

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 48-hour notice for a “Hurricane Watch” and 36 hour notice for a “Hurricane Warning” and imminent landfall. 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 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 no damage will occur to the boat.

Residents planning to remove their boats should do so following the declaration of a **Tropical Storm/Hurricane WATCH** for our area by the National Hurricane Center.

When the National Hurricane Center declares a **Tropical Storm/Hurricane WARNING** for our area, cross-tying in the canal system is allowed for our area.

Nature of Hurricanes

A hurricane is a violent tropical cyclone, with winds of 74 mph or more, which spiral counterclockwise around a relatively calm center known as the “eye” of the storm. At full strength, hurricane winds can gust to more than 200 mph as far out as 20 to 30 miles from the eye. Winds of 39 mph and greater can extend 200 miles or more in advance of the hurricane. Hurricane season is June through November. Damages from a hurricane can include any or all four damage elements produced by a hurricane: storm surge, wind, wave action, and rain.

Wind

Dangerous winds are common with hurricanes. Flying debris is one of the greatest threats caused by hurricane wind. The wind force from a hurricane will throw your boat into obstructions or propel objects into it. Wind will also suspend electrical power, phone lines, gas, fresh water supplies and transportation. Tornadoes are also possible as a spinoff from the hurricane’s winds.

Storm Surge

The greatest danger from hurricanes is from the storm surge. Storm surge is a rise in tide caused by the hurricane as it approaches the coast. It is higher than normal tide, especially in a particular area such as Charlotte Harbor. In Charlotte Harbor, a hurricane may cause a tidal height of 15 feet or more above normal. Hurricane conditions can cause a negative tide, as well, forcing the water level to go far below normal.

Wave Action

Wave action is another damaging effect on boats. Factors that determine the amount of wave action include the speed of the wind, the depth of the water and the amount of open water (i.e. fetch, which gives waves an opportunity to build).

Rain

Rainfall varies with the hurricane size, forward speed and other factors. More than 23 inches of rainfall in 24 hours has been recorded to be associated with some hurricanes. Possible hazards from excessive rainfall might

inhibit access to and from your boat refuge location, cause boat flooding, enhance currents, and increase volumes in canals and rivers.

Wind Classification

Hurricanes are classified by wind strength known as the **Saffir/Simpson Scale**:

- I 74-95 mph 4-5 ft.
- II 96-110 mph 6-8 ft.
- III 111-130 mph 9-12 ft.
- IV 131-155 mph 13-18 ft.
- V 156 + mph 19 + ft

Severe Weather Terms to Know:

Small Craft Warning

When a hurricane moves within a few hundred miles of the coast, small craft operators must take precautions and not venture out into the open ocean.

Tropical Storm Watch

Tropical storm conditions are possible in the specified area of the watch, usually within 36 hours.

Tropical Storm Warning

Tropical storm conditions are expected in the specified area of the warning, usually within 24 hours.

Hurricane Watch

Hurricane conditions are possible in the specified area of the watch, usually within 48 hours. During a hurricane watch, prepare to take immediate action to protect your family and property in case a hurricane warning is issued.

Hurricane Warning

Hurricane conditions are expected in the specified area of the warning, usually within 36 hours. Complete all storm preparations and evacuate if directed by local officials.

General Precautions

Prior to the hurricane season, develop a detailed plan of action to secure your vessel, 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.

Boats Remaining at Dock

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.

Ensure mooring bitts and cleats are secure, and 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.

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 essential 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 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 de-rigging, 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 overages, 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. 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.

Securing a Boat in the Canal

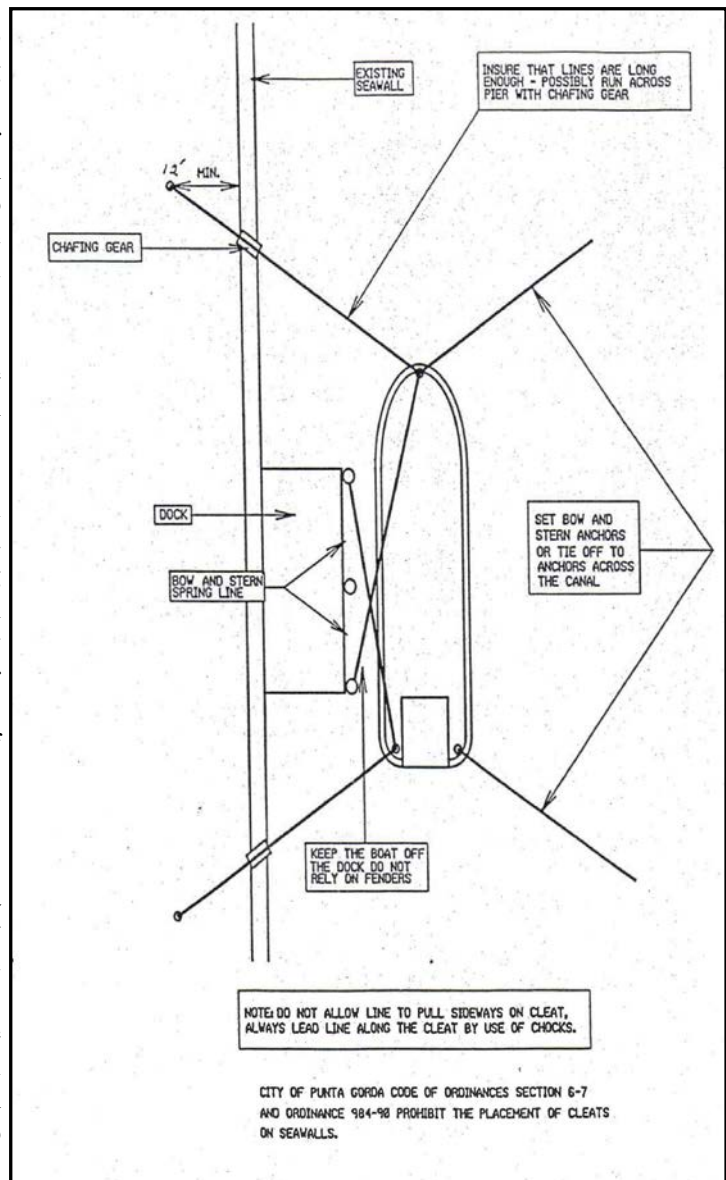
Plans for securing boats should be made early -- before or when a Tropical Storm/Hurricane Watch is announced and coordinated with neighbors if canals are to be blocked. If boats are to be moved through the canal system to outside hurricane moorings, it must be done before or during the Tropical Storm/Hurricane Watch time frame.

Should heavy downpours occur, it is wise to check bilge pumps to make sure water is being removed from the boat. If you have davits, it is recommended that boats be taken from the water and secured on such davits in the inboard position resting on the ground. It is important to remember boats on pilings or lifts may float free or exert a strain on the pilings or lifts as the water rises.

Upon declaration of a Tropical Storm/Hurricane **WARNING** for our area, securing of boats in the middle of the channel is permitted. It is recommended boat lines be secured to pilings and/or ground anchors on both sides of the canal with the ground anchors placed a minimum of 12 feet from the seawall and protected from chafing against the seawall. **DO NOT use the seawall for cleats** -- Section 6-7.b-2c prohibits any object or structure from being attached to or resting on or against the seawall or seawall cap, including cleats or anchors for the purpose of tying a vessel.

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 you will know when the danger has passed.



After the Hurricane

Residents are notified vessels should be cleared from canals and returned to normal moorings within 24 hours of Tropical Storm-force winds resolving (less than 39 MPH) or, as soon as can be safely accomplished.