

MANAGEMENT OF COASTAL INUNDATION AND EROSION

CLUB MED RESORT, ALBION, MAURITIUS



(inset) red dot shows the location of Albion (top left) the layout of the Club Med Resort (top right) numerical modelling results showing the coastal processes (bottom left and right) flooding and high waves at Albion during Cyclone Belal.

INFO:

Location: Albion, Mauritius

Clients: Club Med Resort

Project Date: January – October 2024

SCOPE OF SERVICES:

- Literature Review
- Site visit and analysis
- Numerical Modelling and Oceanographic Analysis
- Coastal Hazard Assessment
- Design of intervention strategy

PROJECT DESCRIPTION:

ORCAS conducted a coastal processes assessment for the Club Med Albion Resort on the west coast of Mauritius. The resort wishes to implement remedial works for a severely eroded shoreface on the north facing coastline of the embayment. Our assessment included a detailed site visit and hydrodynamic modelling of typical and extreme wave and water level conditions.

One key finding of our study was that sea levels have risen dramatically in Mauritius in the past 25 years with an unprecedented ~20 cm rise in average water level in just the past two years. It is this rise in water level in conjunction with the unfortunate confluence of strong waves and high astronomical tides that has led to the erosion problems being experienced at the resort. For the erosion along the north facing shoreline, we recommend the construction of a backstop sea wall in front of the villas. This sea wall would be constructed from pre-cast concrete sections set in place and tied back to the existing ground. On the landward side of the sea wall, an architecturally appropriate walking and access path should be developed. On the shoreward side of the wall would be a 1:1 sloped rock revetment built from 0.75 to 1.0 m diameter rocks with the larger toe rocks founded on bedrock. The toe of the revetment would sit above the high tide water line and as such, this wall will only come in to contact with ocean waves during storm conditions.

