

CLIMATE CHANGE ADAPTATION

MON CHOISY BEACH, MAURITIUS



INFO:

Location: Mon Choisy, Mauritius

Clients: Government of Mauritius, United Nations Development Program (UNDP)

Project Date: 2014-2016

SCOPE OF SERVICES:

- Literature Review
- Field Studies, Instrumentation, Bathymetry
- Ecological Impact Assessment
- Economic and Social Feasibility Studies
- Numerical Modelling and Oceanographic Analysis
- Project Design, Management and Engineering
- Coastal Hazard Assessment

PROJECT DESCRIPTION:

During his tenure at another consultancy, ORCAS Director Dr. Jose Borrero led a climate change adaptation project at Mon Choisy Beach in Mauritius. The beach, fronted by a shallow lagoon extending to the outer reef, suffers from chronic erosion at its southern end. Sea level rise and cyclone activity have the potential to erode the beach further threatening infrastructure and the loss of a valuable public amenity. For this project we conducted a comprehensive study on the physical processes in play at Mon Choisy incorporating field data collection, numerical modelling of waves and tides and an assessment of extreme events. The recommendation for the site comprises a hybrid approach involving soft and hard engineering solutions such as beach nourishment, beach re-profiling, dune management and better management of beach and lagoon activities. Additionally, a series of low crested and submerged reef structures offshore of the southern section were recommended to help to reduce incident wave energy and slow the rate of northerly sediment transport along the beach.



(L to R) The heavily eroded southern end of Mon Choisy; installing a wave gauge offshore; model output showing wave focussing towards the southern end of the beach, contributing to the erosion.