

Network services for MSP

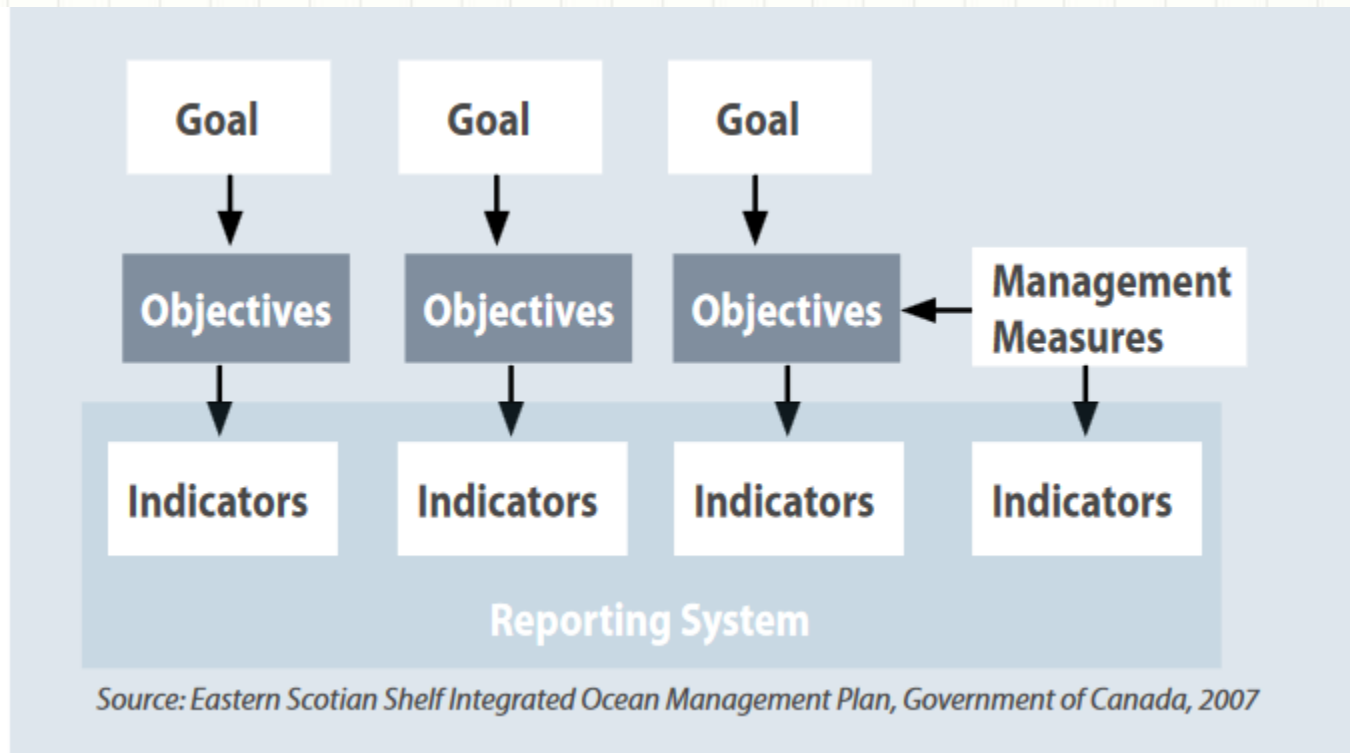
- Data as service -

Pascal Derycke

www.marine-analyst.eu



The value of providing data



Source: « MARINE SPATIAL PLANNING, A Step-by-Step Approach toward Ecosystem-based Management » IOC

Goal

« Manage human activities to enhance compatible uses and reduce conflicts among uses, as well as to reduce conflicts between human activities and nature, are important outcomes of MSP.»

Indicators

- Ecological/Environmental Benefits
- Economics Benefits
- Social Benefits

Objectives

Why do we need MSP?

To solve (manage) user-user conflicts:

...

To manage the interaction between human uses and the marine environment in sustainable way:

...

Data as service is a
launching point for AI
and big data analytics.



Are the network services
for MSP fit for purpose?

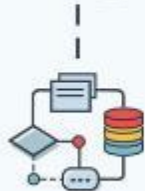


What are the best practices?

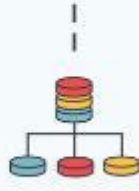
MACHINE LEARNING



Data Mining



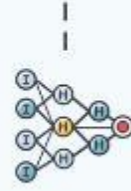
Algorithm



Classification



Learning



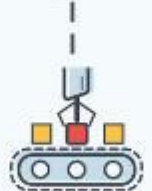
Neural Networks



Deep Learning



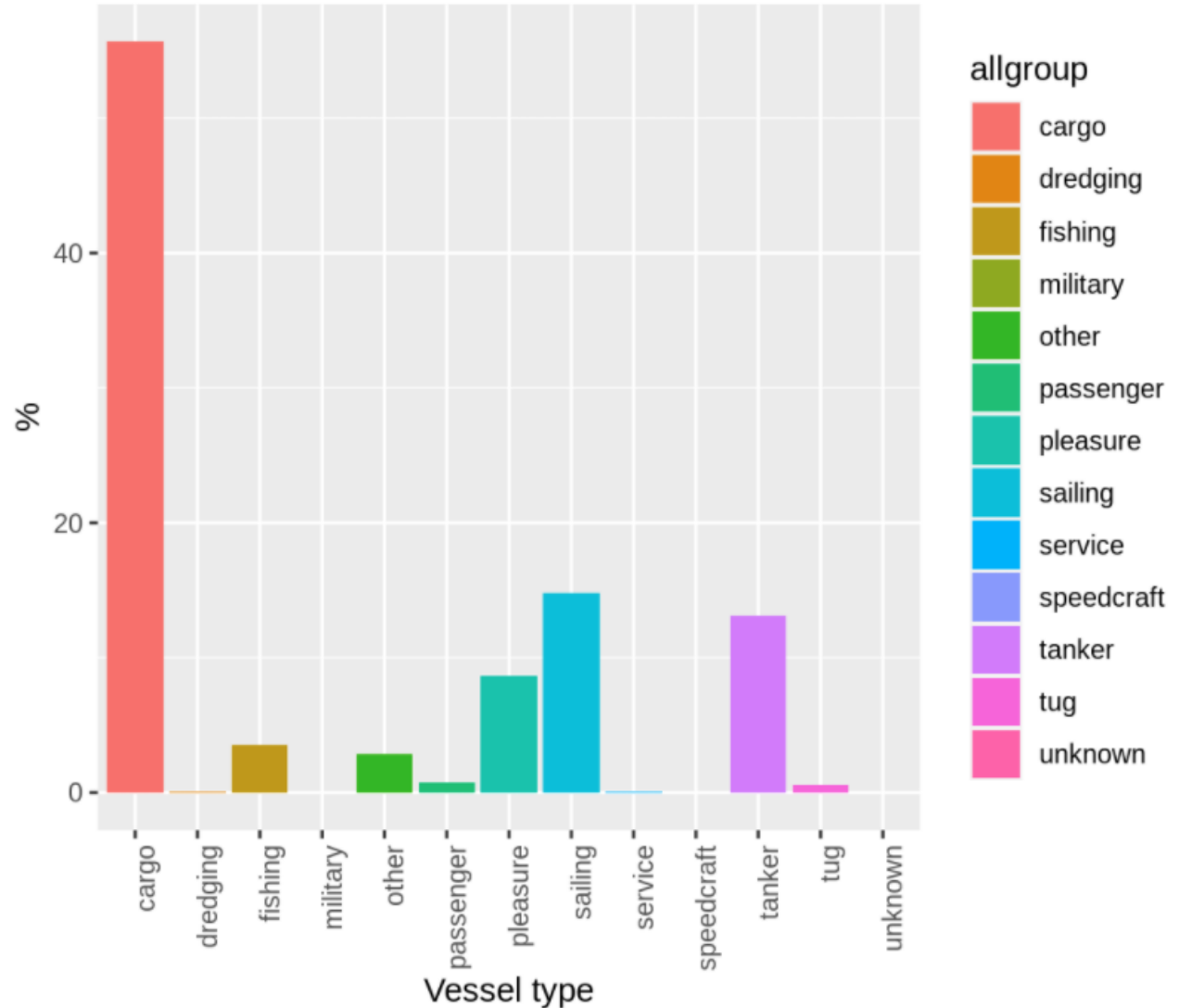
AI



Autonomous

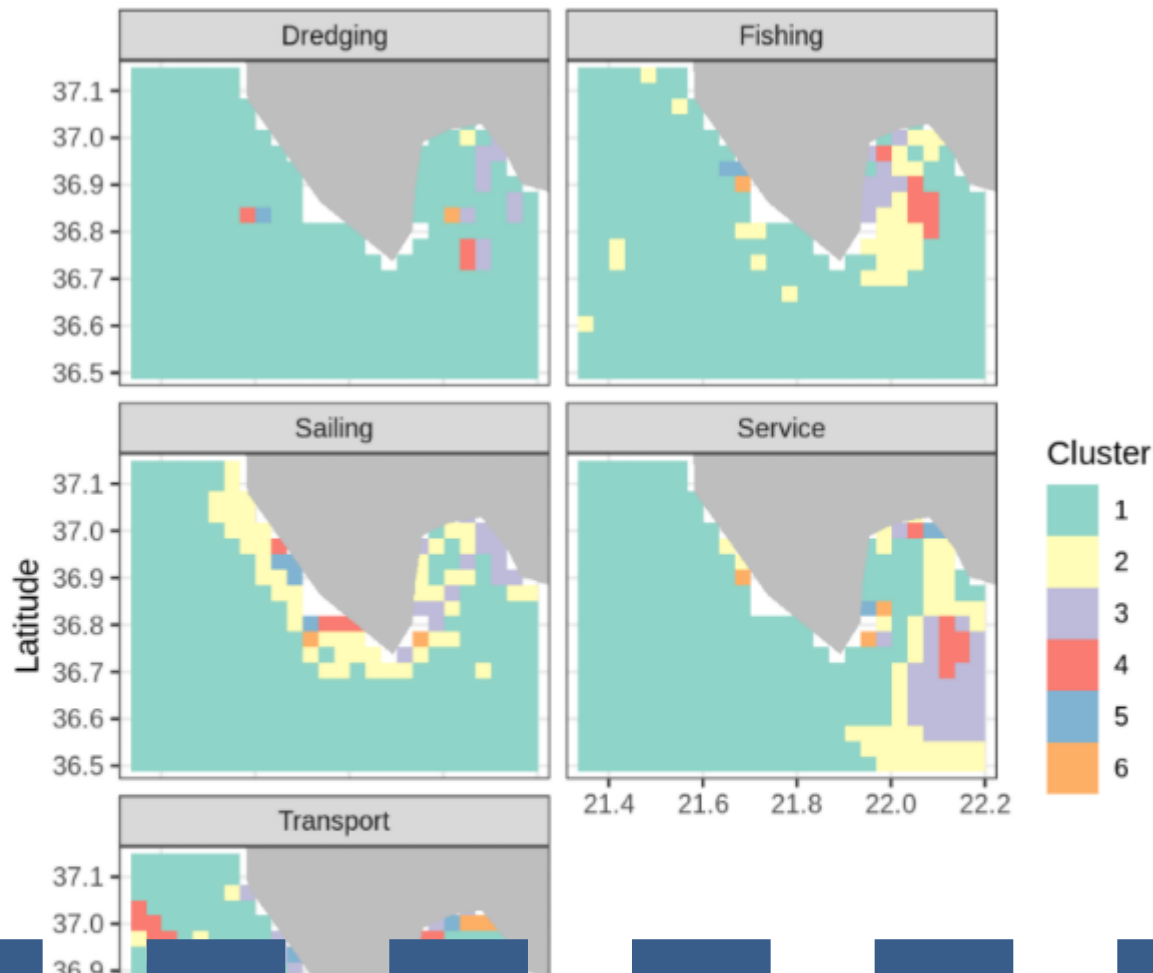
Ex: Vessel density analysis

- 1 MPA information
- 2 Data information
 - 2.1 Metadata
- 3 Geographical extent
 - 3.1 Coordinates
 - 3.2 MPA area
- 4 Shipping density
 - 4.1 Fishing
 - 4.2 Service
 - 4.3 Dredging
 - 4.4 Sailing
 - 4.5 Pleasure Craft
 - 4.6 High Speed craft
 - 4.7 Tug and towing
 - 4.8 Passenger
 - 4.9 Cargo
 - 4.10 Tanker
 - 4.11 Military
 - 4.12 Other
 - 4.13 Unknown
- 5 Statistics
 - 5.1 Distribution
 - 5.2 Global traffic
- 6 Hierarchical clustering



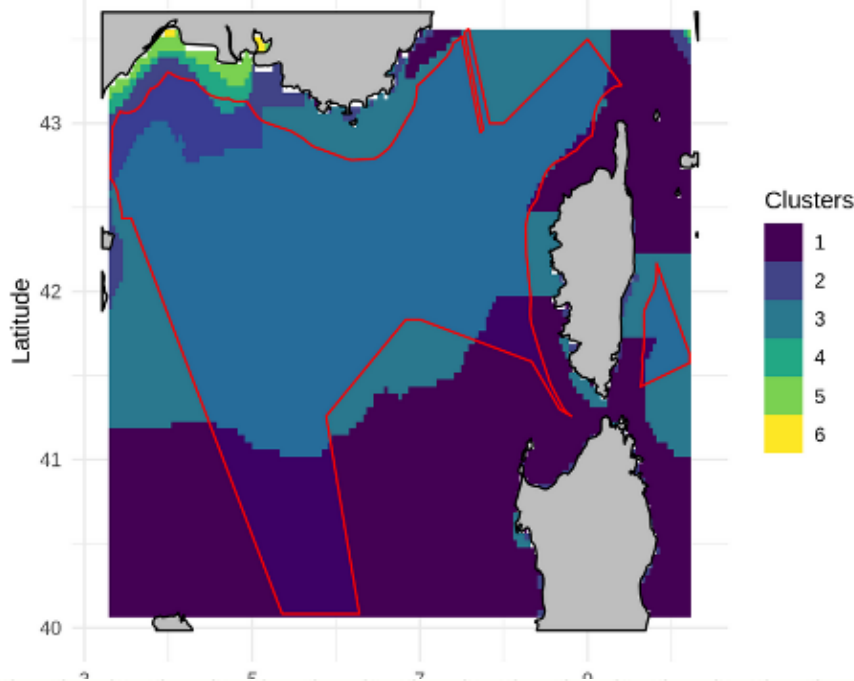
Ex: Classification of vessel densities by activity type

- 1 MPA information
- 2 Data information
 - 2.1 Metadata
- 3 Geographical extent
 - 3.1 Coordinates
 - 3.2 MPA area
- 4 Shipping density
 - 4.1 Fishing
 - 4.2 Service
 - 4.3 Dredging
 - 4.4 Sailing
 - 4.5 Pleasure Craft
 - 4.6 High Speed craft
 - 4.7 Tug and towing
 - 4.8 Passenger
 - 4.9 Cargo
 - 4.10 Tanker
 - 4.11 Military
 - 4.12 Other
 - 4.13 Unknown
- 5 Statistics
 - 5.1 Distr

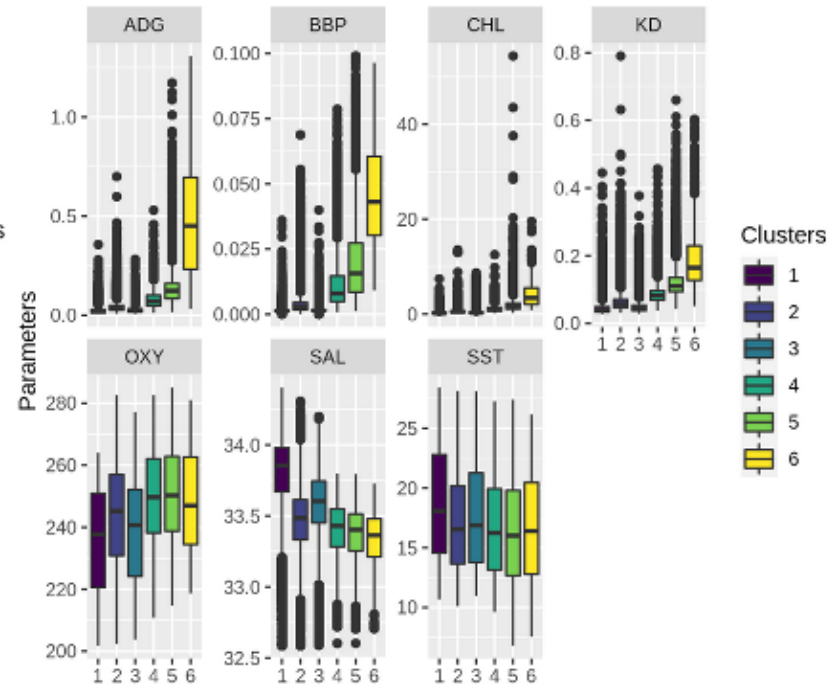


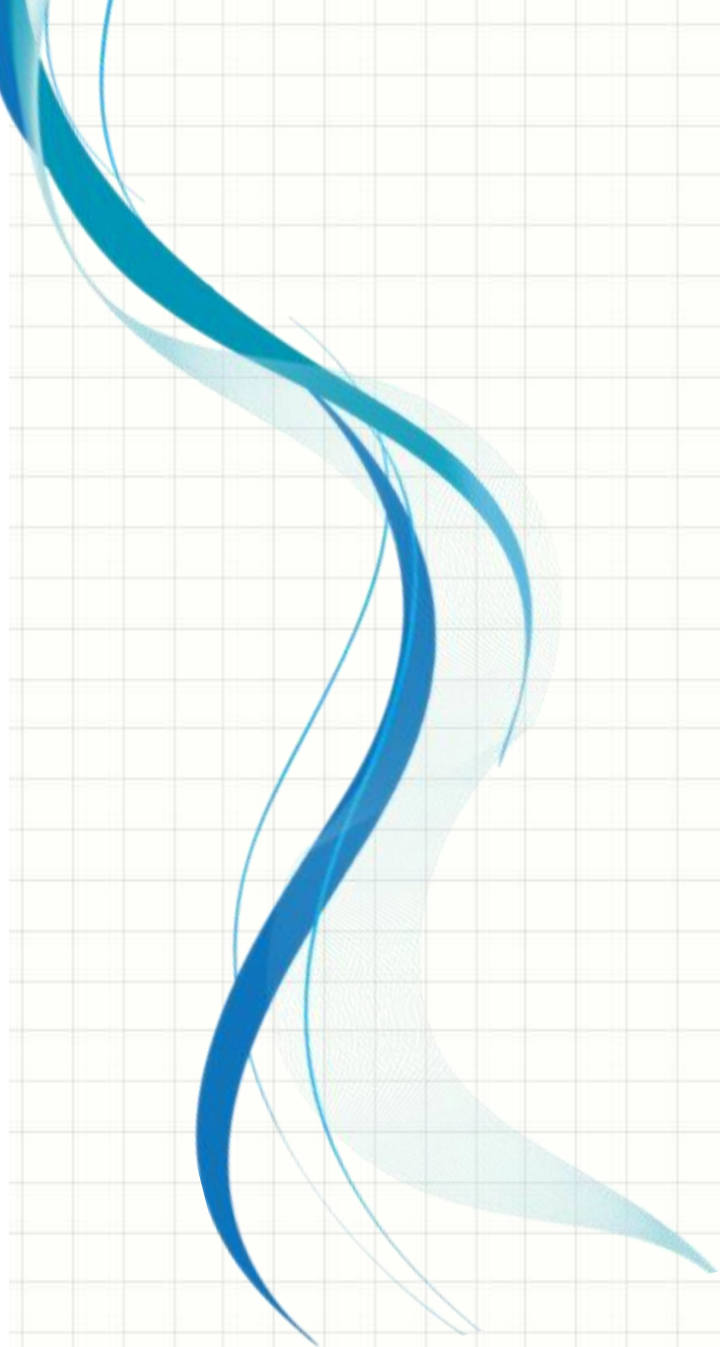
Ex: Biophysical environmental zonation

Classification according to environmental parameters



Max boxplots of the environmental conditions





Thank you
Pascal Derycke
my-beach@knowcean.eu