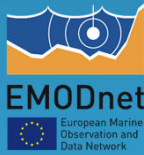


EUSeaMap 2

Seabed physical habitats

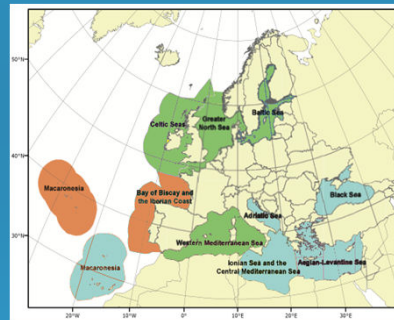
Jacques Populus – Ifremer
on behalf of EUSeaMap2 partnership



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Main objectives

- To fill in the gaps in basins
- To improve the maps created so far, thanks to improvements of inputs (hydrodynamics models, seabed substrate layers, ...)
- To refine down to 100m pixel size in pilot areas and assess overall feasibility



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EMODnet Biology Kick-off meeting

September 12th, 2013

Related objectives

- Better assess EUNIS
 - For other basins – revisit Atlantic
 - In terms of structure (e.g. sal, T)
 - In terms of thresholds (more biologically relevant)
- Improve EUNIS abiotic layers
 - Overall + focus on Black Sea
 - Seek higher resolution
- Collate and harmonise survey maps where available
- Unify portal, increase dissemination, use and awareness

Schedule

- Contract signature: 9 Sep. 2013
- First year delivery: Macaronesia, Biscaye/Iberia, Adriatic
- Later scope: Northern Seas not fully clear



EUSEaMap2 main tasks

-WP1 - Classification review -



-WP2 - Data preparation -



-WP3 - Habitat sample data -



-WP4 - Thresholds - Ifremer (F)



-WP5 - Modelling and confidence -



-WP6 - Web portal -



-WP7 - Applications of physical habitat products -



-WP8 - Coordination and Communication - Ifremer (F)



Primary data layers preparation

- Bathymetry

- *Canarias: Gebco?*
- *Adriatic: From lot 1 (June 2014), otherwise urEmodnet layer*

- Substrate

- *Canarias: probably no data*
- *Adriatic: From lot 2 (June 2014) as per kick-off decisions*
- *Progress on IBCM digitisation (East Med. + Black Sea)*

- Energy at seabed

- *Wave and current data cataloguing underway at ISPRA (Med. + Black Sea)*

Intermediate layer - Depth zones Definitions

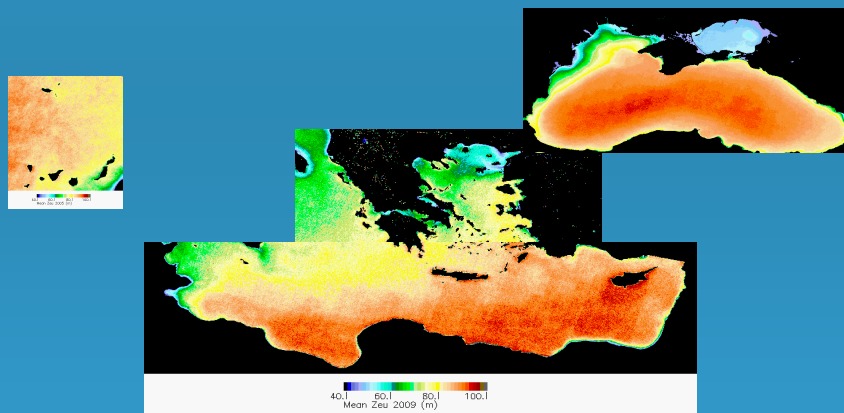
Table xx. EUSeaMap II Limits of biological zones to be defined for EUSeaMap II regions (red text illustrates aspects to be further defined)

Biological zone	Adriatic		Eastern Med (ICMS + Levantine Sea)		Black Sea NW-W	
	Upper limit	Lower limit	Upper limit	Lower limit	Upper limit	Lower limit
Infralittoral	Lowest Astronomical Tide	Intersection of seabed and @1% surface light reaching the sea bottom <i>Requires:</i> <i>a) definition of light threshold values require interpolation of Posidonia meadow limits – WP4</i> <i>b) identification of alternative to light in areas with high riverine input</i>	Lowest Astronomical Tide	Intersection of seabed and @1-3% surface light reaching the sea bottom <i>Requires:</i> <i>a) definition of light threshold values require interpolation considering Posidonia meadow limits – WP4</i> <i>b) identification of alternative to light in areas with high riverine input</i>	Lowest Astronomical Tide	Rocky bottoms: Intersection of seabed and xxx% (tbd) surface light reaching the sea bottom (bathymetric ranges: 15-18 m Romania; 20m Bulgaria) <i>Requires:</i> <i>a) definition of light threshold values require interpolation considering red algal assemblage distribution – WP4</i> <i>b) identification of alternative to light in areas with high riverine input</i> Soft bottoms: Strong storm wave effect (7-8 Beaufort) on the seafloor (bathymetric range: 20m depth) (Danube influenced area: lower limit of muddy sediment alluvial deposition occurring at 8-10m)
Upper Circalittoral	Intersection of seabed and @1% surface light reaching	n/a	Intersection of seabed and @1-3% surface light reaching the	Intersection of seabed and average 0.01% incident light	Rocky bottoms: Intersection of seabed and xxx% (tbd)	Rocky bottom: unknown % incident light fraction (no biological data available to validate boundaries) Soft bottoms: isohaline of 18 PSU (in

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Intermediate layer – Depth zones

(i) Light attenuation data – Kpar climate delivered 31 Jan.

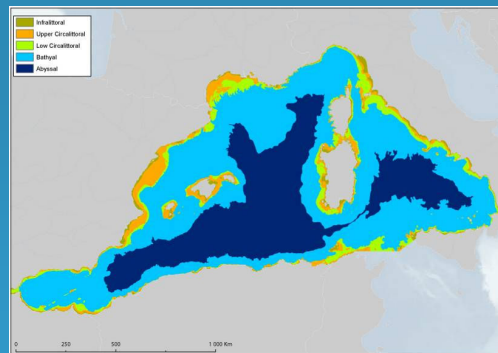


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Intermediate layer – Depth zones

(ii) Shelf break (from depth gradient)

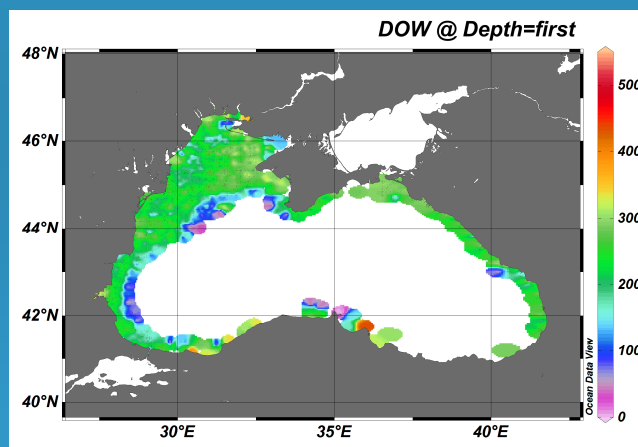
- *Replicate Western Med. work*
- *Active tectonic zones: Active discussions!*



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Intermediate layer – Depth zones

(ii) Oxygen data (Black Sea)



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Habitats to be modelled

EUNIS Habitat code	EUNIS Level	EUNIS name (in parenthesis eventual notes)	Barcelona Convention name	Zone	Substrate	Energy conditions
A3	2	Infralittoral rock and other hard substrata	HARD BEDS AND ROCKS (intended as biocenosis of infralittoral algae)	INFRA	bedrock, boulders and cobbles / ROCK	
A5.23	4	Infralittoral fine sands	FINE SANDS WITH MORE OR LESS MUD	INFRA	SAND / MUDDY SAND	
A5.13	4	Infralittoral coarse sediments	COARSE SANDS WITH MORE OR LESS MUD	INFRA	COARSE & MIXED SEDIMENT	
A5.33	4	Infralittoral sandy mud	No corresponding Barcelona Convention habitat type	INFRA	SANDY MUD	
A5.34	4	Infralittoral mud	No corresponding Barcelona Convention habitat type	INFRA	MUD	
A4.26	4	Mediterranean coralligenous communities moderately exposed to hydrodynamic action	Coralligenous biocenosis	UPPER CIRCA	ROCK	
A5.46	4	Mediterranean biocenosis of coastal detritic bottoms	Biocenosis of the coastal detritic bottom	UPPER CIRCA	COARSE & MIXED SEDIMENT/ MUDDY SAND / SAND	medium constant current
A5.38	4	Mediterranean biocenosis of muddy detritic bottoms	Biocenosis of the muddy detritic bottom	UPPER CIRCA	SANDY MUD	sedimentation slow; low energy
A5.39	4	Mediterranean biocenosis of coastal terrigenous muds	Biocenosis of coastal terrigenous muds	CIRCA	both soft or sticky mud / MUD	low to medium
A4.27	4	Faunal communities on deep moderate energy circalittoral rock	Biocenosis of shelf-edge rock	DEEP CIRCA	ROCK	
A5.47	4	Mediterranean communities of shelf-edge detritic bottoms	Biocenosis of shelf-edge detritic bottom	DEEP CIRCA	COARSE & MIXED SEDIMENT / MUDDY SAND / SAND / SANDY MUD	medium - high
A6.1	3	Deep-sea rock and artificial hard substrata	HARD BEDS AND ROCKS	BATHYAL	ROCK	

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Relations with other lots

- Biology
 - Sample habitat data FROM Lot Biology
 - Sample habitat data TO Lot Biology
- Geology
 - Substrate data
 - Confidence assessment
 - Test areas
- To be developed
 - Checkpoints (test areas)
 - Physics (ISPRA/ETT)

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Biological data are needed to calibrate depth zone and energy thresholds

- Energy on rocky substrate
- Halocline position (Baltic) or O₂/H₂S transition (Black Sea)
- Depth zonation in deep-sea communities
- Light (all regions)

What we're looking for right away

- Flora (Zostera, Posidonia, red/brown seaweeds)
- Rocky epifauna
- Deep and offshore data
- Especially in the Eastern Mediterranean and Black Sea
- Existing EUNIS-classified habitat sample data everywhere
- Data sets that have been habitat-classified, even if they're not EUNIS (habitats listed for protection, or other classifications)

Main issues

- Physical models for seabed energy
 - *Availability before 2016 with high enough resolution...*
- Primary layers missing for some EU areas and 3rd party countries
- EUNIS upheaval (EEA)
 - *May have a bearing on our work*

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Data dissemination - Portals

- JNCC Central position
- Wish for unique Habitat mapping portal (Survey maps, broad-scale map, Ospar distribution data)
- However status of “sample data” (whether with Lot 3 or with Lot 2?)

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