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# Baltic Sea Basin Checkpoint Breakout session summary

Jun She, Erik Buch and Jens Murawski

**http://www.emodnet.eu**

# Comments for improvements

- **Web portal: the dynamic portal is highly appreciated. It's a demo portal for the moment but users would like to see a service portal with potential improvements:**
  - More information on metadata, eg, methodology.
  - New functions:
    - ✓ Dynamic feedback
    - ✓ authorship of the data, the possibility for easy updates of the data and the adding of new data during the project and after the project has ended.
    - ✓ Sectorial page: which can connect all the different data themes and products for serving the given sector.
    - ✓ Analysis function: Information about the impacts of changing one parameter onto all the other parameters can be provided.
    - ✓ Show the overlap of territorial waters and economic zones on the data portal and on EMODnet Human Activity web side.
  - The data portal is a very useful tool to turn open data into open science, i.e. knowledge generation on basis of open data.

# Comments on data requirements and gaps

- **Topography data gaps in the shallow, near-coastal (white) zone**

- **Data accessibility to be improved by integrating data policy issues**
  - high resolution topography data provision prohibited by military interests,
  - high resolution fishery data limited by data policy,
  - availability of company data due to private data policy.

- **To address monitoring gaps due to**
  - shallowness of its waters, sills
  - the low salinity, inter-subbasin transport
  - occurrence of sea ice.
  - It is recommended to collect all experiences of high frequency (HF) measurements in the Baltic Sea.

# Comments for future challenges

- **Marine Spatial Planning**
  - Marine spatial planning uses a large amount of data, need to handle issues of high resolution, cross-boarder impacts, multi-sectorial planning identified problems. Adaptive planning will need most updated data. This makes MSP a special challenge area of marine data use. This is currently missing. A combination of modelling and monitoring is especially useful in such a case.
  - large data gaps have been identified when dealing with habitat maps outside of the territorial waters (12 miles). Working groups have urged scientists to improve the knowledge about habitats or to improve the methods of extrapolating data. The available data is very patchy.
  - Data availability and visibility for maritime spatial planning depends on the national level and varies from country to country. In general the situation is good, but could be improved. Data gaps in the near coastal zone, tourism data sets. There is a lack of governance of scientific data.

# Comments for future challenges

- ◉ **Spatial ecology and fisheries**
    - ■ Abrupt changes of the fishery in Baltic Sea have been identified which will have a significant impact on the fishery management. Relate fishery change with significant physical factors e.g., inflow and climate change, are important in explaining the phenomenon.
    - ■ New data is available about the spatial distribution and the ecology of fish: cod, sprat, herring. The accessibility is data policy related
    - ■ The requirements for Fishery data seems to be very much user dependent. In-depth user practices should be used to illustrate more data needs.

- ◉ **Geology**
    - ■ The highly dynamical coastal zone is lacking data. The offshore is well covered. High resolution data for topography and grain size distribution are needed for sediment transport evaluations, sand budgets and coastal vulnerability sturdies, especially for climate studies that include the effect of sea level rise. It is important to get a better knowledge of coastal erosion and the input of fine grain sediments.  National initiatives in Sweden, Denmark and other countries exist, that cover only a few examples. The data is rather sparse and costly to generate.

- ◉ **Chemistry**
    - ■ Data adequacy for ocean acidification should be assessed
    - ■ Sea Data Cloud will improve the data retrieval from EMODnet
    - ■ Recommendation:  The delay time with which collected and quality controlled data is provided should be reduced using automatic procedures.

# Comments for future challenges

- **Quantitative assessment and design of observing system linging to operational oceanography:**
  - to use OSSEs/OSEs for the development of a coherent measuring strategy that should cover open seas and shallow water alike. Furthermore, an integrated monitoring approach should combine offline and delayed mode data from HELCOM, ICES (by speed up delivery) with operational data (modelling, observations) from CMEMS, for example.

- **New challenges:**
  - adequacy of under water noise data.
  - Adequacy of marine pollutant data
  - Adequacy of air pollution deposition data

- **Private data collection: geological survey data:**
  - private data is collected and made available after some while(5y). The upload system should be easy. The private companies should learn about the benefits of providing their data, i.e. build-up of large data bases

# Summaries

- **There are significant user interests to further develop current demo portal into a dedicated service portal**

- **There exist gaps in dynamic, shallow water zone (<20m) for bathymetry, sediment, currents etc.**

- **Data policy should be an integrated part in Checkpoint assessment for data related to military and commercial interests (eg, bathymetry, fishery and private data)**

- **Adaptive, autonomous high resolution monitoring tools are effective supplementary to improve current monitoring system. Optimal strategy can be reached by combining monitoring and modelling with OSSEs/OSEs**

- **New challenges are recommended:**
  - Marine Spatial Planning
  - More in-depth definition of some of the existing challenges, eg fishery, will reveal more data needs
  - Data adequacy for ocean acidification
  - Data adequacy for operational forecasting
  - Adequacy of under water noise data.
  - Adequacy of marine pollutant data
  - Adequacy of air pollution deposition data

- **Private data collection**