Texas Council Risk Management Fund

Hurricane Preparedness 2024

Hurricane season runs from June 1 through November 30 but that doesn't mean that's the only time hurricanes can occur. In April of 2017, Tropical Storm Arlene formed in the mid-Atlantic and had winds of 50 miles per hour before it dissipated. In 2021, Tropical Storm Ana formed on May 22 near Bermuda and lasted two days reaching tropical storm strength. No matter when a storm forms, early preparation is crucial to minimize the impact of tropical storms on people and property. This bulletin provides an overview of some of the key steps to consider before there is an imminent threat of a tropical storm making landfall on the Texas coast. It also provides a listing of important resources that can help your center in its disaster preparations as well as dealing with the aftermath of a storm.

Exposures

The 2023 Hurricane season was an above normal season with twenty named storms of which seven became hurricanes and three reached major hurricane status (National Hurricane Center). Major Hurricane Idalia made landfall in Florida as a Category 3 storm, the only hurricane to make landfall in the United States. It produced over 12 feet of storm surge with sustained winds of 100 knots. Idalia killed 12 people and did $3.6 billion in damages. The only storm to affect Texas was Tropical Storm Harold. It came ashore in Texas on South Padre Island as a minimal storm with 50 mile per hour winds, one to three feet of storm surge and a narrow band of six or seven inches of rain. NOAA recently changed its thirty-year period for average number of storms to 1991 through 2020. This raises the average number of named storms to 14 with seven hurricanes, three of which may be major hurricanes.

Current predictions by forecasters at Colorado State University for 2024 are shown in the table below. Colorado State shows a prediction of 23 named storms with 11 hurricanes and 5 reaching major storm status (Category 3 and above).

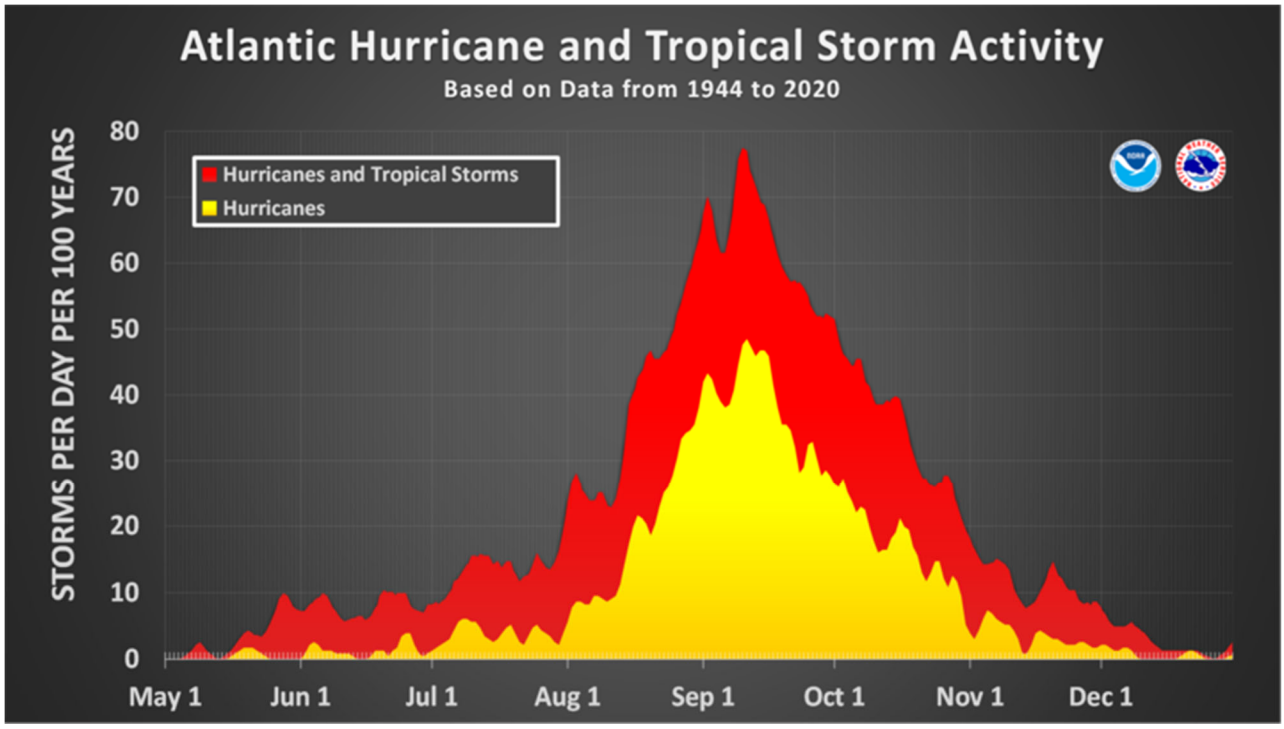
Colorado State University Forecast for 2024		
Forecast for:	Number	Average for 1991 - 2020
Named Storms	23	14.4
Named Storms Days	115	69.4
Hurricanes	11	7.2
Hurricane Days	45	27
Major Hurricanes	5	3.2
Major Hurricane Days	13	7.4

(CSU researchers predicting well above-average 2024 Atlantic hurricane season, tropical.colostate.edu)

Historical data from the National Hurricane Center indicates that Texas is second behind Florida in the number of direct hits by hurricanes since recordkeeping began in 1851.

Both states have long coastlines that increase the probability that tropical storm damage will occur in any given year. Between 1851 and 2023, Texas was hit by 70 hurricanes, of which 21 were classified as major storms (Category 3-5).

The month of September is by far the most active single month for hurricane strikes along the Gulf and Atlantic Coasts. The month of August has been the most active month for major hurricanes hitting Texas, however. The threat of major hurricanes begins to move from west to east during August, with major hurricanes beginning to favor the East Coast of the United States by late September.



Monitoring

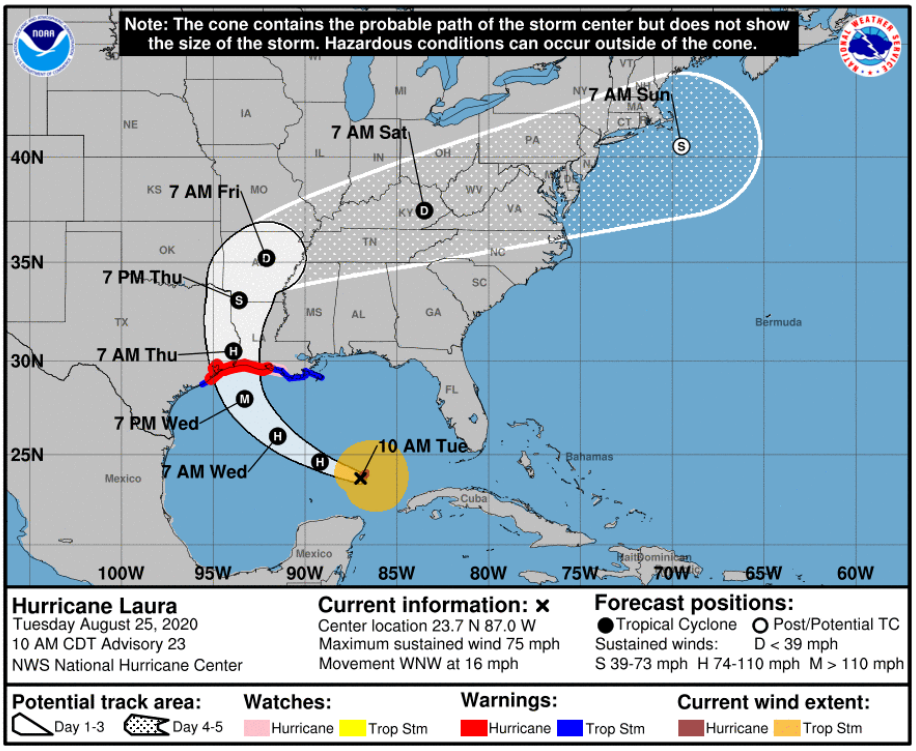
The National Weather Service provides current information on hurricanes through the National Hurricane Center's (NHC) web site for National Oceanic and Atmospheric Administration (www.nhc.noaa.gov). This includes the latest forecasts and advisories. The site also provides other tools to help track storms like storm plotting maps, a distance calculator using GPS coordinates and specific predictions of strength and landfall. Last year the NHC improved its "Hurricane Analysis and Prediction System" to increase the accuracy of intensity forecasts. The new system now gives more accurate forecasts of the eventual strength of a storm out to seven days, two days longer than before. Time is of the essence when a storm is approaching. Use it wisely.

NOAA's weather radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from a nearby National Weather Service office. NWR broadcasts warnings, watches, forecasts, and other hazard information 24 hours a day. Local media outlets and especially television have excellent meteorological teams that do a great job of keeping their local communities informed about the progress of

tropical storms. Local coverage can be crucial when life threatening conditions worsen as a storm nears the Texas coast.

Persons involved in emergency planning and preparations should be familiar with the terminology used by forecasters. For example:

- A “hurricane watch” means that a hurricane has become a threat to coastal areas. It indicates that hurricane conditions are possible within 36 hours.
- A “hurricane warning” means that hurricane force winds (74 miles per hour or greater) are expected within a specific coastal area within 24 hours.
- Saffir–Simpson hurricane scale is like the Enhanced Fujita scale used to rate tornados. Its metrics are listed in the table below.
- Storm surge is the combination of tide and the mound of water being pushed by winds toward the coast. It is the most damaging and deadly aspect of tropical storms.
- Above ground level (AGL) gives an easier way to understand the measure of storm surge by moving away from terms like Mean High Water Level.
- Storm quadrant is the area of the storm in quarters. The northeast quadrant of a storm usually causes the most damage because the forward motion of the storm combines with the counterclockwise circulating wind field to increase the intensity of wind and storm surge. This is also an area where the most tornados occur over land.
- Cone of Uncertainty is a graphic representation of the predicted path of the hurricane or tropical storm as it approaches land. It is based on observations and models produced by the National Hurricane Center. The actual track of the hurricane is likely to fall within the delineation of the cone.



Enhancements to the cone in 2024 will include the addition of storm warnings for inland areas. A hurricane's intensity, speed and direction can change rapidly, so the threat to areas of the coast can also change quickly. Therefore, it is necessary to monitor the National Hurricane Center's forecasts as well as local radio and television newscasts whenever a hurricane is in the Gulf of Mexico.

The intensity of a hurricane is measured by the Saffir-Simpson scale. The scale is based on sustained wind speeds, storm surge, and potential property damage. Hurricanes reaching Category 3 and above are classified as major hurricanes because of their potential for loss of life and extensive property damage.

Typical Characteristics of Hurricanes by Category			
Category	**Winds (mph)**	**Surge (feet)**	**Damage**
1	74-95	4 to 5	Minimal
2	96-110	6 to 8	Moderate
3	111-130	9 to 12	Extensive
4	131-155	13 to 18	Extreme
5	>155	>18	Catastrophic

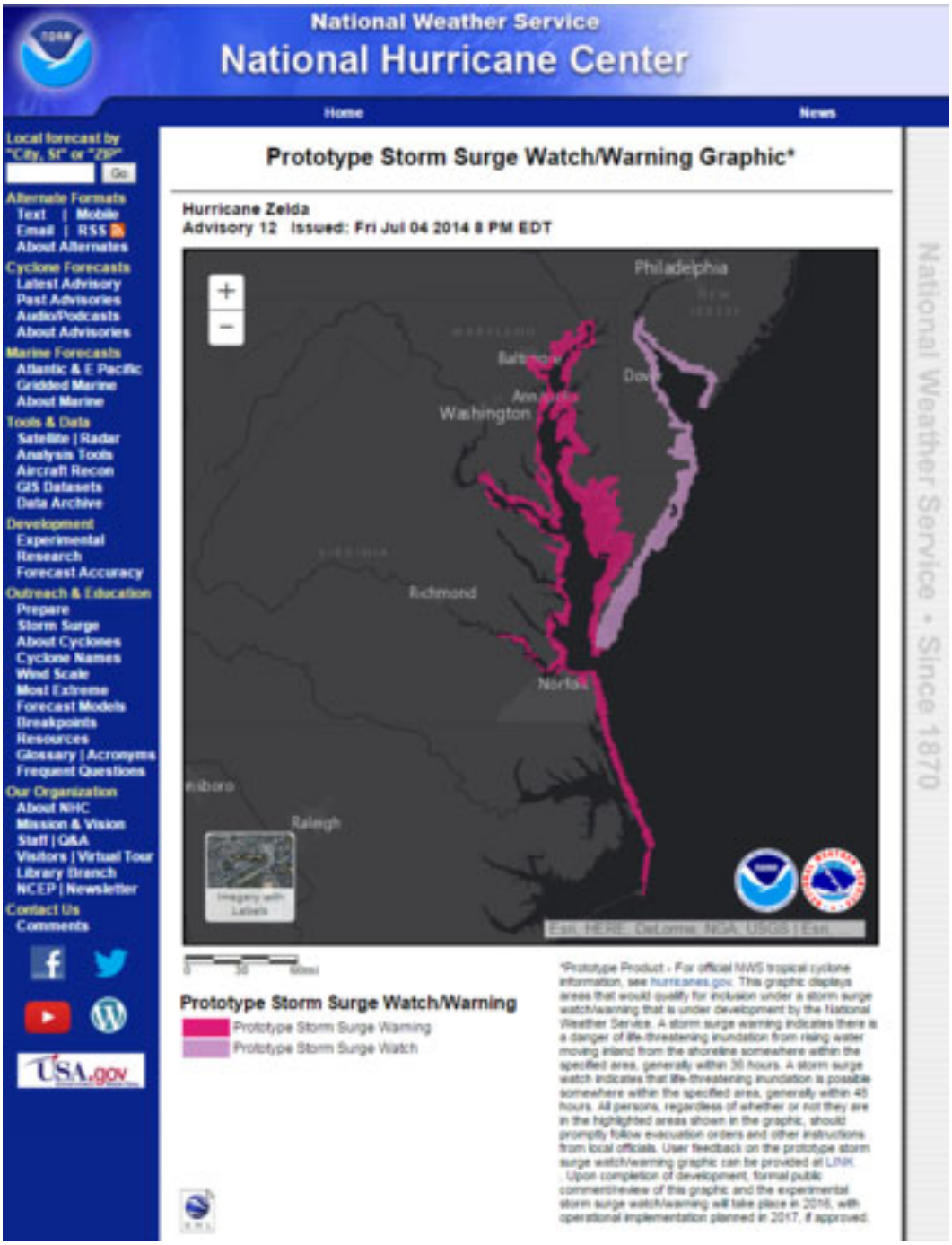
Source: NOAA

After the unusually large and destructive storms Ike and Sandy which only reached Category 2 status the National Hurricane Center began to think about factoring in storm surge as a more prominent element in their warnings. Although neither of these storms reached the coast at greater than Category 2 strength, their huge destructive force was equivalent to many stronger storms because of their size and storm surge. In response, the National Hurricane Center now reports more information about the height and areas expected to be impacted by storm surge, according to the National Weather Service.

Beginning with the 2017 hurricane season, the National Weather Service (NWS) will issue storm surge watches and warnings to highlight areas along the Gulf and Atlantic coasts of the continental United States that have a significant risk of life-threatening inundation from an ongoing or potential tropical cyclone, a subtropical cyclone, or a post-tropical cyclone.

The areas affected will be characterized by "breakpoints" like those used to describe the extent of coast likely to be impacted by a storm. For instance, the extent of Ike's impact was finally characterized as the Gulf coast between "Morgan City, Louisiana and Baffin Bay, Texas." NWS Hurricane Warning, Thursday, September 11, 2008 (a stretch of the Gulf coast of 500 miles.) Similar descriptions will now be used to describe impact areas of significant storm surge. It is noteworthy that Ike's storm surge of 18 feet places it in Category 4, similar to the storm surge caused by Laura in 2020 or Ian in 2022.

The National Hurricane Center will also be issuing storm surge watches and warnings illustrated on coastal maps to strongly emphasize the extreme danger posed by storm surge. An example of the new product is shown below:



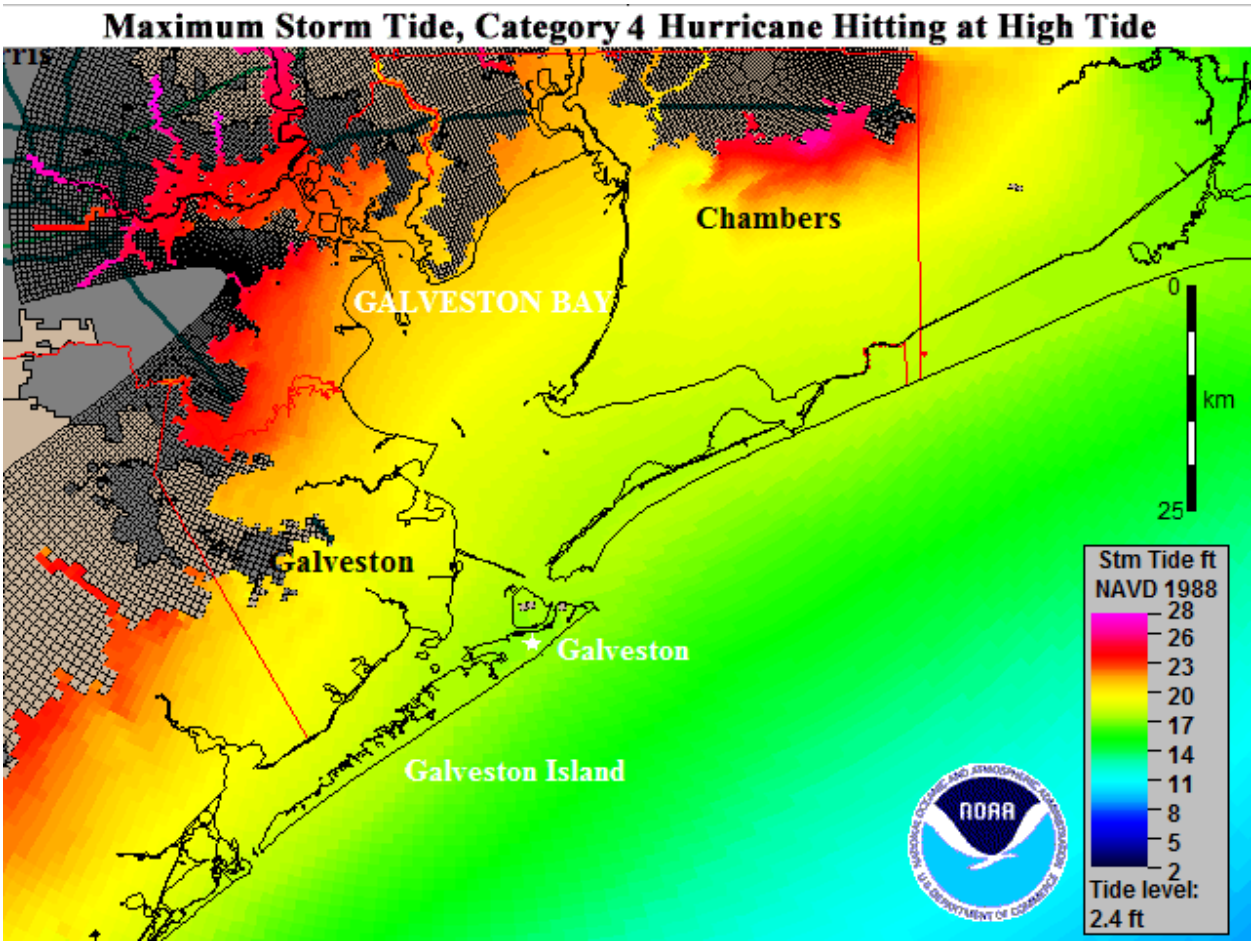
Storm Surge Warning

Storm Surge Watch

Another recent development is that the National Hurricane Service will now declare and track potential tropical cyclones from their earliest detection and development before they

become official “tropical storms.” The description of this term in the glossary at the end of this bulletin gives more information about this category which came into use in 2017.

Additional resources for monitoring the formation and path of tropical storms are available from some very good independent web sites. The following list gives a brief description of the site, some of the features, and its address:



Storm surge impact map for Galveston Bay area based on a Category 4 storm at high tide, NOAA

- Accuweather.com is good web site with a hurricane section with tracking and prediction capabilities (www.accuweather.com).

- The National Data Buoy Center is a specialized site that shows information from buoys tethered in the ocean, including the Gulf of Mexico. The buoys report real time wind and sea state information such as wind speed, direction, gusts, wave height, and barometric pressure. Information from buoys offshore Texas can give current information about storm conditions as a tropical storm approaches the coast (www.ndbc.noaa.gov).

- The Tropical Meteorology Project at Colorado State University makes annual predictions of tropical cyclone activity. This web site gives the predictions and reviews their historical accuracy (www.tropical.colostate.edu).

- Local radio and television stations often have competent and well-equipped meteorologists who do a very good job of predicting, warning, and tracking the storm as it approaches. They are familiar with local place names that may be important in identifying areas that should evacuate or take shelter.

Planning and Preparation

The following is an overview of suggested planning and preparation activities. This is intended as a general outline that can be used to begin a hurricane preparedness planning process or to evaluate an existing plan. Consult our website for information in Exhibits A, B and C that provide more detailed examples of actual procedures. Templates for Emergency Response Plans for Wind and Flood are located on the TCRMF website (tcrmf.org). Many of the recommendations for preparation and response are generic for any kind of disaster.

Steps to Take Before Hurricane Season

The most basic element is an emergency response plan that addresses issues such as preservation of human life, property, emergency response actions, evacuation procedures, disaster recovery and roles of key personnel. The response plan should be in writing, posted on your website and provided to employees along with periodic training on hurricane procedures. The plan should be as specific as possible regarding responsibilities, timing and needed actions or results. Some key elements that should be addressed in the planning process include:

Communications: The ability to communicate before, during and after an emergency is critical, so communication procedures should be planned in advance. Maintain a list of contacts with telephone numbers, cell phone numbers, e-mail addresses and home addresses. Supply cell phones or satellite phones to key personnel if necessary. Satellite phones may be the only communication system that works after a storm if cell towers are destroyed. Consider setting up a toll-free telephone number for employees and clients to call for messages. E-mail and social media such as Facebook, Instagram and X could also supplement a center's ability to communicate with staff and the public. Prepare for the possibility of complete disruption of landline or cell phone service for some period after the passage of a storm. Procedures and communication enhancements developed during the pandemic lock down can be implemented or maintained. Work from home and meeting software like TEAMS, Webex or Zoom may allow the center to continue services to some extent during and after the storm.

Data and records: The ability to resume business quickly after a storm depends on having reliable back-up systems for computer data and methods of preserving paper documents that have not been scanned into an electronic health records system yet. This may involve a secure on-site system or transfer of data and records to another location. Develop plans for safeguarding financial, personnel, client files and other records essential for

operations. Secure back-up server sites or cloud sites could also be used to store important data and programming. Don't forget historical documents that may go back to the first days of the center.

Buildings and facilities: Items such as roofs and freestanding structures are often most vulnerable to storms. Repairing or securing these items early may help prevent extensive damage later. Anything that is unsecured outside could become a destructive missile if high winds hit your location. Storm surge can also batter buildings and facilities with objects carried by the waves. Hail, tornados, and high wind associated with thunderstorms can be just as devastating though shorter in duration. Tornado activity is most frequent in the northeast quadrant of a storm.

Supplies and materials: Storm preparations may require the use of plywood or shutters to protect doors and windows. Some materials or equipment may need to be covered with tarpaulins or plastic sheets. Acquire these items early to ensure that they are available when a hurricane watch is announced. Emergency supplies such as flashlights, battery-powered radios, extra batteries, non-perishable food, drinking water, portable generators and fuel should also be on the list of items to have on hand. Make sure that fuel supplies are adequate for emergency generators necessary to keep vital facilities operating. Vehicles should also be filled with gasoline or diesel before the storm arrives as widespread power outages may make it impossible to refuel for a period after the storm passes. Safely store Jerry Cans of gasoline or diesel so they are accessible for use after the storm. After the storm, store plywood for possible future use.

A "best practice" for storm preparation is to have standby contracts, including mutual aid agreements, in place for additional pumps, generators and services like water and mold remediation. If arrangements are not made before a storm the center may stand in line with hundreds of other individuals and entities needing the same services.

Monitor and track: Any tropical disturbances that might approach the Gulf of Mexico should be monitored. Keep your staff aware of tropical activity in the Gulf of Mexico or western Atlantic that might enter the Gulf. When Gulf waters are very warm tropical systems can develop very quickly. Hurricane Humberto went from barely tropical depression status 60 miles from High Island to a Category 1 storm 15 miles from the coast in less than 24 hours. Factors like forward speed, outer rain bands, storm surge and high tides can close off evacuation routes long before the body of a storm comes ashore.

Also monitor local weather conditions for severe thunderstorm or tornado activity.

Financial Provisions: Paying staff and purchasing necessities after the storm should also be part of your plan. Widespread electrical outages could make ATMs inoperable so there should be some cash on hand to pay for supplies or lodging for staff who must return soon after the storm passes. Communications outages may make the use of credit or debit cards impossible. Other evacuated staff will also need to be paid if administrative facilities are closed for an extended period. Work with your bank to make sure direct deposit of payroll can be continued.

Physical Provisions: Essential Staff may need to ride out the storm to help keep vital services operating during and immediately after the storm. Provisioning for their safety should be accomplished long before Hurricane season. Some centers may have access to hardened sites that have been built to withstand hurricane force winds and be above storm surge elevations. If you don't have a hardened site, use a sturdy, well-protected building that can withstand high winds and is not in an area subject to storm surge. Check your location against the storm surge maps published by NOAA and illustrated above. Choose to co-locate with another entity or the Emergency Management system in your area if an adequate shelter is not available in your own schedule of facilities. Monitoring of the expected path of a storm will help you plan where to go to get out of the way of the most destructive quadrant of a storm.

Steps to Take When a Hurricane Watch is Issued

When a hurricane watch is issued for your area, it is time to activate the emergency response plan and to start taking steps to protect people and property. For example, non-essential personnel should be notified of evacuation plans. Preparations should also begin for protection of facilities and equipment. This should include moving vehicles or equipment inside a building or to a safe location, as well as securing items stored outside. If you have access to a parking garage, consider storing as many vehicles as possible above ground level to prevent flooding. Vehicles that will be used for evacuation or recovery efforts should be fully fueled at this time. Computer data should be backed up and records either protected or moved to a safe location.

This is also the time to make sure that emergency equipment is working and that there is an adequate supply of non-perishable food, first-aid supplies, batteries, and drinking water. Test cell and satellite phones at this time.

If prior arrangements with other centers to accept group home or crisis unit evacuees have not been made, now is the time to find centers that can help. In making arrangements, remember that hurricanes that strike the Texas Gulf coast usually move north and may impact other centers as they track away from the coast. In 2020 Hurricane Hanna came ashore on South Padre Island and headed northwest up the Rio Grande Valley. Wind gusts of over 50 miles per hour were recorded at McAllen Airport over 70 miles from landfall. Other storms moving through East Texas have brought hurricane and tropical storm force winds as far north as Lufkin, Tyler, and Longview. Hurricane Harvey hit the Texas coast as a Category 4 storm then moved north toward Bastrop, turned to the east and settled over southeast Texas where it dumped over 60 inches of rain. It even moved back over the Gulf for a couple of days where it restrengthened to Tropical Storm status before moving ashore again near Cameron, Louisiana. Harvey finally dissipated in Kentucky.

The effects of storm surge are dramatically illustrated by the following photographs of the Crystal Beach area on Bolivar Peninsula before and after Hurricane Ike.

Bolivar Peninsula near Crystal Beach before and after Ike, USGS

Steps to Take When a Hurricane Warning is Issued

Close monitoring of forecasts and advisories is critical when a hurricane warning has been issued. Building protection activities should be completed as soon as possible and remaining employees should be relocated to a safe area according to evacuation instructions issued by the responsible local emergency officials. Employees who are required to be on duty during the storm should be given time to see to their families and homes before they are required to be back at their posts.

Steps to Take After a Storm

When the storm is over, persons surveying the facilities for damage should use caution, especially in flooded areas. Flood waters are full of contaminants, biological hazards, displaced snakes, and other animals. Personnel should be trained to avoid hazardous situations such as fallen utility lines and flooded roadways. When conditions permit, a preliminary inspection should be made to assess the stability of flooded or wind-damaged buildings. If feasible, temporary repairs should be made to protect facilities and their contents from further damage. When initial damage assessments have been completed, employees should be notified of the condition of the facilities and the estimated schedule for returning to work. Employees entering a storm affected area after the storm has passed should carry identification credentials that will allow them to pass checkpoints and reach their offices and clinics. As the storm passes people should stay in shelter unless it becomes too dangerous because of destruction of the shelter or rapidly rising water. In most cases emergency responders are also sheltering and will not be able to offer assistance.

If you have portable generators that may provide power to some areas of your building, make sure they are outside and away from windows or doors that may allow fumes (carbon monoxide) into the building. Fuel for the generator should be safely stored and accessible after the storm passes.

Post-Storm Recovery

After an initial damage assessment has been made, the person responsible for the recovery efforts for the center should report the claim to the Fund using the appropriate Property Loss Notice that can be found on the Fund's website at www.tcrmf.org. The Fund's claims adjusters will set up claims for damaged property and arrange for inspections by the Fund's independent adjusters or by engineers. These inspections will provide a detailed assessment of damages and cost to repair or replace damaged property. Do not begin repairs other than protection from further damage until the adjusters have seen and evaluated the damaged property.

Also, report any workers' compensation injuries incurred by employees who are working before, during, or after the storm. Clean up and repair after the storm are particularly hazardous and may expose employees to different kinds of work than they normally do. Exposure to waterborne toxins, pathogens, animals, and snakes can also cause serious injuries. Proper PPE such as gloves, hard hats, rubber boots, waders and hazardous material suits may be required.

After any widespread disaster, numerous contractors may flood your area offering repairs. Some of these contractors may be reputable and capable but others may simply be out for your deposit before they disappear and never do the work they promise. Do not be stampeded. Consult with the Fund's adjusters about any offers you receive. Try to engage local contractors who have been in business in your community for years.

FEMA

Following a hurricane, recovery assistance is often available through the Federal Emergency Management Administration (FEMA). After a natural disaster or man-made event that causes extensive damage, FEMA coordinates with the state to implement the Public Assistance Grant Program. FEMA's Public Assistance Program provides supplemental federal disaster grant assistance for the repair of disaster-damaged, publicly owned facilities. To maximize recovery from this program it is essential that complete and accurate records are kept of all expenditures and staff time devoted to the recovery process. The following discussion of FEMA policies and procedures was prepared after the Winter Storm of 2021 but is applicable to any disaster that FEMA responds to. For information about Grants from FEMA, go to Get Assistance After a Disaster.

The Federal Emergency Management Agency wants people to know they are not the first to call after a disaster. They will tell you to call your insurance company first. Then they might be able to help you with some of the items insurance doesn't cover. In fact, the current FEMA website states:

If you sustained damage from snow and ice during the winter storms and you have insurance, contact your insurance company (in your case, the Fund) and then FEMA. Your insurance claim information is needed to determine eligibility for federal assistance.

This advice applies to individuals, businesses, and public entities. According to FEMA there is a step-by-step process for working with them after a disaster under the Individual Assistance (IA) program. Once a disaster has been declared and you experience damage to your center you can begin the application process by going online at www.disasterassistance.gov accessible 24 hours a day. (FEMA bulletin, March 11, 2021). You can also contact them at 1-800-621-3362. FEMA's involvement depends on a formal disaster declaration before they can begin offering assistance.

Through the "Public Assistance Program, (PA) FEMA provides supplemental Federal grant assistance for debris removal, emergency protective measures, and the restoration of disaster-damaged, publicly owned facilities." The key to an effective relationship with FEMA is documentation. The first thing you need to document is your claim to the Fund and any of our responses including claim denials, settlements of your claim or a delay letter that documents no official decision yet by your insurance company.

To initiate FEMA assistance, the first step is to file a property claim loss notice with the Fund by completing and returning the applicable Property Loss Notice which can be found on the Fund website at www.tcrmf.org. For prompt claim set-up all Loss Notices should be completed and emailed to 5856TCRMF@sedgwick.com. This email address is also at the top of each Loss Notice form.

After a center files a claim with the Fund, download a copy of FEMA's "Public Assistance Program and Policy Guide." This 277-page book documents the steps necessary to meet FEMA requirements when filing a "Request for Public Assistance. (RPA)" Any FEMA

awards will come through a “Recipient” or a “non-Federal entity that receives a Federal award directly from a Federal awarding agency to carry out an activity under a Federal program.” (Public Assistance Program and Policy Guide) This is usually a state or tribal government. In most cases the “recipient” in Texas is the Texas Division of Emergency Management (TDEM).

The Recipient’s first step in the award process requires the Recipient to complete an application for assistance and submit the required documentation before awards can be given. Elements the recipient must implement include an agreement with FEMA, a payment management system, an administrative plan, and a hazard mitigation plan. For a public entity seeking an award (the Applicant) go to the TDEM website for “Public Assistance Resource” to submit a request for public assistance (RPA). If your entity has an existing account from a previous disaster, you will use that to apply. If not, you can obtain one through the FEMA Grants Portal. That is also where the application for assistance is located.

The FEMA website has very good descriptions of the process public entities must use to get help. Start with fema.gov and go to the “Disasters and Assistance” section, then to “Assistance for Governments and Non-Profits Program Overview.” FEMA will continue to emphasize the need for effective documentation of all expenses associated with emergency recovery or long-term recovery projects. They will direct you to the Grants Portal to account for all activities associated with damage claims. Access requires a username and password. According to the website, Applicants can use the Public Assistance Grants Portal to:

- Register for and update an applicant profile
- Submit a Request for Public Assistance
- Upload project documentation

The best piece of advice offered by FEMA and our members who have dealt with FEMA is to document, document, document.
Source – FEMA website and bulletins, Texas Department of Emergency Management website

The Fund
Texas Council Risk Management Fund Loss Control Consultants take to the field immediately after a storm has passed to assess the immediate needs of members and offer assistance. They will also coordinate with claims staff so necessary resources can be marshaled for effective and rapid response to claims. They do not handle or report claims. Reporting the claim must be done by the member to insure complete and accurate information is conveyed in the claim report.

Another important element is communications with staff, clients, and their families. Logistics and to do lists cannot be allowed to overcome leadership’s availability to his or her staff. Conduct regular debriefings and briefings as needed because of changing conditions. (Also debrief after the emergency to learn what successes and failures you had during the event.) Maintain channels for communication with staff and clients during

the event. This may become very difficult if power is out and communications networks are damaged. Use local radio stations to help get your messages out.

RESOURCES

A. Planning and Preparation

1. National Oceanic and Atmospheric Administration (NOAA)
   National Hurricane Center—hurricane forecasts, advisories, and other information
   www.nhc.noaa.gov/
   National Weather Service—weather warnings, forecasts, and other information
   www.weather.gov/
2. FM Global
   https://www.fmglobal.com/research-and-resources/nathaz-toolkit
3. Federal Emergency Management Administration (FEMA)
   "Emergency Management Guide for Business and Industry: A Step-by-Step Approach to Emergency Planning, Response, and Recovery for Companies of All Sizes" (FEMA 141, 67 pages)
   https://www.fema.gov/pdf/library/bizindst.pdf
   FEMA disaster planning resources
   www.ready.gov/are-you-ready-guide

B. After the Storm

1. National Institute of Occupational Safety and Health (NIOSH)
   Hurricane Response: Storm and Flood Cleanup
   www.cdc.gov/niosh/topics/emres/flood.html
2. Centers for Disease Control and Prevention (CDC)
   Clean Up Safely After a Hurricane—Resources on specific cleanup topics
3. https://www.cdc.gov/natural-disasters/psa-toolkit/clean-up-safely-after-a-natural-disaster.html Consumer Product Safety Commission
   CPSC Safety Alert: Portable Generator Hazards
   www.cpsc.gov/s3fs-public/portgen_0.pdf
4. Occupational Safety and Health Administration (OSHA)
   Flood Cleanup Alerts
   https://www.osha.gov/sites/default/files/publications/OSHA_FS-3698.pdf
   Fact Sheets on Natural Disaster Recovery: Flood Cleanup
   https://www.fema.gov/press-release/20210318/fact-sheet-dont-wait-clean-debris-soon-possible
5. EPA Guidance Fact Sheet on "Returning to a Flooded Building"
   http: https://www.epa.gov/sites/default/files/2018-10/documents/flood-related_cleaning_contractor_report-final-508_8.31.18.pdf

C. FEMA Recovery Assistance

1. FEMA
   Public Assistance Program for the repair, replacement, or restoration of disaster-damaged, publicly owned facilities
   www.fema.gov/assistance/public

2. Governor's Division of Emergency Management
   Disaster recovery information and forms
   https://www.tdem.texas.gov/recovery/resources-for-texas-citizens

D. File a Claim

Download a property loss notice at www.tcrmf.org, complete, and send to 5856TCRMF@sedgwick.com. This email address is also at the top of each Loss Notice form.

Exhibit A – CHECKLIST OF GENERAL HURRICANE PREPARATIONS

A. Steps to Take Before Hurricane Season

1. Develop a written emergency response plan that incorporates a set of hurricane task assignments for your employees. Seek input regarding the various tasks to be accomplished from all the facilities or work groups for your center. Template Emergency Plans for wind and flood are located on the TCRMF website.
2. Outline the specific tasks that must be performed to protect your facilities during a hurricane and how they will be accomplished and who will perform them.
3. Determine which employees will be needed to carry out hurricane preparations. This may require all building and maintenance staff, for example.
4. Depending on the size of the organization it may be desirable to develop teams for many tasks. For example, establish a team to board up, a team to secure exterior equipment, etc. Employees who are asked to perform unfamiliar tasks may need some instruction in the tasks and any equipment that they may need to use. Safety is also an important issue to consider when asking employees to perform tasks they may not be familiar with.
5. Review and explain the hurricane response plan and task assignments at a training session. Familiarization training should be conducted at the beginning of every hurricane season and during the season if there is staff turnover. Update team assignments on a regular basis. A tabletop or more extensive drill using the scenario of an impending landfall of a hurricane would be an invaluable tool to evaluate the performance of your action plan.
6. Regularly update your list of employee telephone numbers and other information and make sure each department head or team leader has a hard copy in addition to any electronic source.

<u>Facility Preparation</u>

1. If your facilities are in a storm surge inundation zone or if they appear to be unsafe for occupancy during high winds, it may be necessary to completely evacuate them. Identify essential business records that should be removed and where you plan to take them. Back up computer records on disk, tape, cloud, or mirrored server and move the physical back-ups along with other essential records.
2. Review your list of major equipment and furnishings and determine which items need to be protected or removed. The basic choice is to try to protect the equipment and furnishings in place or move them out of the area that is at risk. In either case, determine what equipment and personnel will be needed to relocate these items. If you plan to protect equipment in-place, move it to well-protected inner rooms on floors above the level of potential flooding.
3. Identify outside equipment and furnishings that could be blown loose and become missiles in hurricane winds. Determine where they will be stored or how they will be secured in-place.
4. Strongly anchor any portable storage buildings.
5. Ensure rooftop equipment such as exhaust fans, wind turbines, and air conditioning units are securely fastened or strapped to the roof deck.

6. If the roof is a built-up roof with a gravel covering, remove loose gravel to preclude damage to unprotected windows at your building or others in the vicinity.
7. Ensure that designated employees know how to turn off the electrical power, water, gas, and other utility services.

Equipment

1. Obtain several battery-operated radios and spare batteries to ensure that you can receive emergency information. The radios should be capable of receiving NOAA weather radio frequencies. Most cell phones also have this capability. Cell phones need to be re-charged so some system needs to be available for this vital purpose independent of electric service to your facilities.
2. Obtain sufficient flashlights and other battery-powered lights to allow essential tasks to be performed in the event of a power outage. Ensure that an adequate supply of fresh batteries is on hand during the hurricane season.
3. Prepare a disaster supply kit and have it ready for emergencies. Contents should include items such as: non-perishable foods; water (one gallon per person per day); manual can opener and eating utensils; personal hygiene items such as soap, shampoo, toothbrush, toothpaste, and toilet paper; first aid kit; fire extinguisher; rainwear; insect repellent; gloves and blankets. Re-check the items in this kit as part of your preparations before hurricane season. Essential items may tend to disappear during the year.
4. Ensure you have the necessary equipment and supplies to board up windows and brace doors. Tools such as saws, drills and bits, hammers or nail guns, screwdrivers, and wrenches may be needed. Stock a supply of sandbags that are already filled for use where water may come into a building, (see below).
5. Obtain an ample supply of brooms, squeegees, mops, fans, wet vacs, and absorbents to remove water.
6. It doesn't take long for mold to form on wet surfaces such as drywall. Affected wall coverings should be removed soon after inundation to prevent mold.
7. An emergency generator could be useful to maintain lighting, recharge battery-powered equipment, and provide power for pumps and tools that may be needed for repairs after the hurricane passes.

Supplies

1. Use plywood (preferably 5/8-inch-thick exterior type) to cover large windows and glass doors. If possible, obtain plywood before hurricane season begins; precut it to size, and mark each panel to identify where it goes. Retain for future use after the storm unless it is damaged.
2. Obtain sufficient lumber (2 x 4's or larger) for bracing doors.
3. Use waterproof tape (duct tape or filament tape) to help protect smaller windows from wind gusts.
4. Obtain tie-down material (rope or chain) and anchors for outside equipment and furnishings that cannot be moved.
5. Obtain heavy duty plastic sheeting (4 mil thickness or greater) and a nail or staple gun for making temporary roof and window repairs. Plastic sheeting and blue tarps

can also be used to cover and protect equipment in the event of roof damage or leaks.

6. A supply of sandbags is helpful in preventing intrusion of water through doorways into low-lying sections of buildings. Sandbagging can be very time consuming. It takes two people about an hour to fill and place 100 sandbags to create a wall one foot high and twenty feet long.
7. Obtain the emergency supplies needed before the hurricane season starts. These items disappear rapidly from retail outlets when a hurricane threatens.

B. When a Hurricane Watch is Issued

1. Refer to the emergency response plan and review task assignments; begin pre-planned activities to prepare the facility and employees for the threat of a hurricane.
2. Suggested actions:
   a. Monitor radio and television newscasts and web sites for further information.
   b. Perform an inventory and verify the adequacy of essential emergency equipment and supplies.
   c. Begin to secure or store exterior equipment.
   d. Assemble equipment and materials to protect windows and other glass by boarding up; protect vulnerable doors by bracing and sandbagging.
   e. Fill vehicle fuel tanks and obtain fuel for the emergency generators.
   f. Begin storing water in containers for emergency use or obtain supplies of bottled water.
   g. Update the list of business records that may need to be removed or protected as well as computer data that will need to be backed up.
   h. Contact the centers that have agreed to shelter group home residents about your travel plans. Make sure your vehicles are adequately supplied and staffed for the transport. Residents should be ready to go and have clothing, mediations, and favorite items to take with them.

C. When a Hurricane Warning is Issued

1. In general, center facilities located in evacuation zones should be evacuated promptly when hurricane warnings are issued. Refer to the task assignments in the emergency response plan for a hurricane warning.
2. If evacuation of your area is ordered or recommended by local emergency officials:
   a. Close down all non-essential operations.
   b. Relocate vital records and valuables to a safe location out of the area being evacuated. Back up computerized records and protect the backup copy.
   c. Relocate expensive equipment out of the area or move it to the most heavily constructed area of the facility. In areas that could be subject to surge flooding, move equipment to floors above the possible surge level. Cover vulnerable equipment that cannot be moved with plastic sheeting to minimize the damage in the event of roof leaks or broken windows.
   d. Where possible, move furnishings away from exterior windows and doors and get as many items as possible off the floor.

e. Brace inward-opening doors and any rollup doors. Wedge sliding glass doors to prevent them from lifting in their tracks.
f. Close storm shutters if available. Close, lock, and board up large windows and glass doors. Board up or tape over smaller windows. Lower blinds and close curtains to help hold back flying debris.
g. Turn off electricity, gas, water, and other utility services.
h. Ensure that all personnel depart the facility before evacuation routes become impassable due to flooding or high winds that may occur long before landfall.
i. Pay attention to local law enforcement and evacuate before high winds close bridges or roads that can take you away from surge prone areas. If you don't leave when directed, you could be trapped by wind and rising water.

3. If local officials do not recommend evacuation of your area, your facility may still experience high winds, storm surge and heavy rain generated by a hurricane.
   a. Take appropriate protective measures to reduce the potential damage from wind and heavy rain as indicated in section C(2), above.
   b. Have building maintenance personnel on standby and materials ready for emergency repairs.
   c. Prepare for a possible loss of utilities for up to 72 hours. This means having battery powered lights, a battery powered radio, and supply of potable water, and if possible, an emergency generator. [Portable generators are useful when temporary power is needed, but they can also be hazardous. For safety tips on use of portable generators, see the Consumer Product Safety Commission Safety Alert listed in the "Resources" section of this Bulletin, page 17].
   d. If employees are sheltering in the facility during the storm, use interior rooms and corridors. In multi-story buildings, shelter people on the lower floors and avoid corner rooms. Avoid areas near exterior windows and glass doors. Arrangements for sleeping should include bedding.
   e. Continue to monitor radio or television for hurricane condition updates and emergency information.

D. Steps to Take After a Storm

1. If you evacuated your facility, you may have difficulty returning quickly because roads may be damaged, blocked by debris, or flooded in low lying areas. Do not drive through water.
2. Access to storm affected areas may be restricted by law enforcement. You will need some form of identification with name, photo, and the name of the center to get in.
3. Listen to your radio or television for instructions before attempting to return to your facility.

<u>Checking Your Facility</u>

1. Look for obvious structural damage to your buildings and foundations. If there is significant structural damage, do not attempt to enter the affected buildings.

2. Stay away from downed or dangling electrical power lines. Do not take lanterns, torches, or any kind of open flame into a damaged building—there may be leaking gas or other flammable materials present.
3. Make sure the electrical outlets and appliances throughout your facility are dry and free of water before turning the power back on.
4. Wear sturdy shoes when walking through debris and use gloves when moving it.
5. Be alert for snakes, insects, and other wild animals displaced by flooding that may have taken refuge around your facilities.
6. Use insect repellant and sunscreen.

E. Recovery Activity

1. Document the extent of damage to your facilities and their contents with photographs or video. Make temporary repairs to prevent additional damage. For example, cover broken windows and holes in the roof or walls to prevent further harm from the weather, but do not make extensive repairs until the property has been inspected by an independent adjuster sent out by the Fund. Do not allow anyone else claiming to be an independent adjuster to inspect your facilities. This will only delay the claims handling process.
2. Report storm damage to the Fund as soon as possible. Download a property loss notice at www.tcrmf.org, complete, and send to 5856TCRMF@sedgwick.com. This email address is also at the top of each Loss Notice form.

Exhibit B - GLOSSARY

AGL: Above Ground Level. A less confusing way of describing potential or actual storm surge and avoiding terms like Mean High Water level or references to high tide that many people may not understand.
Cone of Uncertainty: a graphic representation of the predicted path of the hurricane or tropical storm as it approaches land. It is based on observations and models produced by the NHC. The actual track of the hurricane is likely to fall within the delineation of the cone. Positions of the storm are noted by date.
Cyclone: An atmospheric closed circulation rotating counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.
Gale Warning: A warning of 1-minute sustained surface winds in the range 39 mph to 54 mph, either predicted or occurring, and not directly associated with tropical cyclones.
High Wind Warning: A high wind warning is defined as 1-minute average surface winds of 40 mph or greater lasting for 1 hour or longer, or winds gusting to 58 mph or greater regardless of duration that are either expected or observed over land.
Hurricane/Typhoon: A tropical cyclone in which the maximum sustained surface wind is 74 mph or more. The term “hurricane” is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term “typhoon” is used for Pacific tropical cyclones north of the Equator west of the International Dateline.
Hurricane Season: The portion of the year having a relatively high incidence of hurricanes. The hurricane season in the Atlantic, Caribbean, and Gulf of Mexico runs from June 1 to November 30.
Hurricane Warning: A warning that sustained winds 74 mph or higher associated with a hurricane are expected in a specified coastal area in 24 hours or less. A hurricane warning can remain in effect when dangerously high water or a combination of dangerously high water and exceptionally high waves continue, even though winds may be less than hurricane force.
Hurricane Watch: An announcement for specific coastal areas that hurricane conditions are possible within 36 hours.
Landfall: The intersection of the surface center of a tropical cyclone with a coastline. Because the strongest winds in a tropical cyclone are not located precisely at the center, it is possible for a cyclone's strongest winds to be experienced over land even if landfall has not yet occurred. Similarly, it is possible for a tropical cyclone to make landfall and have its strongest winds remain over the water.
Major Hurricane: A hurricane that is classified as Category 3 or higher with sustained winds over 115 mph and storm surge of 9 – 12 feet. (See Saffir-Simpson Table on page 5.)
Storm Surge: Essentially a huge pile of water created by the winds of a storm that accompanies the storm as it moves ashore. It acts like an inexorable high tide that floods low lying areas and moves up rivers, streams, and bayous. A storm surge of 18 feet generated by Ike in 2008 and Laura in 2020 would advance on shore until the elevation of the land exceeded 18 feet. Storm surge from Laura advanced 20 to 30 miles in some places. The storm surge also carries wave action far inland from the coast. Be aware of the elevation of your facilities.

Storm Warning: A warning of 1-minute sustained surface winds of 55 mph or greater, either predicted or occurring, not necessarily associated with tropical cyclones.
Tropical Cyclone: A cyclone, originating over tropical or subtropical waters, with organized deep convection and a closed surface wind circulation around a well-defined center. Once formed, a tropical cyclone is maintained by the extraction of heat energy from the ocean at high temperature and the movement of warmed air to the areas of low temperatures above the circulation in the upper troposphere.
Tropical Depression: A tropical cyclone in which the maximum sustained surface wind speed is 38 mph or less.
Tropical Disturbance: A discrete tropical weather system of apparently organized convection -- generally 100 to 300 nautical miles in diameter -- originating in the tropics or subtropics, having a non-frontal migratory character, and maintaining its identity for 24 hours or more. This is the precursor system that may develop further into a tropical depression or tropical storm. The National Hurricane Center also uses the term “Invest” to designate an area of disturbed weather that may develop tropical characteristics.
Tropical Storm: A tropical cyclone in which the maximum sustained surface wind speed ranges from 39 mph to 73 mph. Tropical storms often generate tremendous rainfall, wind gusts in excess of 73 mph, tornadoes, and storm surge.
Tropical Storm Warning: A warning that sustained winds within the range of 39 to 73 mph associated with a tropical cyclone is expected in a specified coastal area within 24 hours or less.
Tropical Storm Watch: An announcement for specific coastal areas that tropical storm conditions are possible within 36 hours.
Wind Shear: high altitude winds that blow a different direction from the circulating winds of a tropical storm. This wind can tear off the tops of the embedded thunderstorms and weaken the storm or prevent it from intensifying.

You may access the Fund website for the Fund’s Emergency Response Plans for Wind and Flood at these links:

Wind Emergency Response Plan (WERP)
Flood Emergency Response Plan (FERP)