



Rhode Island Sea Grant

# FACT SHEET

CIRCULAT  
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## Hurricane Plan For Boaters

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If your boat is moored, docked, or stored in a recreational harbor on the East Coast, the threat of hurricanes is a very real concern. Even a Category 1 storm, with winds between 74 to 95 mph and a storm surge 4 to 5 feet above normal, can have devastating effects in today's crowded harbors. These high-density areas can be disasters waiting to happen because of the close proximity of vessels to one another, faulty mooring maintenance, and lack of hurricane preparedness.

Although the harbor manager, harbormaster, or port director tries to ensure that boats in their harbor are safe, the final responsibility falls upon the boat owner. Owners are ultimately responsible for their vessel. In order to protect personal property and the vessels around them, owners must: (1) know their boat and their own skills; (2) know

the surrounding area; and (3) have a plan.

Creating a plan and being ready for a hurricane starts well in advance of the boating season. When vessel owners prepare their vessel for the boating season, they should also prepare a hurricane plan. This plan should review all the options available. Prior to the hurricane season, decisions should be made as to where the safest place for the vessel would be, the adequacy of the present mooring or dock, and what type of equipment is necessary to have on-board.

The following are options for safeguarding recreational boats. Only the vessel owner can decide which is best.

### OPTION I:

#### Get Out of the Water

If the vessel is small and easily trailered, it should be taken out of the water and moved to higher ground. This is the safest means for protecting a vessel. Getting a vessel out of the water, however, does not automatically mean that it is safe. It is only protected from the storm surge and wave action—rain and wind must still be considered. The best

solution is to store these vessels in a covered area, such as a garage.

If this is impossible, then all equipment, including oil and gas cans, personal flotation devices, oars, paddles, and other loose gear, should be removed and stored indoors. The trailer frame should be placed on blocks so that the frame will carry the boat's weight instead of the axle and springs.

The drain plug should be installed, and the boat should be partially filled with water if the hull is strong enough to withstand flooding (as are most fiberglass hulls).

If the hull is not strong enough to hold water (plywood- or wooden-planked hulls), use multiple anchor tie-downs to hold the boat and trailer in position, and remove the plug. Consider large tent pegs (2 feet) or house trailer tie-downs for this anchoring system.

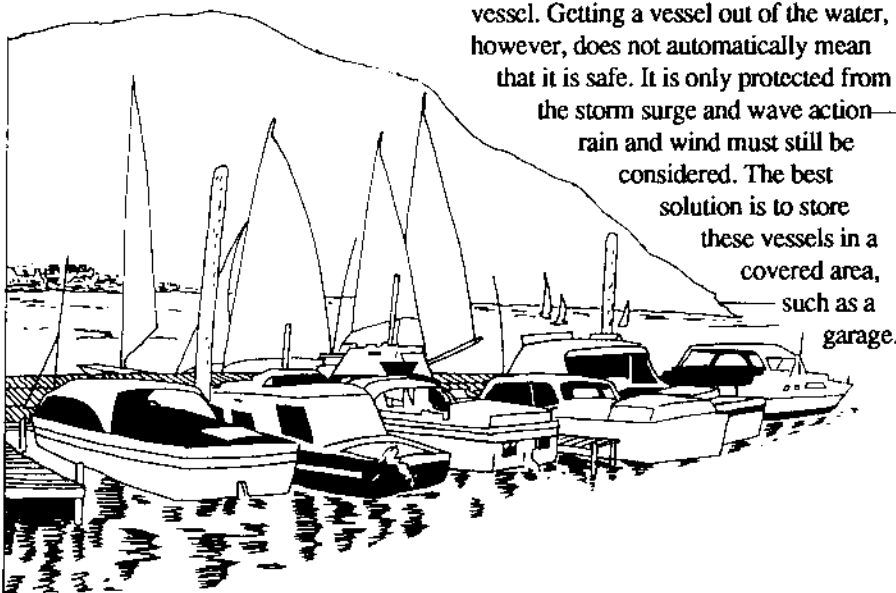
### OPTION II:

#### Stay in the Water

Staying in the water assumes that the vessel will either: (1) stay on the mooring dock; (2) go to a hurricane hole to anchor; or (3) head out to sea. Each of these options should be considered and accurate information collected well in advance of the hurricane season.

#### Dock

The decision to remain in port will probably depend on the intensity of the storm, the protection afforded by the harbor, and the condition of the dock or mooring. Staying at the dock may be the most hazardous location, even during moderate storms. If the decision is made to stay at the dock, then precautions need to be taken. Ensure that all lines are doubled and that chafing protection is in



place where dock lines pass through fairleads and chocks or over the side of the vessel. The best chafing protection is to cover lines with a rubber hose of the same diameter as your line, then tightly wind it with heavy fabric and fasten with a heavy commercial tape. A vessel tied to a dock should have ample fenders to provide protection to the hull. Dock lines should be attached to the pilings, rather than to the cleats or other fastenings on the dock. As flooding and the storm surge raises the water level, dock lines will move up the pilings.

## Mooring

Staying at the mooring may be the best option if you've ensured that the mooring tackle meets safety standards and has been inspected for wear. Any mooring gear that has worn by one-third of its original diameter should be considered unsafe.

One of the drawbacks of staying at the mooring, like staying at the dock, is the threat of a storm surge. If the water level rises even moderately above present conditions, the mooring scope may not provide sufficient holding power. This can be combatted by checking with expected storm-surge reports prior to the hurricane.

Regardless of whether you choose to stay at the dock or mooring, there are some fundamental steps that need to be taken. The first is to minimize windage, or the amount of surface area that the wind can act against. The more surface area for the wind to act on, the greater the strain on your vessel and the dock or mooring. If possible, remove sails entirely and stow them below decks, especially roller furler jibs. If it is not possible to remove sails, then it is imperative to fasten sails as securely as possible. Next, look around for other possible objects that could result in added windage, including flags and pennants, and store them properly. After you have minimized windage, make sure all loose items are stored away or tied down. Make sure that all funnels are removed and capped. Using

stiff lines from both sides, secure the tiller or wheels that operate the rudders; do not leave coils of line on the deck without proper stops or other means of rendering them immovable; and take out all the slack from any running lines on the deck or mast. Finally, you must face the possibility that your vessel, or a vessel nearby, may break loose. In order to minimize the impact of loose vessels in a crowded harbor, it is important that all protruding objects, such as anchors, are removed and stowed and that fenders are set on both sides, if at a mooring, or outside of a docked boat.

## Hurricane Holes

If your boat is in a crowded anchorage zone, you may consider moving your vessel to a "hurricane hole" or area for safe anchorage. Small soft-bottom coves that are less crowded are traditional spots. Before making such a move, consider the fact that hurricane holes can become crowded with vessels seeking refuge from impending storms. This instantly eliminates one of the reasons for going to such places. If you do decide to utilize a hurricane hole, consider the following: Hurricane holes should be located before the storm season by consulting an inland chart. It is best to look for a location that has deep water (you may have to arrive at low tide) and is close. The best spots have a route that is free of highway and railroad bridges and has good protection, such as a high bluff, an outer reef, or tall trees on as many sides as possible. It is a good idea to visit potential hurricane holes prior to the hurricane season, test the bottom, and note the surroundings. Multiple hurricane holes should be tested and several options should be available in the event of a hurricane.

Arrive at a hurricane hole at least 12 hours prior to landfall, and set your anchor with at least a 7-to-1 scope (i.e., in 30 feet of water, 210 feet of anchor line is needed). Nylon is the best anchor line because of its elasticity. Chafing protection should be used where the anchor line passes through the anchor chute chocks. Experts recommend that you leave your vessel by means of a

small boat once it is securely anchored, and that all automatic switches have been double-checked.

If you elect to stay aboard, stay in touch with all weather advisories. It is important to have stocked up on fuel, water, food, ice, clothing, a portable radio and flashlight with extra batteries, and any prescription medicines. It might be necessary to put the engine in gear during the worst part of the storm to ease the strain on the anchor line, as well as to have someone stay awake on anchor watch at all times to prevent the boat from drifting. To help maintain your position, use a spot light and/or radar at night. To see if water or debris is accumulating, and to make sure the pumps are operating, check the bilge regularly. Finally, traditional markers or navigation aids may have been rearranged by the storm. It is important, therefore, not to rely solely on those aids to guide you.

## Do Not Go Off Shore

Unless you are the owner of a large recreational vessel, 100 feet or greater, experts do not recommend that you go offshore. Hurricane conditions at sea are extremely violent. Going offshore should not be considered as a viable option for most recreational boaters. Remember, the objective is to minimize property loss without jeopardizing safety.

### For Further Reading:

"Hurricanes," Rhode Island Sea Grant, April 1992.

"How to Deal with the Aftermath of a Hurricane," Rhode Island Sea Grant, April 1992.

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