

Unravelling Environmental Impact Assessments for Floating Offshore Wind and Grid Infrastructure

09:00 – 16:30 | 5th November 2025



Renewables
Grid Initiative 



Welcome & Opening



Cristina Simioli
Director, Offshore
Energy and Nature
RGI



Francisco Parada
Head of Quality, Environment,
Safety and Performance
REN

Meet the RGI Offshore Team



Cristina Simioli
Director
Offshore Energy
and Nature



Dení Aguilar Bellamy
Coordinator
Offshore Energy
and Nature



Manon Thiel
Manager
Energy and Nature



Anna Barbanti
Marine Manager
Offshore Energy
and Nature

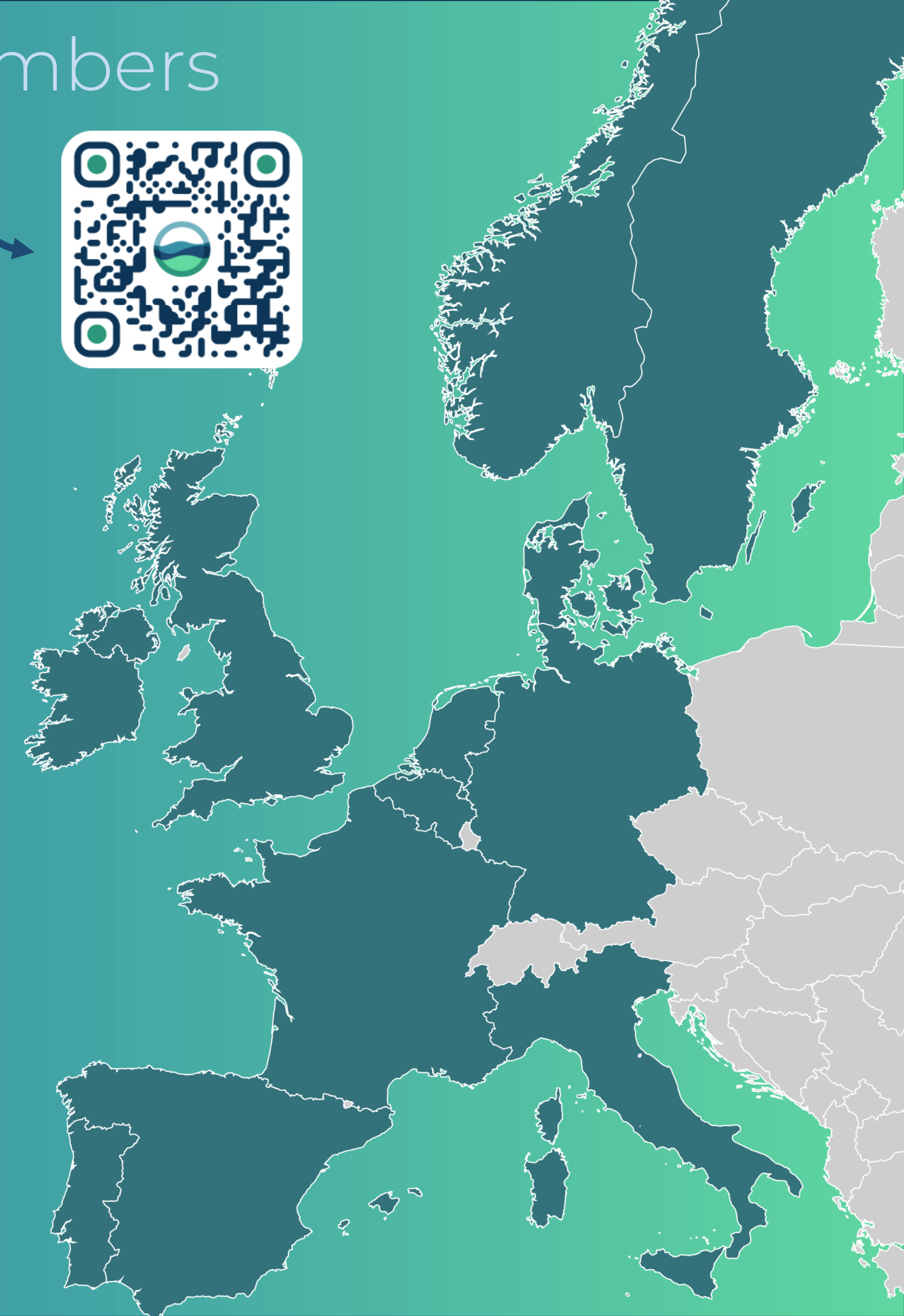


Matilde Doni
Manager
Offshore Energy and Nature

Our Members

11 Grid Operators
19 Wind Power Companies
20 Civil Society Organisations

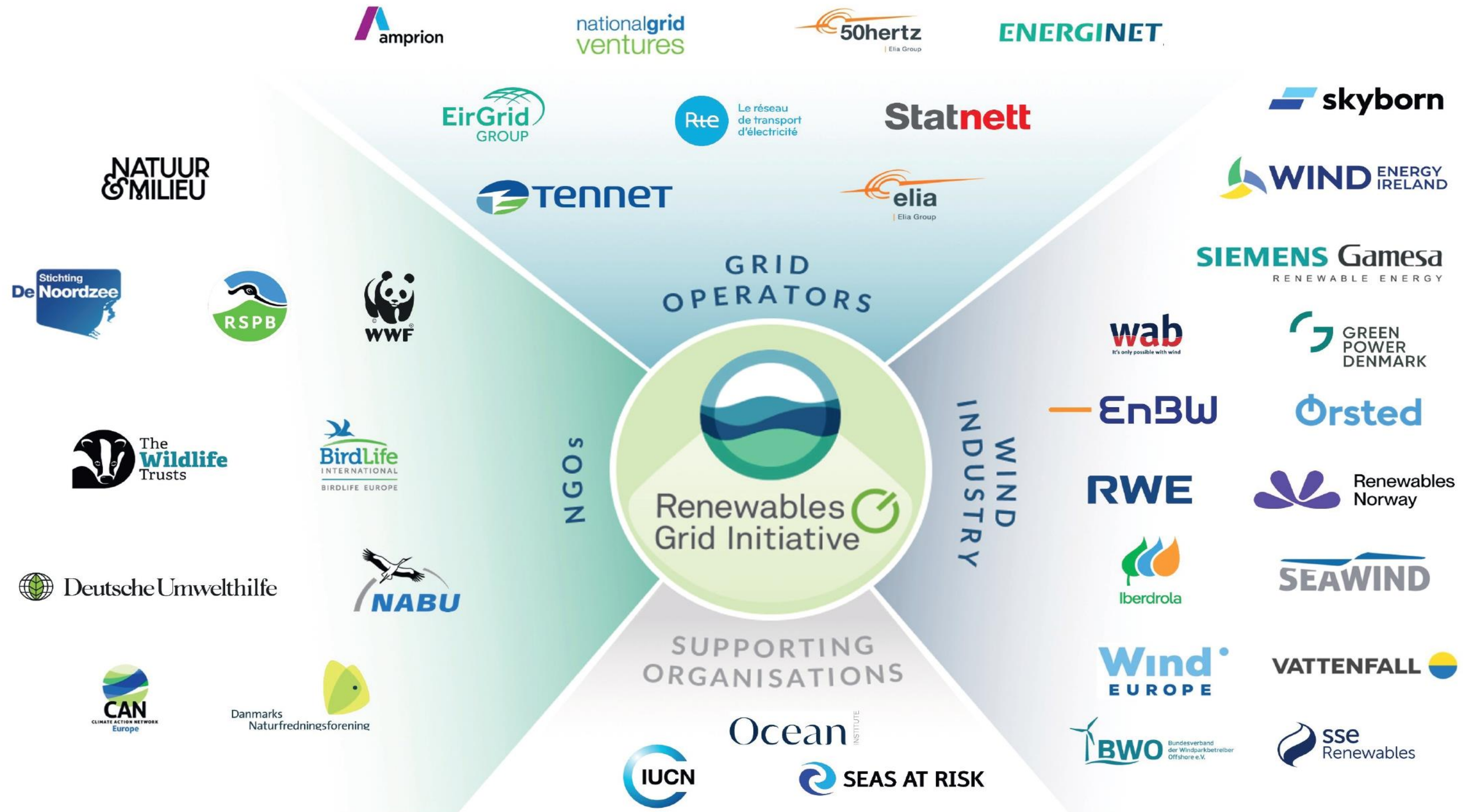
*Collaborating for a
green Europe!*



NORTH & BALTIC SEAS



MEDITERRANEAN SEA





red eléctrica



zero.



NGOs

GRID
OPERATORS



WIND
INDUSTRY



MEDITERRANEAN SEA

Our Members

**Facilitate open
forum for discussion**

**Advocate for OW,
grids & nature**

**Showcase
solutions**

**Create common
understanding**

**Fill knowledge
gaps**

**Collect innovative
practices**

**Maritime Spatial
Planning**

**Coexistence with
other activities**

**Auctioning –
ecological criteria**

**Mitigation of
environmental
impacts**

**Nature Inclusive
Design**

**Restoration of
marine ecosystems**

**Management of
environmental data**

Welcome & Opening



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Agenda

Welcome

Presentation: *The potential role of MSP and SEA in streamlining EIA of renewables offshore projects*

Panel Session: *MSP, SEA & EIA: Country Perspectives on Offshore Wind and Grid Development and opportunities for optimisation*

11:00 - Coffee Break



Agenda

Presentation: *EIAs for floating offshore wind and grid*

Case study Session: *Sharing real-world experiences to strengthen EIA practices for offshore wind and grid across Southern Europe*

13:00 - Lunch → Restaurant Salsa (Floor -1)



Agenda

Roundtable Session: *Innovative Ideas for Smarter, More Efficient and Nature-Inclusive EIAs*

15:40 - Coffee Break

Closing Session: *Key outcomes and ways forward*

Closing



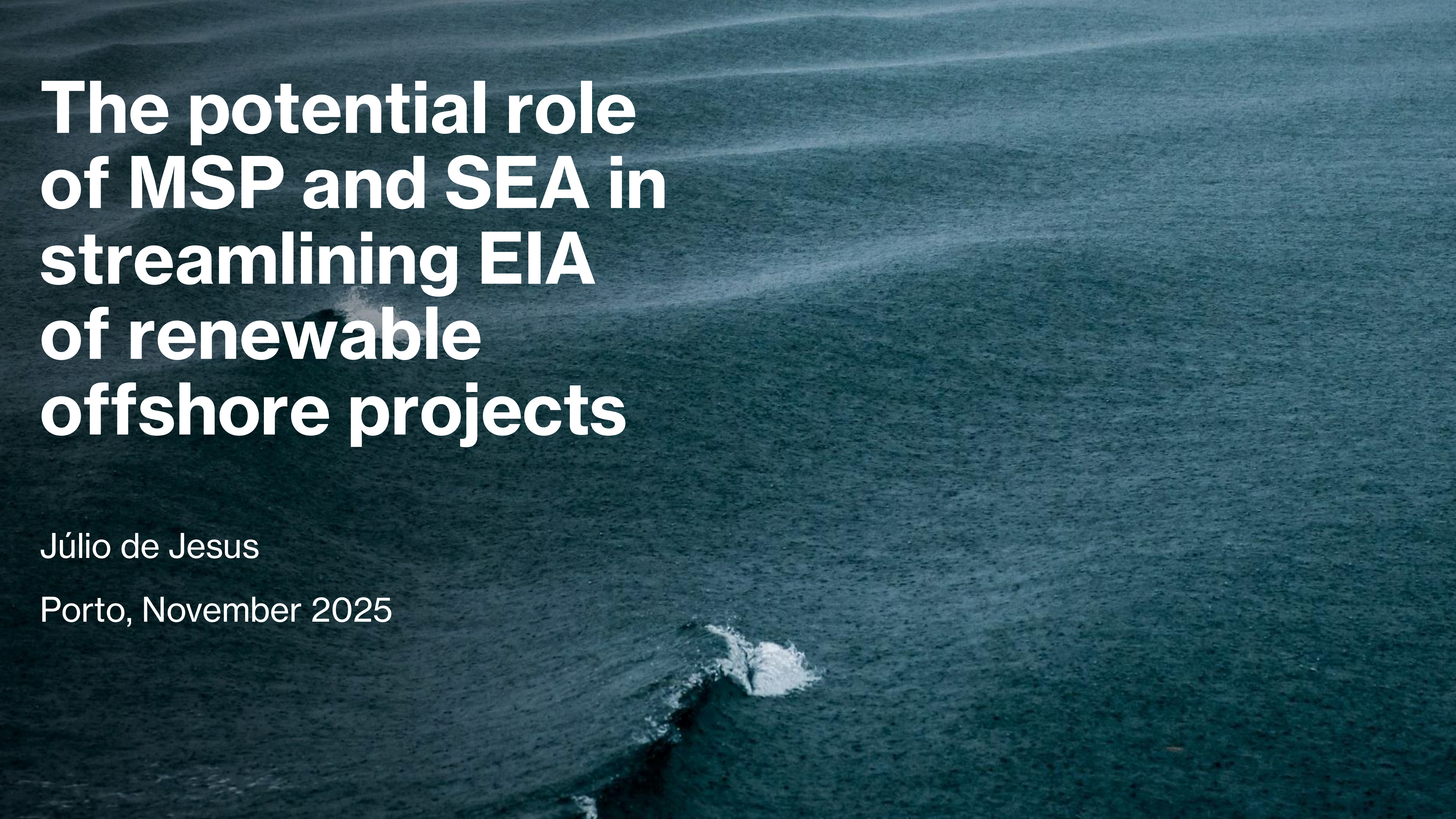
Presentation

*The potential role of MSP and SEA in streamlining
EIA of renewable offshore projects*



Júlio de Jesus,
Consultant, **Júlio de Jesus Consultores**





The potential role of MSP and SEA in streamlining EIA of renewable offshore projects

Júlio de Jesus

Porto, November 2025

The relationship between the tools



The MSP Directive

Directive 2014/89/EU

Objectives

- **reducing conflicts** and creating synergies between different activities
- **encouraging investment** through predictability, transparency and legal certainty
- **increasing cross-border cooperation** between EU countries to develop renewable energy, allocate shipping lanes, lay pipelines and submarine cables etc.
- **protecting the environment** by assigning protected areas, calculating impacts on ecosystems and identifying opportunities for multiple uses of space

The MSP Directive

Directive 2014/89/EU

The Directive aims for maritime spatial planning (MSP) to be a cross-cutting policy tool enabling public authorities and stakeholders to apply a coordinated, integrate and transboundary approach.

By applying an ecosystem-based approach, the Directive aims to promote the sustainable development of the maritime and coastal economies and the sustainable use of marine and coastal resources.

The SEA Directive

Directive 2001/42/EC

The public plans and programmes covered by the Strategic Environmental Assessment (SEA) Directive are subject to an **environmental assessment** during their preparation and before their adoption.

Objectives

The SEA Directive's objectives are to provide a high level of protection to the environment and contribute to integrating environmental considerations into the preparation, adoption and implementation of plans and programmes to promote sustainable development.

Two approaches to SEA

According to Maria Partidário (2007):

***Impact assessment SEA**, in line with traditional approaches, aims to integrate environmental and social issues by informing decision-making about the effects of proposals – therefore being **more appropriate to assess and mitigate the effects of proposed actions in more operational plans or programs that miss a strategic dimension**;*

***Strategic thinking SEA** aims to integrate environmental and sustainability issues by facilitating decision-making in building future development directions that are strategic to the achievement of long-term sustainability vision and objectives – therefore being **more appropriate to guide and support strategy formation and formulation, and assist in setting sustainability directions**.*

The EIA Directive

Directive 2011/92/EU as amended by 2014/52/EU

Directive 2011/92/EU defines the **environmental impact assessment (EIA)** process which ensures that projects likely to have significant effects on the environment are made subject to an assessment, prior to their authorisation.

Objectives

The EIA procedure guarantees environmental protection and transparency with regard to the decision-making process for several public and private projects. With its wide scope and broad purpose, the EIA ensures that environmental concerns are considered from the very beginning of new building or development projects, or their changes or extensions. It allows the public to actively engage in the EIA procedure.

SEA ≠ EIA

SEA = GOOD STRATEGY

What are your objectives?

What are key drivers?

What are your strategic options?

What are key restrictions?

What are major interests?

What are the most important policies to be met?

EIA = GOOD DESIGN

What are the main characteristics of the project?

Where is it located?

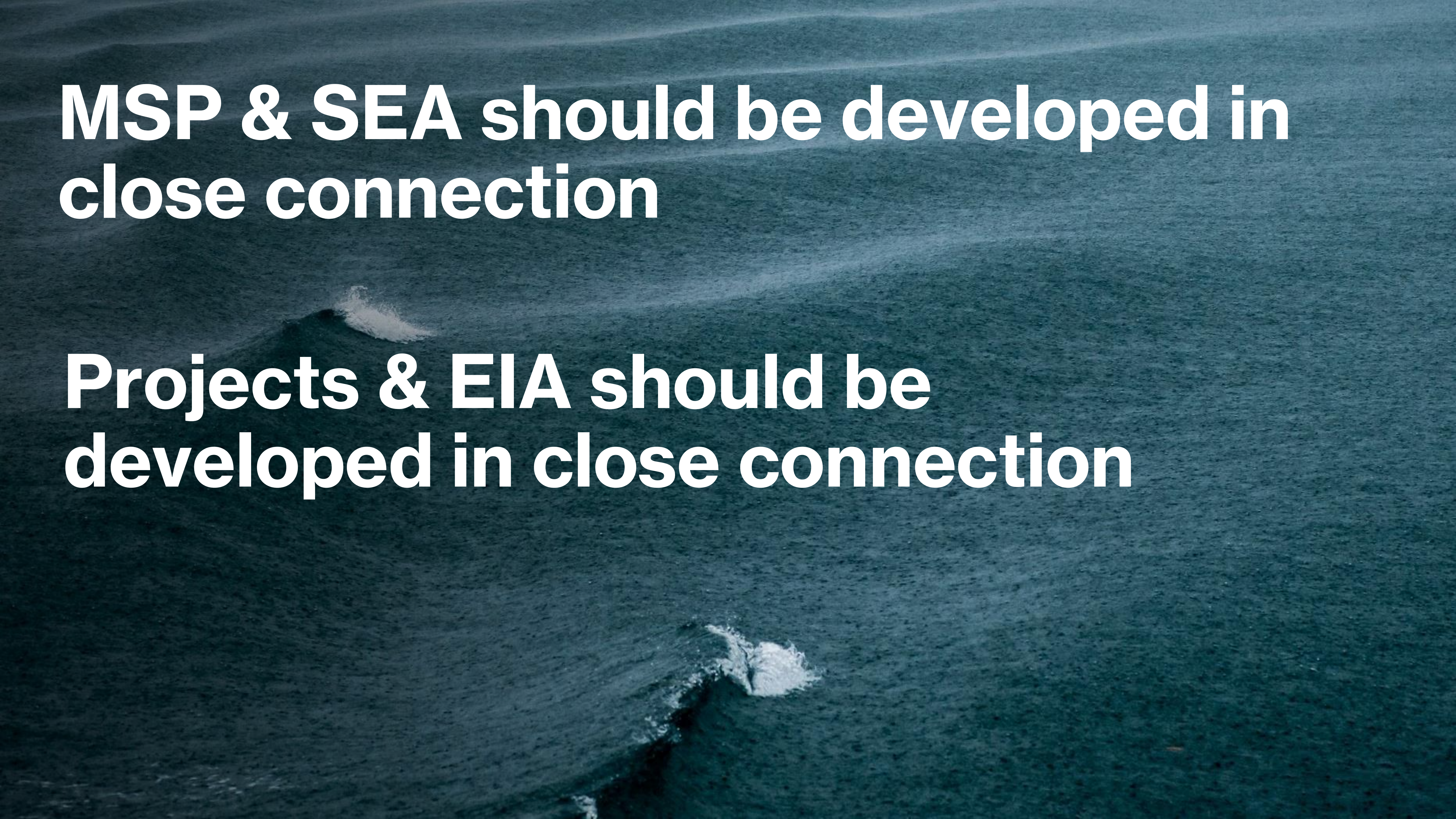
What are project alternatives?

What are its main physical, social, economic effects?

What are its major impacts?

What are the mitigation measures?

Source: M. Partidário (2000)

An aerial photograph of a vast, dark blue ocean. The water's surface is textured with small, white-capped waves. The perspective is from directly above, looking down at the sea.

**MSP & SEA should be developed in
close connection**

**Projects & EIA should be
developed in close connection**

Challenges of EIA of offshore projects

- **Weakness of baseline data**
- **Time & cost to produce robust baseline data**
- **Fragmentation of baseline efforts done by different developers or agencies**
- **Lack of appropriate, specific guidelines**
- **Lack of historical record on the impacts of offshore projects**

And, like EIA of onshore projects:

- **Difficulties on the assessment of cumulative effects**
- **Difficulties of transboundary impact assessment**
- **Poor stakeholder engagement and public participation**
- **Poor coordination between public authorities**

The role of SEA of MSP on streamlining Offshore Project EIA / 1

Setting rules for the EIA of some types of projects in specific zones, covering:

- Baseline studies
- Mitigation
- Monitoring

The role of SEA of MSP on streamlining Offshore Project EIA / 2

Exemption of EIAs for some types of projects in specific zones, (e.g. acceleration areas), but providing rules for:

- Environmental permitting conditions
- Mitigation
- Monitoring

The role of EIA in the development of projects

*The impact assessment community has the opportunity (...) to shift EIA **thinking away from the licensing stage and closer to the critical decisions within organizations.***

*That is, **EIA should be integral to project development and design processes, not left to the final legal step before project implementation.** This would reduce the emphasis on compliance-oriented EIA, allowing impact assessors to work more constructively with proponents and stakeholders to develop processes that meet the needs of all parties (...).*

Richard Morgan, Environmental impact assessment: the state of the art, *Impact Assessment and Project Appraisal*, 2012

The role of EIA in the development of projects

EIA is not a technical and scientific process, with a social and political input.

EIA is a social and political process, with a scientific and technical input.

Conclusions of the 2002 conference of IAIA , The Hague, Netherlands

Panel Session

MSP, SEA & EIA: Country perspectives on offshore wind and grid development and opportunities for optimisation



MSP, SEA & EIA: Country perspectives on offshore wind and grid development and opportunities for optimisation



Ana Delgado Echevarría
MITECO



María do Carmo Figueira
APA



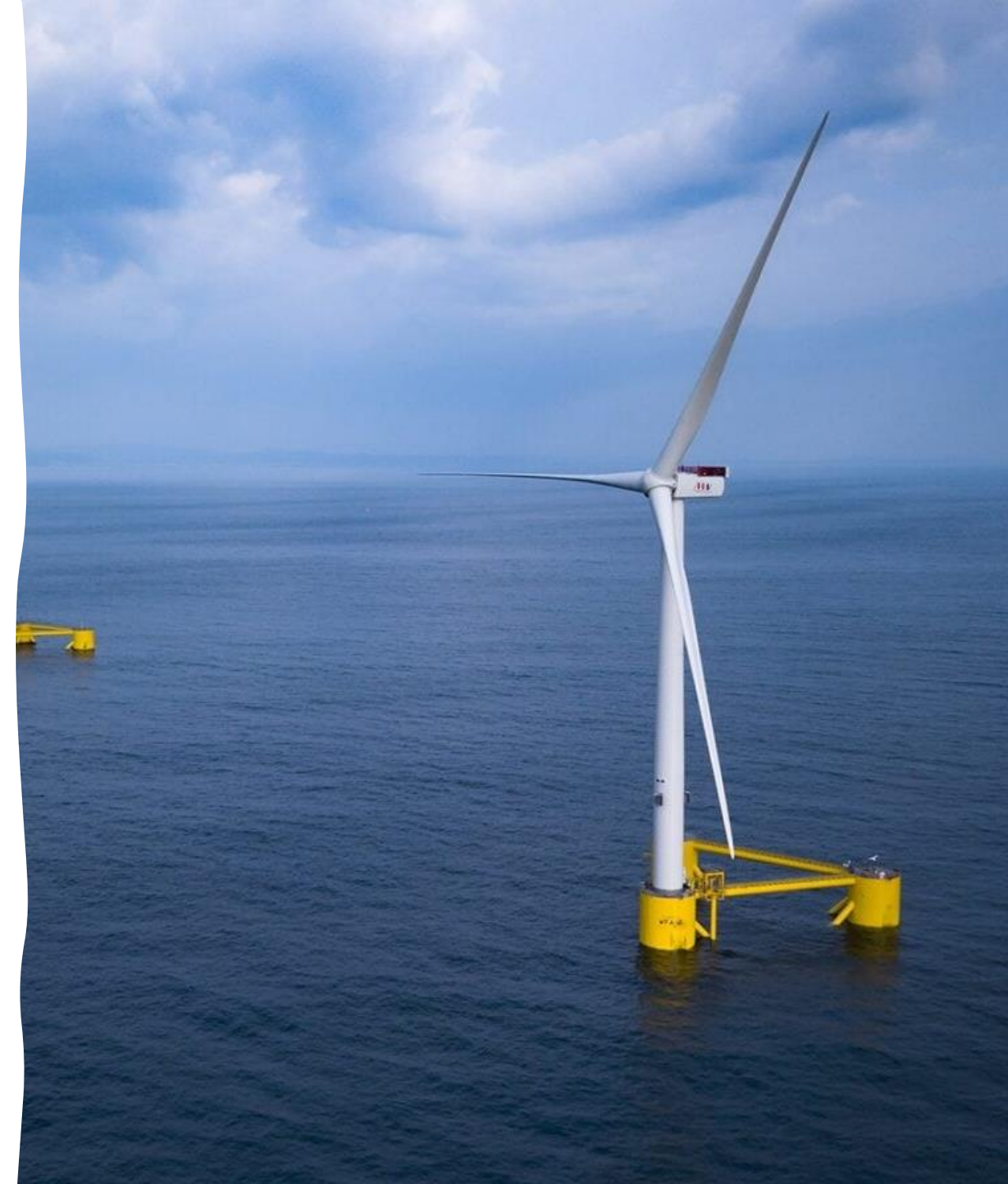
Davide Astiaso Garcia
ANEV



Juan de Dios López Leiva
Aeeolica



Mauro Randone
**WWF Mediterranean
Moderator**



Sign up for the Case Studies

1 - Environmental surveys on Provence Grand Large pilot floating OWF (French Mediterranean)

2 - Export Cable Installation for the WindFloat Atlantic (Portugal)

3 - Floating Technology, EIA Uncertainty and Emerging Questions

4 - Transboundary connection in the Gulf of Biscay (Spain/France)



Coffee Break Until 11:30



Presentation

EIAs for floating offshore wind and grid



Roberto Mezzalama,
Senior Project Director, **WSP Consulting**



Renewables
Grid Initiative 

REN 

Unraveling Environmental Assessment for Floating Offshore Wind and Grid Infrastructure

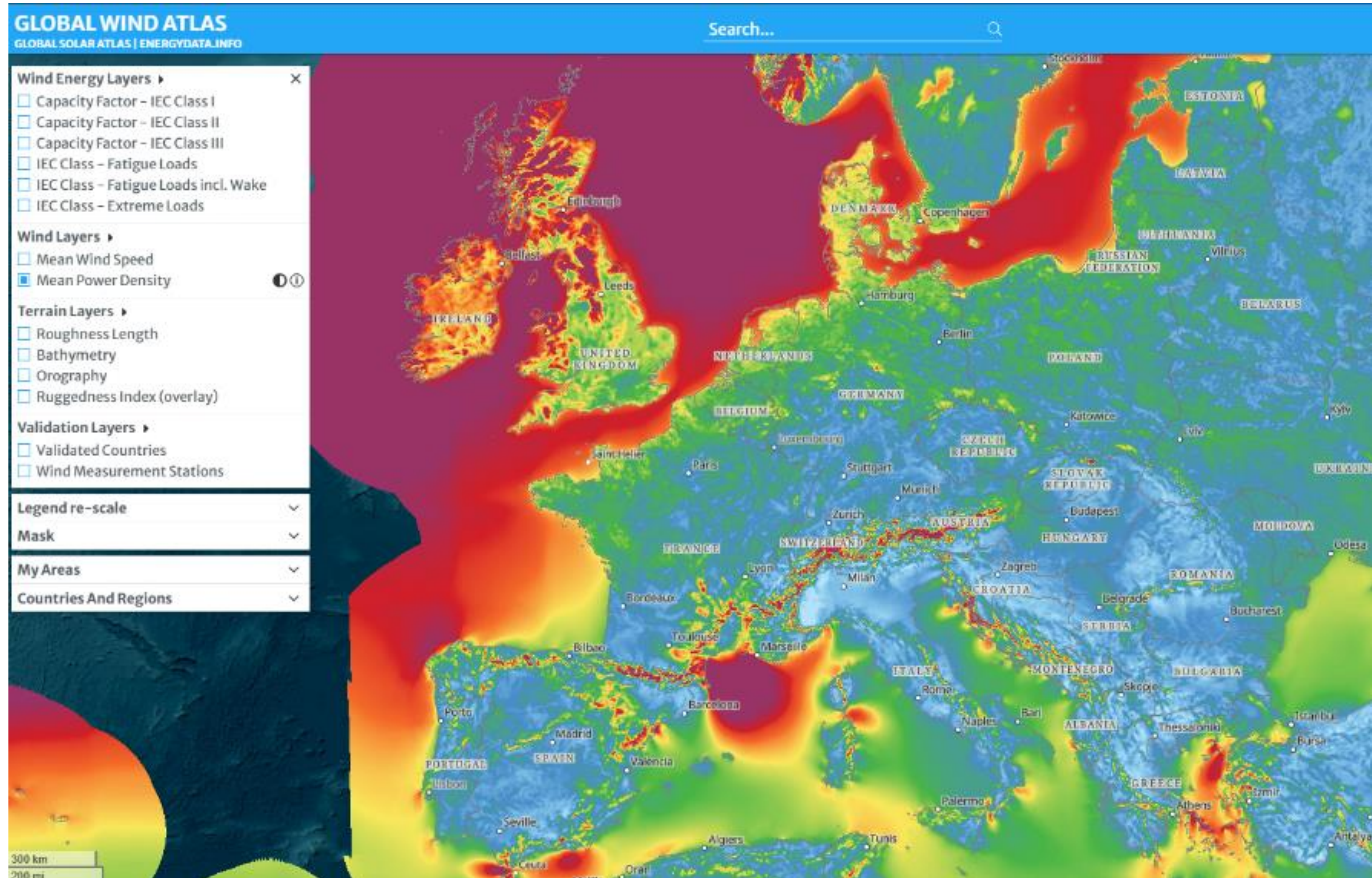
Roberto Mezzalama, Turin, Italy

2025/11/04

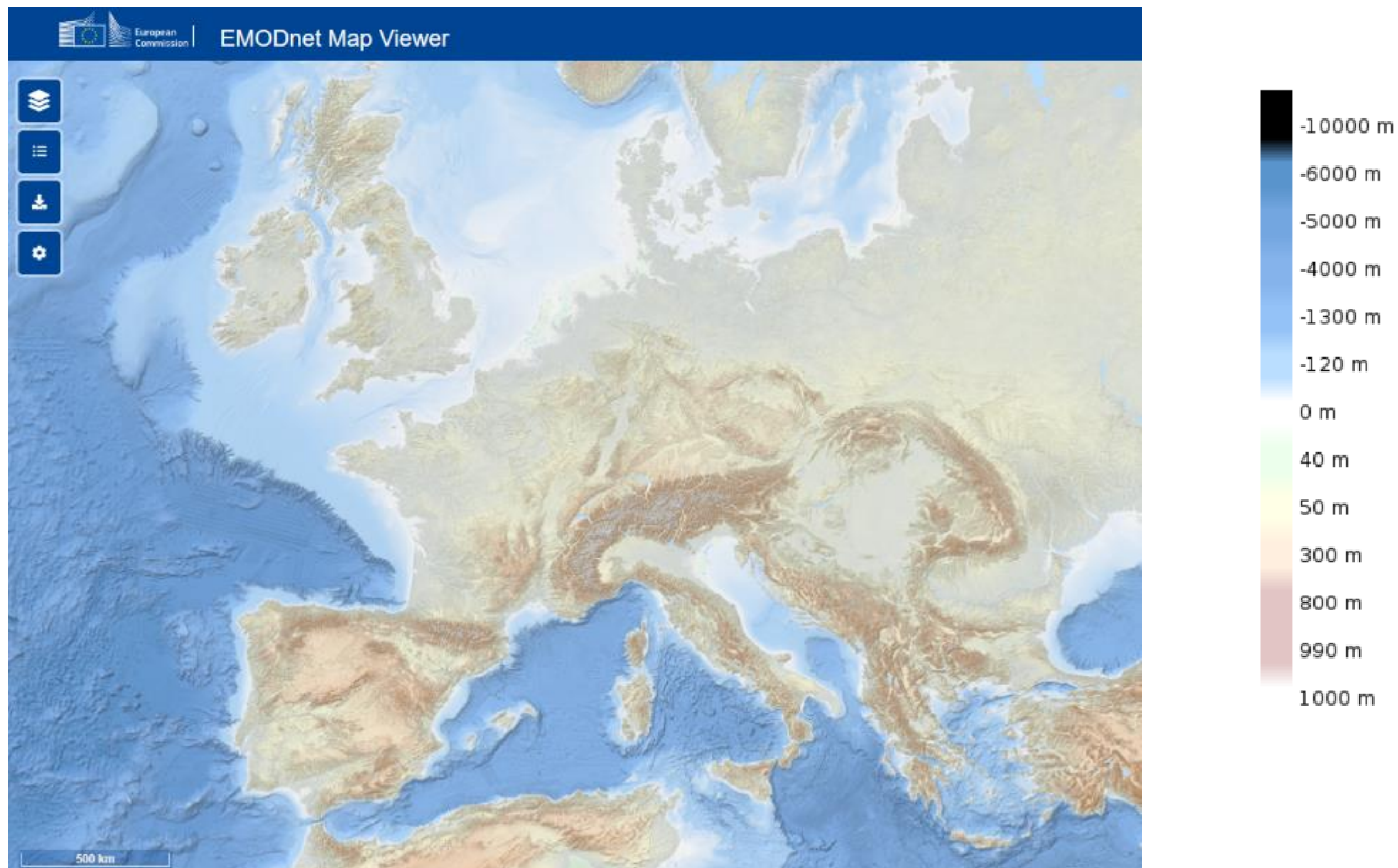
Setting the context

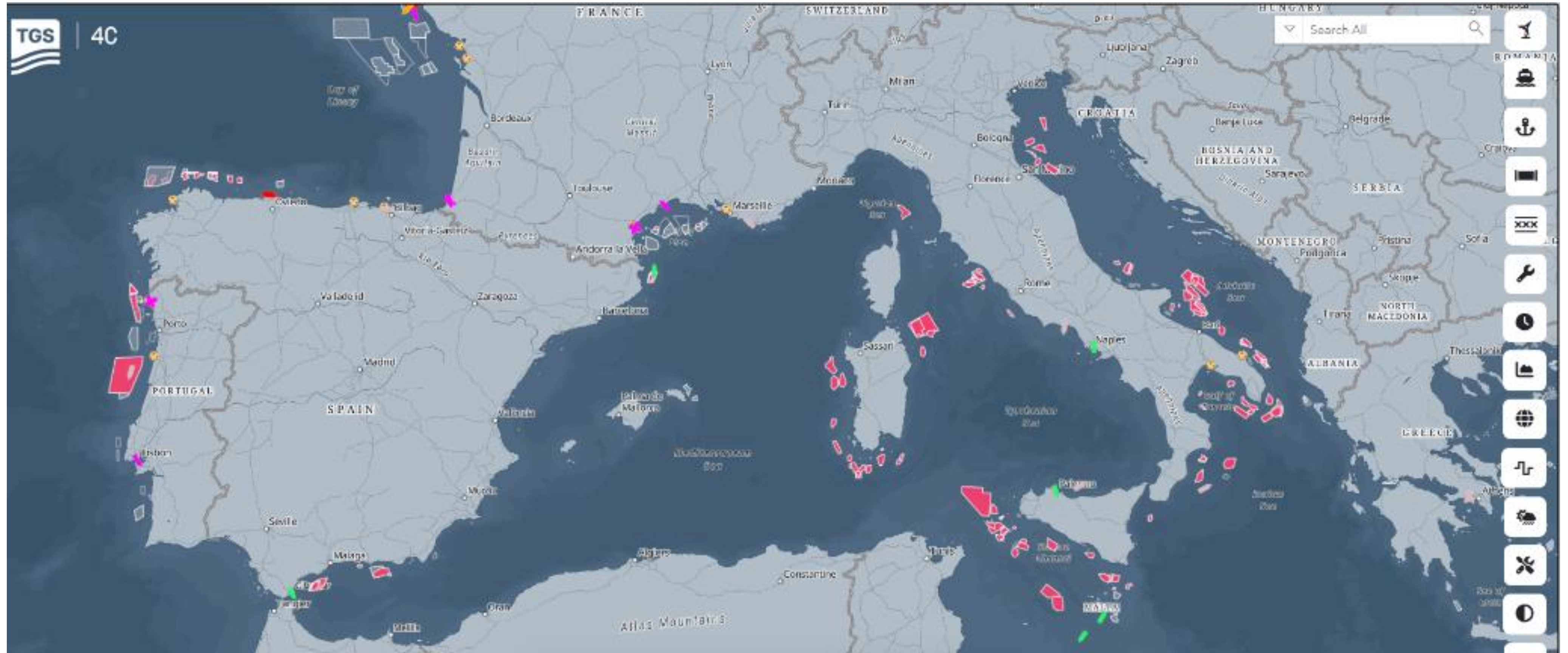
2024/03/06

Available wind resources



Bathymetry





<https://map.4coffshore.com/offshorewind/>

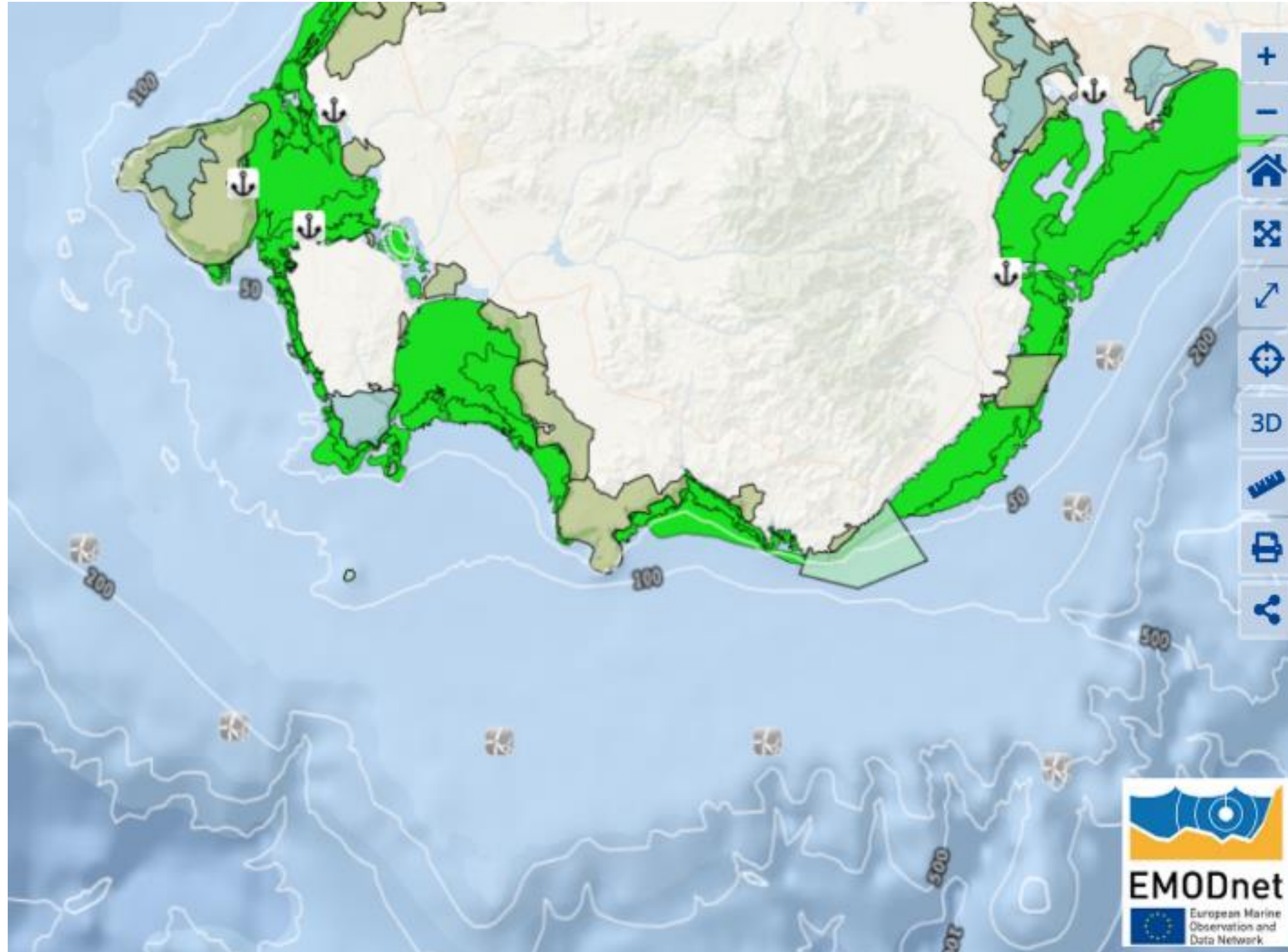
Overview of the planning and bidding systems for OWF in the UK (focus on round 5)

- Definition of Project Development Areas through a multi-stage spatial design process
- Completion of a plan-level habitats regulations assessment to consider the protected areas and species in the bidding process
- Pre-consent surveys to inform early-stage engineering design, financing and environmental assessment
- Design recommendations for the grid connections in cooperation with ESO and NGET to support Holistic Network Design
- Leasing process designed in a fair, transparent and objective manner.

Overview of the planning and bidding system for OWF in Italy

- General objectives for the national energy system are defined by the National Energy and Climate Plan (PNIEC): a very limited target was set for OWF (2.100 MW against an estimated 200.000 MW potential).
- The Maritime space strategic planning is in an early stage, despite Italy having the largest territorial water in the EU27
- A request for expression of interest has been issued in 2021 by the Ministry of Environment and Energy and 64 EOI have been submitted
- Marine areas' concessions have been granted to interested parties, with no consideration of cumulative impacts and access to the grid
- No supporting mechanisms or guidelines have been put in place to facilitate the design and consenting process
- The bidding process has not started and the bidding criteria have not been disclosed so far.

Effects of the lack of planning



Natura 2000 sites

- A: SPA (Special Protection Areas)
- B: SCI (Special Conservation Interest)
- C: Both SPA and SCI

Wind Farms (Points)

- Approved
- Dismantled
- Planned
- Production
- Under Construction
- Test site

Seagrass cover in Europe (2023)

Seagrass cover (Essential Ocean Variable)



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Section name

Environmental and social issues



Onshore connections

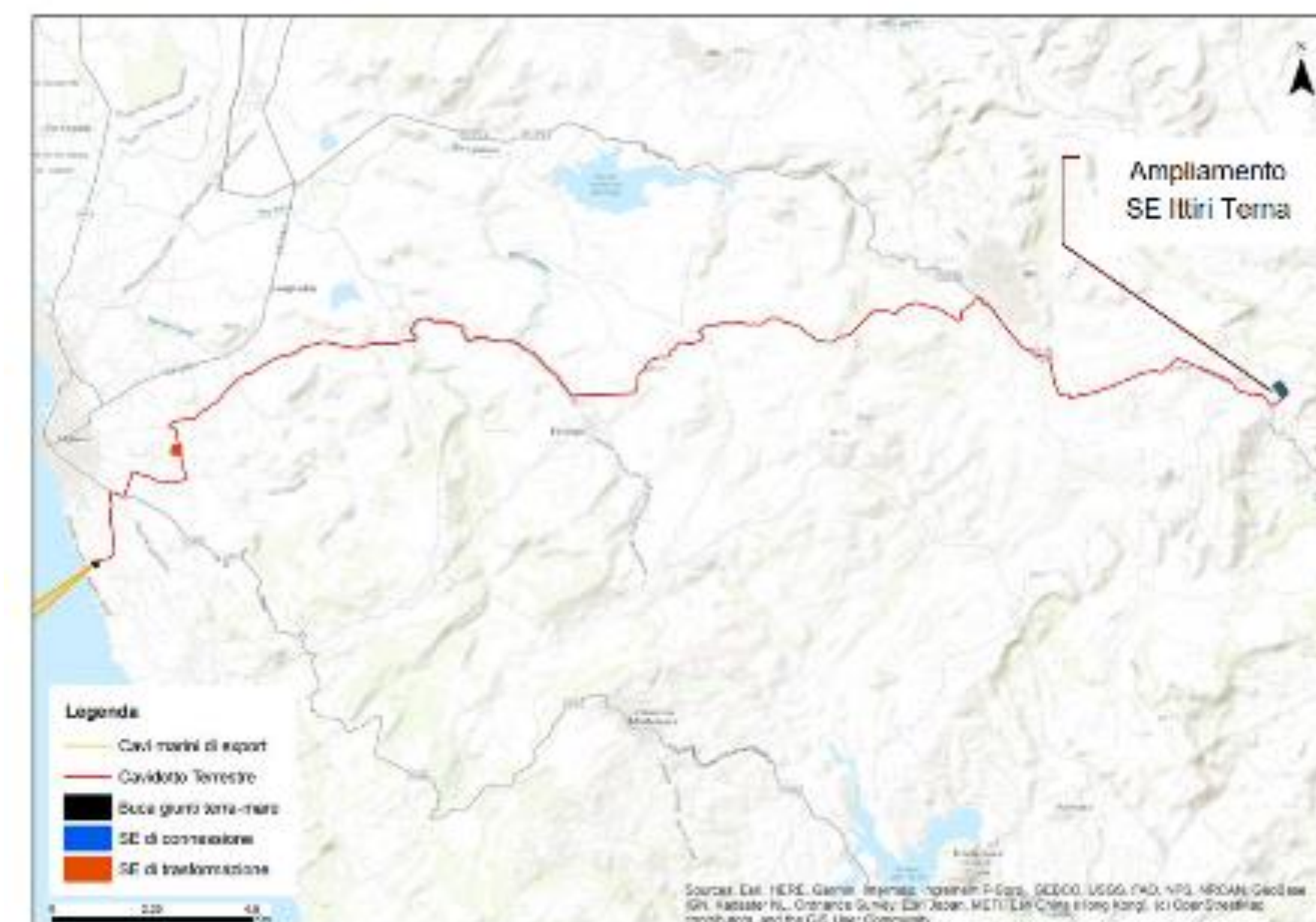


Figura 38: Inquadramento delle opere di connessione onshore.



Figura 68: Ubicazione su CTR delle interferenze individuate.

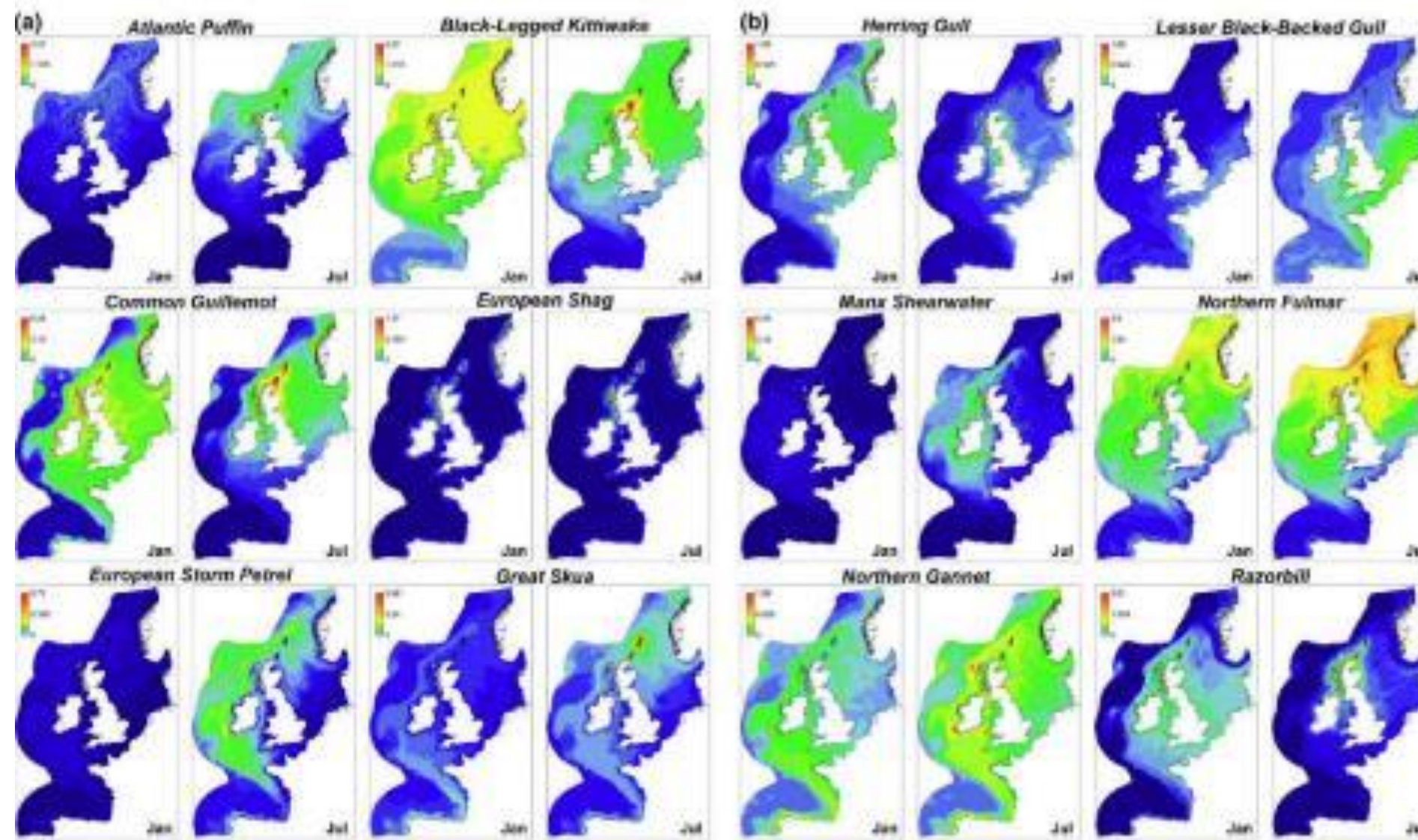
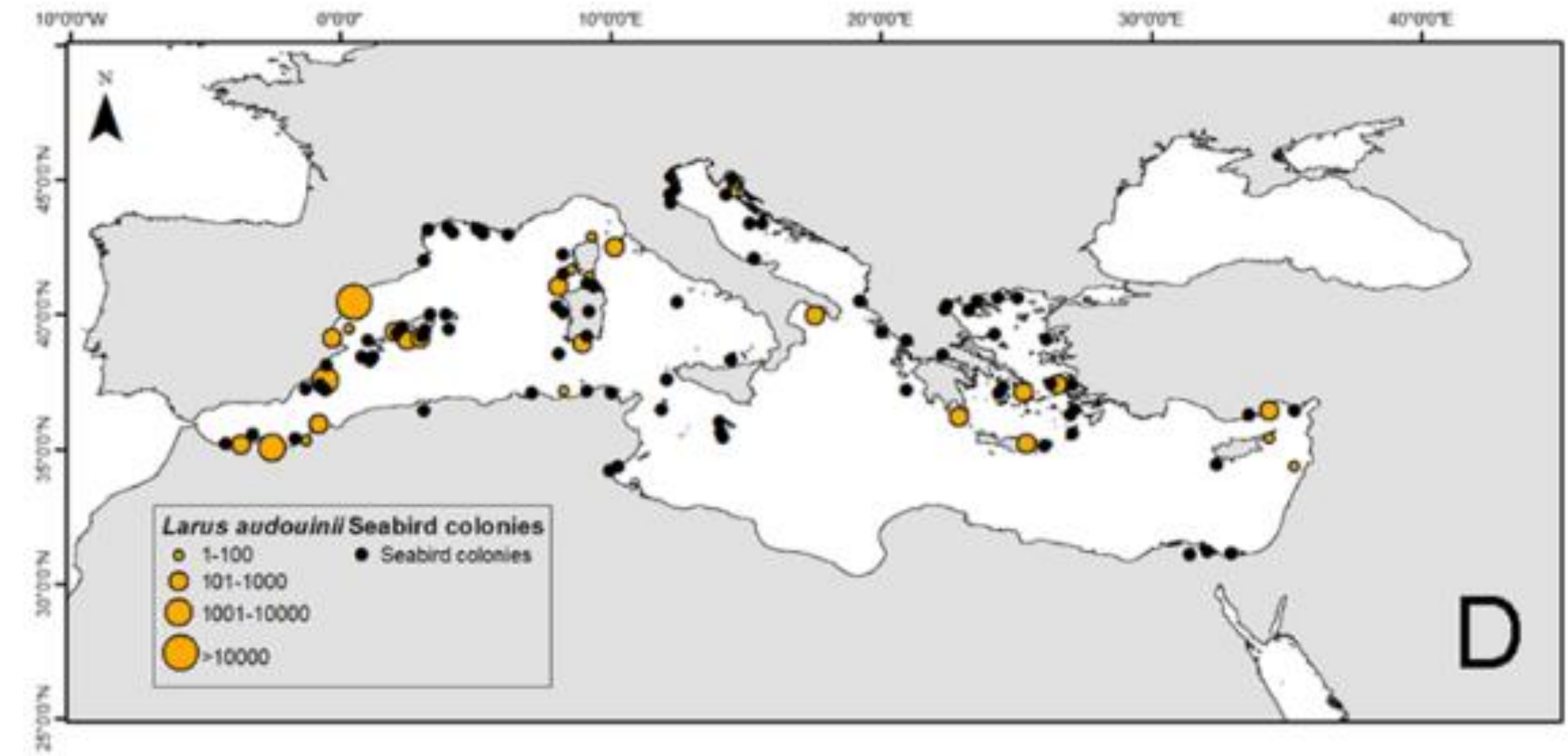
Port infrastructures



Figure 48: Layout port of Corigliano



Birds



Bird species densities- Spatial variation in predicted densities (animals per km) (Waggitt *et al.*, 2019)

Birds

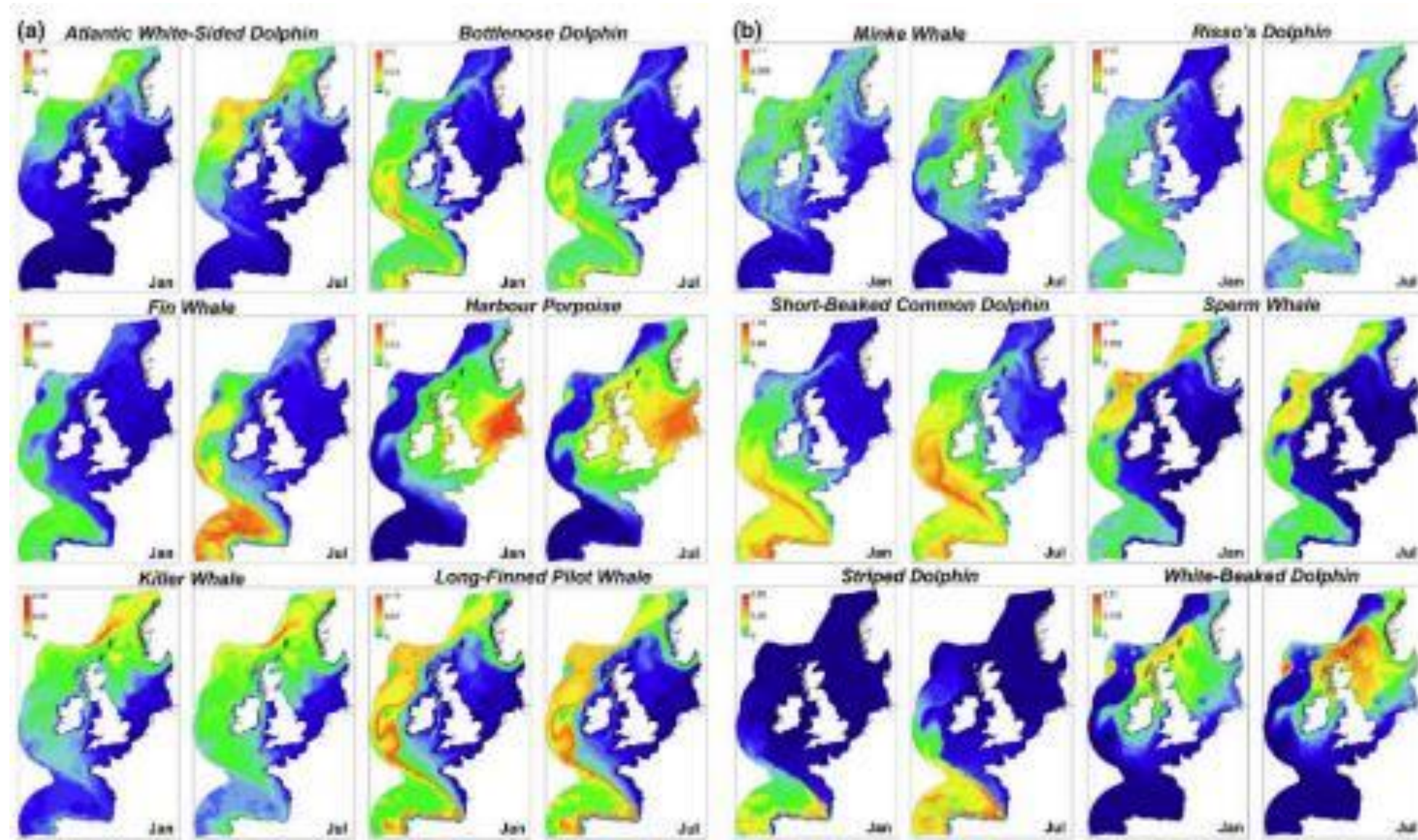
Impacts:

- Direct temporary habitat loss / disturbance.
- Direct temporary intertidal habitat loss / disturbance / displacement.
- Indirect impact due to effects on prey species and habitats.
- Operational disturbance and displacement from the array.
- Collision risk.
- Entanglement with mooring lines.
- Accidental pollution.
- Barrier effects.

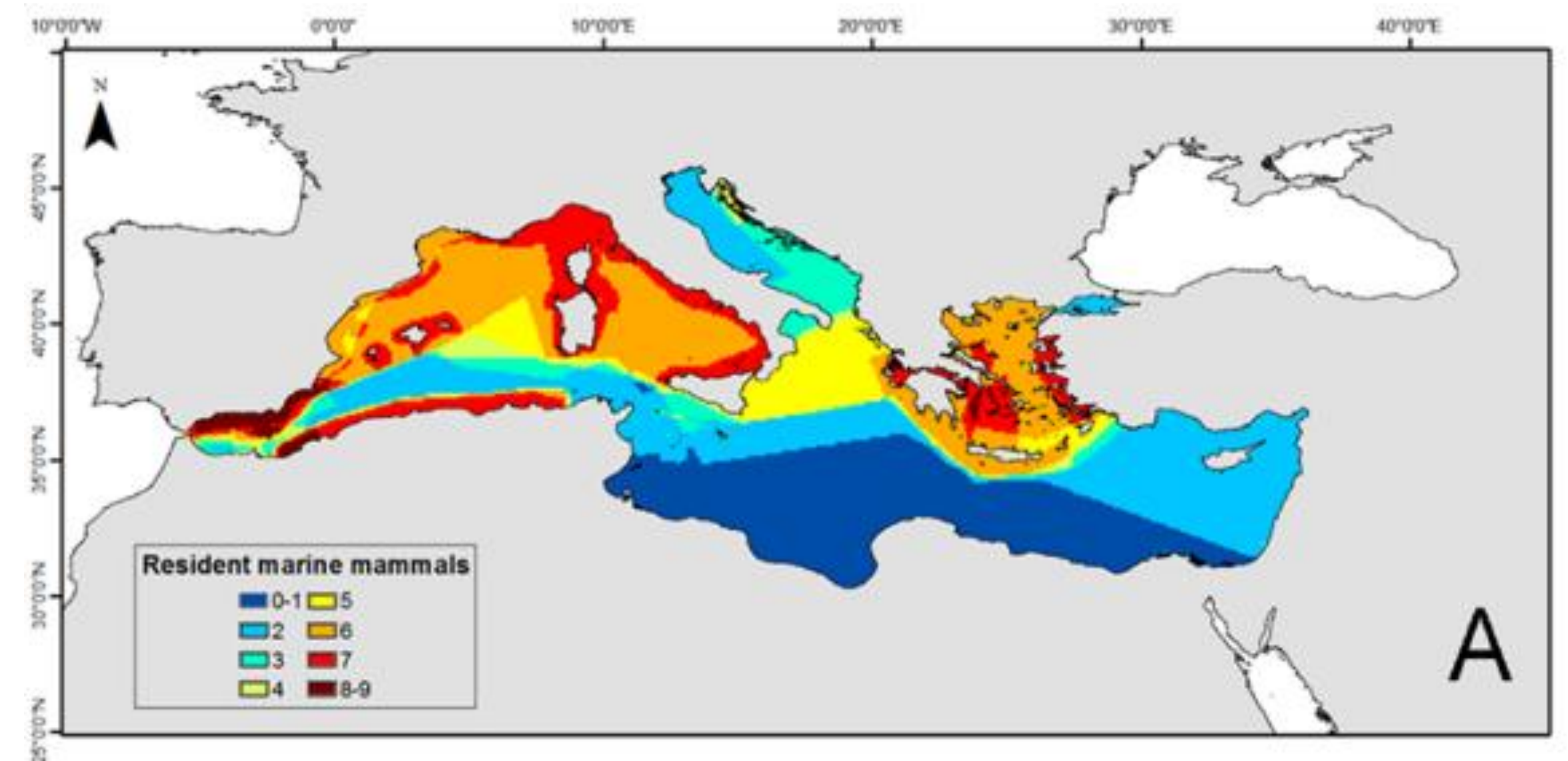
Mitigation strategies:

- Minimum blade tip clearance.
- Blade colouring
- Development and adherence to a Project Environmental Monitoring Plan.
- A Construction Environmental Management Plan to be implemented by the contractor.
- The development of and adherence to a decommissioning programme.

Marine mammals



Marine mammal densities - Spatial variation in predicted densities (animals per km) (Waggitt *et al.*, 2019)



Marine mammals

Impacts:

- Increased underwater noise during installation.
- Increased above-water noise during installation.
- Indirect effects of underwater noise on marine mammal prey species.
- Increased vessel presence and traffic leading to disturbance.
- Habitat change due to offshore windfarm structures e.g. effecting foraging patterns.
- Entanglement in lines and cables e.g. mooring lines and inter-array cables.
- Disturbance of habitat from sea-floor attachment causing secondary impacts to marine mammal prey species.
- Effects from electromagnetic field from cables.
- Detonation of unexploded ordnance could result in direct trauma, auditory damage causing TTS / PTS.

Mitigation strategies:

- Development of and adherence to an agreed Marine Mammal Mitigation Protocol.
- Slow start for piling
- Development and adherence to a Project Environmental Monitoring Plan.
- A Construction Environmental Management Plan to be implemented by the contractor.
- The development of and adherence to a decommissioning programme.
- Development of and adherence to and agreed UXO Management Plan.

Fish ecology

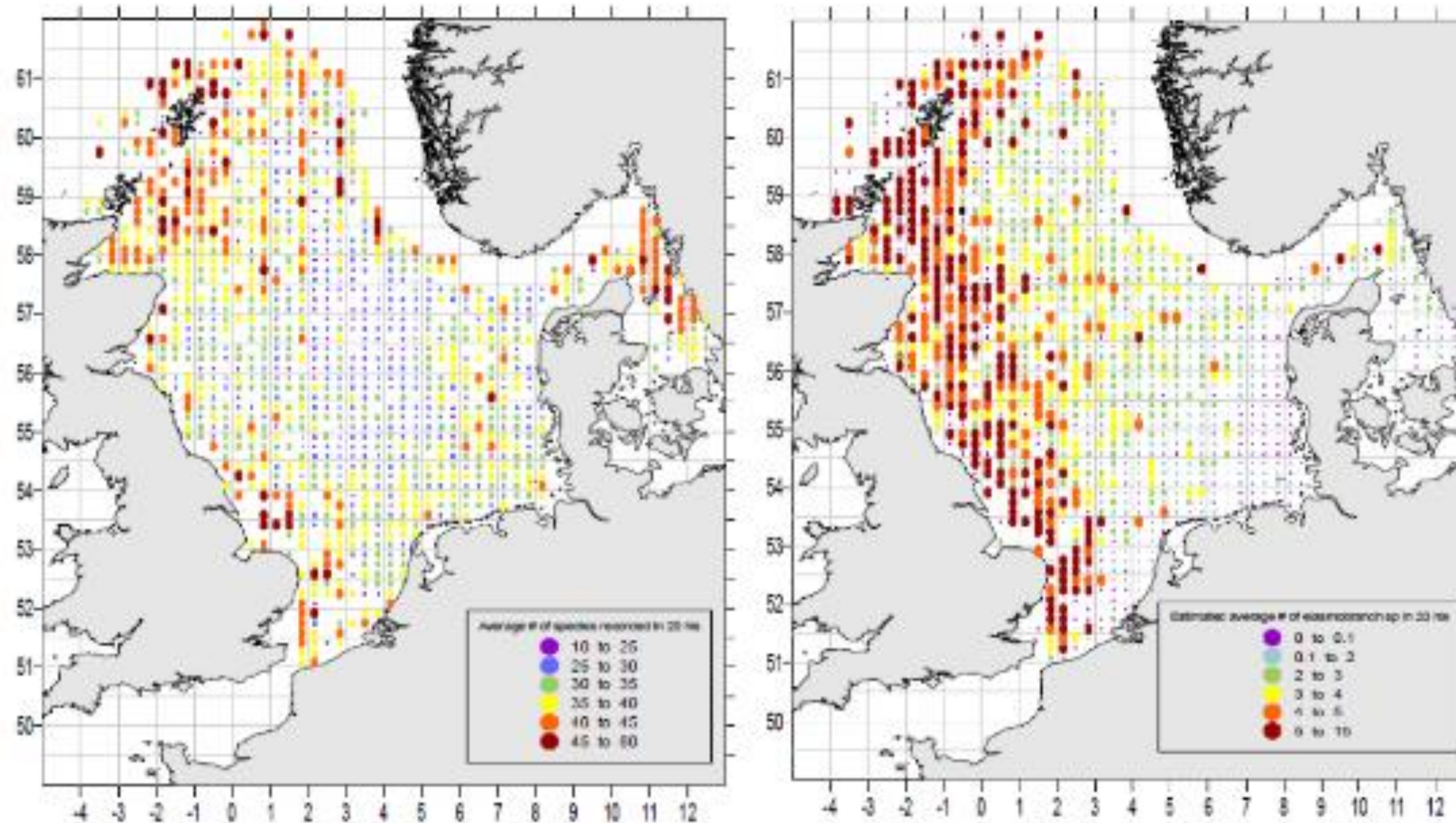
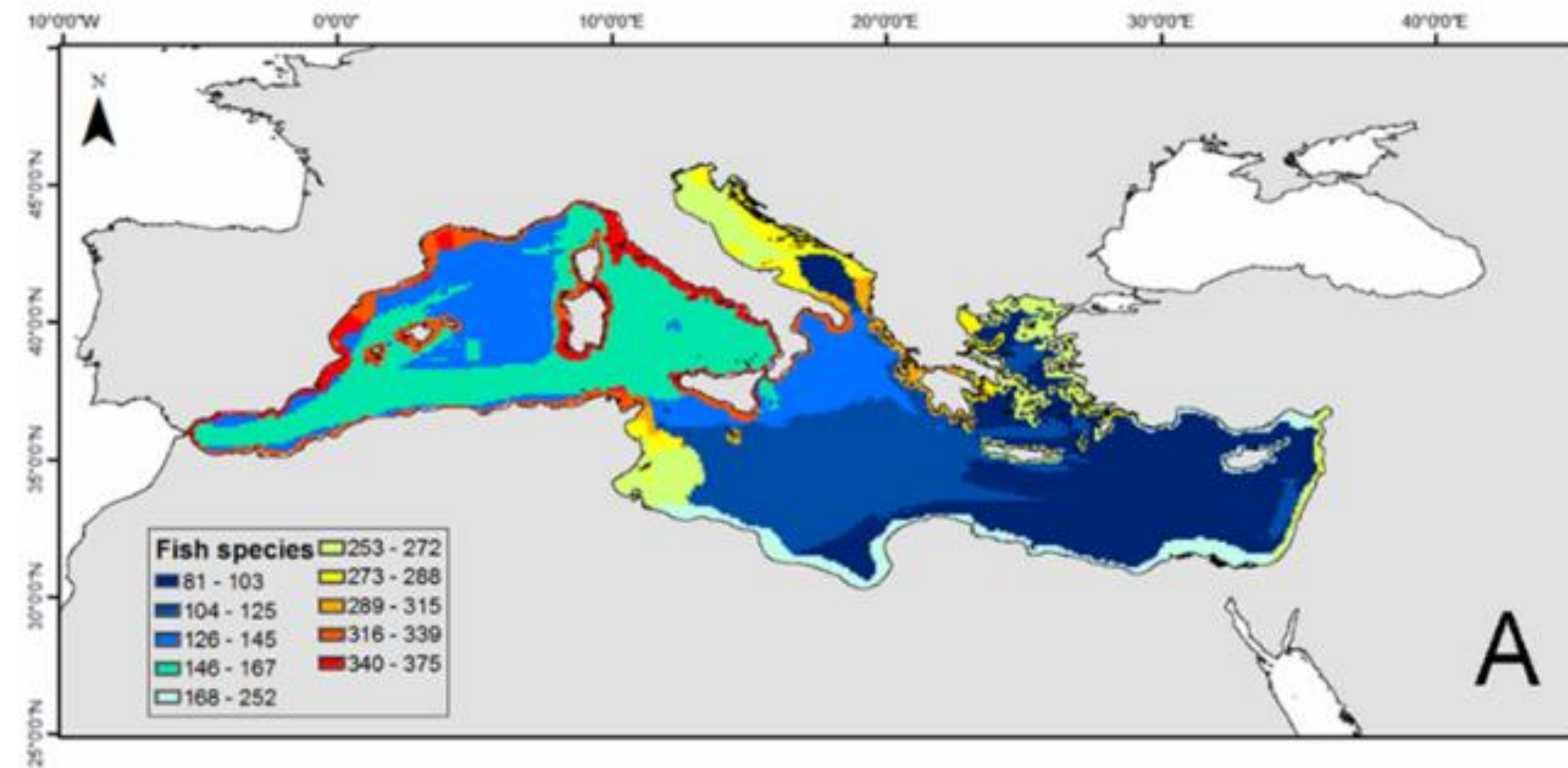


Figure 3: Spatial variation in species richness, expressed as average number of species recorded in 20 hauls, based on IBTS (all quarters, 1977-2004): A (left panel) – entire fish community; B (right panel) – elasmobranchs only (sharks and skates). From ICES-FishMap (2005).



Impacts :

- Habitat loss and/or disturbance effects on potential feeding and spawning patterns.
- Smothering of species from the placement of infrastructure in the marine environment.
- Underwater noise and vibration included UXO clearance causing behaviours changes, mortality, injury or auditory masking.
- Loss/increase of suitable substrate.
- Increased likelihood of Fish Aggregating Devices effects from the floating units.

Mitigation strategies:

- Development and adherence to a Scour Protection Management.
- Development and adherence to a Project Environmental Monitoring Plan.
- Mitigation and control of invasive species measures.
- A Construction Environmental Management Plan to be implemented by the contractor.
- Development and adherence to a Marine Pollution Contingency Plan.
- Detailed Cable Burial Risk Assessment.
- Avoidance of key sensitive habitats and micro-siting.
- Use of 'low-order' techniques such as deflagration for UXO disposal, where possible and required.

Benthic habitats



Benthic habitats

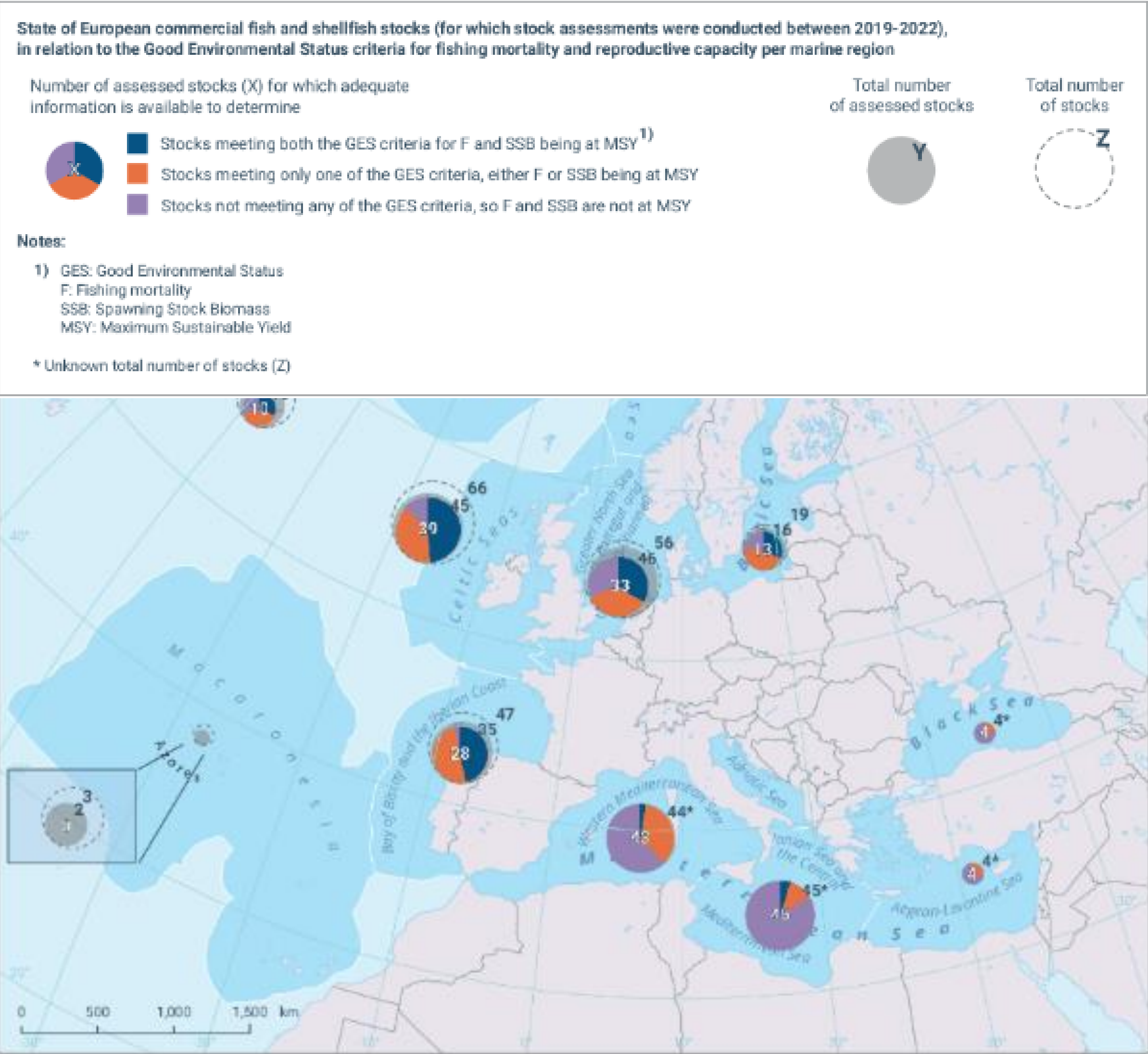
Impacts on benthic habitats:

- Temporary habitat disturbance of seabed habitat.
- Temporary increased suspended sediment in deposition.
- Direct and indirect seabed disturbance leading to the release of sediment contaminants.
- Long-term habitat loss.
- Increased risk of introduction of spread of marine INNS.
- Colonisation of hard substrates on floating structures.
- Accidental pollution events.
- EMF generated by array and export cables.
- Potential impacts on designated sites.

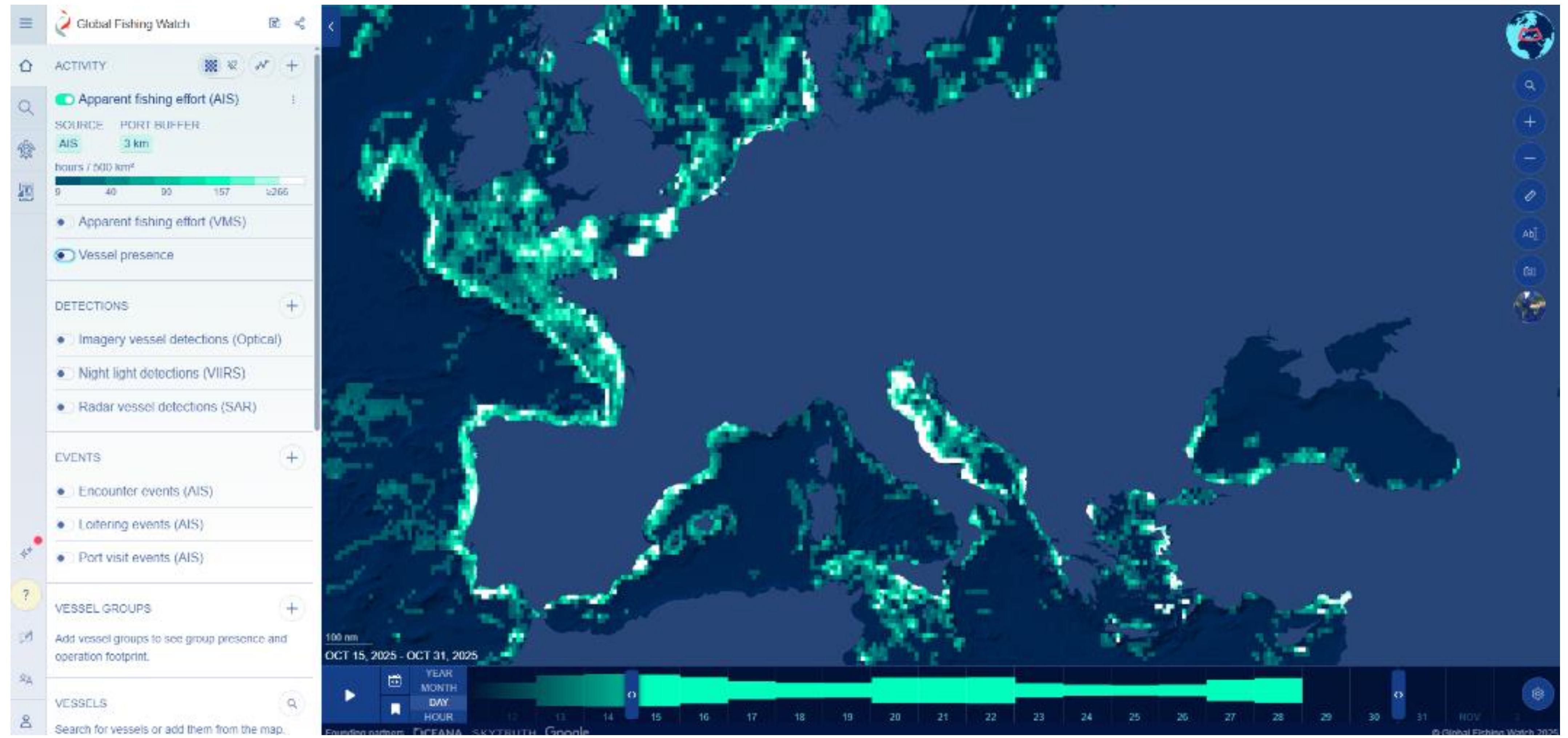
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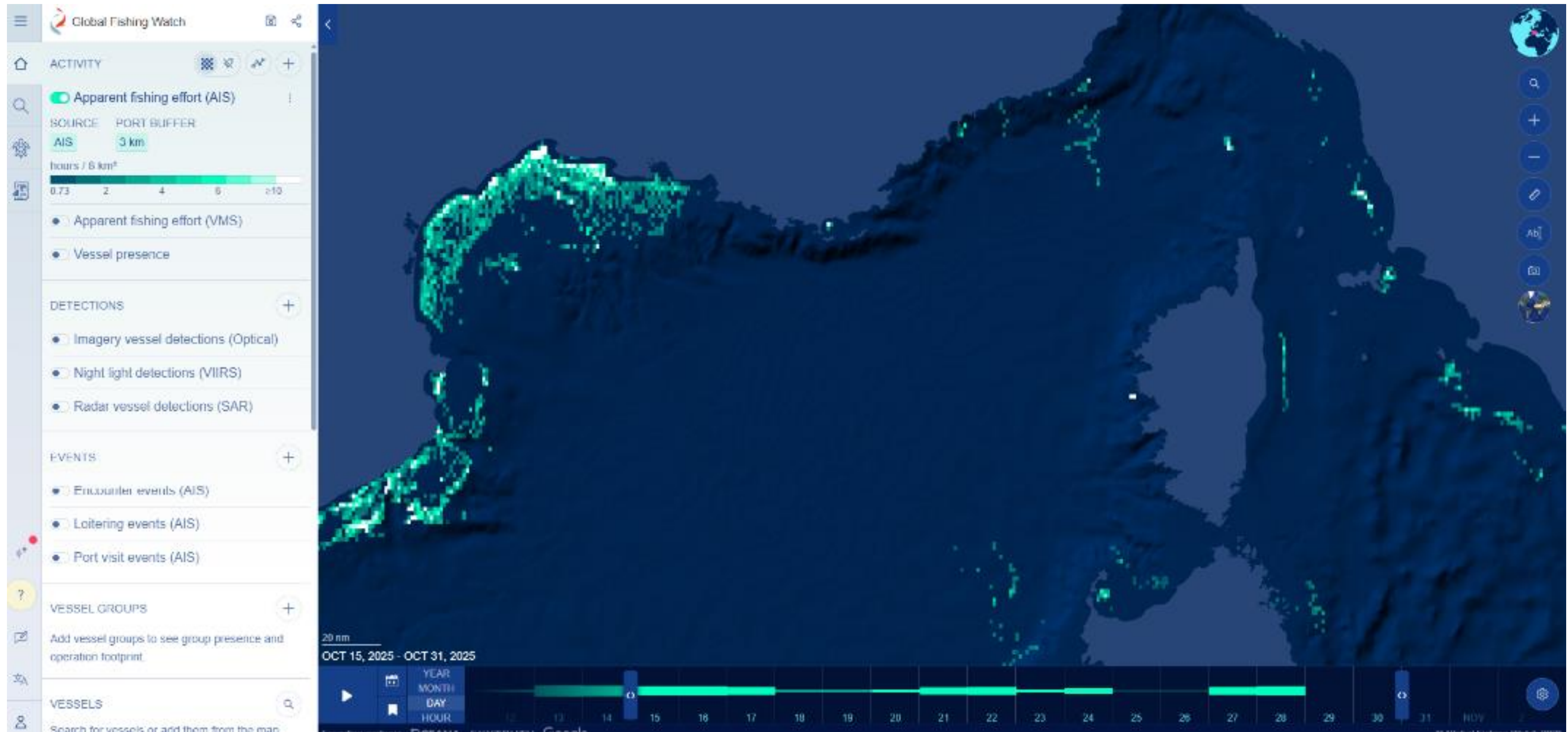
Fisheries



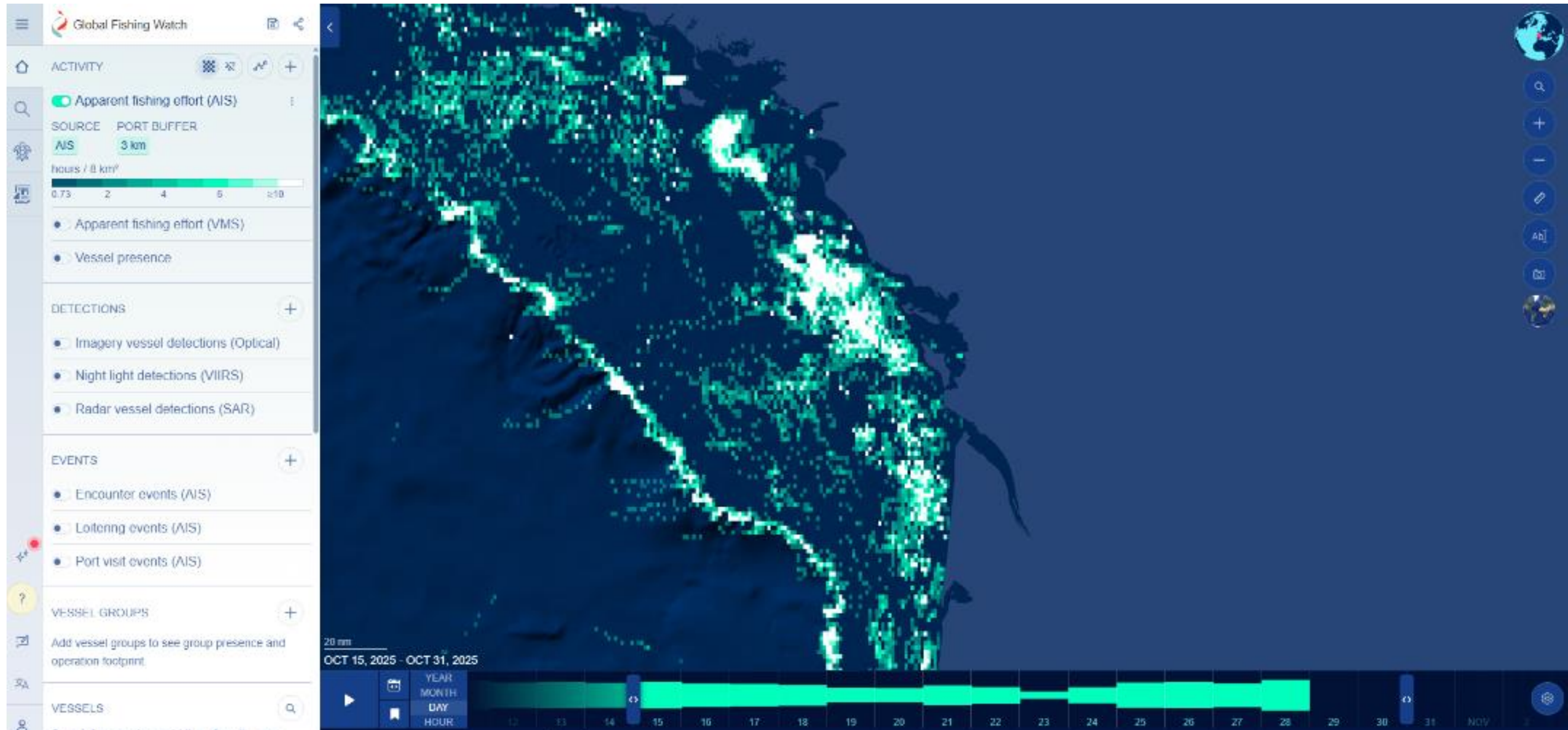
Fishing effort



Fishing effort – North Tyrrhenian



Fishing effort – Atlantic France



Fisheries

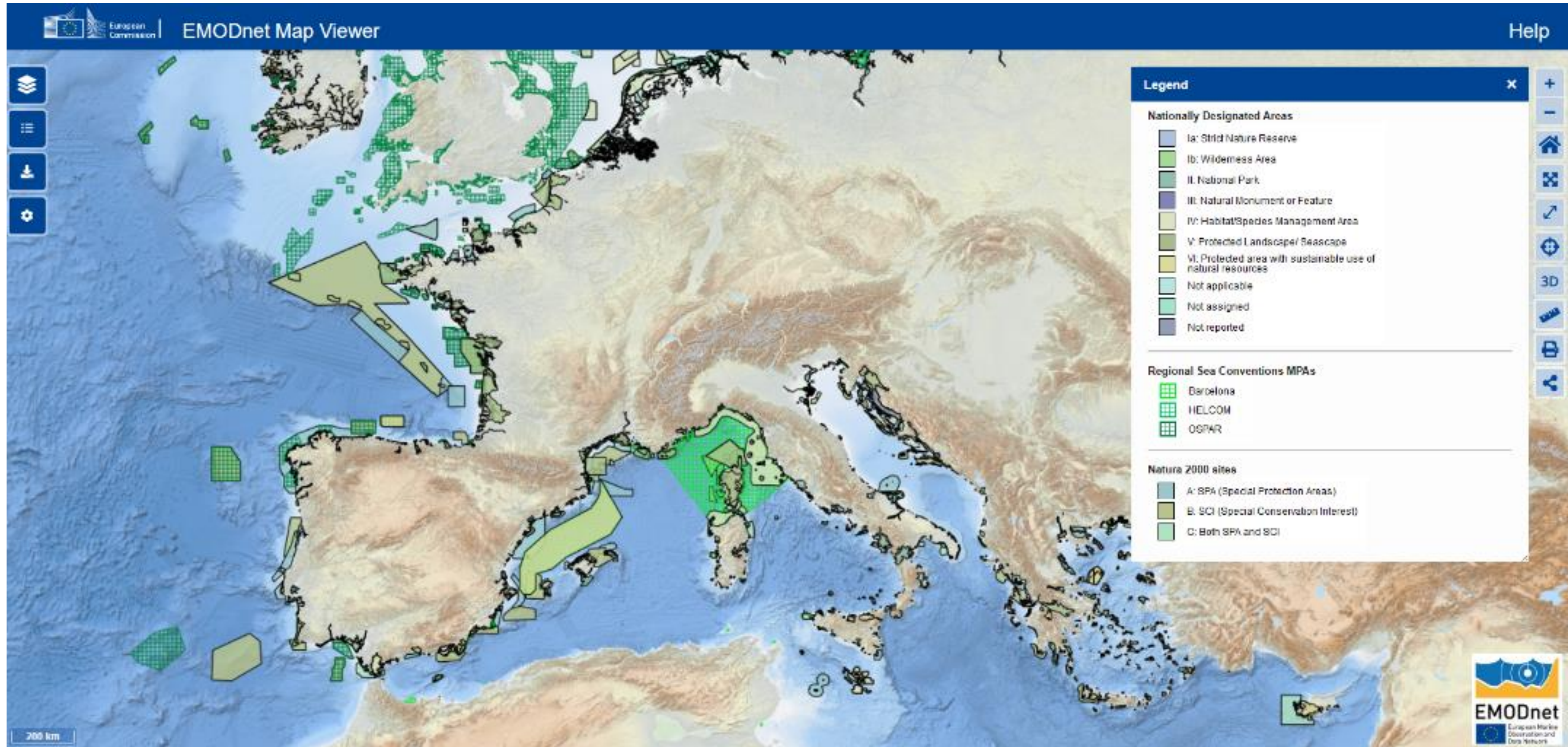
Impacts:

- Reduction in access to or exclusion from established fishing grounds.
- Displacement of fishing activity leading to gear conflict and increased fishing pressure on adjacent grounds.
- Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity.
- Increased vessel traffic associated within fishing grounds leading to interference with fishing activity.
- Physical presence of infrastructure and potential exposure of that infrastructure leading to gear snagging.

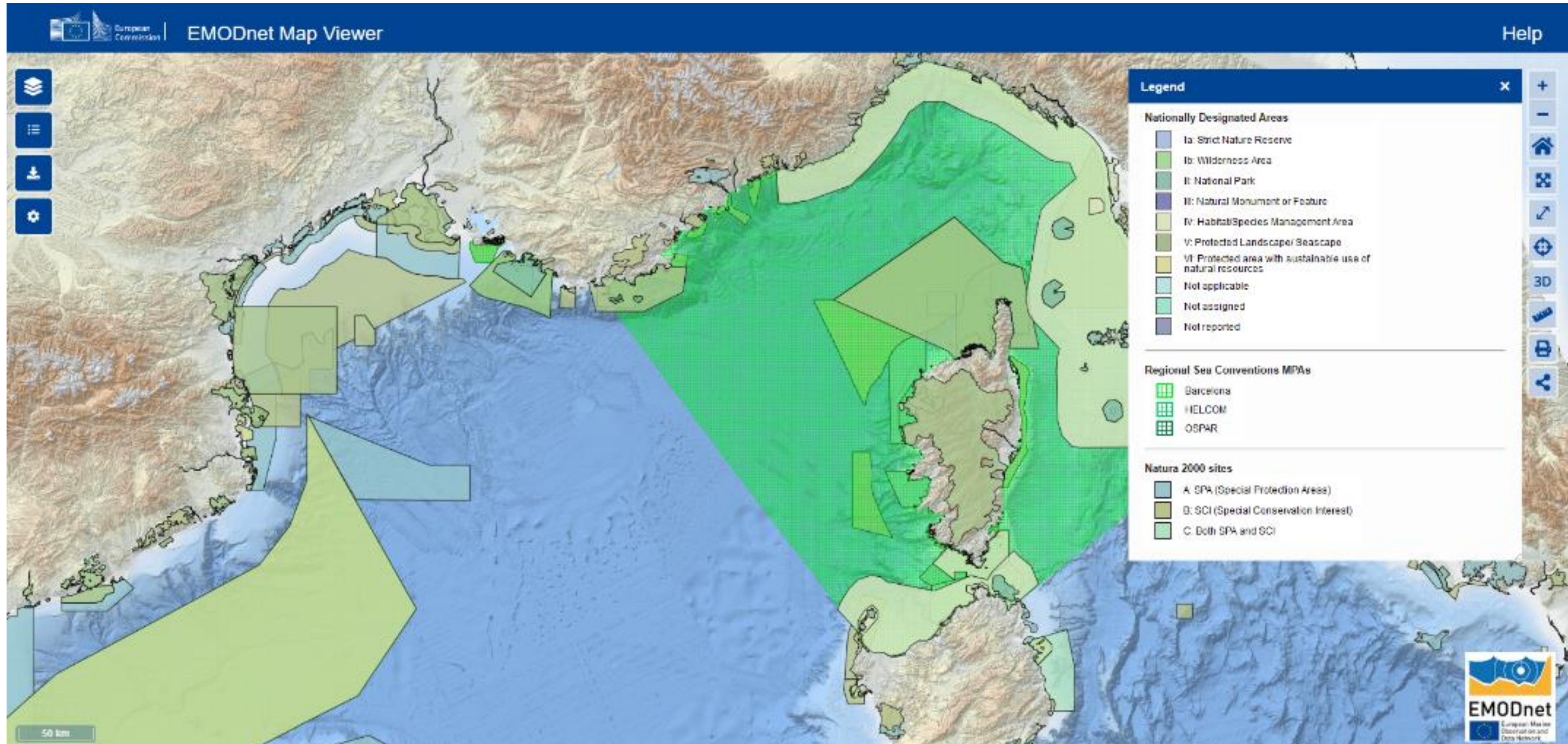
Mitigation strategies:

- Development of and adherence to a Fisheries Management and Mitigation Strategy.
- Participation in any fisheries working group to assist with liaison between Projects and the fishing community.
- Adherence to best practice guidance with regards to fisheries liaison and procedures in the event of interactions between the Project and fishing activities.
- Appointment of a Company Fisheries Liaison Officer (CFLO). The CFLO will support ongoing liaison and ensure clear communication between the Project and commercial fisheries.

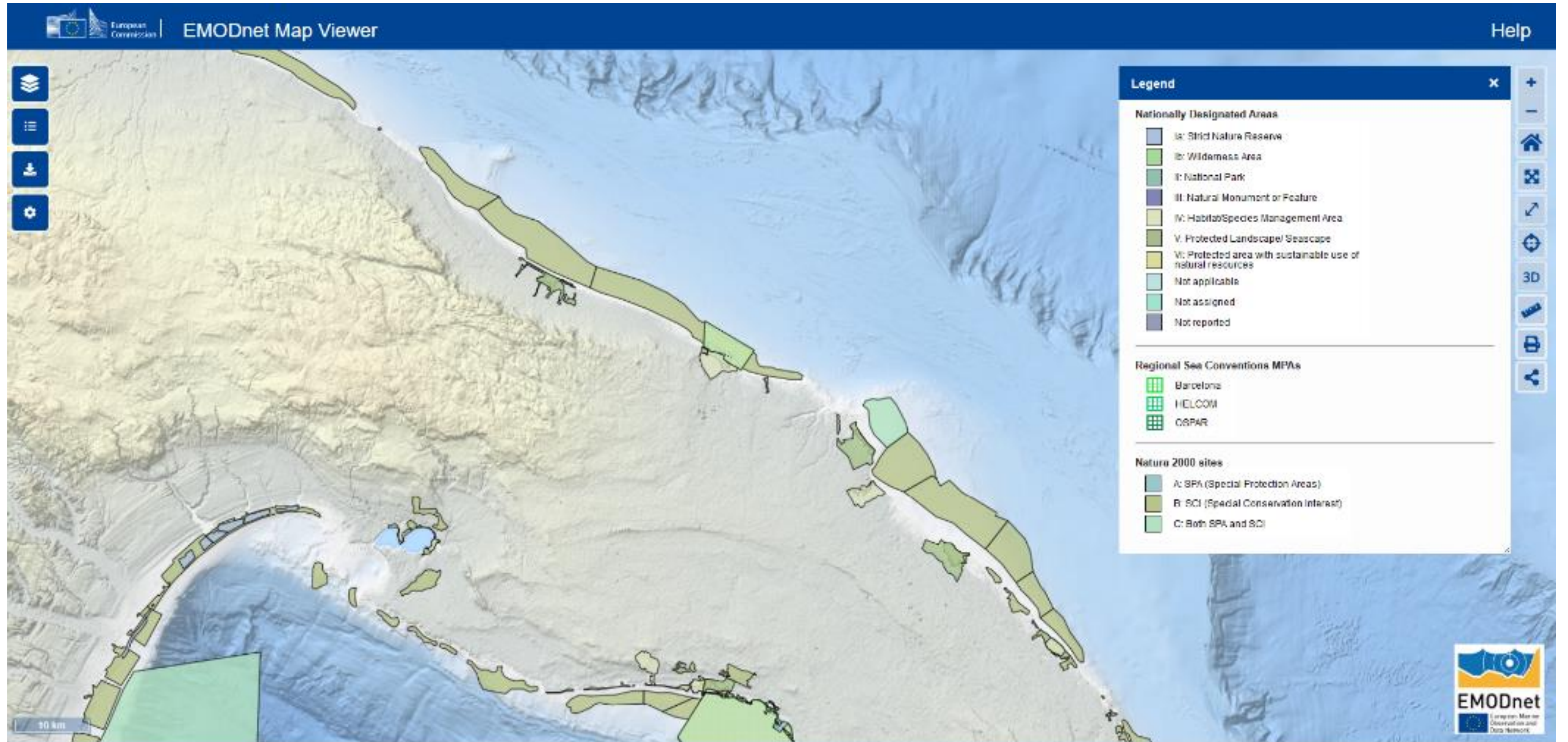
Protected areas

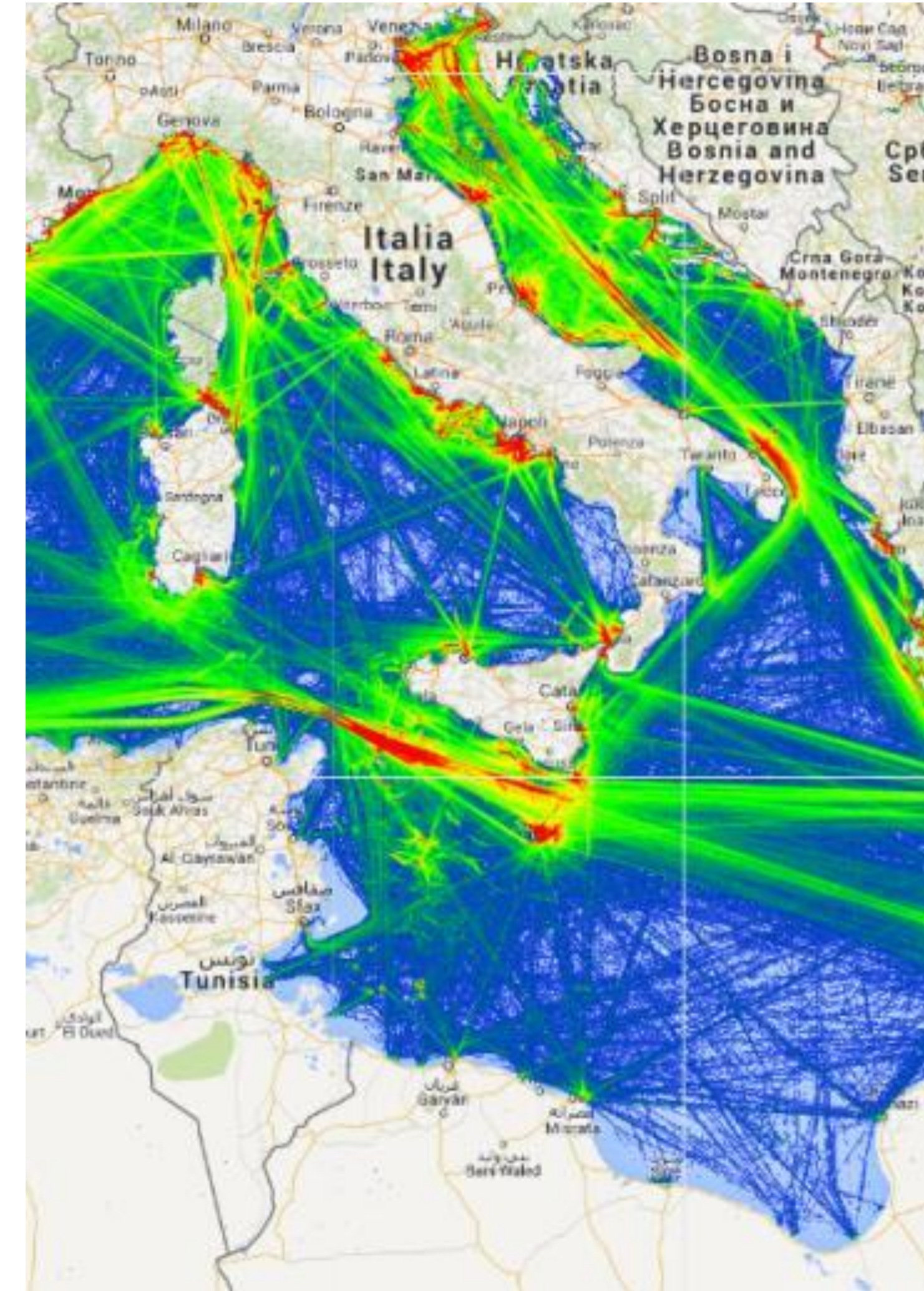
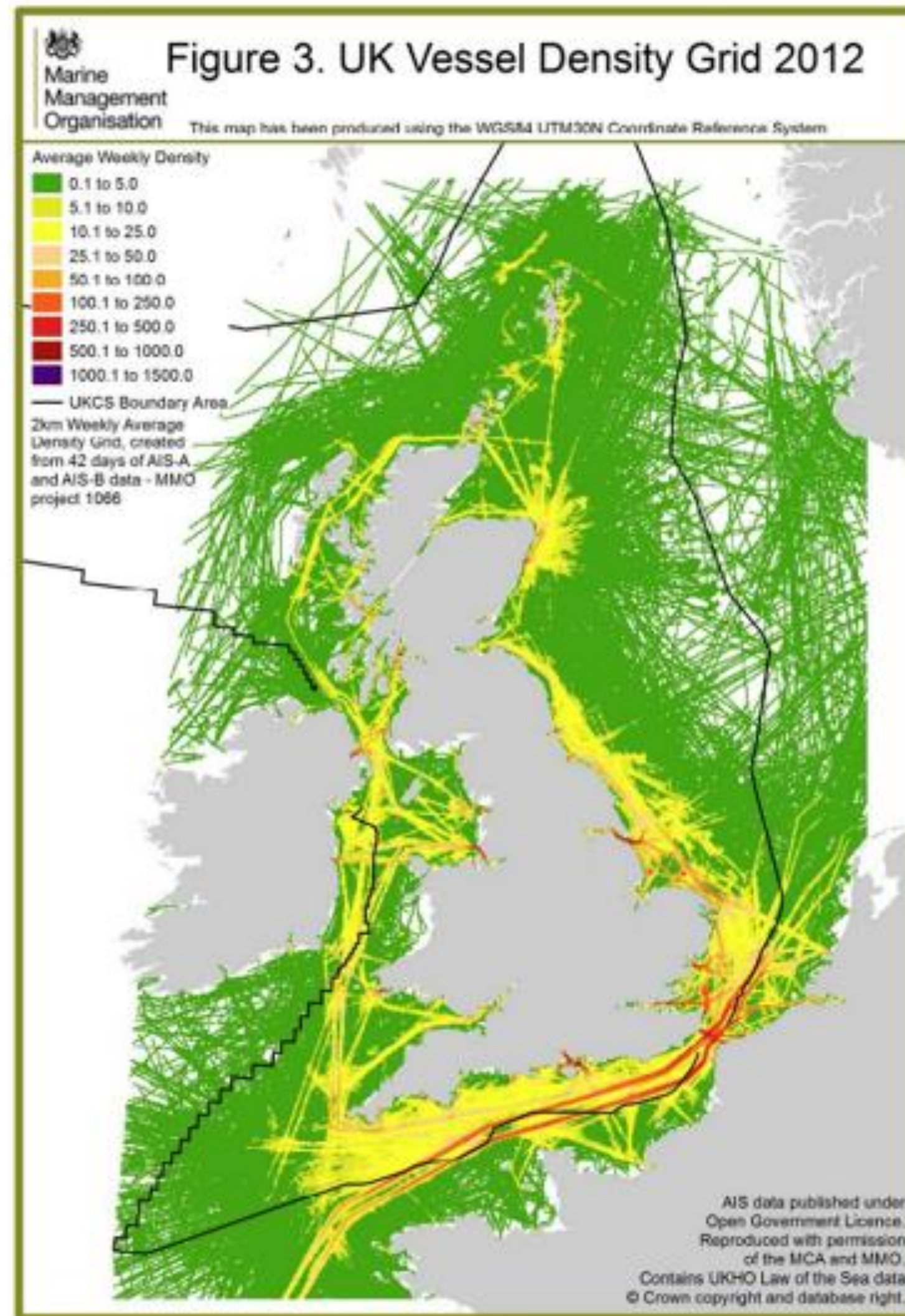


Protected areas – North Tyrrhenian



Protected areas – Central Apulia





Shipping

Impacts on shipping and navigation

- Increased vessel to vessel collision risk resulting from displacement around the construction, O&M and decommissioning area.
- Presence of partially constructed O&M and decommissioning surface structures will create new allision risk to vessels under powers.
- Impact access to ports.
- Presence of sub surface infrastructure e.g., cable protection or mooring may lead to an increase in under keel interaction risk or may lead to an increase in anchor and fishing gear interaction risk.
- Loss of floating unit may lead to additional allision risk.
- Interference with navigation, communications and position fixing equipment (EMF effects).
- Reduction of Search and Rescue capability.

Mitigation strategies for shipping

- Application for and use of Safety Zones during construction, maintenance and decommissioning.
- Marine Pollution Contingency Plan to be developed.
- Development of and adherence to a Lighting and Marking Plan.
- Development of and adherence to a Navigation Safety Plan and Vessel Management Plan.
- Development and adherence to a Development Specification and Layout Plan.
- Compliance with regulatory expectation on moorings for floating wind and marine devices.
- Compliance with MCA MGN 654.
- Appropriate marking of Projects on Admiralty and aeronautical charts.

The background is a dark blue gradient. It is filled with numerous small, white, stylized wind turbine icons scattered across the entire surface. In the top right corner, there are three large, thick, red arrows pointing downwards and slightly to the left.

Closing remarks

Key issues during permitting

- Relevant issues perceived by the public
 - Impact on tourism
 - Visual impact
 - Impact on fisheries
 - Lack of economic benefits
- Emerging issues for regulators
 - Impacts on microclimate / local oceanography
 - Release of pollutants/health risks
 - Navigation safety risks
 - Landing and onshore infrastructures

Key uncertainties

- Effects of large-scale Fish Aggregating Device effects
- Impact on benthic communities
- Impact of fish bans on fish stocks – spillover effect
- Attraction of piscivorous species – fish and mammals
- Increased risk of collision
- Potential change in migratory behaviors (tuna – cetacean)
- Electromagnetic field effects (interarray cables)
- Cumulative impacts



Thank you
roberto.mezzalama@wsp.com



wsp.com

Case Study World Café

Sharing real-world experiences to strengthen EIA practices for offshore wind and grid across Southern Europe



1

Environmental surveys on Provence Grand Large pilot floating OWF (French Mediterranean) - Impacts monitoring during construction and operation: first results and main challenges

Presenter: **Emma Gouze – EDF Power Solutions**

2

Export Cable Installation for the WindFloat Atlantic – Successes and Challenges of Connecting Floating Offshore Wind in the Atlantic

Presenter: **André Santos - REN**

3

Floating Technology, EIA Uncertainty and Emerging Questions – What are the potential physical and biological effects of floating turbines and cables on the marine environment? How can EIAs address these unknowns?

Presenter: **Roberto Mezzalama – WSP Consulting**

4

Transboundary connection in the Gulf of Biscay – Process, challenges and lessons learned of laying underwater cables across the border between Spain and France

Presenter: **Roberto Cabria - REDEIA**





Join us for Lunch
at ***the Restaurant Salsa***
Floor -1

Report Back

Key takeaways from the Case Study World Café



Solutions Roundtable

Innovative Ideas for Smarter, More Efficient and Nature-Inclusive EIAs



1

Filling the gaps between SEA, EIA and project planning –
Improving efficiency and alignment between national level scoping, environmental baselines and cumulative impact assessment

2

Nature-friendly by design – *Practical solutions for integrating biodiversity into offshore wind and grid projects from the planning phase*





Coffee Break Until 16:00



Key outcomes and ways forward

*Common minimum standards collected and what
can we do with them*

Closing



Dení Aguilar Bellamy
Coordinator, Offshore
Energy and Nature
RGI



Francisco Parada
Head of Quality, Environment,
Safety and Performance
REN

Networking cocktails and canapés
Village by Boa

The Space, 4th floor

R. do Bonjardim 541, 4000-124 Porto

From 19:00 to 22:00

Ring the bell and follow directions



See you soon!

Emergency number
Matilde Doni:
+49 17638611148