

# Newsletter #3

June 2020



As part of the Coastal Erosion project funded by ESA, the Space for Shore consortium led by i-Sea aims at setting up operational services for coastal erosion monitoring from space. The services, designed by and for end-users, will be applied to most coastal geomorphologies and produced over nine distinct coastal regions within five EU countries.

[spaceforshore.eu](https://spaceforshore.eu)  
@shore\_space

## A message to our end-user community

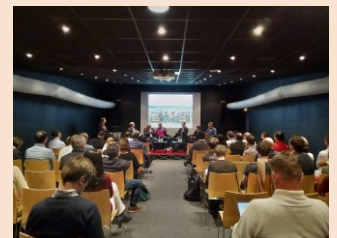
The project mid-term review was a great success! Many thanks to the German, Romanian, Greek, Portuguese and French scientists and coastal managers for defending on our sides the great relevance of space data for coastal erosion monitoring.

Your support was undeniably strong enough to allow us to go to the second year with a large ambition: produce over **1,630 km** in our pilot countries (France, Greece, Germany, Portugal and Romania) long series of coastal and erosion indicators. Details are given in page 2!

## Recent Event

During 14<sup>th</sup> January 2020, in Bordeaux - CapSciences the "Earth Observation for Coastal Erosion Seminar" took place, where about 80 coastal experts, managers, and data processing specialist, gathered and debated on current trends and critical issues in relation to the use and potential of space data for coastal erosion monitoring.

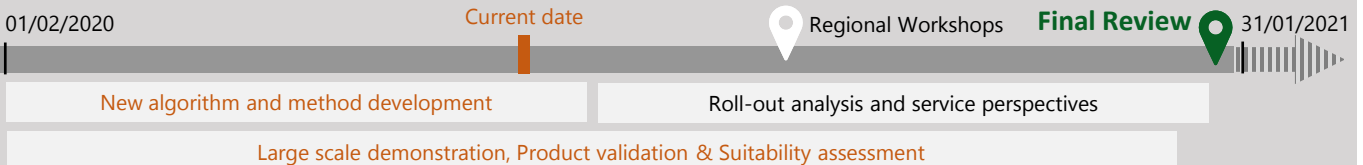
Taking the chance of Space for Shore meeting held the next day, this national seminar expressed various European viewpoints. Conclusions showed the growing interests in space-based databases and a need for large scale demo and price model elaboration.



## Next events

✓ October - November 2020, - Regional Workshops. You are invited to participate in our Regional Workshops, one per country, to evaluate our products and provide your feedback. Once the dates are secured more information will be provided for the registration, agenda and venues.

## Project progress & events



BROCKMANN CONSULT GMBH



TERRASIGNA



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### Space for Shore 2<sup>nd</sup> Phase Key Facts

Top 15 coastal indicators derived from satellite imagery:

Sandy areas

- Waterline & upper waterline excursion
- Bathymetry

Rocky shores

- Cliff bottom & apex

Muddy environments

Up to now, a total 1,630 km of coast is under process!

- 400 km in France
- 200 km in Germany
- 700 km in Greece
- 200 km in Portugal
- 130 km in Romania

Change indicators

- Cliff vertical movements

- Cross-shore shoreline change (sandy and rocky shores)
- Coastal area change (sandy and rocky shores)
- Change in nearshore elevation
- Tidal creek developments



### Success Story: Greece

During the 1<sup>st</sup> project phase, almost 3,300 km of waterline were produced over the Greek pilot area of 340 km of coast, by using different sensors and multitemporal acquisitions. Optical and SAR data were used over the period 2009-2019 and in particular from missions: Sentinel-2, Pleiades, Spot 5/6/7, Landsat-8 and Sentinel-1. Moreover, a field campaign was performed in September 2019 for validation purposes, where approximately a total of 45 km was surveyed.

The good performance of the approach developed to extract the waterline in microtidal areas from optical image (high and very-high resolution) was clearly demonstrated in 1<sup>st</sup> phase. The performance of the approach was demonstrated over the selected site, where validation data exist, and of course that was also required by the Greek end-users and whatever the sensor used to retrieve the indicator. However, from these results, it seems that improvements could still be made in rocky defence structures and rocky areas in general where the predicted waterline is not as accurate as on sandy locations.

### Dissemination platforms

Coastal products achieved during 1<sup>st</sup> Phase are available on the Hellenic EUGENIUS HUB for visualizing and evaluation. All interested end-users are welcome to visit the HUB and receive, upon request, credentials that permit access to the platform. The procedure is simple, just click on this link <https://hellas.eugenius-asso.eu/ldapadmin/account/new> and fill in your contact details. In case you need any support do not hesitate to contact us!

A second platform is disseminating Space for Shore products devoted to PACA region in France:

<https://www.datasud.fr/>

This is a sound initiative to support the use of space data at a regional scale! Many thanks to PACA region and CRIGE PACA to host our data.

**We will be pleased to facilitate the dissemination of our products in other European regions.**