
Location	St Denis
Type of project	Hindcast study of waves due to cyclones to assess design wave conditions and physical model tests to investigate the stability and overtopping conditions of the structures
Client	DHI SARL for the EGIS EAU (formerly BCEOM)



Description

A new coastal road is planned between St Denis and La Possession on the north east coast of the island of La Réunion, the Indian Ocean. DHI was commissioned a hindcast study of waves due to cyclones in order to establish design wave conditions for the coastal road as well as physical model tests in order to investigate the stability and overtopping conditions of the structures.

Based on available cyclones' best tracks and wind field DHI has performed numerical modelling of wave generation and propagation towards the project site for more than 20 historic cyclones. This task was using DHI's 3rd generation spectral wind-wave model, MIKE 21 SW. Extreme value analysis has then been performed at selected points close to the project in order to determine the design wave conditions.

The next task consisted in 2D physical model tests of stability and overtopping of the breakwater protecting the future coastal roads. Several profiles have been tested for different wave conditions in order to optimise the design of this structure.

A third task planned in 2008 should address 3D tests of selected stretches of the project.