

Supporting the Mauritius Early-Warning System for incoming tide and storm surge

CASE STUDY

Bathymetry for hydrodynamic modeling



"EOMAP's shallow water bathymetry provided up-to date information in a timely manner and in an easy-to-use format for an island on an otherwise insufficiently surveyed area"

Dr. J. de Lima Rego, Deltares

Challenges

An Early-Warning System (EWS) for incoming tide and storm surge was developed and implemented by Deltares for the Mauritian Ministry of the Environment, Sustainable Development, Disaster and Beach Management. The EWS was implemented in the context of the Climate Change Adaptation Programme in the coastal zone of Mauritius to increase the climate resilience of the coastal communities and funded by the Adaptation Fund. Up-to-date bathymetric data are essential for accurate predictions but these were not initially available for the area. Time pressure and costs made acoustic or LiDAR campaigns unfeasible.

EOMAP Solution

Instead, EOMAP used earth orbiting sensors to provide shallow water data for one of the islands, effectively mapping the bathymetry down to 20m depth, representing the conditions of August 2014. The data were delivered as a 150m gridded file, which could be used in the models for more accurate hydrodynamic results. All the processing was based on EOMAP's MIP inversion program which generates shallow water

bathymetry from optical satellite imagery.

Effects and benefits

"The bathymetric data fulfilled our needs for the storm surge modelling. Data were delivered in about 24 hours after our order, and costs were considerably lower when compared to other survey methods. With this input we were able to improve even more our model predictions".
Dr. J. de Lima Rego, Deltares

Client/User

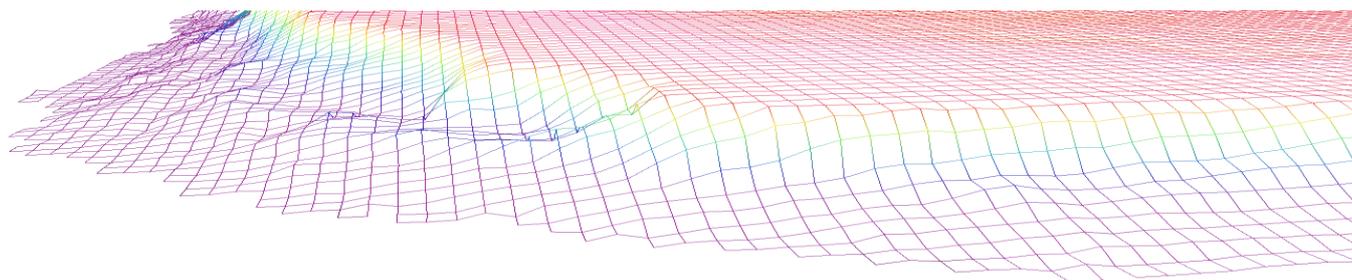
Deltares is a Dutch independent Knowledge Institute for applied research in the fields of water, infrastructure and subsurface. Deltares are active worldwide, supporting marine and coastal environmental activities.



Further reading

<https://www.deltares.nl/en/news/cyclone-storm-surge-forecasts-for-mauritius/>

<http://www.govmu.org/English/News/Pages/Early-Warning-System-for-storm-surge-set-up-before-next-cyclonic-season.aspx>



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