation of leadership, both within the management team and the staff, at the office. It has been great to build relationships with my colleagues, and I know we'll keep in touch. Meteorology is a relatively small field, and I always say that there are, at most, “two degrees of separation” within the NWS!



*Figure 1: Last day at WFO  
Brownsville/RGV (December 1st, 2023)*

Having grown up and lived most of my adult life in land-locked locations such as northern Illinois, I will definitely miss the easy access to the beautiful beach at South Padre Island, and I know my family will, as well. While I will *not* miss the threat of tropical storms and hurricanes during the summer and early fall months, I will certainly miss the camaraderie that is shared while working 12-hour shifts (even overnight!) with coworkers. This extends to a shared feeling with other Gulf coastal NWS offices as well. And being able to watch SpaceX launches literally from my backyard was super cool!

Thank you for a great eight years.

Later, BRO! \*

*Joshua Schroeder*

\* “BRO” is the office’s three-letter identifier within the weather enterprise.

## Two Forecasters Say Goodbye

5 years at WFO Brownsville. What a ride. I just want to thank all of my coworkers, both past and present, at BRO for being so welcoming to me. It was a very memorable 5 years working at this office, with lots of memorable weather events that I will not forget! If I had to choose, my three most memorable weather events were: the entire 2020 hurricane season, the arctic freeze in February 2021, and Brownsville flood event on October 1, 2021 where over 8 inches of rain fell in the city in just a few hours. Although I look forward to my next adventure at another office in the National Weather Service, I will never forget my time here in Brownsville.

*-Brian Mejia*



My time here in Brownsville has been a challenging, yet rewarding one. Challenging that I had to learn a whole new way of doing things after being in the broadcast side of meteorology for over a decade. Oh, and I had to learn how to deal with rotating shift work.

However, it was super rewarding learning how the NWS works and to work and collaborate as a team. Honestly, the teamwork aspect of the NWS was the most rewarding part as I could chat with other meteorologists about the weather or what I was seeing on satellite, the radar, or models in person instead of by myself in a studio. Anyway, off to Tallahassee I go to be much closer to family and friends. Until next time, Brownsville!

*-David Reese*



**THE NATIONAL WEATHER SERVICE BROWNSVILLE/RIO GRANDE  
VALLEY**

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## **NWS Mission**

**PROVIDE WEATHER, WATER, AND CLIMATE DATA,  
FORECASTS AND WARNINGS FOR THE PROTECTION  
OF LIFE AND PROPERTY AND ENHANCEMENT OF  
THE NATIONAL ECONOMY**

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