



Towards adaptive planning of marine space – from theory to practice

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What are the research needs for planning in 21st century?

Towards adaptive planning of marine space- from theory to practice

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Outline

- **Ecosystem based sea use management and MSP processes**
- **Transdisciplinarity**
- **Mutual learning**
- **Collaborative science-policy interface (SPI)**
- **Participatory research**
- **Systems-Theoretic approach to MSP processes**

The Baltic Sea



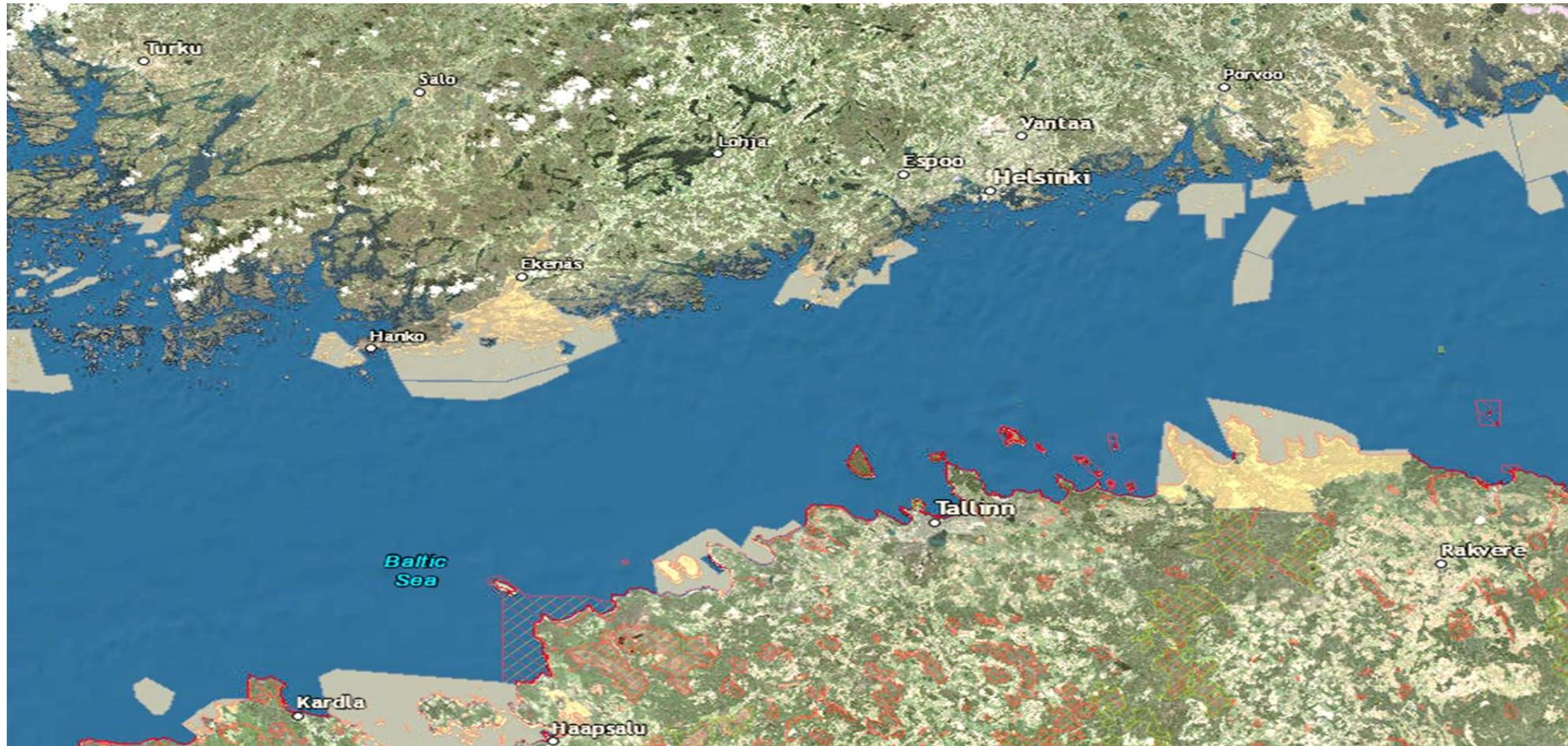
Ecosystem based sea use management and MSP processes

- The concept of “**ecosystem based sea use management**” introduced by Ehler & Douvere (2009) refers to the management of human uses of marine resources, including the use of marine space in such a way that ecological, social and economic objectives are achievable.
- Ehler & Douvere (2007) argue that the MSP is first of all “... **a public process of analysing and allocating the spatial and temporal distribution of human activities** in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process.”

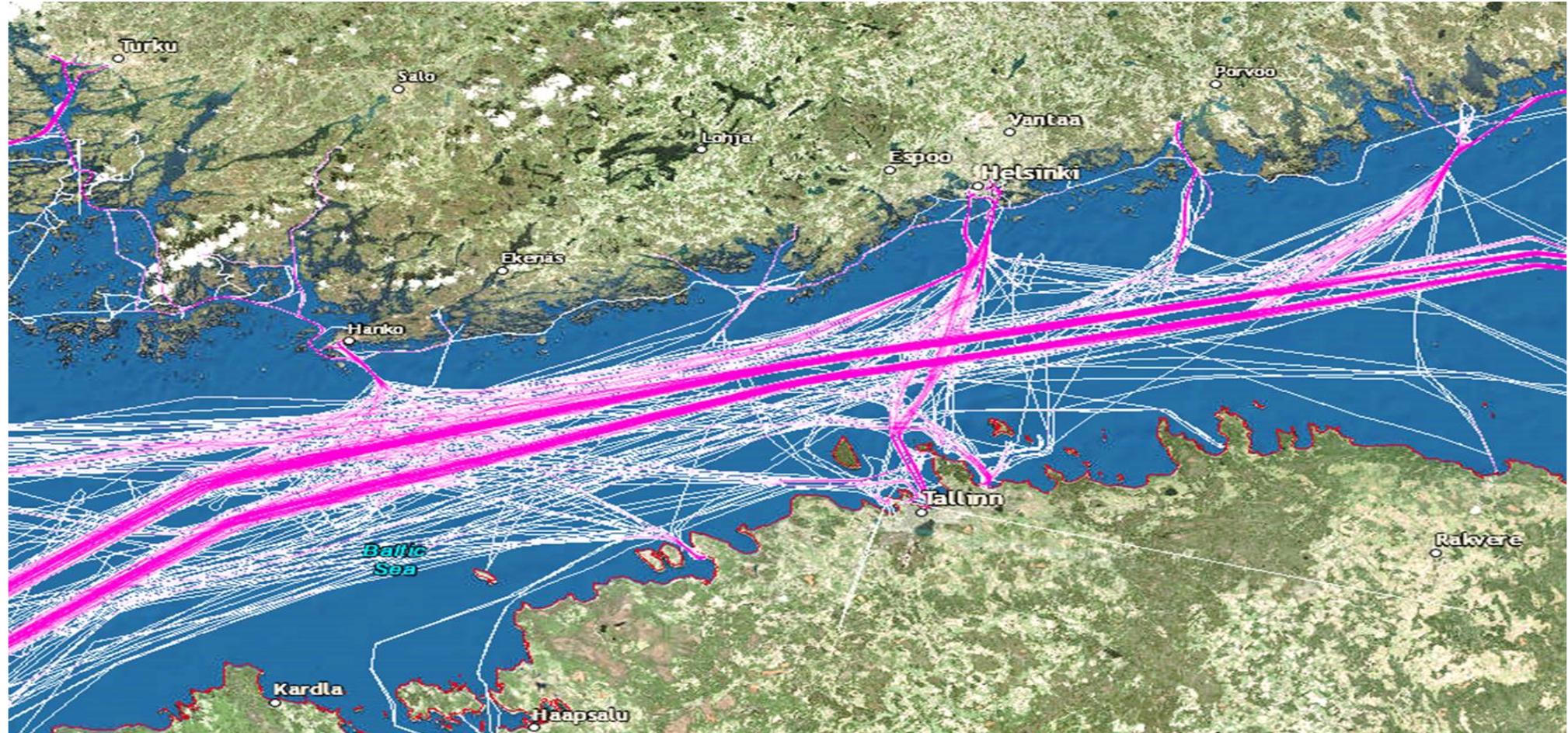
The EU Directive establishes a framework for maritime spatial planning

- The EU Directive establishes a framework for maritime spatial planning and defines the purpose of maritime spatial planning (MSP) as follows: “**The main purpose of maritime spatial planning is to promote sustainable development and to identify the utilization of maritime space for different sea uses as well as to manage spatial uses and conflicts in marine areas. Maritime spatial planning also aims at identifying and encouraging multi-purpose uses, in accordance with the relevant national policies and legislation**”.

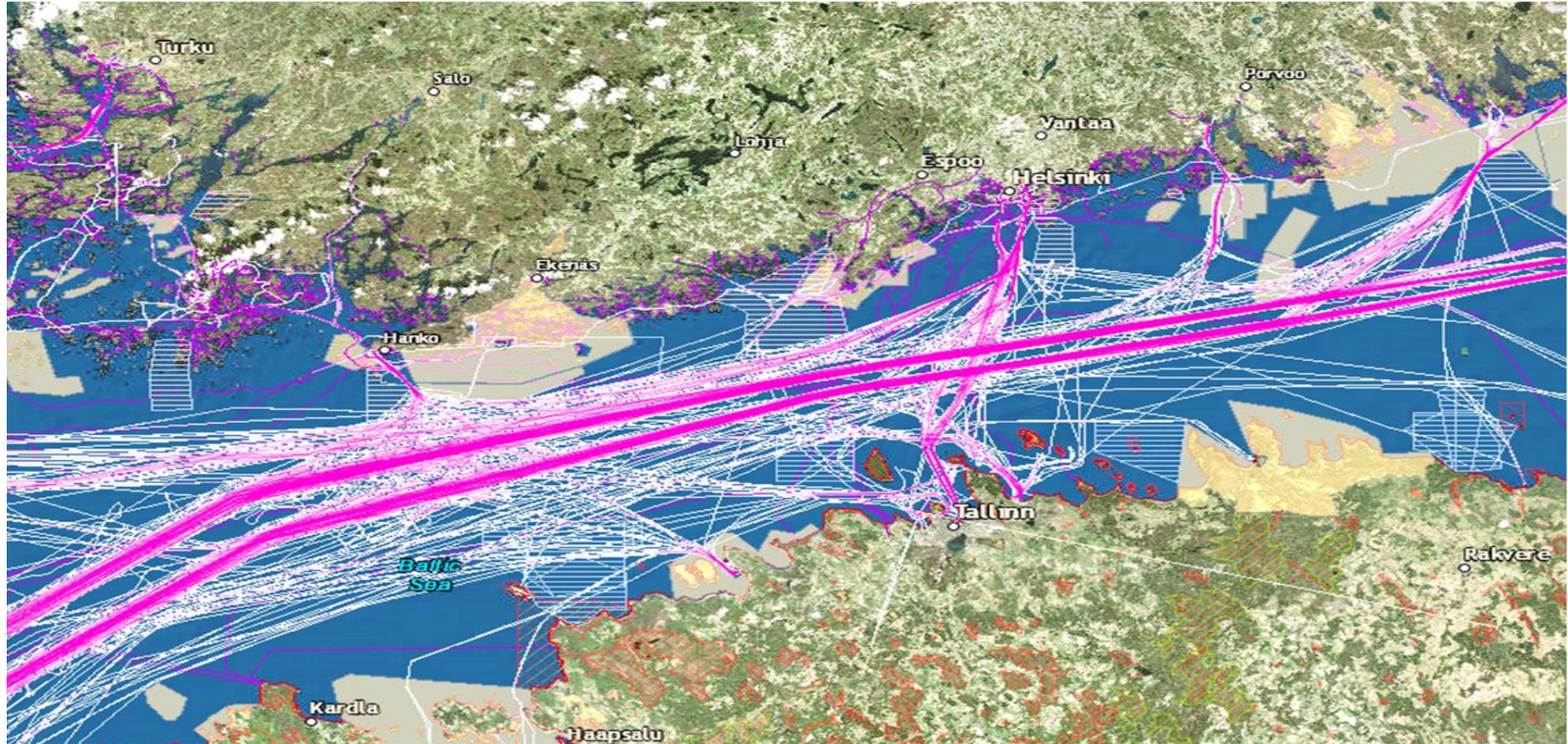
Sensitive environment



Heavy maritime traffic



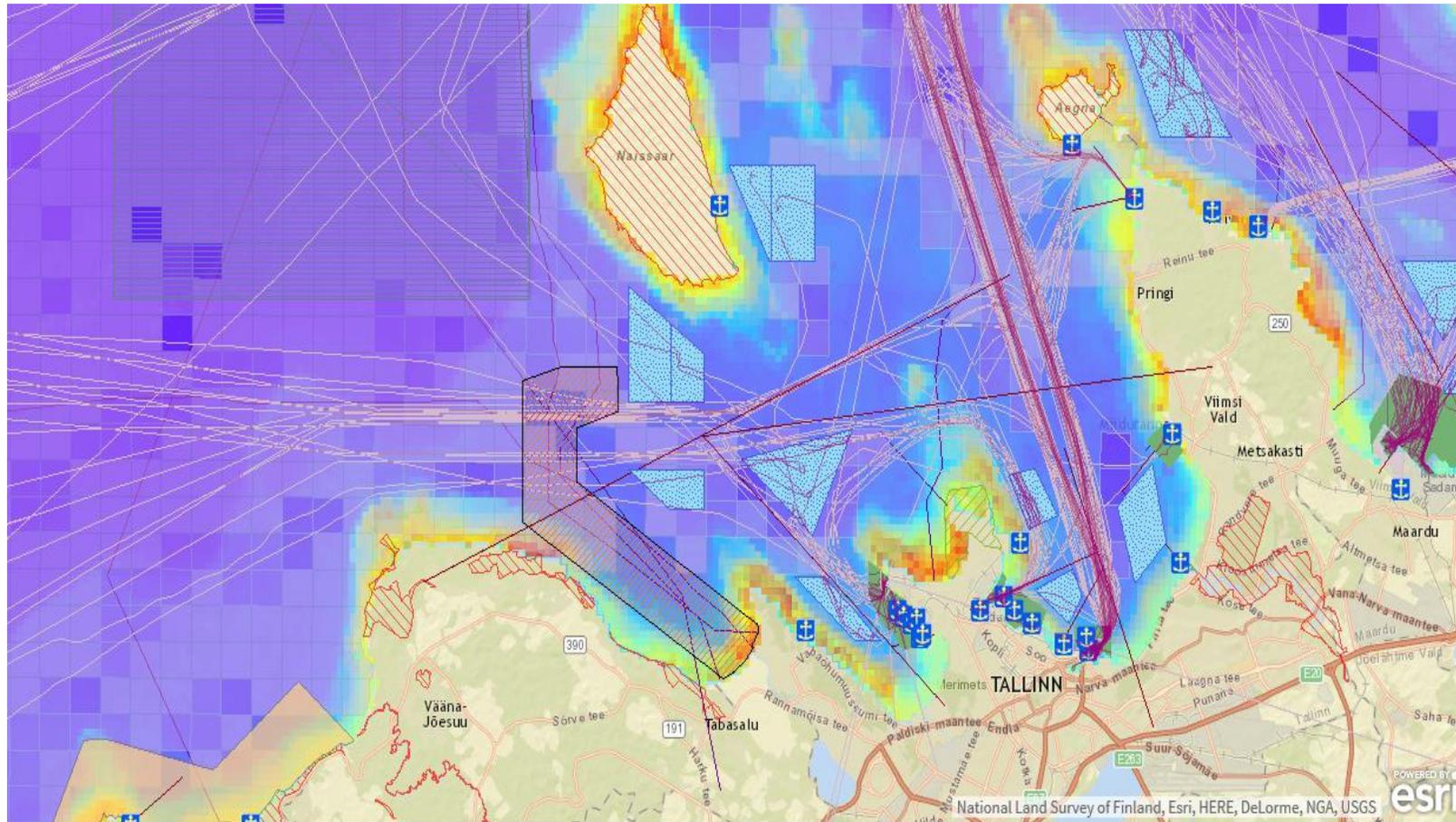
Multi-use of marine space



Transdisciplinarity

- Hirsch Hadorn et al., (2008) state that „transdisciplinary research is necessary **when knowledge** about a societally relevant problem field **is uncertain**, when the **concrete nature of problems is disputed**, and when **there is a great deal at stake for those concerned** by the problems and involved in investigating them“.
- According to Pohl & Hirsch Hadorn (2008) **transdisciplinary research** “grasp the complexity of problems, take into account the diversity of life-world and scientific perceptions of problems, link abstract and case-specific knowledge, and **develop knowledge and practices that promote what is perceived to be the common good.**”

Transdisciplinarity - complexity of problems



Transdisciplinarity and Mutual Learning

- Scholz (2000) argues that **transdisciplinarity** aspires to **make the change from research for society to research with society** while the **Mutual Learning** can be conceived of as **the adaptation process** inherent in interaction and joint problem solving between science and society.
- The overall driving force of the **Mutual Learning** is the involved people that are referred to as stakeholders, with an underlying meaning that they are experts in some form.
- **Mutual Learning extends the concept of stakeholders to involve more representatives from the life-world.**

Collaborative science-policy interface (SPI)

- Koetz et al. (2011) define the SPI as “...institutional arrangements that reflect cognitive models and provide normative structures, rights, rules and procedures that **define and enable the social practice of linking scientific and policymaking processes**. They assign roles to scientists, policy-makers, other relevant stakeholders and knowledge holders and help guide their interactions.”
- Authors state that **linear cognitive model of SPI** is based “...on belief in a clear distinction between “objective knowledge” and “subjective values” and **presumes politically neutral scientists “speak truth to power”** providing objective representations of reality, upon which decision makers take rational decisions subsequently implemented by administrators”.

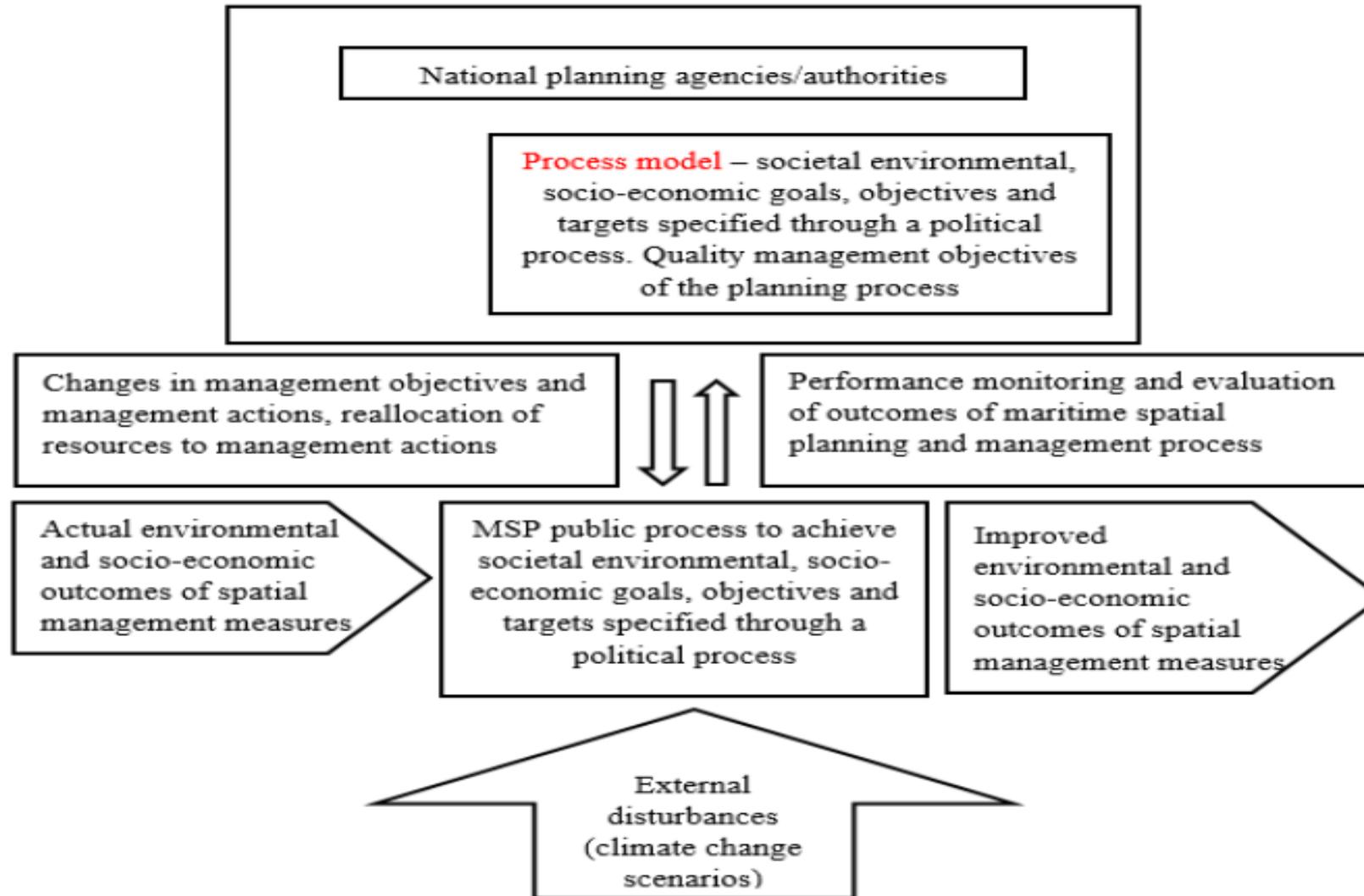
Alternatives to the linear model of SPI

- A number of **alternatives to the linear model of SPI** have emerged in recent years in a course of reassessing the interrelations of science and policy in the context of complexity and uncertainty.
- Koetz et al. (2011), referring to Pielke (2007), suggest that “...two features common to all SPI alternative models are:
 - (1) questioning the presumption that there is always a clear separation between facts and value and
 - (2) reference to some form of “stakeholder model” that presumes complex interrelations between science and policy and recommends deliberation, collaborative evaluations and critiques that reach across epistemic frameworks.

Participatory research

- Mackinson et al. (2011) define “... **participatory research as a means of active engagement**, and can be seen as an alternative cultural approach to doing science. It means individuals and organizations working together, with **both scientists and stakeholders being involved in all stages of the research planning and delivery**.”
- Participation may take a variety of forms and change over time depending on the situation and need.
- This can range from consultation to cooperation to collaboration, the level of participation being determined principally by scale and nature of the issues and the contribution that stakeholders are willing and able to do effectively”.

STAMP-Mar standard control loop based Maritime Spatial Planning process management system (Aps *et al.*, 2015)



MSP related transdisciplinary science

- The **MSP related transdisciplinary science** is focusing on the development of appropriate indicators and criteria that could be applied during the continuous evaluation of the MSP processes and outcomes. These indicators will be embedded into a „**process model**“ of the STAMP-Mar standard control loop, thus enabling continuous process monitoring and evaluation.
- Practical implementation of the STAMP-Mar concept enables planners and the stakeholders to **integrate the monitoring and evaluation functions directly into the actual maritime spatial planning processes.**
- The feedback stream of the standard control loop channels the available environmental and socio-economic information to the national planning agencies/authorities and the associated stakeholder groups.

The Vision



Acknowledgements

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Thank you very much for your attention!