European Union

Copernicus Europe's eyes on Earth

EARSC European Association of Remote Sensing Companies

THE GREEN LAND

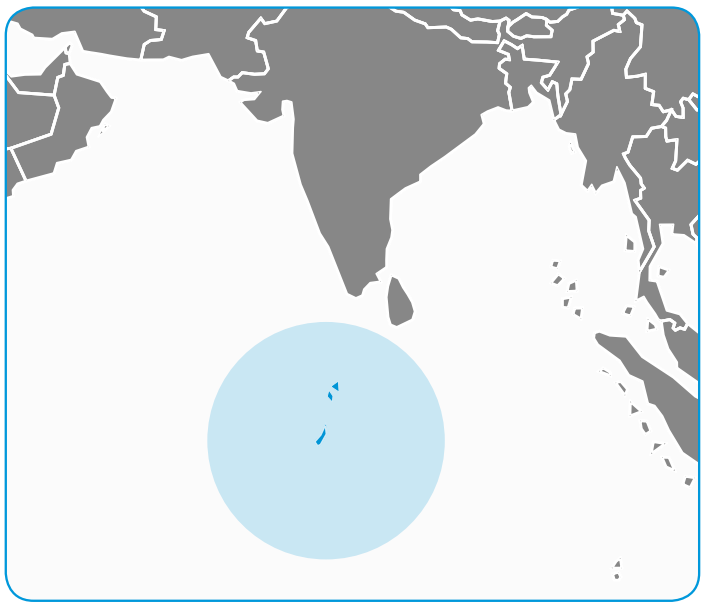
IIASA

esa European Space Agency

DREDGING IN THE MALDIVES

What it is about

The Maldives, comprised of 26 atolls and over 1,000 islands, is the lowest lying country in the world with vulnerable reefs and subject to damage from rising sea-levels and more frequent and violent storms. Coastal protection, reclamation of land and keeping free navigable channels is a constant necessity requiring dredging and the deposition of sand. The EO company EOMAP produces detailed Sentinel-2-based hydrographic charts of the sea depth and sea-floor classification maps. These enable the dredging company Van Oord to manage better their operations, more efficiently extract sand and enhance coastal defences. By using EO map's services, Van Oord benefits from reduced costs while better knowledge of the seabed controls damages to the environment.



What we found

- About 40% of the global population lives in coastal areas, and a good proportion of these relies on dredging operations. The quality infrastructure and the protection of coastal areas is crucial, so there is a high demand for accurate and skilled services.
- EOMAP's charts provide all stakeholders with a common picture, up-to date knowledge on the characteristics of the surrounding sea-floor ecosystem, where sand can be extracted and sea defences are needed.
- The global coverage of Sentinel-2 has enabled EOMAP to extensively do business abroad.
- Better dredging benefits local citizens through reduced cost of development or coastal protection and consequent reduction in the risk of damage to homes.

Funded by the EU and ESA

Layout by ESA EO Graphics Bureau

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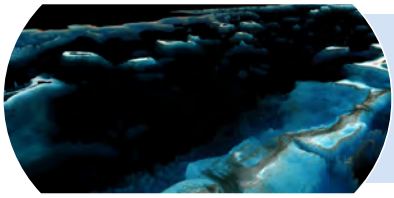
The satellite data
Copernicus Sentinel-2 provides free-of-charge frequent wide-swath, high-resolution multispectral imagery with 13 spectral bands over the Maldives.



The Service Provider
The German company EOMAP produces detailed Sentinel-2-based bathymetric (sea-depth) and sea-floor classification maps (seafloor habitats, benthic cover, and geomorphology) improving the knowledge of the sub-sea surface around the Maldives.

The Primary User
The Dutch company Van Oord benefits from enhanced knowledge and awareness of the sea-depth and sea-floor by saving costs (cheaper sand, less survey-time, faster project implementation), improved ship safety with better navigation and compliance with environmental regulations.

Other Beneficiaries
Engineering companies and developers profit from better assessments of available sand resources and the environmental impact of their works.

End User Beneficiary
The general public benefits from faster dredging and coastal defence works, lower construction costs due to lower sand prices and higher quality of life thanks to a lower risk of floods and damages to homes.

About the project

Through a series of case studies, EARSC aims to gather quantitative evidence that the usage of Copernicus Sentinel data provides an effective and convenient support to various market applications. These studies are undertaken in the frame of the project "Showcasing the benefits brought by the usage of Sentinels data to society, environment and economy: a bottom-up assessment based on traceable impacts along selected value chains", under an assignment from the European Space Agency (ESA) funded by the European Union as part of the Copernicus Programme.

Download the full report from the project website

http://earsc.org/sebs