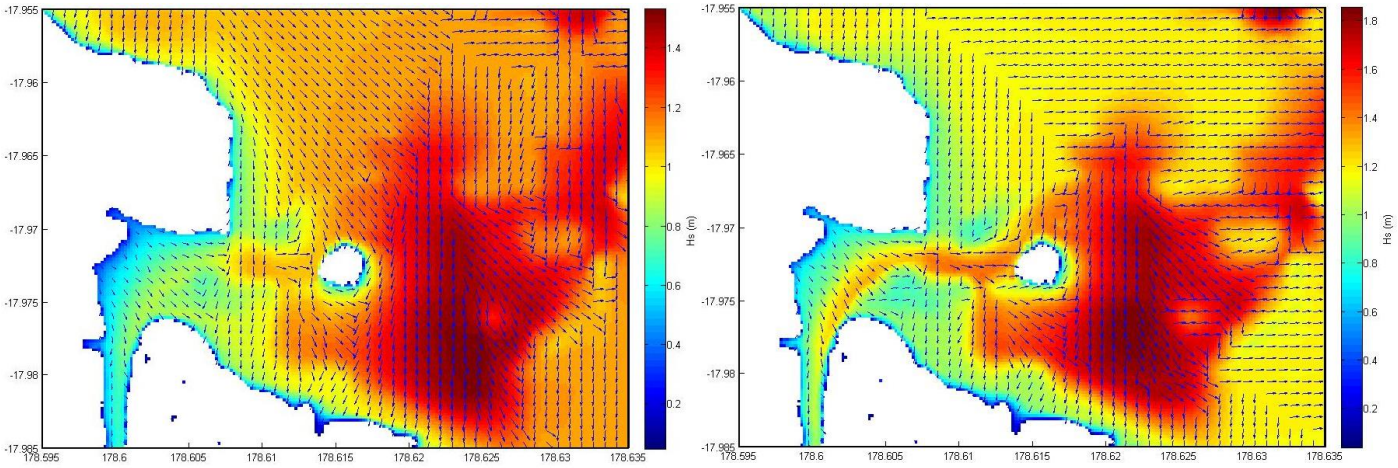
Coastal Assessment for Bau Landing Jetty Repair

Viti Levu, Fiji



Model output for 140km (left) and 200km (right) cyclone events. Note the different scales.

INFO:

Location: Bau Landing, Viti Levu, Fiji

Client: RPA Civil Works

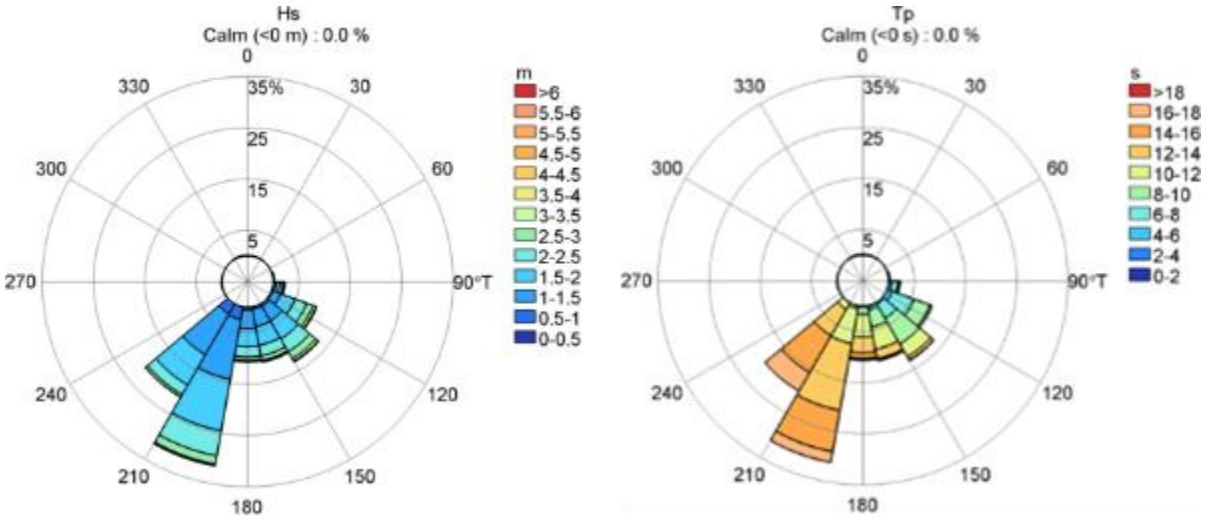
Project Date: 2018

SCOPE OF SERVICES:

- Coastal Process Analysis
- Extreme Event Analysis
- Statistical Analysis
- Wave Transformation Modelling
- Cyclone Modelling

PROJECT DESCRIPTION:

This project involved analysis of waves at the project site. Local wave conditions under strong south-easterly trade winds were modelled for a period of two months using the SWAN (Simulating WAves Nearshore) wave transformation model in order to understand the background wave environment. A record of long-term offshore wave data was analysed to determine extreme wave heights and associated periods for specific return intervals. The SWAN wave transformation model was then used to transform extreme offshore wave conditions into the project site by taking a nested grid approach. The model outcomes provided subsequent guidance for engineering aspects of the proposed works.



Wave roses of long-term Hs and Tp extracted from the Global Wave Model.