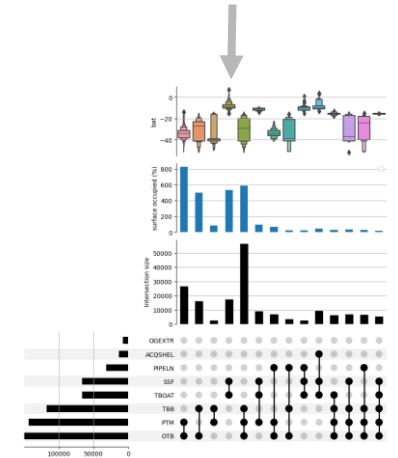


# MSP Output Data - ReMAP

Exploratory Data Analysis of MSP Plans

CNR - ISMAR, ULPGC/FCPCT, HELCOM, IUAV



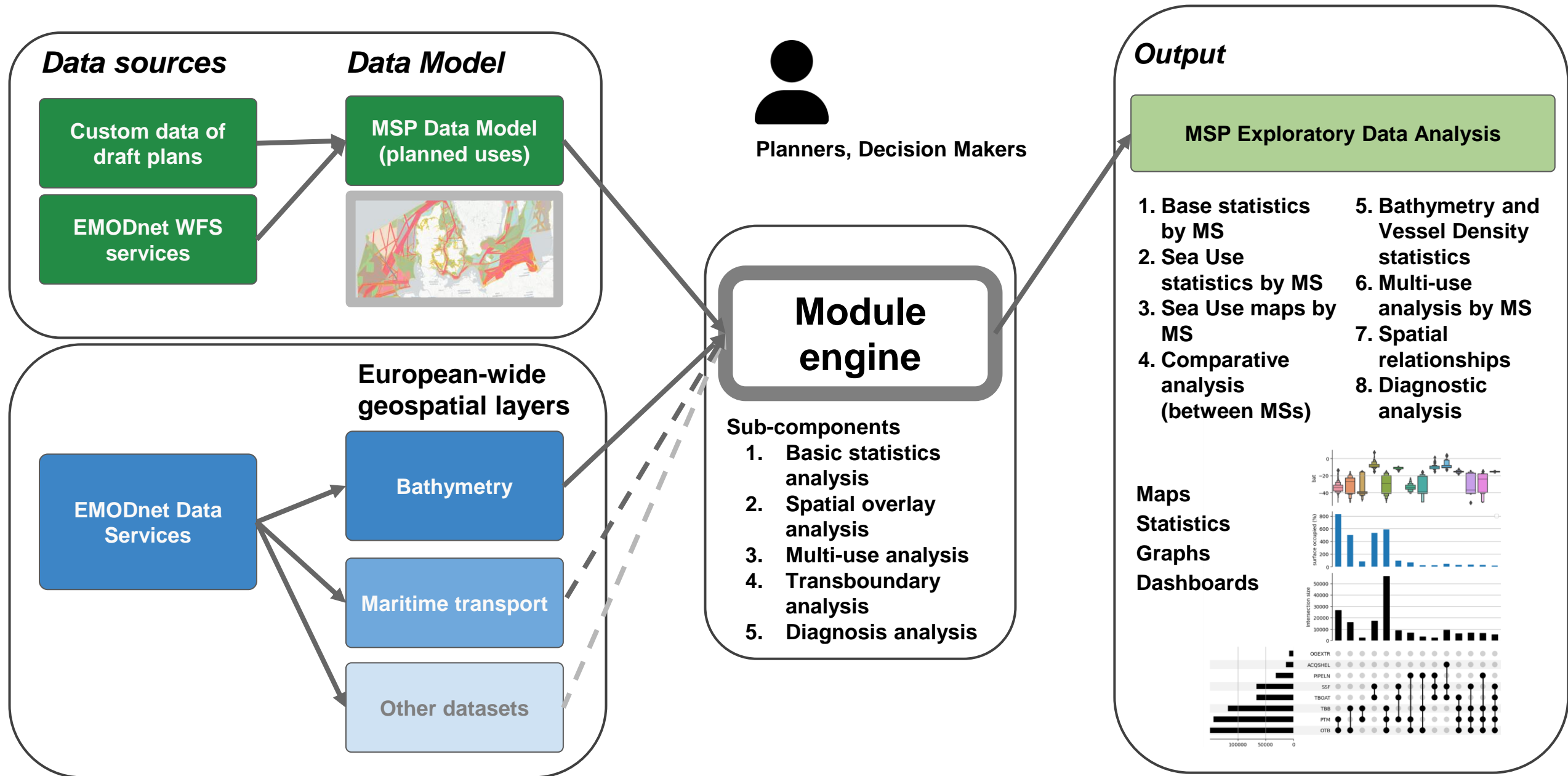
MSP Data Tools and Guidance Workshop - Technical Expert Group (TEG) on Data for MSP  
13th March 2024 – Brussels / Hybrid

# Overview

## MSP Output Data analytical module: Exploratory Data Analysis

- Objective:
  - **Systematic analysis of the EU Maritime Spatial Plans (spatial representations) to summarise their main characteristics and identify spatial patterns**
- Relevance:
  - Supporting the planning stage (to analyse the draft plans)
  - Supporting the revision and updating stage
  - Comparing established plans
  - Providing background information for the other ReMAP modules
- Status:
  - developers: CNR - ISMAR, ULPGC/FCPCT, HELCOM, IUAV
  - level of development: conceptualisation, engine prototype (to test applicability)
- Spatial scale of interest
  - EU marine seas, Sea basins, Transnational, Country

# Conceptual design



# Input

## Characteristics

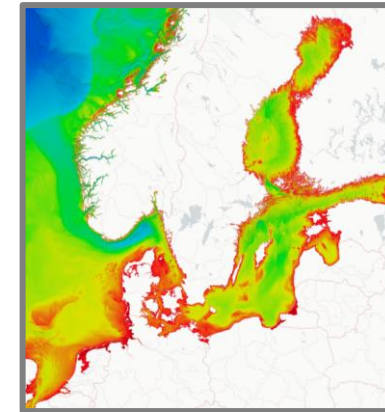
- Geometry
- Sea Use names
- Sea Use function

- Sea Use Name (EMODnet)
- HILUCS MSP
- Original Use Name
- Original Use Name (En)

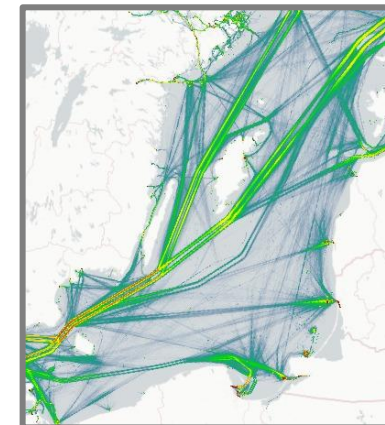
## Zoning Elements (MSP Data Model)

MSP Zoning Areas

Local ID	PZP_71
Version ID	1
Official source	<a href="https://dziennikustaw.gov.pl/D2021000093501.pdf">https://dziennikustaw.gov.pl/D2021000093501.pdf</a>
Member state	Poland
Hilucs land use	<a href="http://inspire.ec.europa.eu/codelist/HILUCSValue/3_4_4">http://inspire.ec.europa.eu/codelist/HILUCSValue/3_4_4</a>
Hilucs MSP	<a href="http://www.geoportal.ulpgc.es/registro/plannedLandU">http://www.geoportal.ulpgc.es/registro/plannedLandU</a>
Sea use name	Tourism and recreation
Sea use function	Allowed
Sea use description	Tourism and recreation
Original use name	Turystyka, sport i rekreacja
Original use name (En)	Tourism, sport and recreation
Regulation nature	Council of Ministers Ordinance
Vertical distribution	n/a
Specific presence	n/a
Valid from	5/22/21 12:00 AM
Valid to	n/a
Previous MSP plan	n/a
Spatial plan ID	POM
Distance to coast (m)	23784.12



Bathymetry  
(source EMODnet)

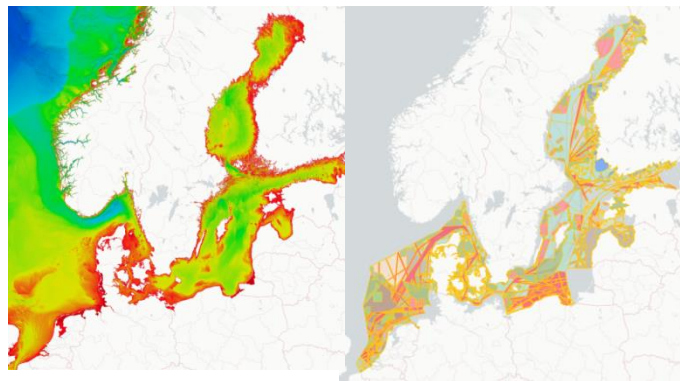
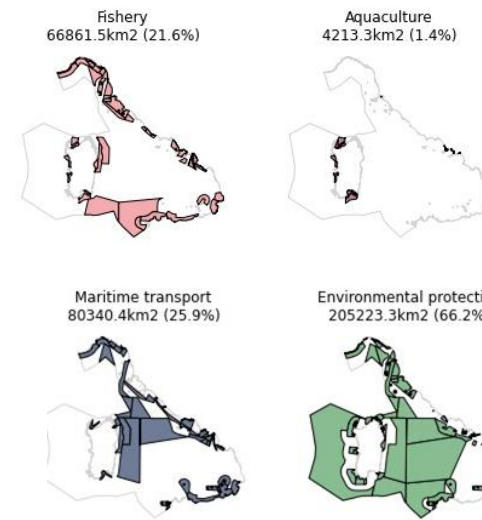
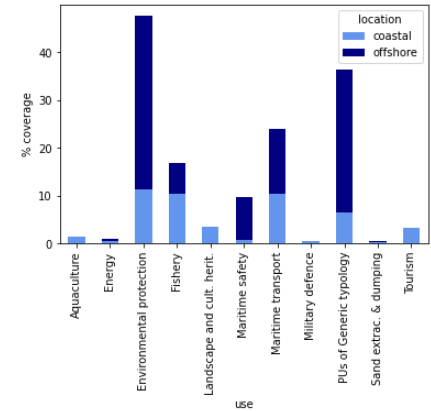


Maritime Traffic  
(source EMODnet)

# Base/default outputs

- 1. Base statistics by MS:** e.g. number of Zoning Elements, total Area, mean area
- 2. Sea Use statistics by MS:** e.g. surface associated to maritime activities
- 3. Sea Use maps by MS**
- 4. Comparative analysis between selected Member States**
- 5. Bathymetry and Vessel Density maps by Zoning Elements (and MS):** eg. choropleth map

Example below



# Advanced outputs

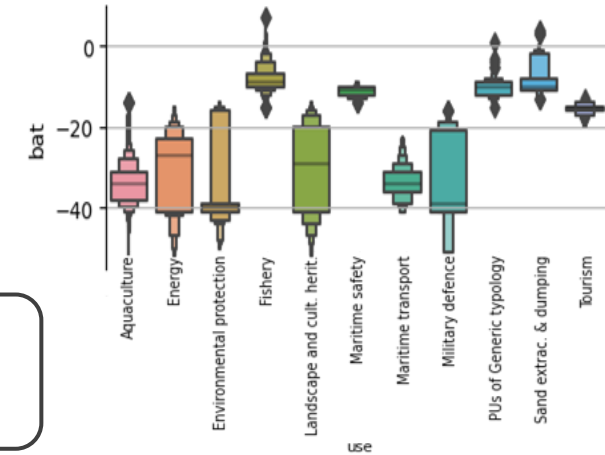
**6. Bathymetry and Vessel Density statistics by Zoning Elements (and MS):** eg. strip chart combining sea uses, mean bathymetry, sea use function

**7. Multi-use analysis by Member State:** e.g. UpSet plot data visualisation method

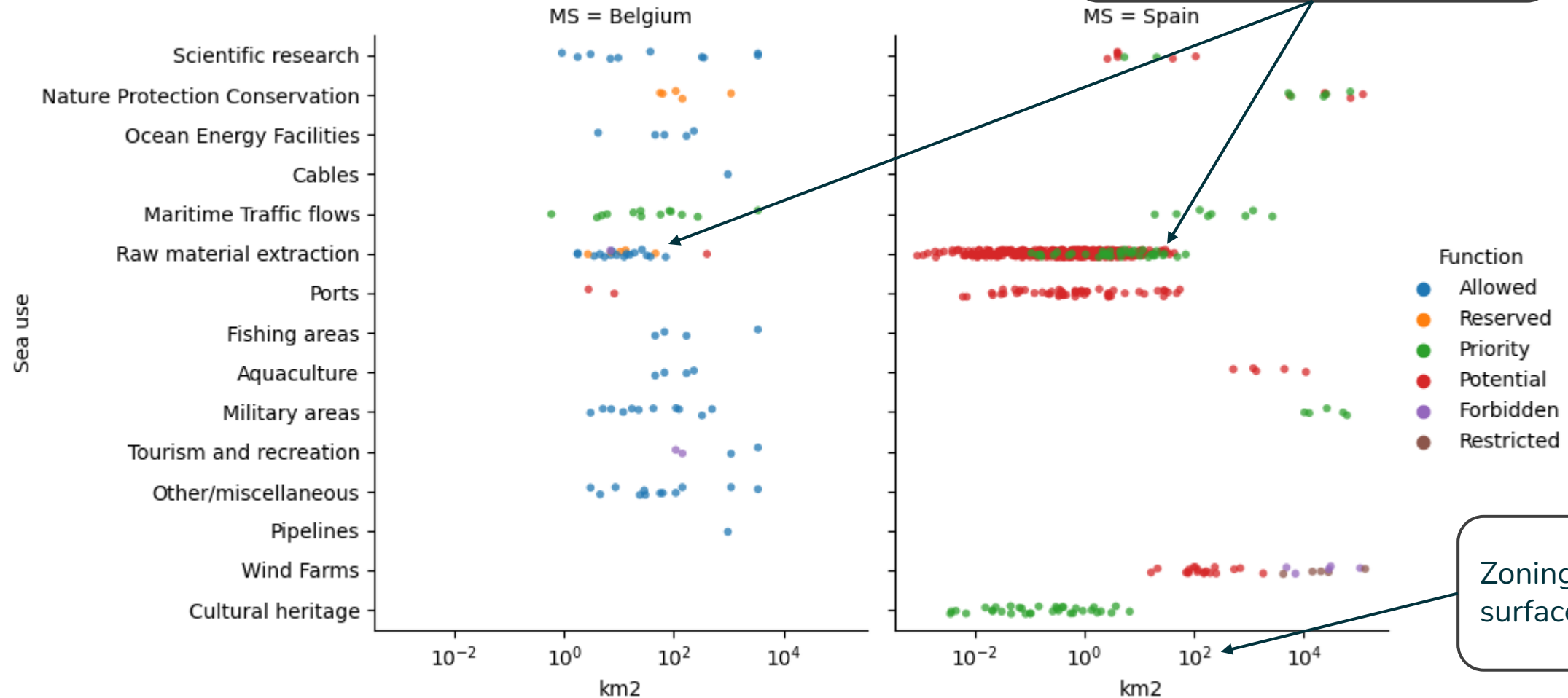
**8. Spatial relationships:** e.g. characteristics of adjacent zoning elements, connectivity, diversity (and other landscape ecology-derived indicators) (e.g. for investigate transboundary coherence)

**9. Diagnostic analysis:** to detect possible issues on input data (e.g. comparative table of different Sea Use nomenclatures)

Example below



# Example of Comparative Analysis between MS

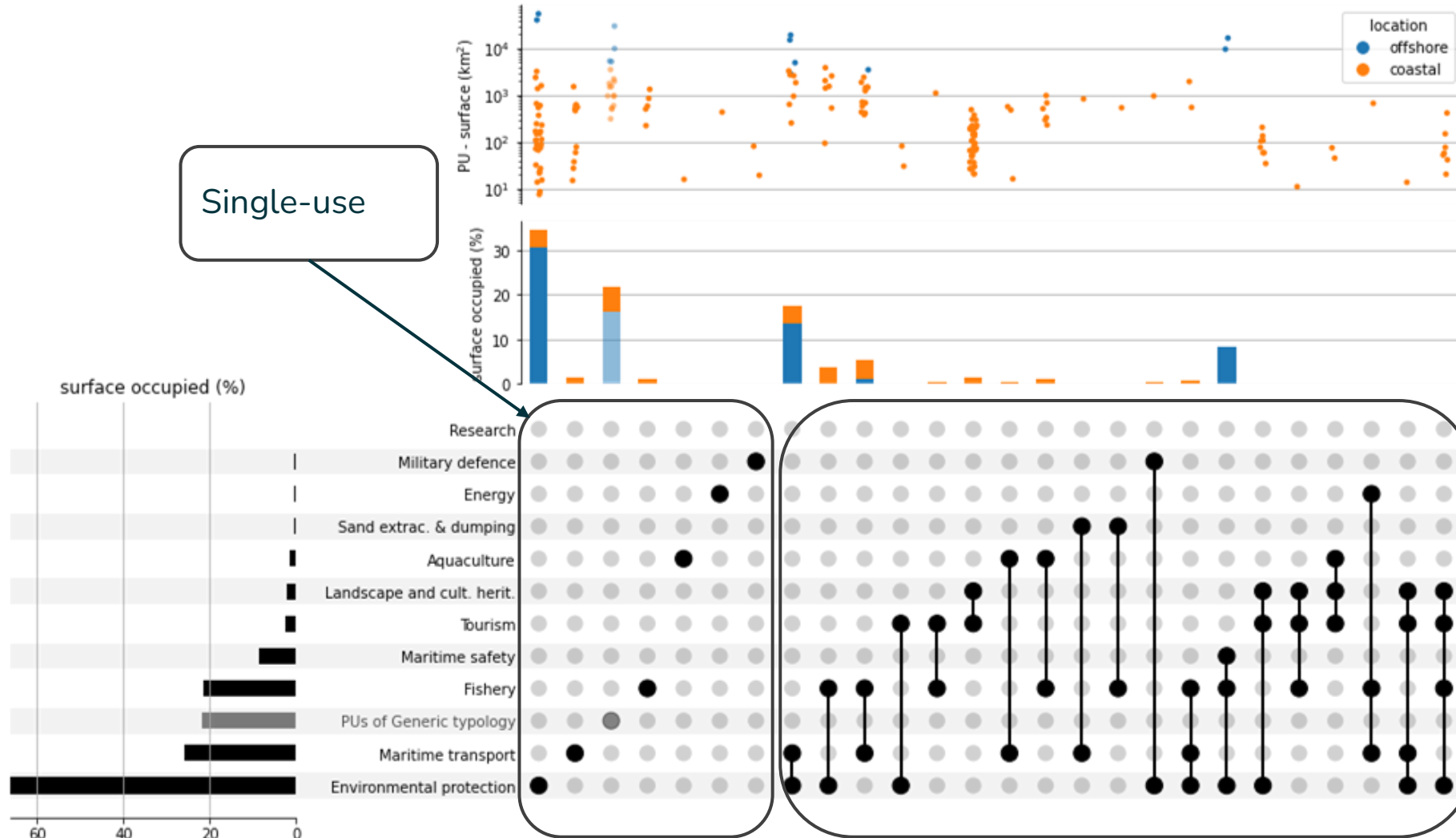


Source: EMODnet WFS service

# UpSet Analysis for exploring multi-use patterns

Characterisation of Zoning Elements in terms of number, size and assigned vocations of use.

Example: Italian MSP plan



Single-use

Multi-use combinations



# Next steps

- Design of the Graphical User Interface and of the expected user interaction
- Software development (ReMAP WP4)
- Implementation (through the Tools4MSP infrastructure)
- Testing within the ReMAP Use Cases

## Stefano Menegon

stefano.menegon@cnr.it

## Project Coordinators

Andrej Abramic

andrej.abramic@ulpgc.es

## Communication and Press Office

remap@cetmar.org



ROMAP

*Thanks | Gracias | Grazie | Merci  
|Obrigado | Hvala | Kiitos | Ačiū*