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Hurricane Preparations for FSUCML

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The storm response plan outlines tasks to be initiated when FSU Coastal and Marine lab is threatened by a tropical system, storm, or frontal system. Since every weather system is unique, this plan is designed to be flexible and assure adequate time is provided before these events to ensure the safety for all FSUCML facilities and marine operations buildings, equipment, and personnel.

This document establishes planning and responses for science and operations based on the following variables:

- FSUCML proximity to the weather system
- National Hurricane Center (NHC) products and predictions
- FSUCML proximity to the predicted landfall
- Speed and direction of the system
- Maximum sustained winds and sea conditions

The plan outlines a progression of actions based on the National Hurricane Center's (NHC), a list of acronyms used in this document is provided at the end) issuance of storm watches and warnings, projected storm path and distance from land. The Assistant Director and the Boating Safety Officer (BSO), or their designee, are responsible for oversight and activation of this plan. During the event, the Assistant director will be in communication with the BSO, or her/his designee, who is responsible to maintain communication lines with the FSUCML Boating Safety Committee and provide regular reports on implementation of the plan.

Storm Tracking

Storm tracking starts whenever a threatening weather system is within 2500 nautical miles of FSUCML. The plan will be implemented in its entirety when the NHC first issues a tropical storm or hurricane warning. FSUCML's approach is intended to be more conservative than standard storm and or evacuation plans because of the extra time needed to communicate with all boaters and to secure or retrieve scientific equipment deployed in field settings, and to secure all vessels and related on-campus resources.

Hurricane / Tropical Storm Alerts:

- **Tropical Storm / Hurricane Watch** – An announcement that tropical storm or hurricane conditions are *possible* within the specified area. **Watches are issued 48 hours in advance of the anticipated onset of tropical storm force winds.**
- **Tropical Storm / Hurricane Warning** – An announcement that tropical storm or hurricane conditions are *expected* within the specified area. **Warnings are issued 36 hours in advance of the anticipated onset of tropical storm force winds.**
- **Storm Surge Watch** – The *possibility* of life-threatening inundation from rising water moving inland from the shoreline somewhere within the specified area, **generally within 48 hours.**
- **Storm Surge Warning** – The *danger* of life-threatening inundation from rising water moving inland from the shoreline somewhere within the specified area, **generally within 36 hours.**

Response Plan

The Response Plan uses a three-tiered scale based on storm characteristics to trigger FSUCML hurricane preparedness tasks: Storm Response Plan 3 (initial), 2, and 1 (final). These tasks are staged to advance preparations on a timeline for completion consistent with university-wide preparations and early enough for staff to complete their duties before the university closes. Because storms are hard to track, and their progress may speed up or slow down, the plan is designed to be flexible and responsive to changing conditions. If the storm moves away from the University, the decision to stand-down from the will be made by the Assistant Director and the BSO, or their designee. The BSO will consult with the Boating Safety Committee, as conditions permit, on decisions related to changes in preparation status and caution will be taken not to stand-down prematurely.

Vessel-Vehicle Storage

During Storm Response Plan stage 3 (see below), the Assistant Director will work with the BSO to assess which vehicles or vessels will be stored in the boat shed (Building 2219) or between the administration building (Building 462) and the boat shop (Building 406). Also, this is the time that the decision will be made for the R/V APALACHEE to stay at FSUCML or to leave for a different port. These decisions will be based on the circumstances of each storm, including its predicted intensity and storm surge.

Storage locations: FSUCML trucks and boats will be stowed either in the boat shed (Building 2219) on the west side of the basin or between administration (Building 462) and the boat shop

(Building 406). All vessels and vehicles will be topped off with fuel before being stowed. The vessels will have their plugs pulled and the bimini tops secured.

The Captain of the R/V APALCHEE will meet with the BSO and the Assistant Director to discuss and put into action the plan for that vessel. If the storm is projected to keep its course and make landfall at or around FSUCML as a category 3 hurricane or less, the R/V APALCHEE will be secured in the middle of the basin using heavy duty lines going to chains and four heavy-duty cleats installed at the four corners of the basin. The anchor of the R/V APALACHEE will be taken 250 ft into the navigational channel and set. If the storm is projected to be greater than a category 3 storm, the boat and captain and one other employee will leave for a safe port outside the storm surge and damaging winds.

Storm Classifications and Task List

This section provides storm classification guidance and associated task lists. All listed storm characteristics must be present for classification. Each step in the plan (plan 3 to 2, 2 to 1) begins at the time listed and is to be completed before the next step begins.

Storm Response Routine Readiness

The BSO will send weekly reminders of storm preparation to the boating community to encourage awareness of tropical systems in the area and anticipate early pre-landfall operations.

Storm Response Plan 3

Storm Characteristics:

- Storm within 2500 NM
- Predicted landfall within 120 hours
- FSUCML is inside NHC Forecast Track
- Frontal System with High Winds

Tasks

- At 120 hours, BSO alerts FSUCML's BSC, Dive Safety Officer and Assistant Director to begin actions;
- At 120 hours, alert all field working scientific personnel to initiate end of activities and transport boats to their designated storage location back to FSUCML;
- At 120 hours, instruct scientific staff to initiate plans for removal of sensitive equipment from remote off-campus locations;

- The RV APALACHEE is either moored on site or begins its journey to an alternate port;
- Notify all personnel using the seawater system that a storm is coming, and they will need to make plans for all live specimens;
- Ensure all generators, boats, and trucks are fueled;

Storm Response Plan 2

Storm Characteristics:

- Storm within 1500 NM
- Inside NHC Forecast Track
- Predicted landfall within 72 hours
- NHC Tropical Storm or Hurricane Watch in effect

Tasks

- Provide update to FSUCML BSC and DSO;
- Communicate with faculty and other visiting scientific personnel to confirm status of preparations and assist as needed;
- By the end of this period, there will be a complete shut-down of boating activities by securing all boats and equipment at their designated sites for the storm event;
- All FSCUML staff will assist in securing the campus using the check list found in Appendix 1;
- Drop the ramps going to the floating docks;
- By the end of this period securing of campus facilities, including temporary buildings, storage lockers, and the activation of storm shutters for facilities that are so equipped;

Storm Response Plan 1

Storm Characteristics:

- Storm within 1000 NM
- Inside NHC Forecast Track
- Expected landfall within 48 hours
- NHC Tropical Storm or Hurricane Warning in effect

Tasks

- Update FSUCML BSC Chair and DSO on storm preparations;

- At the beginning of this period, all preparations of equipment shall be complete: boating shall have ended, and all boats and vehicles secured in their designated storm storage location, all preparations of facilities completed;
- The scientific server will be shut down, computer CPU's are lifted off the floor to be placed on desks, and monitors are covered with plastic.
- All building AC thermostats are turned up to 85 degrees to save on generator fuel.
- At this stage activity will cease at the CML. All offices will be secured and research work will pause for the event.

Travel Restrictions

- Off campus personnel with FSUCML boats and or vehicles working in the Florida Keys or elsewhere must leave prior to bridge closures or when a tropical system is within 60 hours of their location and heading toward them.
- All movement of vessels via trailering will cease 48 hours prior to landfall, or when winds exceed 40 mph with 50 mph gusts
- On-call personnel will have an FSUCML vehicle with a Franklin County pass and will be able to travel to FSUCML after the weather event.
- All other staff or faculty shall wait for all-clear from the FSUCML Director or Assistant Director before returning to campus.

Glossary:

FSUCML: Florida State University Coastal and Marine Lab

BSC: Boating Safety Committee

BSO: Boating Safety Officer

DSO: Dive Safety Officer

FL DOT: Florida Department of Transportation

NHC: National Hurricane Center

NM: Nautical Miles

Appendix 1

Buildings Interior	Check	Initials
Turn HVAC up to 80		
Lift computer components off floor		
Cover computer components with plastic		
Contact IT regarding Sci. server		
Verify computer files are backing up to OneDrive		
Turn off battery backups		
Unplug all computer devices and battery backups		
Unplug all non-scientific refridgerators and leave doors open		
Close all office doors		
Close all lab doors		
Bridge Hatchery		
Secure all filters		
Secure all hoses		
Remove all valves that have quick disconnects		
Fill tanks with water		
Open sides and all doors		
Campus Outside		
Top off all vehicles and vessels		
Top off all generators		
Top off fuel reserves		
remove fire extinguishers from outside		
Shut off all gasoline and diesel pumps		
Secure fuel lines at the pumps		
Unplug extension cord near outside shower		
Pull all underwater traps along waterfront		
Clean loose items off Tiki and wooden deck		
Secure all equipment near dock		
Move tractor implements to an accessible area		
Move 2 oil spill containers inside boat shop		
Clean under loading dock		
Drop ramps to both floating docks		
Block floating dock access with rope		
Disconnect garden hoses or secure looped with ties		
Stow loose items around green storage shed		
Lock all storage sheds		
Stow shore power lines for Apalachee		
Clean and stow equipment between admin and shop		
Pull all plugs on boats		
Fill all tanks with water under 408		
Fill all tanks with water on mesocosm deck		
Program gate to remain shut for storm		
Switch all AC thermostats to 85F		

Remove shade cloth on tiki deck		
Move picnic tables from in front of dorm 5		
Lay down basketball goal		
Move main trash dumpster		
Move grill from dorm 5		
Pick up all loose debris around lab		
Move wet table from west side of basin		
Move picnic tables from outdoor classroom		
Close all shutters on 408		
Inspect fume hoods on roof of 408 for loose pieces		
Move firepit from dorm 5		
Top off fuel caddy for admin gen.		
Lock all kayaks to stand.		
Chock all trailer wheels		
Contact all researchers with animals on-site		
Secure all bimini tops		
Verify lids are secure in chemical/paint shed		
Verify that gutters and rain chutes are clear		