Severe weather preparedness

A boater's guide

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What you get with a Gallagher Skippers' Plan policy

- Sail anywhere in Canada and the northern U.S. states knowing you're covered. You can also extend your coverage to the southern U.S. states, Caribbean and Bahamas.
- From agreed value/replacement cost to actual cash value or liability only, you have coverage options to suit your needs.
- Coverages for your boating lifestyle are included such as accident benefits and medical, emergency towing and loss of use, personal effects, and more.
- Enjoy the benefits of Aviva Marine Assistance Program – get boating assistance and towing services, plus trip planning, boat value/resale assistance, and more.

You also have a choice of policy add-ons to protect you even more

- Guaranteed replacement cost is available for new boats where we'll replace your boat with a brand new model, even if it costs more.
- Increase your coverage amount for your personal effects.
- Increased Loss of Use – increase your coverage amount for the cost of a replacement boat, rental car, taxi, or public transit while your boat is being repaired.

5 leading causes of damage to your boat during a severe storm

Surge

Storm surge raises the water level far above normal high tide, cutting off roads, forcing evacuation, and lifting boats above their docks and pilings. Surge accounts for major damage to boats because it puts docks and dockline arrangements underwater as the boat tries to float above. Surge makes extra length and positioning of docklines critical.

Wind

Hurricanes or severe storms, of course, bring high winds. When wind speed doubles, the wind pressure quadruples. Put simply, when the wind speed increases, the damage it causes increases at a much greater rate. This is why it's so important to reduce your boat's windage (the amount of area your boat presents to the wind) by removing as much rigging, canvas, and deck gear as possible, and facing the bow toward the greatest exposure.

Waves

Waves have tremendous energy. In a hurricane, it is not unusual for steep, breaking waves 3′–6′ high to pound normally peaceful harbours.

Rainfall

Rainfall of 6 to 12 inches (15 to 30 cm) within 24 hours is normal during a hurricane or severe storm. Boats that are spared from high water and wind can still be sunk by the torrential rain. Cockpit decks are seldom 100% watertight, and the ability of a bilge pump and battery to handle rain accumulation is greatly overestimated. Deck drains and pump discharges located near the waterline can backflow when waves and rain put drains underwater.

Tornadoes

Tornadoes are sometimes spawned by hurricanes. Little can be done to protect a boat from a tornado. Therefore, this is a strong reason for you, your family, and your boat – if it is trailerable – to be far from

the coast when a hurricane makes landfall.

Where to keep your boat

Securing a boat ashore

For many boat owners and marinas, hauling boats is the foundation of their hurricane or severe storm plan. Smaller, open boats and high-performance powerboats with low freeboard must be pulled ashore if there is any chance of surviving a hurricane, even if they have self-bailing cockpits.

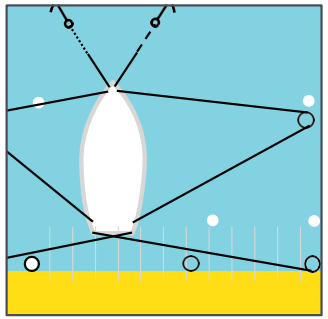
Windage is a consideration. Reduce windage as much as possible and make sure your boat has extra jack stands, at least three or four on each side for boats under 30′ and five or six for larger boats. The jack stands must be supported by plywood and chained together. To reduce windage, some ambitious boat owners have dug holes for their sailboat keels so that they present less windage. Smaller sailboats are laid on their sides.

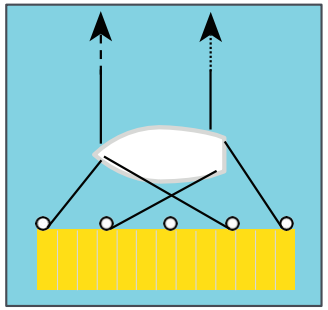
Securing a boat in the water

Any boat in the water should be secured in a snug harbour. Storm surge – high water – is a major consideration. A storm surge of 10′ or more is common in a hurricane, so a seawall or sandy spit that normally protects a harbour may not offer any protection. Also, rock-strewn harbours are not a good place to keep your boat in a storm. The rocks could be hard on the boat if it comes loose.

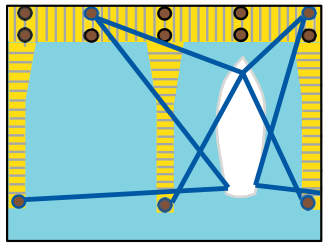
At a dock

Better dock lines are the key to survival: longer, larger, and protected against chafing. To prepare for a storm, your boat should resemble a spider suspended in the center of a large web. This web will allow the boat to rise on the surge, be bounced around by the storm, and still remain in position. For most boats, you'll want to arrange the bow toward open water or, lacking that, toward the least protected direction. This reduces windage. However if your boat has a swim platform, secure the boat with its stern toward open water.





Secure your dock lines to pilings that are in good condition. Wood is always better than concrete, but make sure the wood is not in poor repair or rotting. Concrete can snap in half if there is too much stress, and potentially land on the boat itself. Dock lines need to be kept fairly taut to avoid bashing into pilings. The key is to use as long a line as possible to accommodate storm surge. The rule of thumb is to use lines at least as long as your boat. This means you will most likely need to use a neighbours slips' pilings (and vice versa).



Lines need to be thick enough to withstand the extra chafing and stretching in a storm. Boats up to 25′ should use a minimum ½″ line and larger boats should use ¾″ – 1″ line. Chafe protectors should be on any part of the line that will come in contact with any piling or structure.

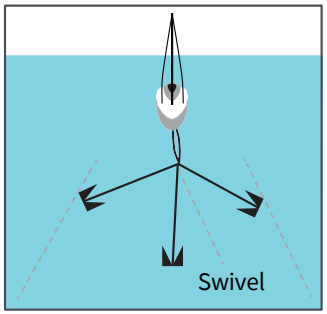
At mooring, at anchor, or both

Mooring in a sheltered location can also be a good alternative to exposed harbours and/or crowded marinas. A boat on a mooring can swing to face the wind, which reduces windage, and it can't be slammed into a dock unless the mooring or anchor drags.

The holding power of a mushroom or deadweight mooring anchor can be increased by extending the pennant's scope, which has as much to do with holding power of a mooring as the anchor itself. Studies have found that when the angle of pull increases to 25˚, a mooring's holding power begins to weaken precipitously. So in shallow harbours, where a scope of 3:1 can be had with 20′- 30′ of chain, the advantage of scope is all but eliminated in a storm by a combination of a large tidal surge and the high, pumping motion of waves. Note that in a crowded harbour, scope must be increased uniformly on all boats. You also need to inspect your mooring's chain in advance of storm season.

If you have any doubts about your mooring, the chances of it failing can be reduced significantly by using one or two additional storm anchors to enhance its holding power and to decrease the room your boat will need to swing.

At anchor



As with moorings, conventional storm anchors rely on scope – at least 10:1 if possible – to increase holding power. Heavy, oversize chain is also recommended; 50/50 is probably the optimum chain-to-line ratio. To absorb shock, an all-chain rode must have a snubber (usually nylon line) that is 30% of the rode's length. Without the nylon line, the surging waves and intense gusts are much more likely to yank the anchor out of the bottom. More and larger anchors (suited for the type of bottom) increase a boat's chances of staying put. Even more staying power can be had using the tandem anchoring technique – backing each anchor with a second anchor.

Using tandem anchors allows the first anchor to dig a furrow so that the second can dig in even deeper.

It is important to note that chafe gear is especially important on mooring and anchor lines. A boat on a mooring line is more exposed to wind and waves and is usually only secured by two lines. The lines will chafe through quickly if not protected.

Trailerable boats

Make sure your trailer is inspected regularly – it needs to be in good repair should a storm approach. If possible, put your boat in your garage versus your car. A boat is much more vulnerable to wind. If this impractical, keep your boat in a place that is protected from wind, falling branches etc.

Once your trailer is in a good position, let out some air in the tires and block the wheels. For lighter boats, try to add weight such as adding water to the boat. For boats with a stern drive, remove the drain plug. Secure the trailer to trees or with anchors and lash the boat down to the trailer frame.

Boats on davits and lifts

A davit or lift is the worst place you can have your boat stored during a hurricane. The likelihood of damage to boats on lifts is high – they can be blown off cradles, bunk boards can break and spill boats, boat can fill with water and collapse the lifts etc. If a boat must remain on a lift, remove the drain plug so the weight of the accumulated water will not collapse the lift.

Boats on high-rise storage racks

Older storage racks are more vulnerable than ones that were constructed in the past few years. On newer buildings, the supports will be free of rust and the "loosening" effect of previous storms. Newer ones are also more likely to have been built to a higher standard with more and heavier structural supports to withstand higher winds. If there is any doubt about the structure's ability to stand up to an approaching storm, boats on storage racks should be placed on trailers and taken elsewhere.

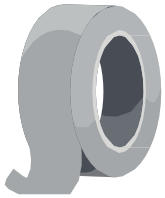
Critical points

Chafe gear

Nylon stretches and absorbs shock, which is good, but this stretching under tremendous loads also works the line against chocks and other contact points. Chafe protectors are essential on all lines: at a dock, at a mooring, or at anchor. At a dock, lines are liable to abrade against chocks, pilings and the dock itself. If your chocks are large enough, fit a second, larger-diameter hose around another hose that fits snugly to the line. Drill holes in both hoses, and use cord to tie them securely to the line.

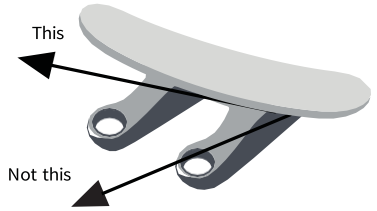
On moorings or at anchor, the line stretched over the edge of the rail can create sufficient heat to melt the line internally. Using hose to protect the line can encourage heat related failure by not allowing water to cool the nylon fibers. One solution is to mount the chocks directly at the rail so that the line won't be worked against a chock. Another is to use polyester (Dacron) line, which has much less stretch, but is far more chafe resistant than nylon. By using a polyester line from the cleat through the chock and then joining it with a nylon line (use two eyes) to the piling or mooring, you can get the best of both types of line—the chafe resistance of polyester and the stretch of nylon. Alternatively, you can use polyester sleeves, which will protect the nylon lines from chafe while also allowing water to reach the heated fibers.

If you need chafe protection quickly, use duct tape to secure several layers of heavy canvas to the lines. It isn't pretty, but works surprisingly well.

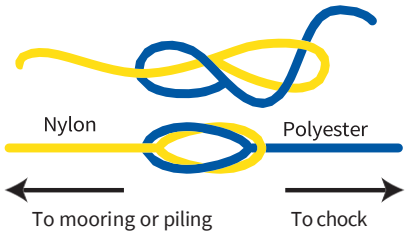


Cleats and chocks

Many boats have cleats and chocks that are woefully inadequate to stand up to a heavy storm. This is particularly evident when adding your heavier storm lines. Act ahead – add more and larger cleats and chocks now before there is an emergency.



Your cleats must also be able to handle heavy loads. Ensure they are backed with aluminum or stainless steel plates. Don't lead too many lines from a single cleat – two lines per cleat is the maximum. Also, make sure you don't lead lines perpendicular from a cleat. This could wrench the cleat from the dock in a storm.

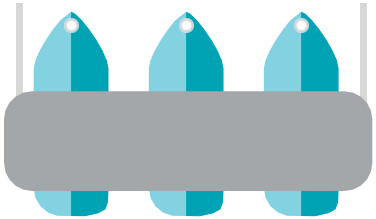


Reduce windage

Strip all loose gear that creates windage: canvas covers, bimini tops, outriggers, antennas, anchors, running rigging, booms, life rings, dinghies, portable davits, etc. Remove cowling ventilators and seal the openings. Anything on deck that can't be taken off should be lashed securely.

Unstepping masts on sailboats is strongly advised. If this is impractical, sails—particularly roller furling headsails—must be removed. All halyards should be run to the masthead and secured with a single line led to the rail. This reduces windage and minimizes flogging damage to the mast.

Fenders and fender boards



Fenders and fender boards won't compensate for a poor docking arrangement in a hurricane. However, when the boat is well secured, they may offer some additional protection. They can be effective at preventing "dock rash" but only if heavy boards are used with several large fenders. Using only two fenders at either end of a long board isn't effective; the fenders can be bounced out or the board may break in the middle.

Preventing theft

All electronics, personal belongings, and ship documents should be removed before a storm. Not only can they be damaged by all the water, they could be stolen by thieves who rummage the boatyards after a storm.

Preventing water damage

Remove cowl ventilators† and seal the openings. Use duct tape to cover instrument gauges. Duct tape should also be used around hatches, ports, lockers, etc. to prevent water damage below. (Some types of duct tape leave less gummy residue than others.) Close all but the cockpit drain seacocks and shove a plug into the engine's exhaust ports. If the boat does take on water, it will sit lower, and water could back up into the cylinders. (Remember to remove the plug before starting the engine once the storm has passed.)

†The cowl vent is a traditional boat ventilator. It is a vertical pipe with a bell-like horizontal opening, used to funnel air below deck into the cabin.

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