

Space for Shore

Romanian Success Story



Sacalin spit (Romania)

THE SPACE BASED SOLUTION

TERRASIGNA has developed an in-house procedure that can be used to automatically detect **submerged sandbars** crest positions in the proximity of the coastline, based on long time series of Sentinel-2 images. The algorithm is used to extract each submerged sandbar position using perpendicular profiles along the shoreline, based on multispectral satellite imagery.

Waterline indicator was detected using different water extraction indices such as Modified Normalized Difference Index (MNDWI) or Automated Water Extraction Index (AWEI).

The index-based method was improved and will be used as an automated extraction method on long time series during the 2nd phase of the project.

The Challenge

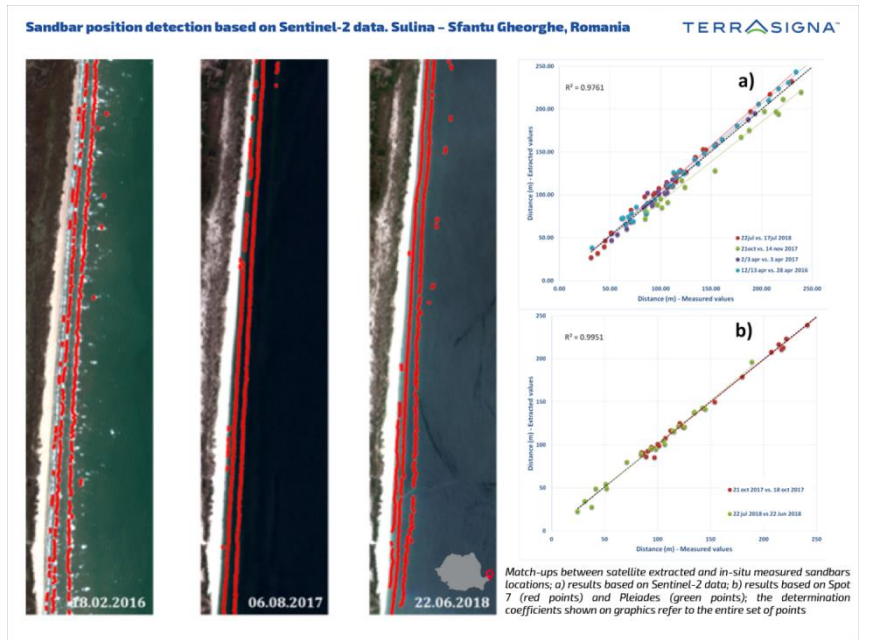
1. Obtain high accuracy for submerged sandbars and waterline indicators using Sentinel 2 (10 m spatial resolution) and Landsat 8 products (30 m spatial resolution).
2. Derive the 2 indicators from Landsat 5, Landsat 8 and Sentinel 2 archives.

The Outcomes

Satellite Derived submerged sandbars position.

Satellite Derived Waterline

Sandbar position extracted from Sentinel-2 products over different moments in time.



Based on the validation results, an initial set of user's opinions were collected. The feedback was mostly positive especially due to the novelty of the proposed methodology for submerged sandbars detection.

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02

Indicators produced

01

Area of interest

50

Km of test sites

Waterline detection based on Landsat 8 data

