

An overview of the Marine SABRES Approach on the Development and Integration of a Simple Social-Ecological System (SES) Framework



MARINE
SABRES

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Marine SABRES is a 21-partner, Horizon Europe funded project that aims to develop a Simple Social-Ecological System framework (Simple SES) to address the complex challenges of marine governance, biodiversity loss, and sustainable socio-economic development in facilitating the uptake of Ecosystem Based Management (EBM).

EU Member States striving to implement complex national and international marine management activities in our regional seas face challenges such as overlapping jurisdictions, a lack of clarity and conflicting objectives among the varying marine sectors e.g., fisheries, energy, transportation, environmental conservation. Co-ordination among these sectors is crucial to ensuring effective marine governance for sustainable marine ecosystems and economies.

Under a SES approach, we recognise that changes in one part of the marine system can have ripple effects throughout the rest of it. In building upon an existing framework, the Marine SABRES Simple SES will allow for better analysis and comprehension of complex marine social-ecological system interactions. This will help ensure the flow of vital ecosystem services to society and facilitate practitioners to make informed decisions and better implement relevant EU Directives at Member States level.

DAPSI(W)R(M)*: A problem-solving method within the Simple SES approach

*Pronounced *dap-see-worm*

- Problem-solving method that underpins the analysis done by the Simple SES
- Provides a structured approach for ecosystem based management through the characterisation of 6 key features:
 - **Drivers** - the basic needs and wants society depends upon the ocean for, such as food, transport and well-being;
 - **Activities** - the actions undertaken to fulfill these needs, including fishing and energy production;
 - **Pressures** - any activities that harm marine life, such as pollution and littering at beaches;
 - **State Changes** - any pressures leading to changes in the ocean, such as a decline in sea creature populations due to pollution;
 - **Impacts on Human Welfare** - state changes that affect humans, such as reduced enjoyment of recreational activities;
 - **Responses (Measures)** - steps taken to address problems, such as fishing and pollution regulations and beach clean-ups

Demonstration Areas

Work in our 3 research sites focuses on engaging with stakeholder-driven issues to facilitate targeted environmental and economic improvements.

Arctic Northeast Atlantic

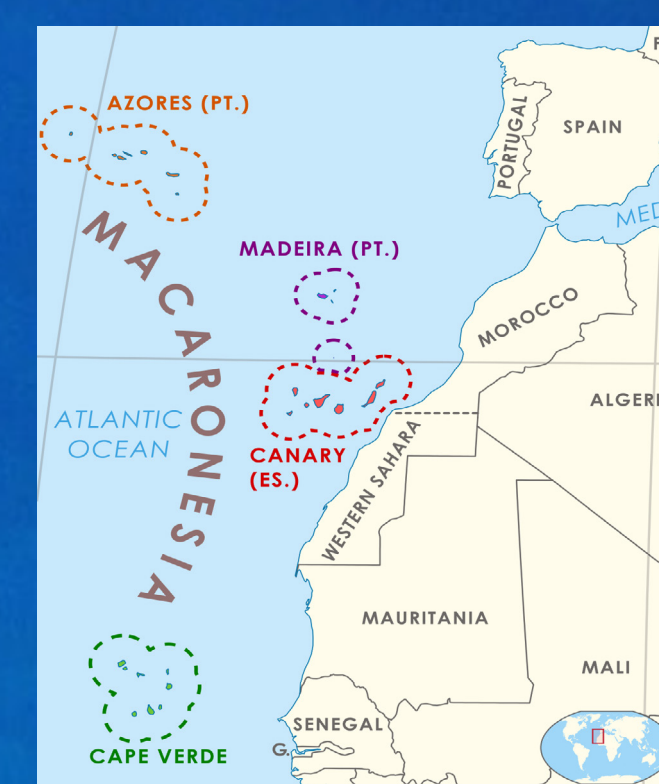
Greenland, Iceland and Faroe Islands



The Tuscan Archipelago



Macaronesia



Outcomes and Outputs of the Simple SES

- Process and Information Management System
- Continuous Stakeholder Engagement
- Implementation of the DAPSI(W)R(M) framework
- Creation of Behaviour-Over-Time charts
- Causal Loop Diagrams
- Systematic Data Analysis
- Integration of individual Causal Loop Diagrams into one, holistic Causal Loop Diagram



These outcomes and outputs will be instrumental in **guiding practitioners towards efficiencies** in three key policy contexts:

- Effective and sustainable marine management practices
- Emphasising the **cost-effectiveness** of pathways towards sustainable blue economies and productivity in resource management
- Designing **effective response measures** at various levels of governance

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