

Nawi Marina & Valaga Boatyard Severe Weather & Cyclone Action Plan



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1. Introduction.

The official cyclone season in Fiji is from the 1st of November through to the 30th of April the following year. However severe weather and cyclones can occur before or after these months.

The purpose of this Severe Weather/Cyclone plan is to minimize damage to vessels and property and above all to protect human life.

It is important that all boat owners and contractors are ready and prepared in the event that Vanua Levu, Nawi Marina and Valaga Boatyard is struck by severe weather or a cyclone.

The Management and team thank you in advance for your individual preparation and cooperation in ensuring that we all get through the cyclone season without loss of capital, property or more importantly, life.

2. Weather Information.

2.1. Cyclones.

Cyclones are dangerous because they produce destructive winds, heavy rainfall with flooding and damaging storm surges that can cause inundation of low-lying coastal areas. They can kill and are never to be underestimated.

Cyclones have wind gusts of more than 90 km/h around their centers and, in the most severe cyclones, gusts can exceed 280 km/h. These very destructive winds can cause extensive property damage and turn airborne debris into potentially lethal missiles. It is important to remember that, during the passage of the cyclone center or "eye", there will be a temporary lull in the wind, but that this will soon be replaced by destructive winds from another direction.

Heavy rainfall associated with the passage of a tropical cyclone can produce extensive flooding. This can cause further damage and death by drowning. The heavy rain can persist as the cyclone moves inland and decays, hence flooding due to a decayed cyclone can occur a long way from the tropical coast as the remains of a cyclone moves inland. A storm surge effect on high tide increases sea levels typically between 2 and 5 meters higher than a normal tide and can be 60 kilometers wide. It impacts clarity of the water, inundates low lying land and facilities, and may overturn marina structures. Occurrence at the same time as a high tide could be catastrophic on low-lying land, especially if accompanied by high wind.

2.2. METEOROLOGICAL WARNING SYSTEMS

The Nadi Tropical Cyclone Warning Centre (TCWC) will issue Special Weather Bulletin appropriate to the given threat, ranging from cyclone alert for the initial information stage to cyclone warning for the highest level of threat.

CYCLONE ALERT

Issued every six hours.

Issued whenever there is a significant probability of a tropical cyclone developing and moving into the Fiji area. Gale force winds are not expected within 24 hours but may occur within 48 hours.

CYCLONE WARNING

Issued every three hours.

Issued when there is an imminent threat of a tropical cyclone affecting the Fiji area or parts thereof. Such warnings will contain information pertaining to the predicted wind strengths that could be expected in specific areas. Such wind strengths are detailed in the following categories.

2.3. Weather Information by Internet

Joint Typhoon Warning Centre

www.usno.navy.mil/JTWC/

Passage Weather

passageweather.com/

Windyty Wind Forecast

www.windyty.com

Metvuw

metvuw.com/

Fiji Meteorological Service

www.met.gov.fj

2.4. Weather Information by Telephone

Cyclone alerts and warnings are available on automatic answering telephone 3301642 and 673 6081 (marine). Tropical cyclone alerts are updated every 6 hours and warnings every 3 hours until cancelled.

2.5. Weather Information by Radio

(Generally, every hour on the hour)

Gold FM 100.0MHz

Legend FM 106.4MHz

3. Announcements and Communication.

The Marina and Boatyard Manager will issue a Cyclone Warning Notice to contractors and vessel owners in support of the local announcements on commercial radio stations Voir TV, via email 5 days prior to the possible cyclone arrival. Once this warning has been sent out, the marina and boatyard team and contractors along with any boat owners will start preparing for the arrival of the cyclone. The managers will update everyone via email on the trajectory of the cyclone and or if it is still a threat to Nawi Marin and Valaga Boatyard. Upon arrival of the cyclone communications will remain via email and a WhatsApp group. If the internet is interrupted, then the marina and boatyard staff will communicate/standby on VHF (Ch 16 and 06).

4 INWATER Vessel Action

The following action should be taken in the event of a severe weather occurrence:

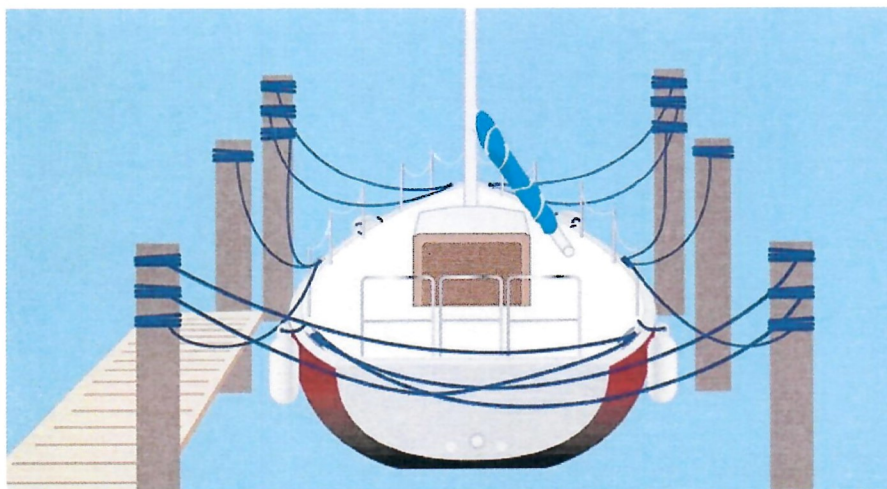
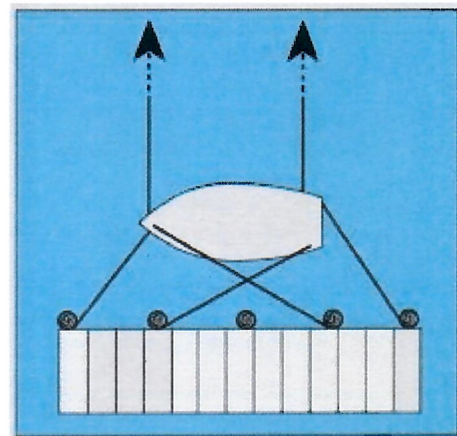
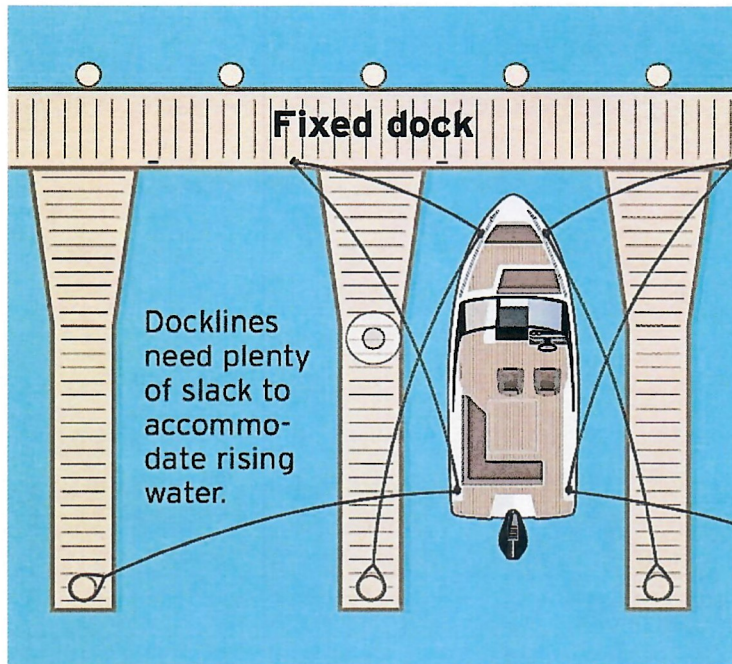
1. All vessels must **moor stern-to**
2. Offset your **mast and spreader bars** with those of the yachts next to you to reduce the risk of entanglement. This will require that some vessels are further forward than others.
3. Check your boat is in **good condition**.
4. Prepare an **emergency kit** of extra lines, torches, tape, pumps, buckets and tools.
5. Check your lines. **Double up stern mooring lines. Additional lines should be put in place with proper chafe protection.**

6. Ensure all lines are adjustable from your vessel as there may be large variations in tidal ranges requiring lines to be bought in or loosened as necessary.
7. Remember, man-made synthetic fibers such as polyethylene, polypropylene and polyester deteriorate in sunlight. The **deterioration** is usually unnoticeable until the rope is subjected to stress. If in doubt replace mooring lines
8. **Check all boat cleats.** If there is any doubt, secure additional lines to other structural members and fittings e.g. posts, etc.
9. Remember that **an unused line is a wasted line.** If you have lines in your hold, ask yourself why you are not using them. This rope could have made all the difference.
10. **Reduce wind loadings to a minimum.** Remove all excess deck gear including lifebuoys, Biminis, etc. and stow below.
11. **All dinghies and tenders** must be stowed and lashed onboard, secured to davits (with bungs removed) or moved to the hardstand and pegged and secured with water ballast. Under no circumstances can dinghies or tenders be kept in the water
12. **Tie off** radar antenna.
13. Tie off **wind generators** with rope. Do not just stop them mechanically.
14. Remove flimsy or hinged **solar panels** if not securely fastened and store below.
15. Ensure all **self-draining** openings are clear and working.
16. **Disconnect** all shore power leads and water hoses.
17. Remove all **exposed sails** from booms and luff spars.
18. **All fenders must be deployed** and tied under the vessel to prevent "popping" up between the vessels. Absolute minimum 6 fenders required per vessel. Very good additional fendering options are vehicle tires covered in canvas or tarpaulin. These are generally heavy and because they are not filled with air, cannot burst. However, do not forget to cover these as they can mark your vessel and your neighbor's vessel.
19. **Ready** spare fenders and lines in case of unexpected situations.
20. Ensure **the engine is serviceable** and batteries are fully charged.
21. Check all **bilge pumps** are operational.
22. Secure all **hatches** and openings.
23. **Communication** should be checked on VHF Channels 16 and 06.
24. If you must remain aboard your vessel in the marina, it is mandatory you **advise the Marina Management** of your presence aboard and your intentions.
25. Larger vessels wishing to leave the marina to seek shelter at another location must do so **before conditions deteriorate.** You are reminded that severe conditions make maneuvering dangerous.
26. **Work together.** Your main concern should be your vessel and then the vessels surrounding you. Some vessels may be unmanned. While all precautions should have been taken to secure their vessel before they left, it is important to check their vessel for your own safety.
27. All non-essential crew (and children) should **leave the Marina** as the cyclone's arrival becomes imminent.
28. Verify your **contact arrangements** are correctly recorded at the Marina office.
29. Check your **insurance** cover.

GROUND AND FUEL PREPARATION

- shut off gas cylinders and supply hot water systems and kitchens.
- Turn off marina power and water to all piers and buildings
- Turn off and isolate the fuel system
 - Disconnect any fuel hose that is lying around or loose.
 - Fuel attendant is to double check and make sure fuel area will be safe during cyclone period
- Secure and stow loose items.

recommended tying patterns –



- WARNING -

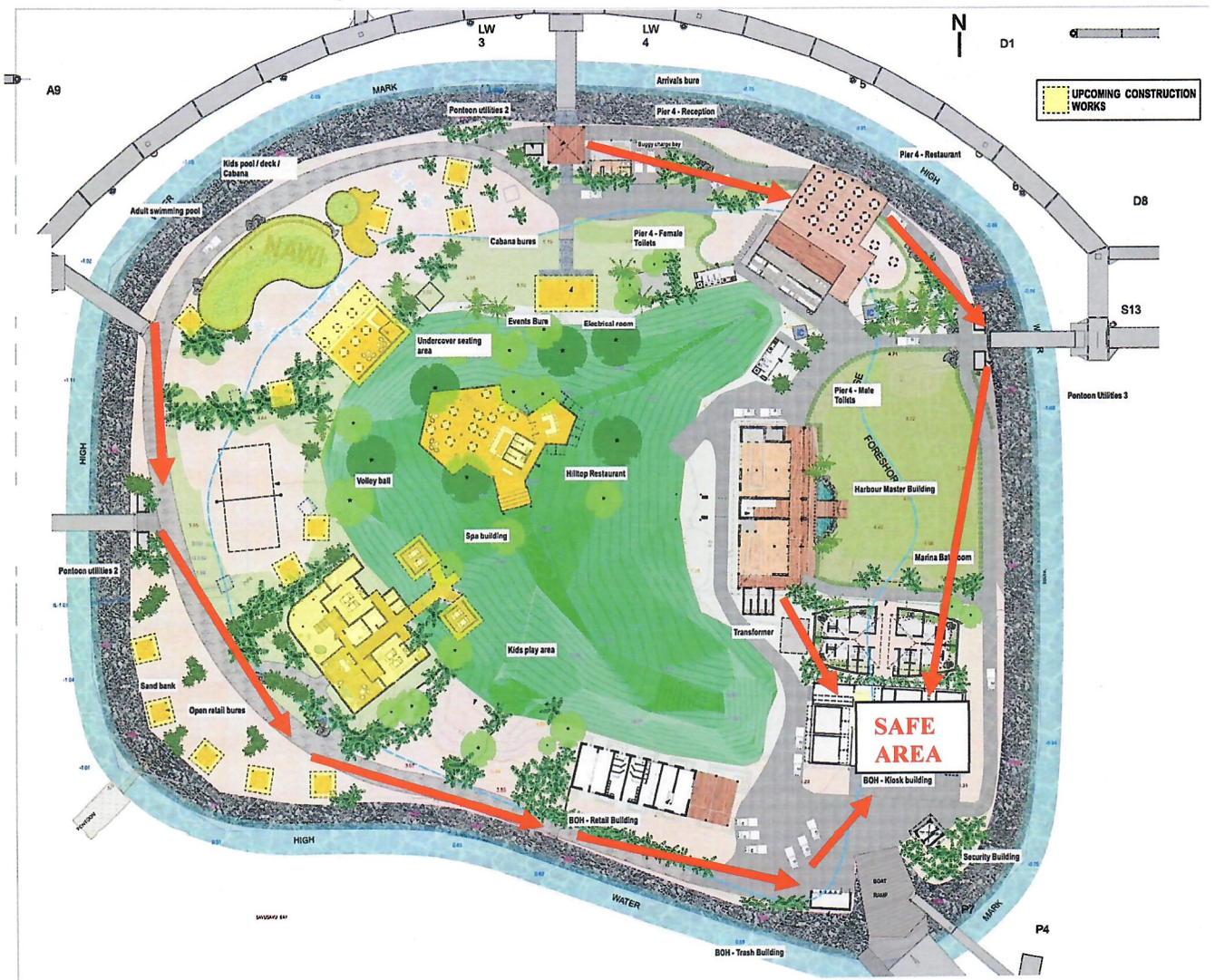
Under certain circumstances, some vessels may be directed to leave the marina.

THE MARINA MANAGER WILL ISSUE DIRECTIONS
IN THIS REGARD.

NOTICE TO VESSEL OWNER: Nawi Island Marina Fiji hereby informs you that in the event you fail to remove your vessel from the marina promptly after being instructed to do so, the Marina management, employees or agents are authorized to remove your vessel, if reasonable, from its slip or take any and all other reasonable actions deemed appropriate by the undersigned or his or her employees or agents in order to better secure your vessel and to protect marina property, private property, and the environment. You are further notified that you may be charged a reasonable fee for any such action.

NB: This is only a guide, and additional action may be necessary.

Nawi Marina Evacuation Diagram



5. Boatyard Preparations.

In the event of a severe storm or cyclone, personal safety is of prime importance. Flying objects can be fatal.

Therefore, preventive action is of primary importance prior to the arrival of the storm.

Once the storm is imminent and to avoid injury, the Boatyard team will conclude activities to secure vessels and other property at a specified time of a cyclone making landfall. Boat owners will not be allowed on the premises after the tie-down procedures have concluded following the evacuation. Boatyard personnel will be evacuated to return home for their personal and family safety.

All Crew, Contractors, Tenants and Staff is to seek appropriate shelter or return home.

There will remain however a skeleton crew of Security staff on site who will shelter in the security building. Their presence is solely to protect the boatyard from any intruders for when the eye passes over or once the strongest conditions have subsided. Only then that the boatyard staff will return and access the situation for cleanup and reopening.

On a monthly basis and especially with a Cyclone warning the Boatyard team will be going around the boatyard and vessels to check the following:

- Ensure that all jack stands are tight.
- Ensure that all ratchet straps are properly secured and tightened between each jack stand.
- Ensure that each vessel is properly secured to the ground anchors, minimum of 4 per vessel.
- Ensure that there are no loose items laying around.
- Remove any scaffolding and unused ladders.
- Instruct/help yacht owners on securing loose gear.
- Make sure that tenders are well secured to the ground and filled with fresh water.
- Disconnect and remove shore power cables and water hoses.

1.1. **Vessel Owners Responsibilities.**

1. Ensure your vessel is properly secured to the ground anchors, ideally not to the vessel's cleats but over the deck to the other side for bows and sterns. Amidship can be attached to the chain plates.
2. Double check props and ratchet straps under your vessel. Advise one of the boatyard team if in doubt.
3. Remove and stow all loose items inside such as, lowering head sails, taking down main sail and lazy back or lashing them securely tight around the boom. Remove dodger, Bimini,

awnings, side covers, kayaks, paddle boards, BBQ racks. Anything that can be removed and stowed below decks should be removed.

4. Tie down large solar panel frames, with as many ropes/webbings as possible. Secure or remove wind generator blades. Tie off radar antennas, remove wind transducer and Windex.
5. Remove tenders from davits, stow them upside down on deck if space is available otherwise alongside the vessel filled with water. Under no circumstances should dinghies or tenders be kept on davits while on the hard during a cyclone.
6. Secure all hatches firmly shut, close off or tape up dorado's and vents.
7. Cover and tape up outside electronic displays.
8. Ensure that your cockpit drains are open and clear for proper drainage.
9. Removing your mast is highly recommended to reduce windage and lightning strikes. If mast is removed, it should be secured to the ground.
10. **Work together.** Your main concern should be your vessel and then the vessels surrounding you. Some vessels may be unmanned. Whilst all precautions should have been taken to secure their vessel before they left, it is important to check their vessel for your own safety and report to the Boatyard team if you think something is not right.
11. Provide the Boatyard Manager with a contact number and where you plan to shelter.

1.2. Contractors Responsibilities.

1. Any contractors working on site will need to prioritize/finish or close off major jobs that could be a source of flooding to a vessel.
2. Remove any awnings.
3. Remove any ladders, scaffolding or any other structures used for the job.
4. Stow away tools and machinery.
5. Stow away any other items i.e.. Paint tins, metal materials, loose wood etc.

1.3 Marina Tenants Responsibilities

1. All Tenants on site should shut off gas lines, turn off Electrical power and will need to close office/ business.
2. Remove any object / Equipment outside of their Offices that can fly away during strong winds.
3. Apply cyclone shutter and screens
4. Inform Marina of your Location and that you are safe.

6. Aftermath/Clean Up Plan.

After the cyclone has passed, everyone is advised to remain in their safe and protected area until announcements are made on the local radio/TV or VHF (Ch.16 and 06) that dangerous winds and flooding have passed. Telephone communications may not be possible. Listen to radio broadcasts for this information.

The Marina and Boatyard team are expected to return to the Marina and boatyard as soon as possible to begin the cleanup process. However, in the likely event that this is not possible due to the roads being blocked, bridges may be washed away, or they may have lost their house or worse. There will be a need to work together as a community to clean up and assist your neighbors and friends wherever possible. Stay safe during the cleanup as there may be live wires, sharp branches, exposed nails and other dangers to contend with. Always think safety even after a cyclone has passed.

NB: This is only a guide, and additional action may be necessary.

7. Marina and Boatyard Team Contacts.

- Project Manager +679 8916890 & VHF 16/06
- Marina Coordinator + 679 9920883 & VHF 16/06
- Dock Master + 6798916889 & VHF 16/06
- Maintenance Manager + 679 8916884 & VHF 16/06
- Boatyard Manager: +679 9922480 & VHF 16/06
- Operations Manager: +679 8931082 & VHF 16/06
- Head of Security Office: +679 8994200 & VHF 16/06

8. EMERGENCY TELEPHONE NUMBERS

1.1. List of Emergency Numbers

Savusavu Police station_____+679 9905690

Savusavu Medical center_____+679 998178

Savusavu Fire Station_____+679 8850722

Savusavu Hospital_____+679 8850444

Zen’s Medical Private Hospital Savusavu (Emergency Care)_____+679 7994189

FEA (Power Faults & Electrical Emergencies) _____913

Fiji Water Authority_____5777

Should an incident happen at either the marina or the boatyard, please contact the Marina /Boatyard Manager as soon as possible. Do not attempt things on your own.

9. MSAF Marine Notice



MARINE NOTICE

10/2024

PRECAUTIONARY MEASURES DURING THE TROPICAL CYCLONE SEASON

- 1. All Ship Masters, Owners & Ship Agents for foreign & local ships, Pilots and Port Management Companies/Operators, Marinas and Yacht Clubs are advised that the tropical cyclone season has commenced from 1st November 2024.
- 2. All are required to take precautionary measures to keep yourselves, your crews, passengers, cargoes and the ships safe.
- 3. Any action taken must not pose undue risk to seafarers and their vessels within the sheltering area during this period.
- 4. The table below indicates wind strength and expected damages near tropical cyclone centre.

TC Category	Average Wind (km/h)	Strongest Gusts (km/h)	Central Pressure (hpa)	Typical Effects
1	63-89	Below 125 (Gales)	Below 985	Negligible house damage; damage to some crops, trees and caravans; boats may drag moorings.
2	90-124	125-169 (Destructive winds)	985-971	Minor house damage; significant damage to signs, trees and caravans; heavy damage to some crops; risk of power failure; small craft may break moorings.
3	125-164	170-224 (Very destructive winds)	970-956	Some roof and structural damage; some caravans destroyed; power failure likely.
4	165-224	225-279 (Very destructive winds)	955-931	Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris; widespread power failures.
5	Above 224	Above 280 (Very destructive winds)	Below 931	Extremely dangerous with widespread destruction.

5. All Masters are advised to take early action and preventative measures based on good professional judgement combined with the observance of good seamanship practice to ensure that seafarers and the vessels under their command is kept safe.
6. Masters must listen to all marine weather bulletins and tropical cyclone updates issued from the Fiji Meteorological Service (www.met.gov.fj) and transmitted through the Suva Coast Radio Station (3DP) and also broadcast through the commercial radio stations.
7. Ship safety is the Master's responsibility therefore the Master must take all necessary action to keep their ship safe at all times.
8. Ship owners must provide all necessary support to Masters of their vessels to ensure that the ship is kept safe during the tropical cyclone season.

JOWELI CAWAKI
CHIEF EXECUTIVE OFFICER
Maritime Safety Authority of Fiji

07 November 2024

10. MARINA CYCLONE CHECKLIST

PREPARED BEFORE THE STORM/CYCLONE

1. Check your marine insurance carefully to see if you are required to take some action to make the claim valid.
2. Check with your marina and find out their policy for handling hurricanes
3. If you are going to move your boat, determine where ahead of time.
4. Learn the storm surge history and elevation of your area.
5. Learn safe routes inland and make plans of where you will evacuate to.
6. Inventory the property on your boat...with video equipment if possible. Plan what will be removed from the boat and what must stay.
7. Keep all legal documents such as registration, insurance policy, marina rental agreement, radio license etc. in one easily moved, secure container. Make an inventory of documents, photos, and other irreplaceable articles that need to be taken in case of an evacuation.

WHEN A STORM/CYCLONE WATCH IS ISSUED

1. A WATCH means cyclone conditions pose a possible threat to the watch area within 36 hours.
2. Frequently monitor radio, TV, Weather Radio, for official bulletins of the storm's progress.
3. Review needs and working condition of emergency equipment, such as first aid kit, flashlights, battery-powered radios.
4. Anchored boats should be tied high, using a half hitch knot (loop knots slip). Anchor rigging should consist of new or good line and chain.
5. Boats docked at marinas should have extra lines attached. Line lengths should be sufficient to take care of excessive high water.
6. Once your boat is secured, leave it and don't return once the wind and waves are up.
7. Stock up on canned provisions
8. Check supplies of special medicines and drugs.
9. Secure lawn furniture and other loose material outdoors.
10. Tape, board, or shutter windows to prevent shattering.
11. Wedge sliding glass doors to prevent their lifting from their tracks.

WHEN A STORM/CYCLONE WARNING IS ISSUED

1. A WARNING means sustained winds of 74 mph or higher are expected in the warning area within 24 hours or less.
2. Closely monitor radio, TV, Weather Radio, for official bulletins.
3. Follow instructions issued by local officials. LEAVE IMMEDIATELY IF ORDERED TO DO SO.
4. Fill containers (bathtubs) with several days supply of drinking water. (one gallon per person per day)
5. Turn up refrigerator to maximum cold and don't open unless necessary.
6. Use phone only for emergencies.
7. Stay indoors on the downwind side of the house away from windows.
8. Beware of the eye of the cyclone
9. Shut off water and electricity at main stations.
10. Take small valuables and papers, but travel light.
11. Persons needing special foods or medicines should take them with them.
12. Notify family members or friends outside of the warned area of your evacuation plans.

AFTER THE STORM/CYCLONE PASSES

1. Stay in your protected area until announcements are made on the VHF radio by Marina/Boatyard Managers or Head of security
2. Watch for dangling electrical wires, damaged docks etc
3. Report broken or damaged water, sewer, and electrical lines.
4. Check for gas leaks.
5. Check food and water for spoilage.
6. If your yacht/Office has structural damage, do not enter until it is checked by officials.