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Decision Support Tools in Marine Spatial Planning: Present Applications, Gaps and Future Perspectives

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Outline

1 Marine Spatial Planning

2 Decision Support Tools

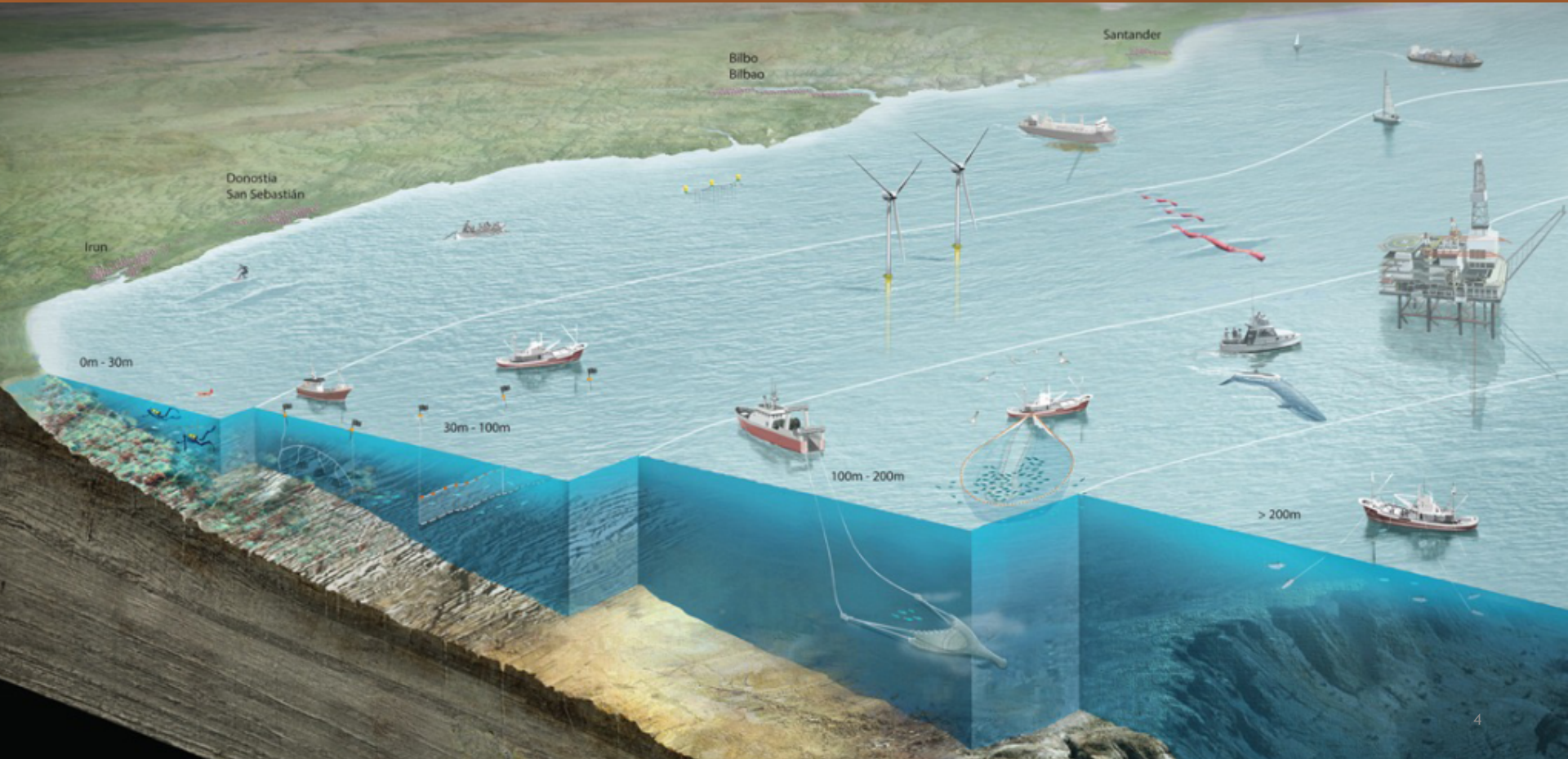
3 Analysis of Decision Support Tools

4 Conclusion

5 Future Investigation

UNESCO Definition:

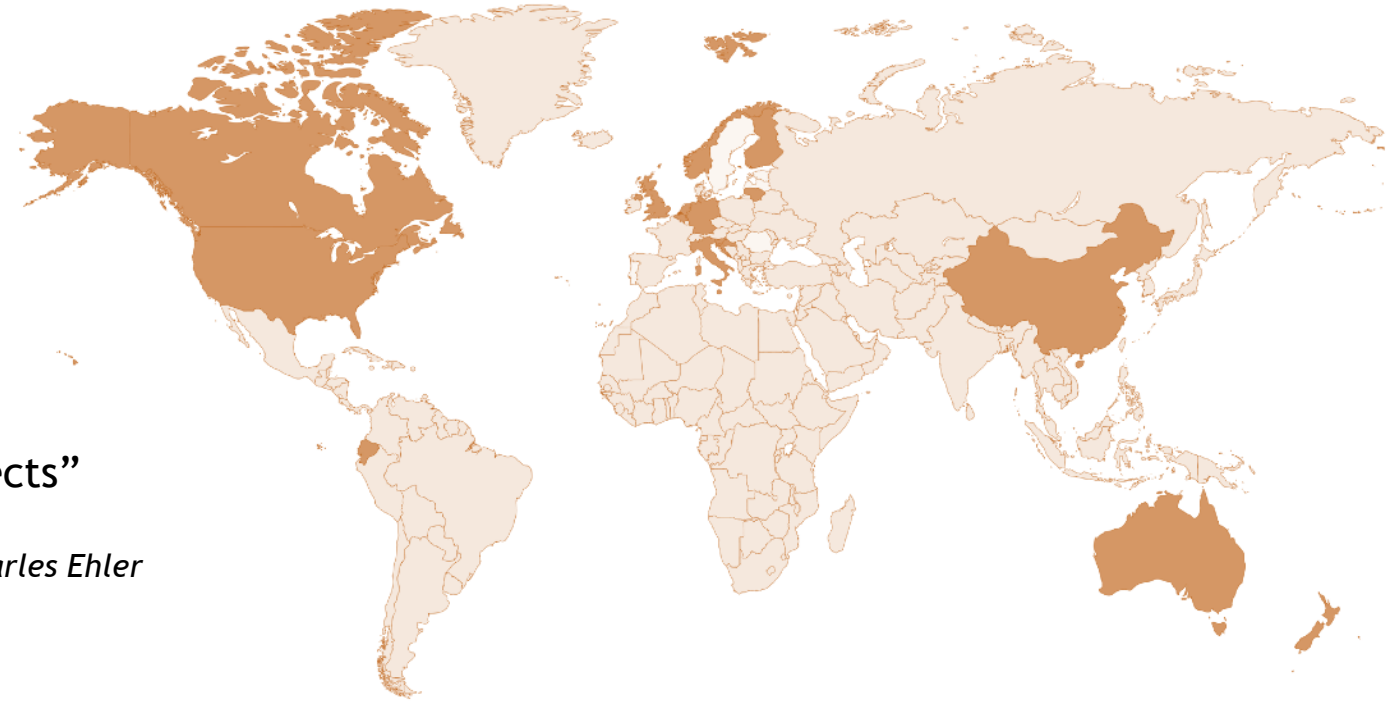
Marine spatial planning (MSP) is a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that usually have been specified through a political process.


Santander
Bilbo
Bilbao
Donostia
San Sebastián
Irun
0m - 30m
30m - 100m
100m - 200m
> 200m

“60

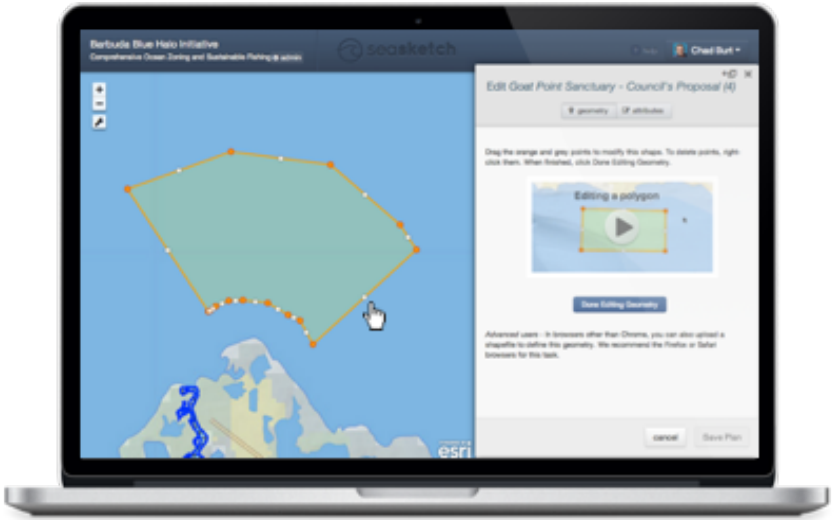
countries have
ongoing MSP projects”

Charles Ehler



DSTs are software-based products that provide support in evidence-based decision making process,

- Clear steps
- To achieve optimal decision
- Improve productivity
- Recommendations
- According to user's input
- Primary assistant for planners



(Rose et al. 2016)

Characterization

Fields related with the main charachteristics and categorization of DSTs

Technical

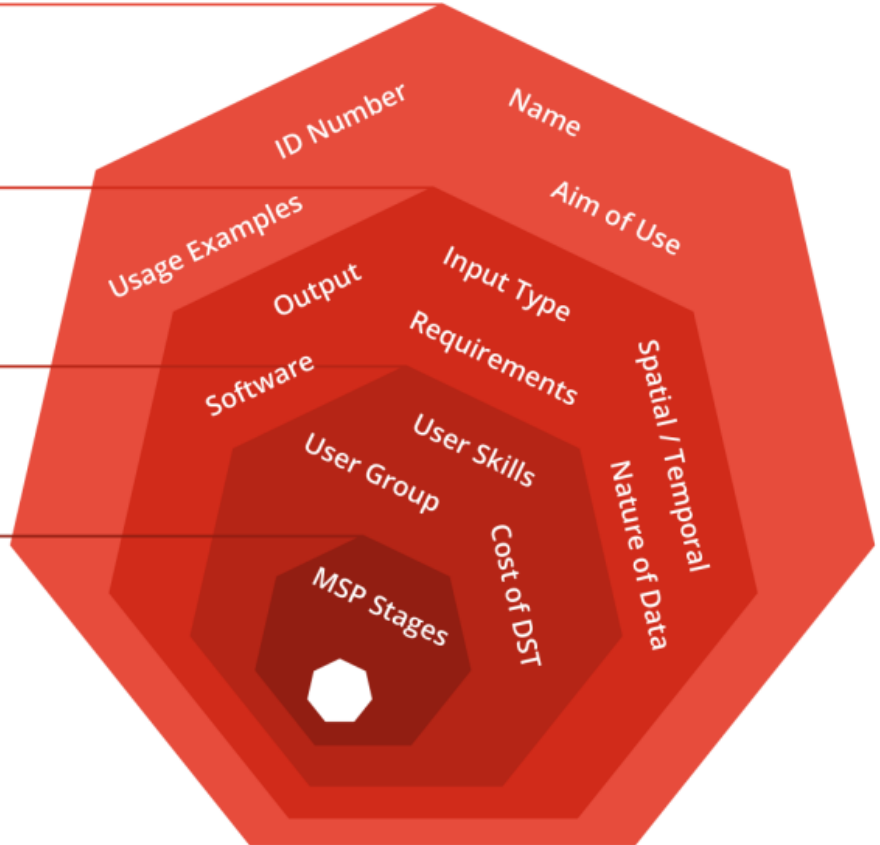
Fields which clarify technical properties of DSTs

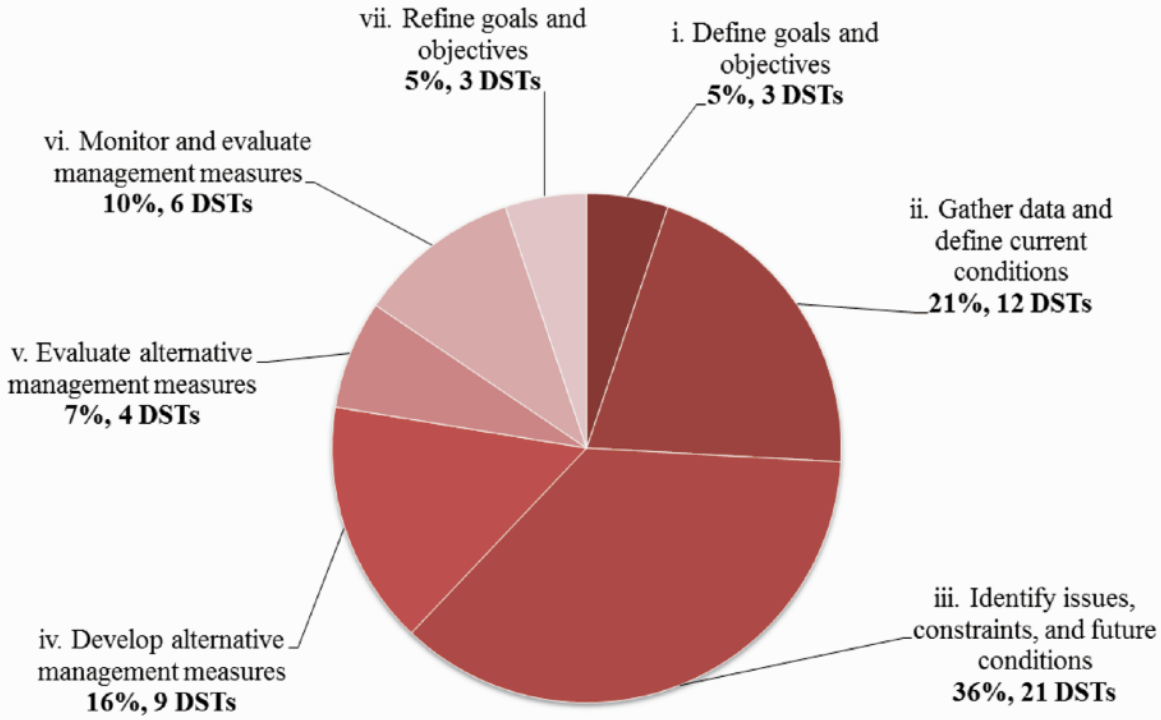
User Related

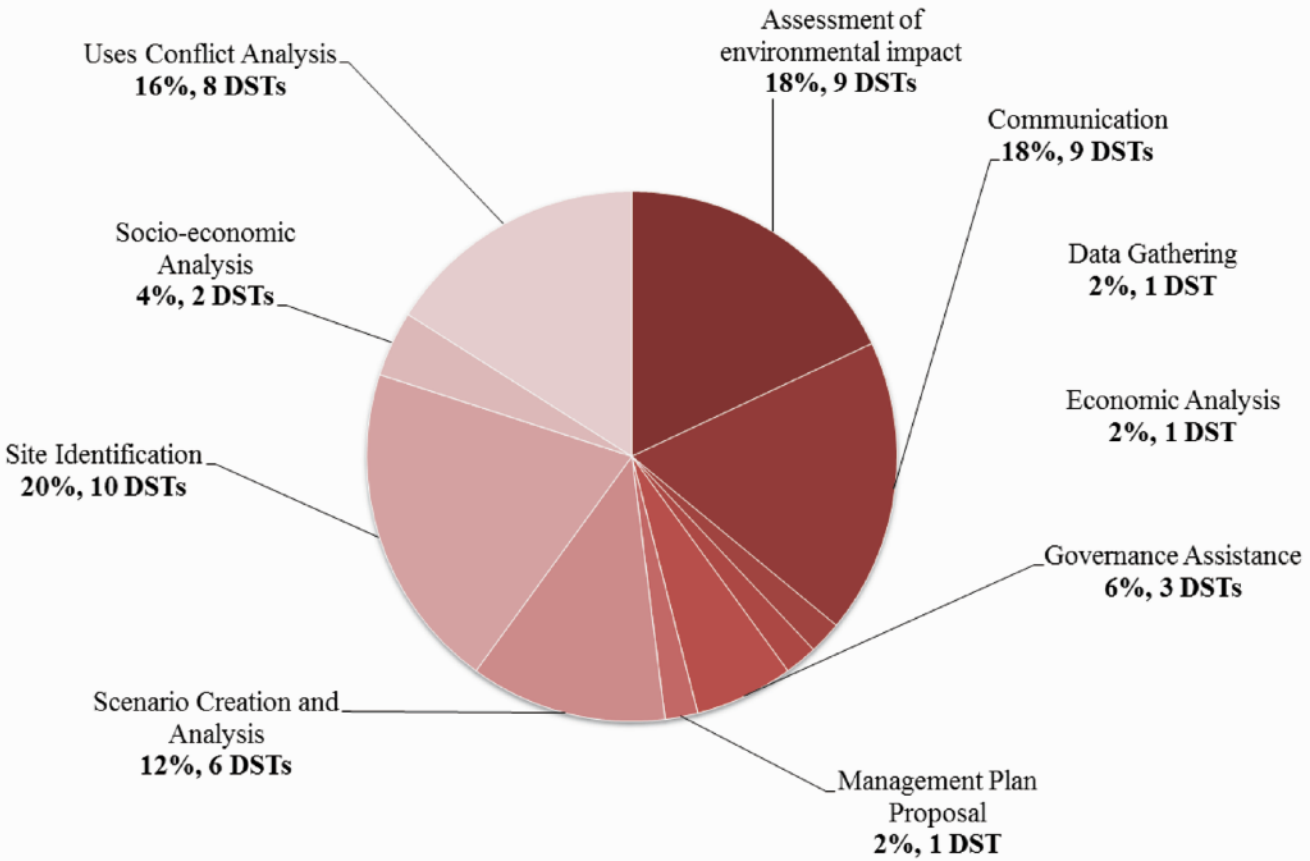
Fields that can show the relationship between users and DSTs

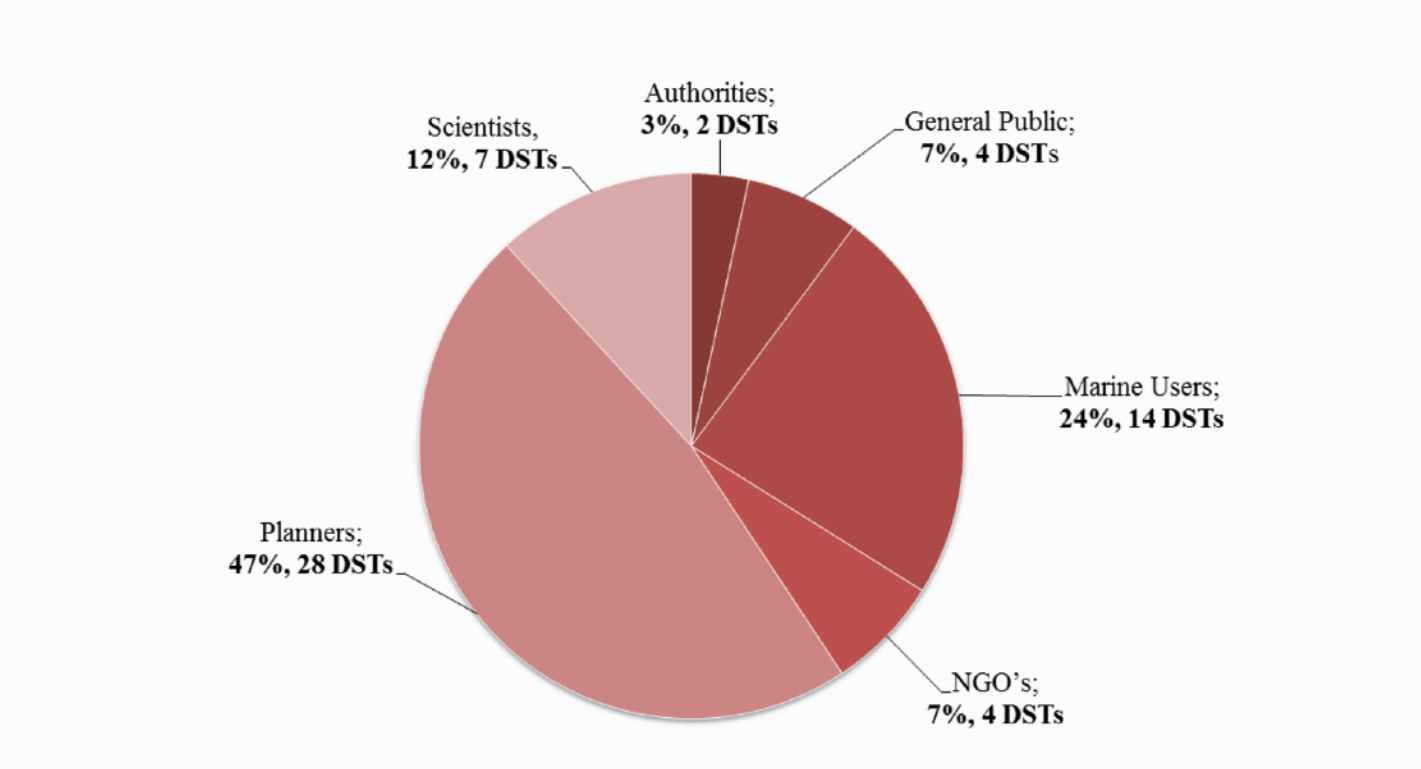
Stages

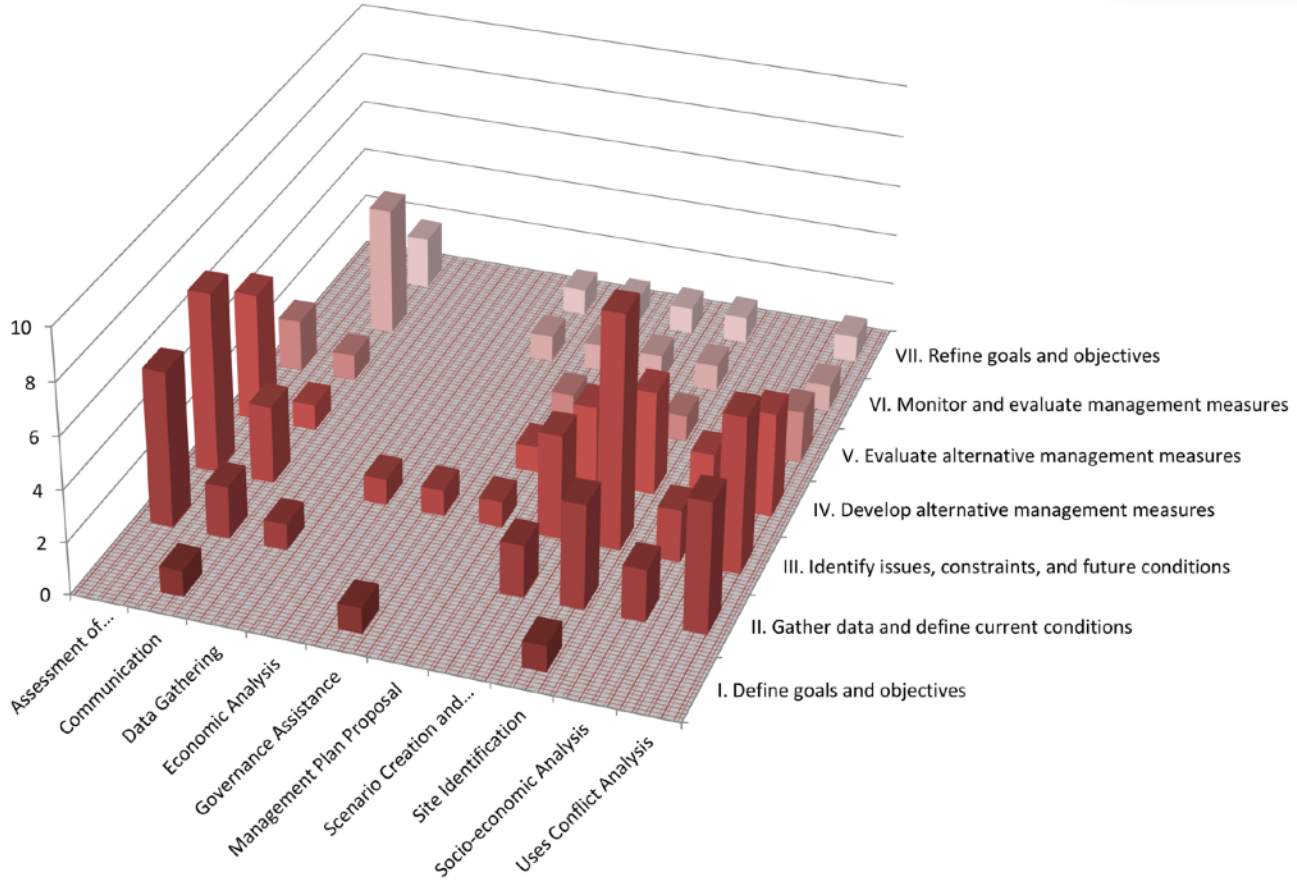
Orientation of DSTs in different MSP Stages

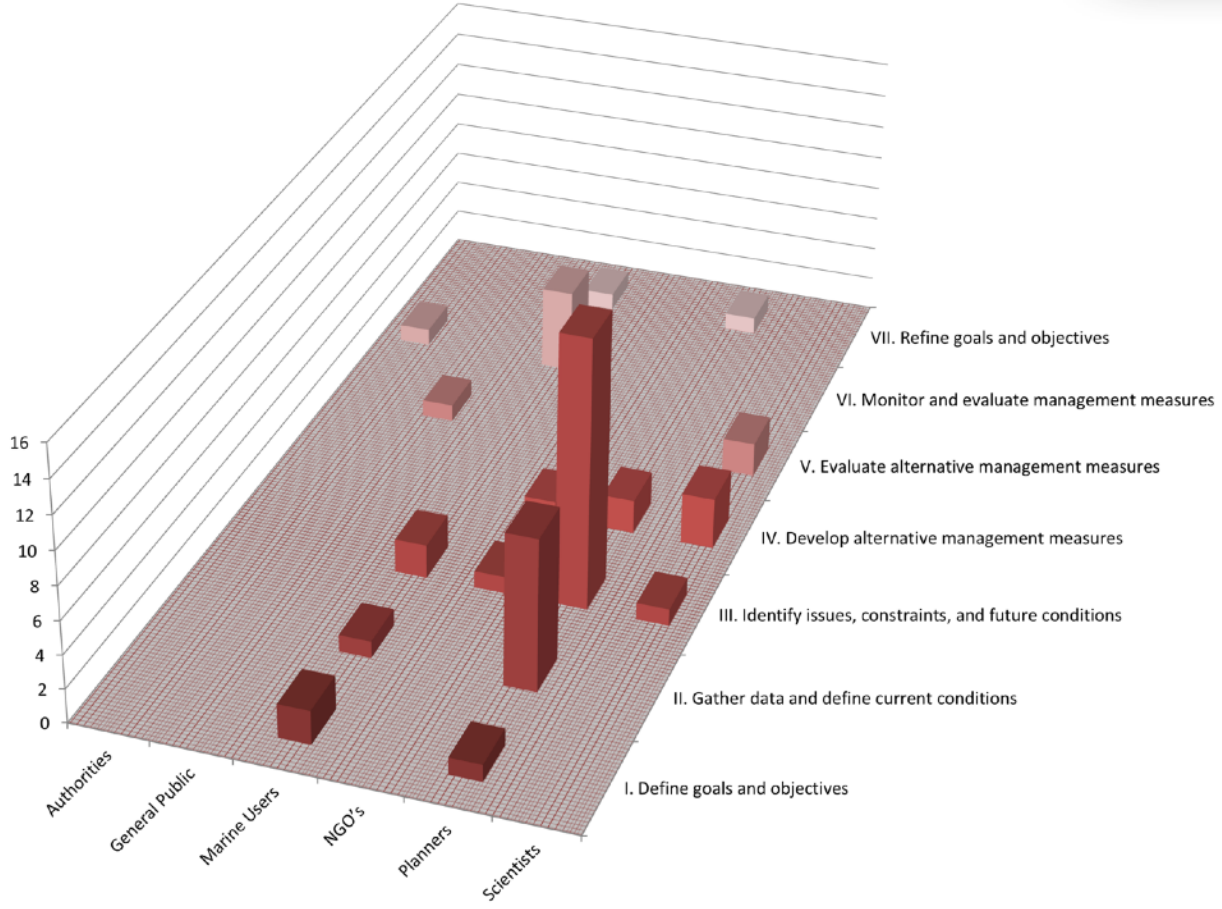



vii. Refine goals and objectives
5%, 3 DSTs
i. Define goals and objectives
5%, 3 DSTs
vi. Monitor and evaluate management measures
10%, 6 DSTs
ii. Gather data and define current conditions
21%, 12 DSTs
v. Evaluate alternative management measures
7%, 4 DSTs
iii. Identify issues, constraints, and future conditions
36%, 21 DSTs
iv. Develop alternative management measures
16%, 9 DSTs


Assessment of environmental impact
18%, 9 DSTs
Communication
18%, 9 DSTs
Data Gathering
2%, 1 DST
Economic Analysis
2%, 1 DST
Governance Assistance
6%, 3 DSTs
Management Plan Proposal
2%, 1 DST
Scenario Creation and Analysis
12%, 6 DSTs
Site Identification
20%, 10 DSTs
Socio-economic Analysis
4%, 2 DSTs
Uses Conflict Analysis
16%, 8 DSTs


Authorities;
3%, 2 DSTs
Scientists,
12%, 7 DSTs
General Public;
7%, 4 DSTs
Marine Users;
24%, 14 DSTs
Planners;
47%, 28 DSTs
NGO's;
7%, 4 DSTs


10
8
6
4
2
0
Assessment of...
Communication
Data Gathering
Economic Analysis
Governance Assistance
Management Plan Proposal
Scenario Creation and...
Site Identification
Socio-economic Analysis
Uses Conflict Analysis
VII. Refine goals and objectives
VI. Monitor and evaluate management measures
V. Evaluate alternative management measures
IV. Develop alternative management measures
III. Identify issues, constraints, and future conditions
II. Gather data and define current conditions
I. Define goals and objectives


16
14
12
10
8
6
4
2
0
Authorities
General Public
Marine Users
NGO's
Planners
Scientists
VII. Refine goals and objectives
VI. Monitor and evaluate management measures
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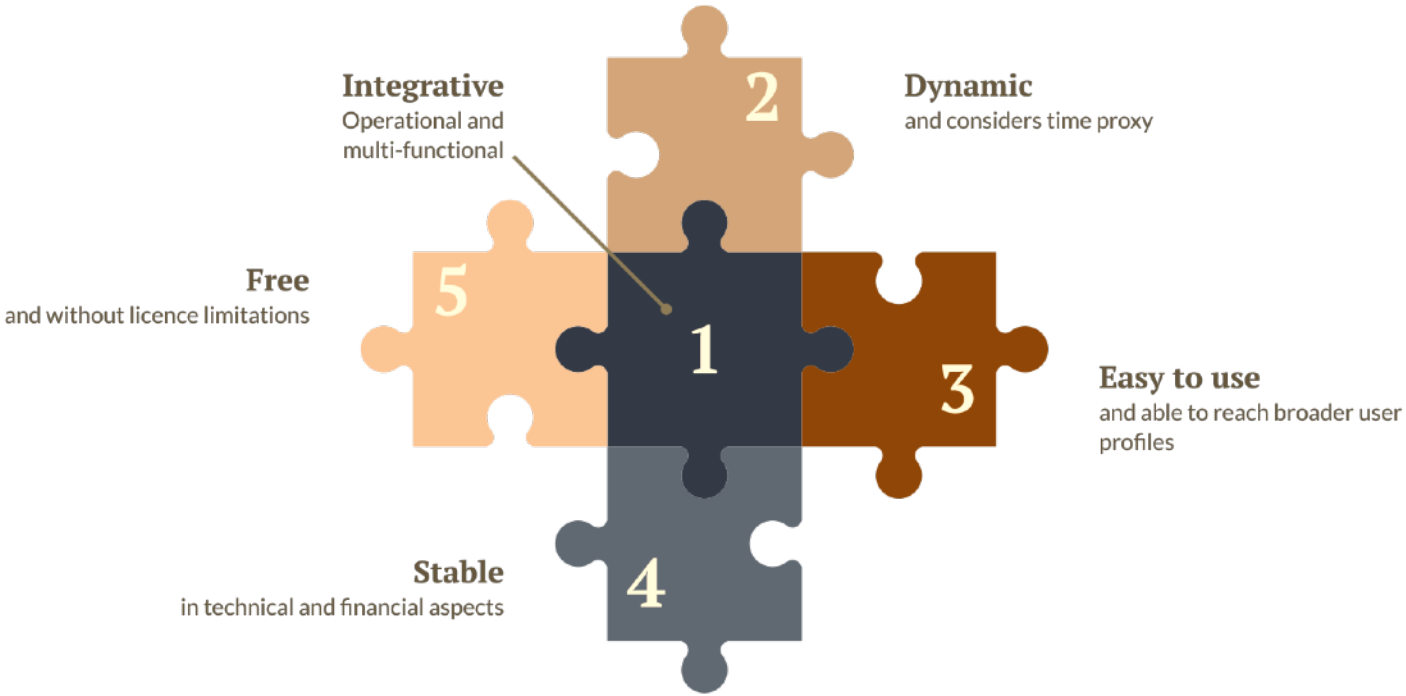
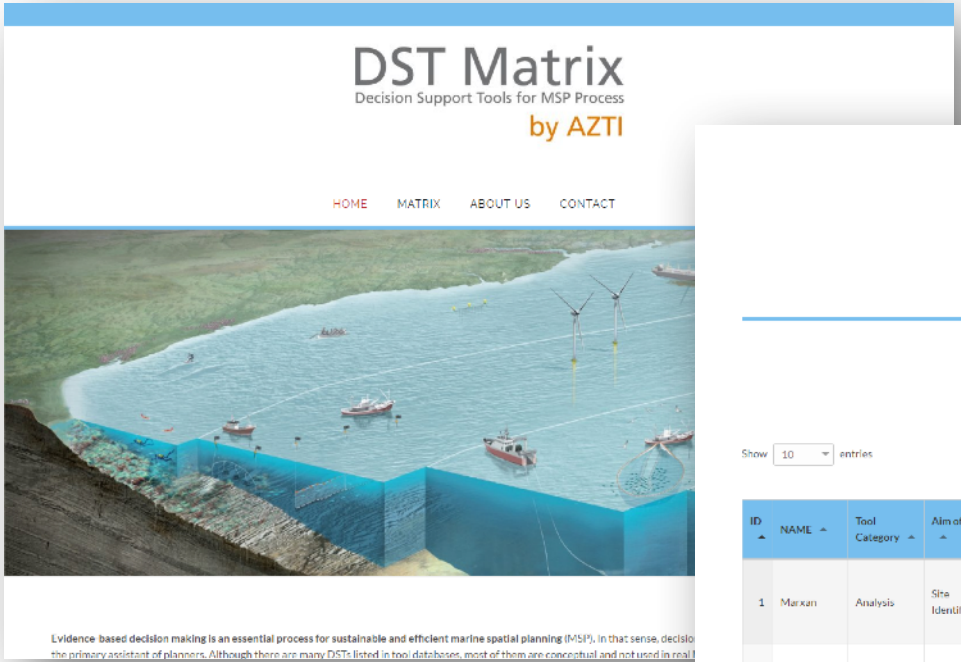
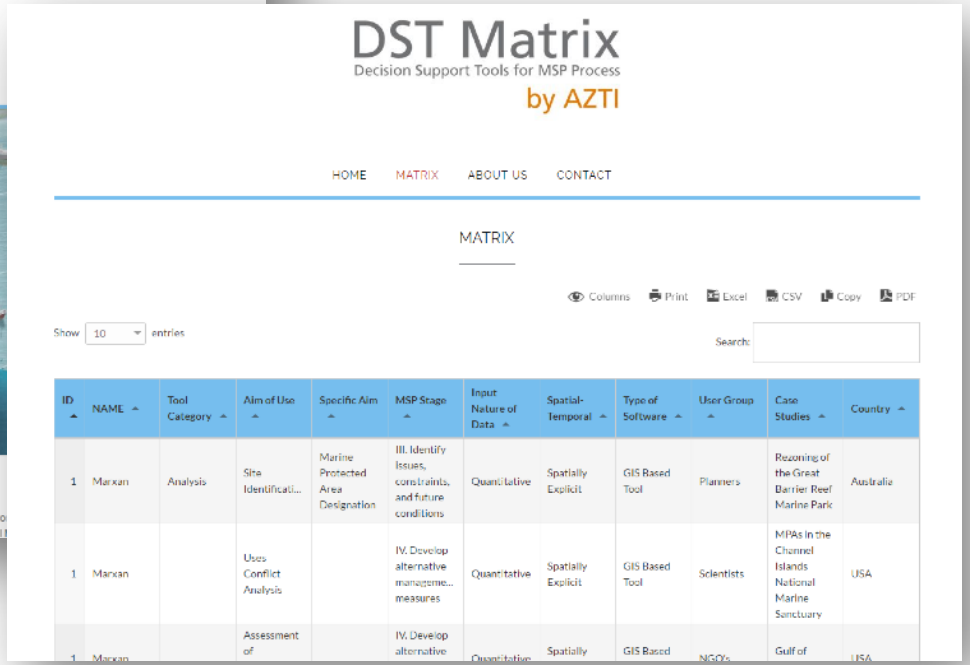
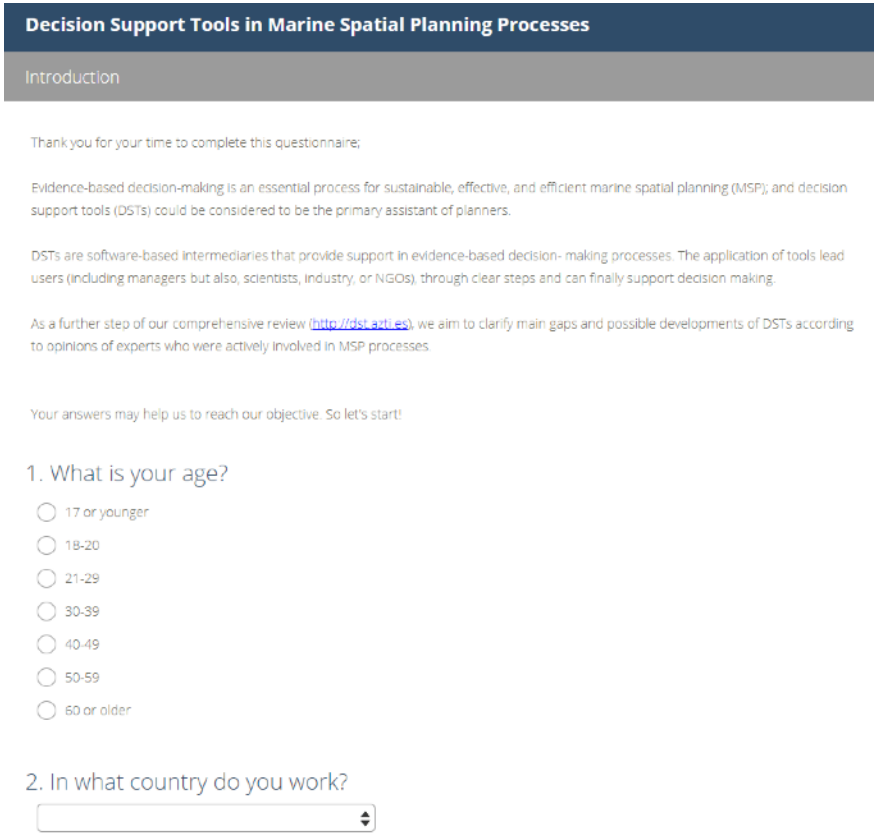

Integrative
Operational and multi-functional
2
Dynamic
and considers time proxy
Free
and without licence limitations
5
1
3
Easy to use
and able to reach broader user profiles
Stable
in technical and financial aspects
4


DST Matrix
Decision Support Tools for MSP Process
by AZTI
HOME
MATRIX
ABOUT US
CONTACT
Evidence based decision making is an essential process for sustainable and efficient marine spatial planning (MSP). In that sense, decisio
the primary assistant of planners. Although there are many DSTs listed in tool databases, most of them are conceptual and not used in real


DST Matrix
Decision Support Tools for MSP Process
by AZTI
HOME
MATRIX
ABOUT US
CONTACT
MATRIX
Columns
Print
Excel
CSV
Copy
PDF
Show 10 entries
Search:
ID
NAME
Tool Category
Aim of Use
Specific Aim
MSP Stage
Input Nature of Data
Spatial-Temporal
Type of Software
User Group
Case Studies
Country
1 Marxan Analysis Site Identificati... Marine Protected Area Designation III. Identify issues, constraints, and future conditions Quantitative Spatially Explicit GIS Based Tool Planners Rezoning of the Great Barrier Reef Marine Park Australia
1 Marxan Uses Conflict Analysis IV. Develop alternative manageme... measures Quantitative Spatially Explicit GIS Based Tool Scientists MPAs in the Channel Islands National Marine Sanctuary USA
1 Marxan Assessment of IV. Develop alternative Quantitative Spatially GIS Based NGO's Gulf of USA

A questionnaire to clarify main gaps and possible developments of DSTs according to opinions of experts who were actively involved in MSP processes

http://dst.azti.es



Decision Support Tools in Marine Spatial Planning Processes

Introduction

Thank you for your time to complete this questionnaire;

Evidence-based decision-making is an essential process for sustainable, effective, and efficient marine spatial planning (MSP); and decision support tools (DSTs) could be considered to be the primary assistant of planners.

DSTs are software-based intermediaries that provide support in evidence-based decision- making processes. The application of tools lead users (including managers but also, scientists, industry, or NGOs), through clear steps and can finally support decision making.

As a further step of our comprehensive review (http://dst.azti.es), we aim to clarify main gaps and possible developments of DSTs according to opinions of experts who were actively involved in MSP processes.

Your answers may help us to reach our objective. So let's start!

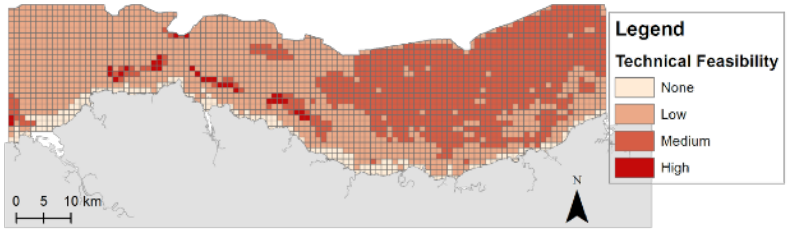
1. What is your age?

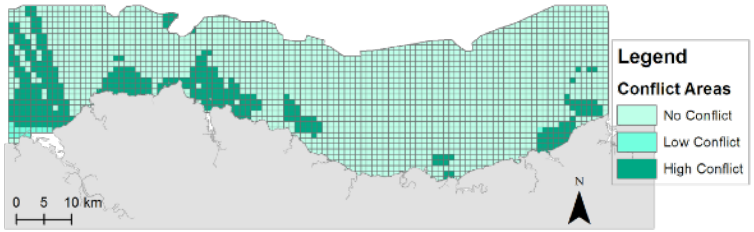
- 17 or younger
- 18-20
- 21-29
- 30-39
- 40-49
- 50-59
- 60 or older

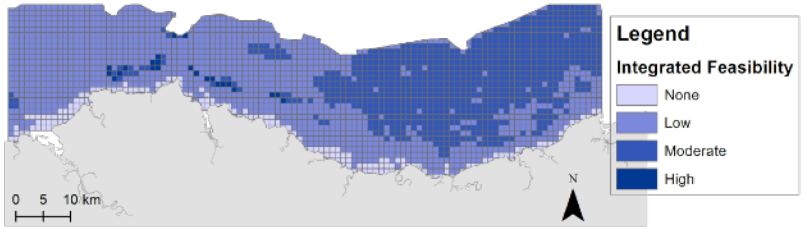
2. In what country do you work?

Feasibility analysis with Bayesian Belief Network for marine activities;

- Offshore Wind Platforms
- Aquaculture
- Fishery







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