Showcase of planning sites

Funded by the European Union

UKRI

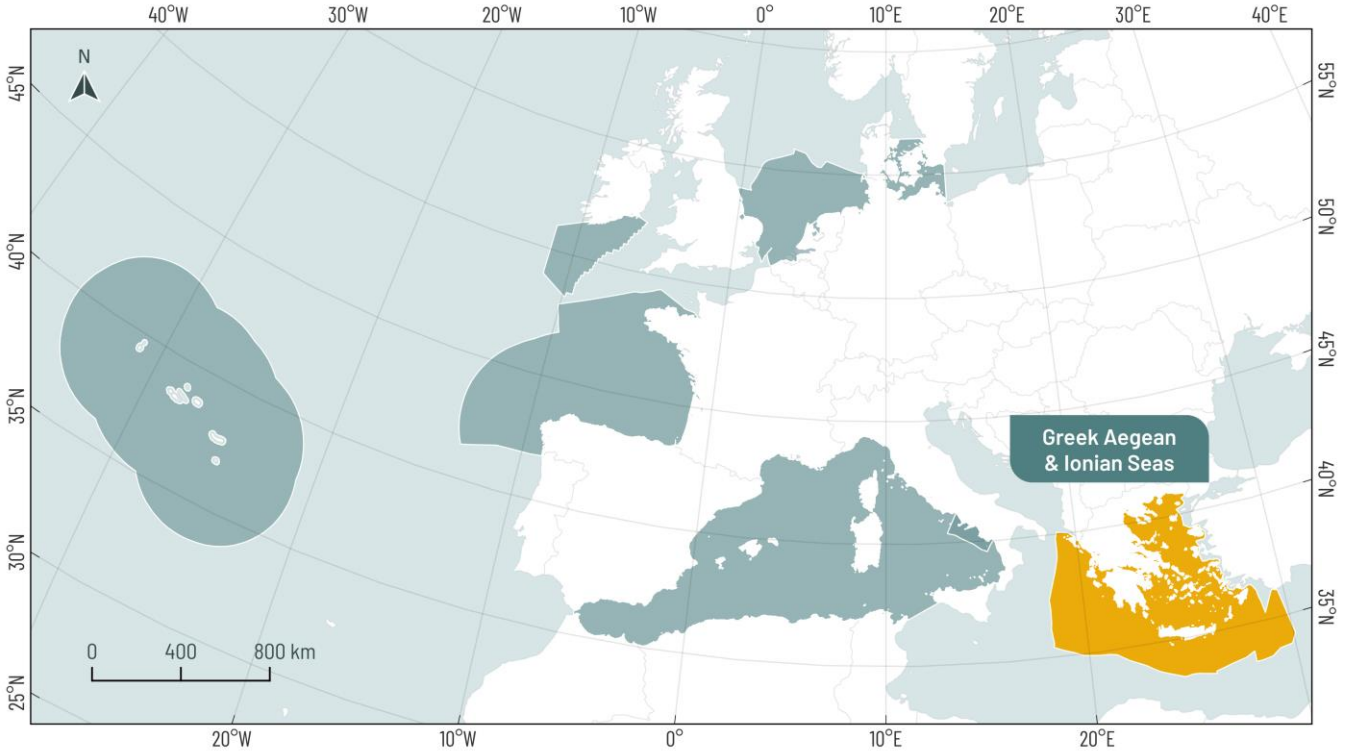
MarinePlan

Greek Aegean & Ionian Seas

Maria Papazekou

Funded by the European Union

Key characteristics and planning objectives



- **Location:** Eastern Mediterranean
- **Boundaries:** Greece's MSP Implementation Area (Temporary EEZ)

*Not a transboundary PS

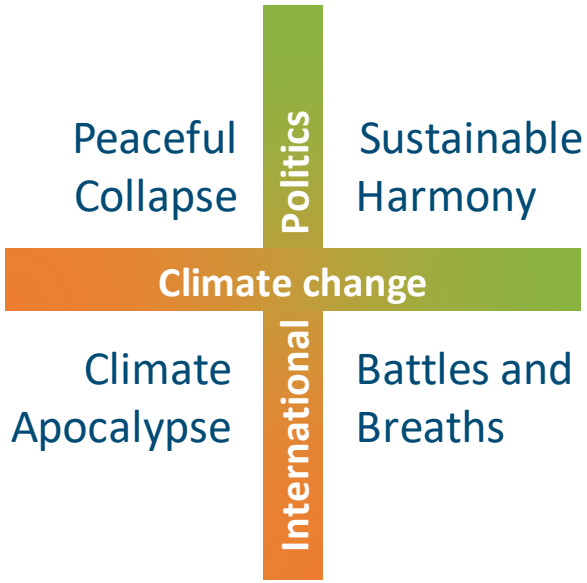
- MPAs cover **~18%** of the country's territorial waters ⇨ **>35%** after the establishment of two new Marine Parks

- No areas of strict protection
- No protection beyond territorial waters

Develop scenarios on EB-MSP to meet EU Biodiversity Strategy for 2030 targets of protecting 30% and strictly protecting 10% of national waters.

Key characteristics and planning objectives

Predefined Scenarios



Climate Change: National legislation for climate neutrality and adaptation

OECMs: Minimize restrictions on human activities

Realistic Scenario: developed based on national and European commitments

Connectivity & 3D Planning: Recently tested in practice. Counteract the lack of many deep-sea MPAs and the fragmented nature of the MPA network

Key characteristics and planning objectives

Basic Components

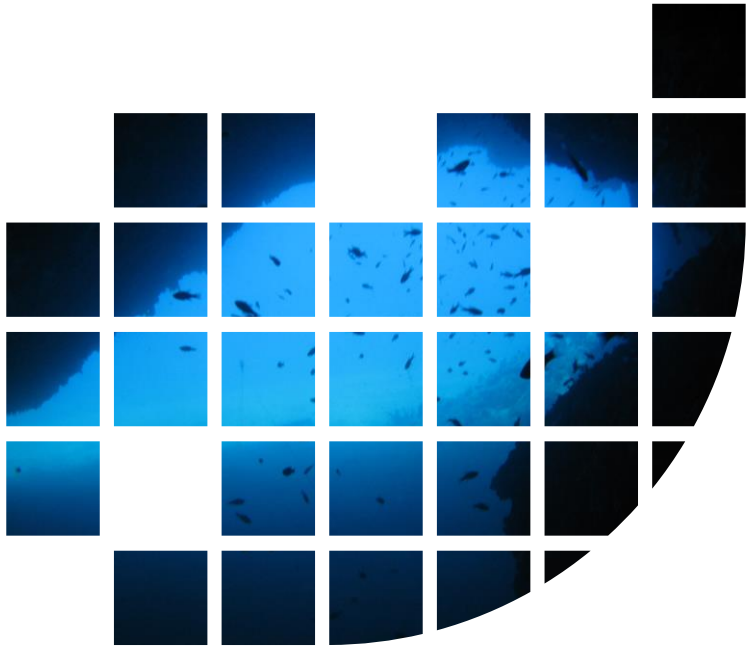
Ecological Features: 68 biodiversity presence and distribution data layers were compiled under the EBSA criteria

Cost layers: Proxy layers representing the intensity of area use by profitable sectors

Additional Components

Included in the realistic scenario

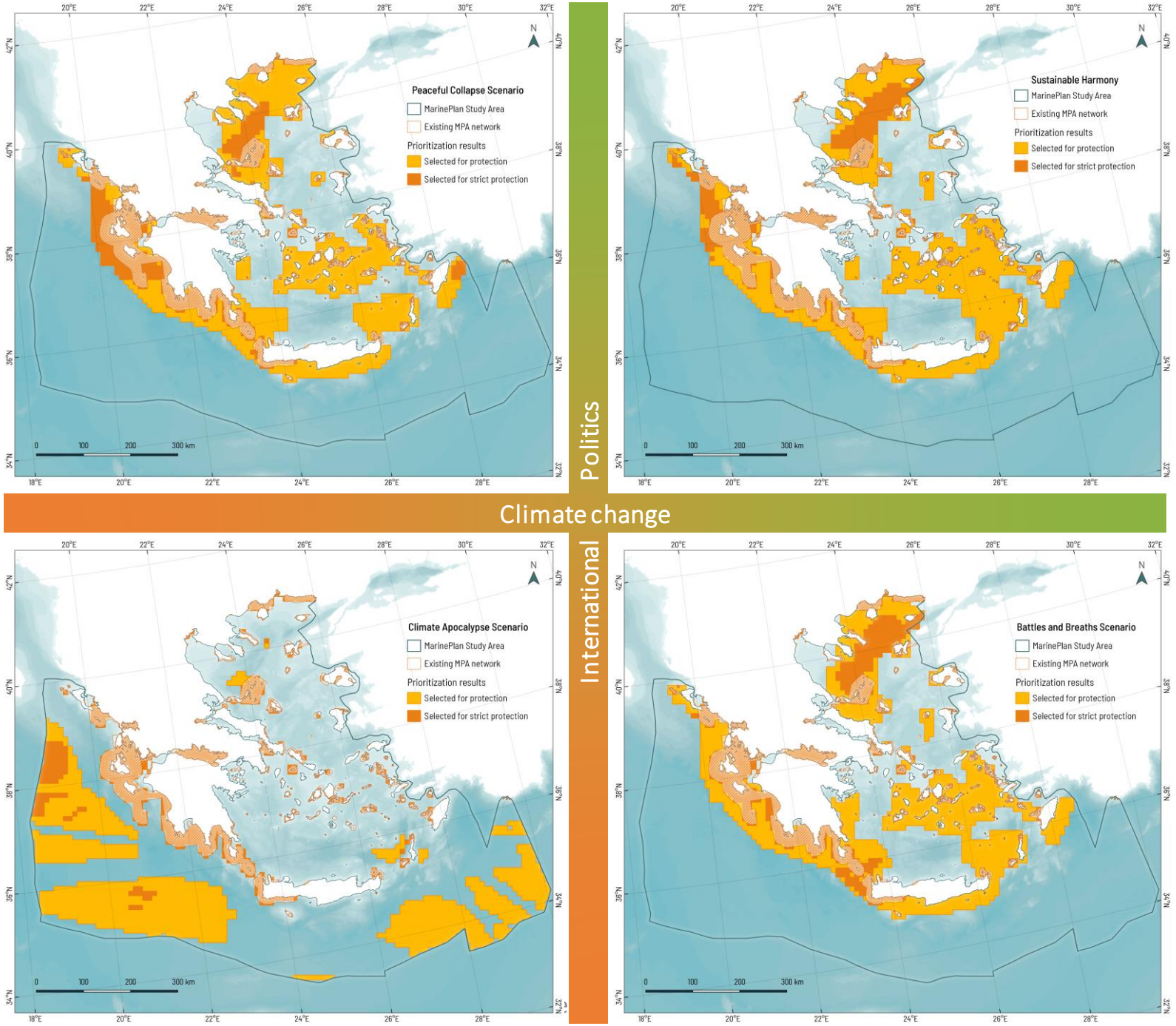
- **3D Planning:** prior3D
- **Connectivity:** priorCON
- **OECMs:** MCDA tool for OECM assessments
- **Climate Change:** Climate Refugia, Marine Heatwaves, Invasive Species
- **Lock-in Areas:** Existing MPA network



Key results

Predefined Scenarios

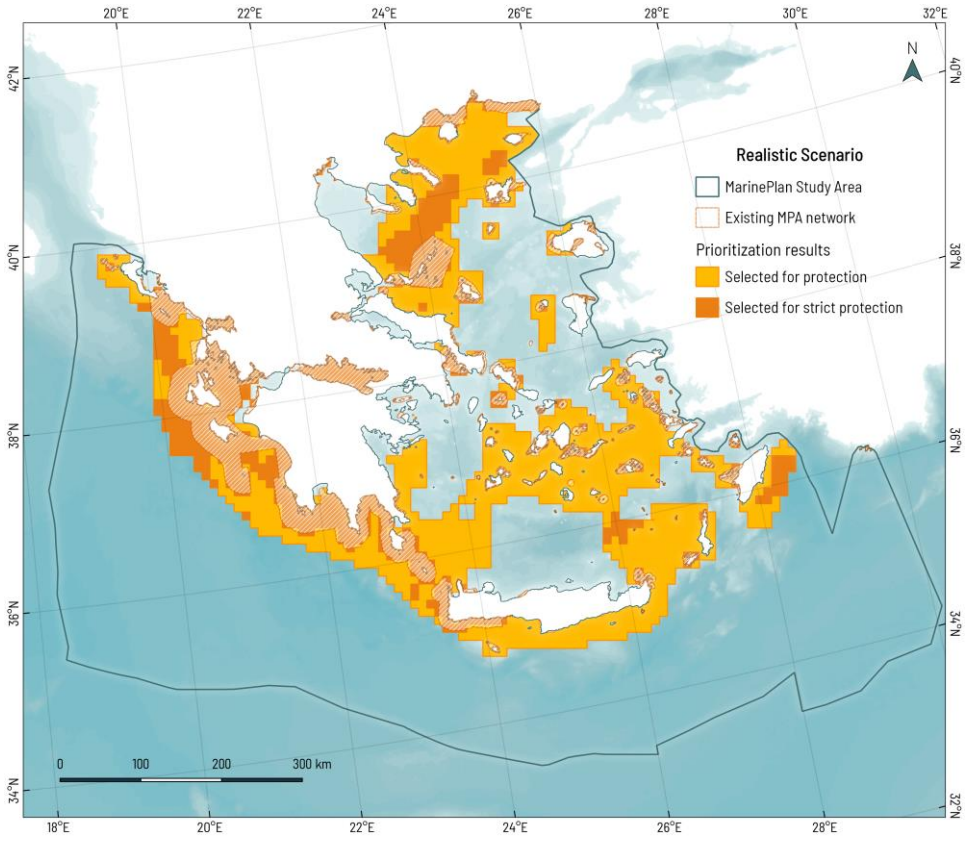
- Some priority areas emerge consistently across scenarios ⇨ foundation for long-term conservation planning.
- Undersurveyed (offshore) areas are deprioritized.
- Cost functions and weighting schemes shape outcomes, especially for strict protection.

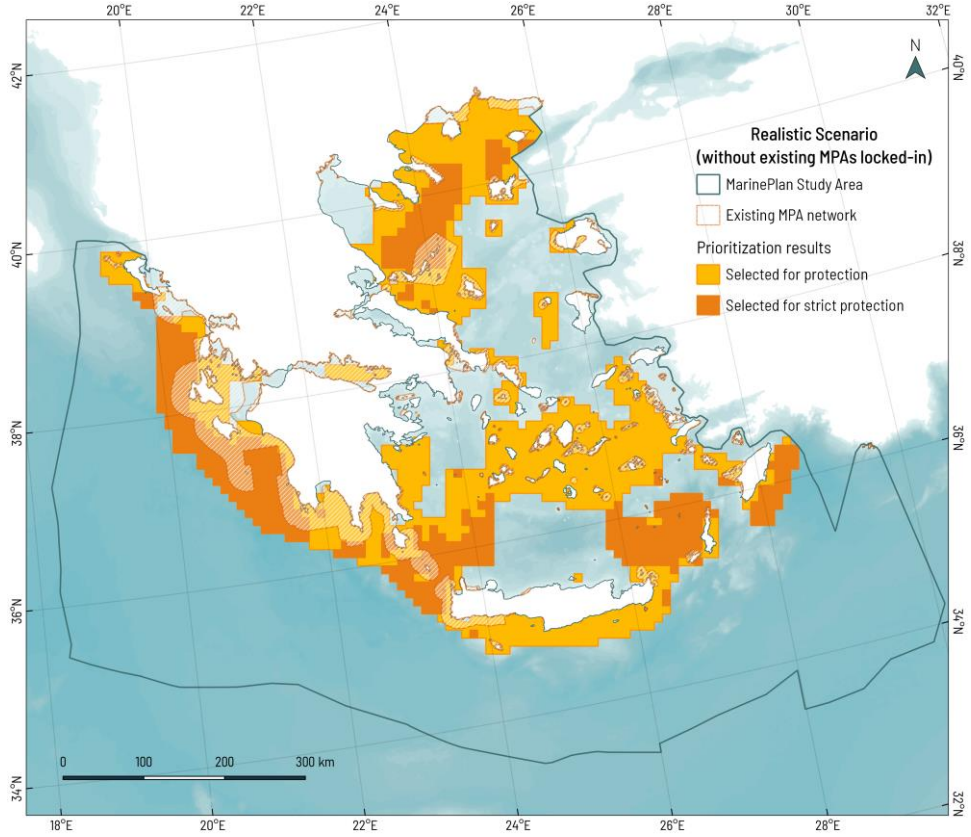


Key results

Realistic Scenario

Existing MPA network





- Realistic Scenario balances **ambition with feasibility.**
  - Opportunities for **MPA network expansion.**

- The existing MPA network is **not always prioritized.**
  - Biggest differences in **strict protection** areas.

Key Challenges

- **Lack of ecological feature distribution:** Bias towards coastal zones & current MPA network ⇨ Challenge for expanding MPAs beyond territorial waters

⇨

- **Fill data gaps** in regions with limited surveys
- Highlight conservation value of undersurveyed areas using **alternative approaches** (e.g., 3D planning)

- **Lack of cost data:** Detailed socio-economic data for human activities is missing

⇨

- Spatially explicit **monetary valuation**
- Incorporate **social well-being and ecosystem service valuation** at sea

- **Spatial scale:** Limited applicability to real-world contexts

⇨

- Deliver **finer-scale results**, at least for nearshore areas, to enhance relevance of outcomes

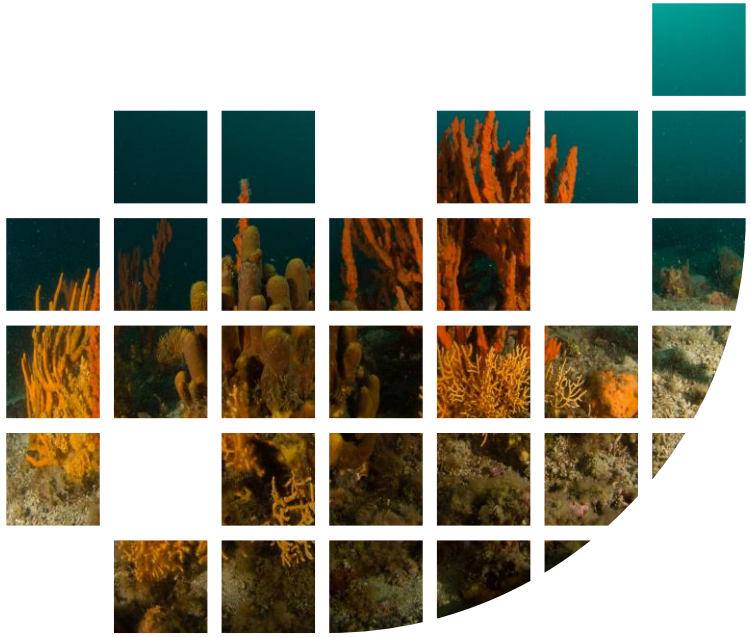
Lessons learnt and opportunities

- **Data availability** constrains planning ⇨ Undersurveyed areas need higher priority to address sampling bias.

- **Political and social realities** must be considered alongside prioritization.

- Weighting biodiversity and human-use parameters requires **local context.**

- Revisit **individual components** driving prioritization to support trade-off analysis and practical decision-making.



Scenarios vs MSP/Conservation planning

- MSP has not been implemented in Greece ⇨ **No contradiction** with our results

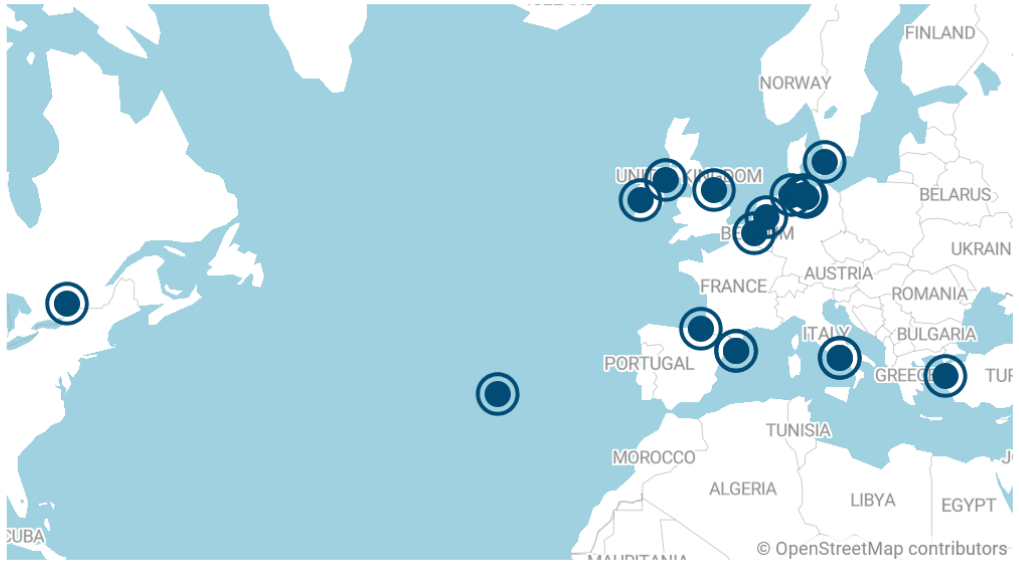
- **Integrate MSP and MPA** processes under a shared, spatial, data-driven foundation

- **Multi-scenario testing** to
  1. identify biodiversity-important areas for MPA network expansion
  2. ensure preparedness under global change

- Account for OECMs, connectivity, and climate change to **build ecological resilience** while **reducing conflicts** with key economic activities

- Expand protection to include **deep-sea habitats**, complementing the current nearshore-focused MPA network

Thank you!



Funded by the European Union

MarinePlan

www.marineplan.eu

This project has received funding from the European Union's Horizon Europe research and innovation programme HORIZON-CL6-2021-BIODIV-01-12 under grant agreement No 101059407 and by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee grant numbers 10038951 & 10050537. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or UK Research and Innovation. Neither the European Union nor the granting authority can be held responsible for them.