EMODnet Lot 3: Update

1st EMODnet Steering Committee Meeting

Amelia Curd – Ifremer DYNECO/AG
on behalf of the Seabed Habitats Consortium

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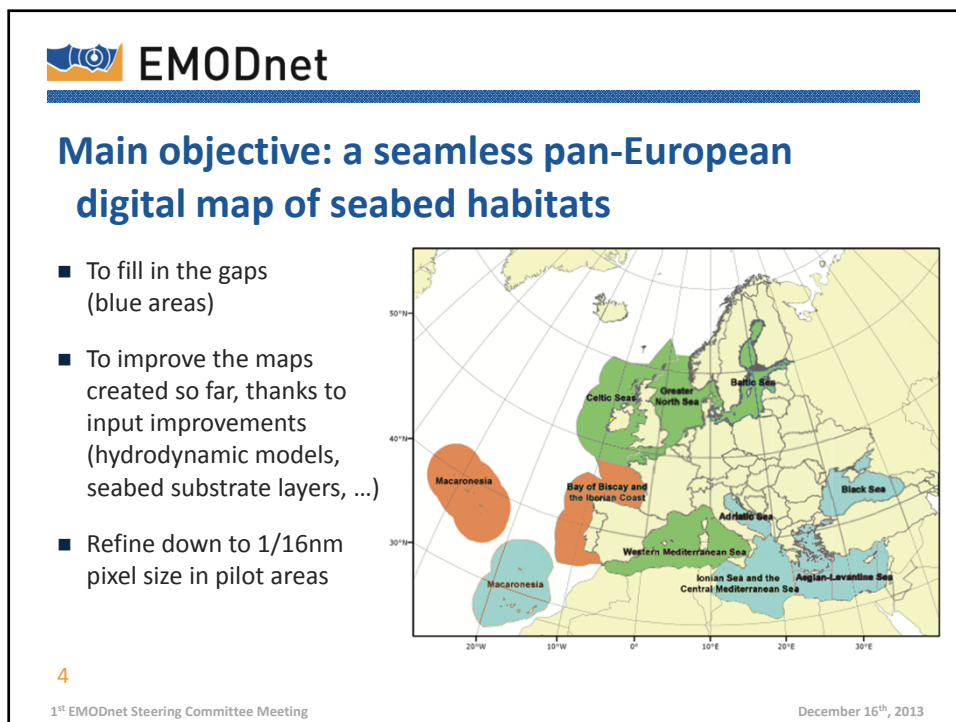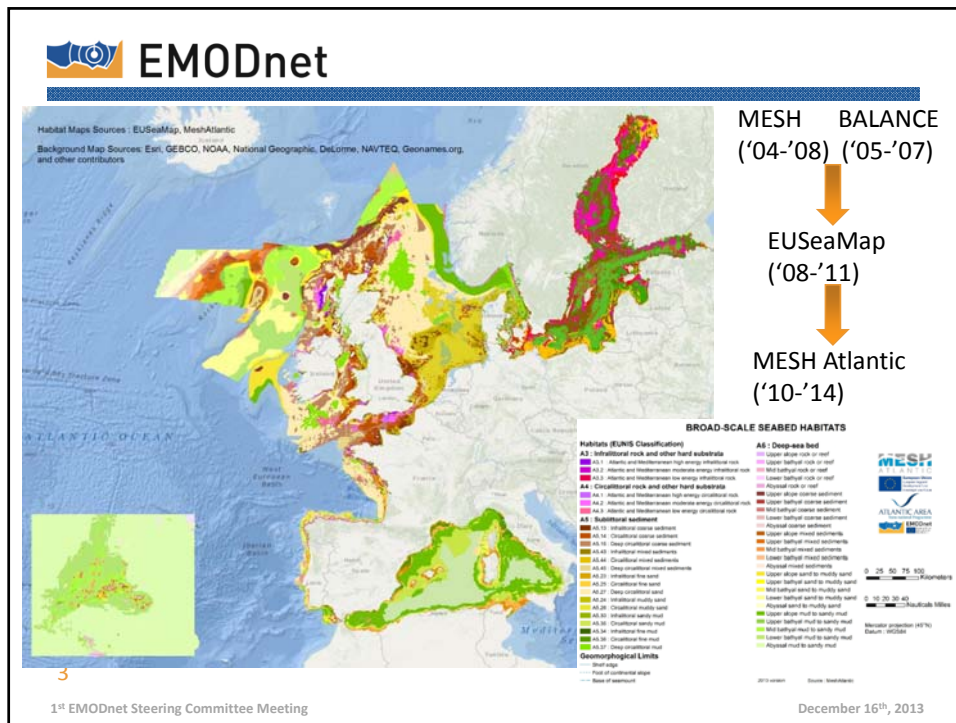European Marine
Observation and
Data Network

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Presentation Outline

Jacques Populus
Ifremer, coordinator

- Background

- Goal

- Quick Methodology

- Problems

- Web Portal Planning

- Entry Portal Use Cases

▪9 partners, 4 subcontractors, 10 countries

▪Start date: 9th September 2013
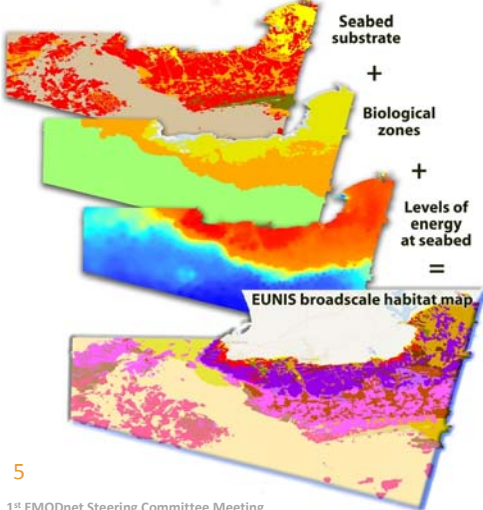
▪Kick-Off Meeting: Rome, 1st-3rd October 2013

2

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Habitat Maps Sources : EUSeaMap, MeshAtlantic
Background Map Sources: Esri, GEBCO, NOAA, National Geographic, DeLorme, NAVTEQ, Geonames.org, and other contributors

MESH   BALANCE
('04-'08)   ('05-'07)

EUSeaMap
('08-'11)

MESH Atlantic
('10-'14)

3

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Main objective: a seamless pan-European digital map of seabed habitats

- To fill in the gaps (blue areas)

- To improve the maps created so far, thanks to input improvements (hydrodynamic models, seabed substrate layers, …)

- Refine down to 1/16nm pixel size in pilot areas

4

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Methodology: EUNIS-driven top-down approach

Seabed
substrate

+

Biological
zones

+

Levels of
energy
at seabed

=

EUNIS broadscale habitat map

Seabed substrate full coverage layer

Biological/depth zones full coverage layer

Energy at the seabed full coverage layer

Broad-scale predictive habitats full coverage layer
EUNIS levels 3/4

5

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Revising of the Marine Component of the EUNIS Habitats Classification

- First stage: workshop at EEA last month

- More biogeography-based, accomodates new typologies

- Intercalibrations within biogeographic regions

- EMODnet Seabed Habitats could act as a facilitator

- Aim: finalised proposal in December 2014

- Recoding of our existing maps (new colour scheme)

6

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Seabed Habitats 2014 Year 1 Deliverables

- Maps will be made available for three new sea-basins
  - Macaronesia (Madeira and Canary Islands)
  - Adriatic
  - Iberian Coast

The models for the maps created so far (EUSeaMap, MESH Atlantic) **have been structured to allow ready update of the maps, as new higher quality data become available in the future.**

7

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The « Seabed Habitats » lot is a receptacle of many data layers either collated or produced by the other EMODnet lots

Lots	What	Where	When
Hydrography	1/8 nm gridded bathymetry	Adriatic Macaronesia	By June 2014
Geology	Grain-size point sample data + polygon rock layer OR 7-class Folk polygon map	Adriatic	By June 2014
Biology	Point sample data (esp. angiosperm and macroalgae) to calibrate depth zone thresholds	Everywhere (start w/Adriatic)	Throughout
Human Activities	Effect of downscaling and resolution on assessing HAs	Kattegat	Year 2

8

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Confidence assessment

- Tender requests data layers of confidence in classifications
- Qualitative confidence in input data (Good-Medium-Bad)
- Ideally: Hydrography and Geology produce confidence maps
- Perhaps a common workshop?

9

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Downscaling case studies (1/16th nm)

- Where are the highest resolution EMODnet phase 2 layers for:
  - Geology
  - Bathymetry
  - Physics
  - Chemistry
- Do these areas coincide with a good coverage of point sample biological data?
- Could the entry portal show the boundaries of these finer resolution layers from thematic lots?
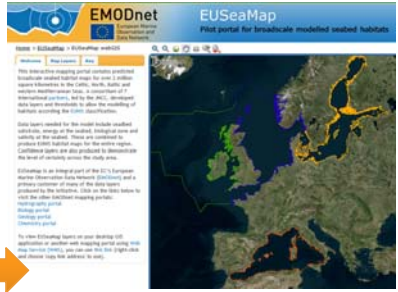
10

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Includes OSPAR priority habitats

Single standardised
EMODnet Seabed Habitats Map Portal
www.emodnet.eu/seabedhabitats
Feasibility of WFS capability introduction
Metadata catalogue (currently ICES WGMHM)
Months 6-24

11

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The webGIS development also includes:

- Search and display function allowing users to search results either as a map or as metadata

- Integration of fine-scale maps collated outside project remit (Regional Seas Conventions, Annex I Habitats Directive…)

- Process to allow submission of fine-scale habitat map records (as metadata or as spatial layers)

- Facebook link, RSS feeds   MapServer

12

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Entry Portal use cases that would help us

- 'On-the-fly' creation of gridded oceanographic climatologies
  - Choose variable (e.g. light attenuation, current speed)
  - Choose resolution
  - Choose time window (e.g. 2009 - 2011)
  - Choose statistics: e.g. (mean, s.d., max, min, xth percentile)
  - Output: a gridded layer at the chosen resolution of the chosen statistics for the chosen variable and time window
- 'On-the-fly' creation of gridded seabed substrate
  - Choose resolution
  - Choose classification in predefined list (e.g.: MESH triangle-based)
  - Output: gridded layer for seabed substrate at chosen resolution and
  13   classification

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Entry Portal use cases that can't be performed

- 'On-the-fly' calibration of EMODnet Modeled Seabed Habitat maps with biology lot point sample data
  - Needs statistical analyses that cannot be automated

- 'On-the-fly' creation of modeled seabed habitat map via combining physical parameters, hydrology and seabed substrate lots
  - Would require EUNIS classification to consider all biogeography particularities and to be for ever stable

14

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Thank you

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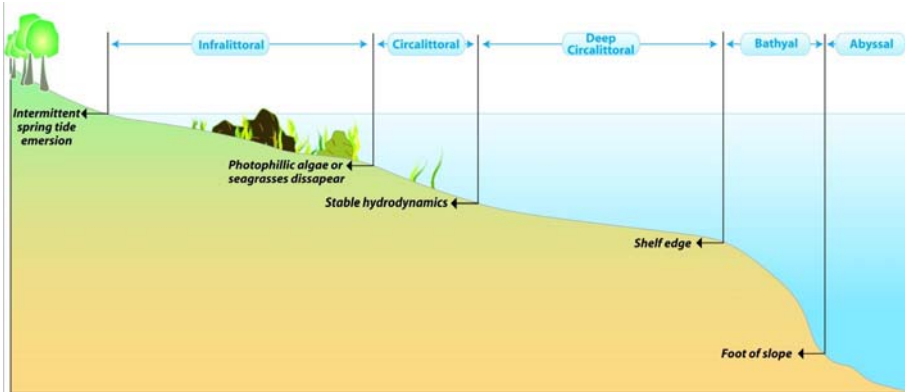## EUSeaMap2 Main Tasks

- WP1 - Classification review - ISPRA *Istituto Superiore per la Protezione e la Ricerca Ambientale*
- WP2 - Data preparation - hcmr ΕΛΚΕΘΕ
- WP3 - Habitat sample data - GeoEcoMar
- WP4 - Thresholds - Ifremer
- WP5 - Modelling and confidence - JNCC *Joint Nature Conservation Committee*
- WP6 - Web portal - JNCC *Joint Nature Conservation Committee*
- WP7 - Applications of physical habitat products - AARHUS UNIVERSITY DCE – DANISH CENTRE FOR ENVIRONMENT AND ENERGY
- WP8 - Coordination and Communication - Ifremer