

# Hurricane Plans for TexAQS/GoMACCS

## 2006 HURRICANE PLAN FOR PERSONNEL IN HOUSTON

The Houston area is considered a likely target for storms during the 2006 season. To prepare for hurricane evacuation, we will have three levels of alert: *Hurricane Watch, Hurricane Warning and Hurricane Evacuation.*

### A. Hurricane Watch

We will maintain contact with the National Weather Service and the National Hurricane Center (<http://www.nhc.noaa.gov/>). Preparations and alternatives for evasive action will be considered for tropical storms expected to pass within 300 miles of Ellington/Clear Lake. If a serious storm appears to be heading toward the Gulf Coastal region, a hurricane-watch notice will be posted on the study web site and call-in number. This should give you several days warning that an evacuation may be called. Be prepared! If the storm ceases to be a threat to the study region an all clear will be posted on the study web site and call-in number.

### B. Hurricane Warning

We will follow regional and local weather advisories. If a dangerous storm appears to be headed for the immediate area we will post a hurricane warning on the study web site and call in number. At this point an evacuation order may be posted within one to approximately twenty-four hours. Stay alert and stay in contact and be prepared to evacuate. Stay near your contact phone or carry and turn on you cell phone. An email alert will be also sent to every individual in the study.

### C. Hurricane Evacuation

A phone tree will be developed. This will be put in operation when a hurricane evacuation is deemed necessary. There will be four aircraft flight groups assigned. These will be the scientists that will go with the aircraft if they are ordered to redeploy to a location outside of the region of storm impact. These groups will follow the hurricane plans that are developed for those aircraft. The remainder of the tree will consist of groups of four people that will immediately gather at a prescribe location for evacuation by automobile. All personnel associated with our study and not assigned to aircraft evacuation will be assigned to a group of this tree.

1. **Be prepared to leave immediately (one hour notice) when called.**
2. **Identify essential items (papers, computer, limited-stay baggage) that you wish to take beforehand.**
3. **You will need the following supplies when you leave. Put them all together in a bag or other container in advance:**
  - a. Flashlight with extra batteries
  - b. First aid supplies
  - c. Prescription medications in their original bottle, plus copies of the prescriptions
  - d. Eyeglasses
  - e. Water (at least one gallon per person is recommended)
  - f. Map of the area
  - g. Driver's license or personal identification

### E. Evacuation Destination.

We expect that it will be very difficult to find lodging during an evacuation that will affect the large number of people that live in the Houston metropolitan area. We also expect that traffic congestion during a storm emergency will make travel out of Houston very difficult. For this reason we will investigate the possibility of temporary housing at University of Houston or Rice University provided the institutions lie outside the predicted storm surge.

**2006 HURRICANE PLAN NOAA Ship RONALD H. BROWN  
CHARLESTON, SC**

While in Charleston, RHB will follow the US Coast Guard hurricane plan for Naval Engineering Support Unit (NESU) Charleston. Previous RHB hurricane plans have called for immediate preparations for shifting to the Charleston NOAA facility, pier Quebec, if not putting out to sea. This shift was due to Quebec's design for heavier weather than either piers Papa or Romeo. However, RHB can no longer use Quebec, due to shoaling. The decision to put to sea will be made by the Commanding Officer, with advice from the Facilities Manager, NESU Charleston. To ensure compliance with this plan, RHB will be ready for sea as much as possible. A heavy weather/storm watch will be set to track any threatening storm and ready the ship for sea.

### **HOUSTON/GALVESTON, TX**

During the middle active portions of the hurricane season (7/27 through 9/19) the RHB will be transiting to/from and operating in the immediate vicinity of the Houston/Galveston, TX area. This entire operating area is considered a likely target for storms during the 2006 season. None of the ports enroute including those in the Gulf of Mexico are identified as hurricane havens for vessels such as the RHB by the Hurricane Havens Handbook for the North Atlantic Ocean (<http://pao.cnmoc.navy.mil/pao/Heavyweather/tr8203nc/0start.htm>). Most are generally classified as poor at best; for each one an early sortie to sea is recommended. Each has historically experienced at least one storm per year. This is, of course, true for Houston and Galveston. The Handbook's recommendation is that all ships in the Ports of Houston or Galveston sortie whenever a hurricane threatens the port. This "recommendation is complicated by the limited evasion routes available and the potentially short lead time that some storm threat scenarios offer. However, the potential for significant damage to vessels that remain in either port is significant, and outweighs the difficulties a sortie might present. It is the finding of this evaluation that no location in the Port of Houston can be recommended as an adequate mooring in a hurricane threat scenario if a timely sortie can be executed." Due to these circumstances the RHB will make an early determination if the threat of storm impact exists and leave the area for sea with sufficient time to safely evade at sea.

Additionally, due regard will be made of the plans and actions of other NOAA ships in the area. In particular, the RHB incorporates by reference the NOAA Ship GORDON GUNTER 2006 *Heavy Weather Guidelines* for contact information in regard to this area.

### **AT SEA**

A sortie to or remaining at sea during hurricane conditions can be dangerous and life-threatening. However, there is often no other choice. General rules for evasion or disengagement from storms are provided in Weather for the Mariner by William J. Kotsch, and the U.S. Naval Institute's Heavy Weather Guide. Additional guidance can be found in the Hurricane Havens Handbook for the North Atlantic Ocean (<http://pao.cnmoc.navy.mil/pao/Heavyweather/tr8203nc/0start.htm>)

The heavy weather bill for RHB is posted in Appendix F of the ship's Standing Orders. In addition to these rules, some specific actions include:

- A. The forecast movement of the storm will be carefully monitored via available forecast services from the earliest warnings or indications.
- B. Preparations and alternatives for evasive action will be considered for any tropical cyclone expected to pass within 300 nautical miles of RONALD H. BROWN. This distance may be extended depending on wind forecasts, and which quadrant the ship is in.
- C. Evasive action at sea will generally be taken early enough to maintain a distance of 300 nautical miles from the storm.
- D. Full regard shall be given to any diversion recommendations received from the Optimum Track Ship Routing System (OTSR) provided by NAVLANTMETOCEN or NAVPACMETOCEN.