MSDI/MSP

The Danish Maritime Spatial Data Infrastructure (MSDI)
Geodata of the Sea

Components of an infrastructure:

DATA - metadata, datasets

FUNCTIONALITY - spatial data services,
web services and other technology

GOVERNANCE - Agreements and
Organisation – rights and access

data

functionality

governance

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The Danish Components of an infrastructure:

1. **Governance model** – agreements, organisation, rights and access

2. **Financial model**

3. **Technical description –** functionality, spatial data services, web services and other technology, metadata

4. **Description of data** – datasets

5. **Implementation plan**

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Slide 1

Datasets associated with MSDI and MSP
- Gives an overview of dataset needed for MSP
- Almost 80 datasets identified

Kystdirektoratet
Danish Coastal Authority

SØFARTSSTYRELSEN

Kultur STYRELSEN

Miljøministeriet
Naturstyrelsen

MILJØMINISTERIET
Miljøstyrelsen

Ministeriet for Fødevarer,
Landbrug og Fiskeri
NaturErhvervstyrelsen

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ENERGI
STYRELSEN

Søværnet
Søværnets Operative Kommando

Slide 2

MSDI – seen from a Danish perspective
Planning across borders
MSP datasets used for:
- Overview
- Charting
- Planning

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Slide 3

MSDI from a regional approach

Baltic Sea MSDI WORKING GROUP (BSMSDIWG)

Regional Hydrographic Commissions

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The Baltic Sea MSDI Working Group should:

- **Identify and analyse** the current status of individual MS MSDI implementation

- **Consider MSDI policies** within the related international project

- **Analyse how maritime authorities can contribute** their spatial information and the necessary updates, so information can easily be collated with other information to a current overall picture for the region.

- Focus on **how BSHC in the future can benefit from a regional approach**

- Monitoring MSDI and marine- related initiatives, as well as more general geospatial developments with relevance for the Baltic Sea.

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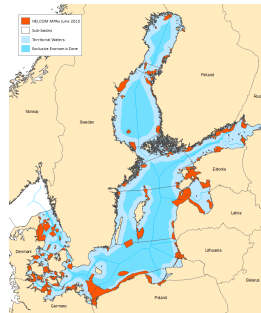
Maritime spatial planning

Article 6
Minimum requirements for maritime spatial planning

Member States shall establish procedural steps to contribute to the objectives listed in Article 5, taking into account relevant activities and uses in marine waters:

(e) **Organise the use of the best available data** in accordance with **Article 10.**

(f) **Ensure trans-boundary cooperation** between Member States in accordance with **Article 12.**

(g) **Promote cooperation with third countries** in accordance with **Article 13.**

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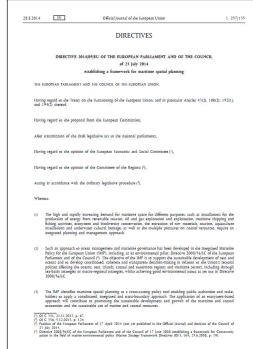
Article 8
Set-up of maritime spatial plans

1. When establishing and implementing maritime spatial planning, Member States shall set up maritime spatial plans which identify the spatial and temporal distribution of relevant existing and future activities, uses in the marine waters in order to contribute to the objectives set out in Article 5.

2. In doing so and in accordance with Article 2(3), Member States shall take into consideration relevant interactions of activities and uses. Without prejudice to Member States' competences, possible activities and uses and interests may include:
- **aquaculture areas;**
- **fishing areas;**
- **installations and infrastructures for the exploration, exploitation and extraction of oil, gas, mineral and aggregates, and other energy resources and the production of renewable energy;**
- **maritime transport routes and traffic flows;**
- **military training areas;**
- **nature and species conservation sites and protected areas;**
- **raw material extraction areas;**
- **scientific research;**
- **submarine cable and pipeline routes;**
- **tourism;**
- **underwater cultural heritage.**

What are the data-sets needed for maritime spatial plans?
- Planning
- Overview/Charting

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Slide 1

The BSMSDI work plan 2015 - 2020:

UNDER CONSTRUCTION
CONTENT WILL BE AVAILABLE SOON

Theme	Subject	Responsible
Task 1. Work item: Hydrographic data and legal aspects	- Definition of HO role in MSDI - Study on status on implementation and responsibility with relevance to MSDI in the Baltic countries	Denmark
Task 2. Work item: Liaison with external projects	- Scanning of projects relevant for BSMSDI	Germany
Task 3. Work item: S 100	- Conduct S 100 pilot project - Evaluate on how to promote S 100 in the Baltic	Germany
Task 4. **Work item INSPIRE**	- Study on IHO standard S 57 in relation to INSPIRE - The difference between S 57 and S 100	Netherland/France
Task 5. Work item: Common understanding	- Establish a framework for common understanding of MSDI	Denmark/Finland
Task 6. Work item: Pilot projects/demonstration	-Study on the possibility to establish a BSMSDI WEB page - Demonstration project S100 - WEB GIS demonstrator with BS HO datasets	Denmark Germany Denmark

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Slide 2

MSDI and MSP – seen from a Regional perspective

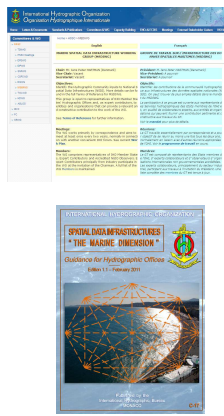Photo: EWEA, European Wind Energy Association 1982-2007

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Slide 3

IHO - MARINE SPATIAL DATA INFRASTRUCTURE WORKING GROUP (MSDIWG)

Objectives of the IHO MSDIWG:

- Identify the Hydrographic Community inputs to National Spatial Data Infrastructures (NSDI).

- Monitor national and international SDI activities

- Promote the use of IHO standards and member state marine data in SDI activities.

- Liaise, as appropriate, with other relevant technical bodies

- Propose any Technical and/or Administrative Resolutions that may be required to reflect IHO involvement in the support of SDI.

- Identify actions and procedures that the IHO might take to contribute to the development of Spatial Data Infrastructure (SDI) and / or MSDI in support of Member States.

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The MSDIWG work programme
The following work programme has been developed with a view towards a five-year horizon. It includes four proposed initiatives for the MSDIW.

- **Identify and promote national and regional best practices:**
  - for land-sea integration
  - for cross-border integration

- **Review the appropriateness of existing standards for the provision of the maritime components of spatial data infrastructures**

- **Develop content for an MSDI training course**

- **Maintain MSDI reference documentation on the IHO website**

- **Maintain and extend Publication IHO MSDI C-17**

- **Ensure that MSDI is a standing agenda item for RHCs' meetings**

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S-102 and INSPIRE
The Marine Spatial Data Infrastructure Working Group (MSDIWG) would like the HSSC S-100 Working Group to consider looking at the relationship between S-102 and the INSPIRE Elevation theme as it pertains to bathymetry data.

The reason for this request is to attempt to avoid a possible format conflict and to help ensure that hydrographic offices are not in a position where they need to maintain two separate bathymetry layers.

One for primary charting activities and another to serve the regional or national spatial data infrastructure initiatives for purposes that go beyond charting e.g. marine spatial planning or oil spill response.

The MSDIWG understands that the S-100 work group will be undertaking a revision of S-102 in its work plan (item D.8.) so perhaps this would present an opportunity for this investigation.

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INSPIRE
Although INSPIRE is a primarily European Union activity it is perhaps the best example of a Spatial Data Infrastructure and therefore is recognized well beyond the borders of Europe.

Many European hydrographic offices have requirements under INSPIRE so it would be beneficial to adopt a policy of collect once and use many times as it relates to one of the most important data assets held by hydrographic offices i.e. bathymetry.

Under INSPIRE there are maintenance groups that drive the direction and scope of the various themes including Elevation. The MSDIWG suggests that it may be worthwhile for the IHO group responsible for data standards such as S-102 also to attend the maintenance group responsible for this related theme. This way hydrography has a louder voice within INSPIRE and the work done under INSPIRE can be consider in the development of S-100 which should allow these two bathymetry related standards to be developed more harmoniously.

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