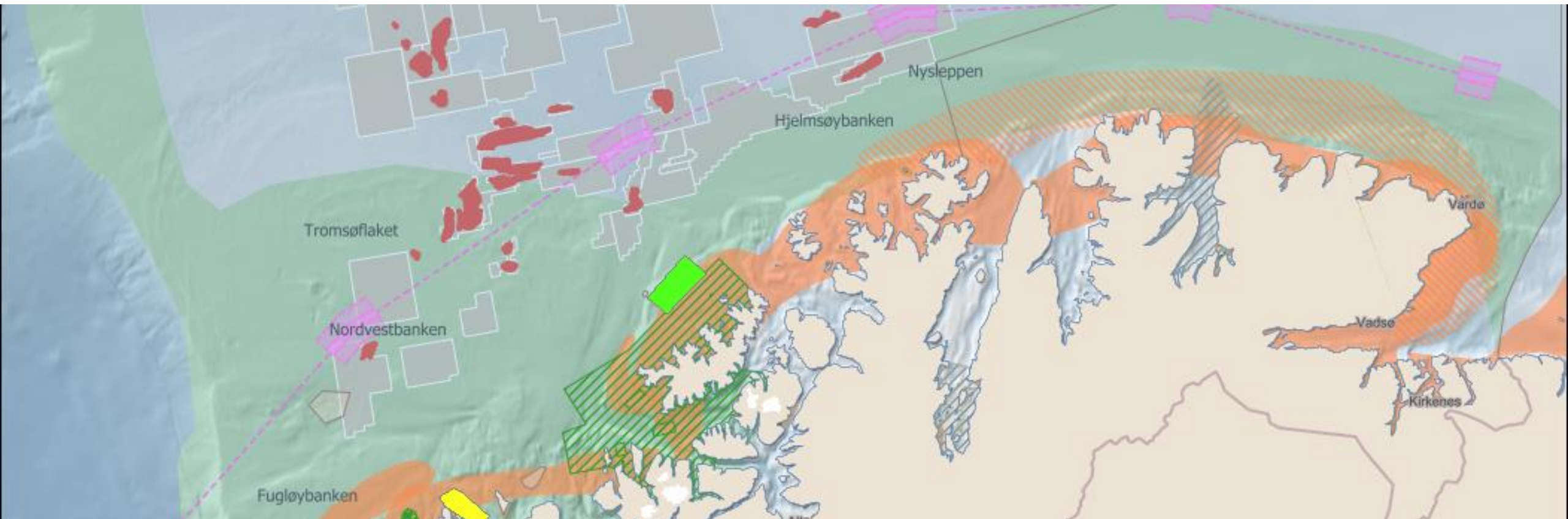




Kartverket

# Marine Spatial Management Tool



# Marine Spatial Management Tool

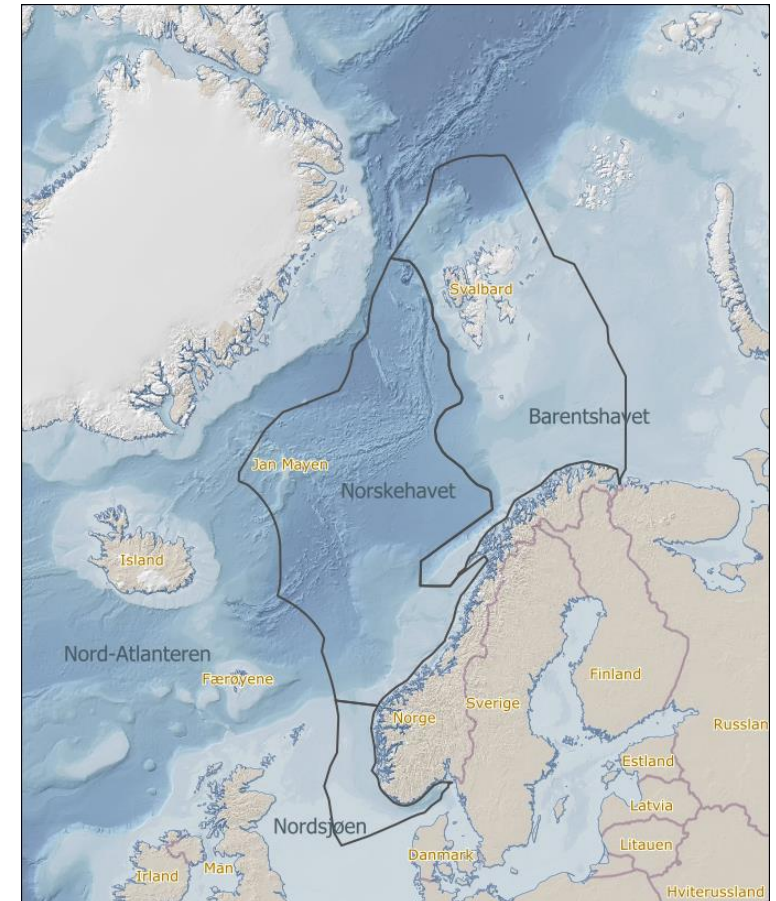
*Support the marine spatial planning process with updated and reliable geospatial information*

Marine management is important to Norway with extensive ocean areas which are very rich in resources

The purpose of the management plans is to facilitate value creation while also maintaining natural diversity

The Ministry of Climate and Environment is responsible and leads an intergovernmental Steering Committee that has representation from all the ministries that work with issues relating to these marine areas

The foundation is an extensive collaboration, both between expert groups and between ministries



The Norwegian Government has developed integrated marine management plans for all Norwegian sea areas

# Marine Spatial Management Tool

*A cross-sectoral development project through an intergovernmental cooperation*

A governmental initiative based on the need for a more coherent and uniform geospatial information content, suitable for underpinning tasks attached to marine spatial planning and marine management

- More effective updates of the management plans
- Better overview over political decisions and actions related to marine management
- Contribute to more transparency, openness and increased involvement from the stakeholders



# Marine Spatial Management Tool

*Examples of building thematic maps*

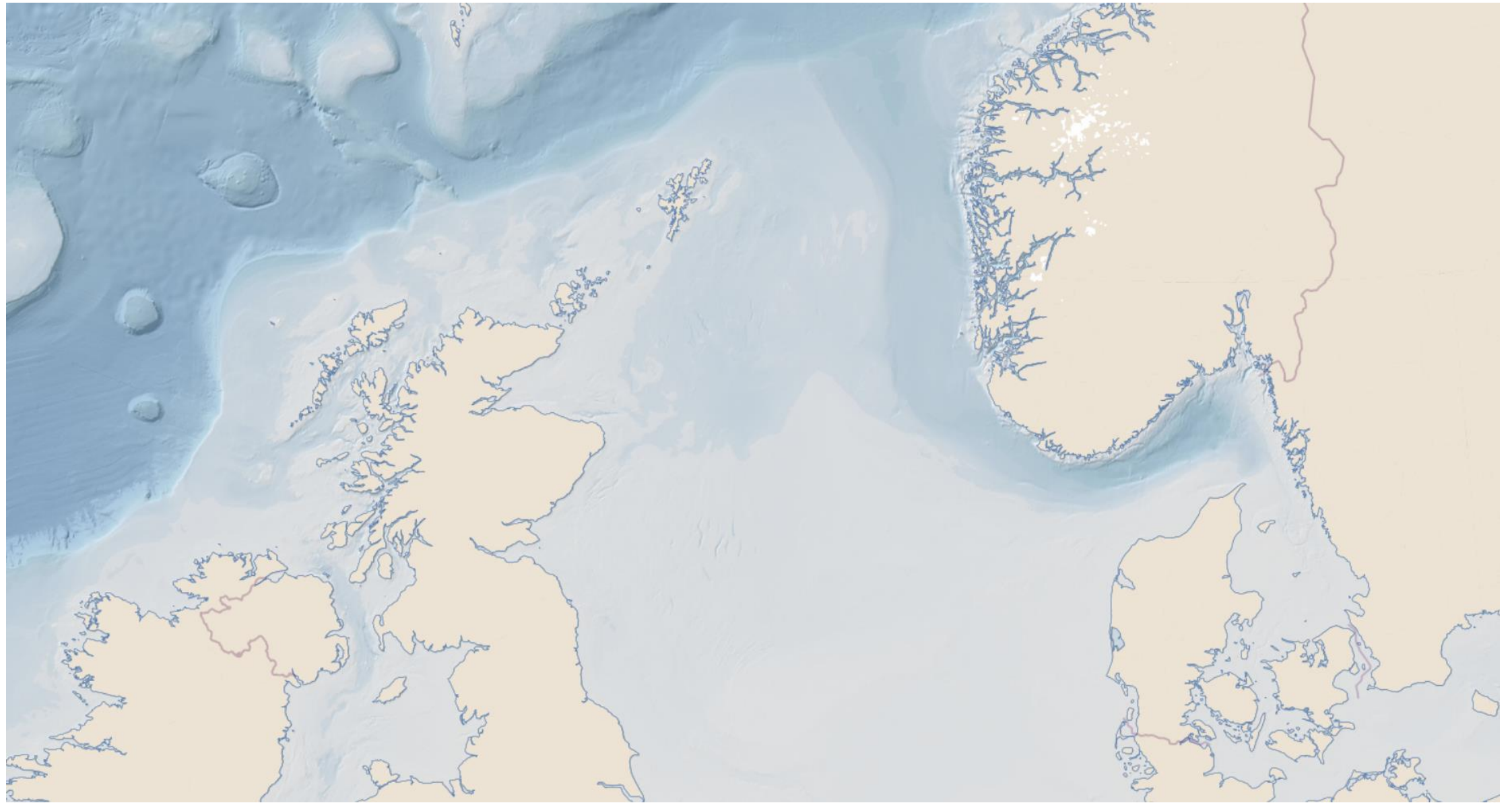
Status at the moment:

- 30 main categories of thematic data available through corresponding geospatial services
- 11 governmental agencies serving their respective thematic datasets and geospatial services

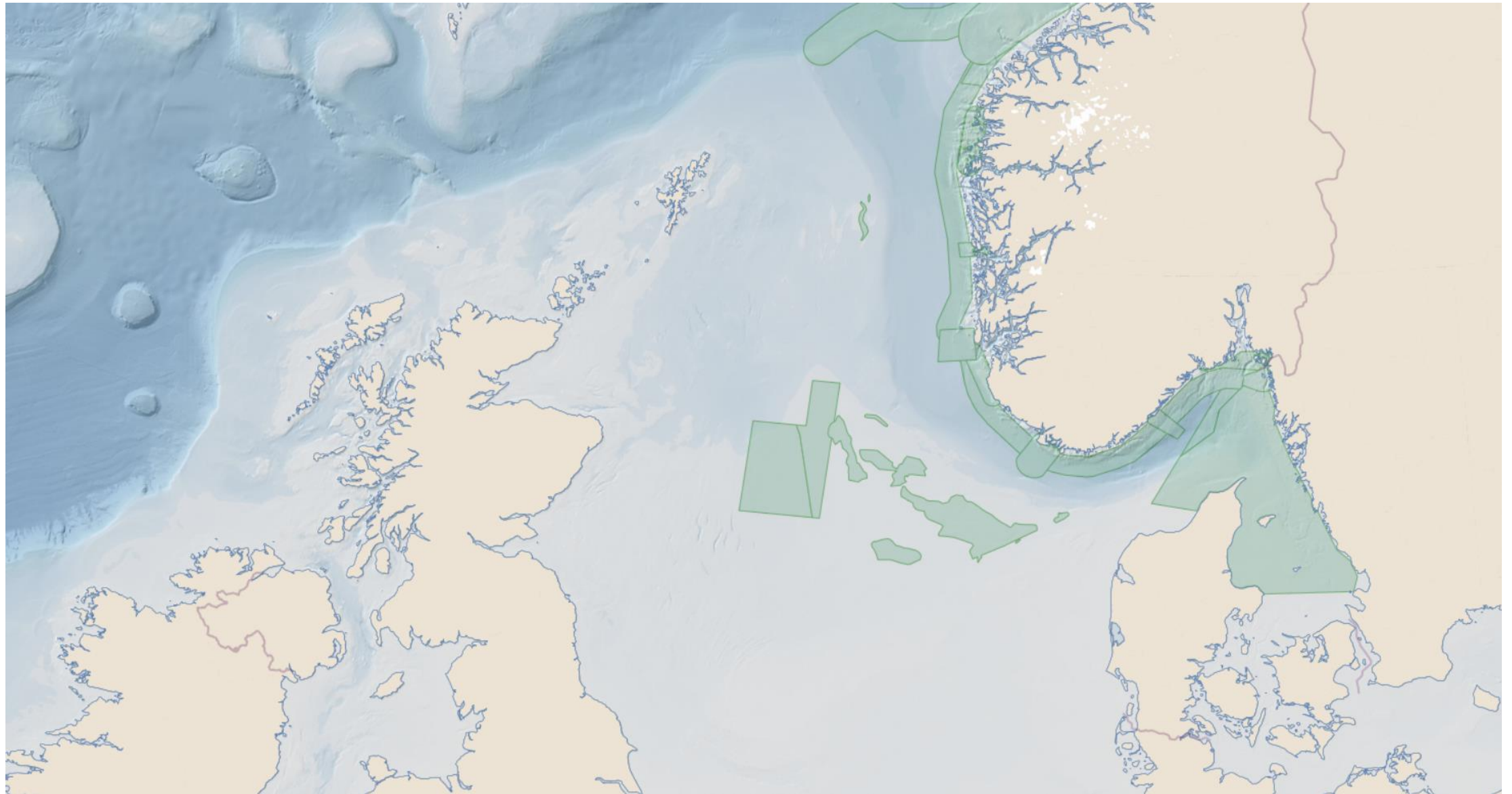
# Base map



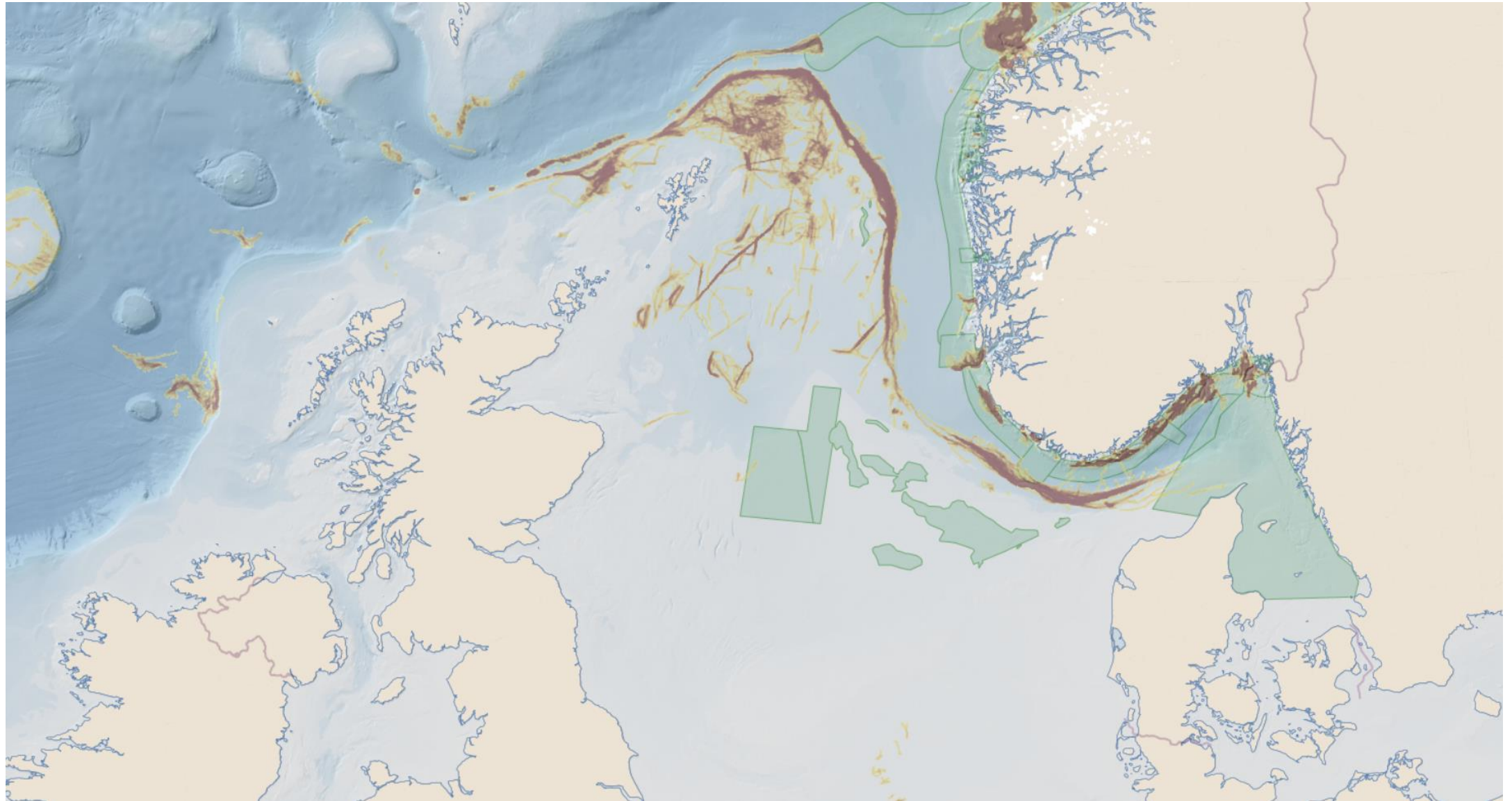
# Base map (+ bathymetry)



Particularly valuable marine areas  + Base map 

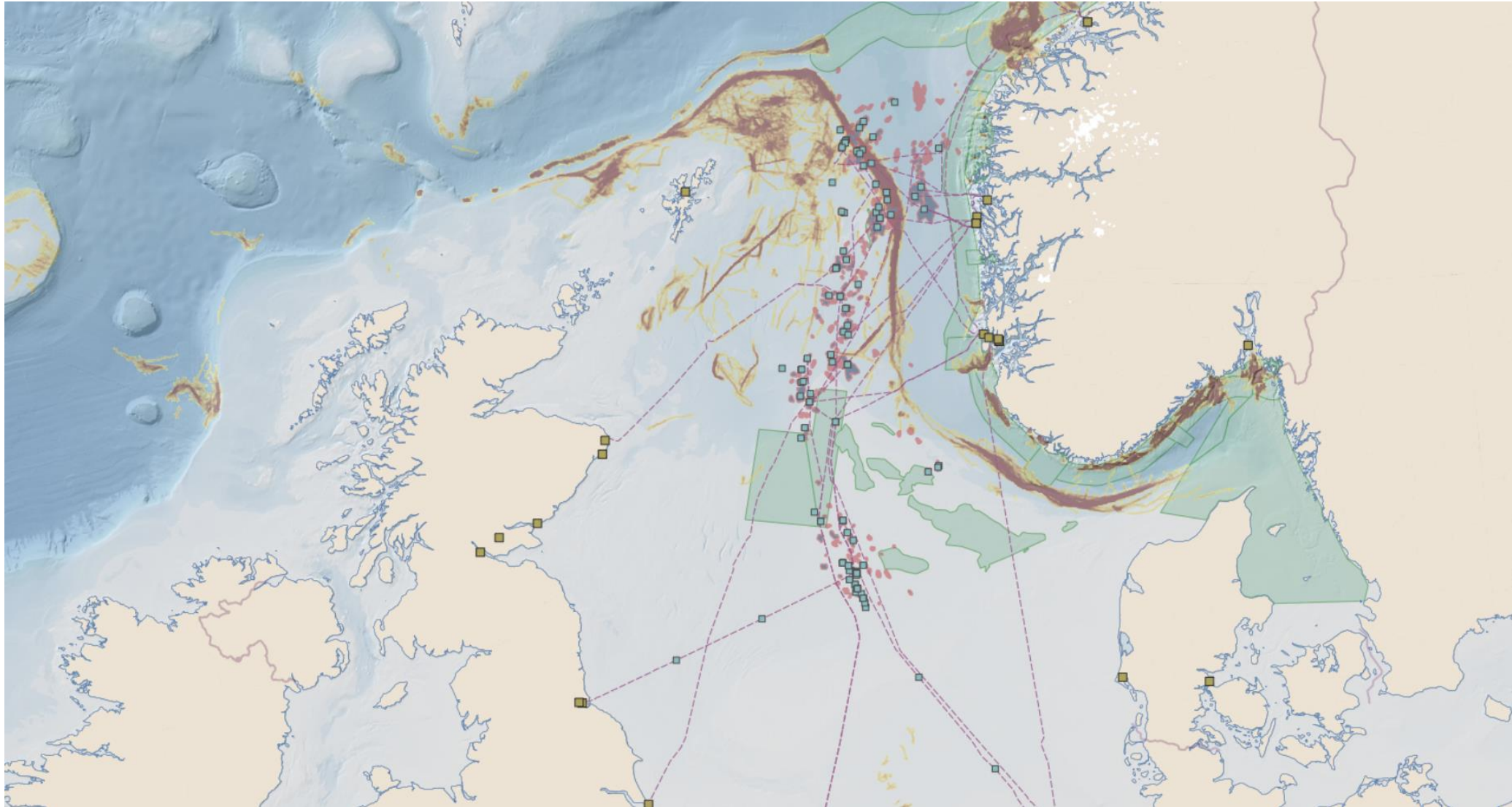


Commercial fishing  + Valuable marine areas  +  
Base map 

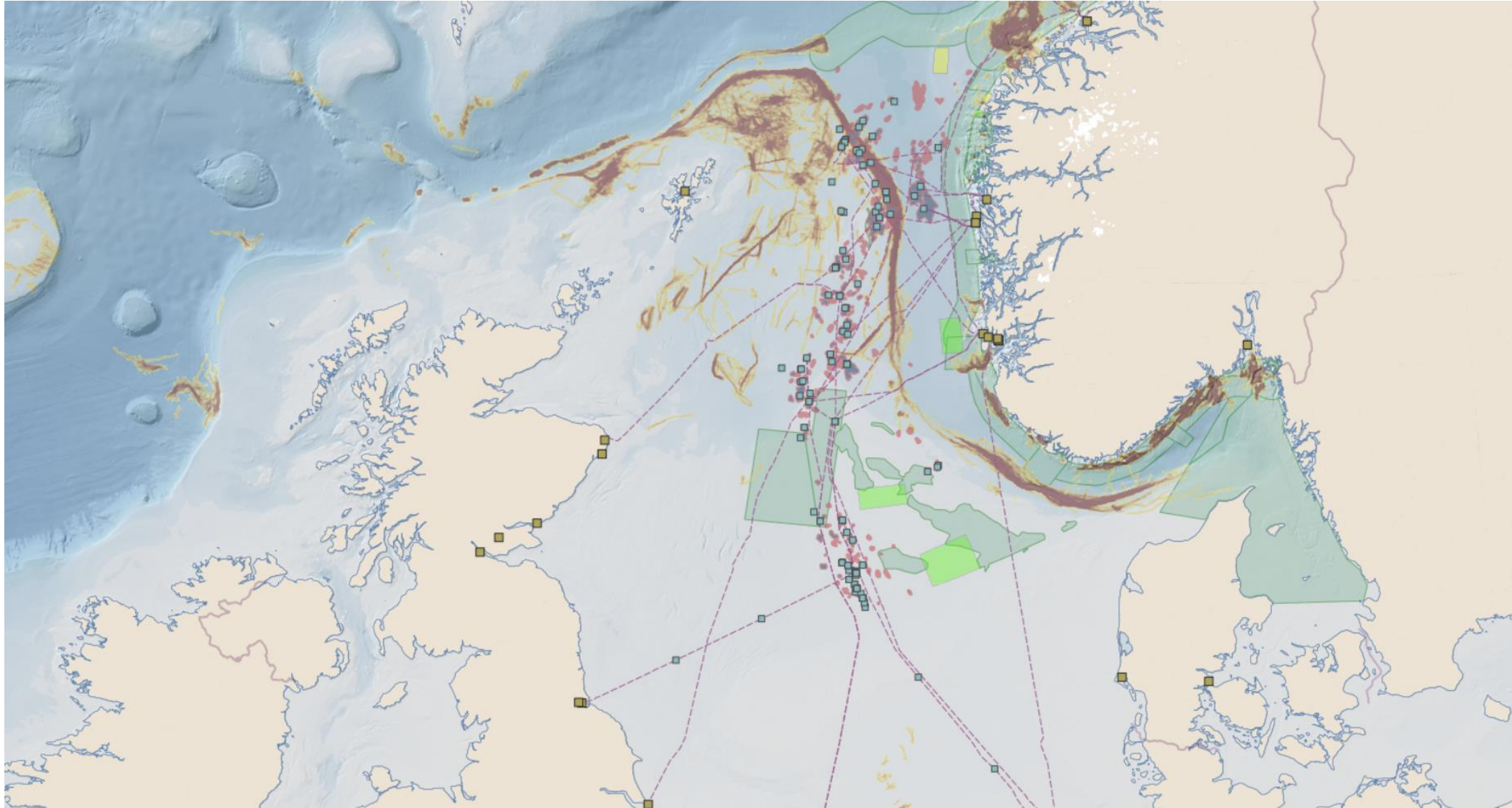




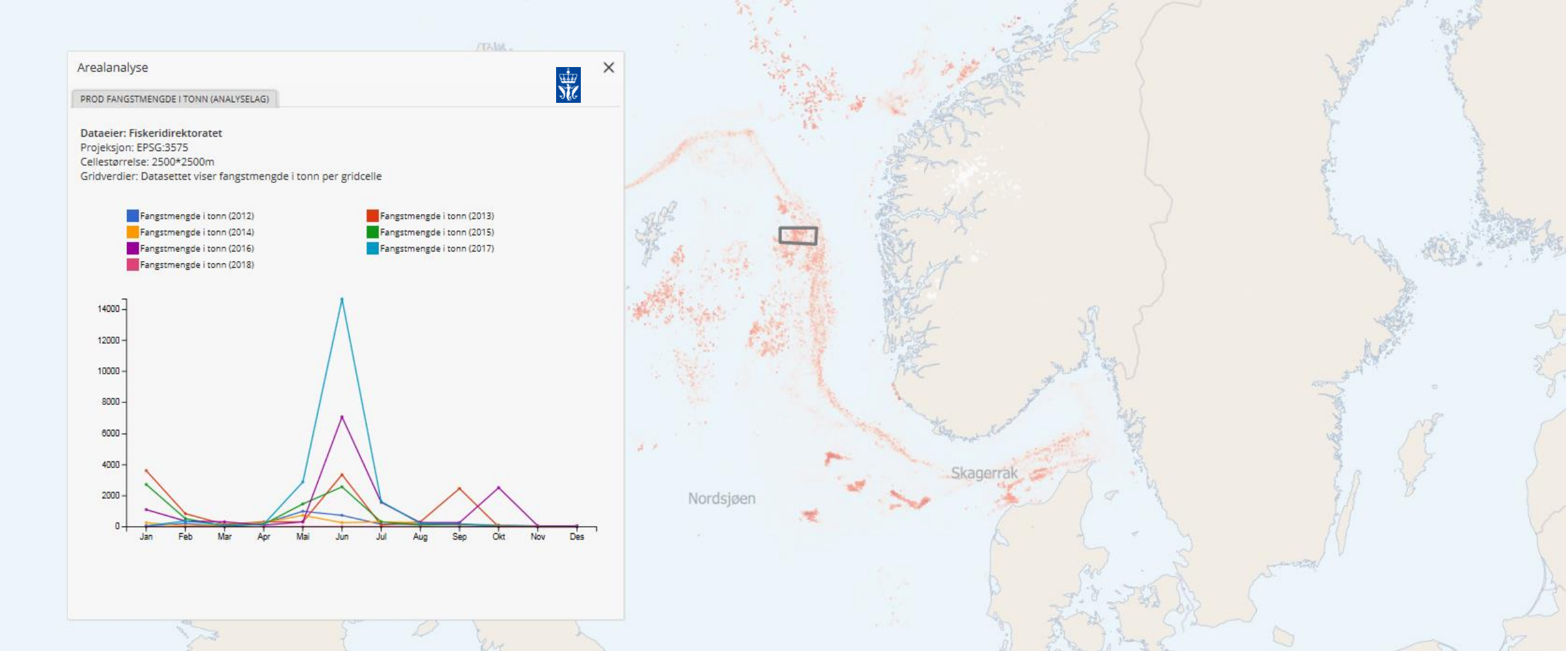
**Petroleum activity**  + **Commercial fishing**  +  
**Valuable marine areas**  + **Base map** 



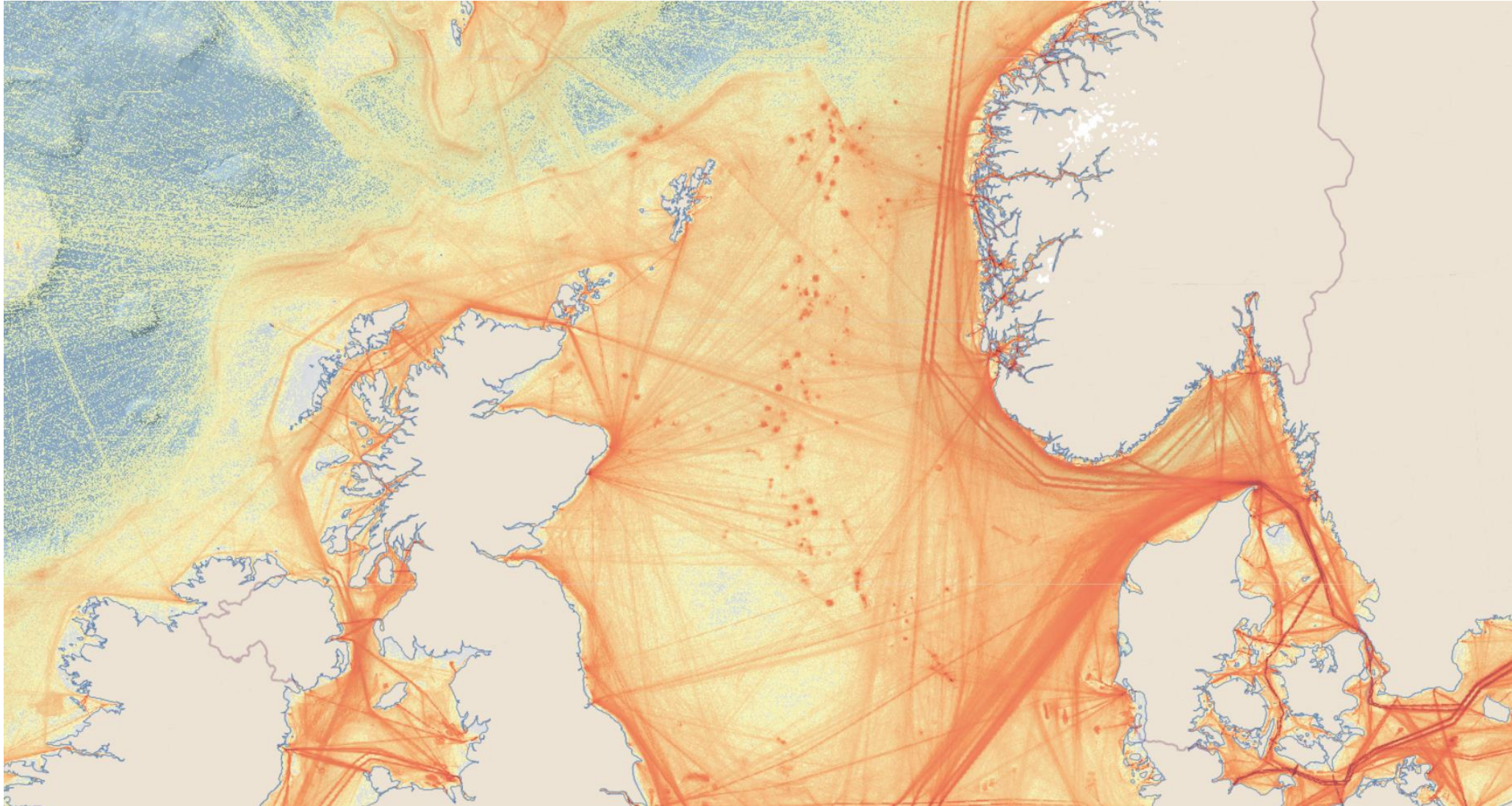
**Offshore wind farm assessments**  + **Petroleum activities**  + **Commercial fishing**  + **Valuable marine areas**  + **Base map** 



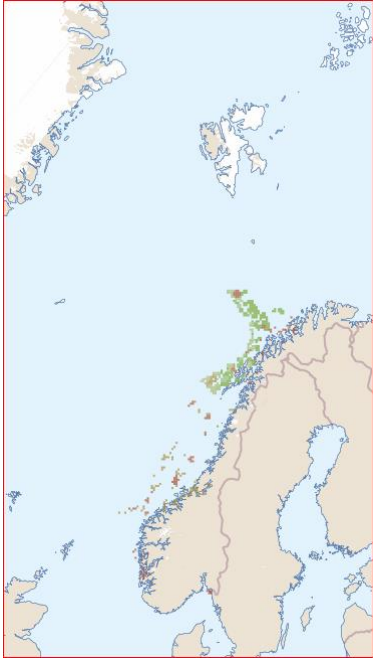
# Geospatial statistics



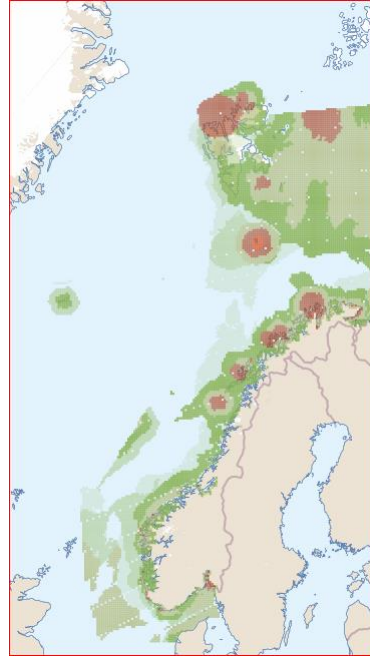
# Ship traffic density



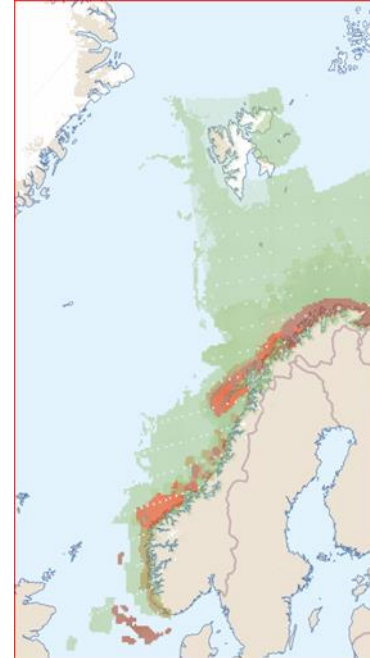
# Environmental values in marine areas



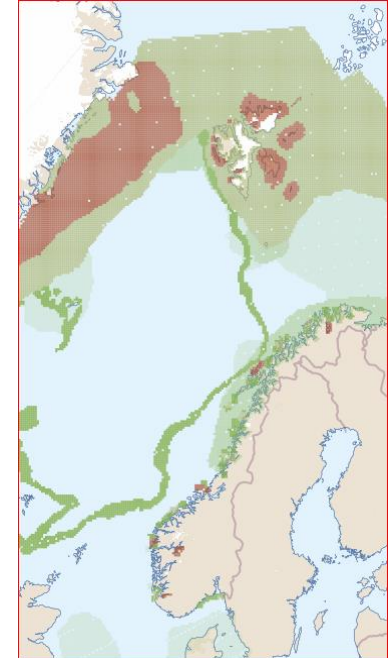
Environmental value benthic organisms/habitats



Environmental value seabirds



Environmental value fish



Environmental value marine mammals

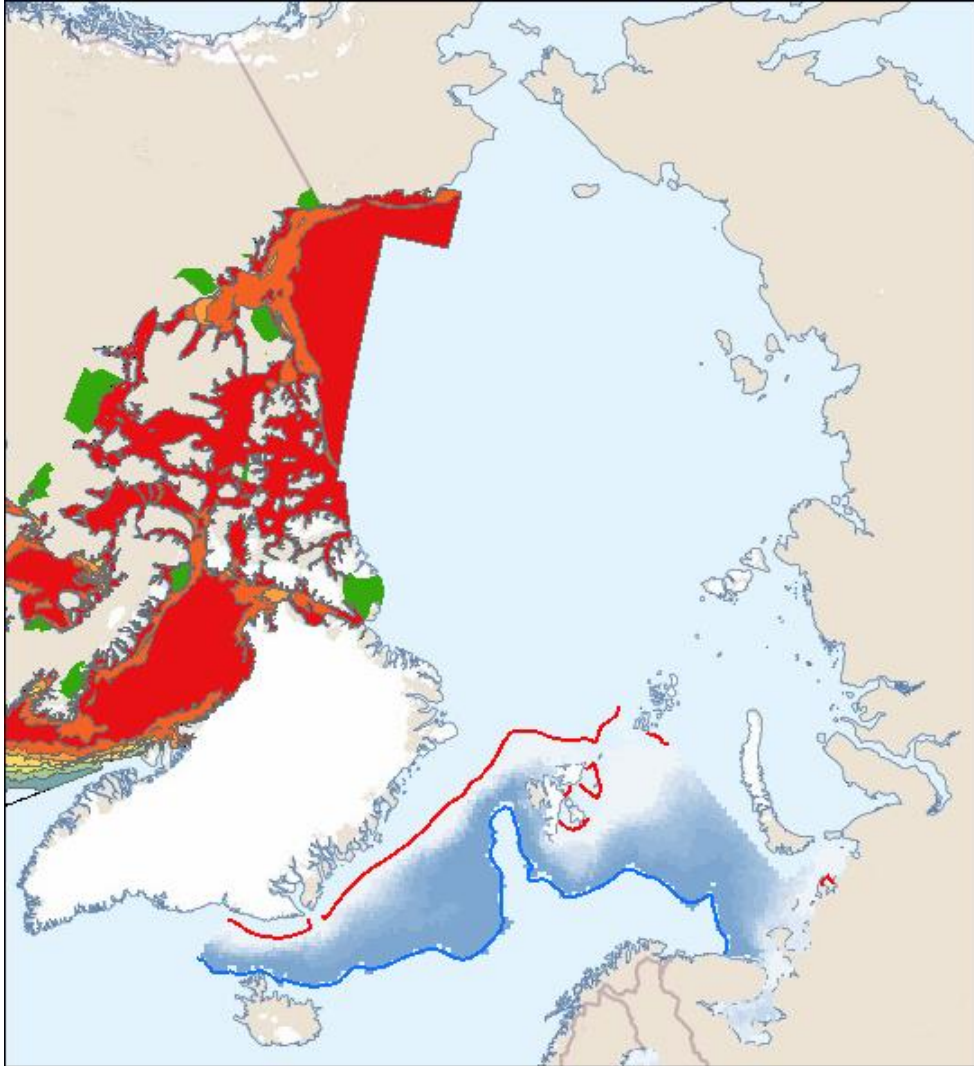
# Marine Spatial Management Tool

*Examples of making use of other countries geospatial services*

It's relatively easy to make use of other countries geospatial services if the services are discoverable, well documented (metadata), and effort has been made in standardization and harmonization through dialogue with end-users and data providers.

There is work to be done within supported attributes, associated data, and cartographic rules for unified presentations

# Re-use of national geospatial services in an international setting



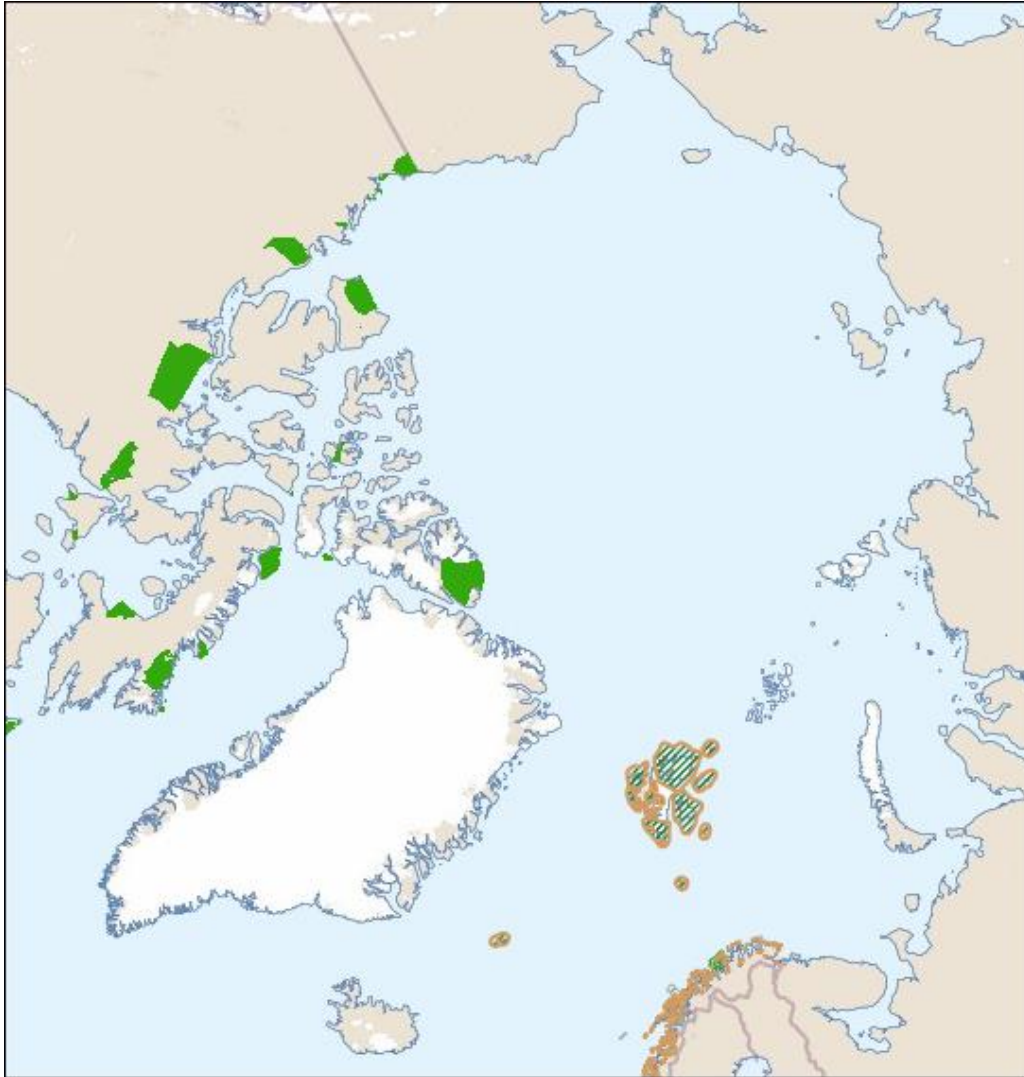
Standard OGC services ensures easy access and re-use of geospatial information

On-line (direct) use of geospatial data and services from each countries governmental agencies, ensures utilization of authoritative data

Cartographic challenges for further improvements to achieve unified presentations within common thematics, seamless across borders

Example: Ice frequencies

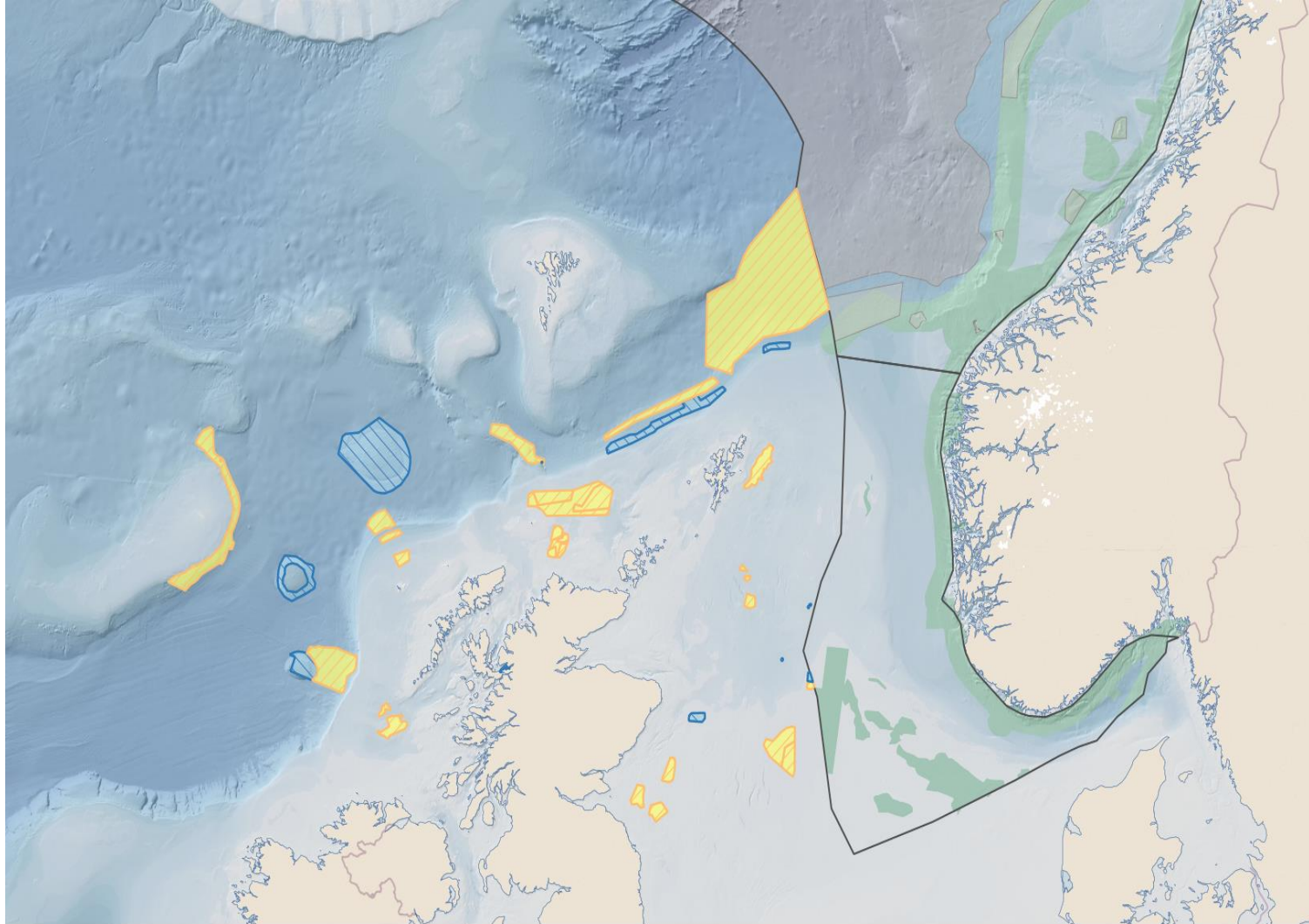
# Re-use of national geospatial services in an international setting



Example: Marine protected areas

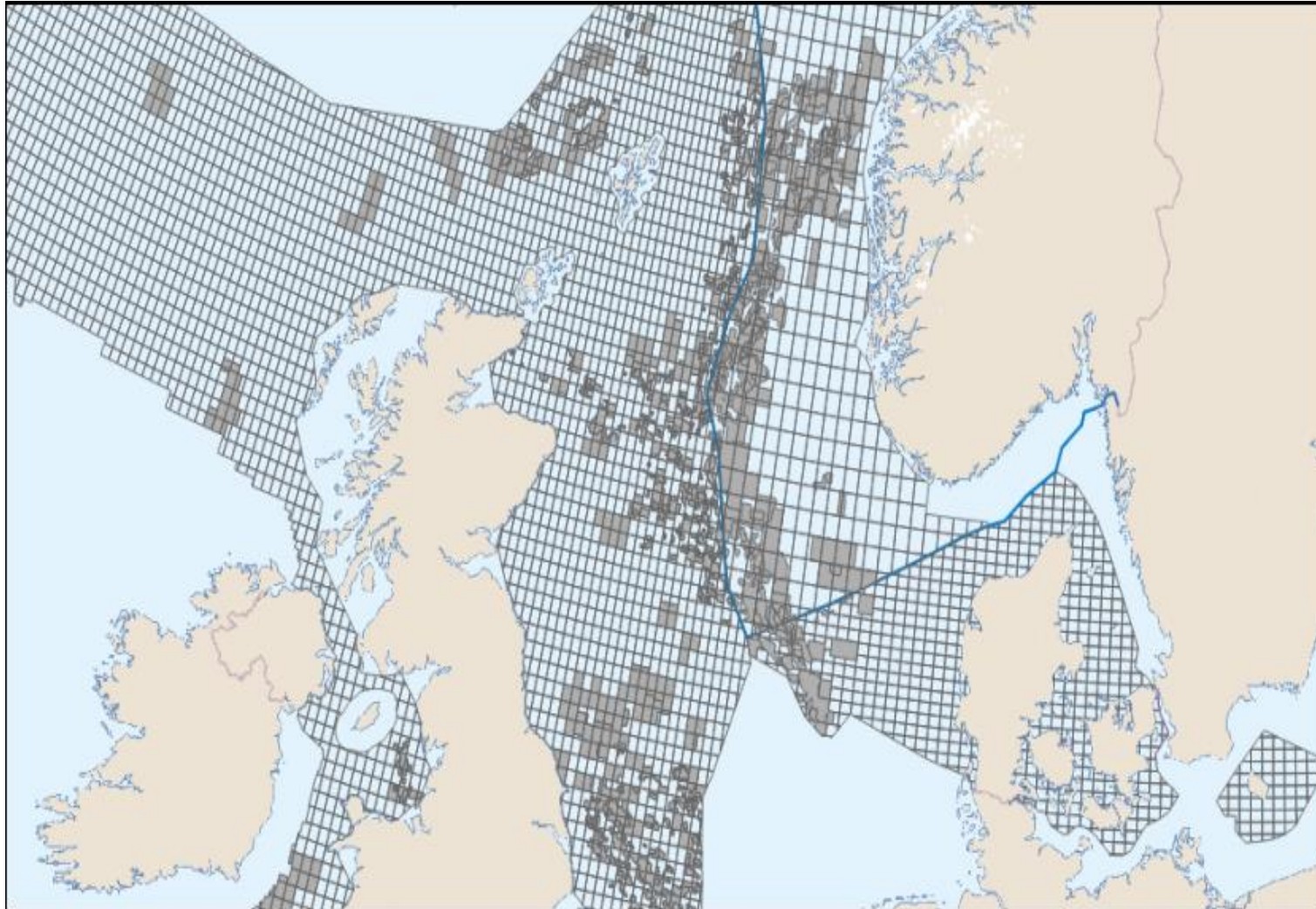


# Re-use of national geospatial services in an international setting



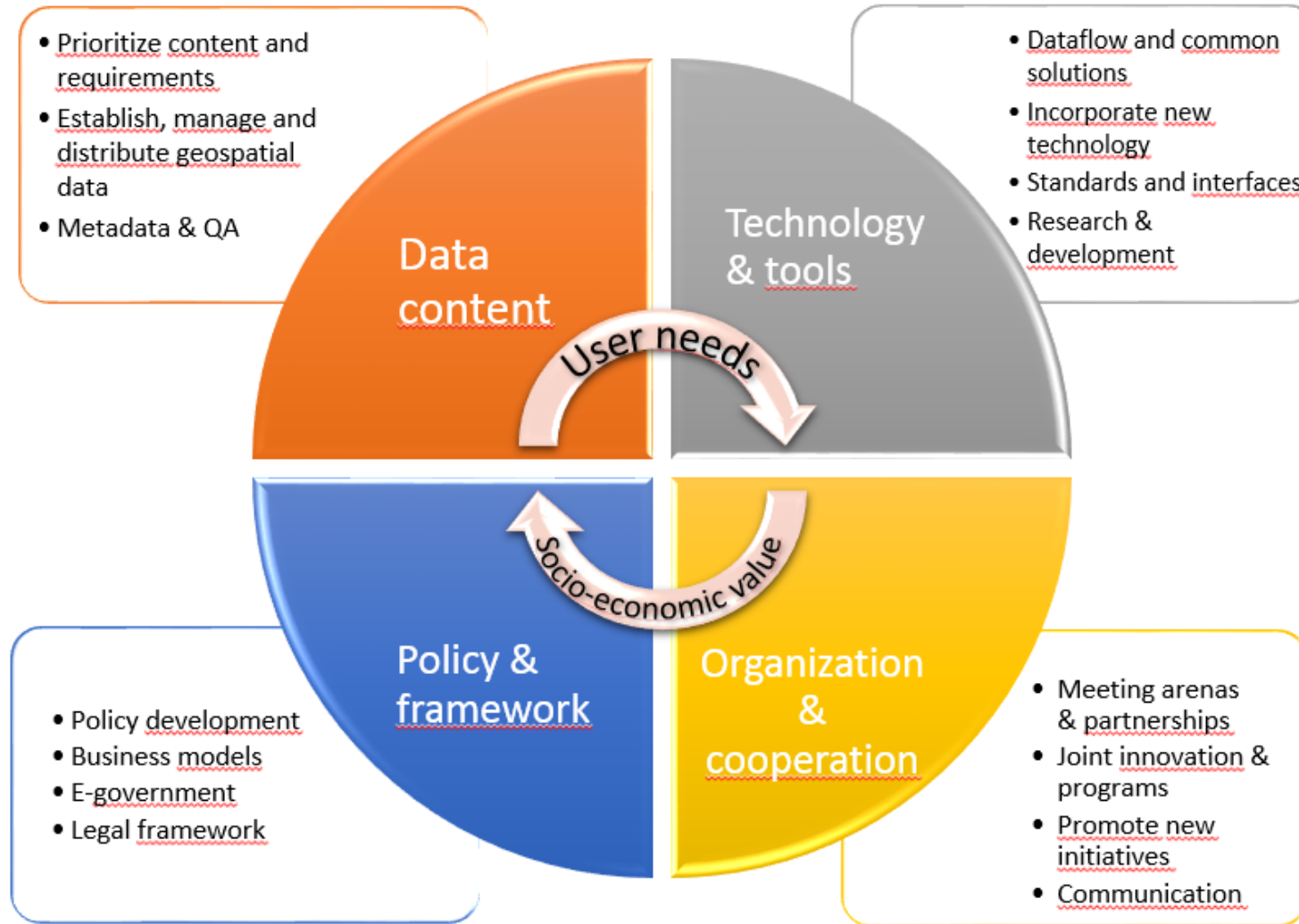
Examples from assembling marine regulations in UK and Norway

# Re-use of national geospatial services in an international setting



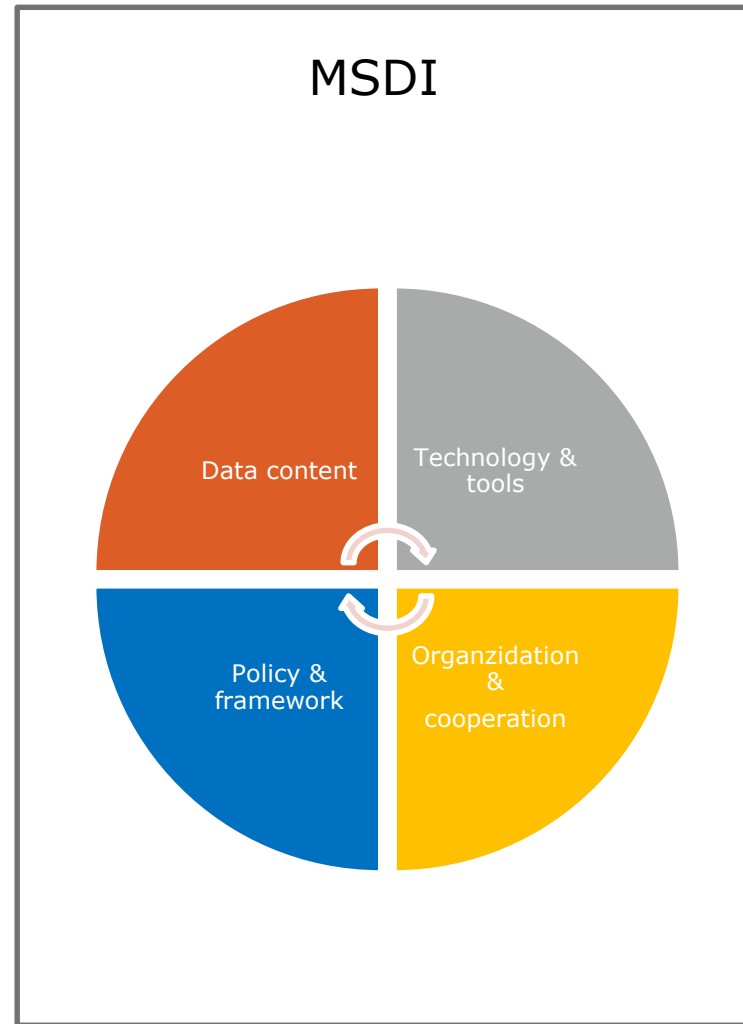
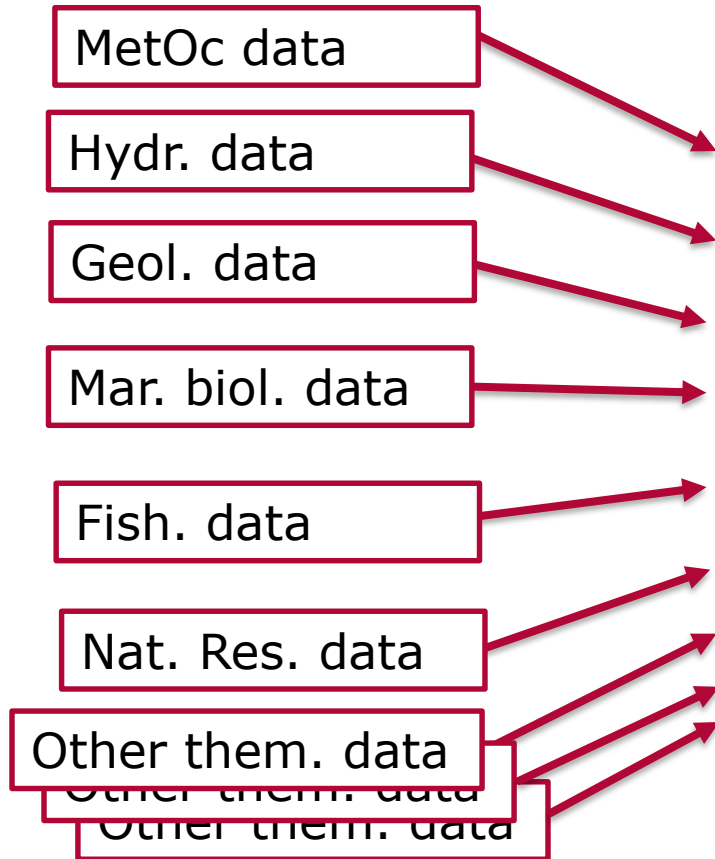
Assembling the licencing system in the North Sea continental shelf through national geospatial datasets (Norway, UK, Denmark)

# National Spatial Data Infrastructure

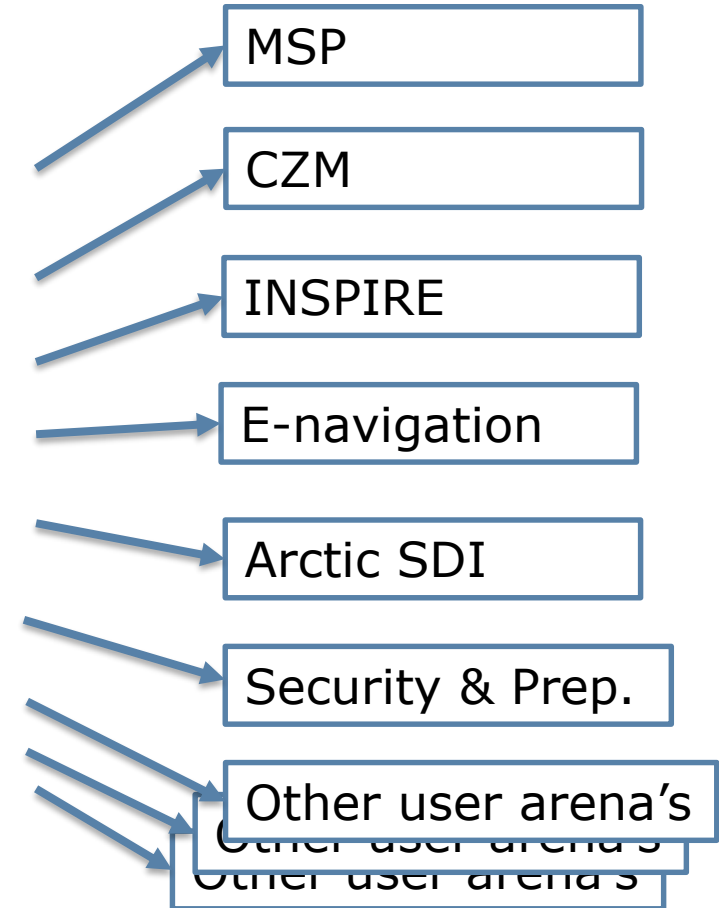


# Opportunity and/or threat to HO's

(Auth) Data providers



User arena's



# MSDI

- What future role for HO's
- Future of S-100 / OGC / ESRI