The Baltic Sea under a changing climate: Insights for marine protection

Expert Dialogue: Climate-ready Marine Protected Areas: Building Resilience and Supporting Marine Adaptation

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The Baltic Sea and Climate Change: setting the scene
- what do we know and what does it mean?

Credits: Juuso Haapaniemi

The Relationship of Society and the Sea

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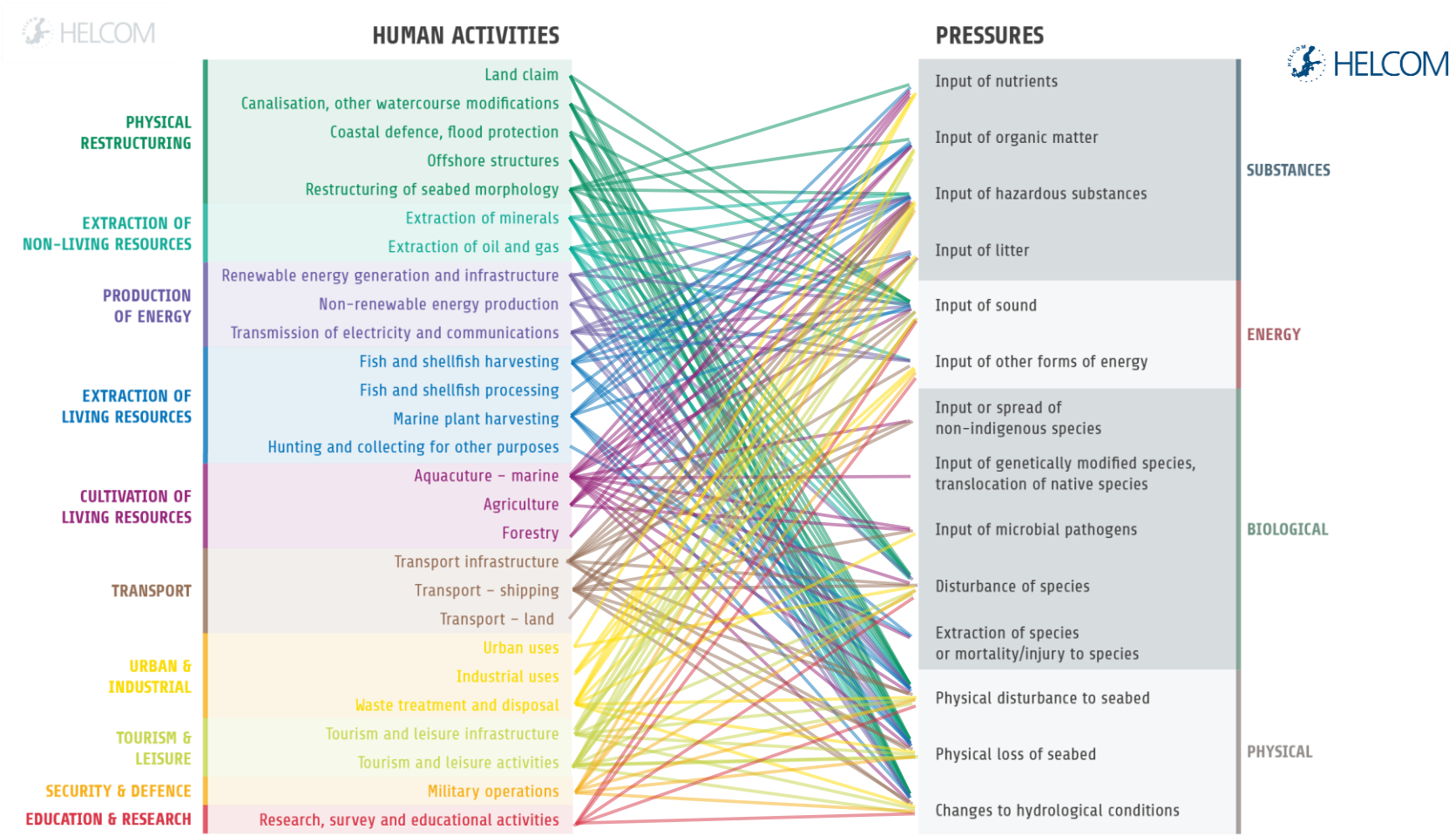
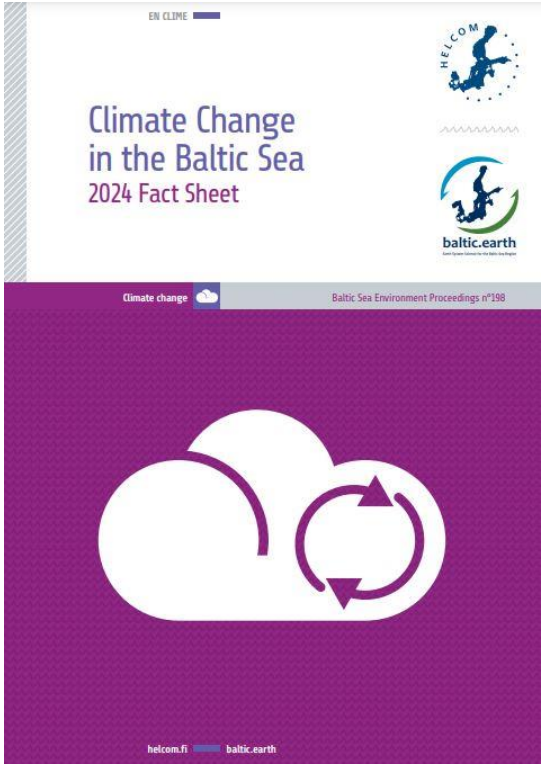


By Jannica Haldin, HELCOM
Wednesday, December 11, 2024

What is the Climate Change Fact Sheet?

- Summary and policy translation of latest climate change research in the Baltic Sea to guide policy making.
- 37 parameters covered: 16 direct parameters, 14 indirect ecosystem parameters (including blue carbon and ecosystem services) and 7 indirect human use parameters.
- Science driven– synthesizes existing detailed, peer-reviewed information, clearly referenced
- Prepared by the over 100 EN CLIME scientist of various disciplines, 22 Lead Authors, Co-Chairs, Secretariat.
- Peer reviewed by external scientists.
- Shows a level of confidence of statements.
- Updated in 2024 (here).



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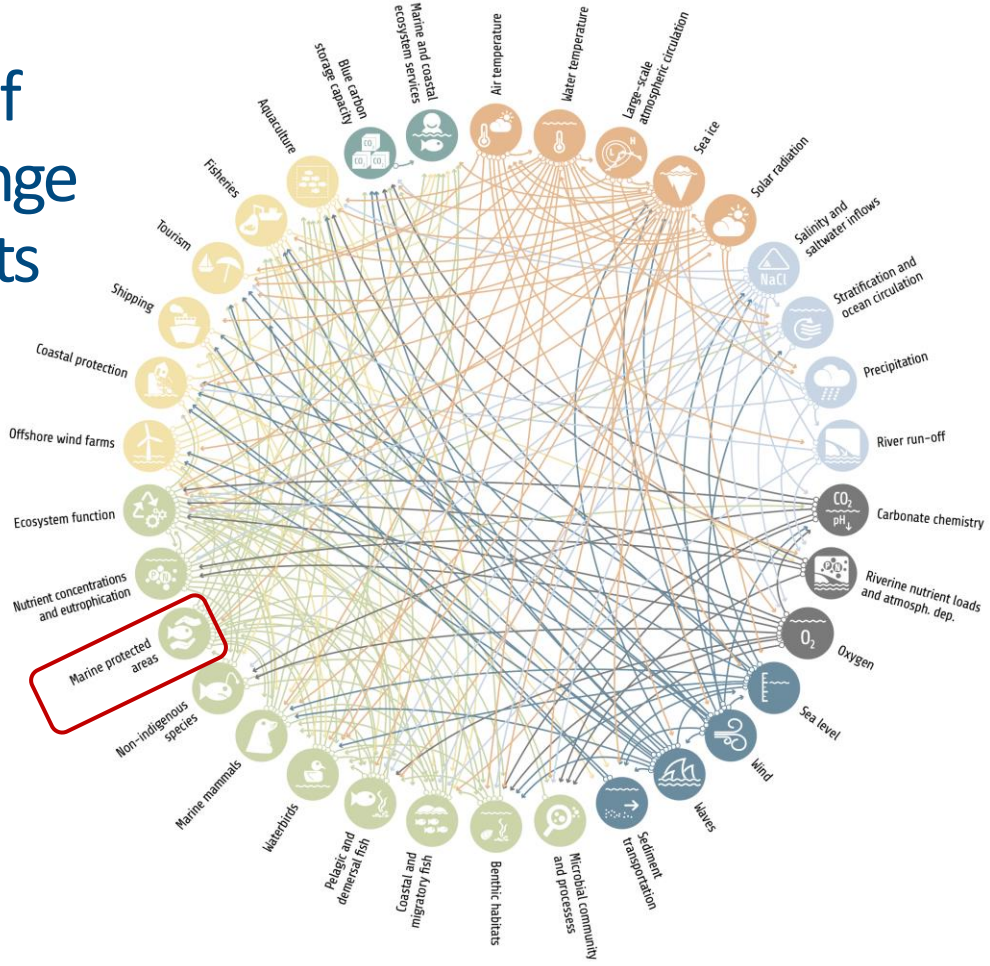
The reality of climate change and its effects



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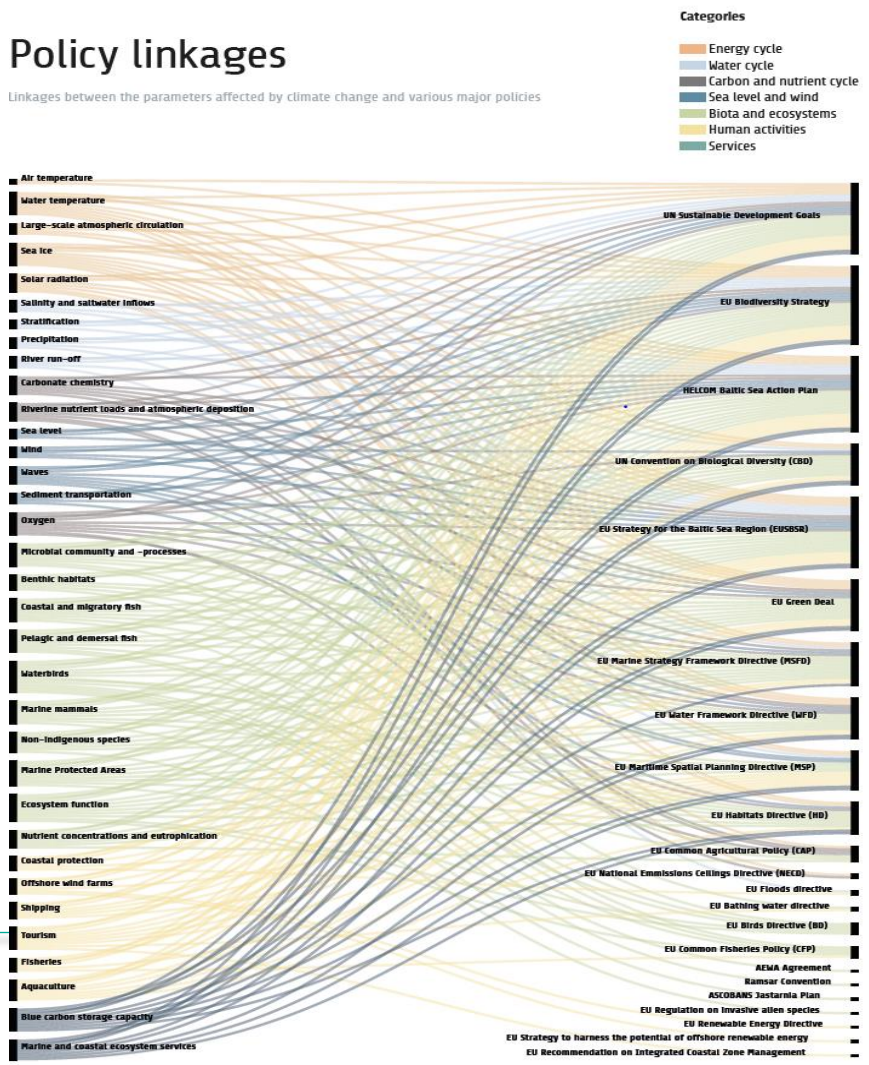
The reality of climate change and policy

- The more urgent the crisis, the bigger the relevance for policy.
- More urgency results in more focus on finding solutions, in turn resulting in better governance (the Baltic Sea is a perfect example).
- Different policies target different, but often multiple, parameters.

- The ultimate wicked problem: a problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize. It refers to an idea or problem for which there is no single solution to the problem.



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Baltic Sea Protection and Climate Change - facing the future

Credit: Juuso Haapaniemi

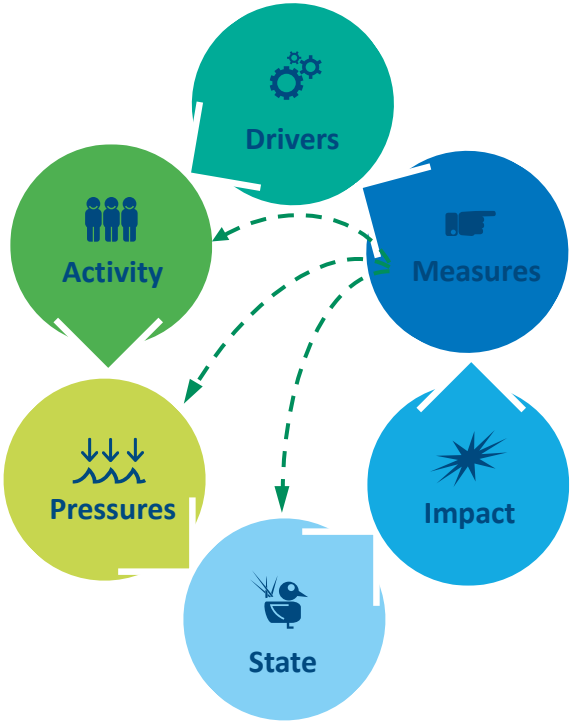
Marine protection, why do we need it?

- Nature and biodiversity **make life possible**, provide **health** and **social benefits** and **drive our economy**. Nature is also our best ally in **tackling the climate crisis**, and the marine environment is an integral part of the larger land-sea ecosystem.

- Several of the **sectors** utilising the Baltic Sea **depend on the quality of the environment** (including e.g. fishing, aquaculture, tourism, leisure activities etc.).

- The practice of protecting, i.e **leaving space for** the natural environment from negative impacts.

- This is done by **limiting activites and pressures**, or **improving the status, thus limiting the negative impact..**



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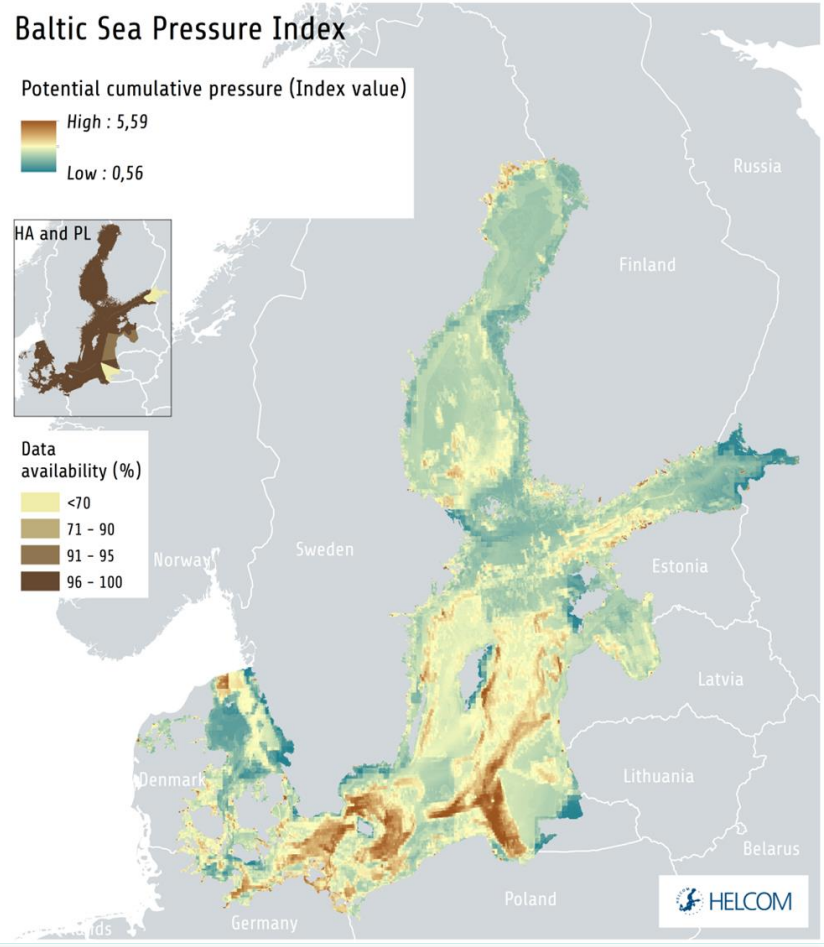
Current situation – the not so good

- Incomplete knowledge base for decision making and designation.
- Gaps in governance.
- Insufficient use of adaptive management.

- **It took 30 years to get where we are, now we need to double it in 6 years.**
- But it isn't about getting to 30%, **it's about getting there in a way that actually provides biodiversity benefits, <u>also under a changing climate.</u>**



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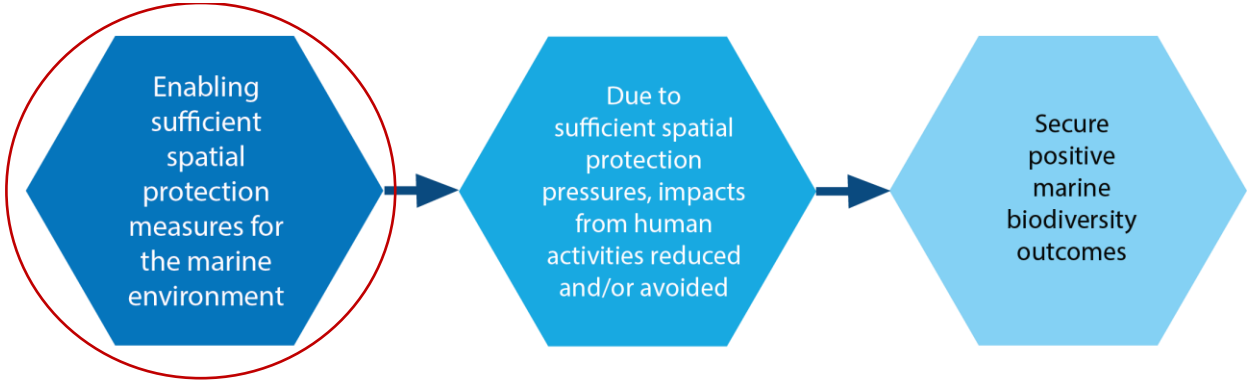
How can MPAs play a role in supporting adaptation to climate-related change?

What do we want to achieve?



Rationale for theory of change...

If sufficient and effective spatial protection is ensured across the ecoregion...

... there will be a reduction in the negative impact from human activities, and...

....the goals of maintaining or restoring the status of marine biodiversity can be reached.

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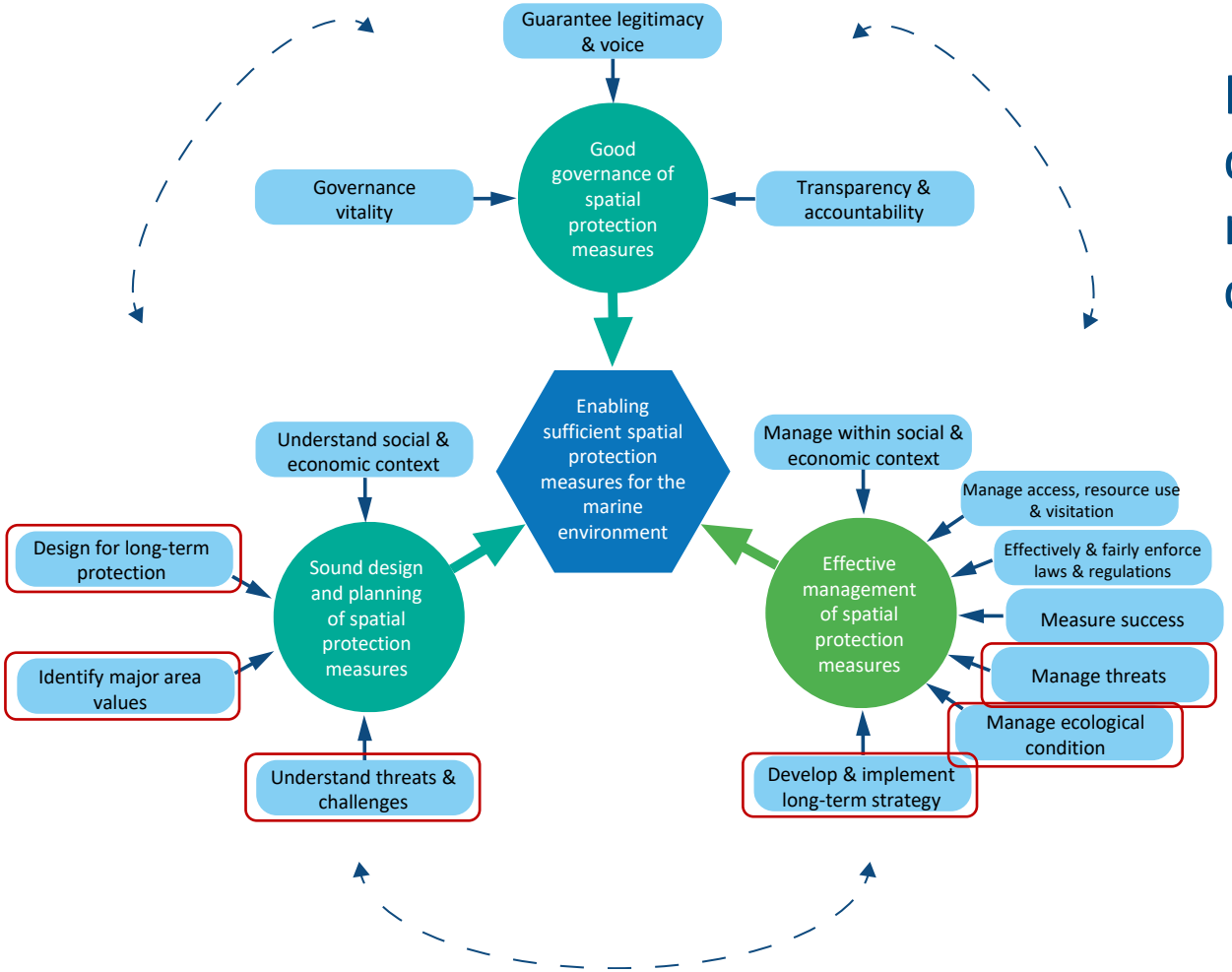
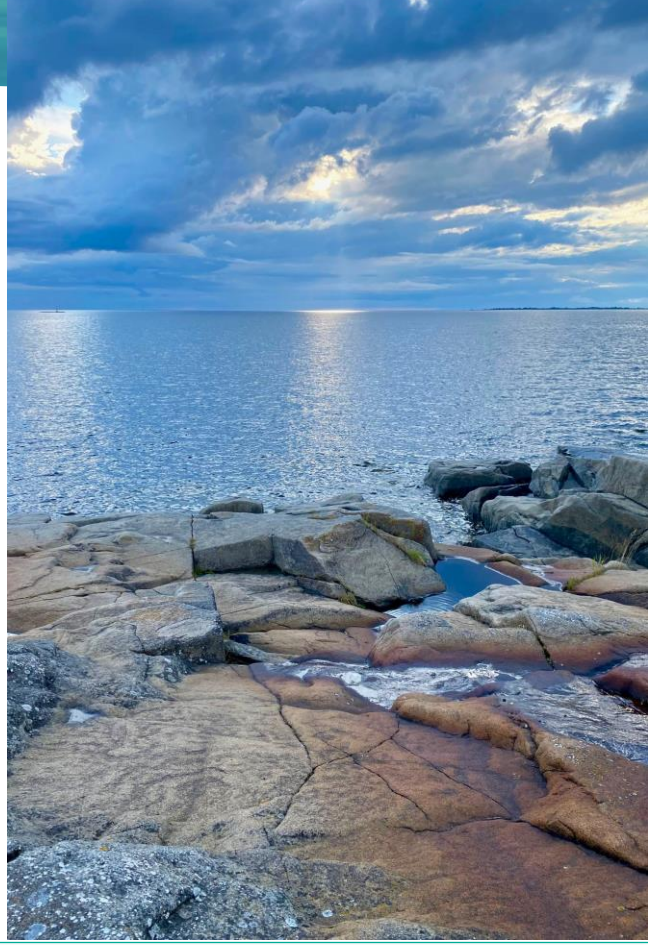
How MPAs can be designed to be resilient to future climate impacts?



Exploring how can MPAs play a role in supporting adaptation to climate-related change in the Baltic Sea

- Examples:
  - Blue carbon
    - directly protect coastal blue carbon habitat, such as coastal wetlands.
    - protect healthy ecosystems and food webs that store carbon in marine life, and transport it to the deep seabed for long term storage.
    - can prevent bottom disturbance to the carbon stored in sediments.
    - can help address other factors that affect carbon storage, such as the presence of invasive species and pollutants.
    - provide focal points for restoring blue carbon habitats.
  - Spatial and adaptive climate refugia
    - spatial refugia are areas that are changing more slowly than elsewhere.
    - adaptive refugia are areas that already represent “future” conditions, and contain individuals who are adapted to those conditions.
  - Ecosystem restoration
    - MPAs provide long-term protection and active management, providing opportunities for research, restoration and community engagement. Ecosystem restoration is an important climate adaptation strategy. By making restoration decisions that take future conditions into account, restoration can help to restore ecosystem services lost to climate and non-climate impacts and ensure that they are resilient to future change
  - **Expanding on what we protect, and why.**



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