Marine Knowledge 2020

Paris

26 June, 2013

Maritime Affairs

objectives

1. **reduce operational costs and delays:**
   - help private industry;
   - improve the quality of public decision-making at all levels;
   - strengthen marine scientific research.
2. **increase competition and innovation;**
3. **reduce uncertainty in knowledge of the seas and oceans.**

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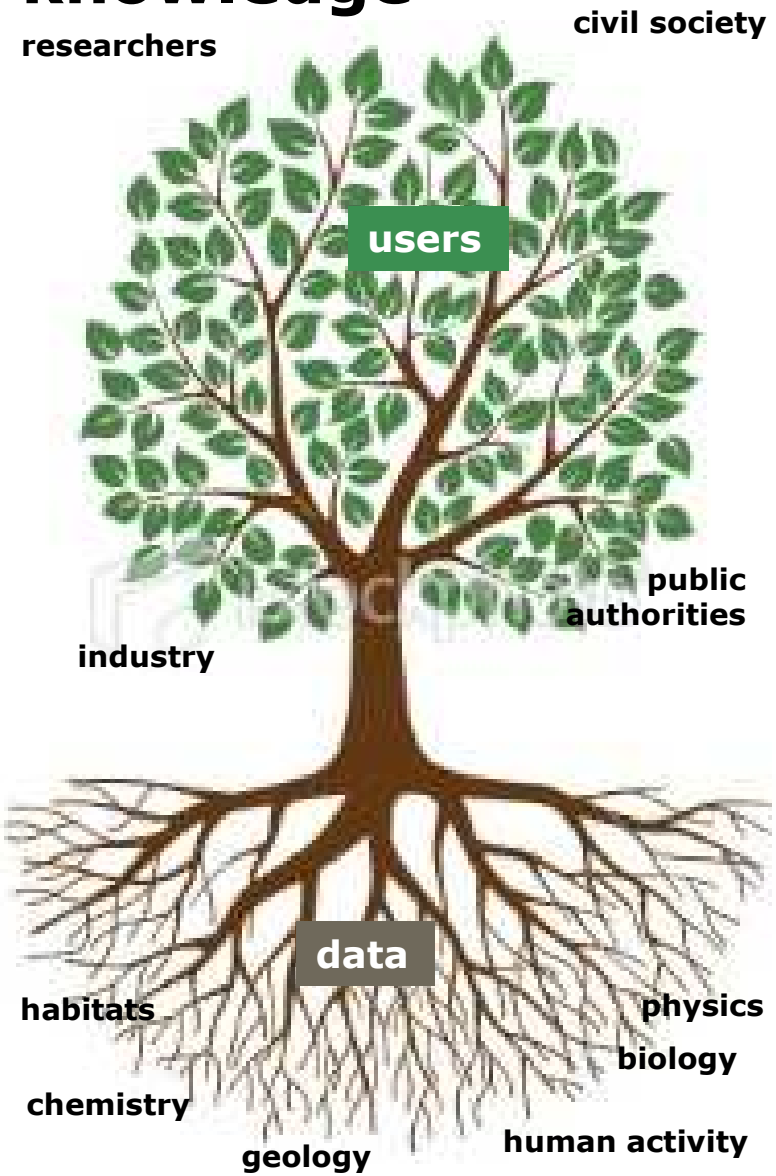
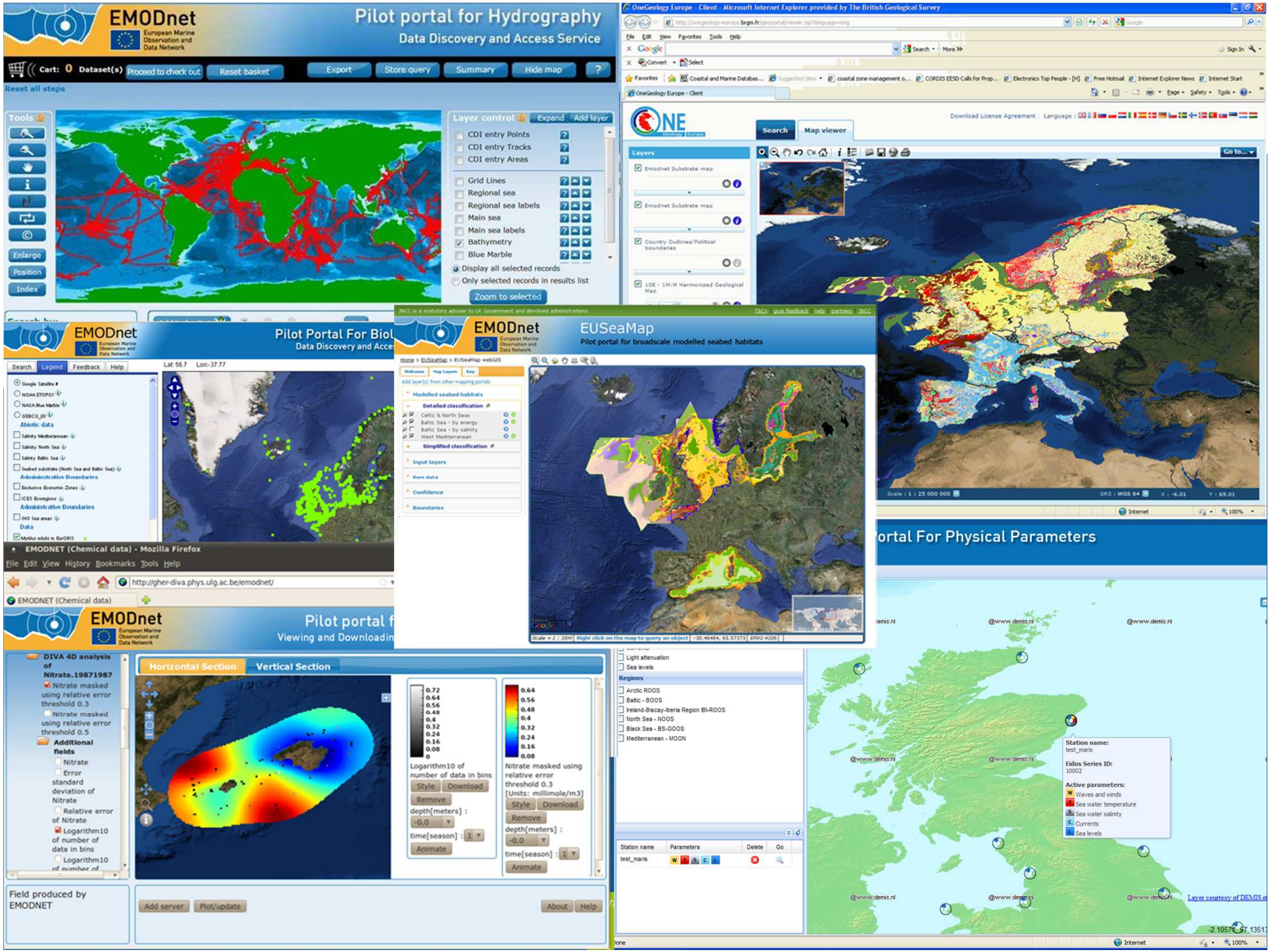
tree of marine knowledge



- access to data
  - maintained on Member States' databases
  - interoperable, common standards
  - metadata describing time, date of measurement, quality, etc.
- data products
  - maintained by consortium
  - map layers
  - quality indicators


EMODnet
European Marine Observation and Data Network
Pilot portal for Hydrography
Data Discovery and Access Service
Cart: 0 Dataset(s)
Proceed to check out
Reset basket
Export
Store query
Summary
Hide map
Reset all steps
Tools
Enlarge
Position
Index
Layer control
Expand
Add layer
CDI entry Points
CDI entry Tracks
CDI entry Areas
Grid Lines
Regional sea
Regional sea labels
Main sea
Main sea labels
Bathymetry
Blue Marble
Display all selected records
Only selected records in results list
Zoom to selected
OneGeology Europe - Client - Microsoft Internet Explorer provided by The British Geological Survey
Search
Map viewer
Layers
Emodnet Substrate map
Country Outlines/Political boundaries
Go to...
EMODnet
Pilot Portal For Biol
Data Discovery and Acce
Search
Legend
Feedback
Help
Abiotic data
Administrative Boundaries
Data
EMODnet
EUSeaMap
Pilot portal for broadscale modelled seabed habitats
Modelled seabed habitats
Detailed classification
Simplified classification
Input layers
Rare data
Confidence
Boundaries
EMODNET (Chemical data) - Mozilla Firefox
http://gher-diva.phys.ulg.ac.be/emodnet/
EMODnet
Pilot portal f
Viewing and Downloadin
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DIVA 4D analysis of Nitrate.19871987
Nitrate masked using relative error threshold 0.3
Nitrate masked using relative error threshold 0.5
Additional fields
Nitrate
Error standard deviation of Nitrate
Relative error of Nitrate
Logarithm10 of number of data in bins
Horizontal Section
Vertical Section
Logarithm10 of number of data in bins
Style
Download
Remove
depth[meters] :
time[season] :
Animate
Nitrate masked using relative error threshold 0.3 [Units: millimole/m3]
Light attenuation
Sea levels
Regions
Arctic ROOS
Baltic - BOOS
Ireland-Biscay-Iberia Region IBI-ROOS
North Sea - NOOS
Black Sea - BS-GOOS
Mediterranean - MOON
Station name
Parameters
Delete
Go
test_maris
Station name:
test_maris
Eidos Series ID:
10002
Active parameters:
Waves and winds
Sea water temperature
Sea water salinity
Currents
Sea levels
Field produced by EMODNET
Add server
Plot/update
About
Help
@www.demis.nl
Layer courtesy of DEMIS

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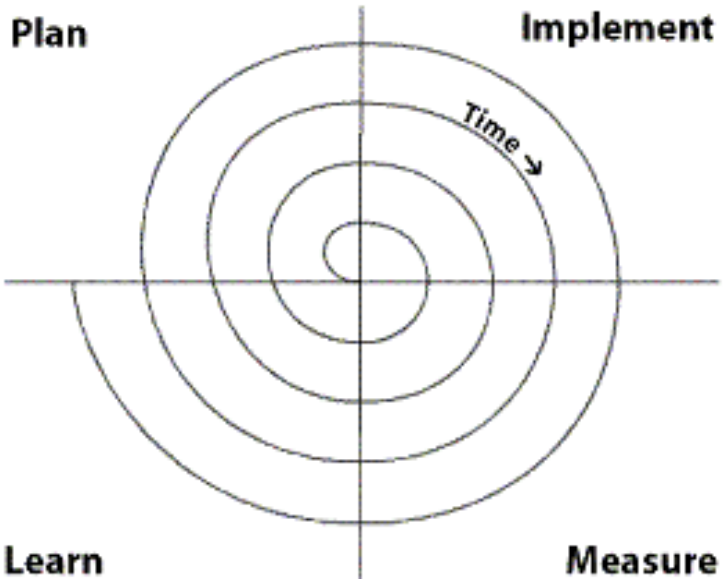
prototype method

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Phase 1 – limited sea basins											
				Phase 2 - low resolution							
						Phase 3 - multi-resolution					



allows users to assess and improve product by trying it out rather than relying on description

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budget

	phase 1	phase 2
bathymetry	€ 2,175,000	€ 2,000,000
geology	€ 925,000	€ 4,200,000
physics	€ 1,000,000	€ 1,000,000
chemistry	€ 700,000	€ 4,000,000
biology	€ 750,000	€ 1,700,000
physical habitats	€ 800,000	€ 1,390,000
human activity		€ 2,060,000
	€ 6,350,000	**€ 16,350,000**

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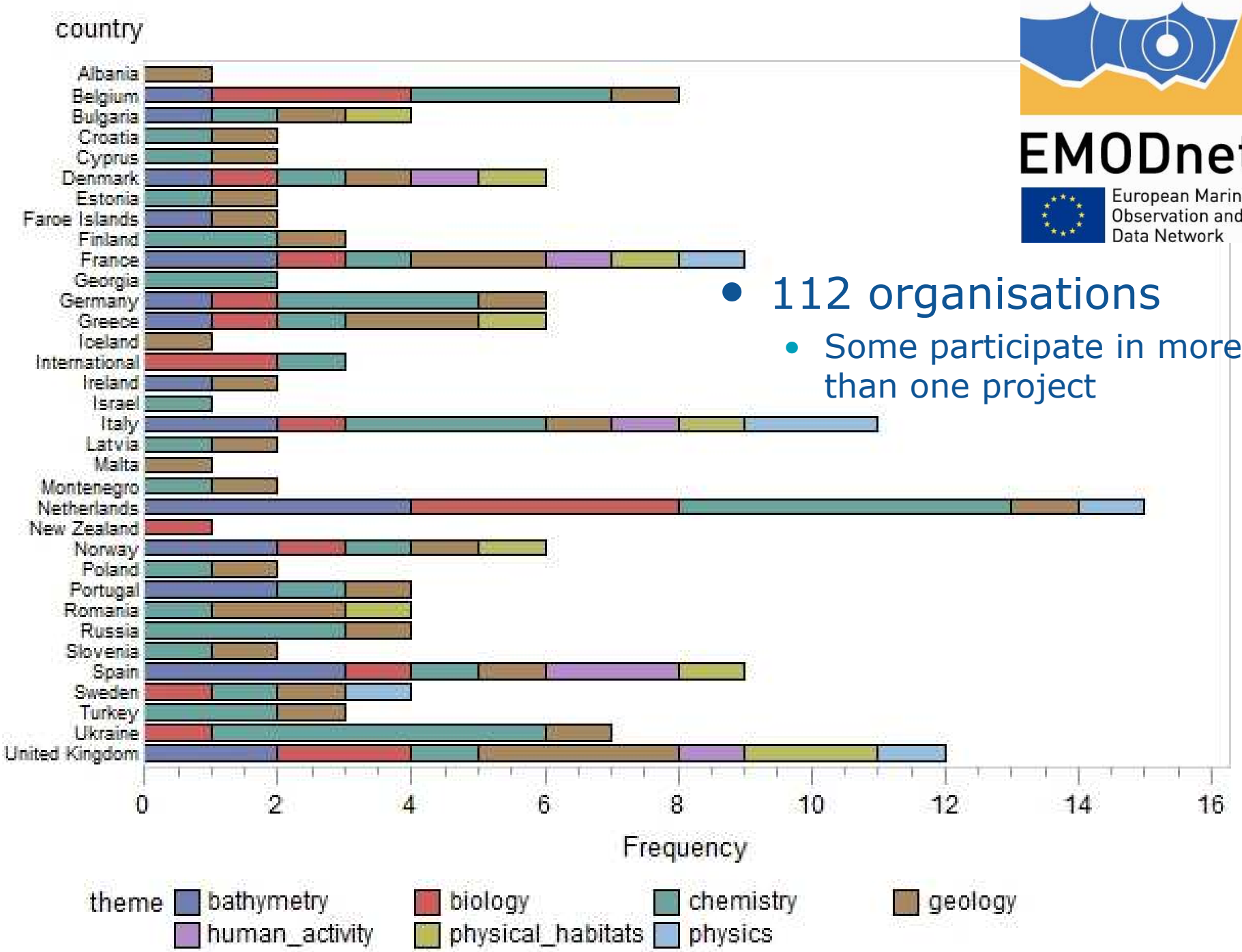

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- 112 organisations
  - Some participate in more than one project

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how they spend the money

objective	biology	chemistry	bathymetry	average
data and metadata	54	39	29	41
data products	18	35	50	34
evaluation and dissemination	8	5	4	6
portal development	11	12	14	12
project management	9	10	4	8
Total	100	100	100	100

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sea basin checkpoints

How can observation infrastructure be optimised?

North Sea
€700,000

Mediterranean
€1,100,000

challenge 1 wind farm siting

- Determine the suitability of sites for wind farm development of sites. The sites are where
  - Norwegian, UK, Danish, German and Dutch waters meet.
  - Dutch and Belgian waters meet
  - UK, Belgian and French waters meet
- All aspects should be considered - wind strength, seafloor geology, environmental impact, distance from grid, shipping lanes – even if one of the factors makes this a no-go scenario.

challenge 2 marine protected areas

- analyse the existing European network of marine protected areas (national and international sites) and determine whether the network constitute a representative and coherent network as described in article 13 in the Marine Strategy Framework Directive.

challenge 3 oil spill

- The contractor will be informed that there is a leak from an oil platform at a time to be decided by the European Commission. The contractor will not receive advance warning of the exercise
- The contractor will determine the likely trajectory of the slick and the statistical likelihood that sensitive coastal habitats or species or tourist beaches will be affected.

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challenge 4a climate and coast

- produce spatial data layers for the following parameters for the past 10 years, the past 50 years and the past 100 years:
  - average annual change in temperature at surface, midwater and sea-bottom
  - average annual sea-level rise at the coast (absolute and relative to the land)
  - sediment mass balance at the coast

challenge 4b climate and coast

- produce time plots for the following parameters for the whole sea basin
  - average annual sea temperature over sea-basin at surface, mid-water column and bottom.
  - average annual changes in internal energy of sea
  - average annual sea-level rise relative to the land for each NUTS3 region along North Sea coast
  - annual sediment balance along North Sea coast for each NUTS3 region along North Sea coast

challenge 5 fish

- produce tables for the whole sea-basin of
  - mass and number of landings of fish by species and year
  - mass and number of discards and bycatch (of fish, mammals, reptiles and seabirds) by species and year
- These should include data from before and after the Data Collection Regulation came into force. The time-series should be as long as possible. Its length will clearly vary from species to species.
- produce data layers (gridded) showing the extent of fisheries impact on the sea floor. bybottoarea where bottom habitat has been disturbed by trawling (number of disturbances per month

Challenge 6 marine environment

- Produce data layers (gridded) showing
  - Seasonal averages of eutrophication in the basin for past ten years
  - Change in eutrophication over past ten years (i.e.where eutrophication has reduced and where it has increased)

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Challenge 7 rivers

- for each river bordering the sea basin, the country where it enter the sea and a time series of annual inputs from rivers of
  - water
  - sediment
  - total nitrogen
  - phosphates
  - salmon
  - eels
- Produce monthly averages, maxima and minima for these parameters over the past ten years

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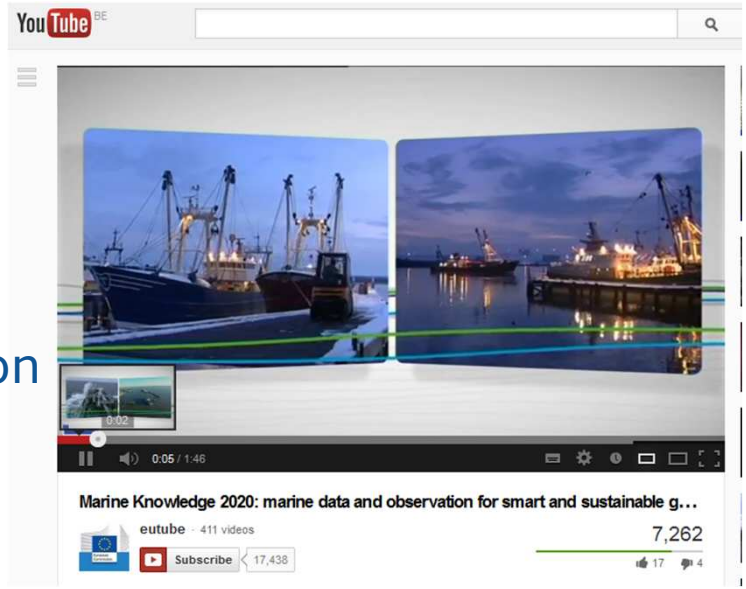
Secretariat hosting

- Flemish Marine Institute
  - meeting rooms, offices, IT
  - building main internet portal

Secretariat tasks

- monitoring
  - organise steering committee
  - summarise meetings of Marine Observation and Data Expert Group
  - test the EMODnet thematic portals
  - develop and publish progress indicators
  - publish bi-monthly progress reports
  - report lessons learned
- dissemination
  - prepare a half-hour on-line demonstration
  - and make 20 demonstrations
  - shoot two 10 minute videos of EMODnet
  - prepare an EMODnet brochure
  - publish annual progress reports
  - maintain web-site



€600,000 for two years

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Impact assessment

- how to provide a more effective process for helping Member States fix priorities for surveying, observation and processing
- how to further improve coordination between the different EU instruments concerned with marine knowledge
- how to involve the private sector

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Atlantic Action Plan

- defines priorities for 2014-2020 for France, Ireland, Portugal, Spain, UK
  - regional funding
  - EU research projects
- (..) develop and maintain a sustainable integrated programme for surveying and observing the coasts, seabed and water column, (…)
- developing new instruments and platforms for ocean observation and ecosystem monitoring (including seabed mapping) that increase the number of parameters that can be measured automatically, lower the costs of observation and accelerate the dissemination of data to users;
- contributing to a more effective stewardship, cataloguing and distribution of interoperable marine data and a multi-resolution seabed map through contributions to a European Marine Observation and Data Network;

Atlantic Declaration in Galway

- activities may include efforts to better coordinate data sharing, interoperability and coordination of observing structures and seabed and benthic habitats

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questions?