



65th Nordic Hydrographic Commission Meeting

26 - 27 April 2022

Stavanger, Norway

C.4

Status of the OGC pilot project about S-122 (Marine protected areas)





The Baltic- and North Sea as a S-100 testbed - S -122. Marine protected areas

At the BSHC 25 meeting it was agreed that the BS-NSMSDIWG should investigate how the BSHC and NSHC could work with S-122 and if it was possible and desirable to establish a pilot project with the North Sea and Baltic Sea as an S-122 testbed.

Why is this important - MSDI

- A regional MSDI must be built on a foundation of binding legislation within member states and treaties agreeing boundaries between them.
- Many MSDI activities partition human activity in the marine space
 - Marine Spatial Planning
 - Environmental agreements
 - Fishing Zones
 - Marine Cadastre
 - Energy Production
 - Maritime transport routes and traffic flows,
 - Military training areas,
 - Marine protected areas,
 - Scientific research,
 - Submarine cable and pipeline routes,
 - Tourism,
 - Underwater cultural heritage
- These activities ALL use Maritime Limits and Boundaries features as the foundation for their legal and spatial extents.
- S-121 provides a standard to hold and exchange this data

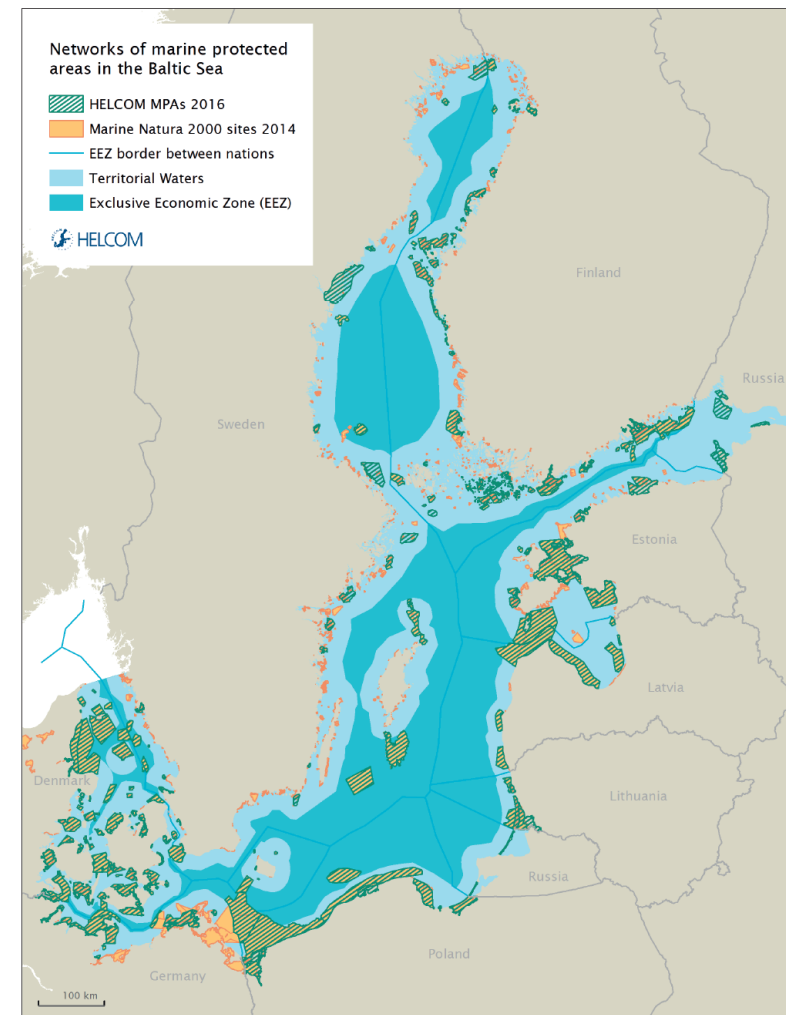


Figure 2. Overlap of the marine Natura 2000 sites and the HELCOM MPAs in the Baltic Sea.





The Baltic- and North Sea as a S-100 testbed

S -122. Marine protected areas

Phase 1:

Data about Marine Protected Areas (MSP) is available but not in a S-122 format.

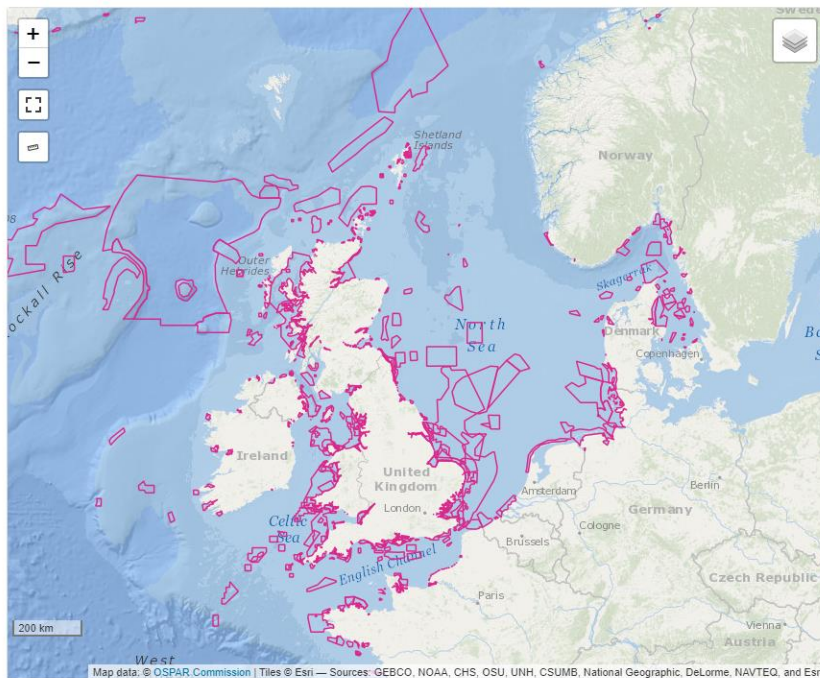
Is it possible to download and convert MSP data to S-122?

OSPAR Marine Protected Areas Network

Viewing latest version: 001

16 July 2021

Marine Protected Areas (MPA) Network. These data are presented as a live feed from the MPA Web Feature Service <http://mpa.ospar.org/>



Submission Data
Datastream: Marine Protected Areas Network
Dataset: Marine Protected Areas Network
Committee: BDC
Organisation: OSPAR Commission
Data Theme: Biological Diversity and Ecosystems
Version Comment: Initial submission
Legend
OSPAR Marine Protected Areas
Maps using this Layer (1)
Embed or share this Submission
Download as Image - WMS
Download as Data - WFS
Data Attributes

Maps





The Baltic- and North Sea as a S-100 testbed

S -122. Marine protected areas

Phase 2:

Is the MSP data fit for a S-122 conversion and what are the challenges?

OSPAR Marine Protected Areas Network

Viewing latest version: 001 ▾

16 July 2021

Marine Protected Areas (MPA) Network. These data are presented as a live feed from the MPA Web Feature Service <http://mpa.ospar.org/>

Feature: ospar_mpa_2021_07_001.263

- gid: 1862
- wdpa_id: 555557161
- wdpa_pid: 555557161
- name: SKAGENS GREN OG SKAGERRAK
- orig_name: Skagens Gren og Skagerrak
- country: DNK
- name_desig: SKAGENS GREN OG SKAGERRAK - Marine protected area (OSPAR)
- country_de: DNK_Marine protected area (OSPAR)
- desig: Marine protected area (OSPAR)
- desig_eng: Marine protected area (OSPAR)
- desig_fra: Zone marine protégée de la convention OSPAR
- desig_esp: Area marina protegida (OSPAR)
- desigprt: Area marinha protegida OSPAR
- desig_type: international
- iucn_cat: Not applicable
- marine: 1
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- calc_area: 2688.78
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- status: Designated
- status_yr: 2009
- gnr_car_ma: Environmental Protection Agency
- gnr_car_1: www.mst.dk
- gov_organe: 2
- gov_nation: 2
- gov_intern: 2

Submission Data

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OSPAR Marine Protected Areas

Maps using this Layer (1) ▾

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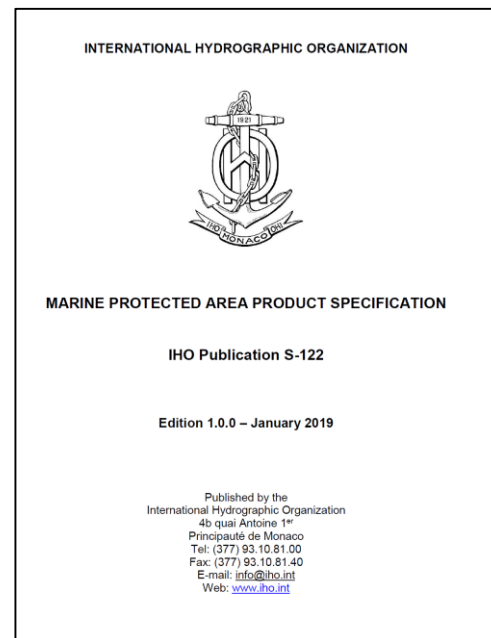
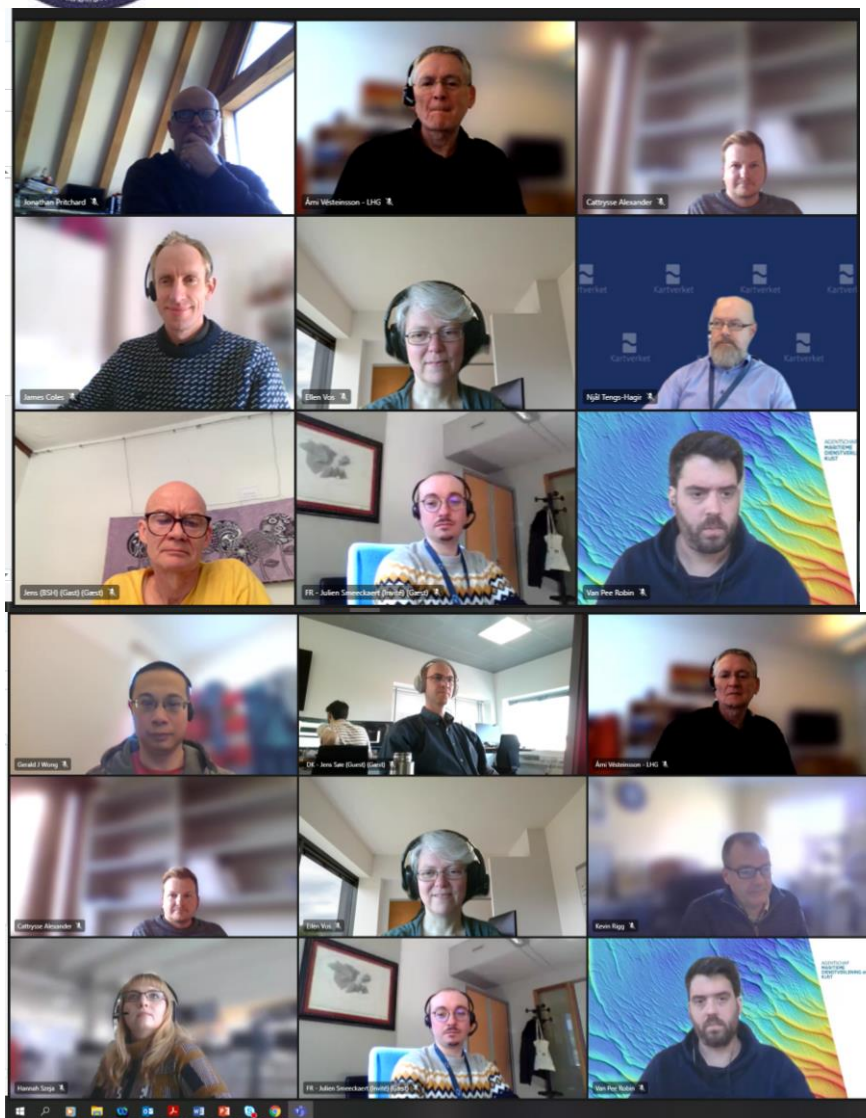
Data Attributes ▾

Map data: © OSPAR Commission | Tiles © Esri — Sources: GEBCO, NOAA, CHS, OSU, UNH, CSUMB, National Geographic, DeLorme, NAVTEQ, and Esri





Phase 2:



S-122_EN_Marine Protected Area Product Specification_Ed1.0.0.pdf

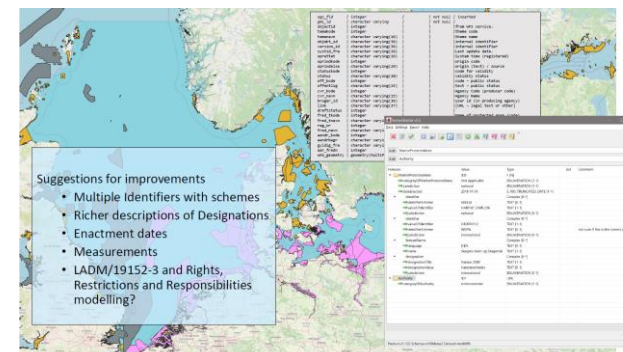
S-122AppA_EN_Data Classification and Encoding Guide_Ed1.0.0.pdf

S-122AppB_EN_Application Schema Documentation_Ed1.0.0.pdf

S-122AppC_EN_FeatureCatalogue_Ed1.0.0.pdf

S-122AppD-2_EN_GML Data Format Documentation_Ed1.0.0.pdf

S-122AppE_EN_Data Validation Checks_Ed1.0.0.pdf

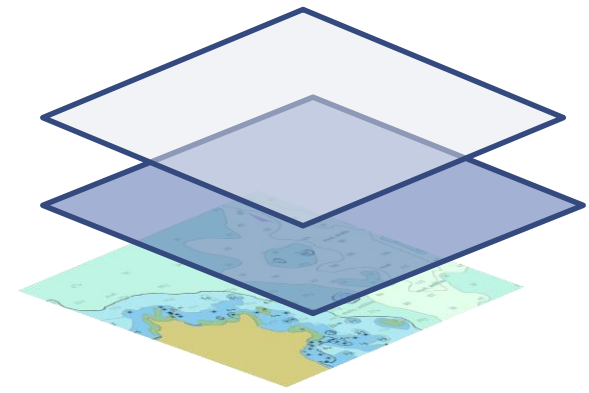


Discussion topics.

- Can we define a scope similar to S-122 which is meaningful and useful?
Is our scope right?
- What definitions should we use for the core features. Or are MPAs and Restricted Areas enough with better attributes
What is a Marine Protected Area?
- Where are the gaps in attribution of those core features (the detail)?:
 - Data Management
 - Data Exchange
 - Custodianship**What data can we use to try and explore "better" modelling.**



Thoughts on Marine Protected Areas



S-100

Marine Protected Areas and S-100

- S-122's concept of Marine Protected Areas is modelled around Maritime MPAs, their definition (IUCN category), restrictions which apply and the protections put in place for them.
- Also deals with their applicability (to individual vessels) and the authorities which put them in place
- Maritime MPAs are one instance of a much broader class of partitioning of marine space from an environmental perspective. There are
 - Marine Protected Areas (IUCN MPAs for navigation) and
 - "Protected Areas", some of which are of a "Maritime" nature
 - These are managed by a very wide variety of maritime agencies
- There is nothing to stop S-100 addressing this broader class of MPA as well as the S-122 version but it would require a number of activities to take place





Thoughts on Marine Protected Areas

Suggestions:

1. Broadening the modelling of MPA to include (amongst others)
 - More flexible descriptions of designations (schemes of designation, e.g. Natura2000, generic / multiple identifiers). IUCN could be kept as a mandatory designation (but we need to add “Not Applicable”).
 - Legal enactment dates
 - Regional identifiers alongside national ones
 - Dimensions (area primarily), which are owned by issuing producers
 - A simplified version of ISO19152 (similar to the S-121 version) could be implemented for those states anticipating ISO19152-3 Marine Georegulation. This should be flexible though and non-mandatory
2. Does S-122 need enhancement or should there be an MSP product specification which includes MPAs alongside other elements?

This should be for NIPWG/MSDIWG to decide together.

Certainly S-122 could be enhanced but there is a risk it tries to serve two ends and achieves neither.





More thoughts on Marine Protected Areas

- It is not just hydrographic offices which have responsibility for MPAs. Any S-100 product should be applicable to the broad class of agency managing such data and its limits.
- Many agencies have extensive, detailed in-house databases which are far more sophisticated than S-122, or that which is required for data exchange.
 - S-100 has no capability at a framework level to address this,
 - The current framework implies a single one-size-fits-all model for database exchange.
 - S-100 needs a way of structuring the transformation of data from one feature catalogue into another.
- This would allow internal/external interfaces to be expressed and data exchange to be defined. It would allow agencies to implement an S-100 “model” internally and transform data to/from S-122
- The registry, in this context, is invaluable as a source of definitions for all the entities involved.

