Report of the Baltic Sea and North Sea Marine Spatial Data Infrastructures Working Group

(BS-NSMSDIWG)

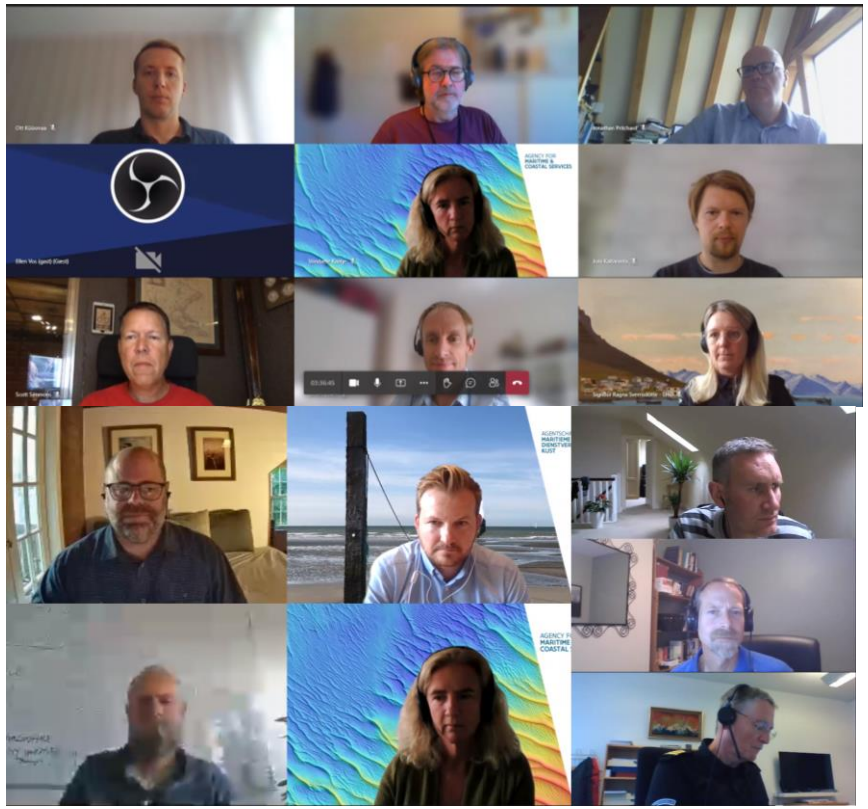
35th North Sea Hydrographic Commission Meeting

Reykjavik, Iceland - 5-6 April 2022.

Danish Geodata Agency

NORTH SEA HYDROGRAPHIC COMMISSION

The Baltic- and North Sea Marine Spatial Data Infrastructure Working Group (BS-NSMSDIWG) online meeting No. 9 took place September 1-2, 2021.



MS from the North Sea Hydrographic Commission and the Baltic Sea Hydrographic Commission participated in the meeting

Country	Name
Belgium	Vandaele Kaatje
Belgium	Cattrysse Alexander
UKHO	James Coles
UKHO	Kevin Rigg
Iceland	Árni Þór Vésteinsson
Iceland	Sigríður Ragna Sverrisdóttir
Denmark	Jens Peter Hartmann
Denmark	Katrine Petersen
Denmark	Sophie Hohwü-Christensen
Denmark	Claus Buus Jensen
Poland	Marek Mikłaszewski
Norway	Gerhard Heggebo
Estonian	Ott Küüsmaa
Netherlands	Ellen Vos
France	thierry Schmitt
External presenters	
NOAA	John Nyberg
OGC	Scott Simmons
OGC	Trevor Taylor
OGC	Rollin Phillips
HELCOM	Joni Kaitaranta
Invited	
MPA	Pearlyn PANG
CHS	Brunt, Douglas
Do not participate	
Sweden	Magnus Wallhagen
Sweden	Benjamin Hell
Germany	Cindy Niemeyer
Germany	Patricia Slabon
Finland	Tiihonen Juha

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Focus arears at the BS-NSMSDIWG online meeting:

- National presentations
- Presentations from external stakeholders
  - MSP Data ESG works
  - S-122
  - OGC API standards
  - Wend-100
  - IGIF and IGIF Hydro
  - Singapore – IHO Innovation Lab
  - New EU blue strategy
- Pilot project in the Baltic- and North Sea
- OGC Federated Marine Spatial Data Infrastructure Pilot (FMSDI)
- Action items
- Future meetings

Theme	Time	Subject
Welcome	**1000 - 1030**	Welcome, introduction of participants and practical information. Approval of agenda.
Status		Introduction to the MSDI Online Workshop 9 - Aims of the workshop and the meeting - Expected achievements - Status of Action list and Work program
		Status on the MSDI work of IHO (MSDIWG) (Review of the papers circulated and responses to it)
National presentations. Presentations and discussions	**1030 - 1230**	National presentation from members on the status of MSDI related to: - The national SDI cooperation - INSPIRE - EMODnet - The framework for maritime spatial planning in Europe (MSP-directive) Presentations to include; what is the key successes and challenges within the four pillars (ref. C-17, 2.1. Policy and Governance, Technical standards, Information systems and Geographic content. Discussion on how the BS-NSMSDIWG can support MS.
Lunch	**1230 - 1300**	
External stakeholders Presentations and discussions	1300 – 1320 1320 – 1340 1340 – 1400 1400 - 1420 1420- 1445	Presentation from external stakeholders: - MSP Data ESG works - S-122 - OGC API Standards - Wend-100 Discussion on the how to proceed in a forward-looking perspective.
Evaluation and preparation	1445 - 1500	Evaluation and preparations for the second day

Theme	Time	Subject
Welcome	1000 - 1030	Welcome and the conclusions from Day One
Status		BS-NSMSDI WG Work plan and Action list - What are the outputs for each task?
		Action list - working on the tasks defined in the Action list.
National presentations. **IHO** Presentations and discussion	1030 – 1230	- National presentation from members on the status of MSDI. - IHO SPIs - New EU blue strategy
Lunch	**1230 - 1300**	
Pilot project Presentations and discussion	1300 - 1430	Pilot project in the Baltic- and North Sea OGC Federated Marine Spatial Data Infrastructure Pilot (FMSDI). Discussion on how to proceed
Work plan	1430 - 1445	Update of work plan and action list
	1445 - 1450	Any other business Next meeting
Closing	1450 - 1500	Closing of the online meeting

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Baltic- and North Sea MSDIWG Action list April 2022

No.	MSDI Meeting/ Work Task	Action	Responsible	Deadline	Status
14	1/2019	Establish an EMODnet inf. paper dealing with the challenges from a hydrographic perspective	Norway	MSDIWG9	Ongoing
25	1/2020	To establish a demonstration showing BS-NSMSDI data available	All	MSDIWG9	Ongoing
28	1/2020	To follow the EU project eMSP and report back to the BS-NSMSDIW	Chair	MSDIWG10	Ongoing
33	1/2021	To establish a joint online meeting between the EU MSP Technical Expert group on data and the BS-NSMSDIWG	Chair	2021/2022	Ongoing
34	1/2021	To arrange online BS-NSMSDIWG meetings every 4. Month and a physical meeting every second year	Chair	2022	Ongoing
35	1/2021	To send out a questionnaire about national approach to official (e.g. hydrographic) data and legally binding data/maps with relation to MSDI, SDI and MSP.	Chair/all	2022	Ongoing
36	1/2021	To send out a questionnaire about links to national MSDI and or MSP platform and URL to geospatial services and data.	Char/all	2022	Ongoing
37	1/2021	To include the general questions from Netherlands presentation in the agenda for the next BS-NSMSDIWG meeting as a discussion topic. Netherlands to prepare the discussion.	Netherlands.	2022	Ongoing
38	1/2021	To invite Singapore – IHO Innovation Lab to an online meeting to discuss possibilities for cooperation in the future.	Chair	2022	Ongoing

Draft future meetings:

- Online meeting. UN-GGIM IGIF Hydro
- Online meeting. Singapore – IHO Innovation Lab
- Online meeting. Joint meeting with the MSP Data ESG

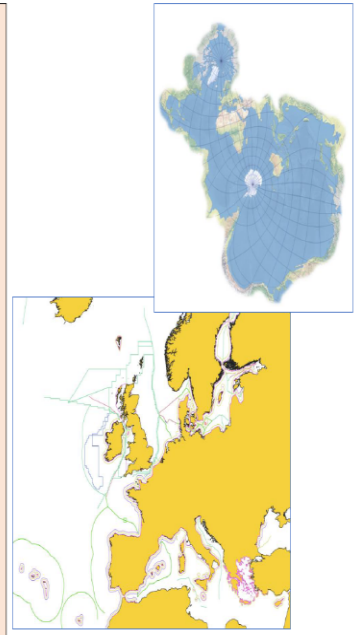
Dependent on the ongoing situation, a physical meeting will be planned for 2022 or 2023

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

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 at 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



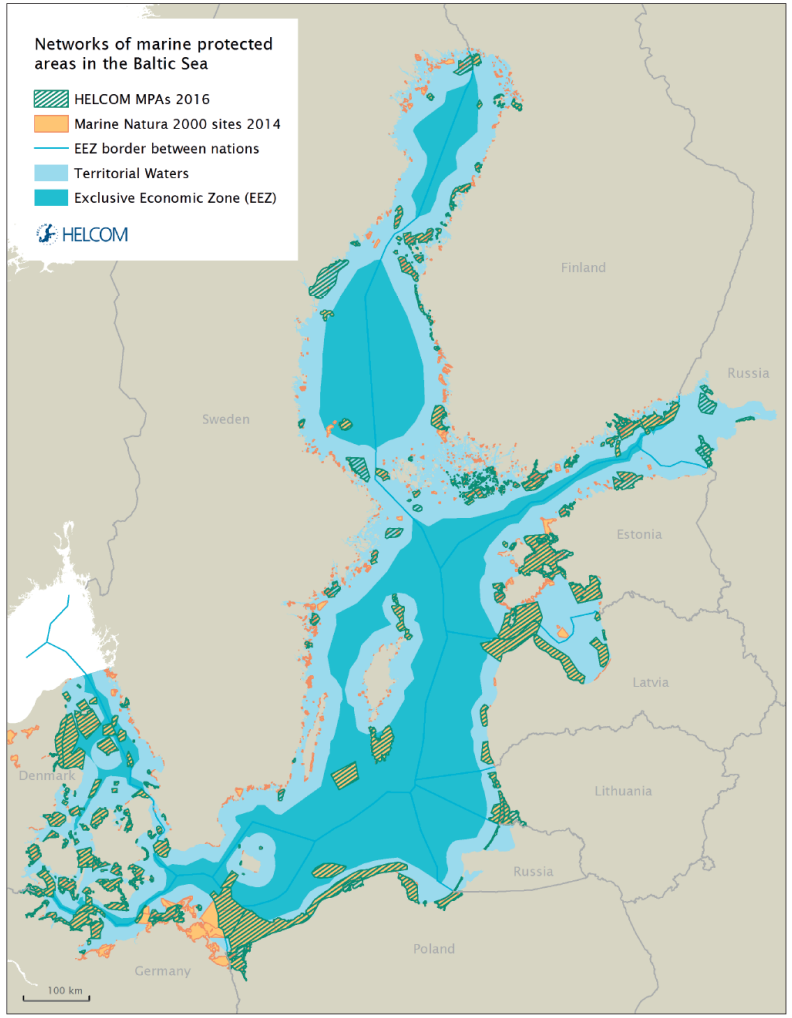


Figure 2. Overlap of the marine Natura 2000 sites and the HELCOM MPAs in the Baltic Sea.

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

Support for a joint OGC/IHO Pilot.

As recommended by the successful OGC-IHO MSDI Concept Development Study (CDS), and as evidenced by the success of the OGC-IHO collaboration in the on-going OGC-IHO Maritime Limits and Boundaries pilot, we are seeking support to initiate a full-scale Pilot to demonstrate a multi-country, federated MSDI under a land/sea boundary use case.

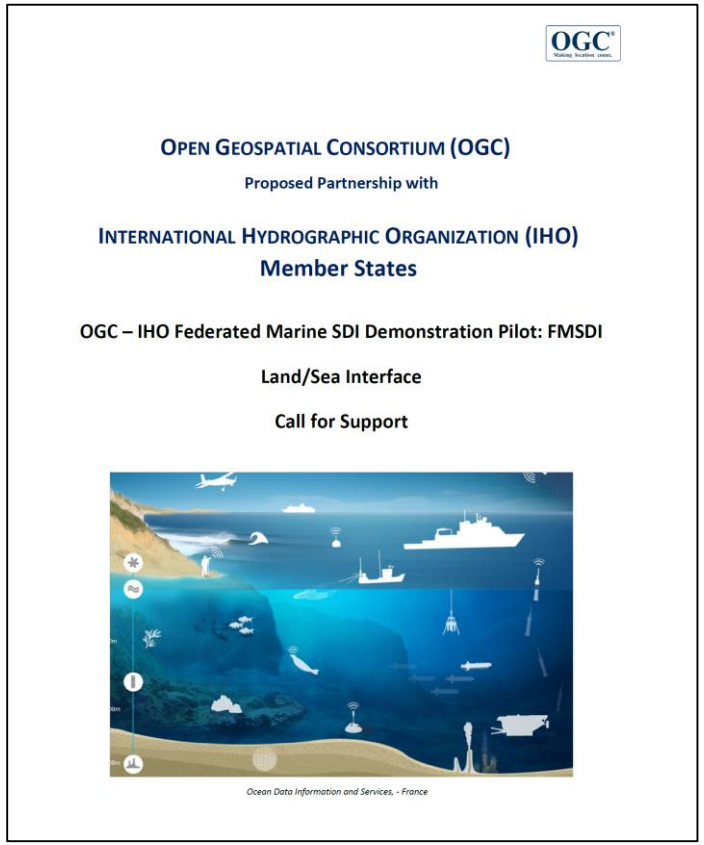
This Pilot will show how the value of MSDI can unlock data and information for use beyond traditional providers and consumers of hydrographic data, across borders, and across domains inclusive of improved connections between the terrestrial and marine foundational communities.

1. **Demonstration** - The demonstration will show how using OGC, IHO and other open standards, enables the community's ability to find, obtain, utilize, share, interoperate and reuse data.
2. **Impact on OGC Standards** - Lessons learned, gaps, and the need for changes to the OGC standards baseline, will be summarized in an Engineering Report which informs the OGC standard program.
3. **Impact on IHO Standards** - Practical testing of relevant S-100 based IHO standards helps accelerate the process for adoption and implementation of IHO standards. The engineering report helps to inform the work of the IHO HSSCs Working Groups and will provide inputs to those groups to enhance the framework and its component standards.

Sponsorship. The rough order of magnitude for sponsorship is USD 400,000, shared across multiple supporting sponsors.

When Would the Pilot Start?
The current plan is for the kick-off of the pilot in the second quarter of 2021, with the full Pilot being completed in 2022, subject to change based on sponsor requirements.

OGC seeks sponsors for a cooperative OGC – IHO Federated Marine SDI Demonstration Pilot
New Pilot will demonstrate a multi-country, federated Marine Spatial Data Infrastructure for land/sea interface use-cases.



=> Execution of Federated Marine Spatial Data Infrastructure (FMSDI)

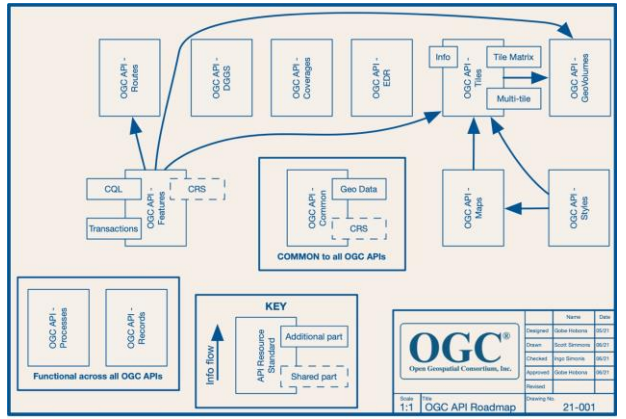
The Baltic- and North Sea as a S-100 testbed - S -122. Marine protected arears Execution of Federated Marine Spatial Data Infrastructure (FMSDI)

Major Steps

This project consists of the following major steps:

Phase 1: Marine Data Availability and Accessibility Study (Baltic/North Sea only)

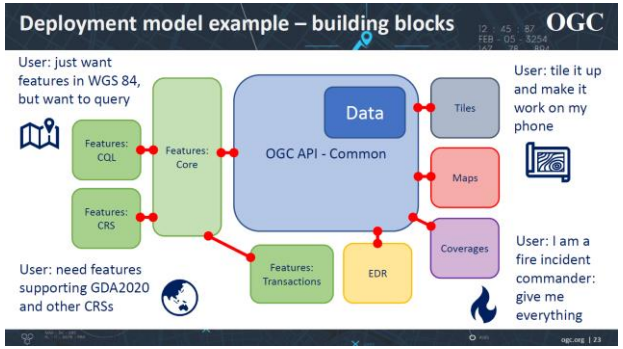
This will bring together diverse stakeholders from the global marine community to assess the current state of Marine SDI. The study will document data exchange technologies, develop an inventory of available data and geospatial Web services across different marine domains, and define use-cases and scenarios for the second phase of the pilot.
The request for information (RFI) is part of phase one, used to gather the knowledge from marine domain stakeholders and contributors.



Phase 2: The Pilot

The goal is to show the value of interoperability and to demonstrate the benefits of standards through engineering reports and demonstrations. This will be done through development around IHO S-100 Standards as well as demonstrate the capabilities and complementary aspects of the OGC API building blocks.
The pilot will provide an adequate test of the standards and provide a process to accelerate adoption and implementation of these Standards.

- Develop and launch CFP (Pilot Call for Participation)
- Develop Baltic/North Sea scenarios
- Demonstrate results
- Submit final Engineering Reports to Sponsor



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The Baltic- and North Sea as a S-100 testbed
S -122. Marine protected arears
Phase 1:

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

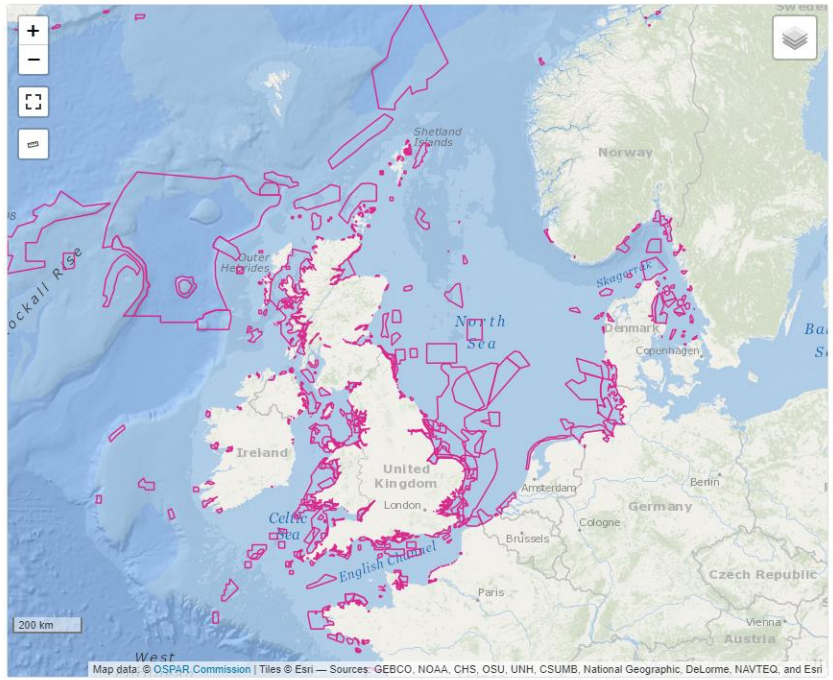
Is it possible to download and convert MSP data to S-122?

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)

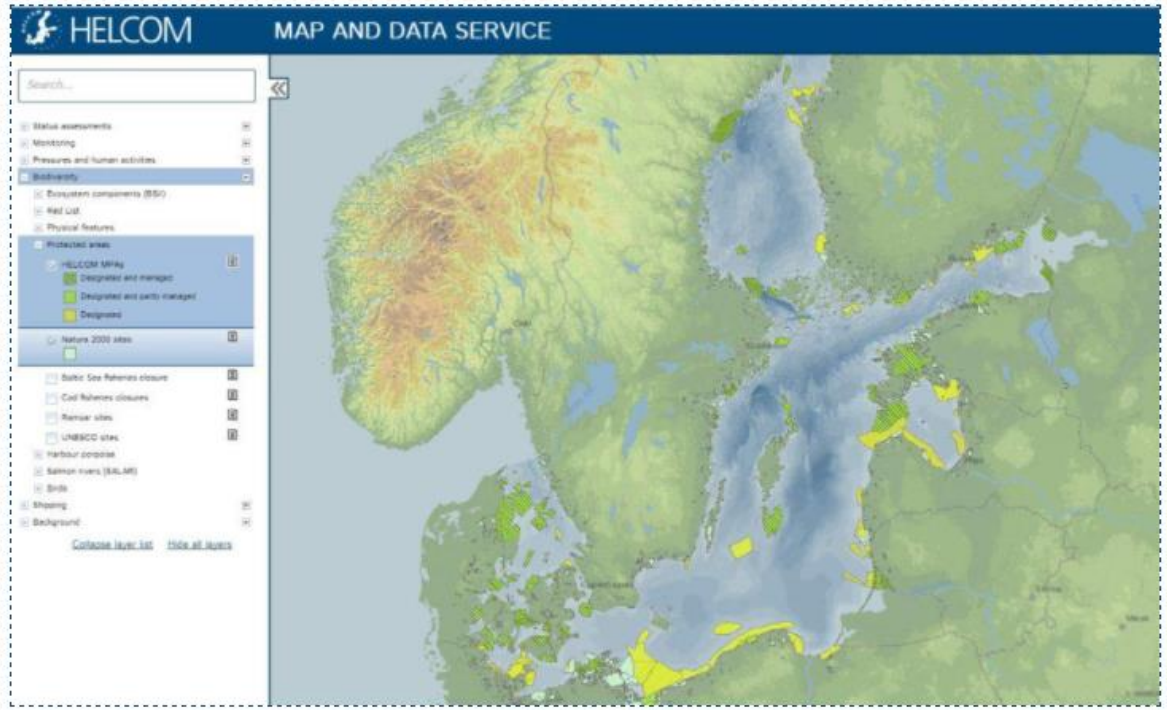
Embed or share this Submission

Download as Image - WMS

Download as Data - WFS

Data Attributes

Maps



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

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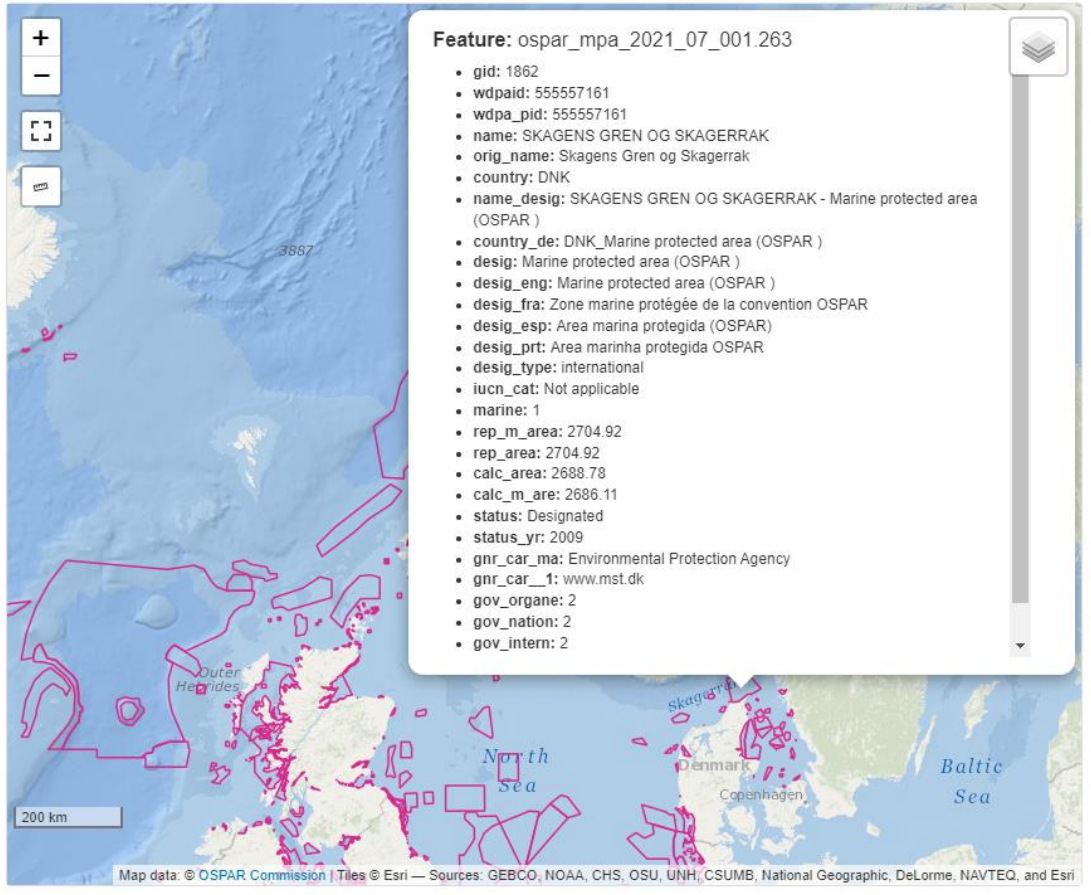

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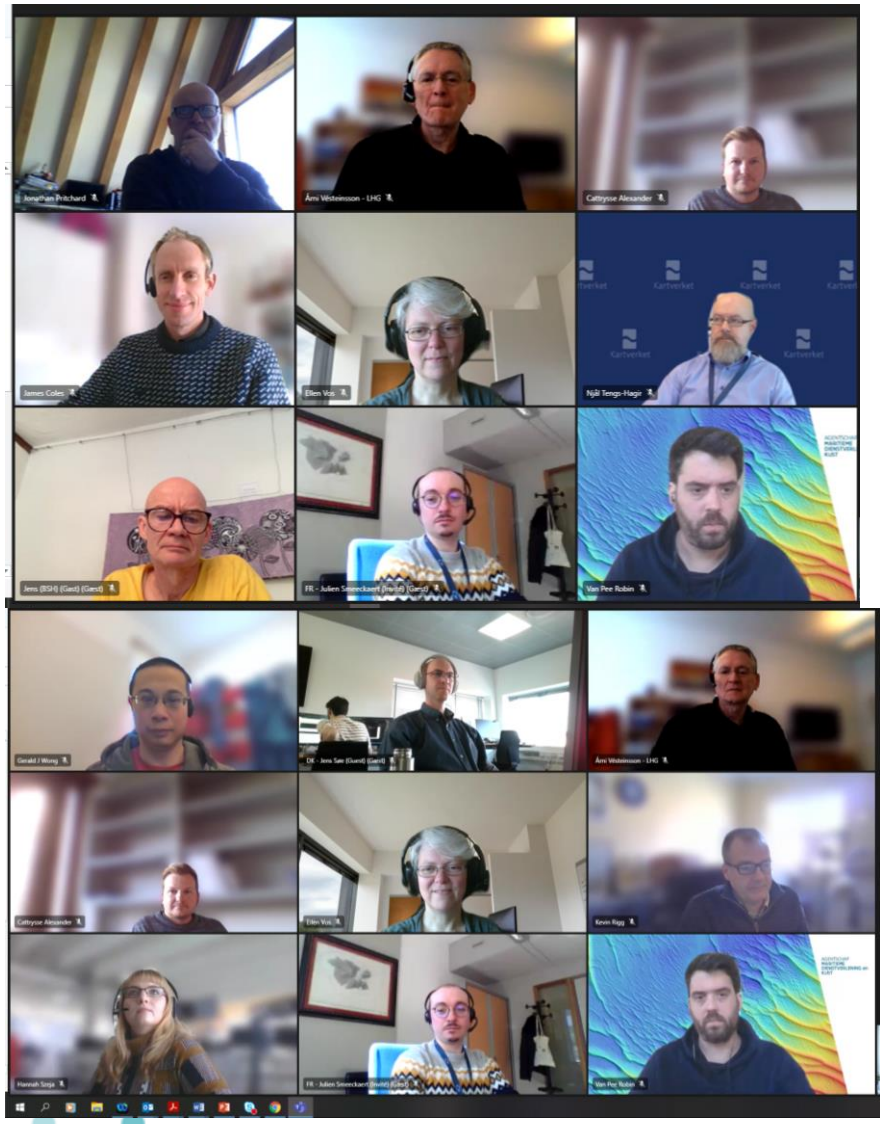
Phase 2:



INTERNATIONAL HYDROGRAPHIC ORGANIZATION

MARINE PROTECTED AREA PRODUCT SPECIFICATION

IHO Publication S-122

Edition 1.0.0 – January 2019

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Web: www.iho.int

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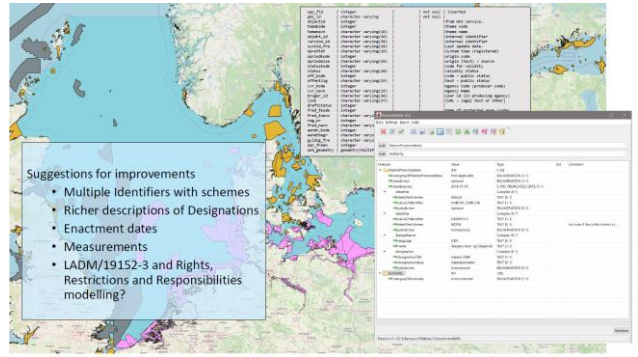

Discussion topics.

- 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.

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Home > MSP Resources > Technical Expert Group (TEG) on Data for MSP
Technical Expert Group (TEG) on Data for MSP
On 3 October 2019, DG MARE and CINEA, the European Climate, Infrastructure and Environment Executive Agency (ex-EASME), convened a workshop on 'Data for MSP' to exchange knowledge and experience between MSP data practitioners from MSP projects funded by the European Commission (EMFF programme). The main outcomes of this workshop were recorded in the document "Report of the Data for MSP Working Group – Kick-Off Meeting.
On 23 April 2020 DG MARE and CINEA (ex-EASME) organised a workshop to formalize the establishment of the Technical Expert Group (hereafter TEG) on MSP data.

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Technical Expert Group (TEG) on Data for MSP

Technical Expert Group-MSP Data

TEG Follow up work
23th November 2021

Agenda:

14:00	Welcoming, gathering of participants
14:05	**Introduction** - Andrej Abramic & Joni Kaitaranta, TEG co-chairs
14:10	**Presentation of the IHO BS-NSMSDIWG** – Jens Peter Weiss Hartmann
14:25	**TEG sub-groups progress, targeted result and expected output:** **MSFD & MSP Data Management** – Stefano Menegon & Alessandro Saretta **Metadata Standard for Marine Plans** - Adam Leadbetter **Network Services for MSP** - Pascal Derycke **MSP Data Framework** – Andrej Abramic **Socioeconomic Impact of MSP** - Marta Ballesteros & Jose Santiago
15:15	**Discussion, Questions & Answers** on TEG topics
15:30	**Conclusion, wrap-up and following steps**

Technical Expert Group-MSP Data

28th March 2022

Agenda:

11:00	Welcoming, gathering of participants
11:05	**Introduction** - Andrej Abramic & Joni Kaitaranta, TEG co-chairs
11:10	**Presentation on Marine Functional Zoning in China and it's Data Support** Professor Teng Xin When you discuss Marine Spatial Planning in China, usually it refers to Marine Functional Zoning. Marine Functional Zoning in China has a history of more than 40 years. From proposing of Marine Functional Zoning, through the first, second and third rounds of Marine Functional Zoning, and national territorial planning, data is the basis for development. How does data support China's Marine Functional Zoning formulation, implementation, monitoring and evaluating? How to access data in the process of Marine Functional Zoning? In the future, under China's new Territorial Spatial Planning system, Marine Spatial Planning has new requirements for data, and how to make Marine spatial planning more scientific and practical.
11:35	**Presentation of the - eMSP-NBSR project: Community of Practice on Data sharing, information and communication technology serving MSP** – Adeline Souf eMSP NBSR project (Sept 2021-March 2024) is building mechanisms to support maritime spatial planners in the North and Baltic Sea Regions in order to achieve coherence of maritime spatial plans across borders. Member States have defined different topics on which they decided to collaborate in order to share and build on their past experience and existing knowledge. Shom is the leader of the "Data sharing, information and communication technologies serving MSP" Community of Practice and aims at organising regular workshops until the end of the project to explore topics of interest to the different data users in those Member States. The meetings will be an occasion to exchange knowledge, insights, experience and develop new ways of dealing with problems and challenges regarding Data for MSP.
12:00	**TEG sub-groups progress, update of activites:** **MSFD & MSP Data Management** – Stefano Menegon & Alessandro Saretta **Metadata Standard for Marine Plans** - Adam Leadbetter **Network Services for MSP** - Pascal Derycke **MSP Data Framework** – Andrej Abramic **Socioeconomic Impact of MSP** - Marta Ballesteros & Jose Santiago
12:30	**Conclusion, wrap-up and following steps**

TEG sub-groups:

- MSFD & MSP Data Management
- Metadata Standard for Marine Plans
- Network Services for MSP
- MSP Data Framework
- Socioeconomic Impact of MSP

All members of the Baltic Sea and North Sea Marine Spatial Data Infrastructures Working Group have been invited to participate in the TEG-sub-groups.

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CoP data sharing, information and communication technology serving MSP.

eMSP NBSR — Emerging Ecosystem-based Maritime Spatial Planning Topics in the North and Baltic Sea Regions

Co-funded by the European Union

LS Data sharing, information and communication technology (1st meeting)

Minute of Meeting – 01/02/2022 – 10 to 12:00 CET, online

Context:

The aim of this 1st meeting on CoP data sharing, information and communication technology serving MSP is a preliminary discussion to finalize ToR for the LS and identify stakeholders involvement in the CoP.

eMSP NBSR | eMSP-NBSR project

SHOM L'océan en référence

Emerging ecosystem-based Maritime Spatial Planning topics in North and Baltic Seas Region

- Maritime spatial planners to develop approaches for MSP implementation
- North and Baltic Sea Regions
- Learn from each other and identify problems and solution
- Provide new knowledge and information → future challenges (global warming)

- Five emerging topics :
  - Ocean Governance
  - Ecosystem-based approach
  - Sustainable blue economy
  - Monitoring and evaluation
  - Data sharing, information and communication technology serving MSP

All members of the Baltic Sea and North Sea Marine Spatial Data Infrastructures Working Group have been invited to participate in the CoP.

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The 13 th meeting of the Marine Spatial Data Infrastructures Working Group (MSDIWG13)

International Seminar on Effective and Integrated Marine Geospatial Information Management and Meetings of the Third Expert United Nations Global Geospatial Information Management Working Group on Marine Geospatial Information, Thirteenth International Hydrographic Organization Marine Spatial Data Infrastructures Working Group and Open Geospatial Consortium Marine Domain Working Group

The meeting will be hosted by the Maritime and Port Authority of Singapore (MPA) in Singapore, from 9 to 13 May 2022.

IHO homepage https://iho.int/en/msdiwg13-2022

Draft Programme
Plenary Session 1 – Keynote session
Plenary Session 2 – Availability and accessibility of marine geospatial information for sustainable societies, economies and environment
Plenary Session 3 – Integration of terrestrial, maritime and cadastral domains
Plenary Session 4 – Effective governance, policy and legal frameworks and financing for integrated marine geospatial management
Plenary Session 5 – Data, innovation and standards for integrated marine geospatial information management
Plenary Session 6 – Partnerships, capacity development and advocacy for integrated marine geospatial information management
Plenary Session 7 – An operational framework for integrated marine geospatial information management
Plenary Session 8 – Coordinated and coherent integrated marine geospatial information management (multi-disciplinary, multi-thematic and cross jurisdictional marine geospatial information management practices)

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MPA SINGAPORE

IHO International Hydrographic Organization

Action requested of NSHC 35.

The NSHC 35 is invited to:

a) Note the report
b) Update the list of participants to BS-NSMSDIWG
c) Take any other action as appropriate.