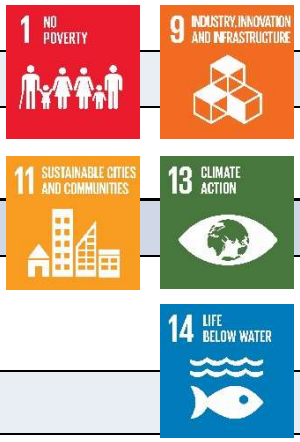
MDG 3: Tidal and Non-Tidal Effect on Madagascar Coast

Keywords: Sea Level, Extreme events, Climate Change, Coastal Risk,



Primary actors

Madagascar: Sahondrarilala Raveloarisoa (DGM)
UK: Angela Hibbert, Francisco Calafat (NOC)

Stakeholders / End Users

DGM, BNCCC, ICZM, CFIM, coastal planners, developers, port operators

Introduction / Statement of the Problem

There is limited understanding of sea level variability around Madagascar, particularly at higher frequency timescales. The availability of high frequency data from Toamasina will allow evaluation of variability associated with storms surges, tides and seiching.

Case study description

The case study will involve the following activities:

- Identify sources of tide gauge data (e.g. Toamisina, Nosy Be, Toliara, Fort Dauphin).
- Perform quality control and tidal analysis of data, validating, where possible, against C-RISe satellite data.
- Generate up-to-date tidal predictions.
- Identification and analysis of non-tidal components of sea level.
- Make comparisons with meteorological variables, if time permits.

Expected Impacts

Long Term Primary Impact: 2019 onwards
Improved ability to plan to mitigate for consequences of climate change. Leading to improved disaster resilience of coastal populations and infrastructure

Secondary Impact: To be reported on Case Study Completion at March 2019
DGM will develop the capability to conduct scientific analyses on tide gauge datasets as well as making comparisons with satellite altimetry. These skills will allow DGM to produce tidal predictions and evaluate sea level variability on a variety of timescales including the long-term trends associated with Climate Change.

SDG 1.5, 9.A, 11B, 13.1, 13.2, 13.3, 14.2, 14.A