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 Sweden
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Swedish Agency
for Marine and
Water Management

WIO Symphony: Supporting Evidence-Based MSP

An Overview of Key Functionalities for National and Regional Marine Planning



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Stonetown Zanzibar 21 October 2024

www.nairobiconvention.org/wio-symphony

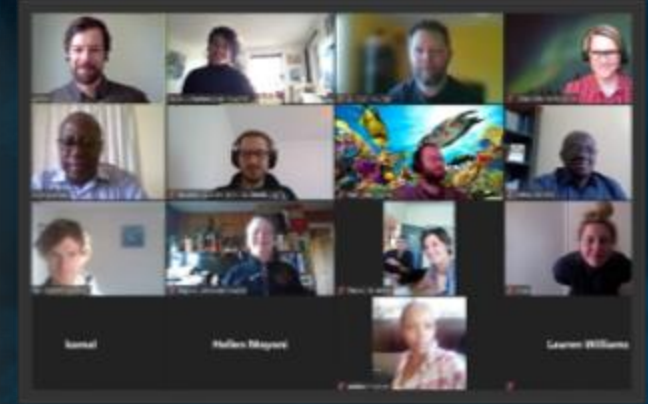
Co-Developed, Regionally Owned & Open Source



Swedish Agency
for Marine and
Water Management



Nairobi Convention
Secretariat



Online workshop series 2020-2022



Mombasa workshop 2022

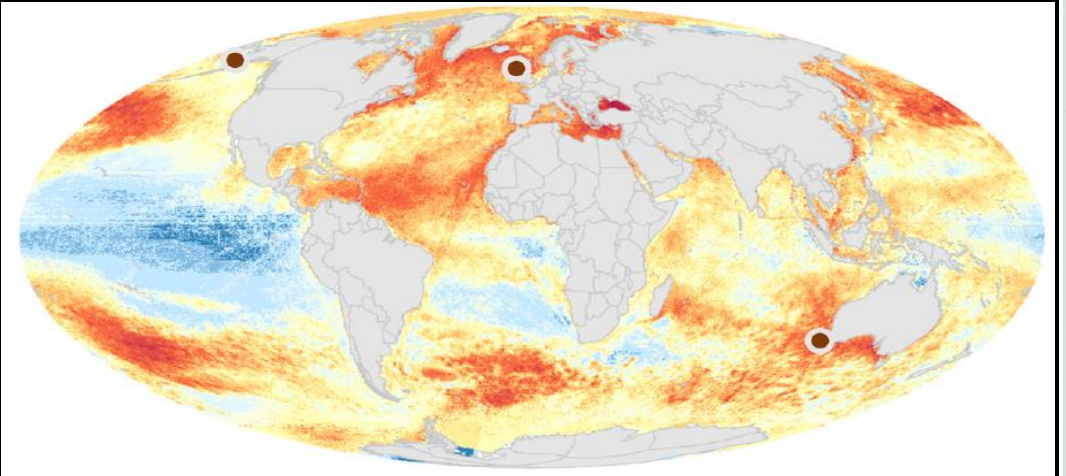


Comoros training 2022

<https://github.com/WIOSymphony>

www.nairobiconvention.org/wio-symphony

WIO Symphony Cumulative Impact Calculation

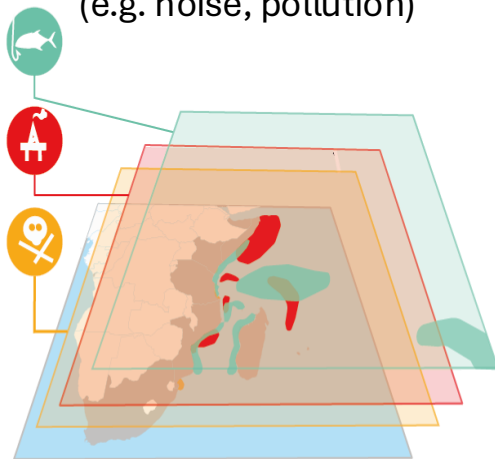


Halpern *et al* 2008 Science 319 Halpern *et al* 2019 Nature SR 9:11609

Environmental pressures

From human activities

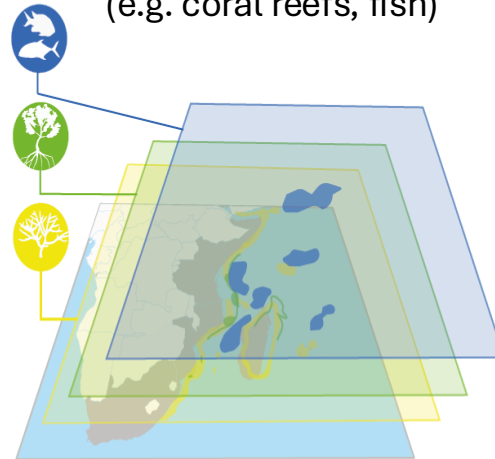
(e.g. noise, pollution)



Ecosystem components

Nature values

(e.g. coral reefs, fish)



X

X

Sensitivity matrix

The specific effect of each pressure
on each eco-component

Evidence / Expert judgement

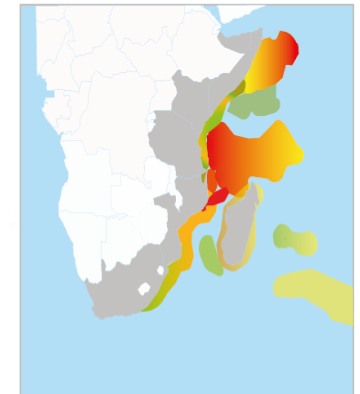


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Results

Figures and tables

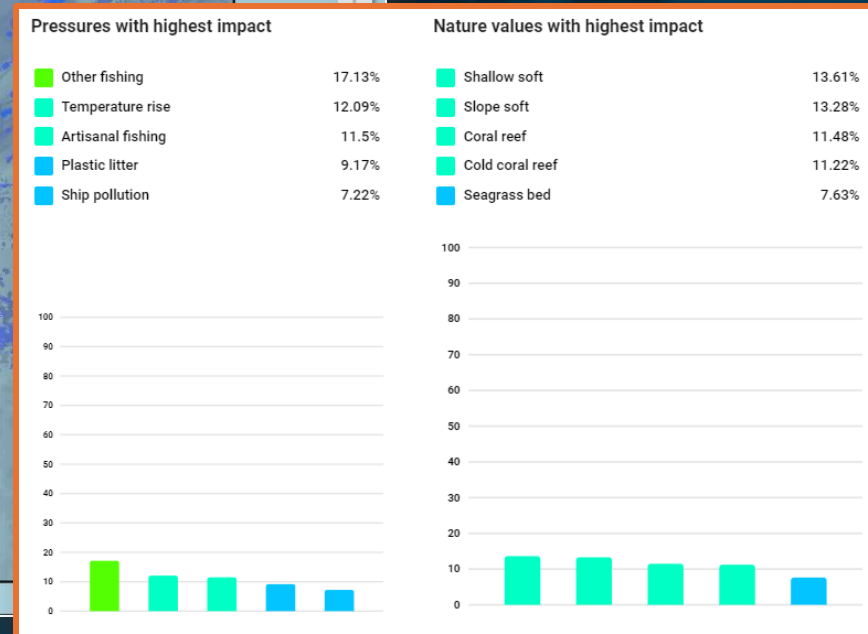
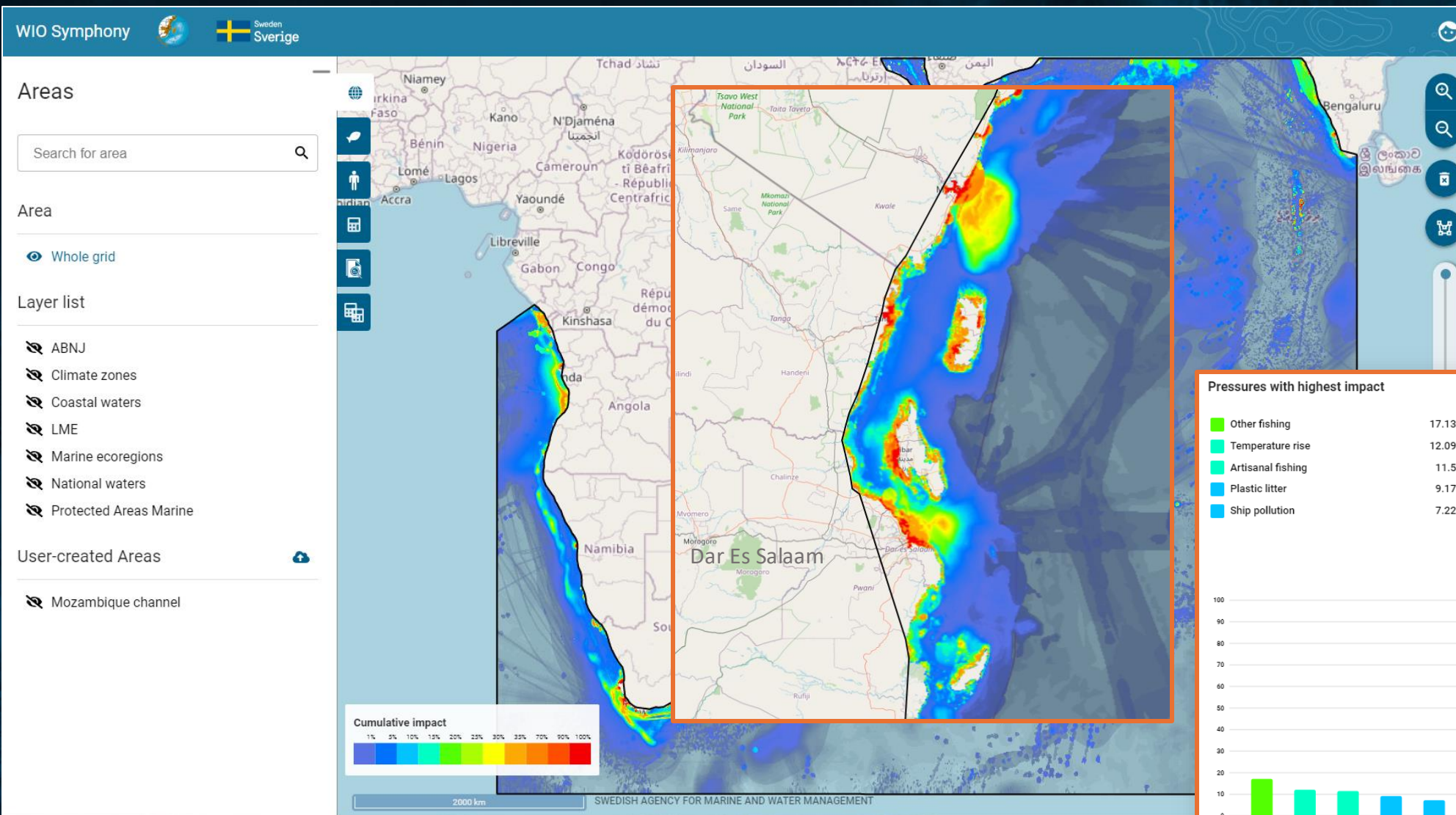
Cumulative impacts



WIO Symphony



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Data and metadata showing human pressures, ecosystem components, sensitivity and impact for baseline analysis and boundary setting



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1. Setting the scene

2. Designing the planning process

Maps and infographics for stakeholder discussions

Key Benefits of WIO Symphony During MSP

6. Monitoring, evaluation and adaptation of the process and the plan

Data metrics could be used to monitor change over time (with future data updates)

Custom impact Assessment by activity, sector or ecological components

5. Enabling the implementation of the marine spatial plan

Standardized, maps reports and data suitable for publications and explaining MSP decisions

3. Assessment for planning

Plan Scenario Comparison for design of a zonation plan with minimal impact

4. Developing the marine spatial plan

Key Analytical Functions of WIO Symphony

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1. Estimating current cumulative

impacts

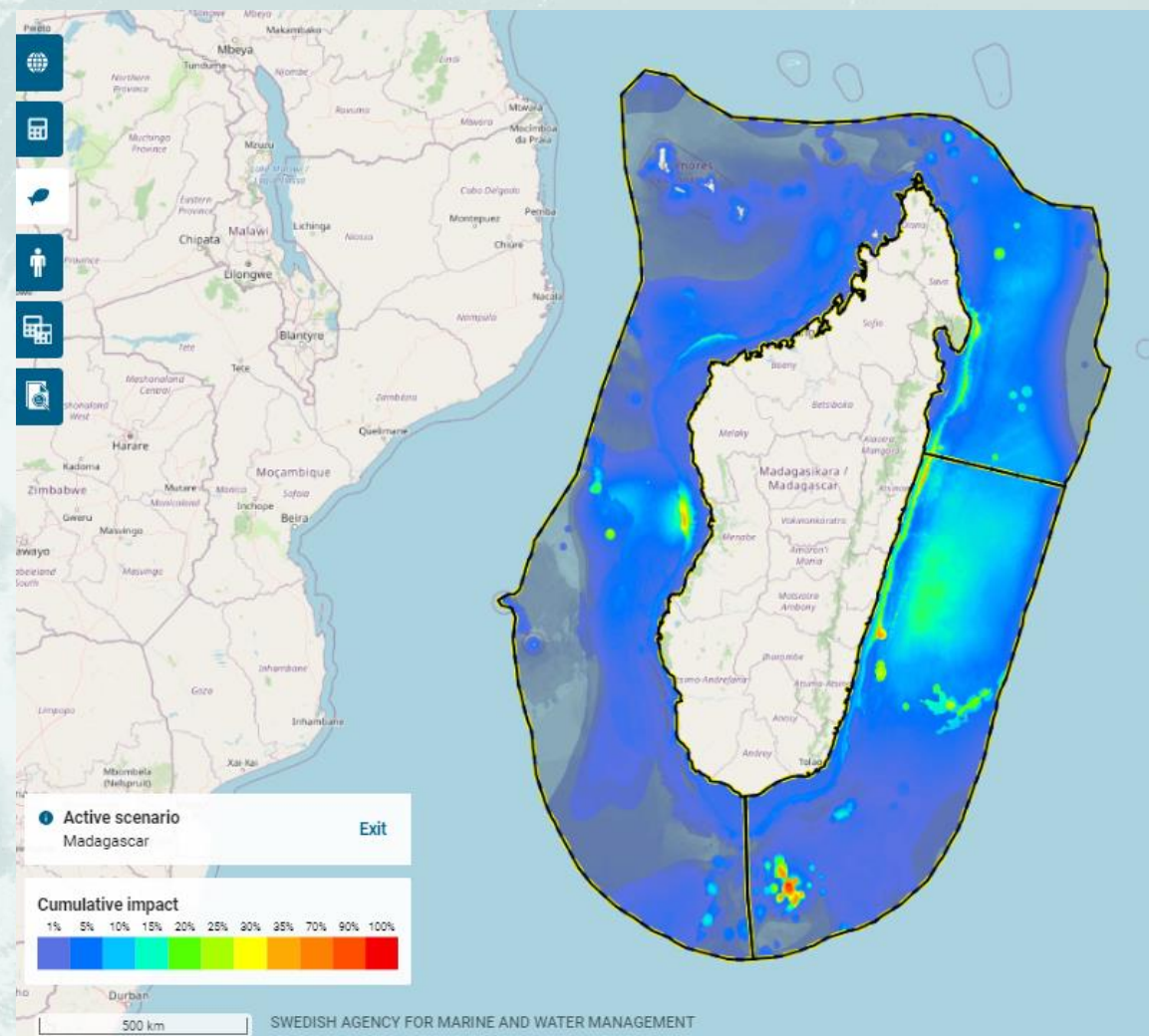
2. Estimating potential cumulative

impacts

3. Estimating the potential ecosystem

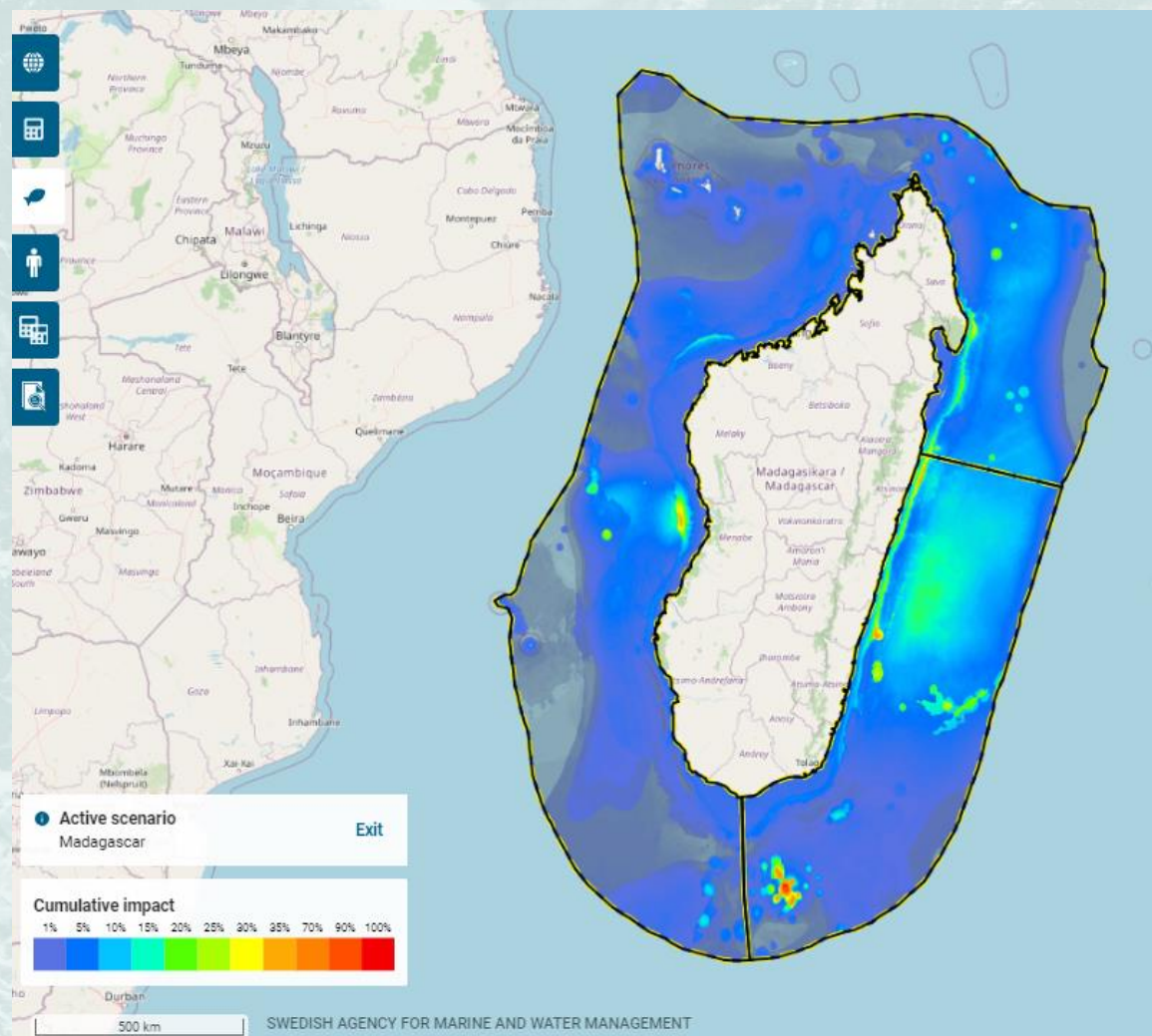
benefits of protection or activity

restriction

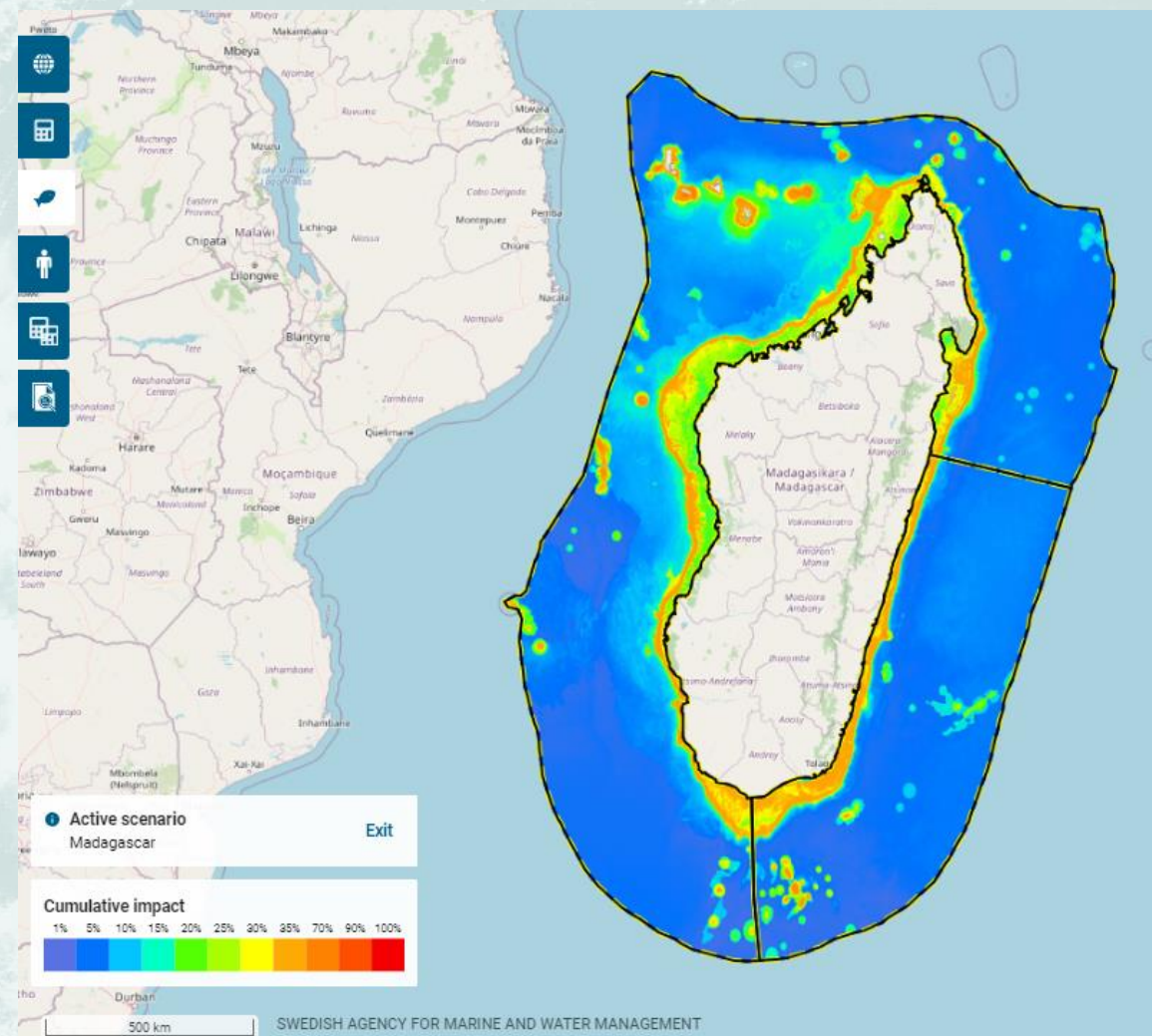


Key Analytical Functions of WIO Symphony

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Example: Floating longline fishing **current** impacts

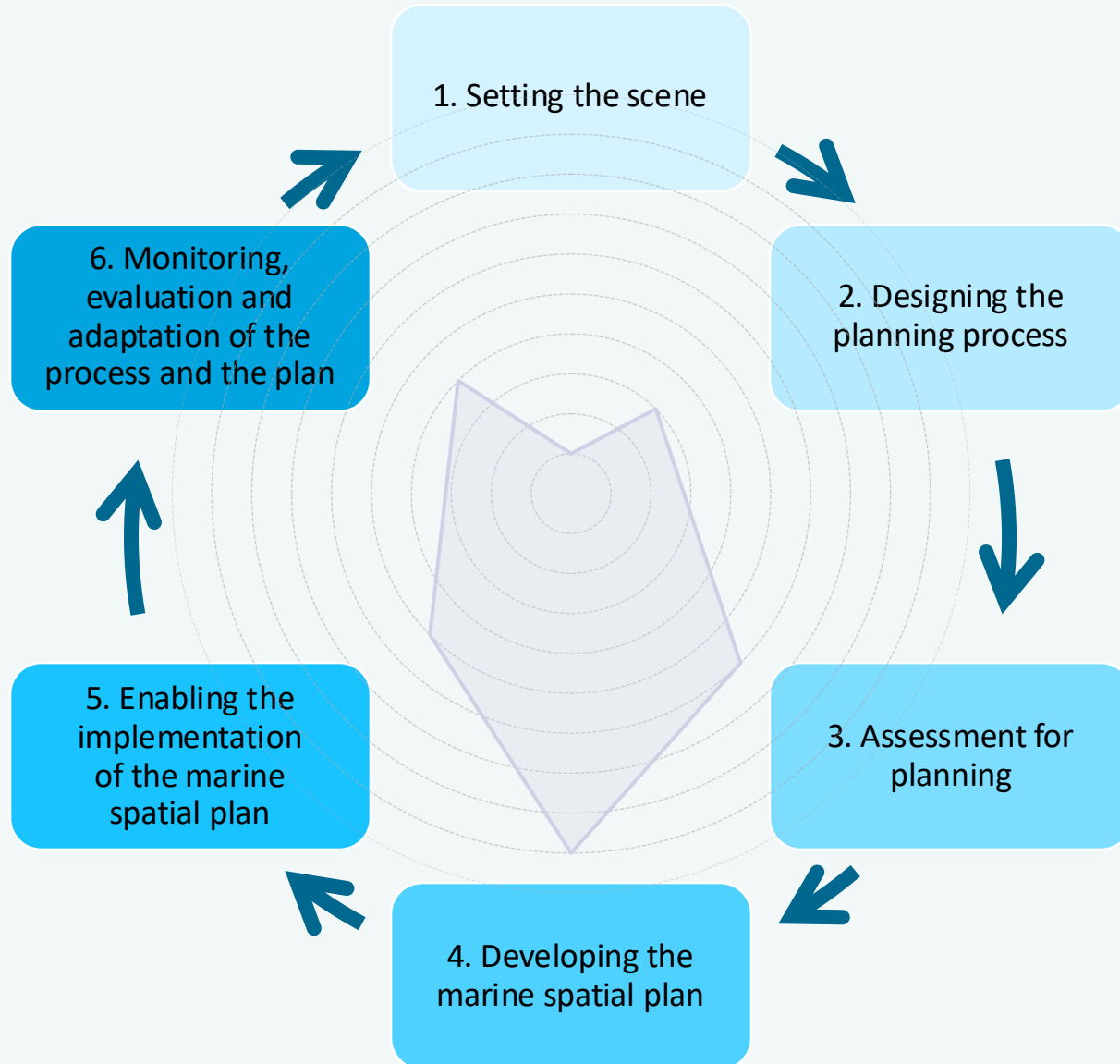


Example: Floating longline fishing **potential**

MSP Impact Assessment in WIO Symphony



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Impact Assessment:

Evaluating the potential **environmental, social, and economic** impacts of proposed activities and plans to ensure they align with sustainability objectives.

WIO Symphony Strengths:

Scopes cumulative (and specific) environmental impacts of human activities using standardized data metrics within the context of transboundary marine resources.

Key Limitations: Data and knowledge gaps, limited spatial resolution, missing ecological and socio-economic interactions, policy impact assumptions.

Use Advice: Combine with social and economic impact assessments. Use higher resolution and more detailed data at local scales. Use more advanced models and targeted research after scoping with WIO Symphony.

When is a WIO Symphony Impact Assessment most useful ?

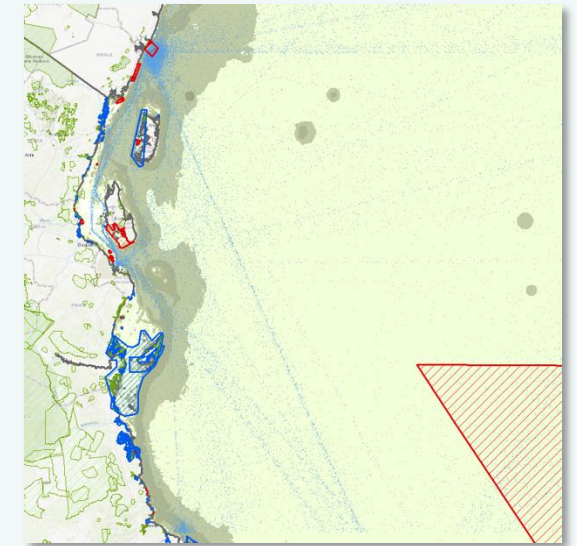
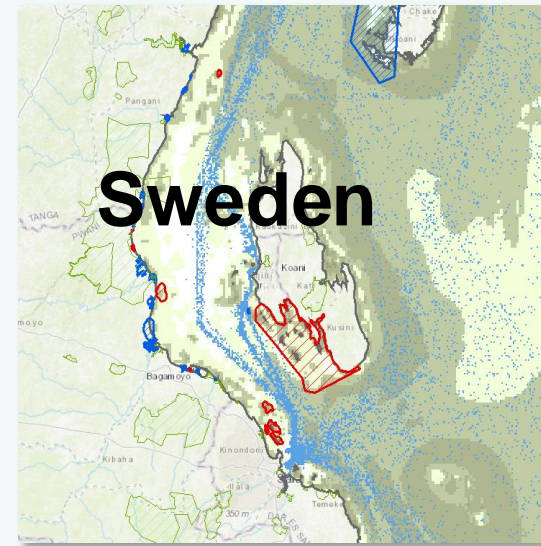
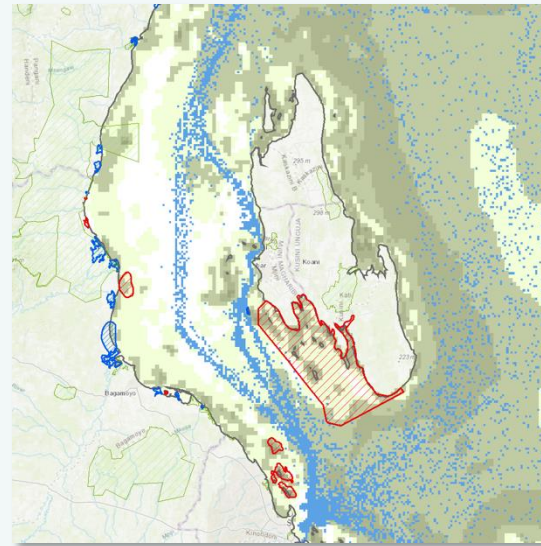
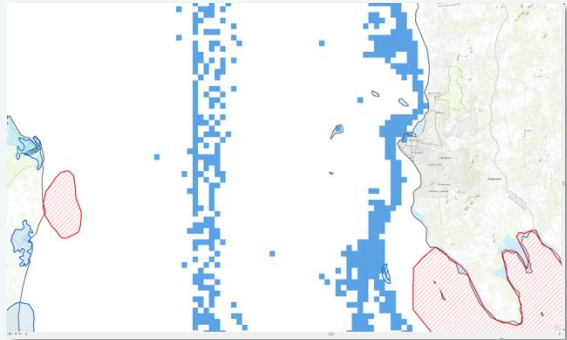
WIO Symphony and Scale

1: 50 000 – 1:100 000

1:500 000

1:1 000 000

1:3 000 000



Ex. Land to sea interaction
Tourism, watersports
Aquaculture

Level of detail for sector interest claim

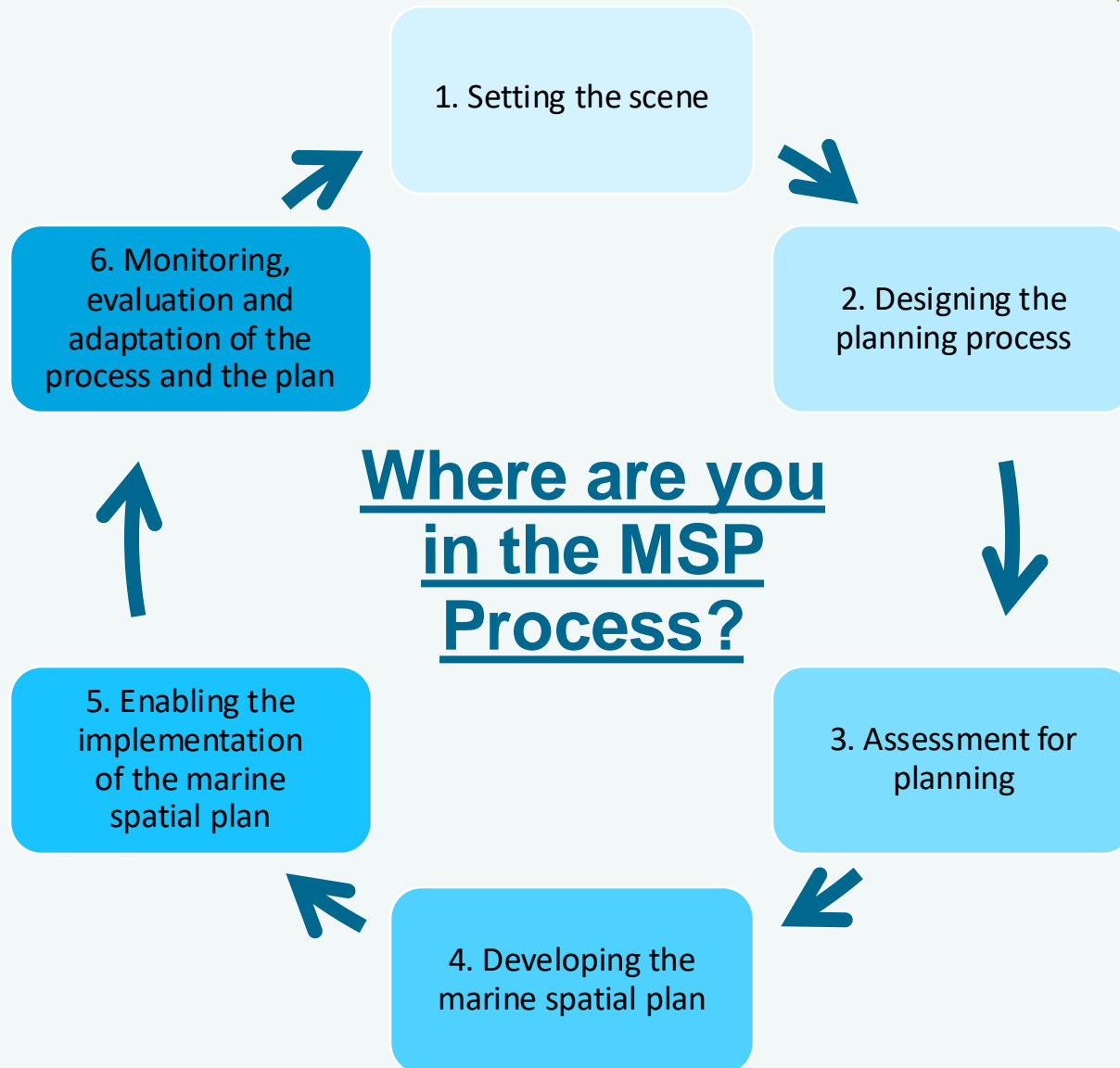
Ex. Shipping, fishing,
oil & gas

- In which level of detail are you going to plan?
- What is suitable zonation size?

MSP cycle 6 steps



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