



PORTDENARAUMARINA

# NOTICE TO MARINERS

7<sup>th</sup> November 2011

## Port Denarau Marina Cyclone Procedures

The season for cyclones is once again upon us and it is important that all companies, their employees and boat owners are ready and prepared in the event that Denarau Island is struck by a cyclone.

**Port Denarau Marina will be operating a flag and siren system again this season which can be seen below.**



PORTDENARAUMARINA

## DISMAC Flag Warning System

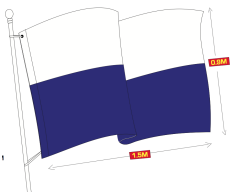
November 2010

Under Port Denarau Marina's new DISMAC policy we are pleased to announce a new Flag based information system for the benefit of all of our customers. The flag warning system will be flown from the main waterside flagstaff which is also the meeting point for the dissemination of any important information relating to the situation at hand. A civil defence sound signal will be used to alert all to flag changes.

### Type of Alert



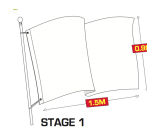
Cyclone



Tsunami

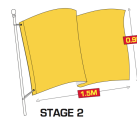
(Red and Green Flags Only)

### Levels of Alert



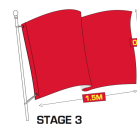
STAGE 1

Stage 1 - Alert - Monitoring a Tropical Depression in Fiji Waters. Watch closely for further instructions.



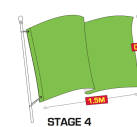
STAGE 2

Stage 2 - Warning - Monitoring a Cyclone in Fiji Waters - prepare to evacuate.



STAGE 3

Stage 3 - Warning - Cyclone/ Tsunami imminent - EVACUATE MARINA.



STAGE 4

Stage 4 - Stand Down - Threat has passed - All Clear.

NB: Flags may be lowered during the cyclone event. Marina is not open until green flag is flying.

**Should a red alert be issued, all vessels must be removed from the Marina Precinct immediately.**

Port Denarau Marina staff will be available to help where possible but the onus is on the owner of the vessel. **Should a vessel be left on the marina the owner will be responsible for any damage incurred as a result.**

Now is the time for each individual company/owner to devise their own plan for relocating their vessel/s if such an event should occur.

As a reminder of the seriousness of a cyclone and their potential destructive power, further information is provided below. Port Denarau Marina Ltd management and staff thank you in advance for your individual preparation and cooperation in ensuring that we all get through the cyclone season without loss of capital or more importantly, life.

#### **Boat Owners duties during strong wind:**

- Ensure that vessels within the Marina are moored with additional lines and fenders.
- Ensure that gear, equipment, awnings etc are secured.
- Ensure mooring lines are slightly slack, so that in surges no snatching will occur.
- Ensure mooring lines pass first between the uprights of cleats, if practical, before being warped around and tied off.
- Ensure mooring lines are fastened to substantial parts of the vessel.
- Ensure mooring lines **are not** secured to the jetty gangways.

**IN THE EVENT OF A CYCLONE OR STORM WARNING ALL VESSELS ARE TO VACATE THE MARINA AND PRECINCT.**

#### **Land Based Operators duties:**

- Ensure that nothing loose is left lying around. Debris flying around during strong winds poses an extreme hazard to both property and life.

#### **CYCLONES - STORM SURGE – HIGH WINDS**

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 in excess of 90 km/h around their centres 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 centre 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.

**The destructive high winds accompanying tropical cyclones also produce phenomenal seas, which are dangerous both for vessels out at sea and those moored in harbours.**

## **METEOROLOGICAL WARNING SYSTEMS**

The Nadi Tropical Cyclone Warning Centre (TCWC) will issue Special Weather Bulleting 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.

<b>TABLE SHOWING CYCLONE SEVERITY CATEGORIES</b>			
<a href="#"><u>Bureau of Meteorology Category Wind Info</u></a>			
PLEASE NOTE: Descriptions of damage are indicative only, damage may vary between localities due to factors such as building standards, surface flooding etc.			
<b>CATEGORY</b>	<b>AVERAGE WIND (km/h)</b>	<b>STRONGEST GUST (km/h)</b>	<b>CENTRAL PRESSURE (hPa)</b>
<b>Category 1</b>	63 - 90	Less than 125	Greater than 985

<b>CAT 1</b> Typical Effects [indicative only] Negligible house damage. Damage to some crops, trees and caravans. Boats may drag moorings.			
<b>Category 2</b>	91 - 125	125 - 170	985 - 970
<b>CAT 2</b> Typical Effects [indicative only] Minor house damage/Risk of power failure. Significant damage to signs, trees and caravans. Small boats may break moorings.			
<b>Category 3</b>	126 - 165	170 - 225	970 - 945
<b>CAT 3</b> Typical Effects [indicative only] Some roof and structural damage. Some caravans destroyed. Power failures likely.			
<b>Category 4</b>	166 - 225	225 - 280	945 - 920
<b>CAT 4</b> Typical Effects [indicative only] Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failures.			
<b>Category 5</b>	Greater than 225	More than 280	Below 920
<b>CAT 5</b> Typical Effects [indicative only] Extremely dangerous with widespread destruction.			

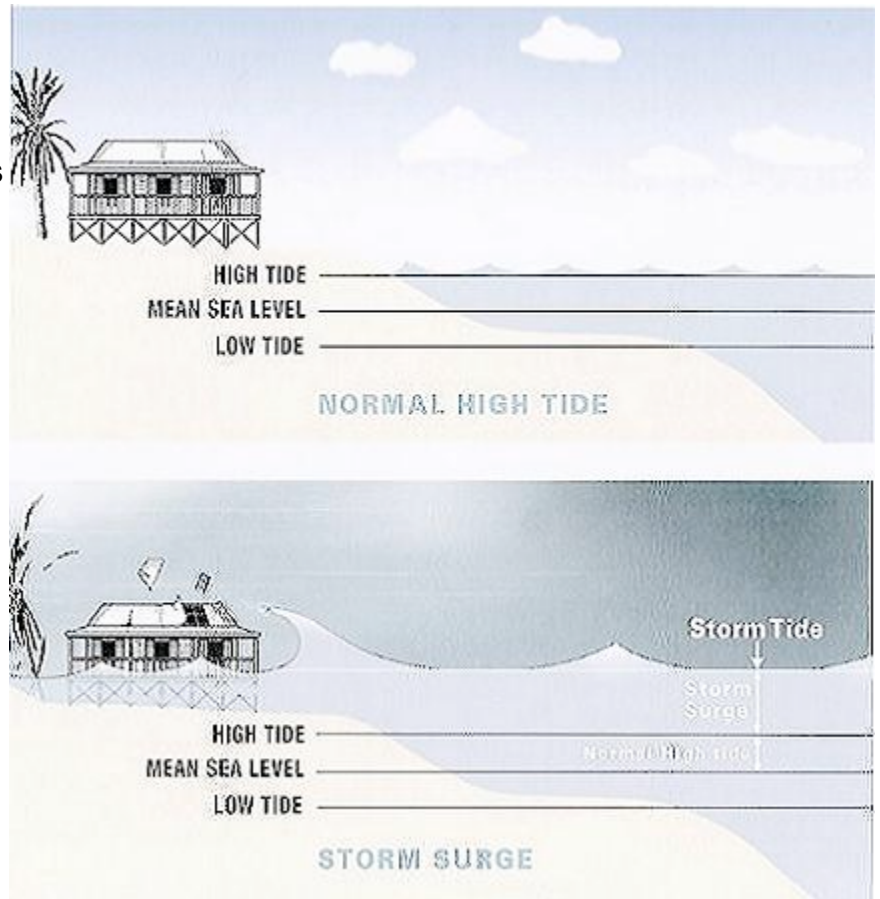
## STORM SURGE:

A *storm surge* is generated by weather systems forcing water onshore over a generally limited stretch of coastline. It will normally build up over a time frame of a few hours, as the cyclone or similar weather system approaches. Normally wind-waves on top of the surge will contribute to its effect: it will cause serious local flooding. Wherever your nearest high ground is, know how to get there or stay with friends living on higher ground.

## What is Storm Surge?

A storm surge is a rise above the normal water level along a shore that is the result of strong onshore winds and /or reduced atmospheric pressure. Storm surges accompany a tropical cyclone as it comes ashore. They may also be formed by intense low-pressure systems in non-tropical areas.

Around the world, drowning by storm surge accounts for a high proportion of the deaths in tropical cyclones.



Storm Surge + Normal Tide = Storm Tide