



EMODnet



European Marine
Observation and
Data Network

Update from EMODnet Seabed Habitats

16th EMODnet Steering Committee
27-28 April 2022

Helen Lillis
Mickaël Vasquez

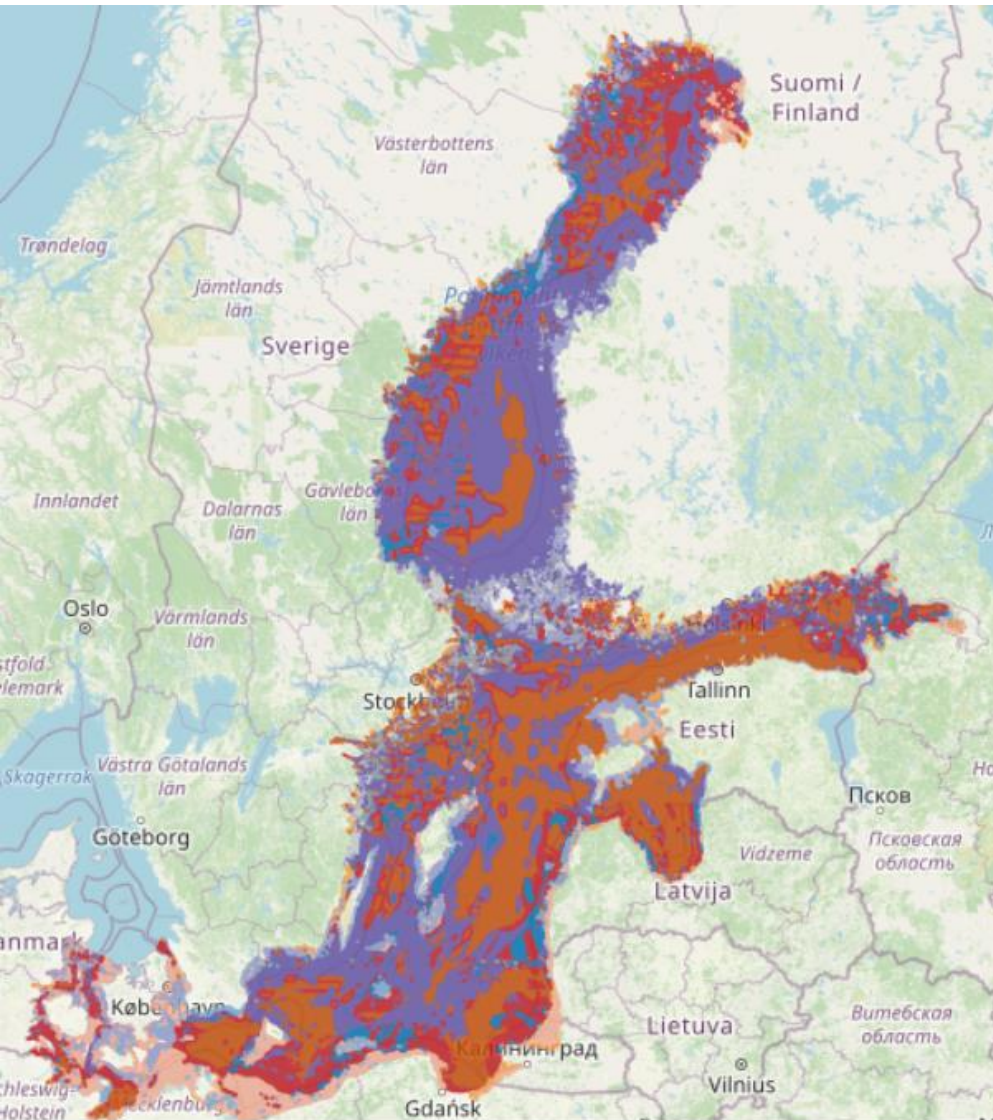
Seabed Habitats

www.emodnet-seabedhabitats.eu

Seabed Habitats has 3 principal roles

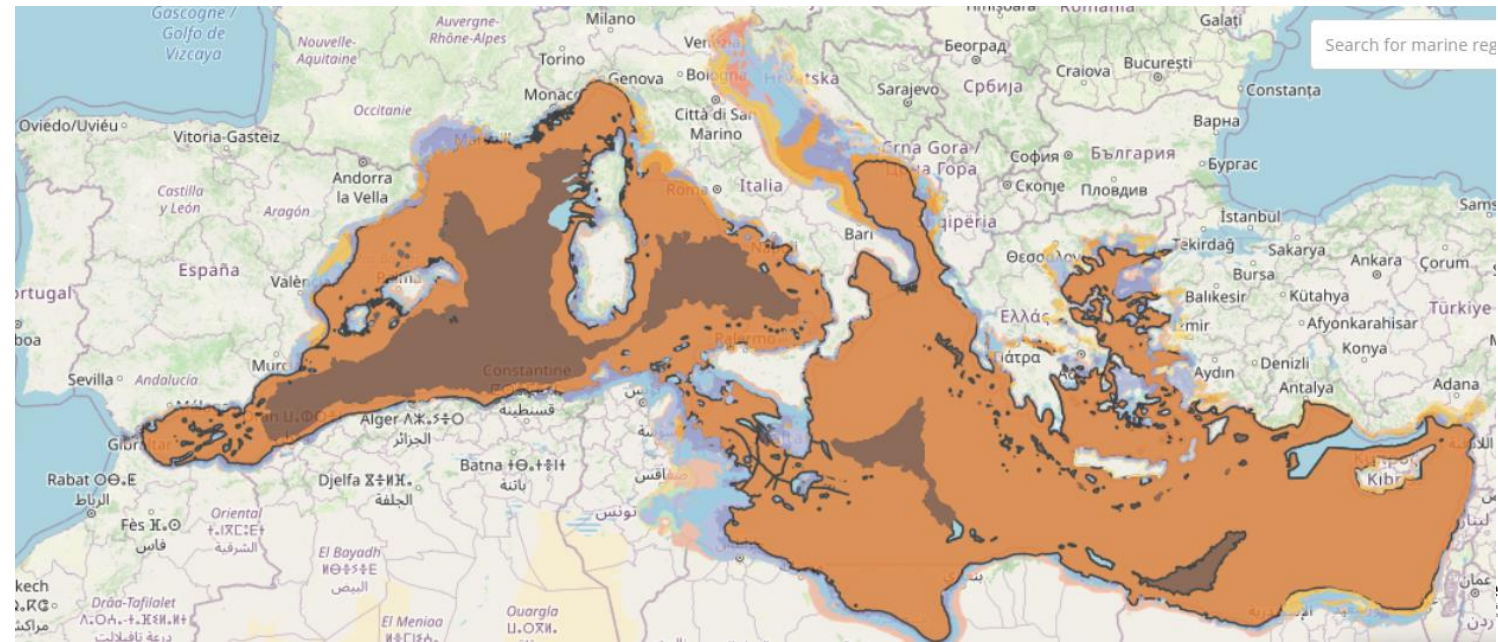
- 1. Find, standardize and share local scale seabed habitat data and products**, e.g. habitat maps and sample points
- 2. Combine these and turn them into regional products**, e.g. map of seagrass in the Mediterranean
- 3. Create brand new products**, e.g. EUSeaMap and environmental layers

Status update – achievements: EUSeaMap in regional classification schemes



Baltic – HELCOM Underwater Biotopes (HUB)

Mediterranean – Barcelona Convention habitat types



Status update – achievements: new composite data products

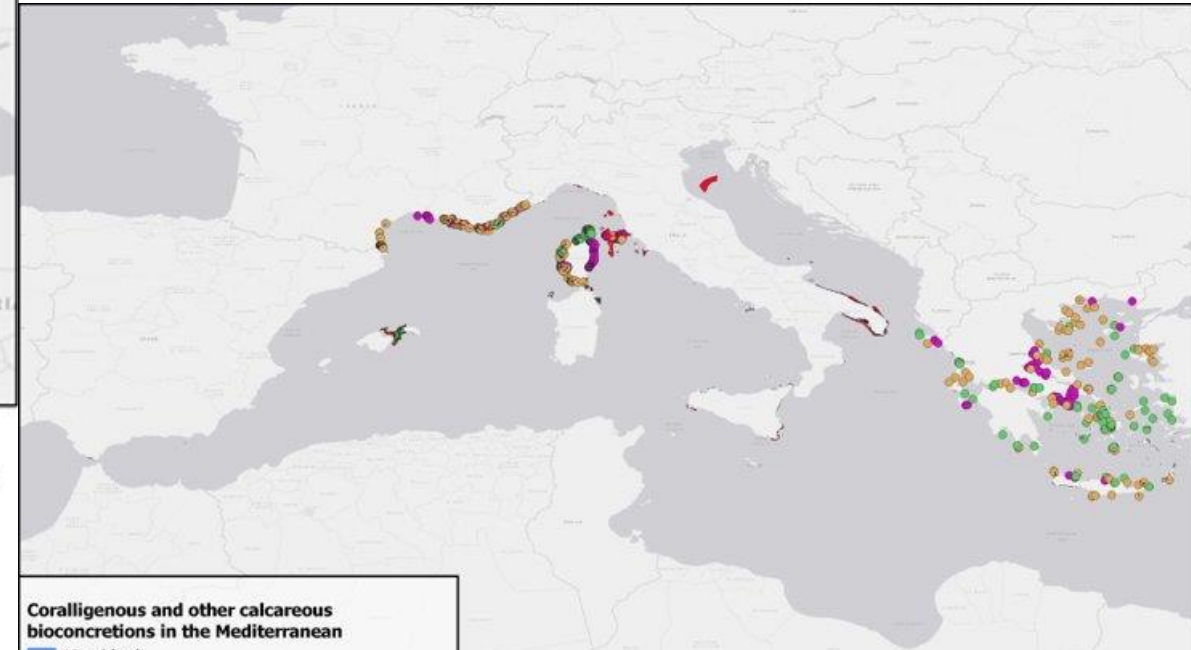
Biogenic substrate in Europe



Biogenic Substrates

- Blue: Facies with *F. enigmaticus* of the euryhaline &/or eurythermal lagoon biocenosis
- Orange: bivalve reefs
- Cyan: cold water coral reefs
- Green: seagrass beds
- Red: worm reefs
- Black: biogenic substrate
- Purple: coralligenous platforms

Coralligenous and other calcareous bioconcretions in the Mediterranean



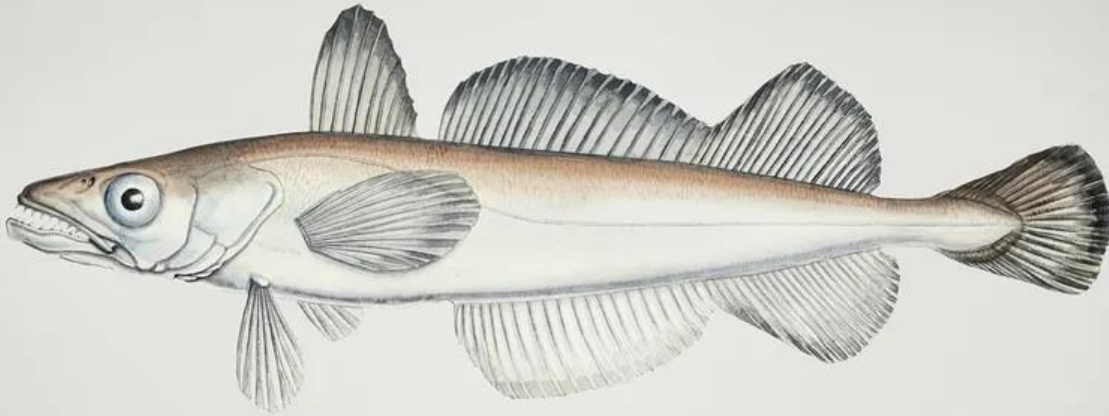
Coralligenous and other calcareous bioconcretions in the Mediterranean

- Blue: Maerl beds
- Pink: Mediterranean and Pontic communities of infralittoral algae very exposed to wave action
- Orange: Mediterranean animal communities of coastal detritic bottoms
- Green: Mediterranean coralligenous communities moderately exposed to hydrodynamic action

Status update – new phase since September 2021

Expanded thematic scope

Essential Fish Habitats



Merluccius australis (Hake)

Coastal wetlands



Photo by [Kelly Dby](#) on [Unsplash](#)

Status update – new phase since September 2021

Expanded spatial scope



Status update – new phase since September 2021

The consortium

2 **CCMAR**
Centre of Marine Sciences

10 **GeoEcoMar**
National Research and Development Institute for Marine Geology and Geocology

7 **GEUS**
Geological Survey of Denmark and Greenland

12 **hcmr**
ΕΛΚΕΘΕ
Hellenic Centre for Marine Research

4 **Ifremer**
French Research Institute for Exploitation of the Sea

11 **IOOS**
Institute of Oceanography – Bulgarian Academy of Sciences

13 **ISPRA**
Istituto Superiore per la Protezione e la Ricerca Ambientale
Italian National Institute for Environmental Protection and Research

5 **JNCC**
Joint Nature Conservation Committee

3 **Marine Institute**
Foras na Mara

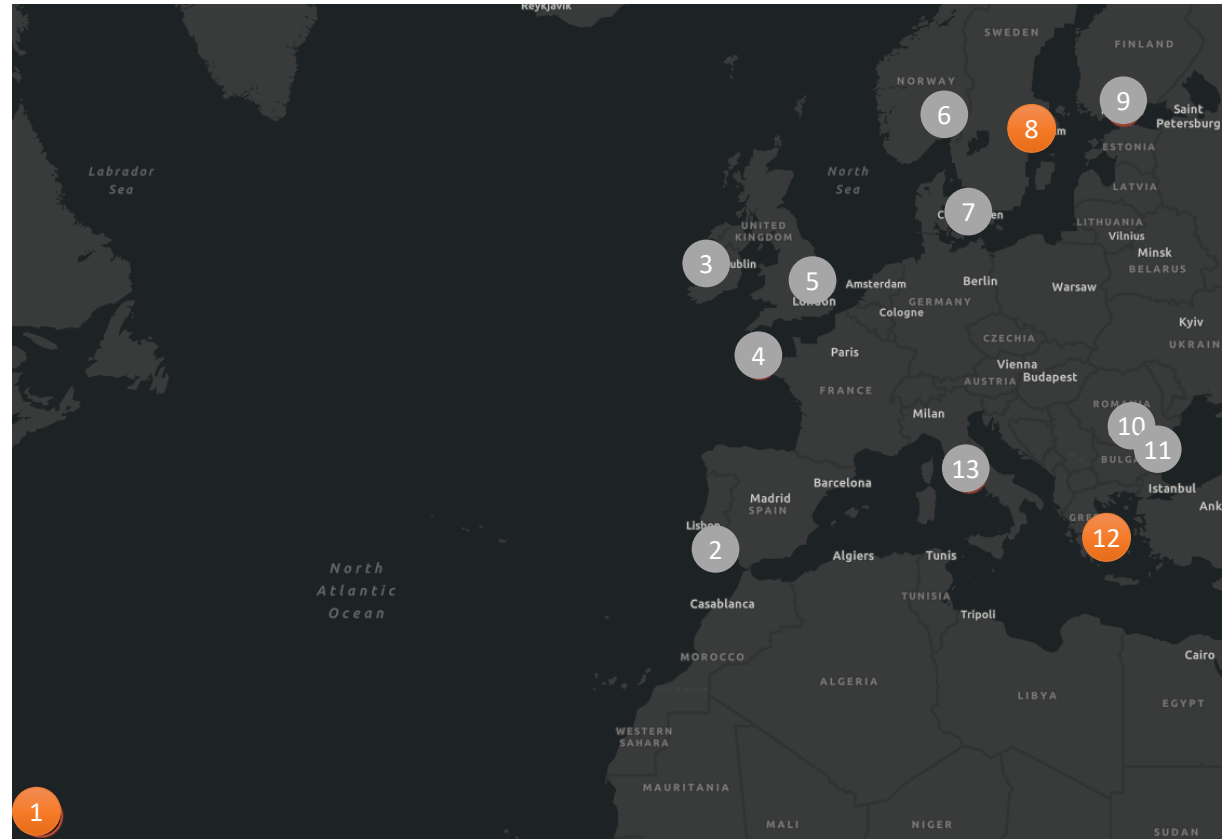
9 **SYKE**
Finnish Environment Institute

With subcontractors:

1 **ANGUILLA COMMUNITY COLLEGE**

6 **NIVA**
Norsk institutt for vannforskning
Norwegian Institute for Water Research

8 **Stockholm University**

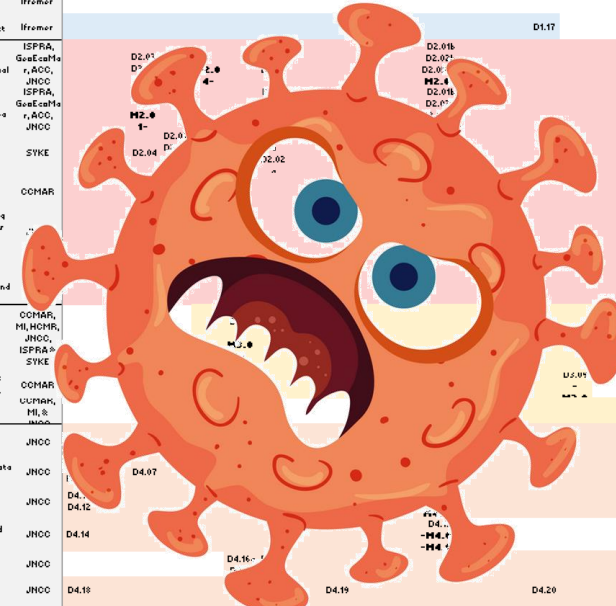


Status update - challenges



Work plan

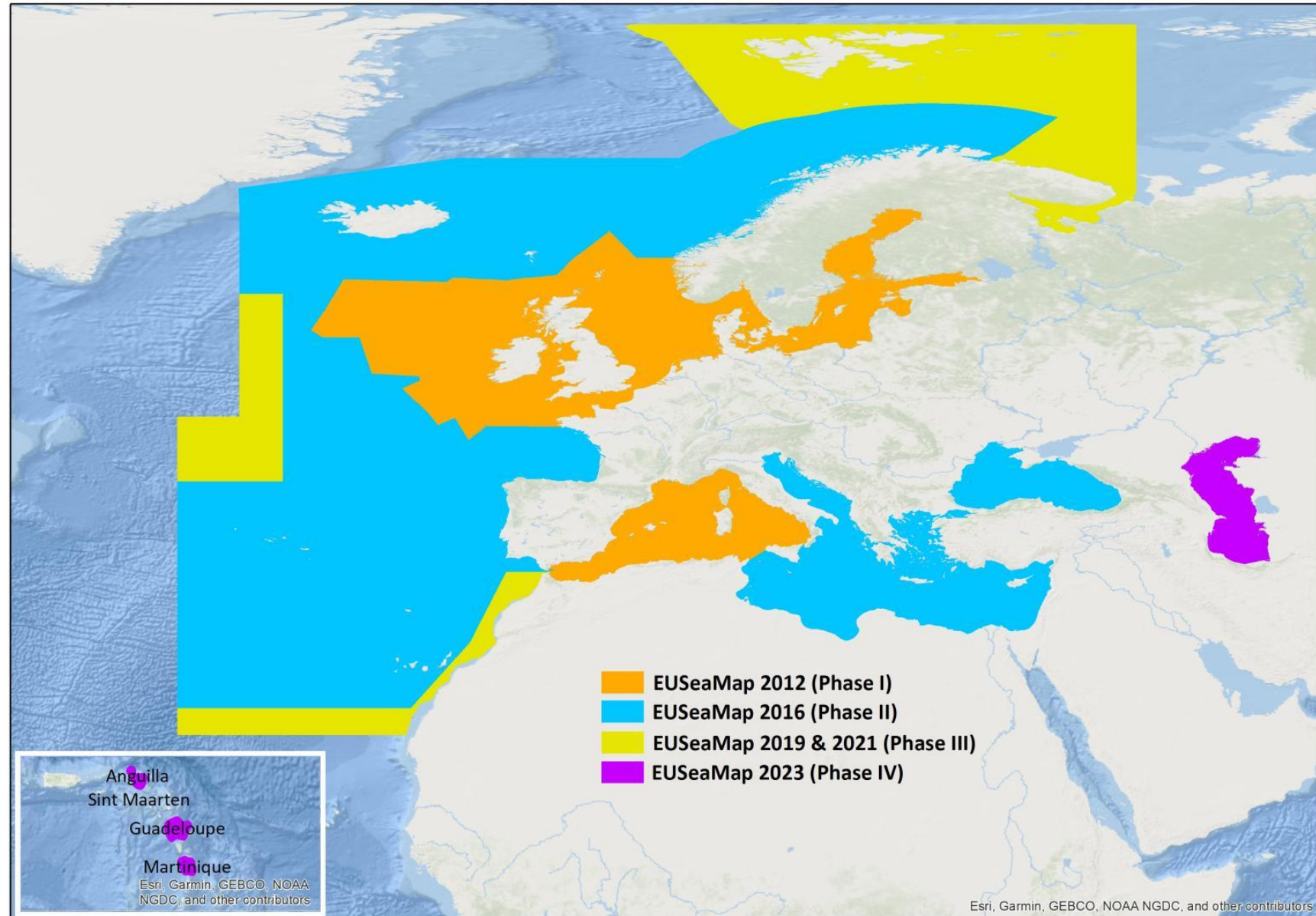
WP No	Objective name	Lead	Year																							
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WP1 Improving and expanding the base layer of modelled habitat	01.06	Gather and prepare input data for improving the broad-scale habitat mapping of the Baltic Sea	GEUS																							
	01.07	Carry out analysis to identify biologically relevant cut-off values (thresholds) for variables used to define the boundary between ecoregions in the Baltic, Mediterranean, Caribbean and Central Seas	Ifremer																							
	01.08	Produce broad-scale habitat map (EUSoMap) and confidence maps in all marine regions, including the Caspian and Caribbean Seas	Ifremer																							
	01.09	Calculate spatial confidence assessments for all input layers	Ifremer																							
	01.10	With the support of UPMED, develop a tool to automate the calculation of environmental layers at the seabed	Ifremer																							
	01.11	Publish methods and code so that others may use the same methods to create a base layer of modelled habitat	Ifremer																							
	01.12	With the support of EPMU, test the applicability of a novel type of seabed substrate product	Ifremer																							
WP2 Data collection	02.01	Expand the library of seabed habitat maps in Europe, the Caribbean and Caspian Seas and expand the collection of modelled habitat distribution for individual habitats	ISFRA, GeEcoM, r_AOC, JNOC																							
	02.02	Expand the collection of point records from benthic surveys in Europe, the Caribbean and Caspian Seas	ISFRA, GeEcoM, r_AOC, JNOC																							
	02.03	Collate data on coastal wetlands classified by type in Europe, the Caribbean and Caspian Seas	SYKE																							
	02.04	Create library of Essential Fish Habitat maps and maps in the Baltic Sea, North East Atlantic and Western Mediterranean Seas	OCMAR																							
	02.05	Continue to work towards the process for archiving and publishing point data on seabed habitat and species through OBIS, including working with GORMH to stream-line and data exchange and linking to machine-readable data using machine-readable connections, where possible, to avoid duplicating data																								
	02.06	Record progress in data collection to enable reporting, and learn from challenges in accessing third party data																								
	02.07	Record progress in data collection to enable reporting, and learn from challenges in accessing third party data																								
WP3 Building comparative data products	03.01	Harmonise habitat maps and points into a single layer showing the extent and distribution across all basins	OCMAR, MI, HOBR, JNOC, ISFRA, SYKE																							
	03.02	Harmonise habitat maps and points into a single layer of biogeographic data to be used in the updated EUSoMap	OCMAR, UUMAK, MI, JNOC																							
	03.03	Publish methods used to create combined, harmonised data products																								
WP4 Web services and FAIR data access	04.01	Maintain the existing thematic web portal	JNOC																							
	04.02	Maintain and improve a common method of access to data held in repositories	JNOC																							
	04.03	Develop machine-to-machine data connections facilitate the flow of data to the central portal	JNOC																							
	04.04	Work alongside WPS to contribute content to dedicated thematic space in Central Portal	JNOC																							
WP5 Communication and outreach	05.01	Build and maintain data flows to and from the regional seas conventions and wider marine community	JNOC																							
	05.02	Contribute to the implementation of EU legislation and broader initiatives for open data	JNOC																							
	05.03	Monitor quality performance and deal with user feedback	JNOC																							
	05.04	Ensure involvement of Regional Seas Conventions and IOES in existing and new regions	MI																							
WP6 Coordination and formal re	06.01	Demonstrate how existing habitat data and associated products can be combined to create new products	MI																							
	06.02	Help EU Member States fulfil reporting obligations, understanding their need for comparative data products	MI																							
	06.03	Promotion of the EMODnet Seabed Habitat portal	MI																							
	06.04	Manage the project in terms of deliverables, deadline, budget and financial matters	JNOC, IFREMER																							



Future Outlook

WP1 Improving and expanding the base layer of modelled habitats
- Ifremer

Expand EUSeaMap including finding and generating new environmental input layers

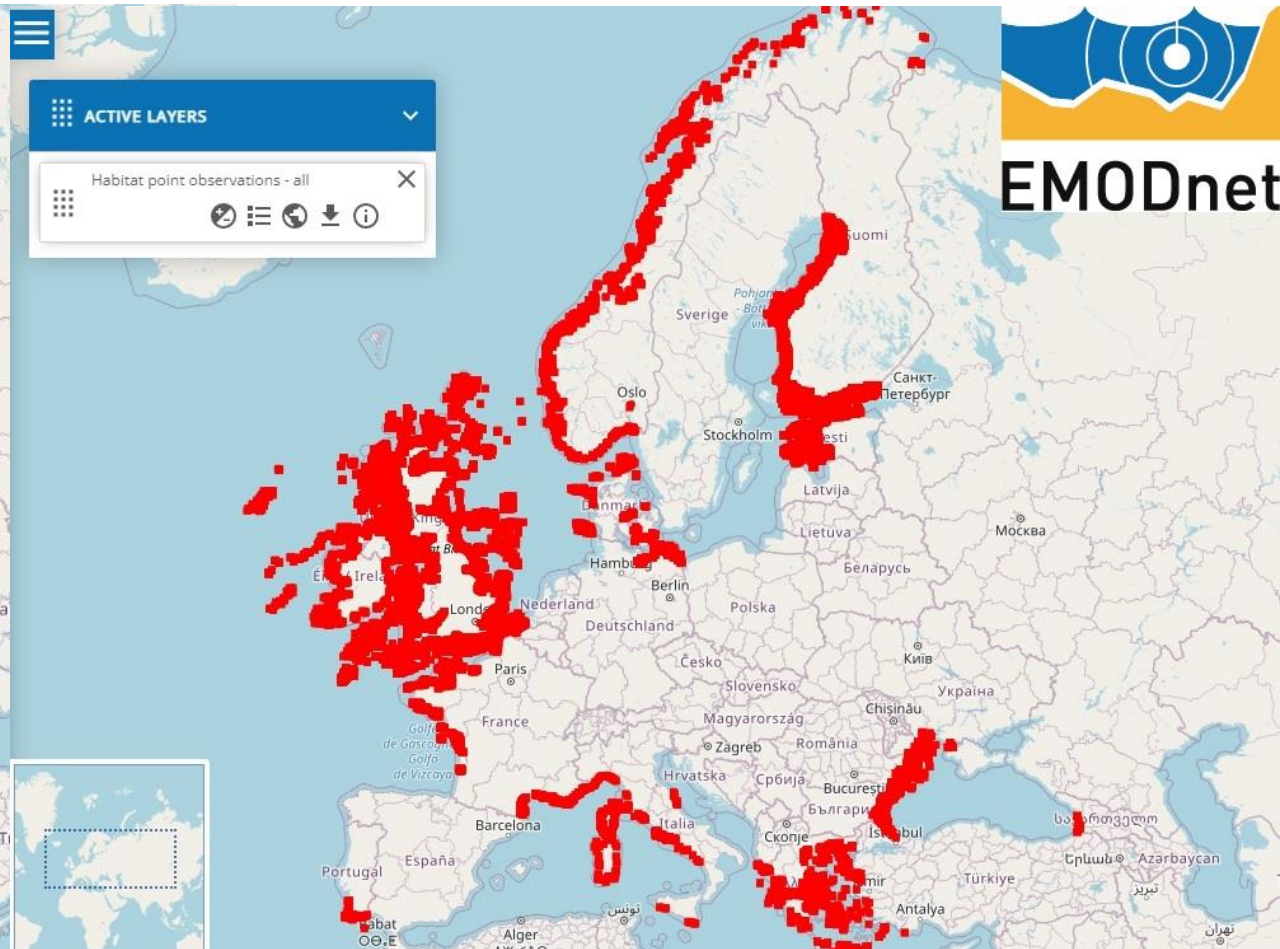
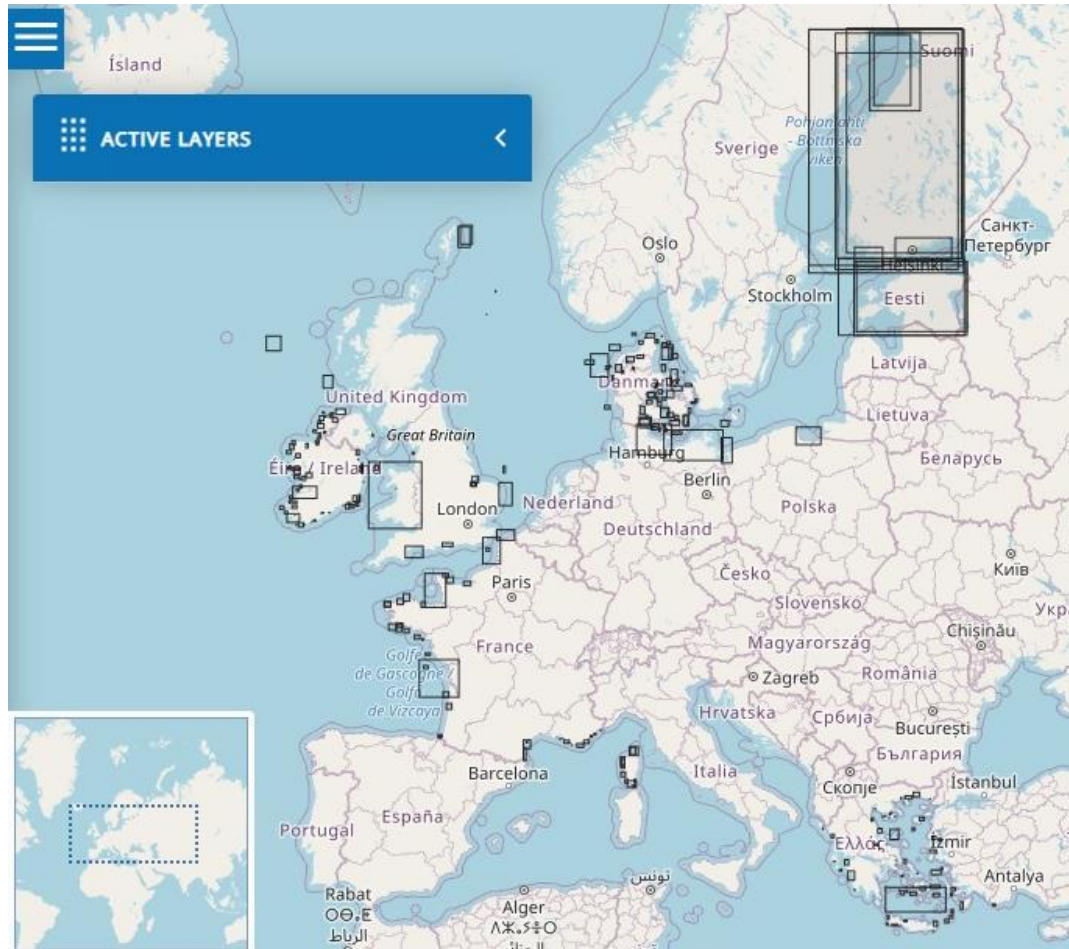


Future Outlook

WP2 Data collation – JNCC

Continue to access, standardise and publish new seabed habitat data

Develop protocols and start to do the same for essential fish habitat and coastal wetlands

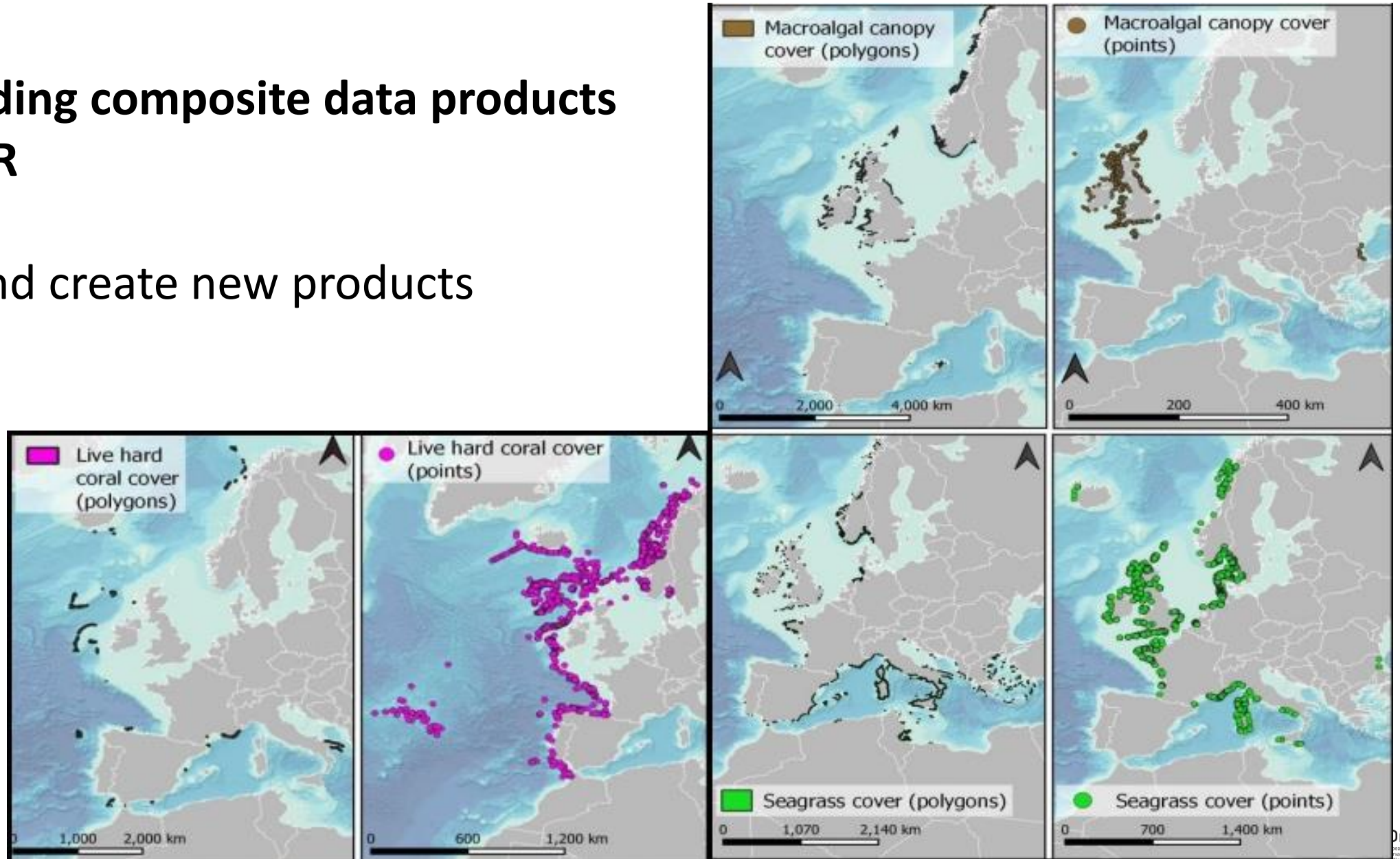


Future Outlook

WP3 Building composite data products

- CCMAR

Update and create new products

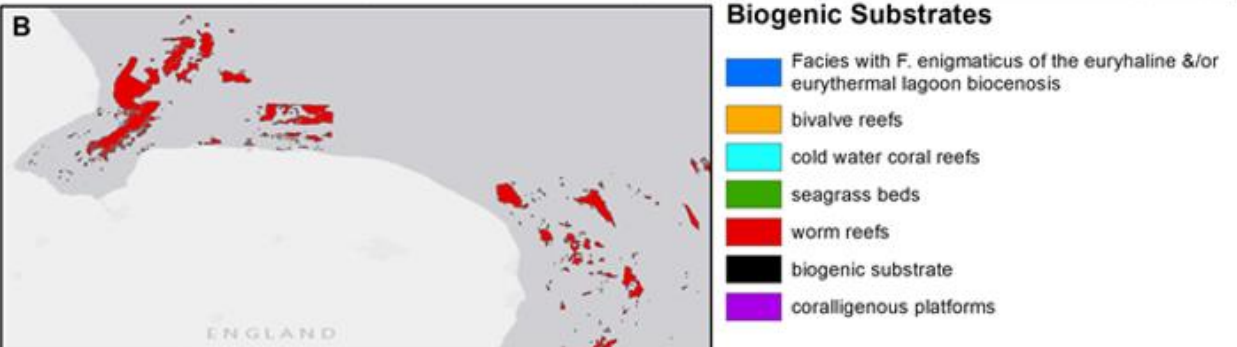


Future Outlook

- **WP4 Web services and FAIR data access - JNCC**
 - Publish new data/products and metadata
 - Transition to central portal
- **WP5 Communication and outreach - Marine Institute**
 - Outreach to RSCs and other key users
 - Gather stakeholder requirements
 - Publicity
- **WP6 Coordination and formal reporting - JNCC**

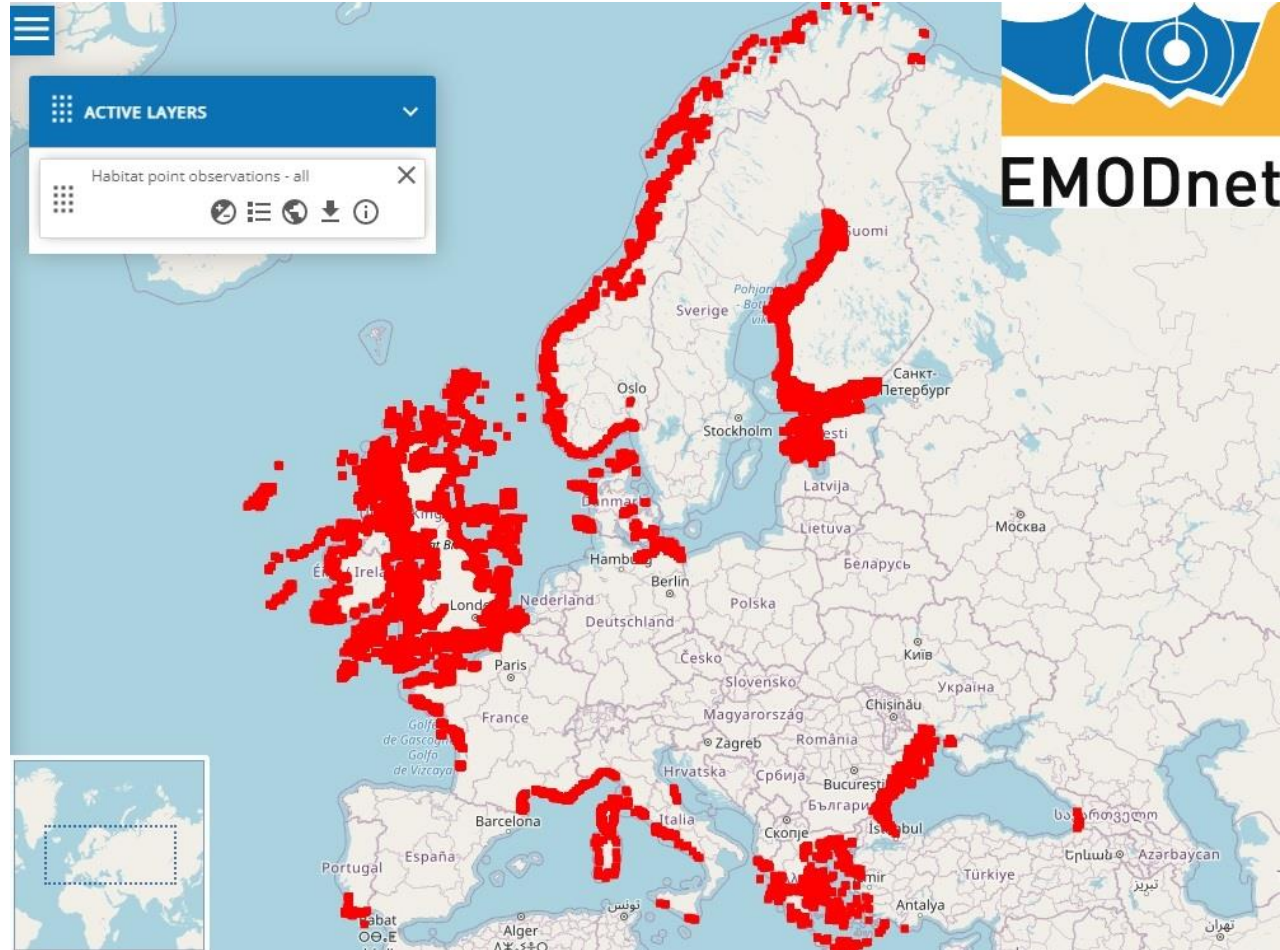
Cross-Thematic Interactions

Geology – categorising surface features including biogenic substrate



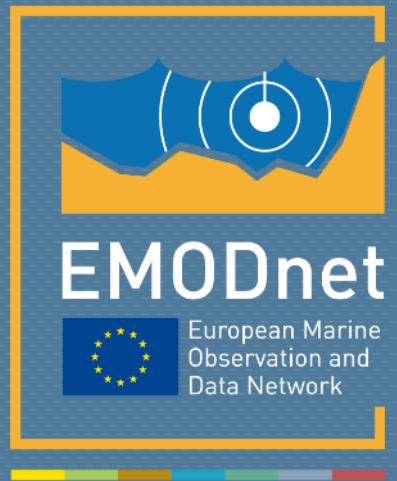
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Biology – getting habitat data into and out of EurOBIS in a standard way



External interactions

- **Regional Sea Conventions** – begun outreach for phase 4, with designated partners for RSC liaison
- **European Marine Board, Marine Habitat Mapping Working Group** – 4 individuals/5 partner organisations from EMODnet Seabed Habitats sit on this group of ~12 members.



emodnet.ec.europa.eu

Your gateway to marine data in Europe

