CoastObs

GEO AquaWatch – GloboLakes Joint Workshop

30/8/2018

COMMERCIAL SERVICE PLATFORM FOR USER-RELEVANT COASTAL WATER MONITORING SERVICES BASED ON EARTH OBSERVATION

COMMERCIAL SERVICE PLATFORMFOR USER-RELEVANT COASTAL WATER MONITORING SERVICES BASED ON EARTH OBSERVATION (CoastObs)
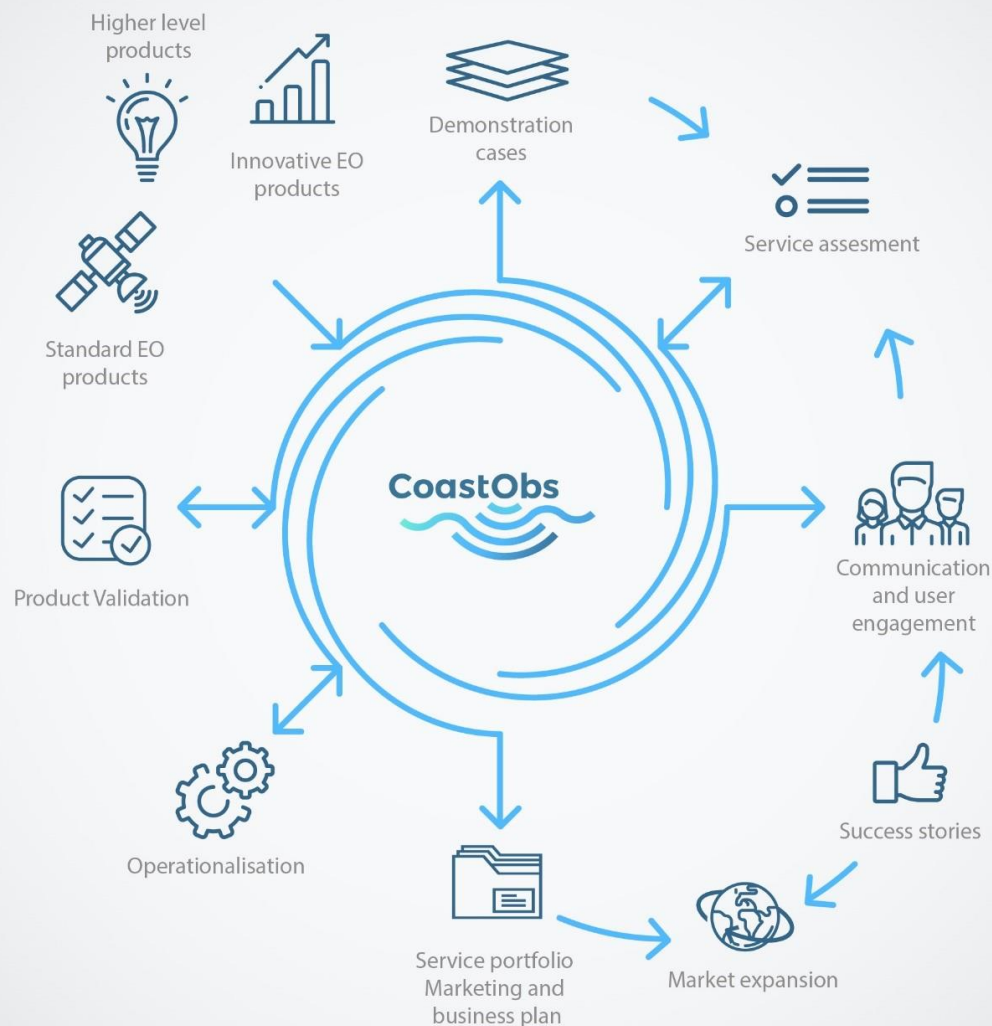
A H2020 Downstream applications project

Steef Peters & Kathrin Poser, Water Insight & CoastObs consortium

Project overview

Produce user relevant (marketable) innovative EO-based information products and services

Ensure user uptake of EO-based services by matching user requirements with product and system development

Lower cost of production by setting up highly automated information production system and targeting a user base with overlapping requirement
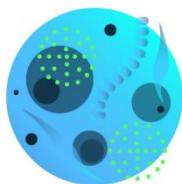
Consortium

Products

Standard Products

- Chlorophyll-a
- Total suspended matter, turbidity
- Phycocyanin, Coloured dissolved organic matter
- Sea surface temperature

Innovative Products

- Seagrass, macro algae
- Phytoplankton size classes
- Harmful/indicator algae species
- Phytoplankton primary production

Higher level products

- Statistics/aggregation
- Indicators for water framework directive reporting
- Harmful algal blooms forecast
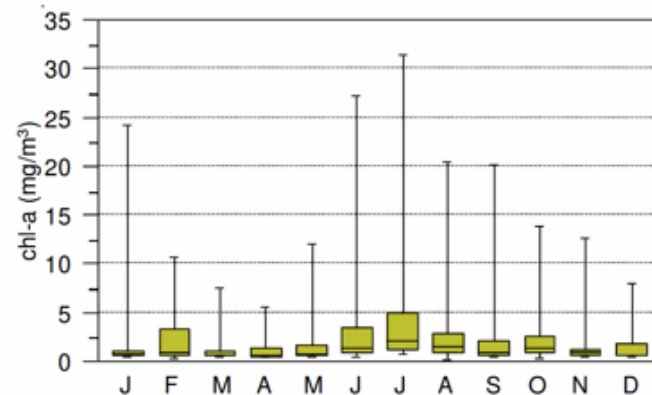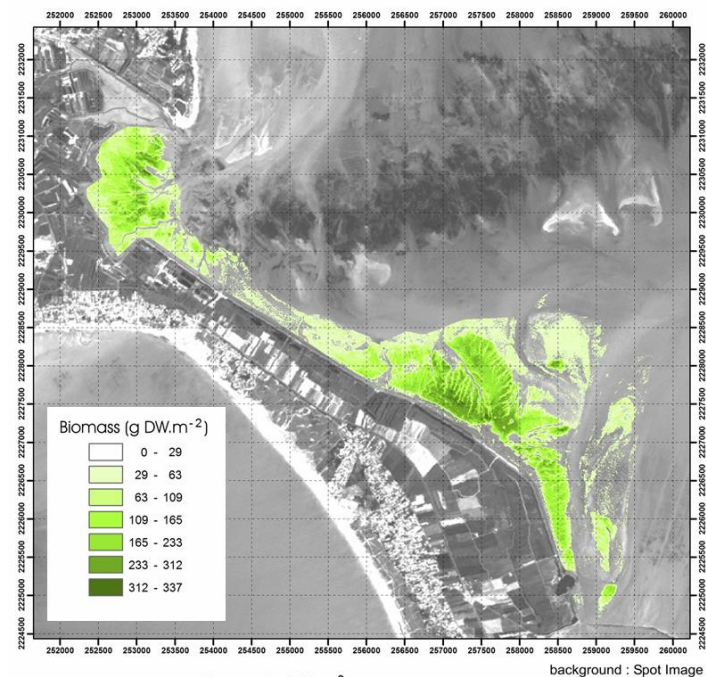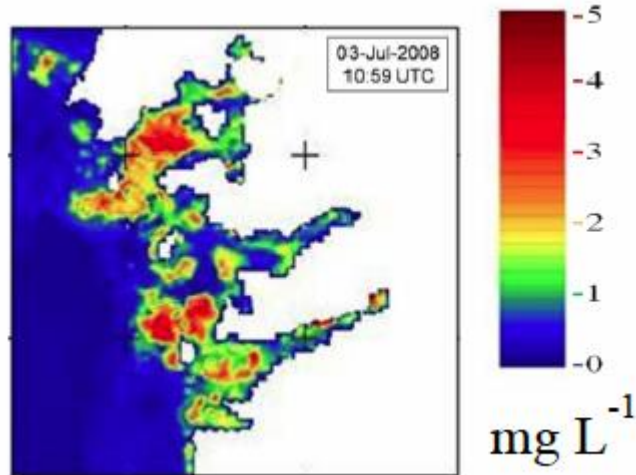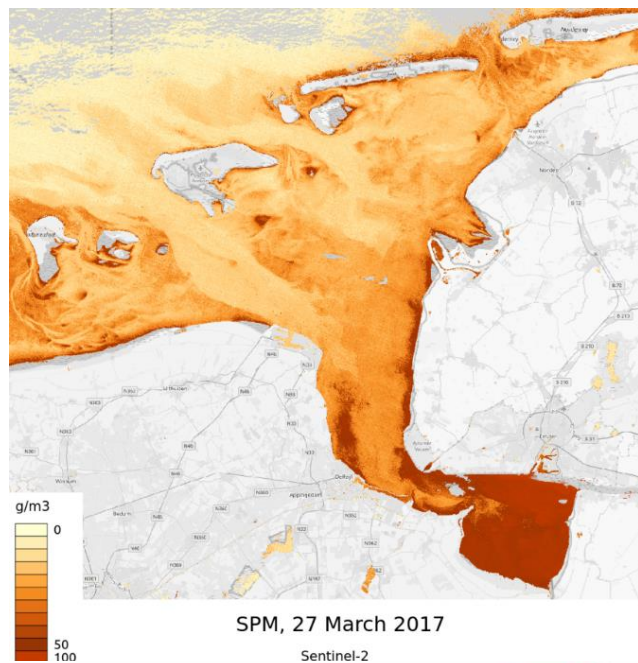- Shellfish culture potential

phytoplankton *seagrass* *harmful algal blooms* *primary production*

SPM, 27 March 2017
Sentinel-2

background : Spot Image

Biomass (g DW.m^{-2})
- 0 - 29
- 29 - 63
- 63 - 109
- 109 - 165
- 165 - 233
- 233 - 312
- 312 - 337

03-Jul-2008
10:59 UTC

mg L^{-1}

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Service types

Near real time service

Harmful algae bloom warning for aquaculture industry.

Turbidity threshold monitoring for dredging.

One off analysis

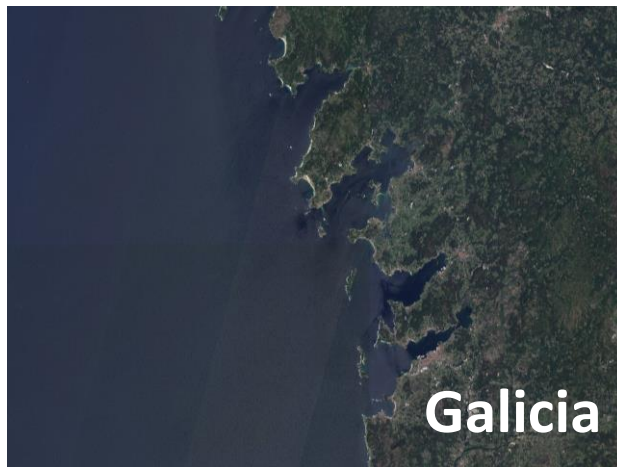Spatial suitability analysis

Source identification

Periodic reporting service

Water Framework Directive reporting

Monitoring of trends (e.g. eutrophication, carrying capacity)

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Dutch coast

Food availability for Mussels
Environmental / turbidity monitoring
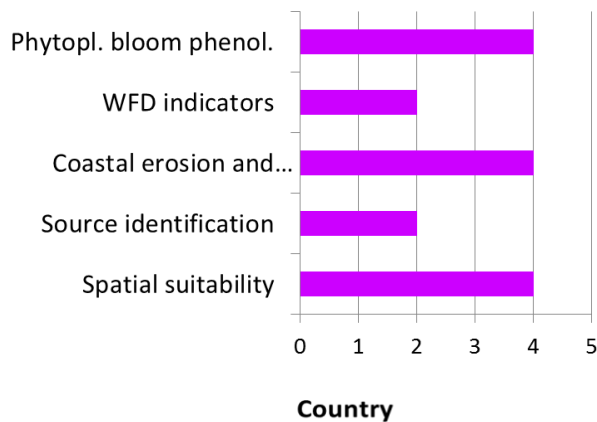Coastal Dynamics

Galicia

Monitoring, forecast & early warning of
Harmfull algae blooms
Pseudo-nitzschia spp

South Brittany

Submerged macrophytes
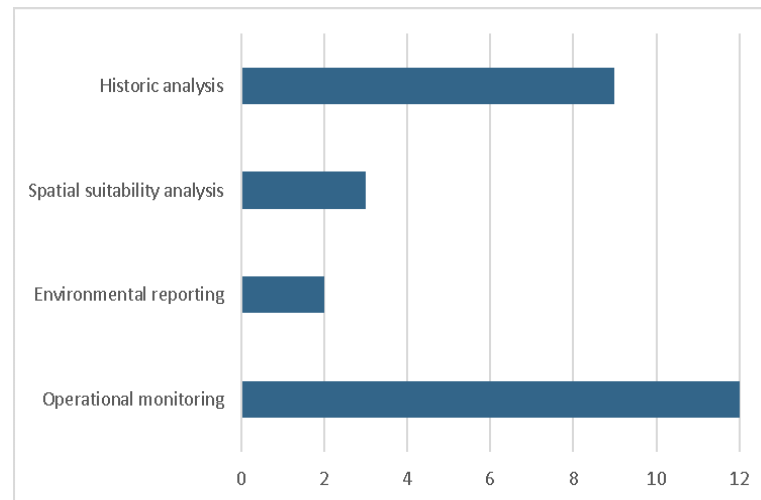Morphodynamics, coastal erosion and accretion
Environmental monitoring

Adriatic coast

Intertidal macrophytes
Submerged seagrass
WFD reporting
Sediment plumes

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Phytopl. bloom phenol.
WFD indicators
Coastal erosion and...
Source identification
Spatial suitability

0 1 2 3 4 5

Country

Historic analysis
Spatial suitability analysis
Environmental reporting
Operational monitoring

0 2 4 6 8 10 12

Eutrophication? Changes in bloom phenology?

Location / intensity of dredging plumes?

Best location to grow shellfish?

Public authorities water quality monitoring

Aquaculture / fisheries associations

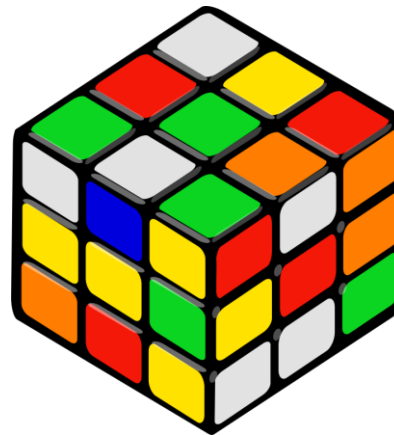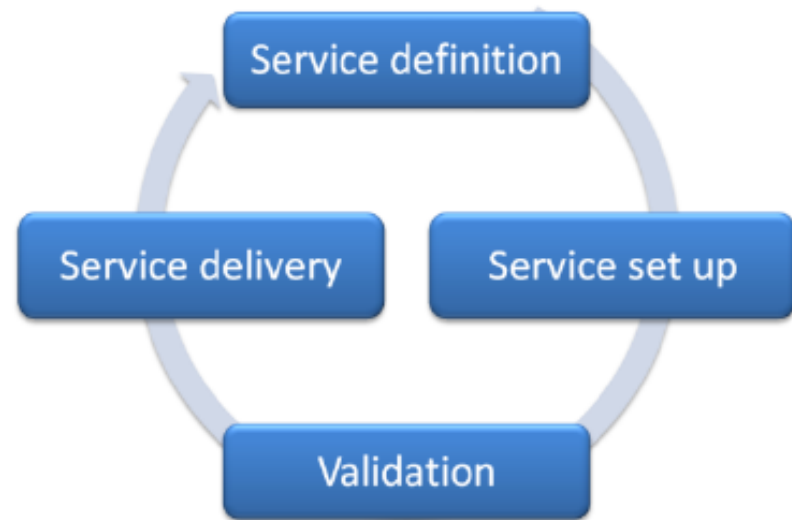Port authorities

Shellfish farmers

- Public
- Private

NL   FR   IT   SP

Product validation

Next steps

- Test product delivery & evaluation with users

- Set up of operational infrastructure including data cube software and web portal

Service definition

Service delivery

Service set up

Validation

Earth System Datacube

DIAS

Rasdaman

Open Data Cube

Thank you!

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