



Maritime Spatial Planning Framework Directive Supported by INSPIRE

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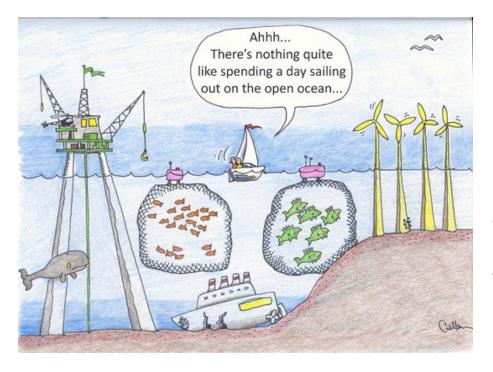








Why we need Marine Spatial Planning?



Conflicts between multiple users are more frequent

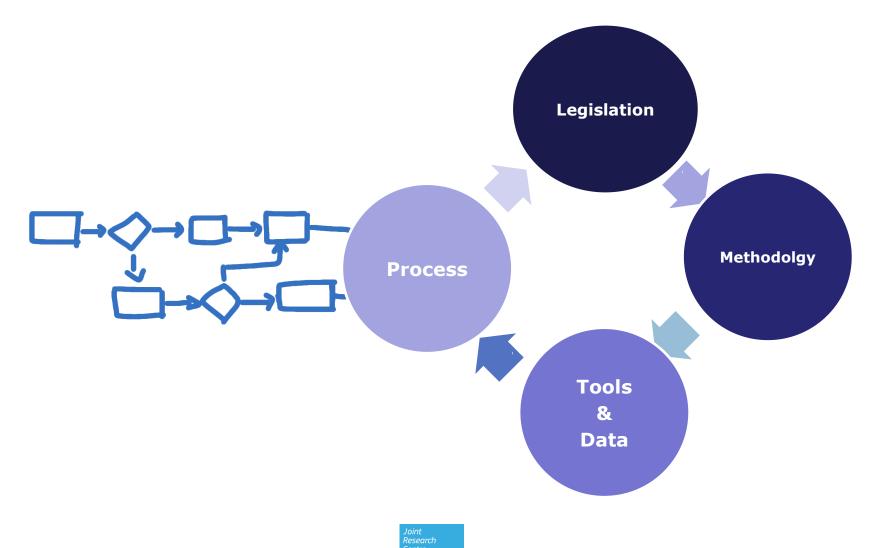
To coordinate and minimize conflicts of multiple users (energy, industry, government, conservation, recreation....) that utilize same area ...







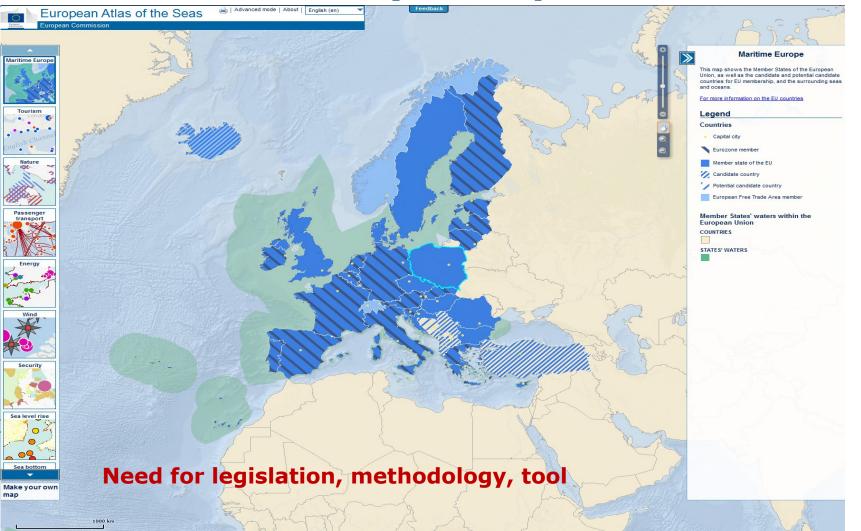
What is Marine Spatial Planning?







Where is necessary to implement MSP



Research





1. Legislation

USA - **2013 National Ocean Policy Implementation Plan** – related to the ocean, coasts, and the Great Lakes.

- Marine planning is a science and information based tool that can help advance local and regional interests
- to improve collaboration and coordination among all coastal and ocean interests
- Marine planning is a voluntary regional process....
- Marine planning is a common sense
- Introduce Marine Planning Handbook 2013



Marine Planning Handbook

Legislation

National Ocean Council JULY 2013







EU legislation

- Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU - COM(2008) 791
- Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning

	COMMISSION OF THE EUROPEAN COMMUNITIES			28.8.2014 IN Official journal of the European Union L 257/135 DIRECTIVES DIRECTIVE 2014/89/EU OF THE EUROPEAN FARLIAMENT AND OF THE COUNCIL of 23 byte 2014 exablishing a framework for maritime spatial planning THE EUROPEAN FAILUAMENT AND THE COUNCIL OF THE EUROPEAN UNDOX.
	COMMUNICATION FROM THE COMMISSION Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU			Hirring regard to the Treaty on the Functioning of the European Union, and in particular Articles 43(2), 100(2), 192(1), and 194(2) thereod.
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The term <u>maritime</u> spatial planning is favored over <u>marine</u> spatial planning **to underline the holistic cross-sectorial approach** of the process.







2. Methodology UNESCO IOC Marine Spatial Planning Initiative

Operationalize ecosystem-based management by finding space for biodiversity conservation and sustainable economic development in marine environments.

- Developing a step-by-step approach for implementing marine spatial planning;
- Documenting marine spatial planning initiatives around the world;
- Analyzing good practices of marine spatial planning;
- Collecting references and literature on marine spatial planning;
- Enhancing understanding about marine spatial planning through publications;
- Developing capacity and training for marine spatial planning.







Intergovernmenta

Oceanographic

Commission

Step by step - Ecosystem-based management approach

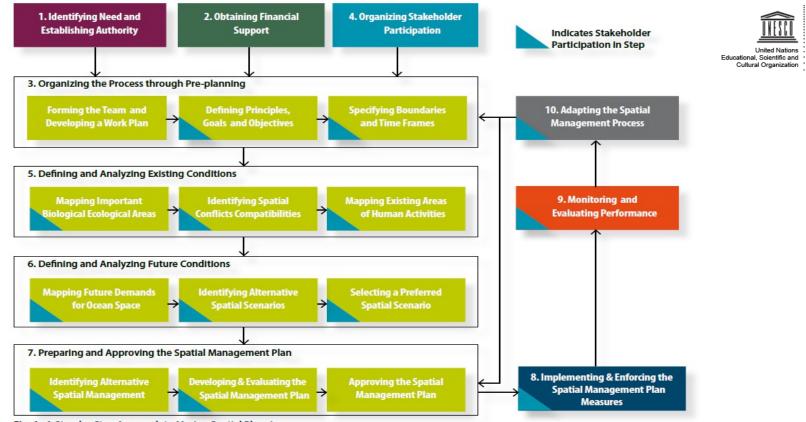


Fig. 1. A Step-by-Step Approach to Marine Spatial Planning









3. Can INSPIRE be used as a tool for MSP & implementation of the framework Directive on MSP

- We analyzed the framework Directive on MSP articles in relation to INSPIRE
- **Do MSPFD and INSPIRE share the scope & objectivities**
- Article 1:Subject matter; should be consider economic, social and environmental aspect
- Article 2: Scope; Paragraph 1: Directive applies only on Marine waters excluding the coastal waters
- Article 3: Definitions; MSP defined as a process for the sustainable human activities within ecological, economic and social objectives `marine waters' means the waters, the seabed and subsoil
- Article 5: Objectives of maritime spatial planning; Sustainable development of energy sector, maritime transport, fisheries, aquaculture, preservation & protection of environment



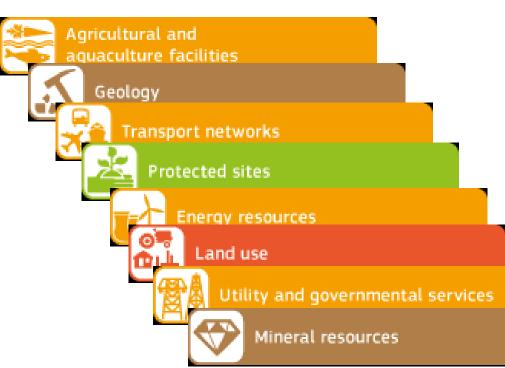






Article 8: Setting up MSP, the elements that should be considered

- a) aquaculture areas
- b) fishing areas
- c) exploration, exploitation and extraction of oil, of gas and other energy resources
- d) maritime transport routes
- e) conservation sites and protected areas
- f) raw material extraction areas
- g) military training areas
- h) scientific research
- i) submarine cable and pipeline routes
- j) tourism
- k) underwater cultural heritage







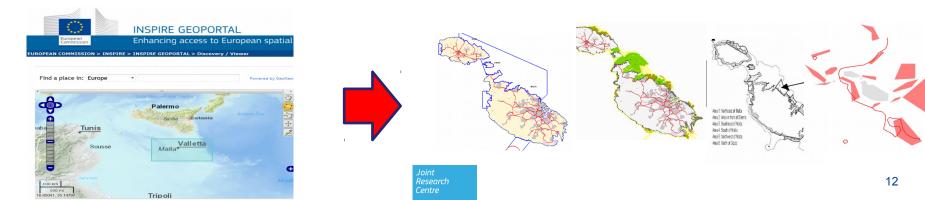


Establishing spatial data inventory within INSPIRE

Article 10: Data use and sharing

Paragraph 1: MS shall organize the use of the best available data, and decide how to organize the sharing of information, necessary for MSPParagraph 3: MS shall use instruments and tools, including those already available under the Intergrated Maritime Policy and INSPIRE

Required data for the process of MSP should be **easily discoverable**, **viewable and accessible** to download into a **harmonized and interoperable** format. **Establishing data inventory should be exceptionally more efficient**, without spending large amount of time and resources.









Sustainability evaluation analysis and conflicts management

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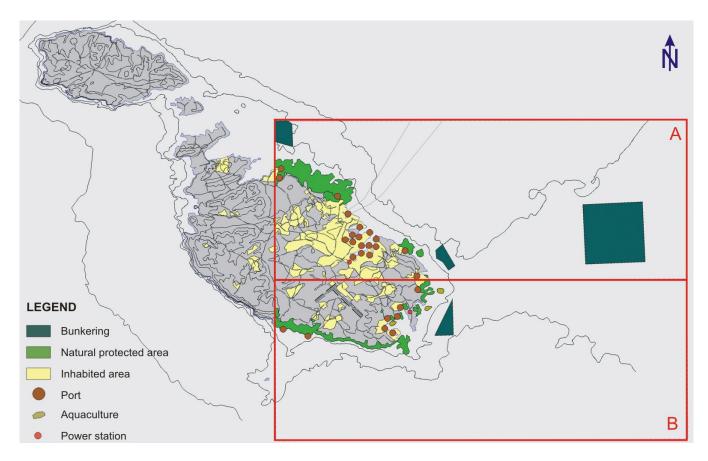
Research







MSP – Malta







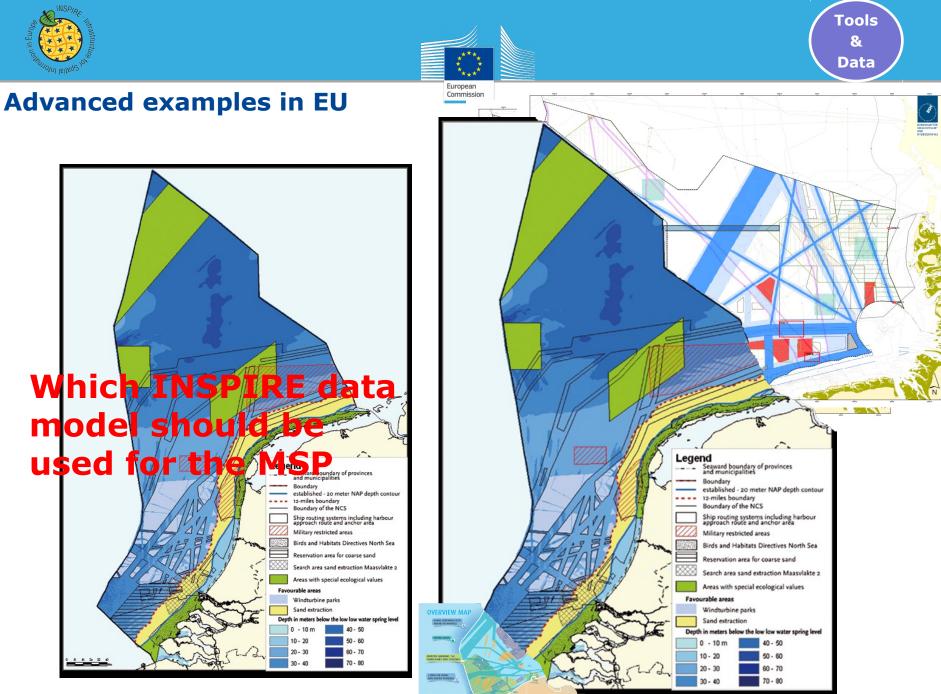




INSPIRE data model for providing MSP in the interoperable "format"

Article 4: Establishment and implementation of maritime spatial planning
Paragraph 3: Framework legislation - gives *free hands* to MS regarding the *design, format and content*



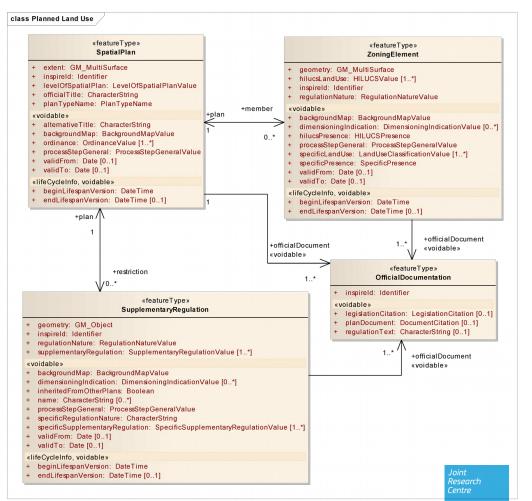








INSPIRE *Planned Land use* data model



INSPIRE data model for spatial planning have 4 feature types:

- 1. **SpatialPlan**: indicates a strategic direction for the development of a given geographic area, within distribution of people and activities.
- ZoningElement: Homogeneous spatial object based on zoning conecpt which separate one set of uses from another.
- OfficalDocumentation: includes official documentation that composes the spatial plan
- 4. **SupplemantaryRegulation**: A spatial object (point, line or polygon) of a spatial plan that provides supplementary information and/or limitation of the use of land/water /sea necessary for spatial planning reasons or to formalise external rules defined in legal text.







HILUCS

Hierarchical INSPIRE Land Use Classification System

Develop as a classification system that can classfy exiting and planned activities (land use)

Mapping HILUCS VS MSP objects :

Spatial object	HILUCS
Reservation Area Shipping	4_1_4_WaterTransport
Priority Area Shipping	4_1_4_WaterTransport
Traffic Separation Scheme	4_1_4_WaterTransport
Offshore wind energy	2_4_4_RenewableEnergyProduction
Offshore wave energy	2_4_4_RenewableEnergyProduction
Offshore tidal energy	2_4_4_RenewableEnergyProduction
High Voltage Cable (in use)	4_3_1_ElectricityGasAndThermalPowerDistributionServices
Reservation Area for Pipelines	4_3_1_ElectricityGasAndThermalPowerDistributionServices
Priority Area for Pipelines	4_3_1_ElectricityGasAndThermalPowerDistributionServices
Natural Gas pipeline	4_3_1_ElectricityGasAndThermalPowerDistributionServices

All activities that are included in Spatial Plan for the German EEZ, are covered by the HILUCS HILUCS – for the marine/maritime activities - generic classification system

Second classification system (given by data provider) can give us more specific information on – as SpecificLandUse attribute









Ocean/marine zoning concept approach

More dynamical from land zoning - zones

could be changed in terms of years or even

in terms of seasons

- Support mixed-use and exclusive-use zones
- More effective marine conservation (large scale zones on marine areas comparable with land areas – impacts on marine environment addressed on entire region)
- **4S Zoning**: Simple, Systematic, Strategic and Strate-foward

- The concept of zoning comprises polygons that are mutually exclusive;
- MSP for a difference of land planning is dealing with a three spatial dimensions and address activities on the seabed, subsoil and the water.
- Zoning concept do not allow that three dimensions are used by different

purposes.

• The **spatial elements cannot be overlapped** and within zoning concept there is a difficulty to refer on the seabed, subsoil or surface

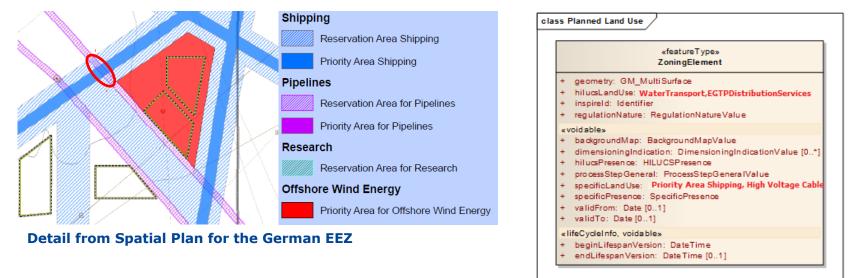








One layer for surface, seabed, subsoil



- ZoningElement feature type has related attributes hilucsLandUSe and specificLandUse, have a multiplicity of 1 to many
- list of HILUCSValue as a list of LandUseClassificationValue related to the one spatial object ovelapped zone
- Most of the real objects that are located in "different dimensions" in the map presentation are overlapped in the cross sections of two or three spatial objects geometry.
- Each overlapped cross section should be treated as a single spatial object, with list of HILUCSValue and voidable list of LandUseClassificationValue







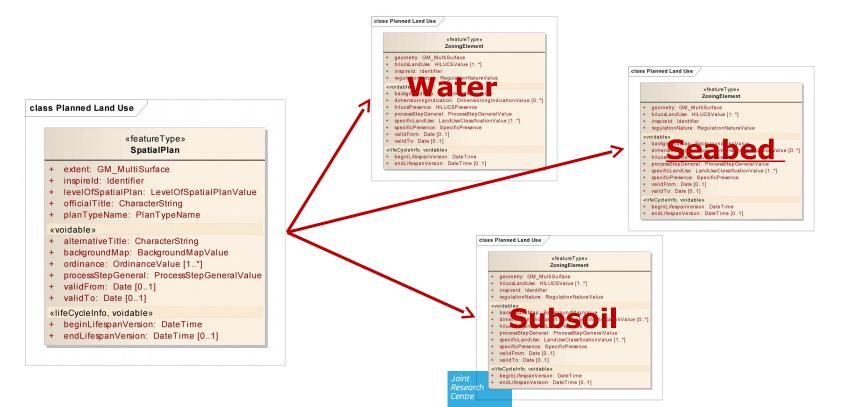


3 layers approach

Spatial plan should consists three separated zoning layers:

- 1. Zoning elements that reefer on water water layer
- 2. Zoning elements that reefer on seabed seabed layer
- 3. Zoning elements that reefer on subsoil **subsoil layer**

Within this approach spatial objects (features) represent entire real objects.









Using the INSPIRE Data model and network services

Article 11: Cooperation among Member States

Member States bordering marine waters shall cooperate with the aim of ensuring that maritime spatial plans are coherent and coordinated

Article 12: Cooperation with third countries

Artcile 13: Competent authorities

Each MS should designate competent authorities *Artcile 14: Monitoring and reporting*

The maritime spatial plans referred to in Article 4 shall be established as soon as possible, and at the latest by 31 March 2021.









Article 6: Minimum requirements for MSP



MSP should consider and take in account landsea interactions



Take into account environmental, economic and social aspects



Ensure involvement of stakeholders

Organize the use of best available data

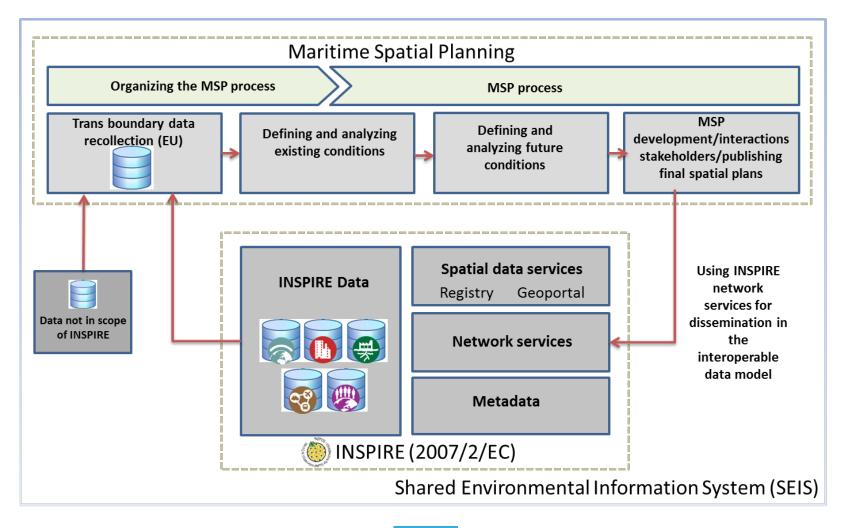
Ensure trans-boundary cooperation

















Thank you ... questions ?

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