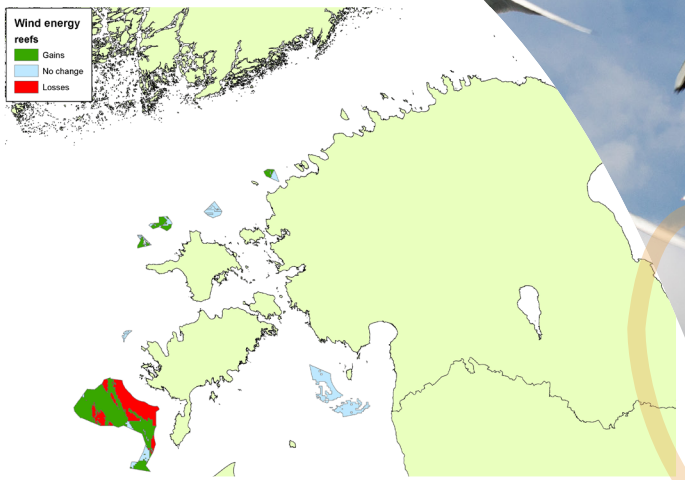

To enhance the model:

- Periodically update input data layers and algorithms;
- Enhance predictive capacity of the model and reduce uncertainty at various spatial regions;
- Analyse model sensitivity, simplify modelling and calculation processes;
- Add a component to account for value added chain in the economy model;
- Integrate new economic developments into the model;
- Expand the model spatially in a way it would encompass areas surrounding Estonian sea space or the Baltic Sea as a whole.

Web address:
www.sea.ee/planwise4blue

Pan Baltic Scope is a collaboration between 12 planning authorities and organisations from around the Baltic Sea. We work towards bringing better maritime spatial plans in the Baltic Sea Region. Find our result at www.panbalticscope.eu

Pan Baltic Scope

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PlanWise4Blue

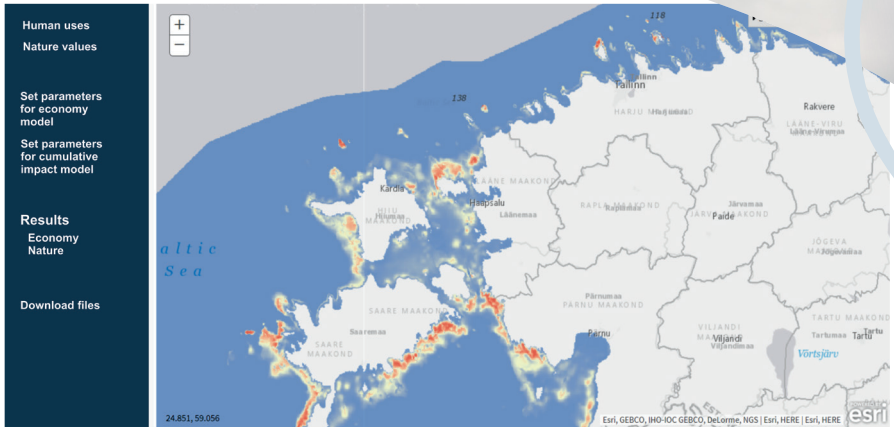
PlanWise4Blue is a web-based application developed during the compilation of the Estonian National Maritime Spatial Plan for improved decision-making. PlanWise4Blue combines models of marine economy and cumulative impact assessment. Such a combined model allows one to assess the economic benefits of various management scenarios along with their environmental impact across Estonian sea space. Outcomes of the model make it possible to work towards sustainable solutions to maximize the economic benefit gained from the use of marine resources with minimum damage to the environment.

Aims and scope of the model

The aim of the economy model is to increase the capacity for knowledge-based management of marine resources and accounting for their potential economic benefits. The aim of the cumulative impact model is to identify various human pressures and account for their cumulative effects on the natural environment, while considering regional differences of nature. The spatial resolution of the model is 1 km², and the temporal timescale is 1 year. This tool has been developed to assist with maritime spatial planning but is also applicable in other fields.

Benefits and uses of the model:

- Is open source and publicly accessible;
- Assesses economic benefits of sectors such as fisheries, aquaculture, reed harvesting, wind energy, maritime transport and recreation;
- Assesses cumulative impacts of human uses on various natural resources;
- Displays values of ecosystem service (provisioning, regulating and maintenance services) indicators across Estonian sea space;
- Allows changes to input data;
- Is potentially applicable in other regions, where data exists;
- Assesses the effect of various scenarios to model output.



Shortcomings and limitations of the model:

- Currently usable rather as a discussion platform due to the lack of knowledge or data availability that may increase uncertainty about the model output;
- 1 km² spatial resolution might not be enough for managing coastal areas
- Does not account for indirect benefits to the economy that arise as a by-product and/or value added by the production chain;
- Only accounts for Estonian sea space and does not consider cross-border effects;
- Requires further testing.

Potential for model development

The model is a useful tool for planning and prioritizing the use of coastal areas, drafting development plans and contributing to political decision making. However, it is possible to enhance the current model to produce more accurate predictions and the associated added value. It is reasonable to make enhancements to validate concrete development plans.