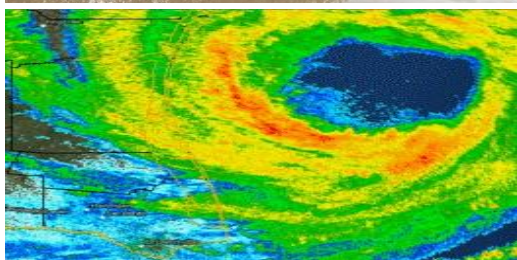




The Official Rio Grande Valley/Deep South Texas

HURRICANE GUIDE

2021



IT ONLY TAKES ONE STORM!

weather.gov/rgv

A Letter to Residents



After more than a decade of near-misses, 2020 reminded the Rio Grande Valley and Deep South Texas that hurricanes are still a force to be reckoned with. Hurricane Hanna cut a swath from Padre Island National Seashore in Kenedy County through much of the Rio Grande Valley in late July, leaving nearly \$1 billion in agricultural and property damage in its wake.

While many may now think that we've paid our dues, that sentiment couldn't be further from the truth! The combination of atmospheric and oceanic patterns favorable for a landfalling hurricane in the Rio Grande Valley/Deep South Texas region can occur in any season, including this one. Residents can use the experience of Hurricane Hanna in 2020 as a great reminder to be prepared in 2021.

Hurricanes bring a multitude of hazards including flooding rain, damaging winds, deadly storm surge, and tornadoes. These destructive forces can displace you from your home for months or years, and there are many recent cases in the United States and territories where this has occurred. Hurricane Harvey (2017), Michael (2018, Florida Panhandle), and Laura (2020, southwest Louisiana) are just three such devastating events. This guide can help you and your family get prepared. Learn what to do before, during and after a storm. Your plan should include preparations for your home or business, gathering supplies, ensuring your insurance is up to date, and planning with your family for an evacuation.

Take some time to download this guide, or print copies for your coffee table or nightstand. You can also use it to find information during a storm, including your National Weather Service office, local television station, and city or county.

I hope you have a safe hurricane season!

Sincerely,

Barry Goldsmith

Warning Coordination Meteorologist
National Weather Service
Brownsville/Rio Grande Valley, TX



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Hurricane Names

Have you ever wondered how a hurricane gets its name? The National Hurricane Center actually does not name tropical storms and hurricanes. Instead, the names are established by the World Meteorological Organization and then rotated every six years. If a storm is too deadly or costly, the name will be retired. Starting in 2021, if all names in a season are used up, then a [supplemental list of new names](#) will be used instead of the Greek alphabet.

2021	2022	2023	2024	2025
Ana	Alex	Arlene	Alberto	Andrea
Bill	Bonnie	Bret	Beryl	Barry
Claudette	Colin	Cindy	Chris	Chantal
Danny	Danielle	Don	Debby	Dexter
Elsa	Earl	Emily	Ernesto	Erin
Fred	Fiona	Franklin	Francine	Fernand
Grace	Gaston	Gert	Gordon	Gabrielle
Henri	Hermine	Harold	Helene	Humberto
Ida	Ian	Idalia	Isaac	Imelda
Julian	Julia	Jose	Joyce	Jerry
Kate	Karl	Katia	Kirk	Karen
Larry	Lisa	Lee	Leslie	Lorenzo
Mindy	Martin	Margot	Milton	Melissa
Nicholas	Nicole	Nigel	Nadine	Nestor
Odette	Owen	Ophelia	Oscar	Olga
Peter	Paula	Philippe	Patty	Pablo
Rose	Richard	Rina	Rafael	Rebekah
Sam	Shary	Sean	Sara	Sebastien
Teresa	Tobias	Tammy	Tony	Tanya
Victor	Virginie	Vince	Valerie	Van
Wanda	Walter	Whitney	William	Wendy

For a printable hurricane tracking map, please click on this [link](#).

A Look Back at Hurricane Hanna

The First Direct Strike (2020) Since Dolly in July 2008



Left: Pier and wood frame damage (wind) in Port Mansfield. Right: Industrial building damage in Raymondville.

After more than a decade of close calls, including Hurricane Alex (2010) and Hurricane Harvey (2017), Hurricane Hanna marked the first direct strike to the Rio Grande Valley since Dolly in 2008. Hanna was rapidly intensifying when it crossed Padre Island National Seashore midway up the Kenedy County coast during the afternoon of July 25th, then continued steadily to the southwest while remaining well organized, crossing Willacy, northern Hidalgo, and Starr County before exiting into Tamaulipas and Nuevo Leon before dissipating on the 26th. Hurricane-force wind gusts continued well inland, including Willacy and Hidalgo County; flooding covered swaths of western Willacy, eastern Hidalgo, and western Cameron several days after the event. Hanna was the first \$1 billion damage event since Dolly, occurring just a few days later on the calendar than Dolly.



Hanna may be best remembered as the third 1 in 100 probability rainfall event in just three years for the Valley, joining the Great Flood of June 2018 and the “Sequel” to that event just a month later, in June 2019. Totals for Hanna and rain bands that followed on the 27th ranged from 10 to 15 inches in eastern and southwest Hidalgo County. Neighborhoods in Weslaco and Mercedes were those that experienced flood damage for a third consecutive year, and the RGV Sugar Growers facility on the Hidalgo/Cameron line (near Santa Rosa) had more than 10 inches of rainfall in a single event for the third consecutive year.

Left: Floodwaters entering a home near Santa Rosa (top); floodwaters entering a home north of Donna (bottom).

A Look Back at Hurricane Hanna

The First Direct Strike (2020) Since Dolly in July 2008



Destroyed poorly built structure in a colonia east of Edinburg.

Hanna's combination of rain and wind left \$176 million in damage to unharvested crops, the majority to cotton which was weeks away from picking. In total, \$366 million was lost to damage and production. Flooding rain left tens of millions of dollars in property damage across southwest and east Hidalgo County, and a sliver of western Cameron County.

Considerable wind damage occurred in Hanna's eyewall, most notably across Willacy and Hidalgo County. Hundreds of poorly built structures sustained roof, wall, and window damage; dozens of stick-built and/or older trailer-type homes were demolished in *colonias* from north Weslaco through east Edinburg. Thousands of trees and limbs were felled. 250,000 utility customers were without power at Hanna's peak late on the 25th through early on the 26th. Unfortunately, prolonged power outages required alternate methods for residents of harder-hit neighborhoods to keep cool. One family suffered five deaths from carbon monoxide poisoning when using a generator in a poorly ventilated location.

Hurricane Hanna Fast Weather Facts



Lowest Pressure 976.1 mb
measured 18 miles north of
Port Mansfield, Texas



Max Wind Gust
104 mph measured 18 miles
north of Port Mansfield,
Texas



Max Sustained Wind
70 mph measured 18 miles
north of Port Mansfield,
Texas



Greatest Rainfall
15.49 inches at RGV Sugar
Growers (Hidalgo/Cameron
Line)



Four Tornadoes
1 in Cameron Co.
(Brownsville); 2 in Live Oak
and 1 in Refugio Co.



Greatest Storm Surge:
15.5 ft. above normally dry
ground, Bob Hall Pier

Hurricane Surf and Rip Currents

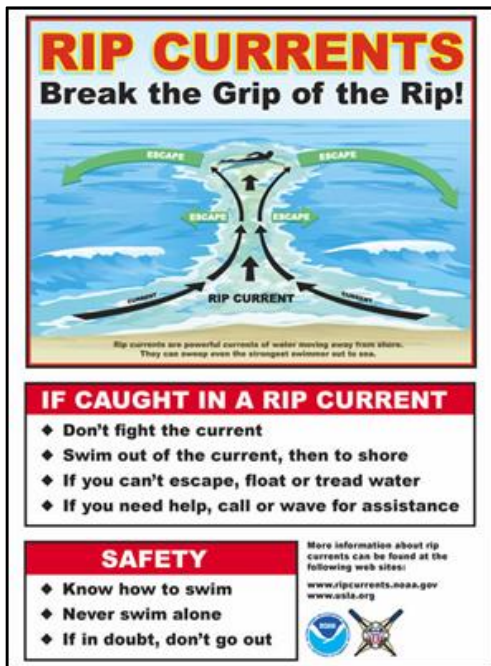
Hurricane Surf



Along with big surf come strong rip currents. Rip currents are the leading surf hazard for all beachgoers and result in over 100 drownings every year in the United States. The strength and size of rip currents are related to the size of the surf and wave period. Rip currents typically form at the low spots in the surf, at the breaks in the sandbars, and near jetties and piers. The north side of Isla Blanca jetty is renowned for large rip currents when tropical cyclones are in the Gulf.

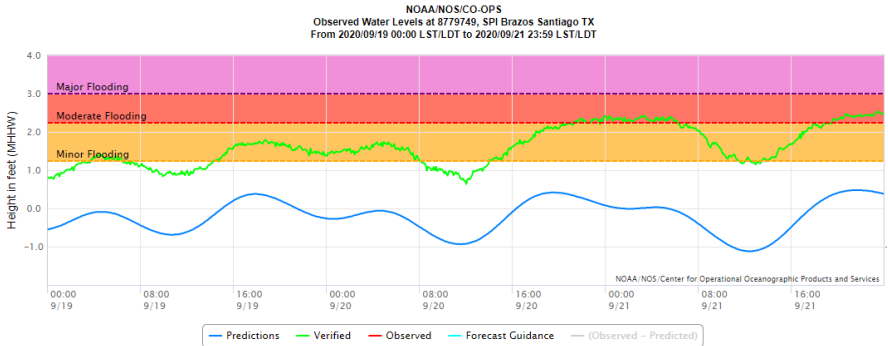
Rip Currents

If caught in a rip current, don't panic, but swim parallel to the shore. The current is usually only about 50 feet wide and you should be able to swim out of it. At that point, you can swim back to shore. If you are still unable to reach the shore, draw attention to yourself: face the shore, wave your arms, and yell for help.



Laura, Beta, Delta, Zeta

Multiple Events that Flooded the Beach in 2020



Photos: Surf flooding the beach on South Padre Island on Sept. 19th (left) and Sept. 20th, 2020 (right). High tide at boat ramp between Port Mansfield and the Port of Brownsville, Sept. 20th (center). Observed tide levels (above normally dry ground).

The Rio Grande Valley will remember Hanna as the event of the season, but for beach goers and other shore visitors, Hanna was just the warm-up act to four more Gulf hurricanes that created tidal, surf, and erosion impacts to Lower Texas beaches and shorelines. Hanna's swell briefly covered the beach before strong west winds turned the tide out at the beach, with Laguna-side docks seeing some high water levels as winds pushed waves from west to east across Laguna Madre late on July 25th. A month later, as catastrophic Hurricane Laura headed for landfall in southwest Louisiana, "back" swell covered the beaches on August 26th and 27th. Four weeks after Laura, Tropical Storm Beta's slow movement well east of the Texas coast combined with autumn "King" tides to produce the highest beach and tidal water (above, September 19th through 21st) since Hurricane Ike in 2008.



Credit : Spadre.com, a WRN Ambassador

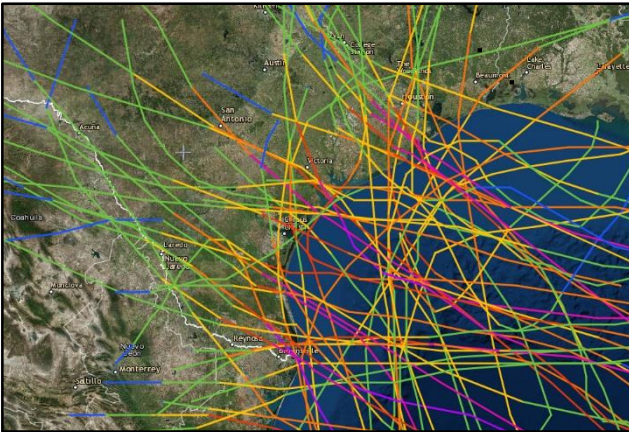
A couple of weeks later, Hurricane Delta made a direct pass just 200 miles east of the beach early on October 9th, resulting in a *third* event with pounding surf, high tides, and beach erosion (left). Nearly three weeks later, distant Hurricane Zeta sent long-period swell onto eroded South Padre Island. More than \$5 million would need to be spent on future beach replenishment projects following the super-active 2020 season.

About Hurricanes



Above: High resolution satellite image of Hurricane Harvey approaching the Middle Texas Coast. Image--NOAA

Hurricanes form over warm ocean waters, like those found in the Gulf of Mexico. The hurricane season starts June 1 and ends November 30. The peak threat for the Texas coast exists from August through September. However, hurricanes can and have struck the Texas coast during every month of the hurricane season.

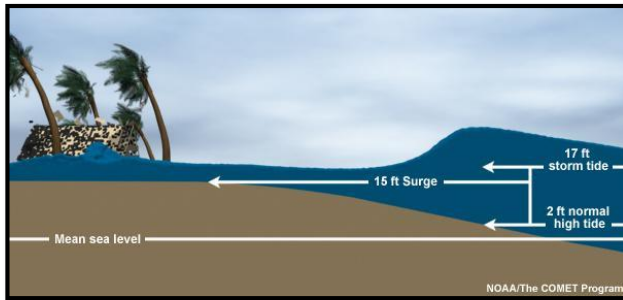


Above: Historical perspective of hurricane landfalls in Texas since 1851. Image -- NOAA

Since 1851, 64 hurricanes have struck the Texas coast. That is one every three years on average.

Storm Surge Defined

Storm surge is an abnormal rise of water generated by a storm, over and above the predicted astronomical tides. This rise in water level can cause extreme flooding in coastal areas resulting in storm tides reaching up to 20 feet or more in some cases. Along the Texas coast, these flood waters can penetrate far inland depending on the elevation of the land. If the storm tide is greater than the land elevation (even if well inland) then storm surge flooding will be possible.



Storm Surge Can Be Deadly! Here are 6 Tips to be Ready

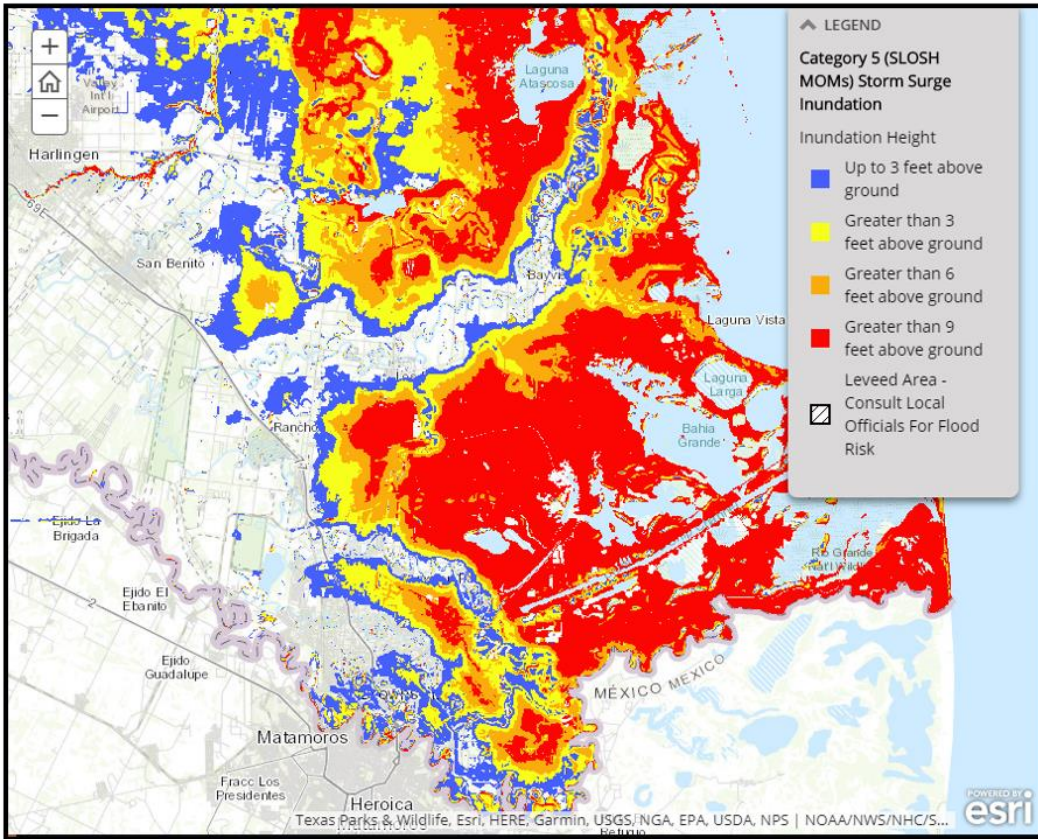
1. Storm surge flooding is often the greatest threat to life and property from a hurricane. It poses a significant threat for drowning. A mere six inches of fast-moving flood water can knock over an adult. It takes only two feet of rushing water to carry away most vehicles.
2. Storm surge can cause water levels to rise quickly and flood large areas in just minutes, and you could be left with no time to take action if you haven't already evacuated as instructed.
3. Storm surge is not dependent on the Saffir-Simpson Hurricane Wind Scale. Hurricane categories are based only on winds and do not account for storm surge. Any wind category can all cause life-threatening storm surge.
4. Many Gulf Coast areas are vulnerable to storm surge including areas many miles inland from the coastline depending on elevation of the coastal plain. Find out today if you live in a storm surge zone (see pages 5-7 in this guide).
5. Storm surge can occur before, during and after the center of the storm passes through an area, and can sometimes cutoff evacuation routes. The water can also rise well in advance of the coming storm, in some cases 36 hours or greater. When an evacuation is ordered, do not wait until the last minute to leave.
6. During the peak of a storm surge event, it is unlikely that emergency responders will be able to reach you if you are in danger.



**For more information about storm surge,
please visit the new NHC Storm Surge Video:**

Storm Surge

Coastal Cameron County



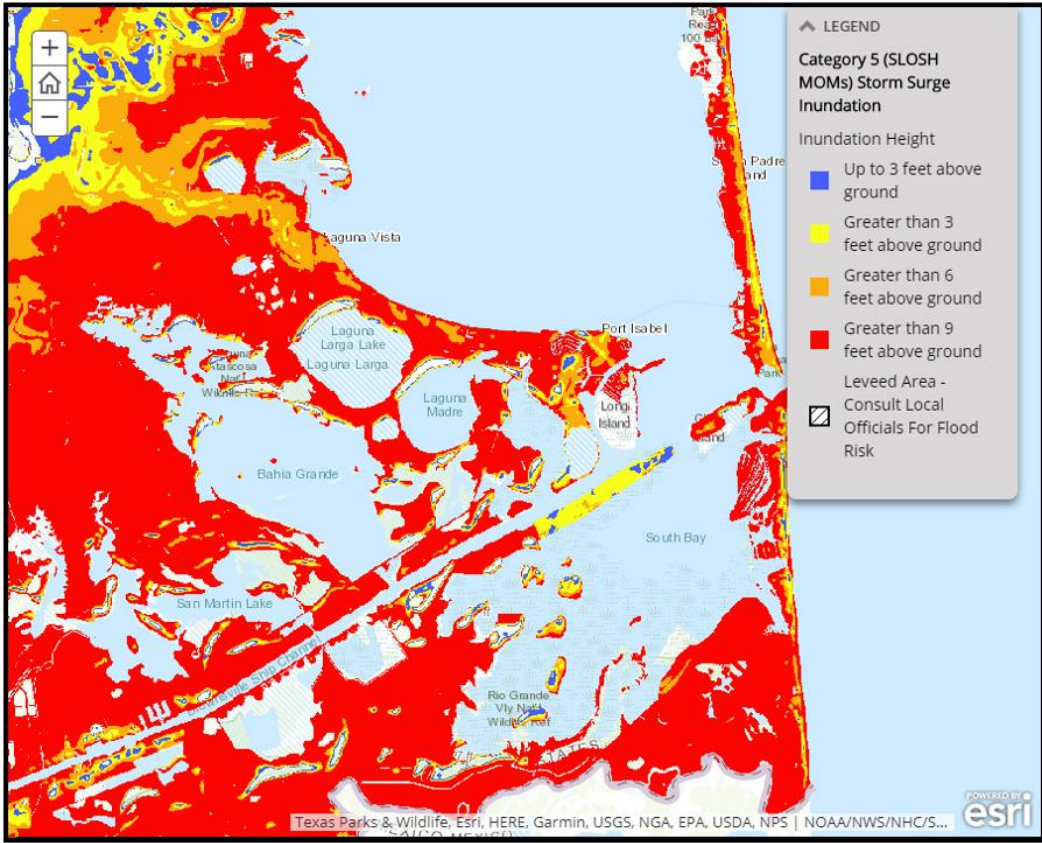
Above: This map shows the height above ground the water could reach and depicts the reasonable worst-case scenario from storm surge flooding.

“The greatest potential for loss of life related to a hurricane is from the storm surge.”

-National Hurricane Center

Storm Surge

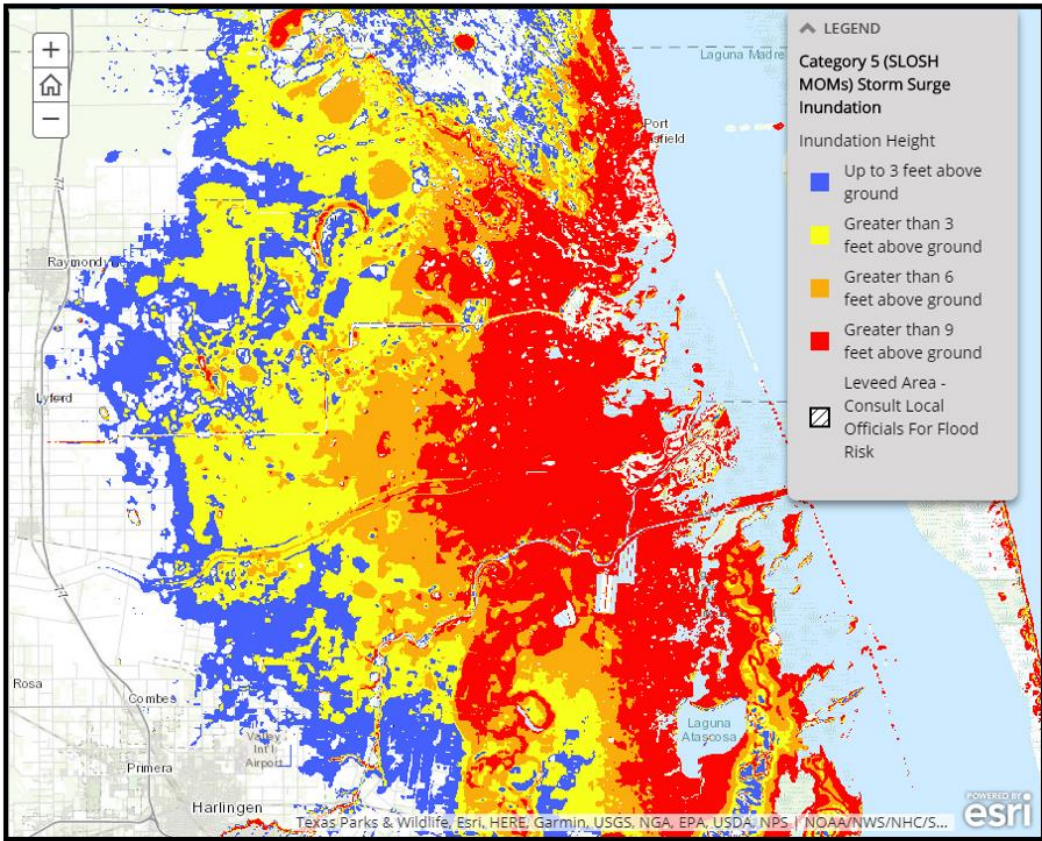
Zoomed: South Padre, Port Isabel, and Laguna Vista



Above: This map shows the height above ground the water could reach and depicts the reasonable worst-case scenario from storm surge flooding.

Storm Surge

Coastal Willacy County



Above: This map shows the height above ground the water could reach and depicts the reasonable worst-case scenario from storm surge flooding.

**Want to see more high resolution storm surge maps?
Visit:**

Inland Flooding

There are numerous examples of significant flooding caused by land-falling tropical cyclones in Texas. Storms with a slow forward motion are the most dangerous as heavy rains persist for a longer period of time.

Five Practical Ways to Protect Yourself and Others From the Dangers of Inland Flooding

Protect Your Personal Documents and Special Items

- Store valuables in plastic tubs with locking tops
- In case of an evacuation, you should be able to secure and move all your valuables within 15 minutes

Buy Flood Insurance – A Plan for Replaceable Items

- The National Flood Insurance Program (NFIP) is available from an insurance agent or the NFIP
- For more information see

Flood Proof Your Home – Take Steps to Minimize Flood Damage

- Consider installing a floodproof membrane around the base of your home
- Raise outside air conditioning units onto platforms above ground level
- Store rarely used or expensive items in the attic or on high shelves
- Prior to landfall, shut off the main circuit breaker to prevent appliances from short circuiting and eliminate the threat of electrocution

Develop a Family Flood Plan

- Develop a plan of action to keep from panicking or withdrawing during an emergency
- Have an evacuation route and alternatives planned in the event you are asked to evacuate
- Communicate your plans with friends or family outside of your home area
- Battery powered radios or televisions can be used in the event of a power outage

Never Drive on Flooded Roads

- Driving into flooded roadways puts your life and the lives of others at risk
- Unless told to evacuate, you are probably safest staying at your current location
- If you encounter flood waters when driving, Turn Around, Don't Drown!



Tornadoes and Destructive Winds

Tropical cyclones also produce tornadoes. These tornadoes most often occur in thunderstorms embedded in rain bands well away from the center of the hurricane; however, they can also occur near the eyewall. Tornadoes produced by tropical cyclones are relatively weak and short-lived, but still pose a threat.

Hurricane force winds of 74 mph or more can destroy buildings, mobile homes, trees and power poles. Debris such as signs, roofing material, siding, and small items left outside become flying missiles in a hurricane. The strongest winds occur in a region of the hurricane called the eyewall. Wind gusts in the right side of the eyewall are the most destructive. Hurricane force winds can be felt as far as 150 miles from the coast



Above: Damage to the community of Copano Village in Aransas County, TX in the wake of Hurricane Harvey in 2017.

MOBILE HOME RESIDENTS MUST EVACUATE!



Above: Container trailer leaning on a recreational vehicle in San Pedro, following EF0 tornado associated with Hurricane Alex in 2010.

- No mobile home or manufactured home - no matter how new it is - can provide safe shelter from hurricane force winds.
- Straps or other tie-downs will not protect a mobile home from the high winds associated with a hurricane.
- Mobile home residents must evacuate when told to do so by local authorities.

Saffir Simpson Hurricane Wind Scale

- Category 1 - Winds 74 to 95 mph
- Category 2 - Winds 96 to 110 mph
- Category 3 - Winds 111 to 129 mph
- Category 4 - Winds 130 to 156 mph
- Category 5 - Winds 157 mph or higher

Hurricane Preparation

Home Preparation

Elevation Matters

- Know the elevation of your home! Are you in a flood and/or evacuation zone?

Mobile Homes

- Check tie-downs for rust or breakage.
- Residents of mobile homes must evacuate when told to do so!!

Landscaping

- Trim trees, shrubbery and dead limbs, especially ones close to your home.
- Repair or replace broken or damaged fences.

Roofing

- Inspect the roof for loose tiles, shingles or debris. Consider replacing old or damaged shingles with new ones rated for hurricane force winds.
- Clear loose and clogged rain gutters and downspouts.

Doors

- Reinforce garage doors and tracks or replace with a hurricane tested door.
- Reinforce double entry doors with heavy duty foot and head bolts.
- Use a security dead bolt with a one inch minimum bolt length.

Windows

- If possible, install tested/manufactured hurricane shutters.
- Inspect existing shutters to ensure they are in good working order.
- Alternative: Use 5/8" or greater exterior grade plywood secured by 2 1/2" screws and/or special clips. Obtain wood and fasteners, cut wood to size, pre-drill holes and place anchors on homes.



Above: This well built home in the community of Copano Village in Aransas County, TX survived Hurricane Harvey in 2017.

For more information on home preparedness, and how to be #HurricaneStrong, go to <http://www.hurricanestrong.org/>



Special Considerations in a Pandemic

The following guidelines have been provided by the [Centers for Disease Control](#) to enhance your safety before and after a hurricane strike:

Before the Storm

- Give yourself more time than usual to [prepare your emergency food, water, and medicine supplies](#). Home delivery is the safest choice for buying disaster supplies; however, that may not be an option for everyone. If in-person shopping is your only choice, take steps to [protect your and others' health when running essential errands](#).
- Protect yourself and others when filling [prescriptions](#) by limiting in-person visits to the pharmacy. Sign up for mail order delivery or call in your prescription ahead of time and use drive-through windows or curbside pickup, if available.
- Pay attention to local guidance about updated plans for evacuations and shelters, including [potential shelters for your pets](#).
- If you need to evacuate, prepare a "go kit" with [personal items](#) you cannot do without during an emergency. Include items that can help protect you and others from COVID-19, such as hand sanitizer, or bar or liquid soap if not available, and two cloth face coverings for each person. Face covers should not be used by children under the age of 2. They also should not be used by people having trouble breathing, or who are unconscious, incapacitated, or unable to remove the mask without assistance.
- When you check on neighbors and friends, be sure to follow [social distancing](#) recommendations (staying at least 6 feet, about 2 arms' length, from others) and [other CDC recommendations](#) to protect yourself and others.
- If you need to go to a disaster shelter, follow CDC recommendations for staying safe and healthy in a [public disaster shelter](#) during the COVID-19 pandemic.

After the Storm

- You should continue to use [preventive actions](#) like washing your hands and wearing a [face covering](#) during clean up or when returning home.
- It may take longer than usual to restore power and water if they are out. Take [steps to prevent carbon monoxide poisoning](#) if you use a generator.
- If you are injured or ill, contact your medical provider for treatment recommendations. Keep wounds clean to prevent infection. Remember, accessing medical care may be more difficult than usual during the pandemic.
- Dealing with disasters can cause stress and strong emotions, particularly during the COVID-19 pandemic. It is natural to feel anxiety, grief, and worry. [Coping with these feelings and getting help](#) when you need it will help you, your family, and your community recover.

Health Resources

Federal Emergency Management Agency (FEMA): <https://ready.gov/hurricanes>

Texas Department of State Health Services: <https://www.dshs.texas.gov>

Cameron County Public Health: <https://www.cameroncounty.us/publichealth/index.php/coronavirus/>

Hidalgo County HHS: <https://www.hidalgocounty.us/coronavirusupdates>

City of McAllen: <https://www.mcallen.net/covid19/>

City of Brownsville: <https://www.cob.us/2066/Coronavirus-Updates>



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Additional Preparation

Business and Employee Preparation

- Identify and protect vital records. Backup and store key files off site.
 - Protect electronic equipment from possible water damage.
 - Have extra cash and blank checks in case extra money is needed after the storm.
 - Develop a 24-hour emergency contact with phone numbers of key employees.
 - Set up telephone numbers for employees to check in and receive company information.
 - Establish a temporary location for business operations in case your facility is damaged.
 - Give employees enough time to secure their homes and families.
 - Consider paying employees before they leave to prepare their homes.
-

Marine Preparations

- Check with the manufacturer for proper ways to secure your boat during a storm.
 - Purchase necessary hurricane materials such as additional mooring lines, crew anchors, fenders, fender boards, chafing gear, and anchors.
 - Safe storm moorings should consist of good condition ropes of sufficient diameter and length, with at least three or four substantial anchor points.
 - Do not moor parallel to bank. Receding tides often capsize boats in this type of anchorage.
-

Preparing for Your Pet's Safety

- Your pet should be part of your overall hurricane preparation plans. Below are a few important things to help you prepare:
- Make sure your pet's vaccinations are current and have proof they are current. DO NOT assume that a public shelter or hotel will accept your pet.
- Be sure to have a current photo of your pet.
- Each animal should have a properly sized pet carrier. The carrier should be large enough for the animal to stand up and turn around.
- Pack enough food and bottled water for the duration of your evacuation. DO NOT let your pet eat food or drink water from outside that may have become contaminated.
- Be sure to pack all medications your pet may need along with a muzzle, collar, leash, paper towels, and trash bags.
- Make sure your pet has a proper ID collar.

Before the Storm

- New and existing policies will not be written or modified when a storm nears the Gulf of Mexico.
 - Make sure you fully understand what perils are covered and excluded in your policy.
 - Make sure your coverage is adequate to replace your home and contents in today's dollar.
 - Determine whether your policy covers additional living expenses for a temporary residence if you are unable to live in your home because of damage from a disaster.
 - Before hurricane season, prepare detailed written and/or photographic inventory of your home's contents and store it in a safe place with your policy.
 - If your insurance company does not cover flood or windstorm perils, ask about coverage through the Texas Windstorm Insurance Association or the National Flood Insurance Program.
-

After the Storm

- Give prompt written notice to your insurance company.
- Photograph or videotape damaged structures and all damaged property. Make a list of damaged or lost items.
- DO NOT throw out damaged property before your adjuster has inspected the debris unless it is a health hazard or impedes local cleanup.
- Protect your property from further damage.
- Keep an accurate record of temporary repair and living expenses if a loss of use is suffered.

Important Online Insurance Information

- National Flood Insurance Program
www.floodsmart.gov
- Texas Windstorm Insurance Association
www.twia.org
Consumer help line 800-788-8247
- Texas Department of Insurance
www.tdi.texas.gov
Consumer Help Line 800-252-3439

Contact Info and Supplies



**American
Red Cross**

Emergency Contact Information

Out of Town Contact Address: _____

Out of Town Contact Phone Number: _____

Work Telephone Number: _____

Cell Number/Spouse Cell Number: _____

Children Cell Number: _____

School Telephone Number: _____

Doctor Telephone Number: _____

Bank/Credit Card Telephone Number: _____

Insurance Company Information: _____

**Whatever comes your way,
you'll know what to do.**

**Red Cross mobile apps
put help in your hand.**



**24 hour number to
call for assistance
1-800-RED CROSS
(1-800-733-2767)**

Download our preparedness apps today. Call **REDCROSS from your mobile phone and we'll send you a link to download the apps, or search the iTunes app store or Google Play for American Red Cross.

Hurricane Supply Kit

The South Texas chapter of the American Red Cross recommends that you have the following items in your Hurricane Supply Kit.

- At least a 7-day supply of non-perishable food and water. One gallon of water per person per day is recommended
- Battery powered portable television or radio with extra batteries
- Flashlight with extra batteries
- First Aid kit and manual
- Sanitation and hygiene items such as instant hand sanitizing gel, moist towelettes, toilet paper, and feminine hygiene products
- Whistle
- Kitchen accessories, cooking utensils, and manual can opener
- Cash
- Extra clothing, blankets, and sleeping bags
- Matches in a waterproof container
- Photocopies of identification, insurance, prescriptions, household inventory, credit cards, and your latest utility bill
- CD or photocopies of important documents such as birth/marriage certificates and titles
- Prescription medications, eyeglasses, contact lens solution, and hearing aid batteries
- Formula, baby food, diapers, and pacifiers
- Pet carriers, leashes, shot records, and food for each animal evacuating with you
- A good map showing county roads and highways
- Tire repair kit, booster cables, pump, and flares
- White distress flag
- Toys and games for children
- List of family phone numbers and addresses outside the area

Forecast Information



Latest Weather Information

National Weather Service

www.weather.gov/rgv

24 Hour Phone Recording:

(956) 504-1432 ext. 1



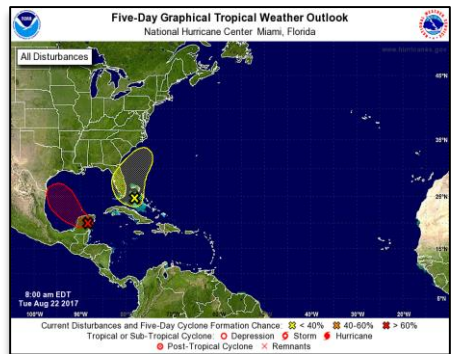
National Hurricane Center

www.hurricanes.gov



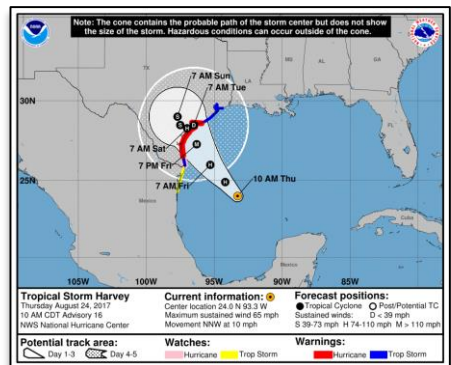
Graphical Tropical Weather Outlook (May 15 – Nov 30)

- This NHC product provides an overview of all tropical cyclone activity and indicates areas of interest that have potential for tropical cyclone development.



NHC Forecast Advisory

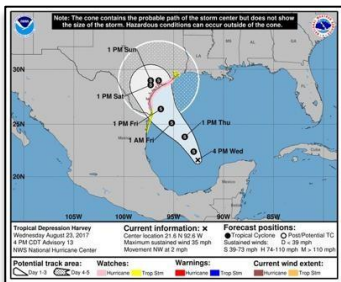
- Most recent position for a storm along with all coastline watches and warnings. Includes a 3 or 5 day track with error cone.
- Error cone represents a 5 year average error. Storms only stay within the error cone 67% of the time.
- DO NOT focus too closely on the exact track forecast – the little back line.
- Impacts may occur well outside the cone.



Forecast Information

Hurricane Watch/Warning
Tropical Storm Watch/Warning

- A Hurricane Watch means hurricane conditions are possible in your area within 48 hours.
- A Hurricane Warning means hurricane conditions are likely within your area within 36 hours.
- A Tropical Storm Watch means tropical storm conditions are possible in your area within 48 hours.
- A Tropical Storm Warning means tropical storm conditions are likely within your area within 36 hours.
- If you are under a hurricane watch or warning, prepare for possible evacuations and evacuate if instructed to do so.



Do you have Wireless Emergency Alerts (WEA) turned on for your phone?

WEAs are sent by authorized government agencies through your wireless provider and alert to extreme weather.

WEAs include a special tone and vibration, both repeated twice. Check your wireless phone's menu settings to ensure WEAs are enabled:

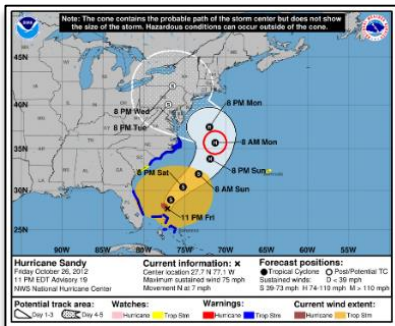
- Android: Settings > Connections > More Connection Settings > Wireless Emergency Alerts
- Apple: Settings > Notifications > Government Alerts



Graphical depiction of peak storm surge inundation values along the U.S. Gulf & Atlantic coasts, Puerto Rico, and the U.S. Virgin Islands

- Values represent the peak height water could reach above normally dry ground somewhere in the specified area

60-hour forecast track



Local Tropical Webpage

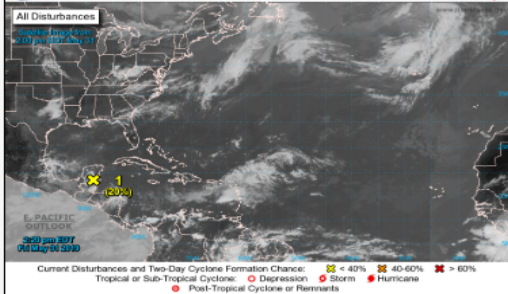
NWS Brownsville/Rio Grande Valley Tropical Webpage

[Outlook](#)[Threats and Impacts](#)[Satellite](#)[Radar](#)[Social Media](#)[Preparedness](#)[Links](#)

There are currently no active storms in the North Atlantic, Caribbean Sea, or Gulf of Mexico.

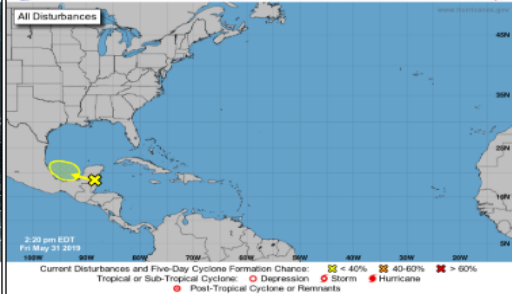
[Local Briefing from the National Weather Service office in Brownsville](#)

Two-Day Graphical Tropical Weather Outlook
National Hurricane Center Miami, Florida



[Product Description](#)

Five-Day Graphical Tropical Weather Outlook
National Hurricane Center Miami, Florida



[Product Description](#)

Click each image above to view the full-size image.

Special Tropical Weather Outlook
NWS National Hurricane Center Miami FL
220 PM EDT Fri May 31 2019

For the North Atlantic...Caribbean Sea and the Gulf of Mexico:

A broad area of low pressure accompanied by cloudiness and showers centered over the Yucatan Peninsula is forecast to move westward over the southern Bay of Campeche during the weekend. Some gradual development of this system is possible through early next week as long as it remains over water. Regardless of development, the disturbance will likely produce heavy rainfall over portions of southern Mexico during the next few days. Regular issuance of the Tropical Weather Outlook will begin at 2 AM EDT tonight with the beginning of the Atlantic hurricane season.

* Formation chance through 48 hours...low...20 percent.
* Formation chance through 5 days...low...30 percent.

\$\$
Forecaster Avila/Zelinsky

[Oprima aquí para ver la Perspectiva sobre las Condiciones del Tiempo Tropical en Español](#)

- **One-Stop Shop** for all tropical related forecast information, tailored to each forecast area along U.S. coastline.
- **Active Storms** tab appears when NHC initiates Tropical Cyclone advisories.
- **Local Products** tab also becomes active when WFO Issues Watches/Warnings for local area.
- **Satellite and Radar** data is always available.
- **Preparedness** tab is always available and provides quick access to local evacuation maps, preparedness guides, and videos.
- Scrolling down the page provides access to NHC products related to each active storm and WPC rainfall products.

Final Checklists

Actions to Take When a Storm is in the Gulf

- Listen frequently to radio, TV, or NOAA weather radio for bulletins and forecasts of the storm's progress.
- Double check items in your emergency supply kit.
- Fuel and service your vehicles.
- Inspect and secure mobile home tie-downs.
- Board up windows (if shutters do not exist) in case storm moves quickly and you have to leave!

TAPE PROVIDES NO PROTECTION!

- Store lawn furniture and other loose, light weight objects, such as garbage cans and garden tools.
- Garage or store vehicles that are not being used.
- Follow instructions issued by local officials.

EVACUATE IMMEDIATELY IF ORDERED TO DO SO!

Final Actions to Take if Leaving

- Turn off propane tanks.
- Unplug small appliances.
- Empty refrigerator and freezer.
- Turn off utilities if ordered to do so.
- Lock home securely.
- Take pets with you.



Final Actions to Take if Staying

- Close storm shutters.
- Notify family members of your evacuation plans.
- Lower water level in swimming pool by one foot.
- Turn refrigerator or freezer to coldest setting and open only if necessary.
(25 pounds of dry ice will keep a 10-cubic foot freezer below freezing for 3-4 days.)
- Follow instructions from emergency managers and be prepared to turn off utilities if ordered to do so.
- Board up remaining doors, brace garage door, and remain inside. Stay away from boarded up windows.
- Take refuge in a predetermined safe room, such as an interior closet, bathroom, or hallway.
- **DO NOT EXPECT EMERGENCY RESPONDERS TO BE OF ANY ASSISTANCE DURING A LANDFALLING HURRICANE!**

Tourist Safety Guide

How to Prepare for Hurricane Season

Actions To Take When Threatened By A Hurricane:

- Listen frequently to radio, TV, or NOAA Weather Radio
- Fuel your vehicle
- Stock up on batteries, food that will keep, first aid supplies, drinking water, and medications
- Have cash on hand in case power goes out and ATMs don't work
- Follow instructions from local officials and leave if ordered

Terms To Know:

Tropical Storm/Hurricane Watch: Conditions are possible within 48 hours

Tropical Storm/Hurricane Warning: Conditions are expected within 36 hours

Continue to check hurricanes.gov for the latest forecast information!

How will you get alerts while on vacation?

- Local media (TV, radio, newspaper, etc)
- Our website weather.gov/corpuschristi
- Wireless Emergency Alerts or WEA
 - WEAs are free notifications on your smartphone that can indicate hazardous weather.
 - WEA alerts include: Tornadoes, Severe Thunderstorms, Flash Floods, **Extreme Winds**, **Hurricanes**, Tsunamis, **Storm Surge** and Winter Weather

What should you do if you receive a WEA?

- Follow any action advised by the emergency message. Seek more details from your favorite TV or radio station, NOAA Weather Radio, news website, desktop application, mobile application, or other trusted source of information.

For more information about Wireless Emergency Alerts, visit: weather.gov/wrn/wea

Student Information Checklist

<ul style="list-style-type: none"> Assure that all contact information and emergency contact information is accurate with your campus' registrar's office.
<ul style="list-style-type: none"> If your campus offers an emergency management communication system, register as a user of the system.
<ul style="list-style-type: none"> Plan your method of evacuation and your destination before a storm enters the gulf.
<ul style="list-style-type: none"> Monitor local radio and TV stations for updates.
<ul style="list-style-type: none"> Contact your campus Student Affairs Office if you need assistance with evacuation.
<ul style="list-style-type: none"> If you require any assistance due to a disability-related accommodation, please contact your campus Disability Services Office to make necessary arrangements.
<ul style="list-style-type: none"> Communicate with your family regarding status and location
<ul style="list-style-type: none"> If your campus is evacuating, you will not be allowed to remain on-campus and it is highly recommended that you leave the city. Do not go to a coastal location.
<ul style="list-style-type: none"> Take your driver's license, student I.D. card, and a copy of your housing lease as well as medical insurance cards and other important documents when you evacuate.
<ul style="list-style-type: none"> If you bank with a local bank or credit union whose infrastructure may be damaged by the storm, withdraw some funds as you may not have access to them once you leave the area.
<ul style="list-style-type: none"> International students must take passports with US student visa inside, I-20, I-94, student I.D. and class schedule.
<ul style="list-style-type: none"> If using personal transportation, take as many of your valuable or irreplaceable items as you are able.
<ul style="list-style-type: none"> If driving, make sure all roads that you are driving are open and safe. You can call the Department of Transportation at 1-800-452-9292 or check on-line for conditions at www.txdot.gov
<ul style="list-style-type: none"> Follow baggage limits if participating in an assisted evacuation program.
<ul style="list-style-type: none"> Take a 30-day supply of medications in original pharmacy containers.
<ul style="list-style-type: none"> Make a record of any valuables left behind (description, serial numbers, etc). Take pictures of all belongings.
<ul style="list-style-type: none"> If you are evacuating to a shelter, make appropriate arrangements for pets. Most shelters do not accept pets.
<ul style="list-style-type: none"> Do not plan to return to campus until an all-clear is given (monitor media and campus web-site).

Texas Emergency Registry

STATE OF TEXAS EMERGENCY ASSISTANCE REGISTRY (STEAR)

Do you or anyone you know need some form of assistance during times of an emergency/disaster event? The state of Texas offers Texans the option to register with the STEAR program, a FREE registry that provides local emergency planners and responders with additional information on the needs in their community.

(Texas communities use the registry information in different ways. Registering yourself in the STEAR registry DOES NOT guarantee that you will receive a specific service during an emergency. Available services will vary by community. For more information on how your community will use information in the STEAR registry, contact your local emergency management office.)

Who Should Register?

- People with Disabilities
- People with access and functional needs such as:
 - People who have limited mobility
 - People who have communication barriers
- People who require additional medical assistance during an emergency event
- People who require transportation assistance
- People who require personal care assistance

How to Register

- <https://STEAR.tdem.texas.gov>
- Dial 2-1-1 or use your video phone relay option of choice to contact 211
- Printed or electronic forms (Contact your local government)

Required Information to Register

- Name
- Address
- Phone Number
- Primary Language

Additional questions asked to capture vital information for local emergency planners and responders

- Emergency Contact Information
- Caregiver Information
- Pets
- Transportation assistance for home evacuation
- Communication Barriers
- Disability, Functional or Medical Needs

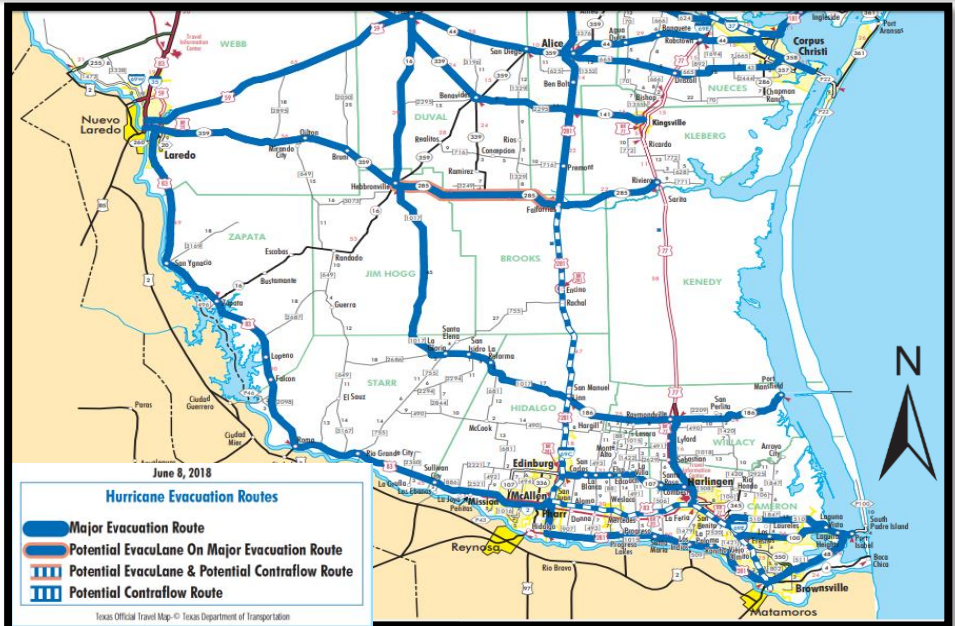
Registration is **VOLUNTARY**.

All of the information you provide will be kept **COMPLETELY CONFIDENTIAL**.

Local Emergency Management Office

Rev 5/2014

Evacuation Routes



Evacuees need to consider the projected path of the hurricane when choosing an evacuation route and destination. When local authorities order an evacuation of your area, leave immediately!

Final Actions before Evacuating

- Follow evacuation orders provided by your local officials.
- Once the evacuation order has been given, **LEAVE IMMEDIATELY!**
- Take your Hurricane Supply Kit with you.
- Leave as early as possible to avoid heavy traffic and hazardous weather.
- Do not stay in a mobile home near the coast under any circumstance.
- Remember that large boats and travel trailers may not be allowed to cross local bridges and causeways once high winds commence.
- Prepare to stay at your evacuation destination for a week or more, as re-entry into the affected area may be restricted.

Texas Road Information

- TXDOT Highway Conditions 1-800-452-9292 or
- TXDOT Rio Grande Valley Office, Pharr 1-956-702-6100
- Emergency Broadcast Information KURV News Talk 710 AM
- Twitter @TxDOTPharr

Returning Home

IF YOU EVACUATED THE AREA, WAIT FOR AN ALL CLEAR FROM THE CITY OR COUNTY BEFORE ATTEMPTING TO RETURN TO YOUR HOME. BE PREPARED TO SHOW PROOF OF RESIDENCE BY HAVING A COPY OF YOUR LATEST UTILITY BILL.

Debris Cleanup

- Cities and counties will publish a schedule for debris pick-up and removal. Debris cannot be removed from private property.
- Construction materials, vegetative debris, household hazardous waste and household appliances will need to be placed into separate piles and moved to the curbside for pick-up.



General Cleanup

- Be cautious of structural damage and downed power lines.
- DO NOT attempt to move structural supports or large pieces of debris.
- DO NOT run power generators indoors. Inhalation of carbon monoxide from the exhaust can cause death. Ensure exhaust is well ventilated.
- DO NOT use open flames indoors.
- Restrict your driving to emergency use only. Road conditions may not be safe until road debris is cleared.

Water

- Listen for instructions regarding public water supply. Use only bottled, boiled or treated water until you know that your water supply is safe.
- You can use household chlorine bleach to treat water for drinking or cleaning. Add 1/8 teaspoon of bleach per gallon of clear water or 1/4 teaspoon of bleach per gallon if water is cloudy. Allow water to stand for 30 minutes before using.

Interior Cleanup

- Disinfect and dry interior buildings and items inside. This will prevent growth of some bacteria, viruses, mold, and mildew that can cause illness.
- Clean walls, floors, and counter tops with soap and water. Disinfect them with a solution of 1 cup of bleach to 5 gallons of water.
- Wash all clothes and linens in hot water. Air dry and spray all unwashable items with disinfectant. Steam clean carpets. Throw away all items touched by water that cannot be disinfected.

Returning Home

Utility Cleanup

- Check for gas leaks. If you smell or hear gas leaking, leave immediately. DO NOT use the phone or turn on lights in your home. Call the gas company from a neighbor's phone.
- Report any visible damage of power lines to the electric company. Turn off power at main breaker if any electrical equipment or circuits have been exposed to water.
- DO NOT connect generators to your home's electrical circuits. If a generator is on line when electrical service is restored, it can become a major fire hazard. Also, line workers working to restore power will be endangered if a generator is hooked up to the home's circuits.
- It is likely that an electric company other than your own will reconnect the lines to your home; however, they cannot turn the service back on. Only your electric company can actually turn the power back on to your house.



Sewage Cleanup

- If you suspect water or sewage lines are damaged, do not use your plumbing (toilets, sinks, etc.). Contact the water company or a plumber for repairs.
- A chemical portable commode can be created by the following:
 - Use 5 gallon buckets with tight lids, lined with heavy duty plastic garbage bags.
 - Add kitty litter to the bucket as a disinfectant and deodorizer. Keep lids on firmly.
 - Keep buckets in a cool, dark place. Clean and disinfect buckets immediately.
- Your toilet can also be used by flushing until the bowl has no water. Then, line with heavy duty trash bags and disinfect with chlorine bleach after each use. Remove waste to an outside location.
- If significant sewer outages have occurred, instructions for disposal of human wastes will be announced.
- DO NOT dispose of human waste through your regular trash!

Emergency Information

CAMERON COUNTY

- **County Emergency Management**
956-547-7000
Twitter: @cameron_county
Facebook: cameroncountym
- **County Sheriff**
956-544-0860*
- **City of Brownsville**
956-504-7405
oem.cob.us
Twitter: @BOEMHS
Facebook: 546HELPCOB
- **City of Harlingen**
956-216-5920
myharlingen.us
Twitter: @Harlingen_Texas
Facebook: Harlingen, Texas
- **City of La Feria**
956-797-3121
cityoflaferia.com
- **Town of Laguna Vista**
956-943-1792
lvtexas.us
Twitter: @LagunaVistaPD
Facebook: lvtexas
- **City of Los Fresnos**
956-233-5768
citylf.us
Twitter: @CityofLosFresnos
Facebook: City of Los Fresnos
- **City of Port Isabel**
956-943-2727
portisabel-texas.com/cityhall
Twitter: @portisabeltexas
Facebook: Port Isabel Texas
- **City of San Benito**
956-361-3800
cityofsanbenito.com
Twitter: @SanBenitoTX
Facebook: San Benito, Texas

- **City of South Padre Island**
956-762-8144
myspi.org
Twitter: @SouthPadreTexas
Facebook: South Padre Texas

HIDALGO COUNTY

- **County Emergency Management**
956-318-2615
hidalgocounty.us
Twitter: @HidalgoCounty
Facebook: Hidalgo County
Instagram: @HidalgoCountyTX
- **County Sheriff**
956-383-8114*
- **City of Alamo**
956-781-2004
alamotexas.org
Twitter: @CityofAlamo
Facebook: City of Alamo
- **City of Donna**
cityofdonna.org
Twitter: @CityofDonna
Facebook: cityofdonna
- **City of Edinburg**
956-383-7691
cityofedinburg.com
Twitter: @cityofedinburg
Facebook: CityofEdinburgGovernment
- **City of Hidalgo**
956-843-2286
cityofhidalgo.net
Facebook: cityofhidalgotx
- **City of McAllen**
956-681-1234
mcallen.net
Twitter: @CityofMcAllen
Facebook: McAllenTX
- **City of Mercedes**
956-565-3102
cityofmercedes.com
Facebook: The City of Mercedes

Do Not Call 911 for Non-Emergencies!

Emergency Information

HIDALGO COUNTY (continued)

- **City of Mission**
956-580-8705
missiontexas.us
Twitter: @CityofMissionTX
Facebook: City of Mission Government
- **City of Pharr**
956-787-7541
pharrem.com
Twitter: @PharrTX
Facebook: CityofPharr
- **City of Weslaco**
956-968-0367
Weslaco Emergency Management
Twitter: @WeslacoCity
Facebook: CityWeslaco

STARR COUNTY

- **County Emergency Management**
956-716-4800
www.co.starr.tx.us
- **County Sheriff**
956-487-0672*
- **Rio Grande City**
956-487-0672
cityofrgc.com
Twitter: @CityofRGC
Facebook: CityofRGC
- **City of Roma**
956-849-1411
cityofroma.net
Facebook: cityofroma

WILLACY COUNTY

- **County Emergency Management**
956-689-5456
Willacy County Texas
Facebook: CountyofWillacy
- **County Sheriff**
956-689-5577*

- **City of Lyford**
956-347-3512
lyfordtx.us
- **Port Mansfield**
956-689-3332
portofportmansfield.com
- **City of Raymondville**
956-689-2443
raymondvilletx.us

ZAPATA COUNTY

- **County Emergency Management**
956-765-9942
Zapata County Texas
- **County Sheriff**
956-765-9960*

BROOKS COUNTY

- **County Emergency Management**
361-326-3681
Brooks County Texas
- **County Sheriff**
361-325-3697*
- **City of Falfurrias**
361-325-2420
ci.falfurrias.tx.us
Facebook: Falfurrias, TX

JIM HOGG COUNTY

- **County Emergency Management**
361-527-4100
Jim Hogg County Texas

KENEDY COUNTY

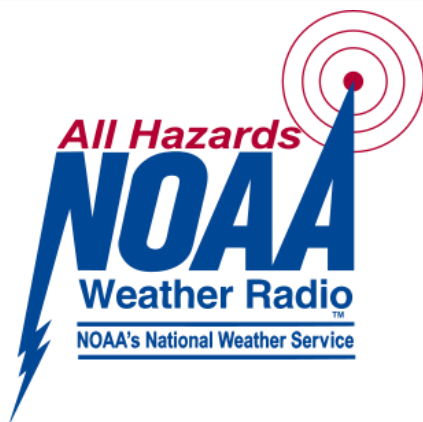
- **County Emergency Management**
361-595-8527
Kenedy County Texas
- **County Sheriff**
361-294-5205*

Do Not Call 911 for Non-Emergencies!

Emergency Notes

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

NOAA Weather Radio in Spanish



NOAA Weather Radio Goes Bilingual in the Rio Grande Valley

In a world plugged into continuous weather information, NOAA Weather Radio remains a critical tool that can alert people to potentially life-threatening weather in the middle of the night when the power goes out. Across the Rio Grande Valley, weather-vulnerable neighborhoods contain a significant number of residents whose primary language is Spanish. Understanding and being able to translate an alert from English to Spanish can be difficult for many of these residents; the additional time to process the information and take action could literally be the difference between life and death. Until now.

A Homeland Security Grant from FEMA sparked a two-year collaborative effort among the National Weather Service, the State of Texas, and the Lower Rio Grande Valley Development Council culminating with the Spanish Language Public Safety Warning System. The Warning System's core components include two new NOAA Weather Radio transmitters, broadcasting from Harlingen and Pharr. Broadcasts and special alerts will cover nearly all communities. Spanish language radio and television stations that are part of the Emergency Alert System will be able to select the feed(s) from the Spanish language transmitters, removing the need for a third party to translate the information from English to Spanish.

Should a hurricane threaten the Rio Grande Valley, owners of NOAA Weather Radios will be able to tune to specific frequencies and receive critical information that will describe the hazard, potential impact, and recommended safety actions in the language they are most comfortable hearing.

Transmitter Location	Station Identification	Frequency
Bluetown/La Feria	WZS-2542	162.450 (channel 3)
Pharr	WZS-2541	162.475 (channel 4)

More to the Story Than Category!



Left: Bolivar Peninsula scraped clean by Ike's Storm Surge in 2008. Center: Damaged and destroyed homes along the Jersey Shore from Sandy in 2012. Right: Interstate 10 along Jefferson/Chambers Co. Line in 2017 during Harvey.

Flooding – on Land and by the Sea – Often Trumps the Wind

A hurricane, by definition, is a “bad” storm. At minimum, a hurricane will disrupt a routine for a few days. At maximum, a hurricane will devastate a community forever. For many people over the past four decades, the perception of hurricane “badness” came from the Saffir-Simpson Hurricane Scale. It seemed so easy to grasp. A Category 1 hurricane contained 74 to 95 mph winds, a storm surge of 4 to 5 feet, and surface pressure ≥ 980 mb. A Category 5 hurricane contained wind greater than 155 mph, a storm surge > 18 feet, and surface pressure < 920 mb.

Then came Allison. Charley. Katrina. Ike. Sandy. And...Harvey!

Each of these storms damaged billions of dollars in property, and all but Charley killed dozens to hundreds of people. None of these storms had impact that purely matched the Saffir-Simpson Scale. Only Charley (2004) met the wind criteria, now the only feature of the Saffir-Simpson Hurricane Wind Scale (SSHWS). The following table summarizes each storm.

Storm	Main Impact Area	Year	SSHWS (landfall)	Damage (\$billions) [†]	Primary Impact
Allison	Houston	2001	None	5.5	3+ feet of rainfall; record inland flooding in Houston
Charley	Southwest Florida	2004	4	15.4	Extensive Wind Damage, but only a 4 to 7 foot storm tide
Katrina	Louisiana and Mississippi	2005	3	81.3	Storm tide up to 28 feet. Catastrophic storm surge flooding; thousands of persons drowned
Ike	Upper Texas and Southwest Louisiana	2008	2	29.3	Storm tide up to 20 feet. Extensive to catastrophic storm surge flooding; several dozen persons drowned or missing
Sandy	Northeast U.S.	2012	1*	50+	Vast majority of damage from ≥ 10 foot storm tide along NJ/NY coast; dozens of persons drowned
Harvey	Texas	2017	4	125+	\$100 billion from freshwater flooding in SE TX when system was Tropical Storm

*Storm considered Post-Tropical at Landfall

[†]Dollar values in year of landfall

Local NWS Office Information

National Weather Service Brownsville/Rio Grande Valley, TX

20 S. Vermillion Avenue
Brownsville, TX 78521

Phone: (956) 504-1432

Fax: 956-982-1766



weather.gov/rgv

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