MDG 5: Tropical Storm Information

Keywords: Tropical Storm, forecasting, surge, ocean waves, ocean winds.

Primary actors

Madagascar: DGM (Luc Randriamarolaza)
UK: SatOC (David Cotton)

Stakeholders / End Users

DGM, CFIM, CNRO, Public, Malagasy Government, APMF, Secretary of State for the Sea

Introduction / Statement of the Problem

Tropical cyclones have a major impact on the Madagascar population, primarily at the coast. Between 2000 & 2018 Madagascar was hit by 22 documented tropical cyclones killing approximately 970 people and displacing over 600,000[3]. An improved information service is needed to support risk assessment and planning, and to improve forecasting

Case study description

The case study will involve the following activities:

- Combine C-RISe data with local temperature and wind data and local expertise to add known information needs and improve existing services.
- Combine data archive and real time data to derive coastal wave and wind climatologies.
- Generate bias corrections for numerical model.
- Improve coastal marine forecasting.
- Send data from ftp over transmet server at DGM.
- CFIM would like to develop capability to pass this information on to small ships via sms (this could be through OASIS-TU project).

Expected Impacts

This is part of a long term planned development at DGM to improve its tropical storm forecasting capability. Measurable impact may be limited during the period of the C-RISe project as it will be limited by available resources at DGM.

Long Term Primary Impact: After end of Project (> 2020)
Improved storm forecasting capability leading to improved disaster resilience /response for coastal populations and infrastructure

Secondary Impact: To be reported on Case Study Completion at March 2019
Development of capability at DGM to access and analyse relevant satellite data sources, historical and near real time), improved knowledge of sea level surges, winds and waves associated with tropical storms, and possibly some initial improvements in forecasting / storm tracking capability.

SDG 1.5, 9.A, 13.1, 13.3

[3] Fitchett, Jennifer M., and Stefan W. Grab. "A 66-year tropical cyclone record for south-east Africa: temporal trends in a global context." International Journal of Climatology 34.13 (2014): 3604-3615.