THE COASTAL BREEZE

Volume XIII, Issue 13 Summer 2024

Brownsville/Rio Grande Valley

Welcome to the Summer issue of the Coastal Breeze!

This summer has been an exceptionally busy one here at WFO BRO, as we've dealt with everything from tropical storms and hurricanes to relentless heat. In this issue, we'll take a closer look at the tropical activities that have kept us on our toes since our Spring issue. We'll also review the Deep South Texas Water Symposium, an event that addressed pressing issues related to water management in our area. In addition, we'll take a moment to recognize some well-deserved awards that our dedicated staff received for their hard work and commitment. Finally, we're excited to introduce three new employees who have recently joined our team, and we look forward to seeing the great things they'll accomplish.

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!

Email us at sr-bro.awareness@noaa.gov

In this Issue

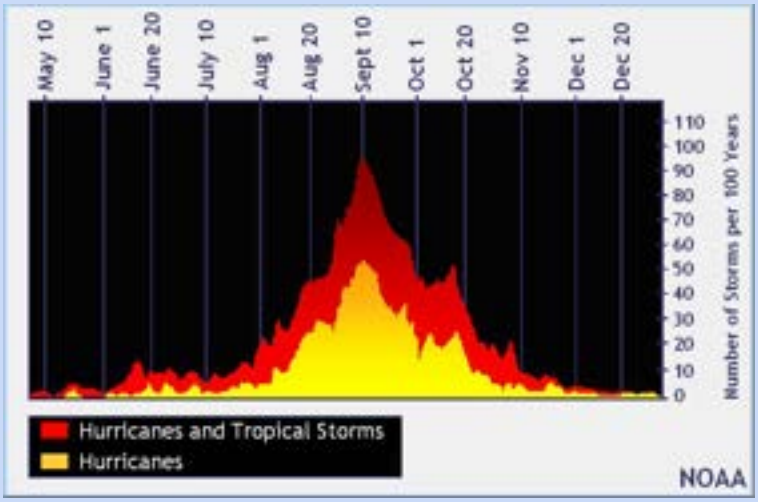
MIC Minute

By Mike Buchanan

The Rio Grande Valley and Northern Ranchlands have already been impacted by Tropical Storms Alberto, Beryl, and Francine this season. As of Sept.12, 2024, there have been 6 named tropical cyclones in the Atlantic Basin. A typical Atlantic hurricane season has 14 named storms, 7 of these are hurricanes, and 3 of these are major hurricanes. Given the well above normal hurricane seasonal forecast from NOAA and the fact that the peak of the hurricane season is not until September 10, additional tropical cyclones are inevitable across the Atlantic Basin for the remainder of the hurricane season. It is impossible to forecast if our region will experience a fourth tropical cyclone during this hurricane season.

Since 1842, there have been 18 tropical cyclones that have affected portions of our area in the month of September. The strongest of these September tropical cyclones was Hurricane Beulah which made landfall as a Category 3 storm between the Mouth of the Rio Grande and Brownsville on September 20, 1967. Just 12 hours prior to landfall, Beulah was a Category 5 storm. Storm surge as high as 15-20 feet, a record number of tornadoes (115), and heavy rainfall up to 30 inches occurred with Beulah. Peak winds of 136 mph occurred on the S.S. Shirley Lykes when it was anchored at the Port of Brownsville during Beulah's landfall.

The bottom line is that there is plenty of hurricane season left. So, be prepared and know what to do if a storm threatens our area. Visit our local tropical webpage for preparedness info: https://www.weather.gov/srh/tropical?office=bro#preparedness



Deep South Texas Water Symposium Brings Hope to Solving Long-Term Water Resource Issues to the Valley and Beyond

By Barry Goldsmith

On August 20th, 2024, the City of Pharr hosted the First Deep South Texas Water Symposium to discuss the growing and long-term concern for current and future water resources to the Rio Grande Valley and Texas. NWS Brownsville/Rio Grande Valley Meteorologist-in-Charge Mike Buchanan and Warning Coordination Meteorologist Barry Goldsmith attended the symposium.

Above: Legislative panel at the First Deep South Texas State of Water Symposium. From left: Terry Canales, TX House District 40; Juan 'Chuy' Hinojosa, TX Senate District 20, Morgan LaMantia, TX Senate District 27, and Sarah Schlessinger (moderator), Texas Water Foundation. Photo courtesy of the City of Pharr.

The symposium brought together more than 100 stakeholders from across the Valley and Texas to begin building a roadmap for the future of water needs and water use, with a strong focus on the Rio Grande Valley which is home to a more than $1 billion agricultural industry and a population expected to grow toward 3 million residents by the latter half of the 21st Century. Similar industry and population growth is expected on the Mexican side of the Rio Grande.

The symposium featured four panel discussions, which focused on the following topics:

- Challenges and Forecast for Future Water Resources
- Infrastructure Needs and Funding to Address Them
- Legislative Initiatives to Address Water Resources in Texas
- Hope and Innovation for Water Resources Across All Communities

The “Challenges” panel featured several Valley irrigation district and water supply managers, from McAllen to Laguna Madre. The overarching challenge was to chart a path forward to be able to provide sufficient water for both the rapidly growing population and to sustain what has been a profitable agricultural industry. Discussion among the group focused on a mix of water conveyance (movement) infrastructure projects to reduce lost water via evaporation, leaks, and more (conservation); plans to utilize groundwater, underground, and seawater sources for potable and agricultural use (desalination and reverse osmosis), and water recycling project (reclamation). All agreed that a regional approach to diversifying water resources was necessary for the Valley’s sustainable future.

The Infrastructure and Funding session featured stakeholders with the knowledge of how to leverage funding to meet the region’s, and the state’s, future water resource needs. Panelists included the Chair of the Texas Water Development Board and representatives from the North American Development Bank and Water Finance Exchange. Eye-opening in the discussion was the estimated $250 billion in public spending that would be necessary over the coming decades to fully address the statewide water resource issue - a value that could double when accounting for future innovation, inflation, and population growth. Discussion re-emphasized a need to regionalize the Valley’s water needs, as well as an effort to improve/develop bi-national water resource plans between Texas and northern Mexico. The discussion also reminded the audience to remember that flood mitigation remains a water resource issue in Texas.

The Keynote address was given by Dr. Maria-Elena Giner, Commissioner of the U.S. International Boundary and Water Commission (US IBWC). Dr. Giner, along with hydrologist Adrian Cortez, provided compelling data that tied everything together:

Since the 1980s, combined inflows into Amistad International Reservoir have declined by 33 percent; combined inflows into Falcon International Reservoir have declined by 21.5 percent. Since 2011, the rate of decline has increased as drier, warmer weather has dominated the source regions for each.

Above: Dr. Maria-Elena Giner Commissioner of US IBWC opens the lunch Keynote address.

The first afternoon panel featured state of Texas elected officials from legislative districts that serve the Rio Grande Valley. The lively discussion reiterated the urgency to regionalize a comprehensive water management approach to help bring more funding to the region (via state and federal means), and target the funds for a mix of conservation, desalination, reclamation, smart irrigation, and innovation over the coming decades. A discussion on a broad, bi-national hydrologic study - one that would do a deep dive on water reserves and detailed flow response to better inform future decisions - closed the session.

The final panel on Hope and Innovation featured community and water project leaders. Each described current and future innovations targeted to improve the overall water use footprint for the Valley in a time of shrinking supply - innovations that would allow the region to continue to thrive over the coming decades. Desalination options using abundant sub-surface brackish water, to

brine recycling from seawater, began the conversation. Innovations to reclaim excess water from flood drainage - rather than let it flow into Laguna Madre and the Gulf - was discussed - and a fresh look on water rights (sales) was mentioned. Finally, the concept of rainwater harvesting in *colonias* was brought forward by Proyecto Azteca, an organization who works to improve housing in these areas.

“It was very heartening to see RGV stakeholders come together to chart the pathway for a sustainable water resource future,” Goldsmith said. “Our data continue to show a steady, if not accelerating,, rise in annual temperature over the past fifteen years. This equates to higher and longer periods of evaporation and less available water for agriculture and residents. Developing plans for the five ‘-ations’ of water resource management - while still providing funding for flood mitigation - is the answer.”

As a wise Texas weatherman once said nearly 100 years ago, “Texas is a state of perpetual drought broken by the occasional [devastating] flood.” Addressing each situation in the RGV - and Texas - will ensure all of us can survive and thrive for decades to come.

Annual Tropical Weather Workshop

By Amber McGinnis

As ongoing training, every year the Brownsville office hosts a half day Tropical Workshop for staff. This workshop covers a variety of items from forecasts and graphics to internal operations during a Tropical event that impacts Deep South Texas. Typically this workshop is hosted by the Science and Operations Officer (SOO) in conjunction with some or all of our Tropical Team. This year, in absence of a SOO, the Tropical Team (Co-Lead Amber McGinnis, Co-Lead Kirk Caceres, Jeremy Katz and Andrei Evbuoma) hosted the event to the staff at Brownsville.

A myriad of topics were covered, and we started the workshop by going over program changes for the 2024 Tropical Season lead by Jeremy. The most notable changes included the addition of the day 4 and 5 wind radii forecast, being able to issue watches and warnings on intermediate advisories, introduction of spanish text on the National Hurricane Center website, and the change to the cone graphic (that was implemented in August) to cover tropical wind watches and warnings inland.

Our Warning Coordination Meteorologist Barry Goldsmith gave a presentation on Rapid Intensification. He covered what rapid intensification is as well as gave examples from some storms that underwent rapid intensification over the last few years. We also discussed what the ramifications are for the future, and our office operations, as rapid intensification becomes more prevalent.

After a lunch break, the tropical team resumed with best practices during tropical operations covered by Amber, Kirk, and Andrei. We talked about the duties assigned to each forecaster including revealing a new shift duties list to ensure all products and services are covered during operations, best practices with social media posts and slack, as well as how to conduct a media interview.

Lastly we conducted an after action review of Tropical Storm Alberto which affected portions of Deep South Texas in June which was lead by the entire tropical team. We reviewed the the storm timing, development, intensification, what went well in operations during this storm and some items to improve for future events. All in all this was another successful Tropical Workshop for the 2024 season.

2024 Isaac Cline Awards

By Mike Buchanan

Every year, the National Weather Service recognizes employees with Isaac M. Cline awards. These awards can be awarded at the local, regional, and/or national level. The awards are named after Isaac Monroe Cline, the chief meteorologist at the U.S. Weather Bureau (later known as the National Weather Service) Galveston, TX office from 1889 to 1901. Isaac Cline was famous for warning the residents of Galveston about the impending 1900 Hurricane that later claimed up to 12000 lives. Award categories, local winners, and award justifications are:

- Meteorology (Brian Miller, Joe Tomaselli, Rick Hallman, Amber McGinnis, Geoff Bogorad, Bianca Garcia, Jeremy Katz, Kirk Caceres, Andrei Evbuoma, Benjamin Ellzey, David Reese, Laura Farris, and Brian Mejia) - *For life-saving and health-supporting forecasts, warnings, and decision support services during multiple record heat events across Deep South Texas.*
- Hydrometeorology (Joe Tomaselli, Brian Miller, Geoff Bogorad, Bianca Garcia, Amber McGinnis, Jeremy Katz, David Reese, Ben Ellzey, and Mike Gonzales) - *For excellence and dedication associated with Tropical Storm Harold which impacted Deep South Texas on August 21-22, 2023.*
- Hydrology and Climate Services (Rick Hallman and Kirk Caceres) - *For leading the Hydrology Program at NWS Brownsville/Rio Grande Valley.*
- Data Acquisition Management (Geoff Bogorad, Rick Hallman, Kirk Caceres, Jeremy Katz, Pablo Gonzalez) - *For leadership and management of the Data Acquisition Program at NWS Brownsville/Rio Grande Valley.*
- Engineering, Electronics, or Facilities (Mike Gonzales) - *For dedication and leadership in the Electronics Program at NWS Brownsville/Rio Grande Valley.*
- Leadership (Entire Staff at NWS Brownsville/RGV, Joshua Schroeder, David Reese, Brian Mejia, Lance Wood) - *For finding creative solutions and being flexible during a significant staff shortage at NWS Brownsville/Rio Grande Valley.*
- Program Management and Administration (Bianca Garcia) - *For dedication and professionalism in the management and co-management of multiple office programs at NWS Brownsville/Rio Grande Valley.*

- Outreach (Barry Goldsmith and Andrei Evbuoma) - *For excellent communication of seasonal-to-subseasonal weather and climate information to stakeholders tasked with water management decisions.*
- Equal Employment Opportunity and Diversity Management (Amber McGinnis, Bianca Garcia, and Brian Miller) - *For leading the Culture, Diversity, Inclusion and Wellness Team at NWS Brownsville/Rio Grande Valley.*
- Support Services (Rachel Gil) - *For professionalism and leadership in the management and oversight of the administrative functions at NWS Brownsville/Rio Grande Valley.*

A total of 57 local Isaac M. Cline awards were awarded to current and former staff members at NWS Brownsville/Rio Grande Valley in all ten award categories. Four categories (leadership, outreach, meteorology, and program management and administration) that were awarded at the local level at NWS Brownsville/Rio Grande Valley were also nominated for regional Isaac M. Cline awards. If a regional Isaac M. Cline award is won, then automatic consideration for a national Isaac M. Cline award will then occur. We congratulate all the award winners for all their hard work and efforts

Tropical Operations for Alberto and Beryl

By Jeremy Katz

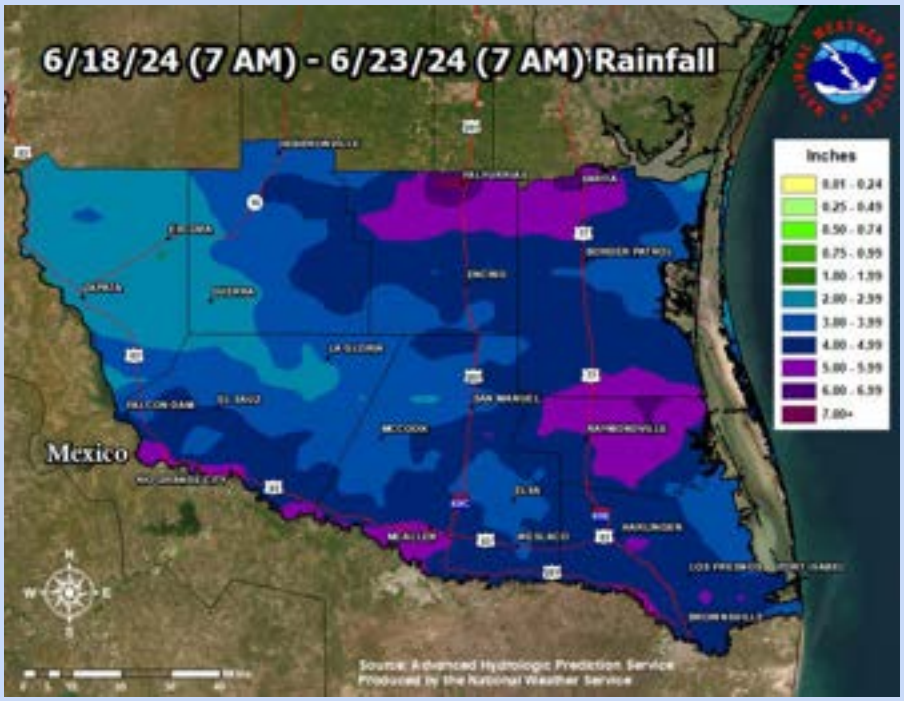
Deep South Texas and the Rio Grande Valley had a very active start to the 2024 Hurricane Season, with both Tropical Storm Alberto and Hurricane Beryl impacting the region. While neither of these storms left very strong impacts, the threats these storms towards the region were very real. Any sort of change in the track could have meant very different consequences for the area. Thus, it was important for us at the Brownsville National Weather Service Office to spin up into a special set of operations much different than the normal operations we perform on the daily basis. In this article, I aim to explore how we handle tropical events like hurricanes and explain how they differ from the normal day to day operations.

When something like a tropical storm or a hurricane begin to threaten the region, we shift our normal work schedule to a modified operations mode called “Tropical Operations”, and they are 12 hour shifts as opposed to the standard 8 hour shifts that we normally work. This allows for one group to cover the day time hours and another to cover the night time hours. There is also an all-hands shift briefing in which the staff passes on all events that have occurred, anything they have noticed in regards to both the forecast and equipment, and any concerns they have as well. Of course, the Brownsville office is not alone during these “Tropical Operations”.

Above: Track of Tropical Storm Alberto

The National Hurricane Center, located in Miami, Florida, is often of major point of contact for coordination for watches and warning along with getting their thoughts on the forecast and how it has handled the tropical threat. Forecasters in our office will also give their thoughts as well to them, so that the forecast that is sent out to the public is a collaboration between the forecasters of the forecast office and the hurricane specialist at the Hurricane Center. Of course, given the scope and size of most tropical events, multiple forecast offices are involved in a storm event. For example, Beryl affected the Brownsville, Corpus Christi, and Houston office areas. Thus, forecasting collaborations required all of us to work together to make sure they we were all sending out a consistent message to the public. However, my experience with both Alberto and Beryl showed to me, that it was often quite easy to come together with a plan even with multiple groups and different collaboration meetings going on to come to an agreement on how to handle and message the threats of a storm.

Of course, “Tropical Operations” is more than just before the storm hits. It is also about during the storm as well. This period is usually a bit more hectic as more people are often in the office to help with issuing “short-fuse” warnings as such as tornado or extreme wind warnings. However, we only really saw a few tornado warnings issued with Alberto between the two storms. Still, it is important that we are able to maintain a good stream of communication with the other offices and the Hurricane Center during these busy times.



Above: Rainfall Totals from Alberto

New Employee Spotlights

Welcome Melissa Marcelloni

My name is Melissa Marcelloni, and I am excited to be joining the National Weather Service team at WFO Brownsville! I have family ties to the Valley; my mother was born and raised in Harlingen, my grandparents live in McAllen, and my uncle lives in Edinburg. I grew up coming down to the Valley and South Padre Island every summer as a child, so it is exciting to actually call the RGV my home! I really love the friendly people, the tasty food, and the warmer climate. I became interested in meteorology at a young age. My dad, who has an aviation background, is really interested in weather and took me to see a tornado touch down outside of Fort Worth when I was 7 years old. I also used to love watching Harold Taft do the weather on TV when I was a child. I graduated from the University of Oklahoma with my degree in Meteorology and began my weather career at the National Center for Environmental Information in Asheville, North Carolina. I am excited to be transitioning to the National Weather Service. When I am not forecasting the weather for the Rio Grande Valley, I enjoy chasing tornadoes throughout the Great Plains, hunting for seashells at the beach, and nature photography.

Welcome Terry Hudgins

Howdy! My name is Terry Hudgins and I am the new Observation Program Leader for NWS Brownsville here in the Rio Grande Valley. I transferred from the NWS office in Raleigh, NC, where we spent the last 16 years. I am originally from Texas, but we haven't resided in Texas since 2003. Since then, we lived in Oklahoma, Alaska, Hawaii and North Carolina. We are very excited to be back home in Texas closer to all of our family and friends.

My NWS career began in 2007 in Barrow, AK. I was there for one year then transferred to Hilo,HI. After another year in Hilo, I transferred to Raleigh, NC in 2009. We resided in NC until July 2024 when I transferred to Brownsville. I also have extensive meteorology training and experience in the military. I served from 1987 through 1989 as a Marine Corps Weather Observer in the USMC Reserves. I then transferred to the US Air Force as a Weather Specialist and served from 1989 through 1992. In 1997 I joined the Air National Guard as an enlisted Weather Forecaster. In 2001, I got my commission and served as a Weather Officer for the remainder of my career. I retired from as a Major from the ANG in 2018. Much of my ANG time was spent on active duty with multiple deployments. The remainder of my weather experience included serving as a civilian Weather Forecaster at Cannon AFB, NM, from 2000 through 2004. I also worked for a civilian company in Norman, OK, as an Aviation Weather Forecaster from 2004 through 2007. Aside from my military education and training, in 1995 I earned a BA in Political Science and Sociology from TX Tech University, and in 2008 I earned a Master's in Public Administration from the University of Oklahoma. Again, we are very excited that our many travels have now found us in deep South Texas and we are so happy to now call the Rio Grande Valley home.

Welcome Rodney Chai

Rodney is the new Science and Operations Officer (SOO) at NWS Brownsville/Rio Grande Valley (BRO). He came to BRO from NWS Burlington (BTV) where he was a Lead Meteorologist. At BTV, Rodney worked with several University of Vermont officials including the Vermont State Climatologist to develop an interdisciplinary graduate certificate program which combined both atmospheric science and social science. As across-trained social scientist and atmospheric scientist with operational field experience in the NWS, Rodney served as the Eastern Region Social, Behavioral and Economic Sciences Program Lead. He co-authored “A Best Practices Guide for NWS Alerting and Risk Scale Terminology to Foster Consistent Depiction of Risk. As one of the rare few NWS operational meteorologists who is bilingual in both English and Chinese, Rodney has spearheaded the NWS AI translation effort for the third most spoken language in the U.S. as part of a national effort to increase the access of the Limited English Proficiency (LEP) population to NWS products and services.

At NWS Boston/Norton (BOX), he was heavily involved in various outreach efforts. As a huge advocate of knowledge sharing, he significantly grew the office's engagement with the public - 8000 people have registered for 100 topical webinars and event reviews during his time at BOX. Rodney also led efforts to implement improved office services to Spanish speakers in southern New England and increase community engagements. Prior to NWS, Rodney was a civilian meteorologist at the Navy's Fleet Numerical Meteorology and Oceanography Center (FNMOC) in Monterey, CA. He worked in the Climatology Division, where he provided naval units with climate information and seasonal forecasts for their operations. Over the years, Rodney has presented at numerous conferences including American Meteorological Society (AMS), National Weather Association (NWA), Northeastern Storm Conference, and the Northeast Regional Operational Workshop on topics such as blizzards, tornadoes, floods, fires, precipitation, philosophy, social science, and cultural diversity. He has also been a guest lecturer at University of Vermont and Middlebury College.

Rodney received his M.S. in Meteorology from the University of Kansas in 2018, and also holds a B.A. degree in Philosophy and Political Science from Haverford College in Pennsylvania. During this time at the University of Kansas, he was a meteorology instructor who taught over 150 students introductory meteorology. His master's thesis examined relationship between morphology and the urban heat island effect during heat wave events in the Kansas City metropolitan area.

Rodney is also an avid outdoor enthusiast - having climbed Mt Kilimanjaro, Mt Whitney, Half Dome in Yosemite National Park, many 14ers in Colorado, Mt Washington, and has run 5 marathons. Rodney was born in Michigan and raised in Singapore. As SOO at BRO, Rodney looks forward to ensuring that operational staff is equipped with the latest scientific principles through training and research. Finally, he looks forward to serving the RGV by ensuring that weather and climate-related risks are communicated effectively and equitably.

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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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