

# Beyond C-RISe future projects

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11<sup>th</sup> and 12<sup>th</sup> February 2020, Antananarivo, Madagascar

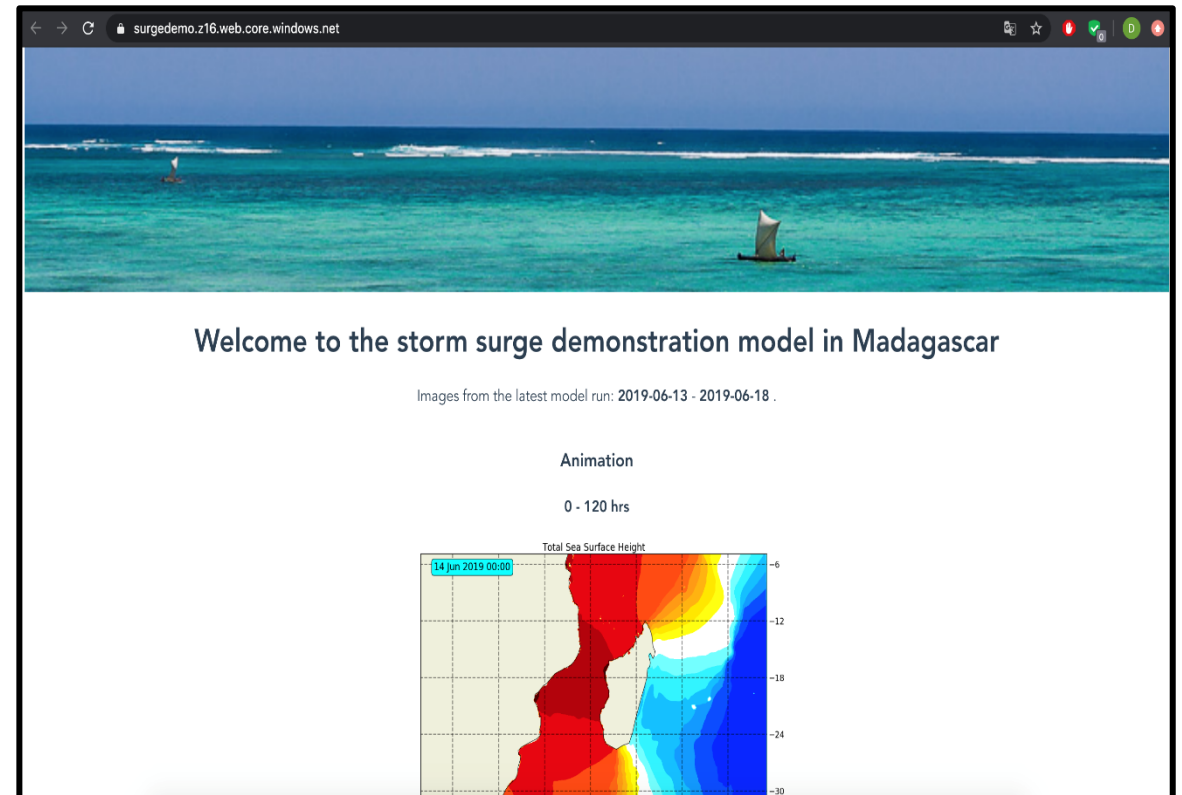
# Introduction

- Projects already underway
- Projects with funding
- Current proposals
- Future plans

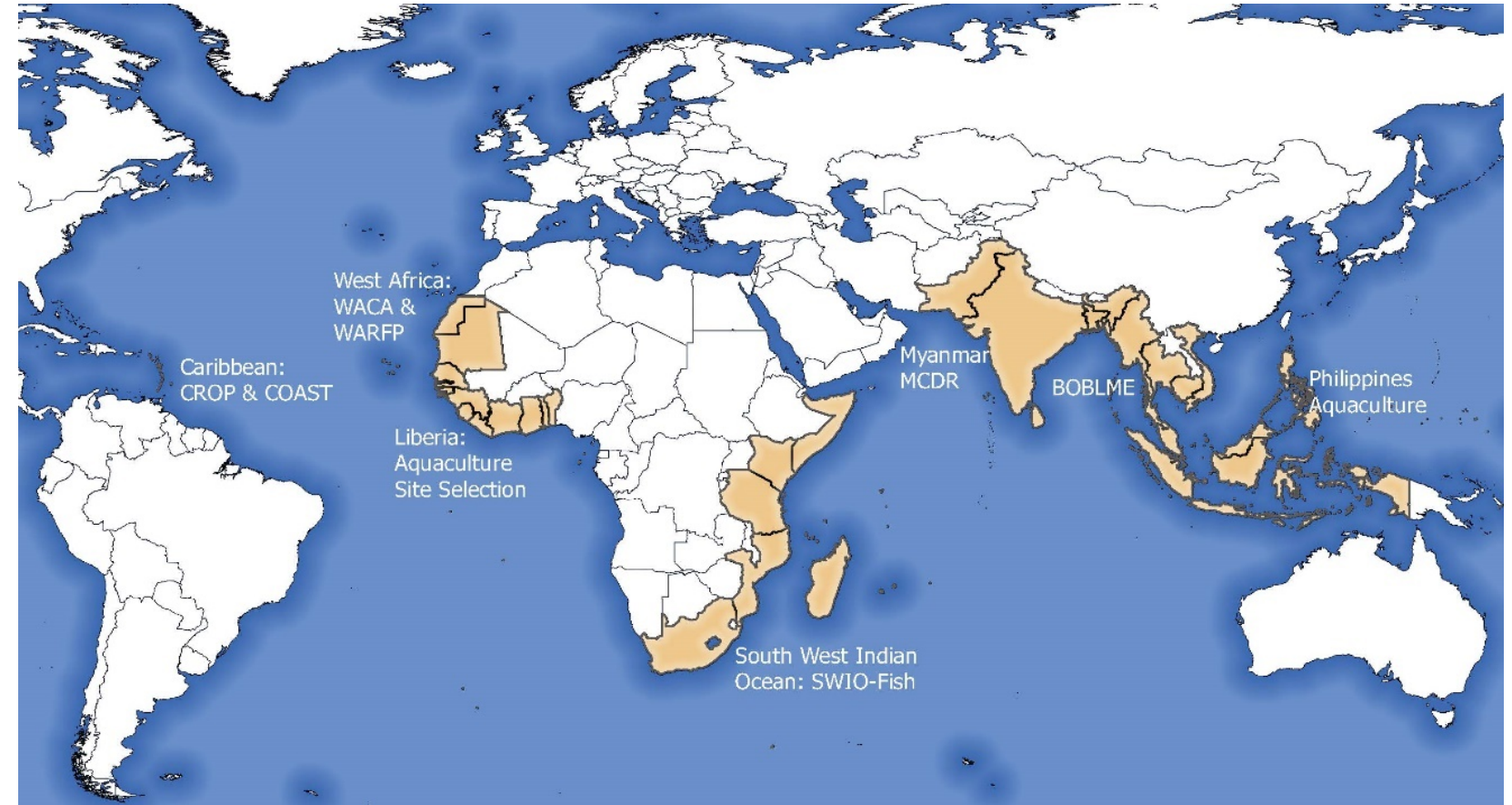
# CRISC

## Coastal Resilience to flooding Impact through relocatable Storm surge forecasting Capability for developing nations (C-RISC)

<https://surgedemo.z16.web.core.windows.net/>



# EO4SD



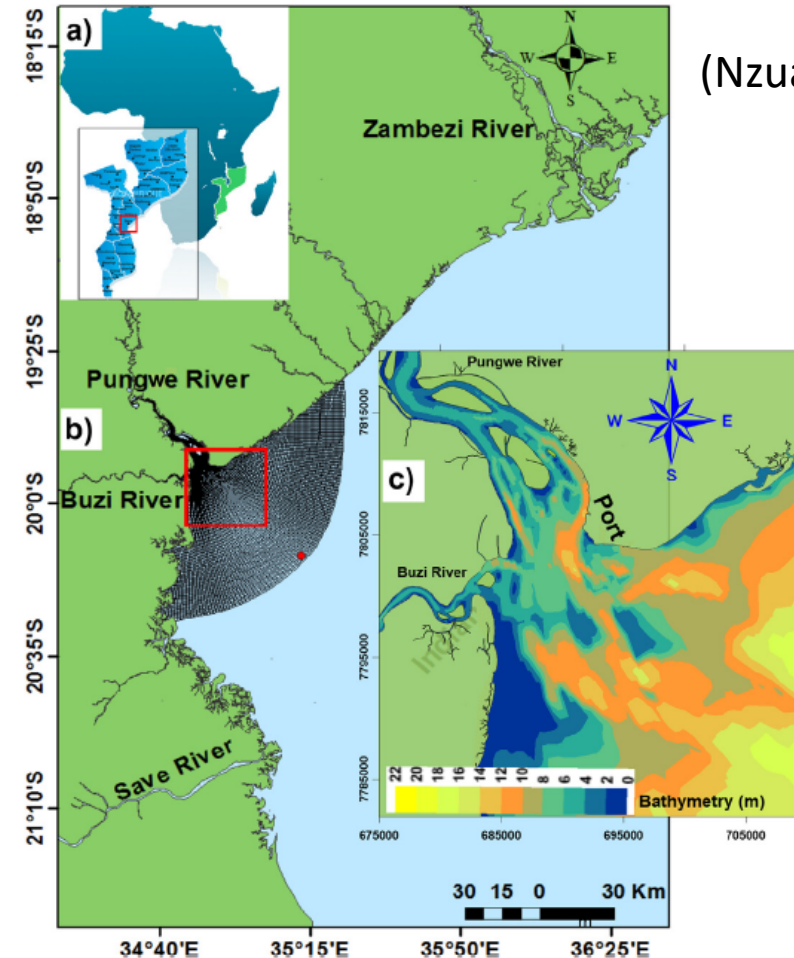


# Innovate UK - Mozambique

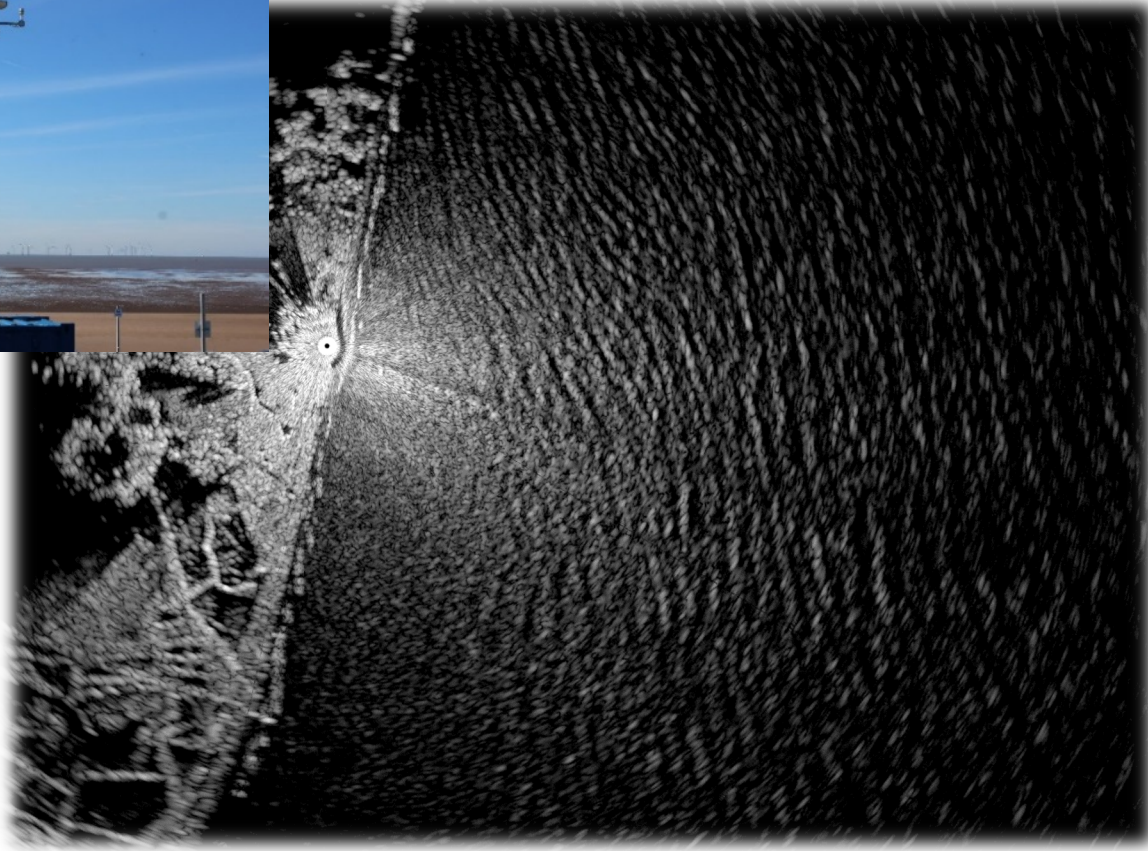


Deploying novel remote sensing solutions to increase the efficiency of dredging operations and coastal management at the port of Beira, Mozambique

(Nzualo et al., 2018)



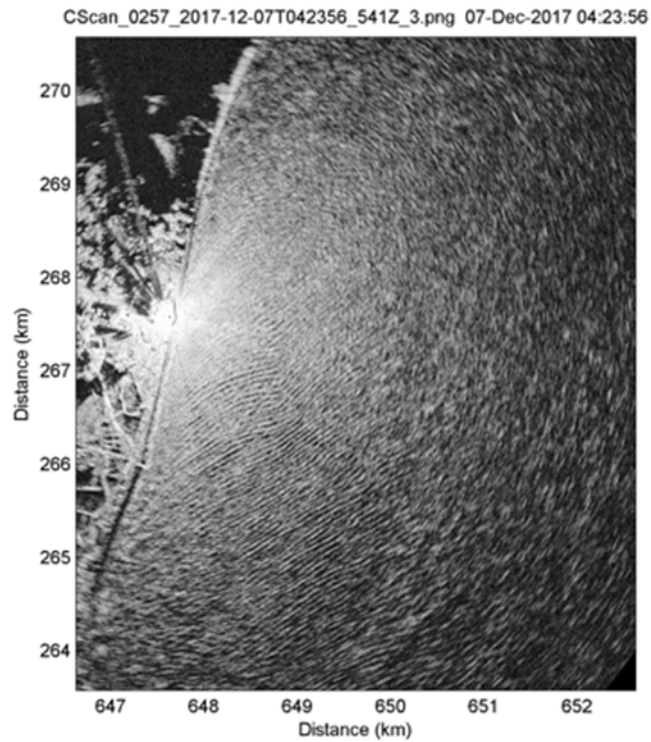
# X-Band Radar



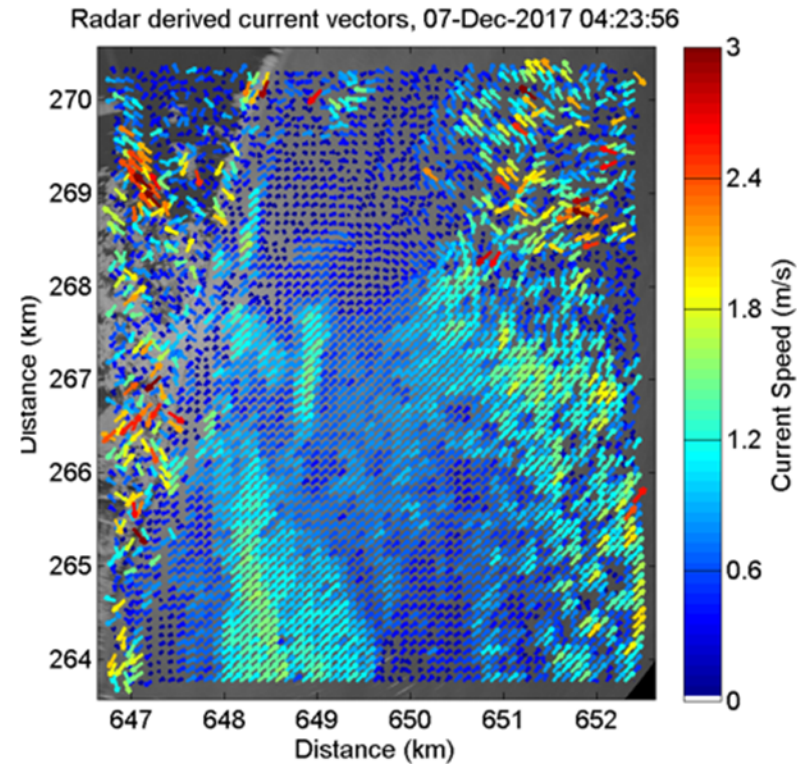
- Monitoring storms and recovery
- Assessing resilience of the offshore bank
- Raw radar data show waves coming from the south east and the east during storm events in January 2018
- Data are processed to derive bathymetry and surface currents



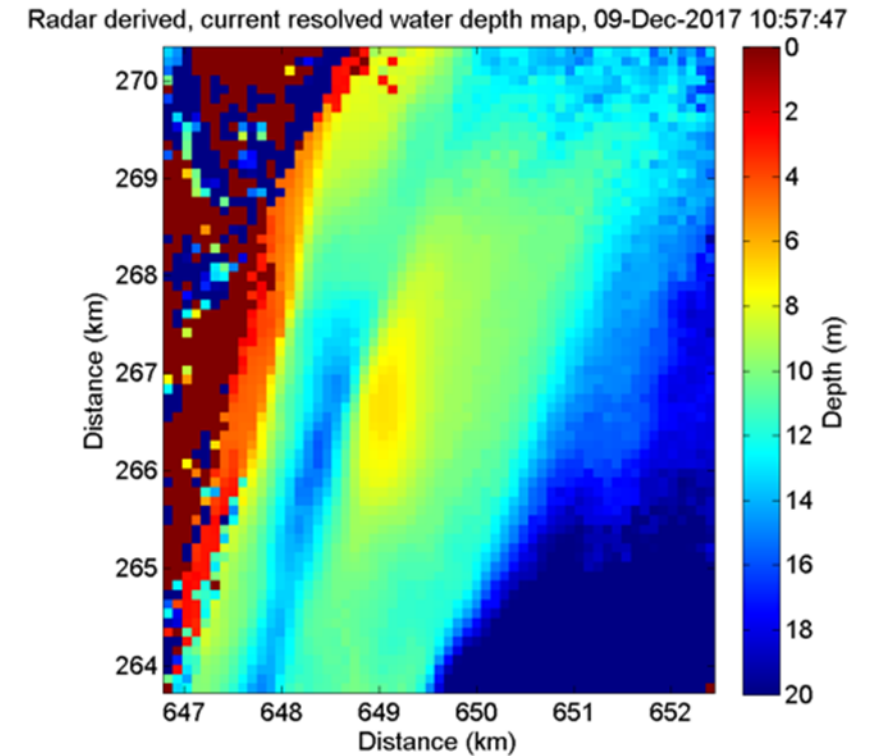
# Near-shore monitoring



Raw Data

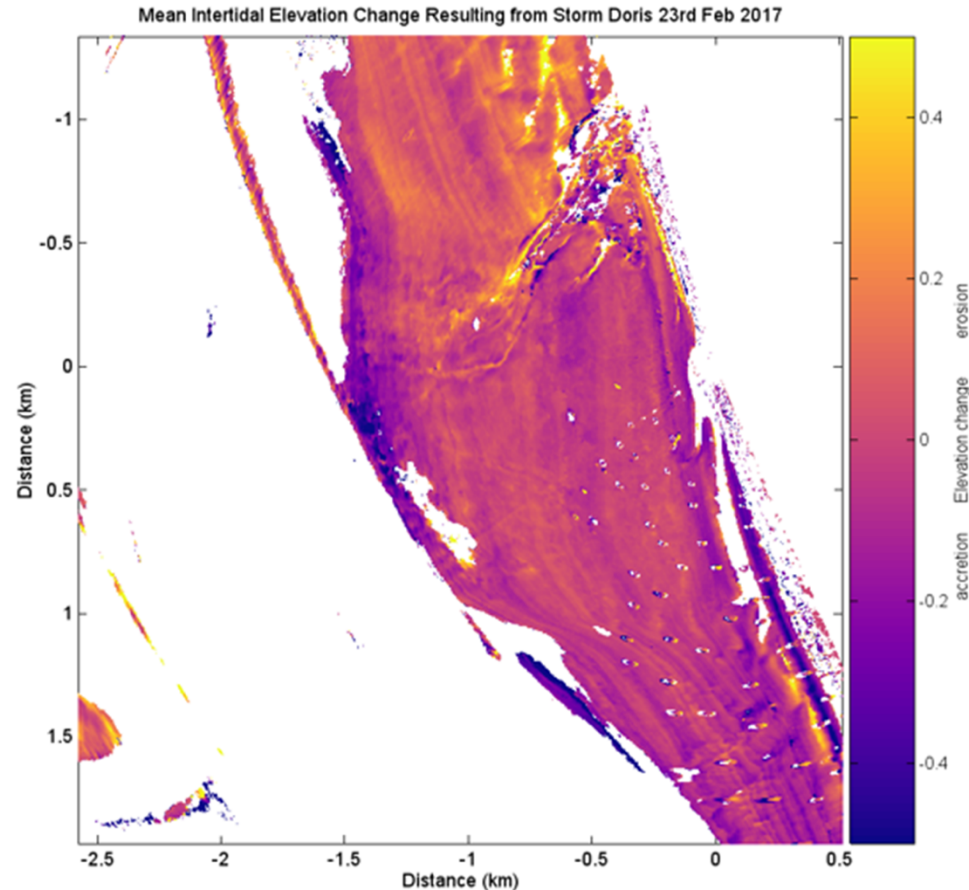


Surface Currents



Wave inversion derived  
Bathymetry

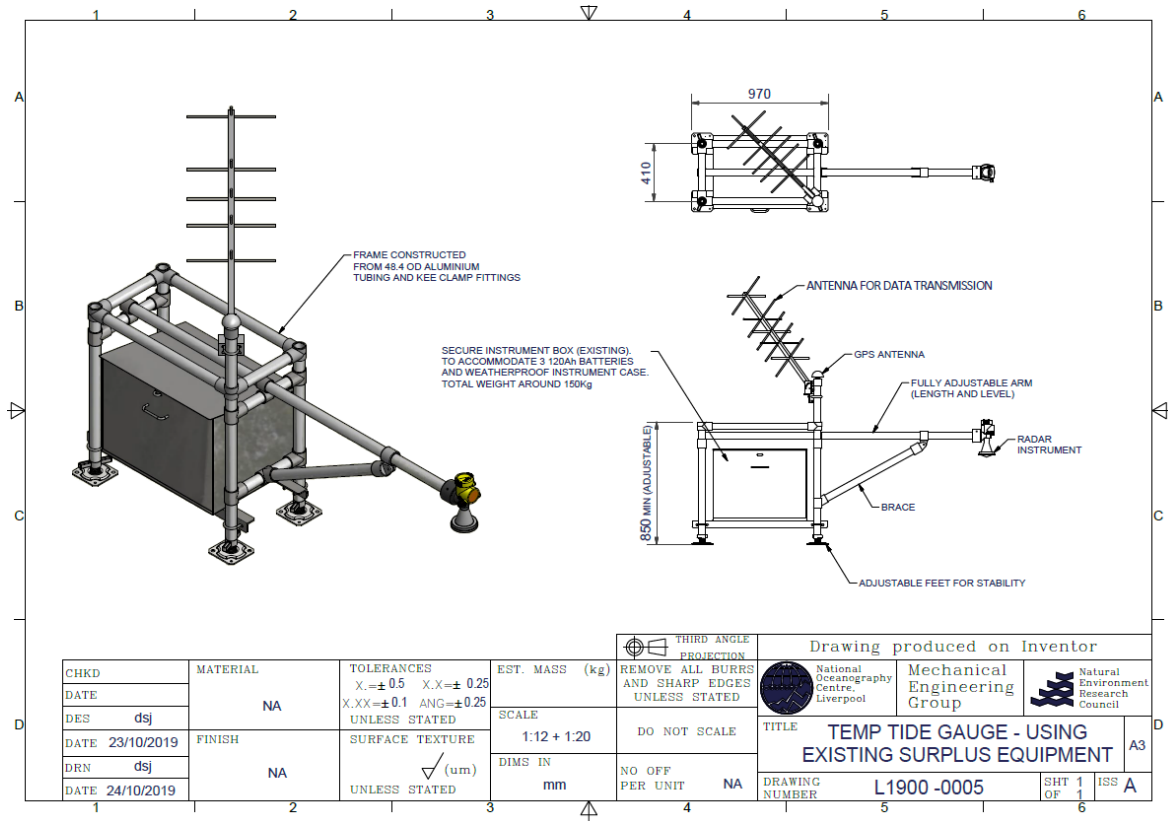
# Sediment movement



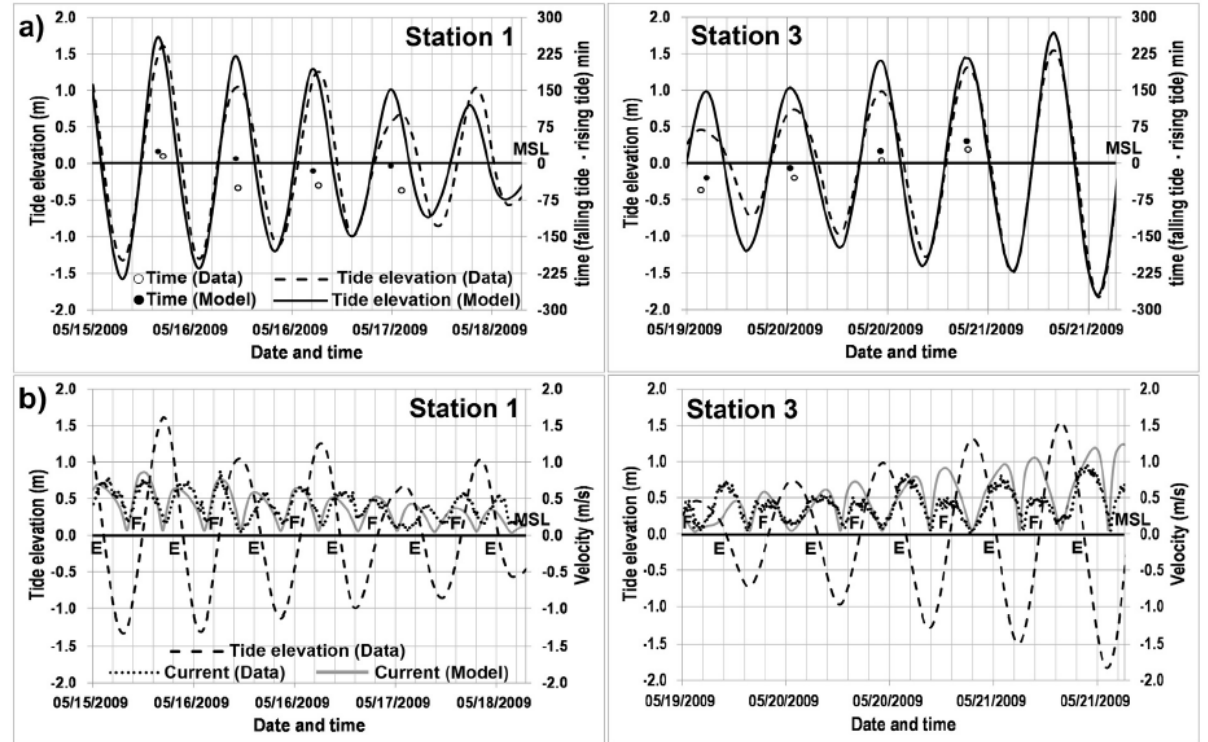
- Continuous observation during storm events.
- A survey is generated leading up to a storm and another following the storm.
- Image shows the residuals between surveys generated before and after storm Doris 23<sup>rd</sup> February 2017.
- ~30 cm elevation changes in various regions of the beach and around the Alt river training bank to the north of the radar location.



# Relocatable tide gauge



Proposed design



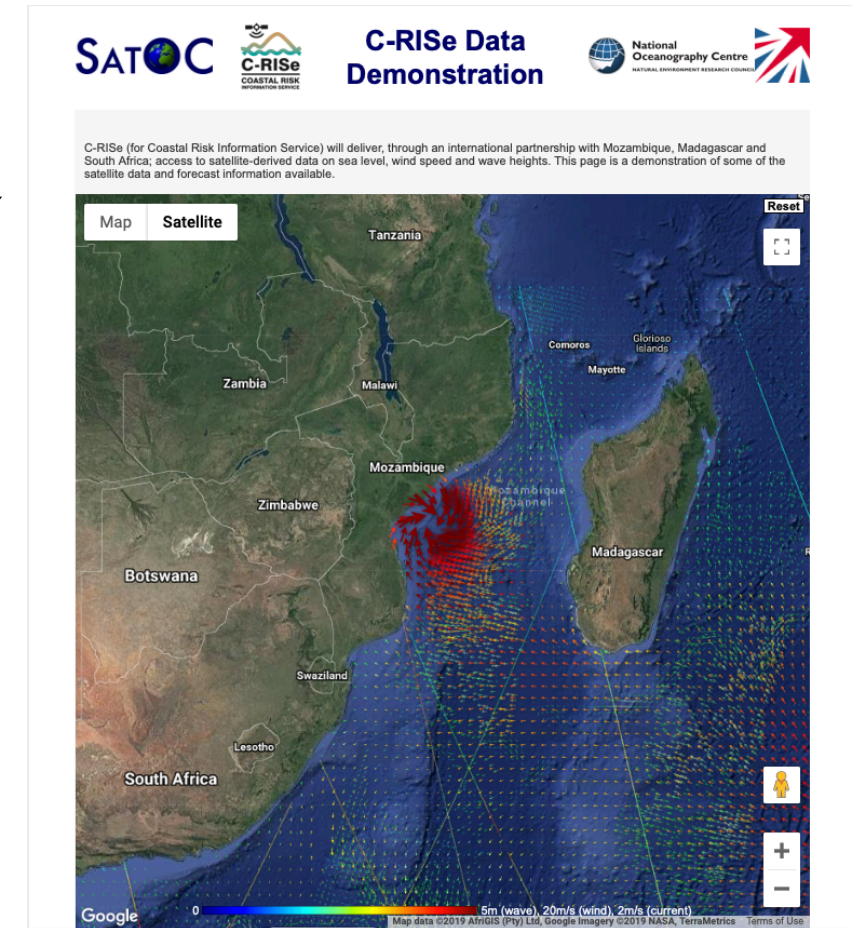
Asymmetry of tidal duration (a) and velocity (b), Nzualo et al., 201

# C-RISe Alert

## European Space Agency (ESA) Environmental Crimes Call

Requirement to *Stimulate Development of Applications to directly prevent environmental crimes*

- Illegal fishing, marine pollution and smuggling of illegal products
- Support agencies working to protect the marine environment





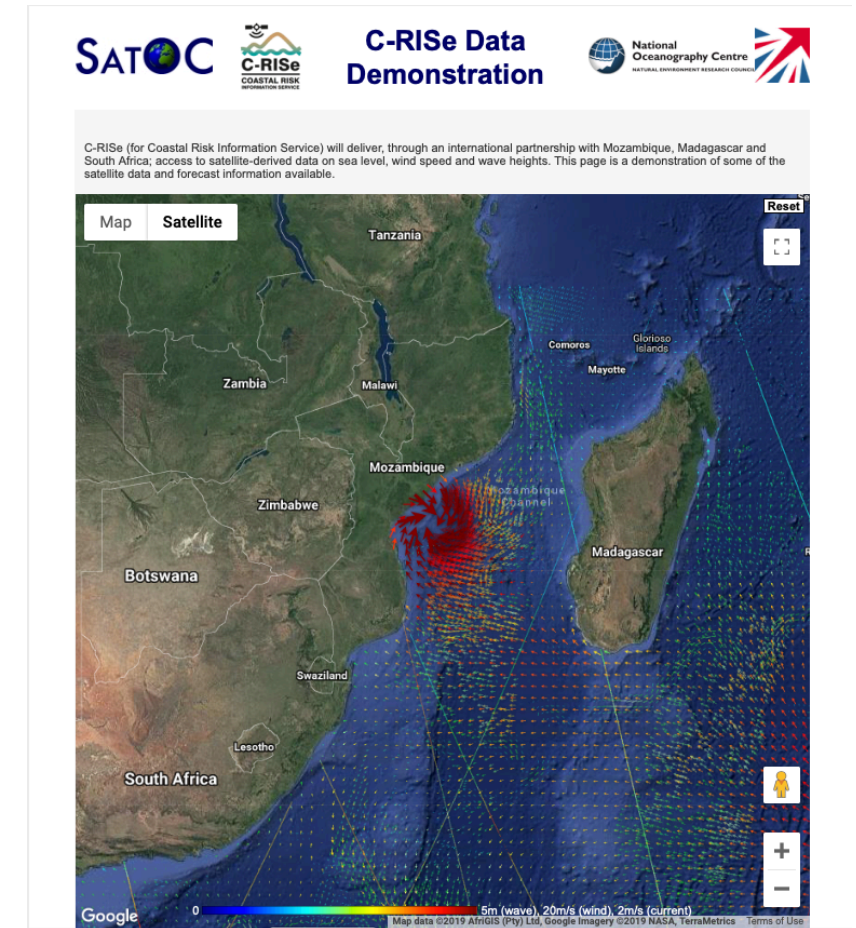
# C-RISe Alert

## Our Proposal:

Near Real Time Information service on marine conditions –  
web delivery and potential for text service

1. Understand user requirements
2. Create demonstration service
3. Final Specification and Business Case.

If successful – starts April/May 2020 runs for 6 months



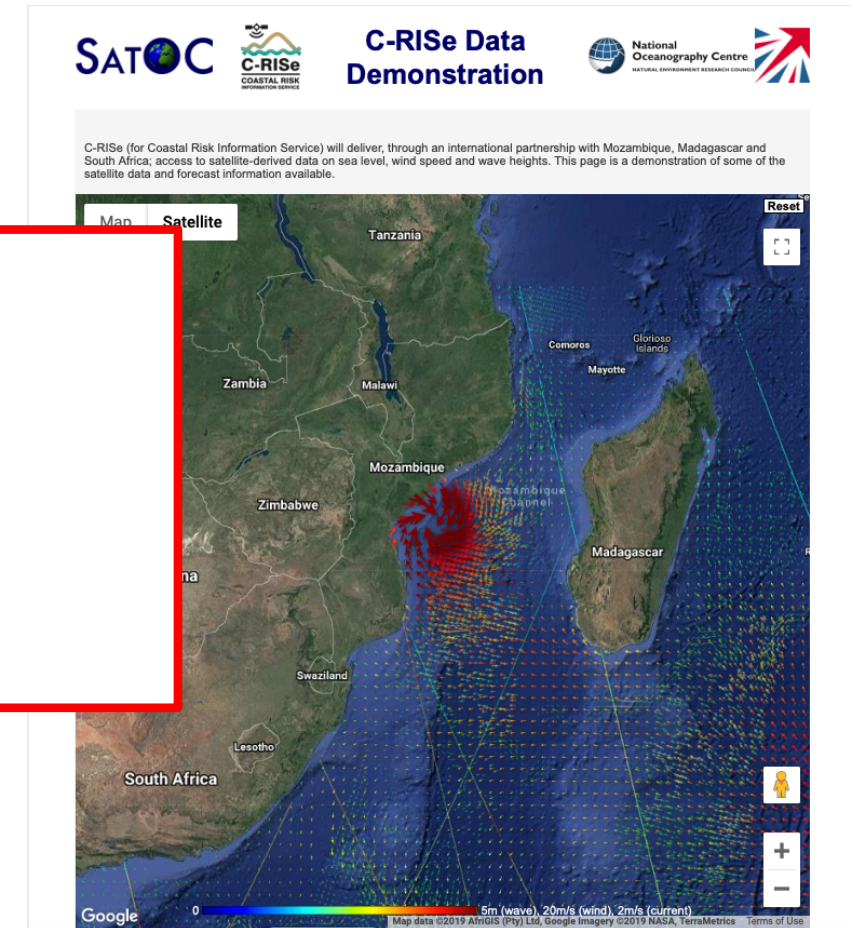
# C-RISe Alert

## Our Proposal:

- Near Real Time Information service on marine conditions
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- User Requirement Specification and
- If successful – st

**Interested?**

**Let us know!**





# Training/Capacity Building

- Broadening the C-RISe user base and extending capability of existing partners
- Development of training materials and open source code to support programming for data analysis (particularly where using) different types of datasets from multiple sources
- Better enable partner organisations to deliver outputs to decision makers (strengthen in-country capacity)



# Training/Capacity Building

Three visits:

1. Two-day **training design** workshop – involving our partners, presenting and refining our ideas.
2. A **seven-day course**, split in to two parts -
  - the first two days involves decision-makers from government ministries and technical staff
  - followed by five days for technical training
  - During this visit we could also collect local content for an online course.
3. At week long **train-the-trainer** workshop (following the design of the online course)

# What else?