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Enabling Delta Life

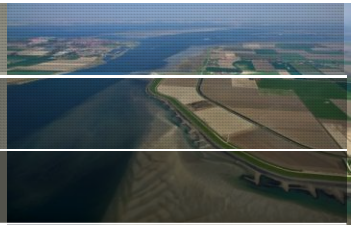
European data portals

Relevant for marine and coastal research

Summer school Jerico Next, 2017, Den Haag

Willem Stolte - 28 juni 2017

Data portals in Europe



- Portals and spatial data infrastructure
- Spatial data infrastructure in Europe – INSPIRE
- Types of portals for marine data and information

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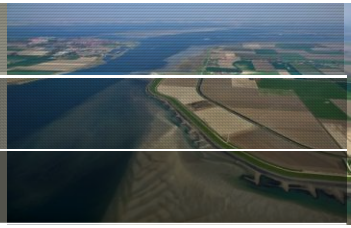
Searching for data



Google bing YAHOO!

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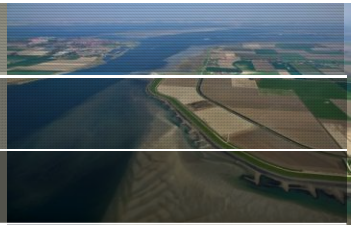
Data infrastructure components



may be thematic

Regional portal

European portal

Thematic portal

Global/European thematic collections

Regional/national collections

Institutes

Data collection

Data collection

Data collection

portal

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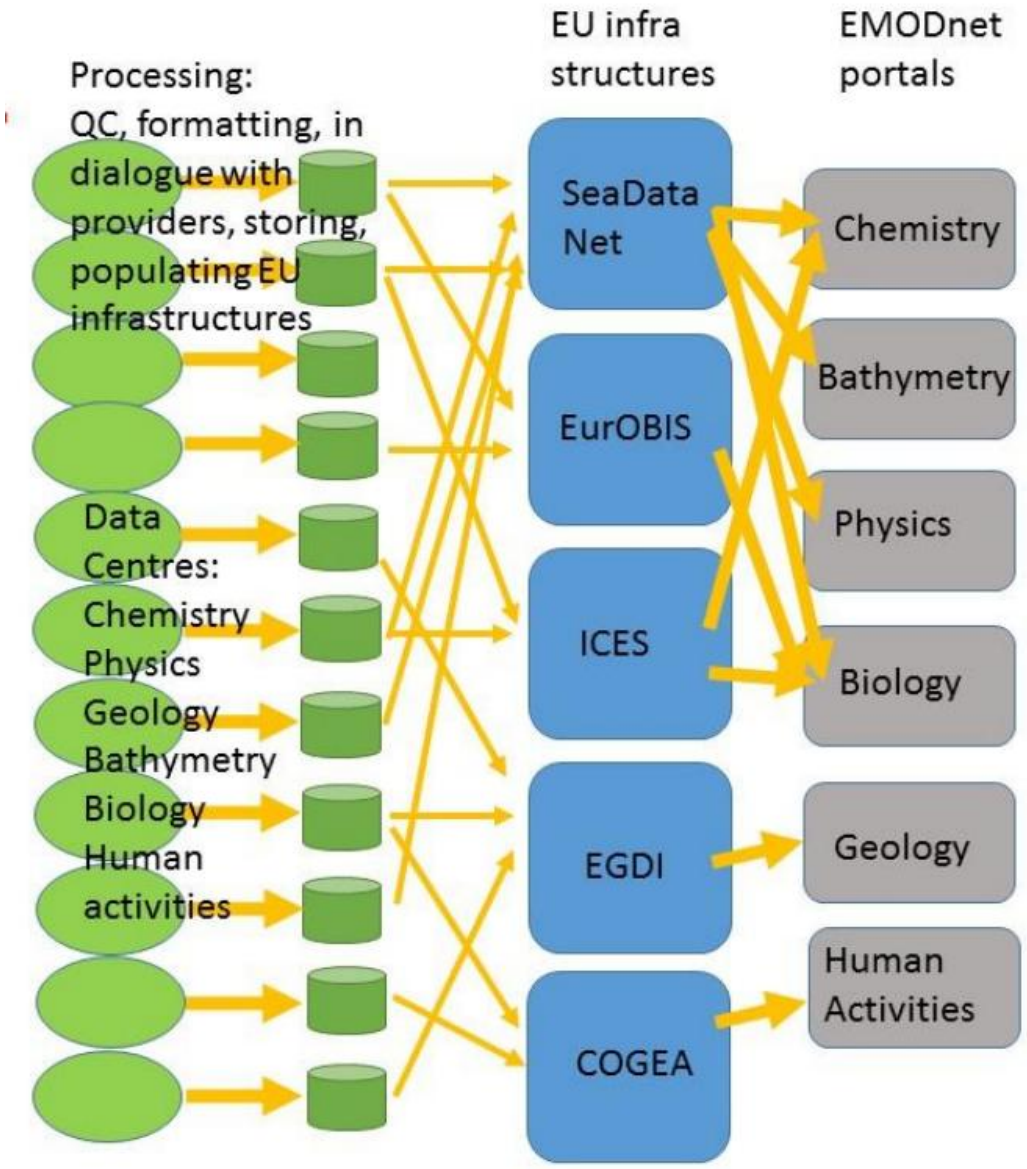
Example relation infrastructure and portal for EMODnet



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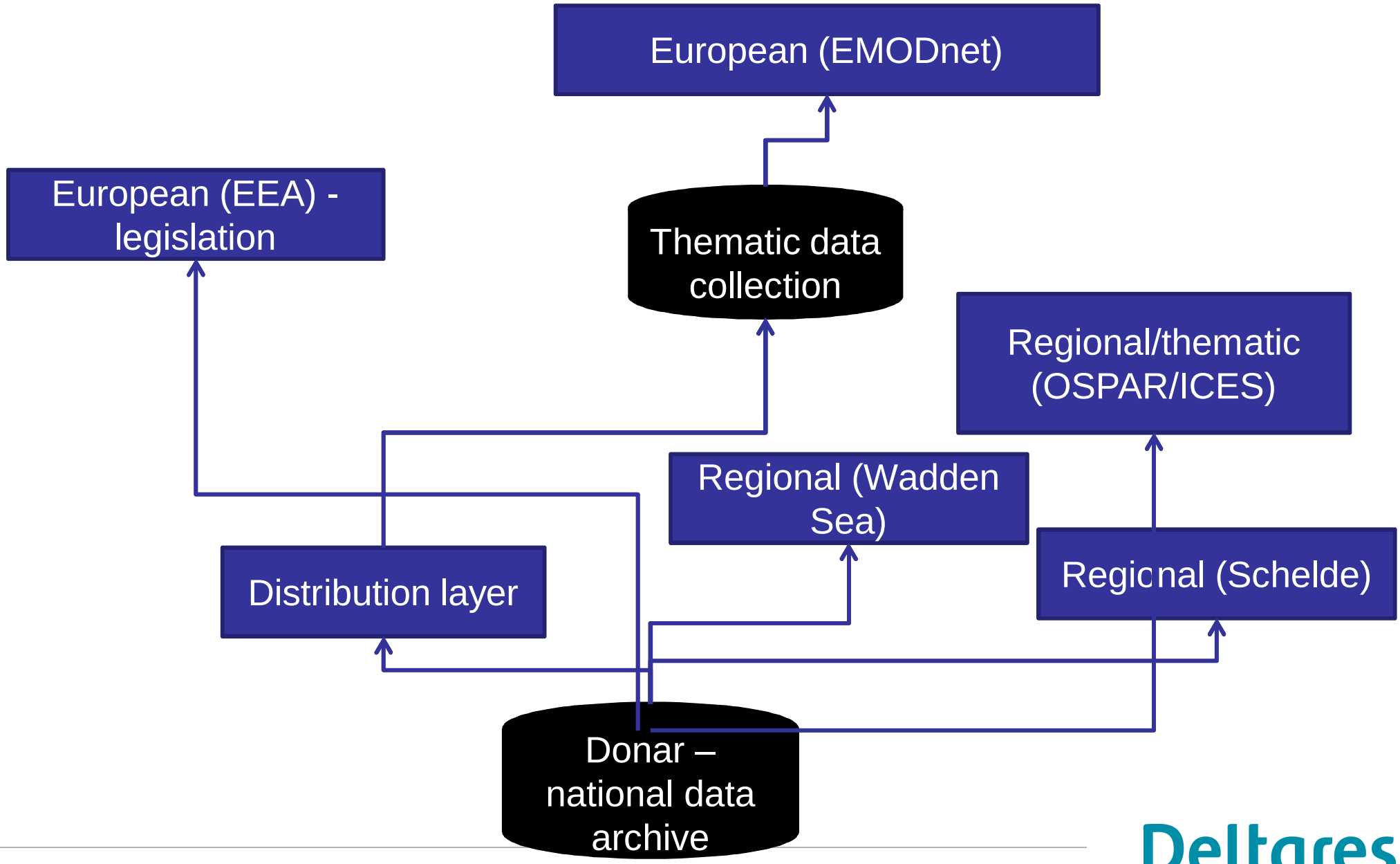
Other example, whater quality data Netherlands



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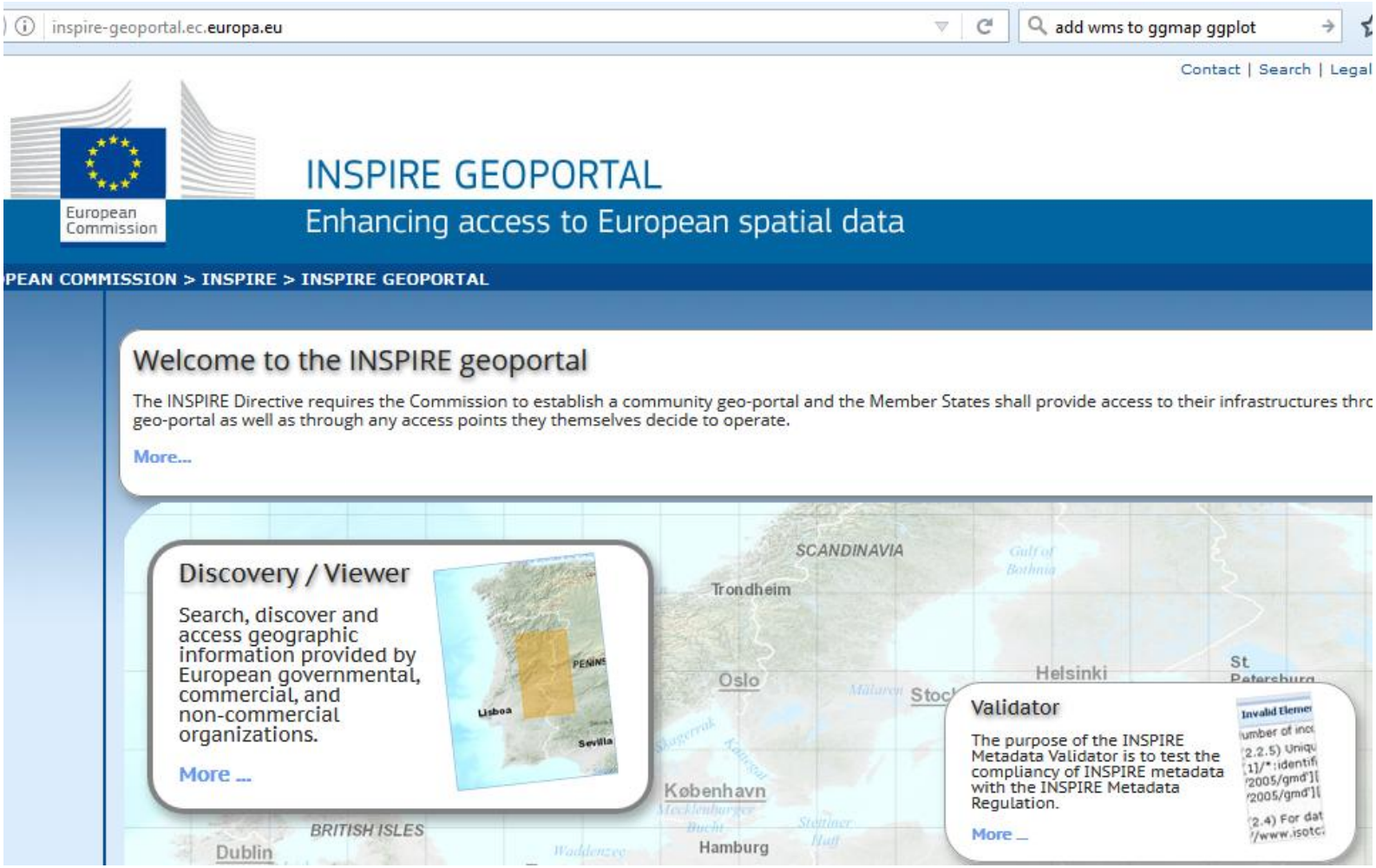
INSPIRE

INSPIRE – Infrastructure for spatial information in Europe



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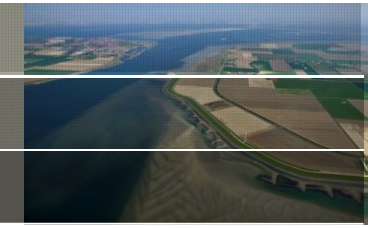
INSPIRE Directive



General rules to establish an **Infrastructure for Spatial Information in Europe** for

- Community **environmental policies**
- Policies or activities which impact on the environment

INSPIRE is built on the **SDIs established and operated by the Member States**

Spatial data held by/on behalf of **public authorities**

Does **no**t require **collection of new data**

INSPIRE is a **Framework Directive**

- Detailed technical provisions in Implementing Rules

JRC is the **technical coordinator**

25.4.2007 EN Official Journal of the European Union L 108/3

I

(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)

DIRECTIVES

DIRECTIVE 2007/2/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 14 March 2007

establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee (1),

After consulting the Committee of the Regions,

Acting in accordance with the procedure laid down in Article 251 of the Treaty, in the light of the joint text approved by the Conciliation Committee on 17 January 2007 (2),

Whereas:

(1) Community policy on the environment must aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. Measures, information, including spatial information, is needed for the formulation and implementation of the policy and other Community policies, which must integrate environmental protection requirements in accordance with Article 6 of the Treaty in order to bring about such integration, it is necessary to establish a measure of coordination between the users and providers of the information so that information and knowledge from different sectors can be combined.

(2) The Sixth Environment Action Programme adopted by Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 (3) requires full consideration to be given to ensuring that the Community's environmental policy-making is undertaken in an integrated way, taking into account regional and local differences. A number of problems exist regarding the availability, quality, organisation, accessibility and sharing of spatial information needed in order to achieve the objectives set out in that programme.

(3) The problems regarding the availability, quality, organisation, accessibility and sharing of spatial information are common to a large number of policy and information themes and are experienced across the various levels of public authority. Solving these problems requires measures that address exchange, sharing, access and use of interoperable spatial data and spatial data services across the various levels of public authority and across different sectors. An infrastructure for spatial information in the Community should therefore be established.

(4) The Infrastructure for Spatial Information in the European Community (Inspire) should assist policy-making in relation to policies and activities that may have a direct or indirect impact on the environment.

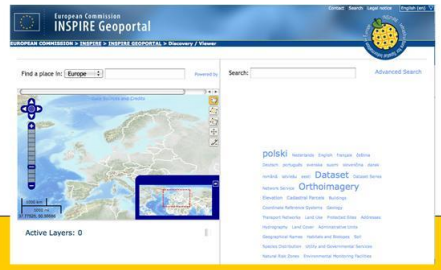
(5) Inspire should be based on the infrastructures for spatial information that are created by the Member States and that are made compatible with common implementing rules and are supplemented with measures at Community level. These measures should ensure that the infrastructures for spatial information created by the Member States are compatible and usable in a Community and transfrontier context.

(1) OJ C 221, 8.9.2005, p. 11.

(2) Opinion of the European Parliament of 7 June 2005 (OJ C 124 E, 25.5.2006, p. 116), Council Common Position of 23 January 2006 (OJ C 126 E, 30.5.2006, p. 1) and Position of the European Parliament of 15 June 2006 (not yet published in the Official Journal). Decision of the Council of 21 January 2007 and legislative resolution of the European Parliament of 15 February 2007 (not yet published in the Official Journal).

(3) OJ L 242, 10.9.2002, p. 1.

INSPIRE components



Geoportals and applications

Service Bus

Discovery Service

View Service

Download Service

Transformation Service

Other SDS

Registry Service

Network services

Spatial Data Services

Service Metadata

Data Set Metadata

Spatial Data Set

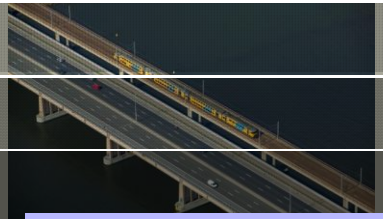
Registers

Interoperability Target Specifications

Metadata

Data

INSPIRE thematic scope



Implementation 2012/2017

Implementation 2015/2020

Annex I

1. Coordinate reference systems
2. Geographical grid systems
3. Geographical names
4. Administrative units
5. Addresses
6. Cadastral parcels
7. Transport networks
8. Hydrography
9. Protected sites

Annex II

1. Elevation
2. Land cover
3. Ortho-imagery
4. Geology

Annex III

1. Statistical units
2. Buildings
3. Soil
4. Land use
5. Human health and safety
6. Utility and governmental services
7. Environmental monitoring facilities
8. Production and industrial facilities
9. Agricultural and aquaculture facilities
10. Population distribution – demography
11. Area management/ restriction/regulation zones & reporting units
12. Natural risk zones
13. Atmospheric conditions
14. Meteorological geographical features
15. Oceanographic geographical features
16. Sea regions
17. Bio-geographical regions
18. Habitats and biotopes
19. Species distribution
20. Energy Resources
21. Mineral resources

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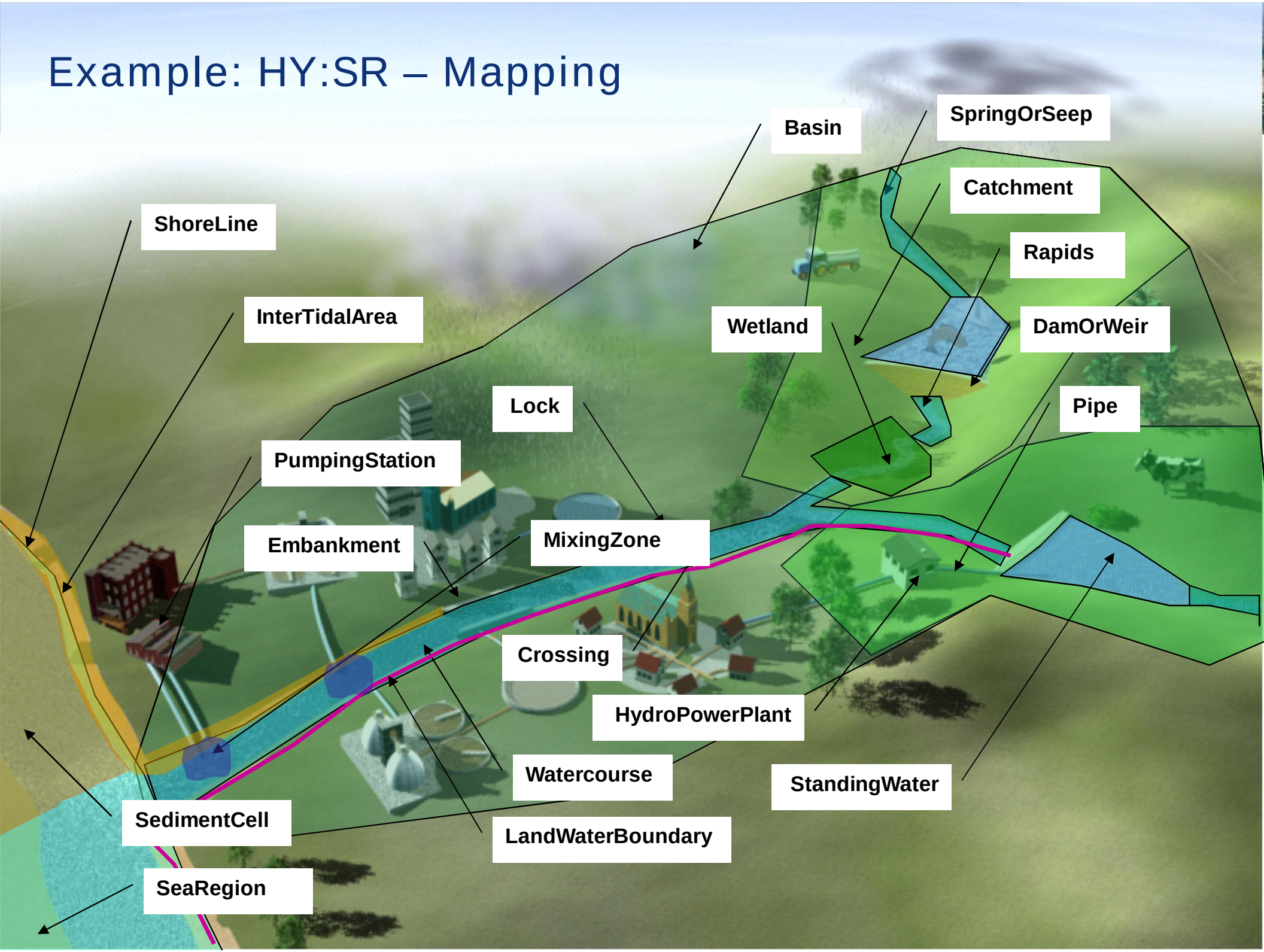
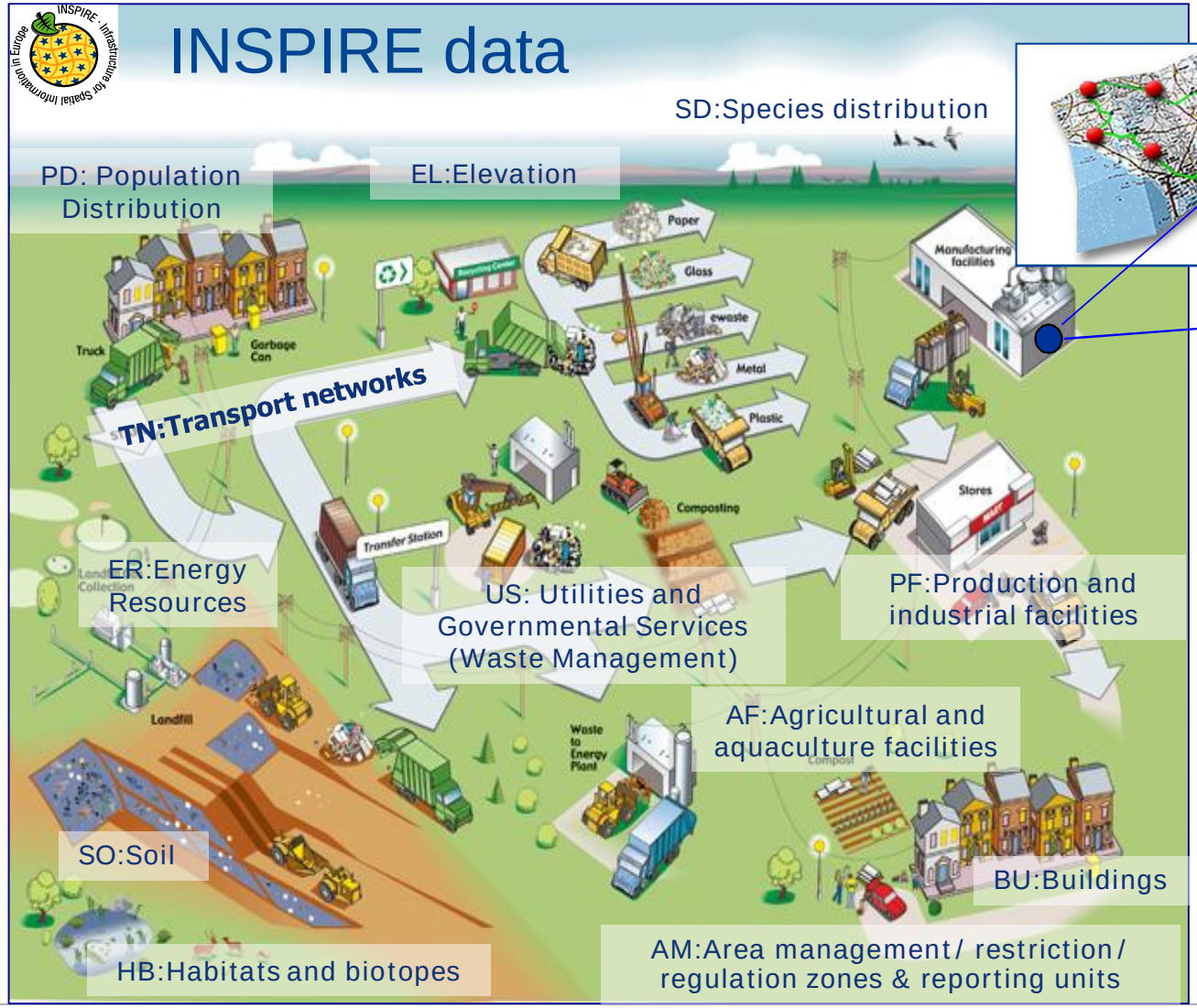
Example: HY:SR – Mapping

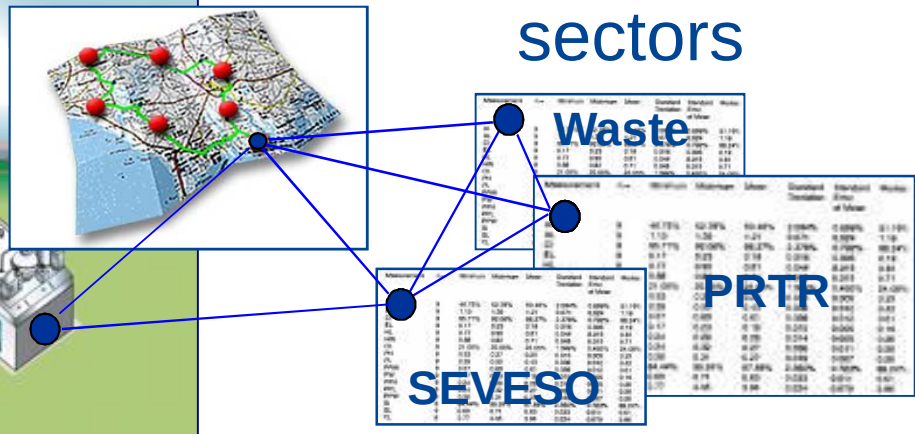


Cross-sector data interoperability

INSPIRE data



Data from other sectors



- Urban Planning
- Waste Management Plans
- Environmental Impact Assessment
- Risk Management

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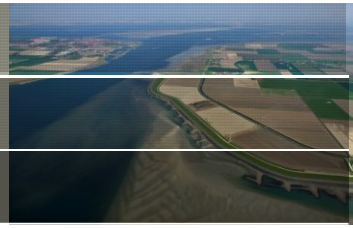
INSPIRE parts



Key pillars of data interoperability

Conceptual data models

- objects types, properties & relationships
- cross-domain harmonization
- based on a common modelling framework
- managed in a common UML repository

Encoding

- conceptual models independent of concrete encodings
- standard encoding: GML, but also possible to derive other encodings (e.g. based on RDF)

Harmonised vocabularies

- achieve better interoperability than free-text and/or multi-lingual content
- allow additional terms from local vocabularies
- 400 code lists & almost 5000 values in central register

Registers

- provide unique and persistent identifiers for reference to resources
- allow their consistent management and versioning

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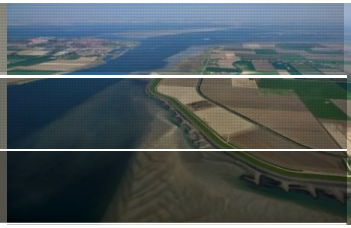
INSPIRE Geoportal



http://inspire-geoportal.ec.europa.eu/discovery/#

In practice: good for spatial data, objects etc. Not (yet) for observations

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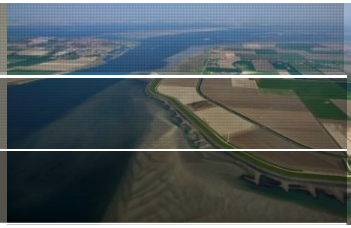
Portals for legislative data



Data and information assembled by the authority related to legislation

- EEA Data and Maps and Water Data Centre (EU WISE - Water Information System)
  - Water Framework directive
  - Habitat directive
  - Marine Strategy Framework directive
- Various national portals

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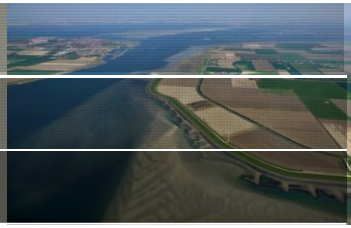
Atlasses for Marine Spatial Planning



- European atlas of the seas
- National atlasses

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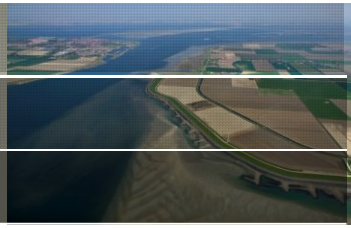
Thematic portals



- Restricted to (observations) within a certain theme (Biodiversity, geology, oceanography, climatalogy, etc.
- Sometimes integrated in other portals/data collections e.g.
  - ICES oceanography is subset of EMODnet chemistry
  - ICES biodiversity is subset of EMODnet Biology
  - EurOBIS is synchronized with EMODnet Biology

Examples of portals to thematic data collections

- ICES oceanographic database
  - Webservices in python / RTools
- OBIS / EurOBIS (via EMODnet Biology) – Ocean Biogeographic Information System
  - Webservices/PythonTools/Rtools
- Vegetation records in the Netherlands
- EGDI – (marine) geology

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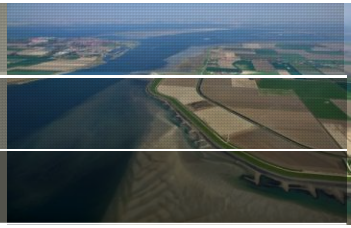
Try it yourself



- Go to one of the above portals
- Select and download data and metadata
- Try to figure out where the origin is of the data

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