



SEVERE
WEATHERTEAM

Justin
Stapleton

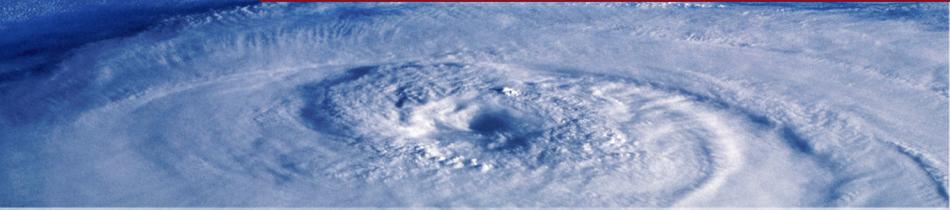
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Hurricane & Flood SURVIVAL GUIDE





Hurricane & Flood SURVIVAL GUIDE

Four hurricane names have been retired from last year: Harvey, Irma, Maria and Nate. While the devastation those storms caused is still being felt from Texas to Puerto Rico, there is, as always, another list. This list begins with Alberto. And because hurricane lists are rotated every six years, this may not be a new name, but this is definitely a new year. A new season.



Frank Billingsley
KPRC 2 Chief Meteorologist

NEW is the key word here—never assume that because last year was so bad that this year can't possibly bring another big storm. The first storm of 1899 made landfall in Texas and then the Great Storm came one year later. In 1960, Tropical Storm One dumped almost 30" of rain on Port Lavaca and then in 1961 along came Carla. People forget that before Ike in 2008, there was Humberto in 2007. And plenty of years we've had more than one tropical cyclone on the upper Texas coast. Hoping for a tropical storm/hurricane free season is "wish-casting".

So here we are, faced again with an already very warm summer which creates plenty of warm ocean water and plenty of tropical opportunity. I say we just own it. We live here, we love it here, we continue to survive here. We know what to do and you'll find plenty of tips here and online. Now is the time to trim back trees that can knock out power lines, secure fences that might easily blow away, consider emergency generators, make that hurricane kit so you are prepared to 'hunker down'. Have a plan—a personal plan, a family plan, a business plan. I hope this guide comes in handy for you and I also hope you don't ultimately need it. But it's a new Hurricane Season and we all have to be smart and ready.

We're here for you and we appreciate your trust.

Stay safe!



IMPORTANT:

If you are physically or mentally disabled, dependent on special medical equipment, have transportation needs or are faced with some other circumstance that will make hurricane evacuation difficult, you can pre-register with the City of Houston's Office of Emergency Management. Registration is free and voluntary and will enable emergency providers to reach those who need help. To pre-register call 211 from anywhere in the state of Texas.

2018 Atlantic Hurricane Names

- Alberto
- Beryl
- Chris
- Debby
- Ernesto
- Florence
- Gordon
- Helene
- Isaac
- Joyce
- Kirk
- Leslie
- Michael
- Nadine
- Oscar
- Patty
- Rafael
- Sara
- Tony
- Valerie
- William



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Weather Terms

(From the National Weather Service)

Hurricane: A tropical cyclone in the Atlantic Ocean, Caribbean Sea, Gulf of Mexico or Eastern Pacific Ocean with maximum sustained surface wind of 74 mph (119 km/hr) or higher.

Hurricane Advisory: A report issued from the National Hurricane Center that keeps the public informed of hurricanes through the duration of a hurricane's life cycle. They are issued multiple times daily when a hurricane is active.

Hurricane Warning: An announcement that hurricane force winds are *expected* somewhere in the specified warning area within 36 hours.

Hurricane Watch: An announcement that hurricane force winds are *possible* in the specified warning area within 48 hours.

Storm Surge: An abnormal rise in sea level accompanying a hurricane or other intense storm, and whose height is the difference between the observed level of the sea surface and the level that would have occurred in the absence of the cyclone. Storm surge is usually estimated by subtracting the normal or astro-nomic high tide from the observed storm tide.

Storm Tide: The actual level of sea water resulting from the astronomic tide combined with the storm surge.

Tropical Disturbance: A discrete tropical weather system of apparently organized thunderstorms - generally 100 to 300 nautical miles in diameter - originating in the tropics or subtropics, not associated with a front, and maintaining its identity for 24 hours or more.

Tropical Depression: A tropical cyclone with maximum sustained surface winds up to 38 mph (62 km/hr).

Tropical Storm: A tropical cyclone with sustained surface winds from 39 mph (63 km/hr) to 73 mph (118 km/hr).

Emergency Numbers

Fill in *BEFORE* hurricanes strike



FEMA

1-800-621-3362

Insurance _____

Doctors _____

Pharmacy _____

Veterinarian _____

Cellular service _____

Electrical provider _____

Gas company _____

Telephone service _____

Cable service _____

Other _____

BE PREPARED.



FRANK'S FORECAST WEATHER APP

KPRC  



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Before Hurricane Season Begins

- Download the **KPRC Channel 2 Weather App**.
- Stock up on nonperishable foods, drinking water, batteries, diapers and formula for infants and pet food for animals. See “supplies” lists.
- Know your evacuation route, where you would go and how you would get there.
- If you’re disabled or have transportation problems, see “IMPORTANT” highlighted information on page 1.
- Create an emergency communication list in case you are separated from family and friends. Include home, work, school and cell numbers and exchange lists with family, friends and neighbors. Keep lists at home, at work and in your cars. Also, designate a contact person who lives outside the area for every one to reach in case of evacuation.
- Keep cash on hand. Banks may close and ATMs may be inoperable during a storm.
- Make sure you have enough prescription medicines to outlast a storm and its aftermath. Refill your first-aid kit.
- Decide where to take pets, boats and travel trailers if you cannot take them with you.
- Pets are not allowed in many public shelters. Keep a list of “pet-friendly” places – hotels and motels, friends, boarding facilities or veterinarians – and phone numbers. Remember, it is illegal to restrain pets at shelters in cases of extreme weather.
- Check all battery-powered equipment. Emergency cooking facilities and lights will be essential if utilities are interrupted.
- Charge all mobile devices.
- Charge up or check camera batteries. You may need to take photos of storm damage.
- Make sure smoke detectors and carbon monoxide detectors are working properly.
- Take inventory of your valuables and your home. Make a video, take photos or keep a written log.
- Double-check your insurance coverage:
 1. **Homeowners Insurance** – If you want it, you need to get it now because you cannot get it once a storm enters the Gulf.
 2. **National Flood Insurance Program** – Get information at **floodsmart.gov** or call **1-888-379-9531** to find an agent near you. The policy will not go into effect until 30 days after you’ve paid for it.
 3. **Windstorm and Hail Insurance** – Get information at **twia.org** or call **1-800-788-8247**
- If you have a generator, test-run it with a load to make sure it functions properly. Continue test-runs monthly throughout hurricane season to ensure that it will be in good working order if it’s needed.
- Trim the trees and shrubs around your home. Make sure any dead branches are removed.
- Make sure gutters and downspouts are properly secured and unclogged.
- Tie down young trees to prevent uprooting in the event of strong winds.





When a Hurricane Threatens

- Store drinking water in any clean containers – bathtubs, bottles, pots, etc., as the water supply may become contaminated.
- Secure outdoor objects that may blow away or move them inside the house or garage.
- Fuel up your car. You may need to evacuate quickly and/or sit in traffic for hours. Service stations may also become inoperable.
- Secure homes and buildings by boarding up each window. Tape is not adequate.
- Moor your boat securely or move it to a designated safe place.
- If in a mobile home, check tie-downs and evacuate. Historically, manufactured homes suffer the greatest amount of damage during hurricanes.
- Move valuables, personal papers, family photos and important computer drives to a waterproof container on the highest level of your home or pack them to take with you. Create password-protected digital copies.
- Turn off utilities if told to do so by authorities. Unplug small appliances.
- Turn off propane tanks.

If You Have To Evacuate

- Make sure your gas tank is full.
- Prepare your vehicle for what could be a very long ride.
- Stock your vehicle with necessities such as water, food, pillows and blankets, toiletries, current maps, baby supplies, pet supplies, prescription medicines, flashlights and extra batteries and cash.
- Bring proper identification and proof of residency—your driver's license, a utility bill or rent receipt – in case you will need Red Cross or FEMA assistance.
- Bring copies of key papers, such as insurance policies.

During a Hurricane

- Stay away from windows, skylights and glass doors, even if they are boarded or covered.
- Stay on the floor that is least likely to be affected by strong winds and floodwaters.
- A small interior room without windows on the first floor is usually the safest place.
- Beware of the eye of the hurricane. If the calm storm center passes directly overhead, there will be a lull in the wind that can last up to half an hour. Winds will rise again to hurricane force.





When Flooding Threatens

- If flash flooding is a risk in your location, monitor potential signs such as heavy rain.
- Depending on where you are, and the impact and the warning time of flooding, go to the safe location that you have identified.
- If told to evacuate, do so immediately. Never drive around barricades. Local responders use them to safely direct traffic out of flooded areas.
- Listen to EAS, NOAA Weather Radio, or local alerting systems for current emergency information and instructions.
- Do not walk, swim, or drive through flood waters. **Turn Around. Don't Drown.**® Just six inches of fast-moving water can knock you down, and one foot of moving water can sweep your vehicle away.
- Stay off of bridges over fast-moving water. Fast-moving water can wash bridges away without warning.
- If your vehicle is trapped in rapidly moving water, stay inside. If water is rising inside the vehicle, seek refuge on the roof.
- If trapped in a building, go to its highest level. **Do not climb into a closed attic.** You may become trapped by rising floodwater. Go on the roof only if necessary. Signal for help.

After a Flooding Event

- Listen to authorities for information and instructions.
- Avoid driving, except in emergencies.
- Be aware that snakes and other animals may be in your house. Wear heavy gloves and boots during clean up.
- Avoid wading in floodwater, which can contain dangerous debris and be contaminated. Underground or downed power lines can also electrically charge the water.
- Use a generator or other gasoline-powered machinery **ONLY** outdoors and away from windows.
- Be aware of the risk of electrocution. Do not touch electrical equipment if it is wet or if you are standing in water. If it is safe to do so, turn off the electricity to prevent electric shock.

Websites and Phone Numbers

- NWS Office Houston-Galveston, TX
weather.gov/hgx
- Harris Co. Office of Emergency Management
readyharris.org • 713-881-3100
- Galveston Co. Office of Emergency Management
gcoem.org • 281-309-5002
- Evacuation Information
txdot.gov • 1-800-452-9292
- American Red Cross
Redcross.org • 713-526-8300
- National Hurricane Center
nhc.noaa.gov





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After a Hurricane

- If forced into a public shelter, stay until told by local officials it's safe to return to your home.
- Watch **KPRC Channel 2 News**, log on to **click2houston.com** or the **KPRC Channel 2 Weather App** for advice and instructions about emergency medical, food and housing aid, and other forms of assistance.
- Do not drive unless it is absolutely necessary.
- Do not drink or prepare food with tap water until you are certain it's not contaminated. If your water supply is contaminated, check with local authorities or have your well water tested before using it straight from the tap. Until then, boil your water for at least one minute to disinfect it before using it for drinking or cooking.
- If you smell gas, leave your house and call your gas supplier.
- If structural damage has occurred to your home, turn off your utilities.
- Do not use electrical appliances that have water damage until they've been checked by a professional.
- Throw away any food items that you think may be spoiled or that may have come in contact with flood waters.
- Look for electrical system damage. Stay away from loose or dangling wires or power lines.
- Check for sewage and water line damage.
- Watch out for displaced animals, especially venomous snakes that may have come into buildings with floodwaters.
- Watch for loose plaster, drywall and ceilings that could fall.
- Take photos of any damage, both of buildings and their contents, for insurance claims. Make minor repairs to prevent further damage or looting, but do not make major repairs or dispose of damaged property until it has been inspected by an adjuster. Save all receipts.
- If your power has gone out, open refrigerators and freezers only when necessary. A freezer without power can keep food in satisfactory condition up to 48 hours if it is kept closed. Wrapping a freezer in blankets will help insulate it.
- Open windows and doors to ventilate and dry your home.
- Avoid disaster areas; stay away from floodwaters, flooded roads and washed-out bridges.
- Stay away from river banks, bayous and streams until all potential flooding has passed. Stay alert for extended rainfall and subsequent flooding, even after the storm has passed.
- Call your insurance company if you have vehicle or property damage to report.





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What Is Covered by Flood Insurance-and What Is Not

Physical damage to your building or personal property “directly” caused by a flood is covered by your flood insurance policy. For example, damages caused by a sewer backup are covered if the backup is a direct result of flooding. If the backup is caused by some other problem, the damages are not covered.

General Guidance on Flood Insurance Coverage

What is insured under BUILDING PROPERTY coverage:

- The insured building and its foundation.
- The electrical and plumbing systems.
- Central air-conditioning equipment, furnaces, and water heaters.
- Refrigerators, cooking stoves, and built-in appliances such as dishwashers.
- Permanently installed carpeting over an unfinished floor.
- Permanently installed paneling, wallboard, bookcases, and cabinets.
- Window blinds.
- A detached garage (up to 10 percent of Building Property coverage); detached buildings (other than detached garages) require a separate Building Property policy.
- Debris removal.

What is insured under PERSONAL PROPERTY coverage:

- Personal belongings such as clothing, furniture, and electronic equipment.
- Curtains.
- Portable and window air conditioners.
- Portable microwave ovens and portable dishwashers.
- Carpets not included in building coverage (see above).
- Clothes washers and dryers.
- Food freezers and the food in them.
- Certain valuable items such as original artwork and furs (up to \$2,500).

What is NOT insured under either Building Property or Personal Property coverage:

- Damage caused by moisture, mildew, or mold that could have been avoided by the property owner.
- Currency, precious metals, and valuable papers such as stock certificates.
- Property and belongings outside of a building such as trees, plants, wells, septic systems, walks, decks, patios, fences, sea walls, hot tubs, and swimming pools.
- Living expenses such as temporary housing.
- Financial losses caused by business interruption or loss of use of insured property.
- Most self-propelled vehicles such as cars, including their parts (see Section IV.5 in your policy).

General Guidance on Flood Insurance Coverage Limitations in Areas Below the Lowest Elevated Floor

What is insured under BUILDING PROPERTY coverage:

- Foundation walls, anchorage systems, and staircases attached to the building.
- Central air conditioners.
- Cisterns and the water in them.
- Drywall for walls and ceilings (in basements only).
- Non-flammable insulation (in basements only).
- Electrical outlets, switches, and circuit-breaker boxes.
- Fuel tanks and the fuel in them, solar energy equipment, and well water tanks and pumps.
- Furnaces, water heaters, heat pumps, and sump pumps.

What is insured under PERSONAL PROPERTY coverage:

- Washers and dryers.
- Portable and window air conditioners.
- Food freezers and the food in them (but not refrigerators).

What is NOT insured under either Building Property or Personal Property coverage:

- Paneling, bookcases, and window treatments such as curtains and blinds.
- Carpeting, area carpets, and other floor coverings such as tile.
- Drywall for walls and ceilings (below the lowest elevated floor).
- Walls and ceilings not made of drywall.
- In certain cases staircases and elevators.
- Most personal property such as clothing, electronic equipment, kitchen supplies, and furniture.





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Supplies To Have On Hand

- Battery-powered radio or television
- Flashlights
- Extra batteries
- NOAA All Hazards Radio
- Extra set of car keys
- 1 gallon of water per person per day for 14 days
- Car charger for your cell phone
- Three-day supply of canned food
- Manual can opener
- Plastic plates, cups, and utensils
- First-aid kit and first-aid manual
- Matches in a waterproof container
- Map of the area and phone numbers of places you could go
- Whistle and signal flares to signal for help
- Credit card and cash
- Personal hygiene items, including tooth brushes, toothpaste, soaps, hand sanitizer, paper towels, toilet paper, baby wipes, and vision care products
- Garbage bags
- Personal identification
- Pet carriers and other supplies
- Sentimental photos, albums and important papers
- Games, books, and puzzles



Pet Supplies

- Medications, medical records and a first-aid kit in a waterproof container.
- Leashes, harnesses and/or carriers (Pets may bite or try to run away while stressed.)
- Secure collars with up-to-date information. If you are evacuating to a shelter or other location, attach the phone number and location of your temporary address to the back of your pet's ID tags with temporary tags or adhesive tape and indelible ink.
- Current photos in case pets are lost.
- Food, water, bowls, cat litter pan and manual can opener.
- Information on feeding schedules, medical conditions, behavior problems and the name and number of your veterinarian in case you have to foster or board your pets.
- Pet beds and toys if easily transportable.



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When In Doubt... Throw It Out

Meat, poultry, fish and eggs should be kept refrigerated at or below 40 degrees fahrenheit and frozen food at or below zero degrees. When the power goes out, the refrigerator will keep food safely cold for about four hours if unopened, according to the USDA. A full freezer will maintain the temperature for about 48 hours (24 hours if half full) if the door is not opened.

Most recommendations on whether food is still safe to use are based on the temperature inside the refrigerator using a digital, dial or other type of thermometer. These recommendations are for food that has been in a refrigerator above 40 degrees for more than two hours.



The Saffir-Simpson Hurricane Wind Scale*

The Saffir-Simpson Hurricane Wind Scale is a 1-5 rating based on the hurricane's present intensity. This is used to give an estimate of the potential property damage expected along the coast from a hurricane landfall. Wind speed is the determining factor in the scale. Note that all winds are using the U.S. one minute average.

Category 1 Hurricane: Winds 74-95 mph (64-82 kt or 119-153 km/hr)

No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery and trees. Some damage to poorly constructed signs.

Category 2 Hurricane: Winds 96-110 mph (83-95 kt or 154-177 km/hr)

Some roofing material, door and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs and piers.

Category 3 Hurricane: Winds 111-129 mph (96-112 kt or 178-208 km/hr)

Some structural damage to small residences and utility buildings with a minor amount of curtain wall failures. Damage to shrubbery and trees, with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying escape routes are cut off by rising water 3-5 hours before arrival of the center of the hurricane. Flooding near the coast destroys smaller structures with larger structures damaged by battering from floating debris.

Category 4 Hurricane: Winds 130-156 mph (113-136 kt or 209-251 km/hr)

More extensive curtain wall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows.

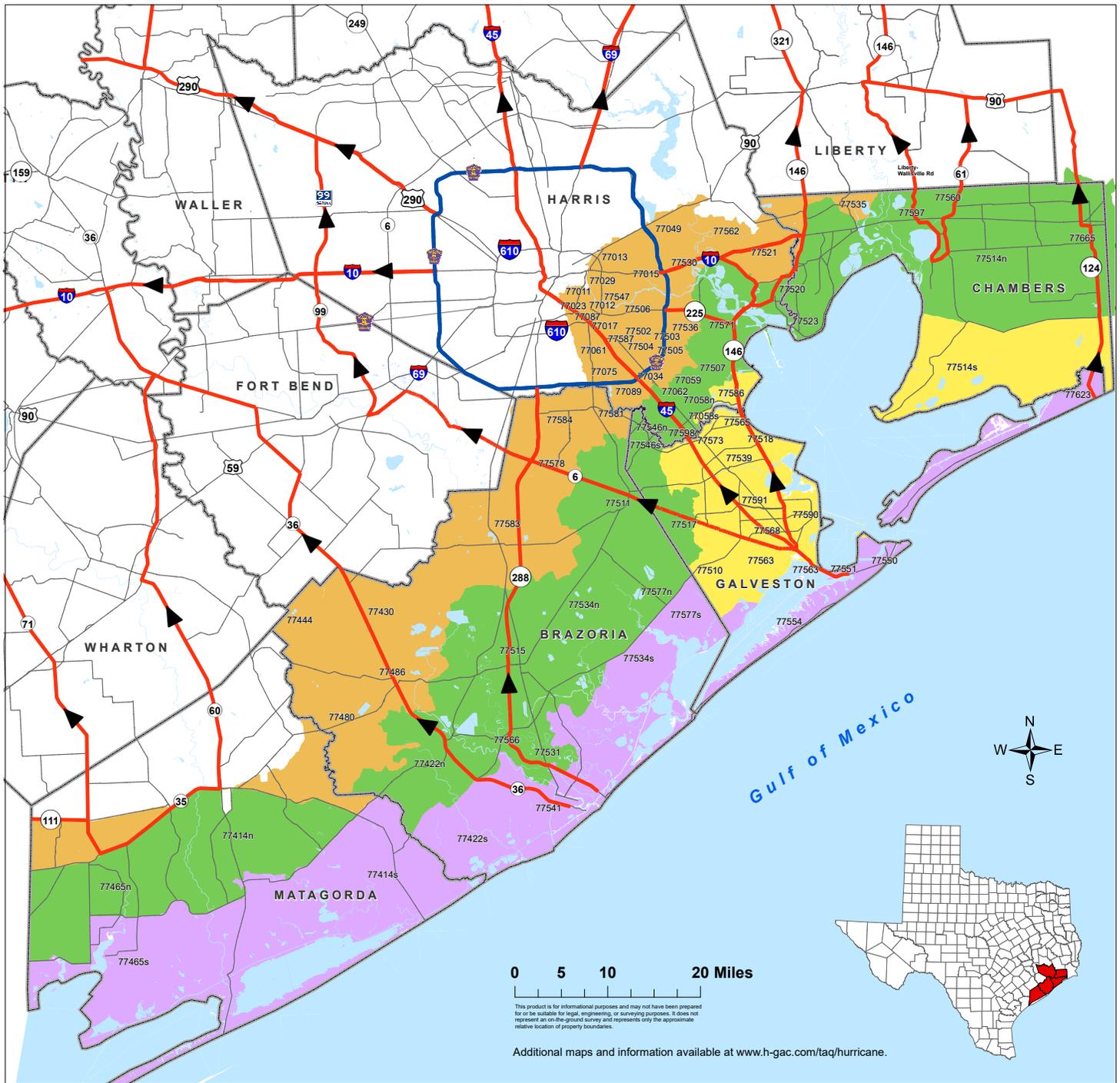
Category 5 Hurricane: Winds greater than 156 mph (137 kt or 252 km/hr)

Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage.

* From the National Hurricane Center of the National Weather Service



Hurricane & Flood SURVIVAL GUIDE



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

Additional maps and information available at www.h-gac.com/taq/hurricane.

Brazoria, Chambers, Galveston, Harris, and Matagorda Hurricane Evacuation Zip-Zones Coastal, A, B, C

Route Designation

- Evacuation Corridors
- Evacuation Connections
- Other Roads
- County Boundary



ZIP ZONE COASTAL				
77414s	77422s	77465s	77534s	77541
77550	77551	77554	77563	77577s
77623				
ZIP ZONE A				
77058s	77510	77514s	77518	77539
77563	77565	77568	77573	77586
77590	77591			
ZIP ZONE B				
77058n	77059	77062	77414n	77422n
77465n	77507	77511	77514n	77515
77517	77520	77523	77531	77534n
77546n	77546s	77560	77566	77571
77577n	77597	77598	77665	

ZIP ZONE C				
77011	77012	77013	77015	77017
77023	77029	77034	77049	77061
77075	77087	77089	77430	77444
77480	77486	77502	77503	77504
77505	77506	77521	77530	77535
77536	77547	77562	77578	77581
77583	77584	77587		

Some zip codes are split into north (n) and south (s) for evacuation purposes.

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 Houston-Galveston Area Council



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Tracking Chart

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