

# THE COASTAL BREEZE

Brownsville/Rio Grande Valley



Volume XI, Issue 1

WINTER 2022/2023

Hello Deep South Texas!

We had quite the winter snap at the end of 2022 with the freeze to get us all in the holiday spirit! We hope the the New Year brings you all good health and fortune.

You may have noticed a bit of a change to the newsletter this issue. It was time for a change, so what better time to unveil the new look but in the first issue of the New Year!

We have an exciting issue for you. This issue will focus a lot of activities that take us out of the office to educate the public. From career fairs to expos, we stay busy! We also will look at how the cold weather affects livestock, what weather our staff likes least and a look at some more weather myths.

We hope you enjoy the issue!

**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](mailto:sr-bro.awareness@noaa.gov)

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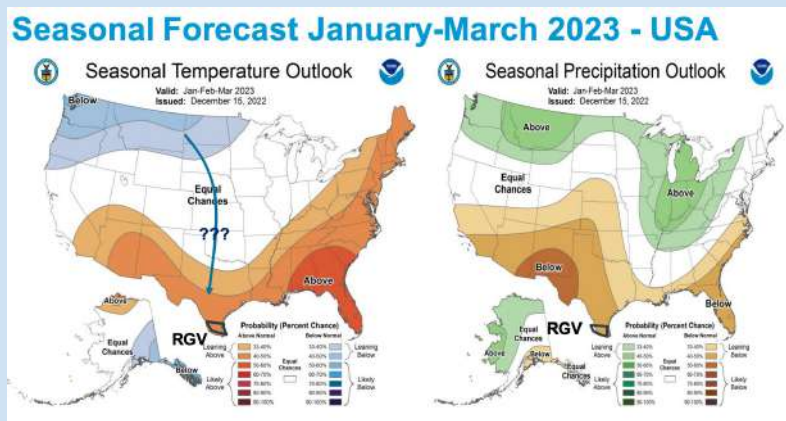
[weather.gov/rgv](https://www.weather.gov/rgv)

## MIC MINUTE

By Michael Buchanan

An Arctic outbreak with widespread sub-freezing temperatures can occasionally affect Deep South Texas during the winter months. As most of you already know, our area recently experienced an Arctic outbreak from the evening of December 22, 2022 through the morning of December 26, 2022. During the morning of December 23, 2022, widespread temperatures in the 20s with wind chills between 10 and 20 degrees were observed across much of Deep South Texas. While this Arctic outbreak was significant for our area, it was by no means the coldest Arctic outbreak that Deep South Texas has ever experienced. Arctic outbreaks in February 1899, February 1951, January 1962, December 1983, December 1989, and February 2021 were colder than the December 2022 Arctic outbreak. Several of these past Arctic outbreaks still stand to the present day as some of the coldest temperatures that have ever been recorded in Deep South Texas. Temperatures as low as the teens in the Valley and as low as the single digits in the Northern Ranchlands were observed with some of these past Arctic outbreaks.

Will we get another freeze this winter? The short answer is we do not know. The official prediction for the remainder of the winter season from the National Weather Service's Climate Prediction Center indicates that the weather pattern will be more conducive to above normal temperatures than below normal temperatures. This does not mean that every day through March we will experience above normal temperatures. On average, temperatures begin slowly warming up beginning in mid January after climatological normals typically reach their lowest point in late December and early January. The last freeze for the valley typically occurs in mid to late January and in mid February across the Northern Ranchlands. However, freezing temperatures have occurred as late as March. So, the bottomline, we are still in the winter season and another round of freezing temperatures is still possible despite us already experiencing a freeze.



The most recent seasonal forecast from the Climate Prediction Center.

**ASK THE STAFF:  
WHAT IS YOUR LEAST FAVORITE TYPE OF WEATHER AND WHY?**

Freezing rain. Two reasons, one is that freezing rain can make travel nearly impossible and very dangerous. The second reason is that freezing rain (and other winter weather precipitation types) can be quite challenging to forecast, especially for the amount and the locations affected.

-Mike Buchanan, Meteorologist in Charge

Slashing drizzle on strong winds following a winter 'norther' - when temperatures fall into the 40s, and apparent temperatures ("feels like" fall to between 30 and 35. I dread the daily dog walks on days like these!

-Barry Goldsmith, Warning Coordination Meteorologist

I highly dislike multiple days of cold and rainy conditions. Having one, once in awhile is fine, a good chance to snuggle up with coffee and book. Multiple days are just depressing and miserable. It makes me not even want to get out of bed.

-Amber McGinnis, Meteorologist

My least favorite type of weather is wind. Windy days aren't all that interesting or challenging to forecast. And they bring a host of inconveniences such as fire danger, blowing dust, and often transport allergens into the area.

-Joshua Schroeder, Science and Operations Officer

If I had to choose, my least favorite type of weather would be the combination of cold, wet, and windy. I love being outside, but this would definitely keep me indoors...but it's not too bad because if I didn't have anywhere to be, I'd just curl up on the couch, read a book and drink some hot tea.

-Laura Farris, Meteorologist

## CATTLE AND THE COLD:

### How Ranchers and Livestock Adapt to Unseasonable Winter Temperatures

By Barry Goldsmith

When the weather turns sharply colder, NWS Brownsville/Rio Grande Valley provides information to the public and our public safety partners to help them prepare and protect from potentially dangerous cold weather. We promote the four P's of winter protection: People, pets, plants, and pipes. But what actions do farmers and ranchers of the Rio Grande Valley/Deep South Texas take to take care of their livelihood? Livestock - from cattle to hogs, and farm animals such as horses and dogs, can be severely affected by cold weather. Impacts on these animals can differ here than on farms and ranches in temperate climates for the same reason impacts on unprotected "four P's" here can be more dramatic - like the people, pets, and plants who call the Rio Grande Valley home, these animals can be shocked into ill health by sharp drops in temperature. When that temperature is combined with moisture in the form of light rain or drizzle, the situation can worsen.

Benancio "Benny" Cano, the U.S. Department of Agriculture's Farm Service Extension Agent for the Lower Rio Grande Valley and parts of the Deep South Texas Brush Country, and a rancher himself, offered the following: "Livestock could be impacted in a very negative way with constant cold/extreme cold and rain. When an animal gets wet and cold, they could develop pneumonia and young calves could die. Conditions on January 31-February 2, 2023, were not favorable to ranchers that are in calving season. I lost a few last year in similar conditions around this time, but not any when we had the extreme cold and less moisture in 2021."



Photo Credit: Texas A&M University

**Continued on next page.**

“When cold weather is forecast, several producers will usually put out more hay and feed than normal to help livestock. If livestock is grazing in an open pasture, ranchers will typically provide a covered area, typically with a north wall to give the livestock some shelter/protection from the elements. Livestock that graze in brush will usually huddle together to provide a kind of “group” protection to be less impacted by the elements as best as they can.”

### ***Nilgai: Hearty - to a Point***

Note: The following information was extracted from Goolsby, et. al, 2021.

Nilgai antelope are in the bovidae (bovine) family and closely related to domesticated cattle. They were brought to the United States from India and released in South Texas circa 1930 (Leslie, 2008). Nilgai coexist with cattle in the region - but, being native to tropical and subtropical climates of India, Pakistan, and Bangladesh, their cold tolerance is limited. Although not quantitatively documented, Lohmeyer et. al (2018) believed that historic cold temperature events in south Texas during the 1980s caused considerable nilgai mortality. The Hard Freeze of February 2021 was the coldest event to affect south Texas since that time. How did the nilgai fare?

Though the sample size was small, nilgai mortality was prevalent north and west of the Rio Grande between McAllen and Brownsville/South Padre Island. A roadside survey discovered five nilgai deaths in northeastern Cameron, northern Willacy, southern Kenedy, and northeastern Hidalgo County. A common factor in mortality was duration of temperatures below  $-3^{\circ}\text{C}$  ( $\sim 26^{\circ}\text{F}$ ), with mortality increasingly significantly with increased duration of said temperatures. Although there were only anecdotal reports of mortality in the northern and western nilgai zones, which include the south Texas Brush Country and Coastal Plains from Jim Hogg, Brooks, and Kenedy County to near Alice and Robstown (near Corpus Christi), regression equations suggested that more than 11 consecutive hours below  $-3^{\circ}\text{C}$  is a mortality signal for nilgai.

#### References:

- Goolsby, J. A., and P. Saelaob, M. May, and B. Goldsmith, 2021: Nilgai (*boselaphus tragocamelus*) mortality levels in South Texas after historic freeze event. *Subtropical Agriculture and Environments* 72.7-11.2021
- Leslie, D.M. 2008: *Boselaphus tragocamelus* (Artiodactyla: Bovidae). *Mammalian Species* 813: 1-16.



## LEADERSHIP BROWNSVILLE VISIT

By Amber McGinnis

On December 15, 2022 we had some very special guests in our office. The Leadership Brownsville Class 38, which I am participating in, came to get a firsthand look at our office and operations. Leadership Brownsville is a nine month program where a select group of individuals in the community learn about the inner workings of the city of Brownsville from non profits to city government. Each class is responsible for a project to help with needs in our community based on what we have seen and learned. Leadership Brownsville meets once a month to visit local entities and this session we focused on the environment, so naturally a visit to our office was in order. Since I am a member of the class, it was my duty to organize a tour and presentation of the inner workings of our office. Myself, along with Warning Coordination Meteorologist, Barry Goldsmith (a Leadership Brownsville Alumni), provided Class 38 with an inside view of the National Weather Service.

I gave a slide show presentation that included an overview of that office. She spoke about staffing, shifts duties, who some of our core community partners are, how we collect data, what we use to analyze and forecast the weather and how we disseminate this information. We also talked about what our most impactful weather is in the area.

Barry, built on this information showing them first hand how we evaluate weather data, use our knowledge and experience to create a forecast. He then discusses how are forecast serve the public and or partners and what it means for our community to be prepared.

The class had a great time and left with a better understanding and appreciation of the National Weather Service.



Left: Meteorologist Amber McGinnis presenting to Leadership Brownsville Class 38.

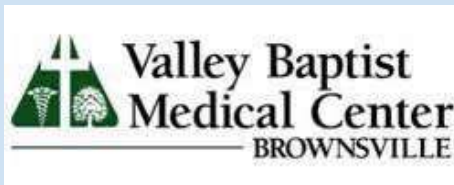
Right: Warning Coordination Meteorologist showing the class how we produce weather forecasts.

# BROWNSVILLE AIRPORT ANNUAL EMERGENCY TABLETOP EXERCISE

By Kirk Caceres

On October 26, 2022, Meteorologist Kirk Caceres represented the National Weather Service (NWS) Brownsville/RGV in the annual review of the Airport Emergency Plan hosted by the City of Brownsville. This Airport Emergency Plan and Incident Management process is a Federal requirement that must be met yearly for the Brownsville-South Padre International Airport (BRO) to maintain its operating certificate. Kirk's visit was to meet the BRO operational staff, gain knowledge about tabletop exercises, and provide a weather inject for the brief incident scenario. In attendance were the BRO airport leadership, operational and maintenance staff, air traffic control, medical representatives from Valley Baptist Medical Center, Brownsville Emergency Management, firefighters, police officers, paramedics, Border Patrol, TSA, and the American Red Cross.

The annual tabletop exercise focused on an air carrier mishap on the runway during landing and the implementation of emergency operations. Kirk briefed a scenario about a line of strong to severe thunderstorms approaching the airfield. The brief covered the scenario's response, rescue, and recovery phases. Overall, the tabletop exercise was very informative, especially the roles of first responders. The next full airport emergency exercise is scheduled later this year.



# SKYWARN(TM) RECOGNITION DAY 2022 A HUGE SUCCESS

By Brian Miller

SKYWARN(TM) Recognition Day (SRD) 2022 was co-sponsored by the National Weather Service (NWS) and the Amateur Radio Relay League (ARRL) on December 3 and 4. SRD, first developed in 1999, is a fun annual event recognizing certified severe weather spotters' contributions to the NWS mission of saving lives and protecting property. Many spotters are also licensed amateur radio operators (Hams) who provide vital communication between the NWS and emergency management. During SRD, Hams operate radio equipment at local NWS offices for 24 hours, making and recording as many contacts as possible. Besides just having fun on the air, NWS offices can earn recognition for the number of connections they make with other offices and other Hams.

SRD traditionally occurs on the first Friday in December. For 2022, SRD at NWS Brownsville (call sign WX5BRO) started at 6 PM Friday, December 2, and ended at 6 PM Saturday, December 3. Though COVID-19 restrictions were less stringent than the previous year, the Weather Forecast Office (WFO) Brownsville used a format similar to the 2021 event. Hams operated as WX5BRO from their radio shacks instead of on-site at WFO Brownsville. The alternate procedure has been quite popular, and SRD 2022 was a huge success. WX5BRO Hams made over 200 contacts across 44 states and territories and 15 countries. WFO Brownsville earned the "Wildfire Category" certificate for contacting 12 other participating NWS offices.





# CAREER DAY AT PAREDES ELEMENTARY

By Amber McGinnis

One of the many perks of being a Meteorologist here at the National Weather Service is being about to go out and educate the public on what we do any why it is important. One of my favorite outreach opportunities is going to schools to help inspire future generations. As a former preschool teacher, I jump at the chance to go out to schools to speak to classes or participate in career days.

This past December I was invited to attend a career day at Paredes Elementary school. During the event hundreds of students, came to my booth (by class) and boy were these kids excited! They all wanted tell me their favorite kind of weather and if it was going to snow for christmas. This was about a week before the freeze event we has so even though I had to tell them no snow they were all really excited to know it was going to be really cold outside.

I explained to them what I do everyday to create a forecast, but their favorite part was seeing how big our weather balloon is (deflated of course). They were surprised it was bigger than most of them! They had a lot of questions about how high the balloon goes and what happens when it pops.

The best part about the day was see the excited faces and the interest in what we do as forecasters. All of the children were eager to learn about our daily activities and I could have used a lot more time with each group. I even got a few hugs.

I hope with this event and other similar events, I can help inspire future generations of meteorologists or spark interest in the sciences in general.



Career Day set up at Paredes Elementary.

## WINTER TEXAN EXPO

By Angelica Soria

NWS Brownsville/Rio Grande Valley was able to make an appearance at the annual Winter Texan Expo at the McAllen Convention Center in McAllen, Texas. This year, the event occurred January 17-18th and two groups of forecasters were able to attend both days. Our office looks forward to attending the expo every year as it is one of our biggest outreach events. We are able to educate and communicate to the public what is unique about the Weather Forecast Office in Brownsville/Rio Grande Valley and the services we provide. Many educational pamphlets about our office and the NWS/NOAA organizations were handed out. As well as posters showing duties we perform and a monitor displaying our website and where to find our forecasts.

Winter Texans come from all over North America with visitors from as far north as Canada making an appearance as well. They enjoy the mild and quiet weather that occurs over the Rio Grande Valley during the winter months. The best part about attending the expo is having the opportunity to answer the public's questions face-to-face. Most people were curious as to what made our office different from other weather sources they get their information from. We explained some of our shift duties and responsibilities and how we create the forecasts every day. Props such as the weather balloon, radiosonde, rain gauge, and weather radio were also helpful in demonstrating what makes the NWS Weather Forecast Offices so valuable to the community they serve. Outreach events like the Winter Texan Expo are very rewarding and remind us why the mission to protect life and property every day is so important.



Meteorologists Jeremy Katz, Laura Farris (left), Angelica Soria and Brian Mejia (right) talk with winter Texans about the roles and duties within the National Weather Service and how we serve Deep South Texas.

## **WEATHER FACT OR FICTION**

By Amber McGinnis

We continue to explore so famous (and not so famous) weather fables to find out are they Fact or Fiction.

### **You can destroy a hurricane with nuclear bomb.**

-Fiction. According to the Atlantic Oceanographic and Meteorological Laboratory, this not likely alter the state of the storm. In fact, the radioactive particles would move with the tradewinds affecting land that would have devastating effects to the environment.

### **The climate is not warming because it's so cold outside.**

-Fiction. Weather is a short-term phenomenon (minutes, hours, days, weeks) where as climate is a long-term trend, on the measure of years (30 years) to reveal the pattern. While we can continue to have cold spells (and freezes) periodically, the overall pattern is warming. Meaning less cold days (though they will still happen) and more hot days. In fact if you look at just the climate records from 1991-2020 vs. 1981 to 2010 the average temperature went up 1.47 degrees across the Rio Grande Valley.

### **The rubber tires on your car protect you from lightning.**

-Fiction. It is actually the metal framing around the car that protects you from the lightning. Since the metal is a conductor, electricity will take this path of least resistance down the sides of a car, leaving the inside safe. Note, if you are in a fiberglass frame car or convertible you will not have this protection from lightning.

### **A halo around the sun or moon means rain or snow is on the way.**

-Both. Halos around the sun or moon are caused by the ice crystals in cirrus clouds. These clouds are formed when warm dry air rises and causes water vapor deposition onto particles at high altitudes. The halo we see is actually from the light refracting off these ice particles. They tend to be more common in the cool season but can also form around hurricanes and tropical storms. While in many cases these can indicate rain or snow is on the way this is not true 100% of the time.



## Weather Photos

Picture of light sleet that had fallen intermittently in Laguna Vista from the evening of Feb 14, 2021 through the morning of Feb 15, 2021. The picture was taken at 1032 AM CST on Feb 15, 2021. Photo Credit: Mike Buchanan



Cirrocumulus clouds taken outside the office on October 26, 2022. Photo Credit: Joshua Schroeder



Gorgeous South Padre Island Sunrise in October. Photo Credit: Amber McGinnis



Panoramic View of outflow boundary from a thunderstorm over the Gulf Waters. Taken September 26, 2022. Photo Credit: Laura Farris



**THE NATIONAL WEATHER SERVICE BROWNSVILLE/RIO GRANDE  
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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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