



Hurricane Preparedness for Boat Owners

The key to protecting your boat from hurricanes or any threatening severe weather is planning, preparation and timely action. If a boat causes damage during a natural disaster, the boat owner/operator may be held responsible. Normally the National Weather Service will issue a 24-hour warning; however, in some instances only a 12-hour warning will be given. Upon receiving this warning the boat owner/operator should immediately take precautionary measures to see that his/her boat is properly secured.

Each boat owner needs a plan unique to the type of boat, the local boating environment, the severe weather conditions and the characteristics of safe havens and/or plans for protection. The following preparation and precautionary suggestions are issued as guidelines to be used by the marine community. The following precautions and checklists are meant as guides only. It is stressed that following these guidelines does not necessarily exempt the owner/operator from being held responsible should his boat cause damage to another's property; nor will acquisition of required safety equipment and following the suggested safety procedures necessarily assure that no damage will occur to the boat.

General Precautions

Prior to the hurricane season, develop a detailed plan of action to secure your vessel in the marina, if permitted, to remove your boat from the threatened area, or to take your boat to a previously identified hurricane refuge. Specifically identify and assemble needed equipment and supplies.

Hurricane moorings should be located in advance. Permission should be obtained from appropriate persons. For keel boats, make certain there is enough water at low tide.

A practice run should be made to check accessibility, depth of water, bridges, location of aids and/or obstructions to navigation and locations to secure lines or drop anchors. According to a Florida statute beginning in 1993, drawbridges will not open for boats during evacuation procedures.

■ IFAS publication DPR-0718. Published June 1998, revised April 2004 by Don Jackson, Special Projects Coordinator, Florida Sea Grant College. It is part of The Disaster Handbook, a component of the IFAS Disaster Information Program. For complete list of program products, visit: <disaster.ifas.ufl.edu>.

■ General editor: Carol J. Lehtola, Agricultural and Biological Engineering Department, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, Florida 32611.

■ UF/IFAS Extension Publications are available on the Internet at: <edis.ifas.ufl.edu>.

■ The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other extension publications, contact your county Cooperative Extension service.

U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A. & M. University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Larry Arrington, Dean. (DH299)

Before a hurricane threatens, plan how you will remove valuable equipment from the boat. Determine how long it will take so you will have an accurate estimate of the time and work involved. After you have made anchoring or mooring provisions, remove all movable equipment such as canvas, sails, dinghies, radios, cushions, biminis and roller furling sails. Lash down everything you cannot remove, such as tillers, wheels, booms, etc. Seal all openings (use duct tape) to make the boat as watertight as possible. Make sure the electrical system is off unless you plan to leave the boat in the water. If the boat is not to remain in the water, remove the battery to eliminate the risk of fire or other damage.

Arrange for a reliable person to learn and carry out your hurricane plan if you are out of town during a hurricane or severe storm. Check your lease or rental agreement with the marina or storage area. Know your responsibilities and liabilities as well as those of the marina or storage area.

Consolidate all documents including insurance policies, a recent photograph or video tape of your vessel, boat registration, equipment inventory, lease agreement with the marina or storage area, and telephone numbers of appropriate authorities, such as the harbor master, Coast Guard, insurance agent, National Weather Service, etc. Keep the documents in your possession in a locked water-proof box. They may be needed when you return to check on your boat after the hurricane.

Maintain an inventory list of both the items removed and those left on board. Items of value should be marked so that they can be readily identified.

Trailerable Boats

Determine the requirement to load and haul your boat to a safer area. Be sure your tow vehicle is capable of properly moving the boat. Check the condition of your trailer; tires, bearings and axle. Too often a flat tire, frozen bearings or broken axle prevents an owner from moving a boat.

Once at a safe place, lash your boat to the trailer and place blocks between the frame members and the axle inside each wheel. Owners of lightweight boats may wish to consider letting out about half the air in the tires, then filling the boat one-third full of water to help hold it down. (The blocks will prevent damage to the springs from the additional weight of the water.) Consult with the manufacturer for the best procedure for your lightweight boat.

Secure your boat with heavy lines to fixed objects. Because hurricane winds rotate and change direction, try to pick a location that allows you to secure the boat from four directions. It can be tied down to screw anchors secured in the ground.

Non-Trailerable Boats in Dry Storage

Determine the safest obtainable haven for your boat and make arrangements to move your boat there. When selecting a safe location, be sure to consider whether storm surge could rise into the area. Wherever you choose to locate your boat for the duration of the hurricane, lash the boat to its cradle with heavy lines. Based on the weight of the boat, consider adding water to the bilge to help hold it down. Never leave a boat in davits or on a hydro-lift.

Non-Trailerable Boats in Wet Storage

The owner of a large boat, usually one moored in a berth, has three options. Each action requires a separate strategy. Another alternative, running from the storm, is not encouraged except for large commercial vessels.

- Secure the boat in the marina berth.

- Moor the boat in a previously identified safe area.
- Haul the boat.

Boats Remaining in Marina Berth

Double all lines. Rig crossing spring lines fore and aft. Attach lines high on pilings to allow for tidal rise or surge. Make sure lines will not slip off pilings. Inspect pilings and choose those that seem strongest and tallest and are properly installed. All storm lines should be at least one size larger than regular lines.

Cover all lines at rough points to prevent chafing. Wrap with tape, rags, rubber hoses, etc. Install fenders to protect the boat from rubbing against the pier, pilings and other boats.

Assess the attachment of primary cleats, winches and chocks. These should have substantial back plates and adequately sized stainless steel bolts.

Batteries should be fully charged and checked to ensure their capability to run automatic bilge pumps for the duration of the storm. Consider backup batteries. Turn off all other devices consuming electricity.

Do not stay aboard. First and foremost, safeguard human life. Winds during any hurricane can exceed 100 mph, and tornadoes are often associated with these storms. In addition, when winds and seas warrant, marine agencies remove their boats from service and will be unavailable to rescue foolish boaters.

Prior to the Hurricane Season

Make sure your vessel is in sound condition. This includes the hull, deck hardware, rigging, ground tackle, machinery and electronics. Absentee owners should arrange for a boatyard haulout or a supervised inspection of the vessel prior to, and in preparation for, the hurricane season. Make sure batteries are charged, bilge pumps are operable and all equipment is secured.

Inspect the vessel's deck hardware in light of planned mooring arrangements. Assess the size and structural attachment of the primary chocks, cleats, bits, bollards and winches. These high load/high stress points should have substantial backing plates and be secured with bolts of adequate size.

Avoid chafing of mooring lines. Chafing gear that has been proven successful is a double neoprene hose arrangement. Storm moorings, whether at dock or otherwise, should have doubled lines. The second set of lines should be a size larger than the normal lines, including spring lines at a dock.

Purchase necessary materials ahead of time, such as additional lengths of mooring lines, screw anchors, fenders, fender boards, chafing gear and anchors. These items may not be readily available during the hurricane season or just prior to a hurricane.

If the vessel is to be unattended during the hurricane season, make arrangements for the vessel to be hauled to a storage yard on its trailer, if trailerable. Arrangements for wet storage at a protected dock, mooring or marina is another alternative.

Make up an inventory of all vessel equipment. Note items to be removed from the vessel. Take photographs or videotapes of your vessel. Keep a copy of these documents on board and ashore in a safety deposit box or a locked water-proof box.

For wet berthing locations, ensure that seawalls and docks are sound, mooring bitts and cleats are secure, and that dock pilings and dolphins are in good condition. At private berthing and dock facilities in residential areas, check with neighbors and other vessel owners in the area. Coordinate safety and mooring arrangement plans. At marina facilities find out from the dock master or marina management personnel what their hurricane plans and/or procedures are in regard to vessels left at the facility.

Check with local marine and law enforcement organizations for local plans. This is especially important in boating centers of south Florida where access to inland protected rivers and canals is limited by bridges that may be permanently closed for land evacuation routes when a hurricane warning is issued.

If your plan calls for moving your vessel from its current berthing location to an inland waterway location, know your route, your vessel navigation requirements at different tides and the restrictions along the route such as bridges (auto and train) and channels. This is especially important for sailboats or large vessels.

Rehearse your planned vessel movement, including an actual visit to the alternate dock or hurricane mooring/anchoring location. If rental of a protected dock or slip space is required, make arrangements well ahead of time. Be sure that family or key crew members know your hurricane plan or arrangements and how to contact you or your designated representative or agent.

Hinge your plan on quick response. Moving a vessel, stripping sails and derigging, and anchoring in seas resulting from 35 mph winds is extremely difficult—impossible in 45 mph winds. Prepare your hurricane plan in writing and make copies of it. Keep a copy on the vessel and at home. Extra copies should also be made for marina or yacht club facilities which may require you to have one on file with them.

Make sure your insurance policy is current. Read the policy thoroughly. Your policy may contain helpful information relative to what the vessel owner should and should not do if there is storm or hurricane related loss or damage to the vessel. Understand the coverages, exclusions and your duties as a vessel owner.

Prior to the Hurricane

If your plan calls for moving your vessel, move it at least 48 to 72 hours before the hurricane is estimated to strike the area. This may be before a hurricane watch is issued. Make sure that:

- Fuel tanks are full.
- Fuel filters are clean.
- Batteries are charged.
- Bilges are clean.
- Cockpit drains are free and clear.
- Fire fighting equipment is in good order.
- Lifesaving equipment is in good condition, in place and readily accessible (these items will be secured later).

Remove and/or secure all deck gear, portable gear, radio antennas, outriggers, fighting chairs, deck boxes, bimini tops and side canvas/curtains, sails, booms, dorades, extra halyards, canister rafts, and dinghies. Make sure that you secure all hatches, ports, doors, lazarettes and sailboat rudders. (The dinghy may be required to take lines ashore.)

Enhance the watertight integrity of your boat, both above and below the water line. Seal windows, doors and hatches, if necessary, with duct tape. Shut sea cocks and cap off or plug unvalved through-hull fittings, such as sink drains.

If your vessel is moored at a dock on a canal, river, or in a marina near the ocean, it is possible that with an additional 5- to 10-foot or greater storm surge the vessel could take a beating against the dock or even impale itself on the pilings. The best offshore mooring location for a vessel to ride out a storm is in the center of a canal or narrow river where at least doubled mooring lines can be secured to both shores, port and starboard, fore and aft. Do not raft vessels together at moorings or docks, especially if larger and smaller vessels are involved. The probability of damage to the vessels is greater than if they are moored separately.

If the vessel must remain dockside at a private dock or marina, heavy duty fender boards (2x6) should be installed on a bare wood center piling to prevent damage. Lines should be doubled and even tripled where necessary to hold a vessel in the center of a berth or off seawall or dock pilings. Preventers should be installed at the top of the pilings so lines cannot slip off the top. Note that nylon line will stretch five to ten percent of its length.

During the Hurricane

Do not stay aboard any vessel during a hurricane. If you have taken all the preliminary precautions previously outlined, you have done all that can be done in anticipation of the storm. Stay in a protected and safe place. Attend to the safety of family, home and other personal property. Stay tuned to news broadcasts and weather advisories concerning the hurricane so that you will know when the danger has passed.

