The Whispering Trades

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Old San Juan - El Morro

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WFO SAN JUAN, PUERTO RICO PRESENTS:

2020 Hurricane Seasonal Forecast

By: Gabriel Lojero

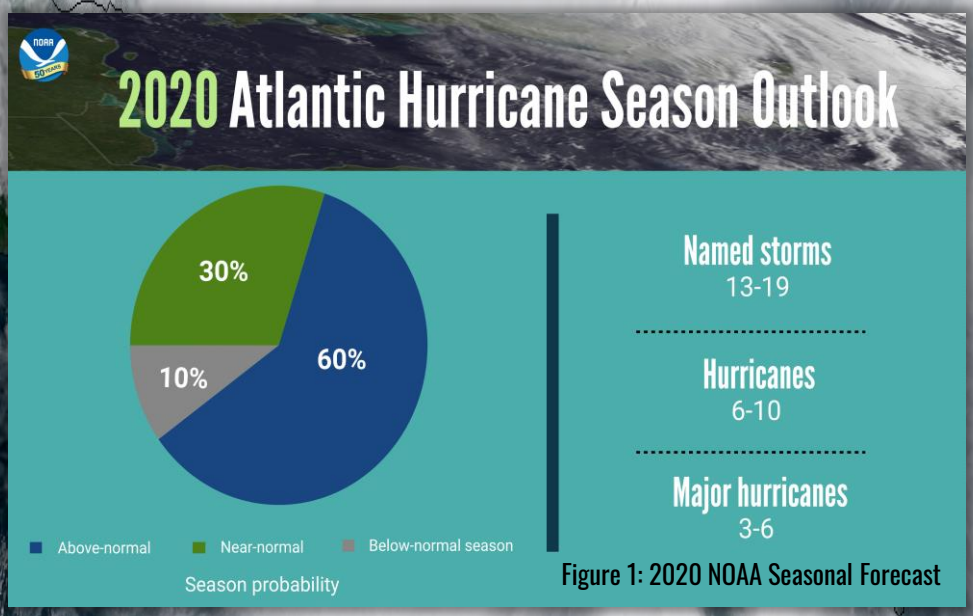

Figure 1: 2020 NOAA Seasonal Forecast

The 2020 Hurricane Season is upon us and it appears that it will be an active one across the Atlantic Basin. The NOAA forecast, which came out on May 21st, calls for a 60% chance of an above normal season with 13-19 named storms, of which 6-10 could become hurricanes, including 3-6 major hurricanes (Figure 1). There are three main driving factors that favor a more active than normal season. The first major factor is the above normal sea surface temperatures across the Tropical Atlantic Ocean and Caribbean Sea. Warmer than normal sea surface temperatures are fuel for storms to intensify. Another major factor is the forecast of neutral to possibly weak La Niña conditions in the equatorial Pacific during the peak of the season. This will result in weaker than normal upper-level winds across the Atlantic Basin. Weaker than normal upper-level winds are favorable for the development and intensification of tropical storms/hurricanes as the thunderstorm activity is able to fully organize around its center of circulation. The last major factor is an enhanced west African Monsoon. This favors more active tropical waves exiting Africa and moving over the Tropical Atlantic Ocean and Caribbean Sea. Most tropical storms and hurricanes develop from tropical waves.

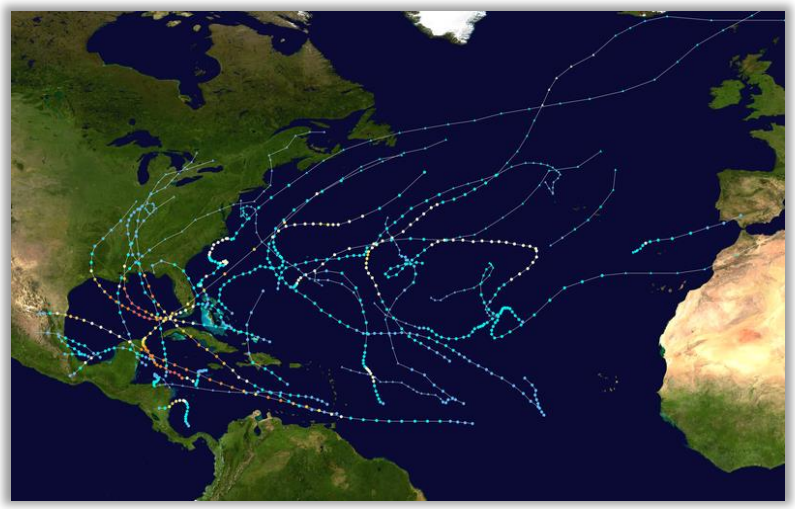

Figure 2: 2005 Hurricane Season

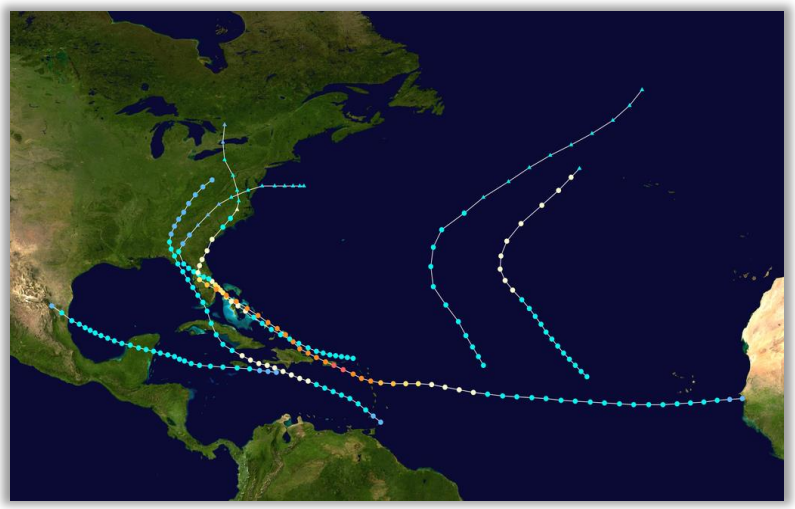

Figure 3: 1928 Hurricane Season

Regardless of whether it is forecast to be an active or inactive season, we must always be prepared. It only takes one system headed in our direction to make it an active season. These hurricane seasonal forecasts may give hints as to how much activity is possible in a given season, however, they do not predict where these storms will strike. In 2005, which was a record breaking season with 28 named storms forming across the basin, no storms affected Puerto Rico or the U.S. Virgin Islands (Figure 2). In 1928, which was a less active than normal season with just 6 named storms, Hurricane San Felipe II directly affected Puerto Rico as a category 5 storm with winds up to 160 mph (Figure 3). To date Hurricane San Felipe II remains the strongest storm to affect Puerto Rico. For important Hurricane Preparedness information please visit The American Red Cross and The National Hurricane Center (NHC)

Tropical Hazards

By: Carlos Anselmi-Molina

Mainland Puerto Rico is the smallest island of the Greater Antilles, while the U.S. Virgin Islands, as well as the smaller islands of Culebra and Vieques of Puerto Rico are part of the Lesser Antilles. These islands, as shown in Figure 1, are located on the Atlantic Hurricane Alley. The Atlantic Hurricane season runs from June 1st through November 30th. Tropical Cyclones are an essential part of planet Earth and transport energy from the tropical-latitudes to the mid-latitudes. Therefore, we should all be aware and ready ahead of each hurricane season. Today we are going to talk about some of the hazards associated with tropical cyclones such as dangerous winds, hazardous-waves, storm-surge, inland flooding, and tornadoes.

The genesis of a tropical cyclone begins when an easterly wave intensifies and produces abundant deep convection which evolves into a tropical disturbance. When a tropical disturbance becomes an organized system of clouds and thunderstorms rotating around a warm core it will eventually become a classified system, the first being a Tropical Depression.

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Cabo Rojo, Puerto Rico

The different classified systems are Tropical Depression, Tropical Storm, Hurricane and Major Hurricane which are all tied to the intensity of their sustained surface winds (Figure 2). According to the NOAA Glossary the tropical cyclones are classified as followed:

- **Tropical Depression: tropical cyclone with maximum sustained winds of 38 mph (33 knots) or less**
- **Tropical Storm: A tropical cyclone with maximum sustained winds of 39 to 73 mph (34 kt to 63 knots)**
- **Hurricane: A tropical cyclone with maximum sustained surface winds of 74 mph (64 knots) or higher**
- **Major Hurricane: A tropical cyclone with maximum sustained winds of 111 mph (96 knots) or higher, corresponding to Category 3, 4, or 5 on the Saffir-Simpson Hurricane Wind Scale.**

As you can see, tropical cyclones produce hazardous sustained winds (using the U.S. 1-minute wind average). Therefore, these systems can put those in their path at risk, especially as they change in classification and increase in category, which makes dangerous winds one of the main tropical cyclone hazards.

Waves form when energy from the wind is transferred to the surface of the sea or ocean. When tropical cyclones intensify, seas will become more hazardous. The force of these waves could devastate the coastline of any country and put at risk the life and property of mariners and citizens. When the waves break along the coast, they produce life-threatening channels of water currents flowing away from the shore, called rip currents. Rip currents can form even when the storm is far away from the coast. A great example was Hurricane Sandy; the northern coast was impacted by long-period swells, which created dangerous breaking waves and life-threatening rip currents, beach erosion, and coastal flooding (Figure 3). A swell is a wind-generated wave that has traveled out of their generation area, impacting another location. That said, tropical cyclones produce life-threatening waves and rip currents that can have devastating impacts across the surrounding waters, marine ecosystems, coastlines, and every living being near it.

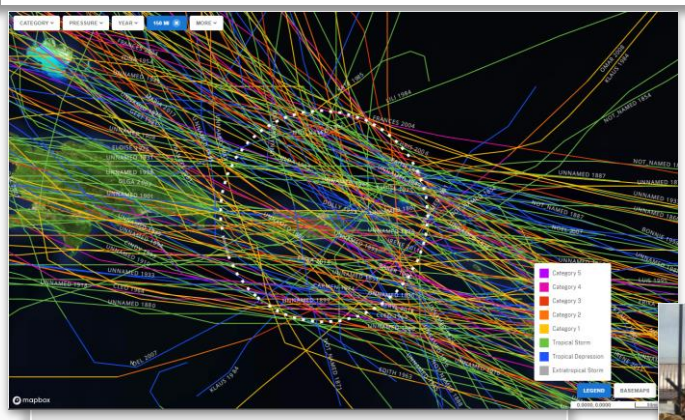

Figure 1: Since 1842, 173 tropical cyclones have moved within the 150-mile radius around San Juan, PR. Puerto Rico and the U.S. Virgin Islands in the middle of the dotted white circle. Data source: The Historical Hurricane Track https://coast.noaa.gov/hurricanes.

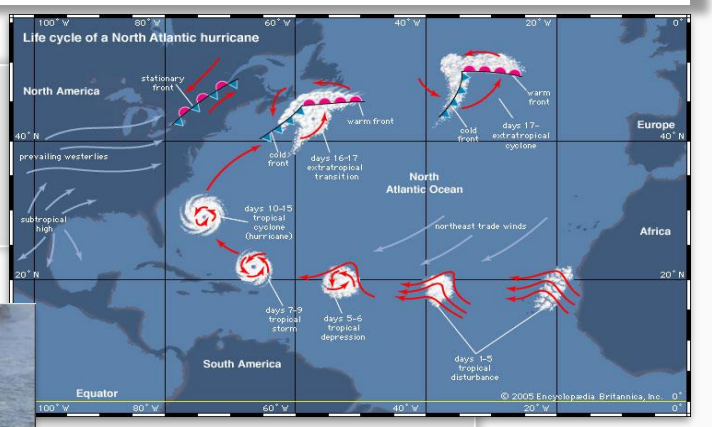

Figure 2. The life cycle of a North Atlantic hurricane. Source: http://www.britannica.com/science/hurricane-weather/images-videos

Figure 3. A. Hurricane Sandy after making landfall over Cuba. Photo Credit: NOAA/NASA B. Sandy at about 1000 miles off to the northwest of Puerto Rico and the U.S. Virgin Islands.

Tropical Hazards, cont.

Storm surge is the deadliest hazard associated with a tropical cyclone in coastal areas. It is an abnormal rise of the sea level associated with a tropical cyclone. The National Weather Service, to avoid confusion, decided to use storm surge to refer to the total observed water rise that affects the coastline (Figure 4). But, what produces storm surge? Although the maximum storm surge is a very complex phenomenon, several factors contribute to it. Some of them are storm intensity, the size of the system (radius of maximum winds), angle of approach to the coast, the forward speed, central pressure, and the shape and characteristics of coastal features such as bays and estuaries.

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Storm surge is a serious threat for Puerto Rico and the U.S. Virgin Islands. Puerto Rico observed a maximum inundation level between 6 and 9 feet during Hurricane María (Figure 5). St. Thomas and St. John also observed sea water inundation during landfall along some of the coastlines, however the exact inundation maxima was not recorded in the U.S. Virgin Island due to sensor failures.

Arecibo, Puerto Rico

Tropical systems are heavy rain producers and sometimes can produce widespread, torrential rains resulting in inland flooding. Prolonged periods of heavy rainfall could trigger landslides, flash flooding, river flooding, and mudslides (Figure 6). This is why inland flooding is the deadliest hazard for Puerto Rico and the U.S. Virgin Islands. Here is something to remember, rainfall amounts are not associated with the strength of the tropical cyclone. They are tied to the forward speed and size of the system and the interaction with the local topography, etc.

Tornadoes are hard to detect in hurricanes because most of the time they are rain-wrapped (Figure 7). However, tropical systems can produce sudden tornadoes or waterspouts, which represent a significant threat to life and property. The San Juan Weather Forecast Office has received multiple reports of tornadoes during tropical cyclones in Puerto Rico and the U.S. Virgin Islands.

It is extremely important not to focus on the center of the storm. This is a bad idea. Threats associated with tropical storms or hurricanes can extend hundreds or even thousands of miles away from its center (Figure 8). Before the arrival, as the tropical cyclone approaches an area, rain bands or squall-lines can detach from the system to cause deteriorating weather conditions in your area. An example is the outer bands of the system or the tail ("cola" or "estela" as it is called in Spanish) which can make weather conditions worse far away from its center. In 2012, the outer bands of Hurricane Sandy made weather conditions worse and caused flooding along portions of southern Puerto Rico (Figure 8). Therefore, remember to see the system as a whole and don't concentrate on the center alone. It doesn't matter if the season is forecast to be active or inactive, **PREPARE AHEAD OF TIME AND STAY SAFE!**.

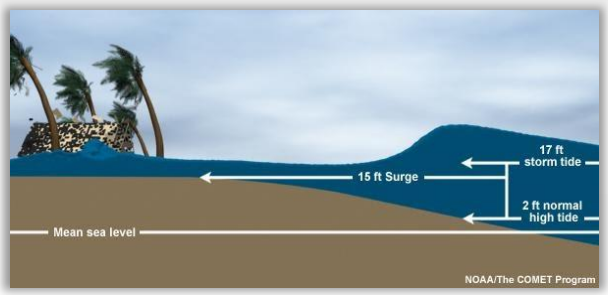

Figure 4: Storm surge is an abnormal rise of water generated by a tropical cyclone over and above the predicted astronomical tide.

Figure 5. Storm Surge damage picture of the before and after at Punta Santiago in Humacao during María.

Figure 6. Tropical Cyclones are heavy rain producers and cause flash flooding, river flooding, mudslides, and landslides.

Figure 7. Waterspout rain-wrapped in the area of Mayagüez in 2005.

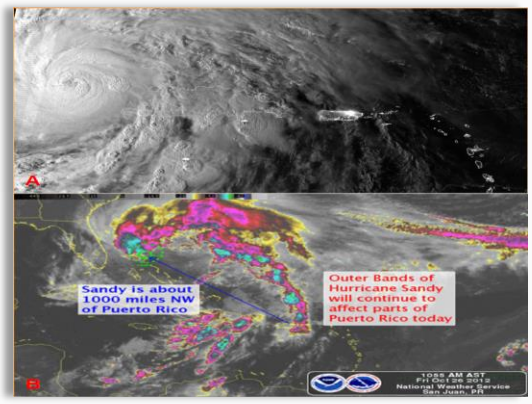

Figure 8. A. Hurricane Sandy after making landfall over Cuba. Photo Credit: NOAA/NASA B. Sandy at about 1000 miles off to the northwest of Puerto Rico and the U.S. Virgin Islands.

Risk Communication is the Key for Actionable Warning and Watches

By: Ernesto Rodríguez

The National Weather Service (NWS) has been working with social scientists to improve risk communications during the past 5-10 years. One of many positive aspects of this effort has resulted in several changes in the way that local offices and national centers display the data for the core partners and the general public. For example, the National Hurricane Center (NHC) has worked very closely with social scientists to understand how people react to their products. Based on public and social scientist feedback, NHC has greatly improved well known graphics such as the Cone of Uncertainty (COU) and the Wind Speed Probabilities (WSP). Both graphics were overhauled to add additional information such as the radius of the tropical storm force winds, and the timing of tropical storm force or hurricane winds in the WSP graphic. They also improved the color contrast of the image in the COU graphic.

Example

```
Coastal Hazard Message
National Weather Service San Juan PR
358 PM AST Sat May 23 2020

PRZ001-002-005-008-241000-
/O.CON.TJSJ.RP.S.0027.000000T0000Z-200524T1000Z/
San Juan and Vicinity-Northeast-North Central-Northwest-
358 PM AST Sat May 23 2020

...HIGH RIP CURRENT RISK REMAINS IN EFFECT THROUGH LATE TONIGHT...

* WHAT...Dangerous rip currents expected.

* WHERE...From the northwest to northeast coast of Puerto Rico.

* WHEN...Through late Saturday night.

* IMPACTS...Rip currents can sweep even the best swimmers away
  from shore into deeper water.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Swim near a lifeguard. If caught in a rip current, relax and
float. Don`t swim against the current. If able, swim in a
direction following the shoreline. If unable to escape, face the
shore and call or wave for help.
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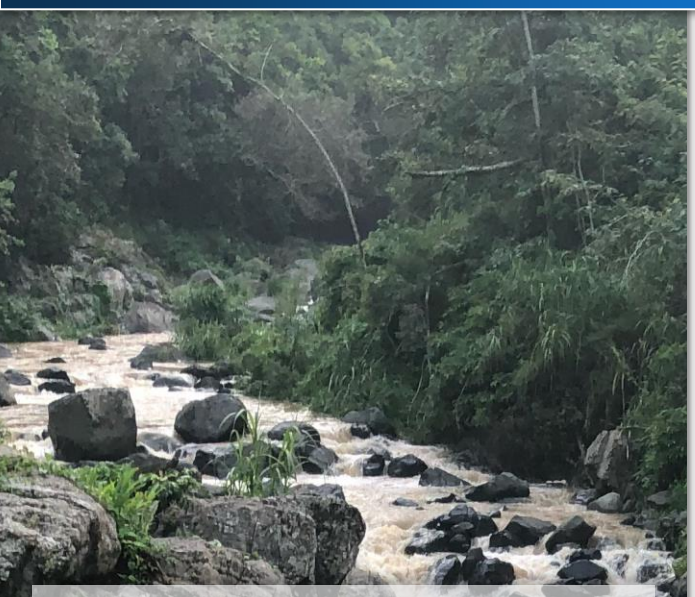
Not only have the national centers such as NHC worked to improve their products, the local offices are also looking for new ways to communicate the weather hazards in a simple and concise way. The local offices have been involved in a national project called Hazard Simplification. The main objectives of this project are to consolidate the NWS product suite and simplify the message in the Watch, Warning, and Advisory (WWA) products. Another important objective is to reformat the WWA products to have a consistent message regardless of the weather hazard. The change in the format is to include the statements: “What”, “Where”, “When”, “Additional Details” and “Precautionary/Preparedness Actions”. NWS San Juan has changed the format of products in phases, for example, the non-precipitation hazards such as excessive heat, high winds, etc. started in fall 2019, followed by the marine and coastal hazard messages in summer 2019. Furthermore, NWS San Juan changed the format of hydrology messages earlier this year. Additional changes to enhance the layout and the messaging in tropical and fire weather products are scheduled during the next year or so. In conclusion, we understand that by making our hazard messages simple and clear, more people can take action to save their lives and property. National projects like this one are essential to build a Weather Ready Nation where the society is ready to respond to weather, water and climate dependent-events.

Utuado, Puerto Rico

©PHOTO BY XIOMARA CRUZ

Flood Safety: Water Surges, A Local Killer

By: Odalys Martínez



Most of the flash flooding across Puerto Rico and the US Virgin Islands is caused by slow-moving thunderstorms, thunderstorms repeatedly moving over the same area, or heavy rains from hurricanes, tropical storms, tropical waves or troughs (vaguadas). The two main factors that contribute to flash flooding are rainfall intensity and duration. Nevertheless, topography, soil conditions and land use also play a critical role.

Therefore, it is essential to know your area's flood risk. This is especially true if you are in an unfamiliar area. Remember, flash flooding can occur in a flash!

For information about flood prone areas visit FEMA Flood Maps or call your local emergency management agency. For information regarding daily rainfall and flood threat, visit the San Juan National Weather Service Hazardous Weather Outlook.

In less than 4 minutes the stream conditions,

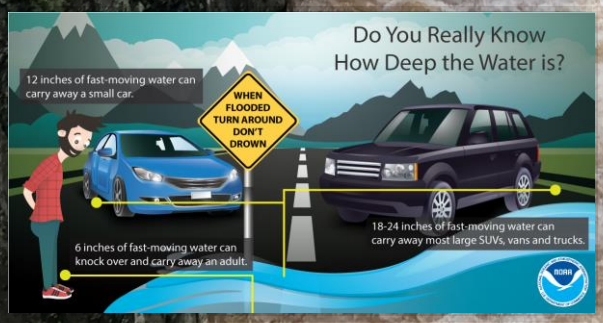
changed due to runoff from distant rainfall!!

What to do during a flood situation:

- Stay informed and listen to official sources.
- Get to higher ground if you live or if you are in a flood prone area.
- Obey evacuation orders and avoid flood waters.

Never try to walk, swim or drive through fast-moving flood water. Even 6 inches of fast-moving flood water can knock you off your feet, and a depth of 12 inches will float your car!

Unfortunately, most of the flood fatalities across Puerto Rico and the US Virgin Islands are drownings along rivers and small streams due to water surge/runoff which are the result of distant thunderstorms/heavy rainfall.



Ciales, Puerto Rico

Click Video

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WRN: How Past Events Can Make Us More Resilient?

By: Ernesto Morales

Quebradillas, Puerto Rico

At present, the use of the words “preparedness” and “resiliency” have become very common. After the historical 2017 Hurricane season, the Earthquake events of 2020 and the current ongoing Corona Virus Pandemic, the public needs to develop and update a functional emergency plan that integrates all of the lessons learned from these past events.

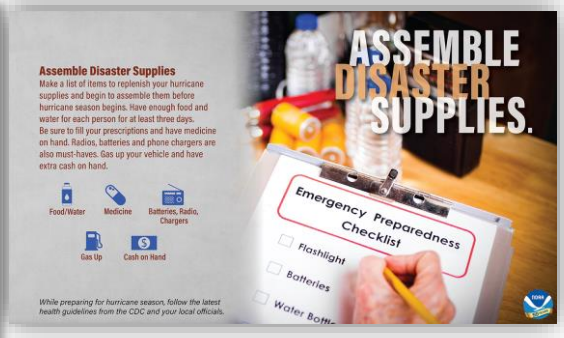
The Hurricane season began on June 1st and continues through November 30th, and for that reason we should all be prepared by now. The planning process should take an “All Hazards” approach. There are many different threats or hazards and the probability of a specific hazard impacting you is hard to determine. This is why the development of a preparedness plan is so important, it will help us prepare us for other hazards, such as; earthquakes, tsunamis, pandemics, among others.

Your plan can be aimed for different levels. It can be at an individual, family or community level. In addition, your plan should consider the corresponding actions to take before, during and after the event.

©PHOTO BY XIOMARA CRUZ

Before the event, we should consider the ***Preparedness Phase:***

- Sign up for local alerts and warnings.
- Monitor local news and weather reports.
- Prepare to evacuate by testing your emergency communication plan(s), learning evacuation routes, having a place to stay, and packing a “go bag.”
- Stock emergency supplies.
- Protect your property by installing sewer back flow valves, anchoring fuel tanks, reviewing insurance policies, and cataloging belongings.
- Collect and safeguard critical financial, medical, educational, and legal documents and records.



https://www.weather.gov/wrn/2020-hurricane-supplies

The second phase is during the event, the ***Survival Phase:***

- Follow the guidance from local authorities. If advised to evacuate, grab your “go bag” and leave immediately.
- For protection from high winds, stay away from windows and seek shelter on the lowest level in an interior room.
- Move to higher ground if there is flooding or a flood warning. ***Turn Around Don’t Drown***. Never walk or drive on flooded roads or through water.
- Call 9-1-1 if you are in life- threatening danger.

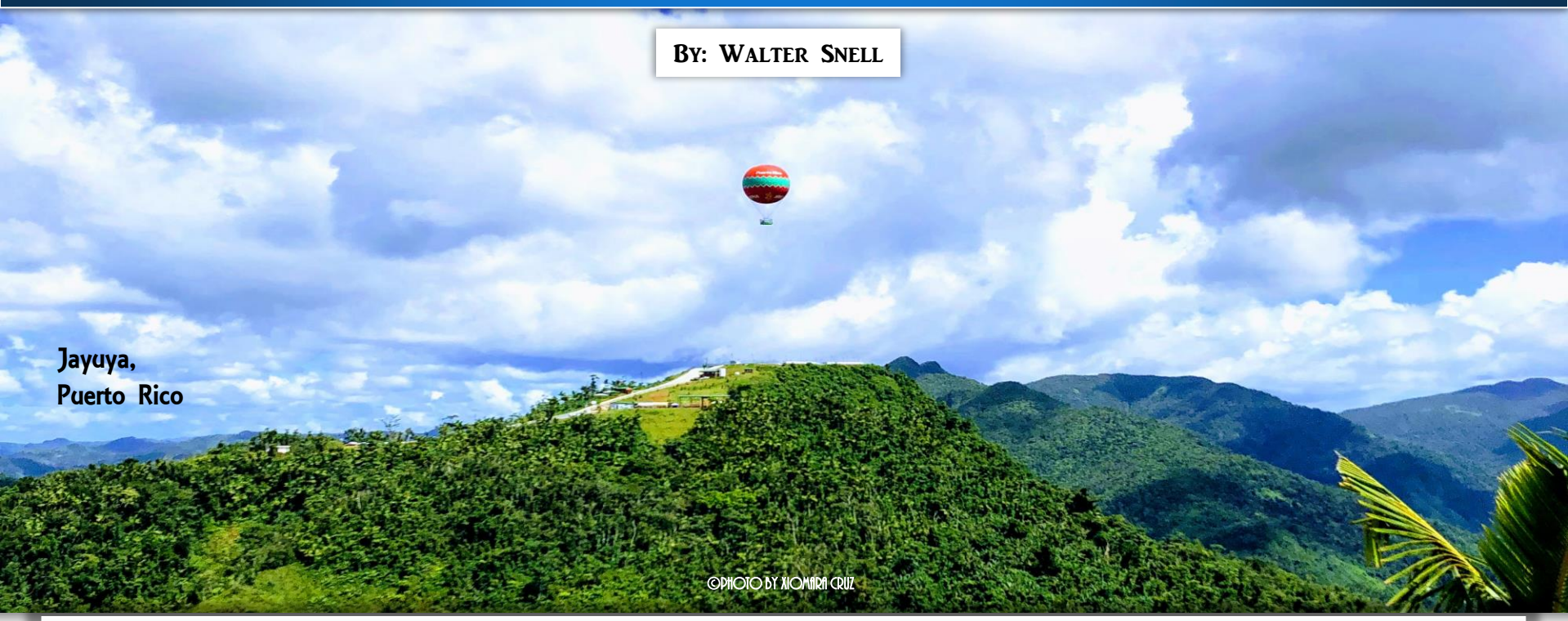
The third phase is the ***Recovery Phase***:

- Return to the area only after authorities say it is safe to do so.
- Do not enter damaged buildings until they are inspected by qualified professionals.
- Never walk or drive on flooded roads or through floodwaters.
- Look out for downed or unstable trees, poles, and power lines.
- Do not remove heavy debris by yourself.
- Wear gloves and sturdy, thick-soled shoes to protect your hands and feet.
- Do not drink tap water unless authorities say it is safe.

Planning and preparing can make a big difference in safety and resiliency in the wake of a hurricane or any other crisis. The ability to quickly recover following a hurricane and other hazards requires the need to focus on preparedness, advance planning, and knowing what to do in the event.

Hurricane Season is Here

By: Walter Snell



Should I Go to a Public Shelter or Stay Home?

It seems as if the days of isolation from Coronavirus also known as COVID-19 are going to linger into the summer and experts understand it is still possible that the Coronavirus will become resurgent in the Fall of this year. As the ocean around our island warms and winds become more easterly at all levels later this summer, our thoughts must also turn to the upcoming tropical season.

The chances of a La Niña episode are growing according to climate scientists at the climate prediction center (NCEP). Although the El Niño Southern Oscillation known as ENSO is expected to continue to be neutral during the summer, some models are suggesting a change toward La Niña during the fall. You can see a complete and technical explanation at their website:

https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf

NOAA and other forecasters are all agreeing the hurricane season will be more active than average this year, although no one can say just how many tropical storms and hurricanes will approach the Caribbean. The May 2020 forecast from NOAA indicates that there is a 60 percent chance of an above normal season and that between 13 and 19 named storms will form in the Atlantic and between 6 and 10 hurricanes will form. 3 to 6 of these hurricanes will likely be CAT III or greater. There is better than a 50% chance that one of these named storms comes within 75 nm of Puerto Rico or the U.S. Virgin Islands this year.

The thoughts of hurricane preparations are complicated by the threat of contagion by the COVID-19 virus, and it is understandable if some ask, “Should I avoid public shelters in the event of a hurricane?” This concern is complicated by the recent spate of earthquakes that Puerto Rico has been hit with. Scientific American reports that since Dec 28 of last year there have been nearly four thousand earthquakes and these quakes have left many places in the southwest part of Puerto Rico unavailable for use as hurricane shelters.

The first thing that needs to be done is to evaluate your situation. If you are in an area that will flood, or is not structurally safe in strong hurricane winds—especially those of Category III or greater, then you will definitely need to find a place to stay when a hurricane is forecast to cross near where you live. Wooden homes and those with zinc or galvanized roofs or perhaps only a blue tarp are some homes that will have to be abandoned with the approach of a tropical storm. Homes that are close to the ocean, on the side where the first winds of the hurricane will touch, near rivers that will flood or near hillsides that could collapse would also not supply adequate shelter. Those with medical needs and those who could be isolated for more than 2-3 weeks due to roads being washed out should also plan to find alternate places to ride out the storm.

The American Meteorological Society has issued a statement adopted by the AMS council on 9 April 2020 that states that you should “not let the virus prevent you from seeking refuge from a tornado.” This advice would also apply to hurricanes, which can also have tornadoes embedded in them. Of course, it would be impractical for most people to leave the islands ahead of a hurricane.

Cabo Rojo, Puerto Rico

©PHOTO BY XIOMARA CRUZ

Options for seeking shelter would include close friends or neighbors or other family who have safe homes. Emergency management websites will also post where public shelters will open and the media will also air these locations. Be sure to check first to see if the shelters are open before you go.

In all cases, pre-planning is essential and critical. As tropical storms begin to form, making arrangements for a safe place to lodge should be paramount. The website Ready.gov will help you prepare the items you will need to take with you. The Red Cross also has helpful tips for packing essential supplies for you and your pets. Additional supplies would include cloth masks to protect your hosts should you be infected with COVID-19 or influenza and hand sanitizers and sanitizing wipes are important additions to you evacuation bag. The masks can actually be made at your home.

Your National Weather Service will advise you when plans must be made to seek emergency shelter, but traveling early is important as falling trees and powerlines can make travel very difficult--if not impossible--once the winds and heavy rains begin.

Should you go to a public shelter if needed? Yes, of course! Your chances of contacting the virus are much smaller than your chances of drowning in a low-lying area during a storm surge or being inundated by mud and flood waters with no way of escape from brutal winds. Chances of infection are even lower if you follow Centers for Disease Control (CDC) guidelines for COVID-19 transmission prevention, including physical distancing, and any additional guidelines set by your local emergency management agency once you arrive at the shelter.

And a final parting word from NOAA, “Hurricane preparedness is critically important for the 2020 hurricane season, just as it is every year. Keep in mind, you may need to adjust any preparedness actions based on the latest health and safety guidelines from the CDC and your local officials. Visit the National Hurricane Center’s website at hurricanes.gov throughout the season to stay current on any watches and warnings.”

Useful Links

Hurricanes

2020 National Hurricane Preparedness Week

Hurricane Season Supplemental Resources

CDC Preparing for Hurricanes During the COVID-19 Pandemic
CDC Guidance on Hurricane Public Sheltering

Note: The CDC hurricane sheltering website is written in general (non-hazard specific) terms, so can be used for public sheltering guidance due to other hazards.

FEMA Advisory: *COVID-19 Pandemic Operational Guidance for the 2020 Hurricane Season*

NWS Cooperative Program in Puerto Rico and U.S. Virgin Islands

By: Rosalina Vazquéz-Torres

The COOP Program is a network by which the NWS obtains data to support its climate and meteorological missions. The data frequently consist of reporting daily temperature and precipitation. The stations that observe and report daily temperature and precipitation accumulation data are the basic network of the NWS. Other stations consist of a recording gauge that reports 24-hour precipitation accumulation. Many of them also report one or more of the following elements: river stage or lake level, maximum and minimum air temperatures, evaporation, and soil temperature.

There are approximately 54 COOP stations around Puerto Rico and the U.S. Virgin Islands, which report daily temperature, precipitation, evaporation and daily data. Many stations in the Contiguous United States, collect and report other data such as snow accumulation, and soil temperature readings which are important for agriculture.

Culebra, Puerto Rico

The municipalities in PR that have NWS Cooperative stations and report daily data are Adjuntas, Aguada, Aibonito, Arecibo, Canóvanas, Carolina, Cayey, Culebra, Fajardo, Guayama, Humacao, Isabela, Juana Díaz, Juncos, Lajas, Manatí, Mayagüez, Morovis, Naguabo, Ponce, Represa Guajataca, Rincón, Sabana Grande, San Juan, San Lorenzo, Toa Baja, Trujillo Alto, Utuado, Vega Baja and Villalba. In the U.S. Virgin Islands, the NWS has 7 cooperative stations between St. Croix and St. John.

©PHOTO BY XIOMARA CRUZ

What instruments are used by the COOP stations in PR and USVI?

Rain gauges. Precipitation data is collected from two principal types of rain gauges. The first type is a manual rain gauge, either a 8-inch rain gauge or a plastic 4-inch rain gauge. The daily observation is taken by observers and reported to the San Juan Weather Forecast Office.

The 8-inch rain gauge inner measuring tube holds up to 2 inches of precipitation, the overflow capacity is up to 20 inches of total precipitation. A measuring stick is used to obtain the data. The observers stick the rule in the inner measuring tube. After removing the ruler, the observers read where the wet mark is, if any. If the wet mark is less than 0.01 inch, then the reading will be “T”, meaning trace. If there is no wet mark, the observer enters 0.00 inch as the absence of precipitation in 24-hours. The observer empties the collection tube immediately after the observation is recorded. If there are more than 2 inches, the observer refills the tube from the outer gage and measures again, until all the rain is accounted for. The inner tube of the 4-inch rain gauge has an imprinted scale. The collected water is read directly from the scale on the side of the tube. If the reading is less than 0.01 inch, a “T” is reported, meaning a trace of precipitation was collected. If the bottom of the tube is dry, then 0.00 is reported. The 4-inch rain gauge measuring tube holds up to one-inch of precipitation and the gauge can capture up to 10 inches. The tube is emptied immediately after the observation is recorded. These observers will report their precipitation measurements daily, or with each precipitation event during flooding conditions.

The second type of precipitation collection instrument uses a recording rain gauge. It provides a recorded measurement of accumulated precipitation in coded format once per month. The Fischer Porter Rebuild (FPR) gauges data are collected on a monthly basis by observers or a NWS employee. Nearly 17 cooperative stations in PR have FPR gauges. This electronic equipment records observations every 15 minutes, and the monthly collection is reported to NCEI to archive data. The picture shown is a FPR gauge located in Naguabo, PR.

Maximum and Minimum Air Temperature. The daily temperature data consists of 24-hour maximum and minimum data, as well as at the time of observation. The air temperature observations are taken to the nearest Fahrenheit degree. Cooperative stations are provided with maximum and minimum thermometers and an instrument shelter for housing the thermometers, or an electronic thermometer system. The electronic thermometer system consists of the temperature sensor and a digital thermometer.

The Nimbus displays the data and archive it for up to 35 days. If the data was not collected for days, the observer will be able to recover the temperature readings for the past days.

Some stations have maximum and minimum thermometers and an instrument shelter. The observers who have stations with thermometers, are responsible for reporting daily temperature data to the NWS.

A number of stations also report evaporation data as well as wind data. The picture depicts the evaporation pan, which collects daily water accumulation, if any. The observer reports the amount of evaporation by measuring the collected amount of water using a measuring tube. Also an anemometer (shown in the picture), measures the wind direction and speed at the station.

COOP Program Awards

By: Rosalina Vazquéz-torres

Fajardo, Puerto Rico

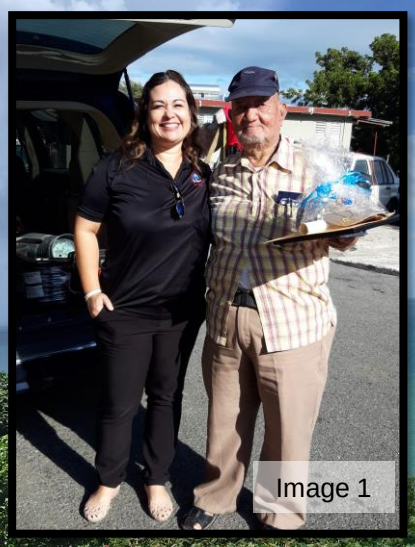


Image 1

Special Award

The National Weather Service in San Juan, has been honored to present awards to different institutions that always contribute with their daily climatological data. The institutions have been reporting daily data for more than 25 years! Additionally, a Special Award was presented to a very special observer who will be missed.

Mr. Raúl Medina Santiago is an exemplary, very responsible, and very kind human being who dedicated more than 25 years for volunteer service as a COOP observer in the Ensenada Sector, located at Guánica, PR. He was the recipient of a Special Award due to his excellent and dedicated collaboration for so many years. Unfortunately, Mr. Medina had to move from PR after losing his home due to the earthquake of January 2020. He was very grateful by receiving the Special Award. Thank you, Mr. Medina, for your dedication and contributions! The NWS in San Juan wishes you the best! (Image 1)

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Institutional Awards

Image 2

Corral Viejo was recognized with a 25 years Institutional Award for volunteer service as an institution! Corral Viejo is located in Hacienda Buena Vista in Ponce, PR. The Hacienda is a restored historical site that was an important coffee plantation. The observer, Mrs. Zamira Pagán, received the award as a representation of the institution. Mrs. Pagán is a very enthusiast and diligent observer who has always been willing to help and to contribute to the NWS. Congratulations! (Image 2)

The Jájome Alto observing station located in a police station in Cayey, PR was awarded the **Honored Institutional Awards** for it's 50 years of service. Receiving the award for the site was Sergeant Hernández, who has also been a very responsible observer himself over the past few years. The award was presented by our Service Hydrologist, Odalys Martínez, Meteorologist Emanuel Rodríguez and the Observations Program Leader (OPL), Rosalina Vázquez-Torres. Congratulations and Thank you! (Image 3)

Image 3

The NWS in San Juan is very proud of having such a great COOP volunteer network!
Thank you very much for your contributions that are key for the NWS!

Coop Program Awards

Trujillo Alto 2SSW: The Autoridad de Acueductos y Alcantarillados de PR located in Trujillo Alto, PR was presented with a 50 years Honored Institutional Award. A group of the observers received the award presented by the Warning Coordination Meteorologist (WCM), Ernesto Morales and the OPL, Rosalina Vázquez-Torres. The observers responsibly report daily observations to the WFO San Juan. WFO San Juan says thank you for so many years of volunteer service! (Image 4)

Maricao 2 SSW: A 50 years Honored Institutional Award was presented to the observer of Maricao 2SSW. Mr. Miguel Vargas Irizarry, the observer of this institution for more than 30 years received the award presented by the MIC, Roberto García Hiraldo, Meteorologist Fernanda Ramos Garcés and the OPL, Rosalina Vázquez-Torres. (Image 5)

Maricao Fish Hatchery: Part of the Natural Resources Department of PR has been collaborating for 50 years with the volunteer collection of climatological data as part of the NWS COOP Program. The WFO San Juan MIC, Roberto García-Hiraldo, the OPL, Rosalina Vázquez-Torres, and Meteorologist Fernanda Ramos-Garcés, presented the award to Samuel García Vázquez. (Image 6)

Image 4

Image 5

Image 6

BY: FERNANDA RAMOS-GARCÉS

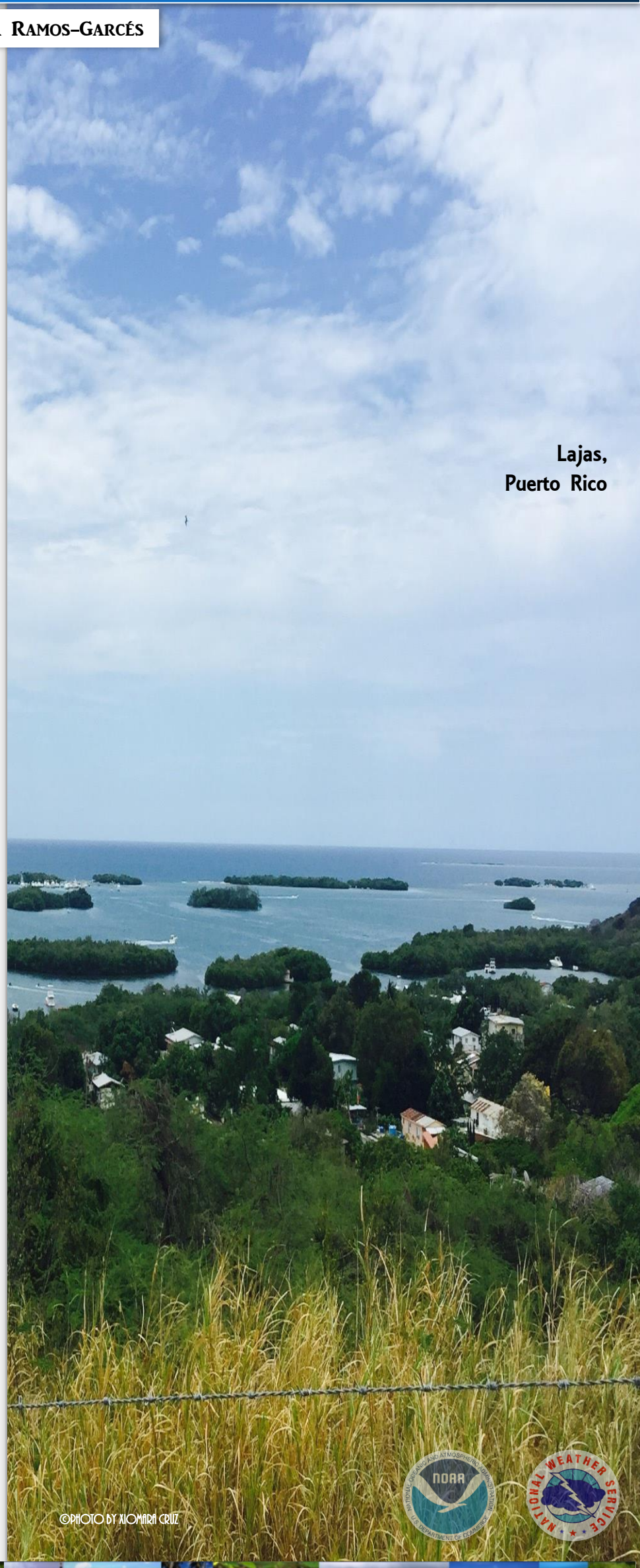
WFO San Juan's Diversity and Inclusion initiative for the upcoming Hurricane Season

Many U.S. Virgin Islands and Puerto Rico residents are preparing for what may be considered an unprecedented hurricane season. Due to the new challenges that come with this season, improved communications will be at the forefront of what we do. The continuous work of the National Weather Service in San Juan towards finding better ways to communicate with our community emerged from a new collaborative effort with local sign interpreters from Puerto Rico. The main goal of this collaboration is to communicate effectively to those with hearing loss, the hazards that could threaten our forecast area during the hurricane season. These efforts consisted in developing a Spanish glossary that contained widely used terms during the Tropical Season at local press conferences. This new glossary helped the interpreters come up with the suitable signs using American Sign Language (ASL) to refer to complex weather phenomena and scenarios.

Part of WFO San Juan staff with former PREMB Director, Carlos Acevedo, and sign interpreters.

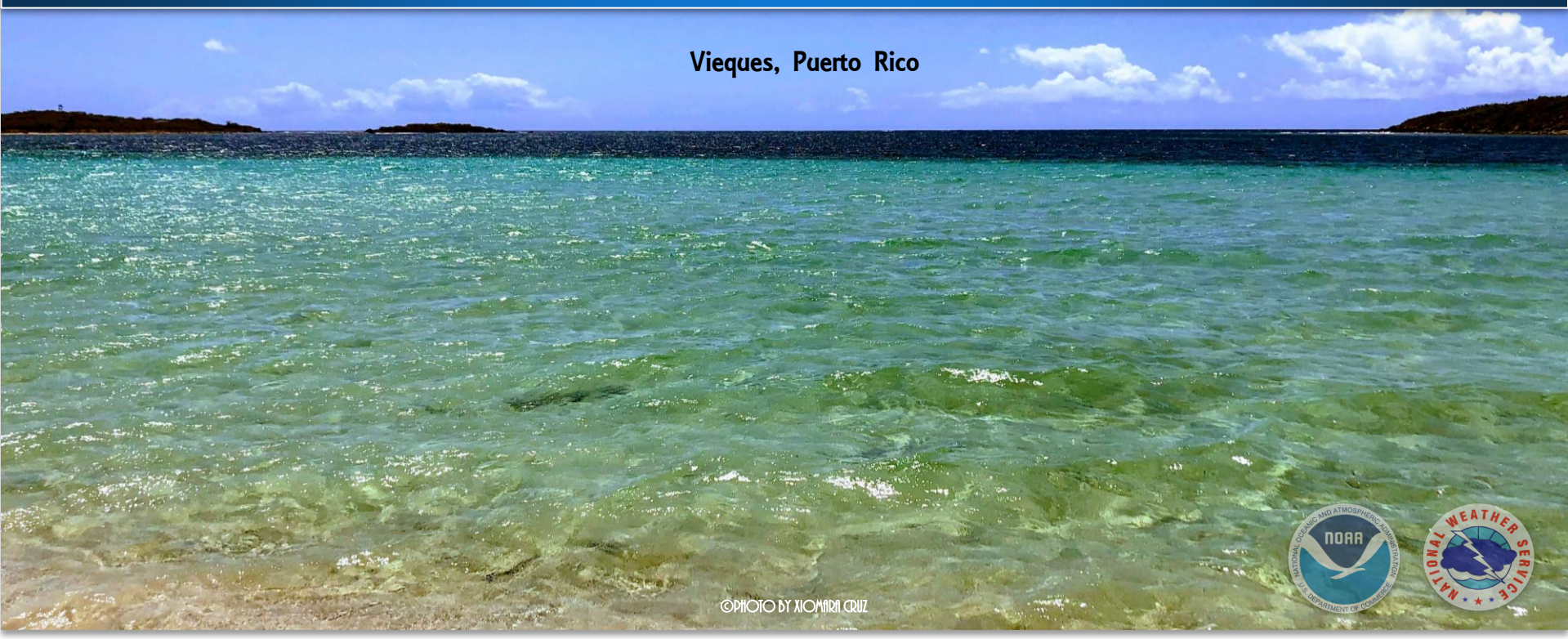
The collaboration was done through meetings held at our office where open discussions and brainstorming sessions took place. A plan was developed to first create an English-Spanish glossary in order for them to select the proper signs. Finally, on August 29th , 2019, members of our staff, together with the Public Safety Emergency Management Bureau (PREMB) staff, invited the sign language interpreters to join us in a workshop. This workshop was held at PREMB facilities and consisted of going through various exercises that simulated possible scenarios to promote effective communication and inclusion during local government hurricane season press conferences. This activity was a resounding success as everyone learned from each other which resulted in positive outcomes for the upcoming hurricane seasons.

Sign language interpreters trained in meteorological terminology @ WFO San Juan



Lajas, Puerto Rico

Meet Our Newsletter Team



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