

# From data to knowledge

## Information Infrastructures for Planning and Land Management

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2<sup>nd</sup> International Congress  
on Environmental Planning  
and Management

Keynote Working Group 2

Dr. Michael Biló

Berlin, 2007-08-09



The BfN advises

The BfN supports

The BfN enforces

The BfN informs

# TOC

## **The data base ...**

- **source**
- **harmonization**
- **availability**

## **... becoming information ...**

- **putting in context**
- **meta information**
  - thematic
  - geographic

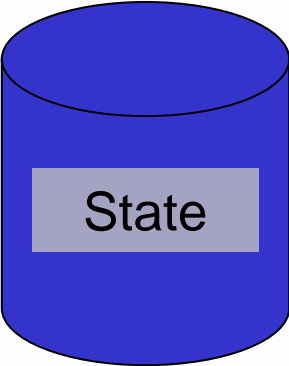
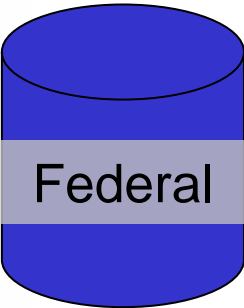
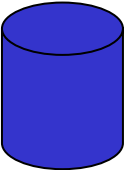
## **... to transfer knowledge**

- **internet**
- **information infrastructures**

Land  
management  
and geo-  
information

# The Data Base

Data sources for information on nature conservation on national level in Germany:

Products	Data sets GIS-files	as needed (data, reports)	as available	as necessary
Administrative instruments	Administrative agreement	R&D contracts	Data exchange	BfN Scientific work
Collection level and maintenance by:	 State	 Federal	Federal (BKG, UBA, BGR, BBR) 	Federal (BfN)

# The Data Base

Data comparison needs data **harmonization**

✓ Data are gained for specific purposes (e.g. on state level)

✓ “Administrative agreement on data exchange between state and federal level for environmental purposes”, Annex “Nature and Landscape” recently updated following new technical developments and the INSPIRE directive

✓ Harmonization of national data by European directives (e.g. Habitats directive, WFD, INSPIRE)

# The Data Base

## Data sources on European level:

The screenshot shows the EIONET website interface. At the top, there is a navigation bar with 'SERVICES', 'REPORTNET', 'TOOLS', and 'TOPICS'. Below this, a sidebar on the left contains a 'User directory' menu with options like 'Roles', 'NFP/Eionet IG', 'Mails to NFPs', 'Eionet ABC Wiki', '50 latest updates', and 'Priority dataflows'. A 'Find a person' search box is also present. The main content area features a 'Frontpage' tab and a paragraph describing Eionet as a partnership network of the European Environment Agency (EEA) and its member countries, involving approximately 900 experts and more than 300 national institutions. Below this, there is a 'News from across the Eionet (Archive...)' section with three news items dated 2007-07-17, each with a title and a brief description.

EEA, ETC

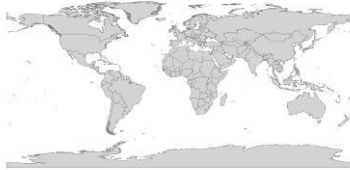
900 Experts from 37 countries in 300 agencies/institutions

Reportnet (documents, tools, data(-warehouse), maps, indicators, ROD)

Themes (Urban environment, Natural Resources, population and economy, Biodiversity)

# The Data Base

## Availability of data:



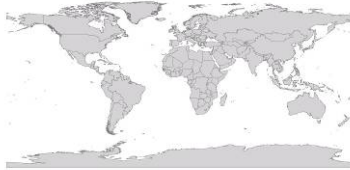
Århus Convention  
(access to  
information, public  
participation in  
decision-making and  
access to justice in  
environmental  
matters, 1998)

Directive  
2003/4/EC of the  
European  
Parliament and of  
the Council on  
Public Access to  
Environmental  
Information (2003)

UIG (2005)  
Implementation  
of 2003/4/EC

# The Data Base

## Availability of data:



- ☺ Increasing (technical) availability
- ☺ Better supply with information on environmental information
- ☹ Weak comparability due to incomparable data sources/basic conditions
- ☹ Information overflow (e.g. due to missing structures)

# TOC

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The data base ...

source  
harmonization  
availability

**... becoming information ...**

- **putting in context**
- **meta information**
  - thematic
  - geographic

**... to transfer knowledge**

internet  
information infrastructures

# Data becoming Information

Meta information is (more specifically) information about (a particular) content.

[www.wikipedia.de](http://www.wikipedia.de)

In practical work the use of meta information is important to give answer on

- What?
- Where?
- When?
- ... (Who, Why, How)

and hence improves the navigation in an information system.

# WHAT Information?

Thesaurus: Context by a (poly-) hierarchical list of defined words with synonyms and – if available - translations.

The screenshot shows the EIONET GEMET Thesaurus website. At the top left, it says "EIONET GEMET Thesaurus". Below this is a navigation bar with "SERVICES", "REPORTNET", "TOOLS", and "TOPICS". A breadcrumb trail reads "You are here: Eionet» GEMET thesaurus". On the left side, there is a sidebar menu with items like "User directory", "Roles", "NFP/Eionet IG", "Mails to NFPs", "Eionet ABC Wiki", "50 latest updates", and "Priority dataflows". Below the sidebar is a "Find a" section. The main content area has a navigation bar with "Thematic listings", "Alphabetic listings", "Hierarchical listings", and "Search thesaurus". Below this is a "Select language:" section with buttons for various languages: bg, cs, da, el, en, en-US, es, et, eu, fi, fr, hu, it, nl, pl, pt, ru, sk. The main content area displays a list of terms under the heading "Thes list", including: administration, agriculture, air, animal husbandry, biology, accidents, risk, economics, energy, environmental policy, fishery, food, drinking water, forestry, general, geography, legislation, materials, military aspects, natural areas, landscape, ecosystem, natural dynamics, noise, vibrations, physics, pollution, radiations, space, tourism, trade, services, and transport. Four callout boxes are overlaid on the screenshot: "Hierarchical listings" points to the "Hierarchical listings" link; "Search thesaurus" points to the "Search thesaurus" link; "Alphabetic listings" points to the "Alphabetic listings" link; and "Thematic listings" points to the "Thematic listings" link.

Hierarchical listings

Search thesaurus

Alphabetic listings

Thematic listings

# WHAT Information? - II

Select language: [bg](#) [cs](#) [da](#) [de](#) [el](#) [en](#) [en-US](#) [es](#) [et](#) [eu](#) [fi](#) [fr](#) [hu](#) [it](#) [nl](#) [no](#) [pl](#) [pt](#) [ru](#) [sk](#)

[sl](#) [sv](#)

## land management and planning

### Concept definition:

Operations for preparing and controlling the implementation of plans for organizing human activities on land.  
(Source: GOOD)

### broader terms

environmental management

### narrower terms

land development

land use regime

soil use regime

### related terms

land

land setup

### Scope note:

scope note is not available

### Themes:

agriculture  
environmental policy  
natural areas, landscape, ecosystems  
urban environment, urban stress

### Groups:

ENVIRONMENTAL POLICY

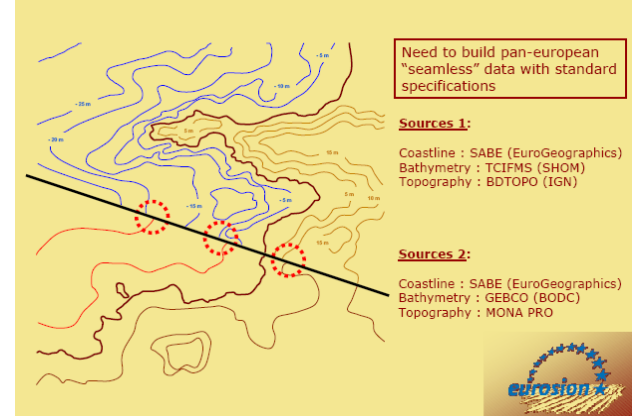
<b>Български:</b>	Управление и планиране на земята
<b>Čeština:</b>	ŘÍZENÍ A ÚZEMNÍ PLÁNOVÁNÍ
<b>Dansk:</b>	arealforvaltning og -planlægning
<b>Deutsch:</b>	Raumordnung und -planung
<b>Ελληνικά:</b>	διαχείριση και σχεδιασμός χρήσης γαιών
<b>English (US):</b>	land management and planning
<b>Español:</b>	gestión y planificación de tierra
<b>Eesti keel:</b>	maa korraldus ja planeerimine
<b>Euskara:</b>	lur-kudeaketa eta -plangintza; lurraren kudeaketa eta plangintza
<b>Suomi:</b>	maan hallinta ja suunnittelu
<b>Français:</b>	aménagement du territoire
<b>Magyar:</b>	földgazdálkodás és tervezés
<b>Italiano:</b>	sfruttamento razionale del territorio
<b>Nederlands:</b>	landbeheer en -inrichting
<b>Norsk:</b>	arealforvaltning og -planlegging
<b>Polski:</b>	gospodarka przestrzenna
<b>Português:</b>	gestão e planeamento de terrenos
<b>Русский:</b>	планирование и управление землепользованием
<b>Slovenčina:</b>	priestorový manažment a plánovanie

# WHERE?



## Flood risk assessment

### Issue No. 4 – Many data sources are not consistent



<http://www.ec-gis.org/inspire/reports/euroSION.pdf>

## Monitoring of Marine Environment

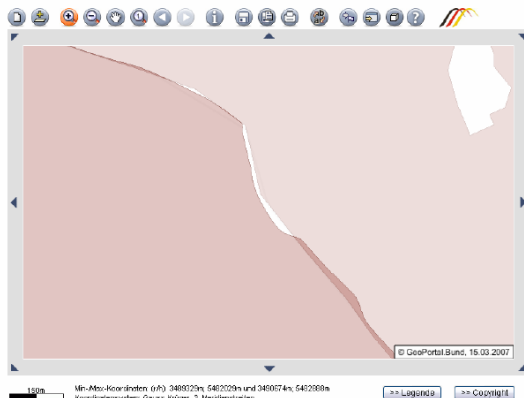


Abb.: Beispiel geometrischer Inhomogenitäten an den Ländergrenzen

## Nature Protection Areas

# WHERE?

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Spatial reference of environmental information by:

- Geo-topographic reference (geodetic, administrative)
- Geological, pedological, hydrological, biological, ... situation on earth
- Administrative boundaries (Nature Conservation areas)
- Land Cover

Fragmentation of datasets and sources

Gaps in availability

Lack of harmonisation between datasets at different geographical scales and

Duplication of information collection

# WHERE?

**IMAGI**

started 1998

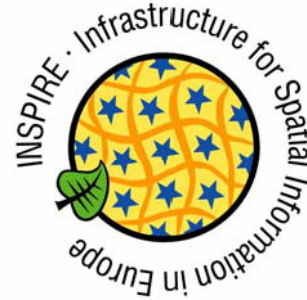


started 2004



legally started in 2007

# WHERE?



Directive 2007/2/EC entered into force on the 15th May 2007

Objectives:

- Make relevant harmonized spatial data available for policy and citizen through establishment of integrated spatial information services based upon a distributed network of databases linked by common standards and protocols

# TOC

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## The data base ...

source  
harmonization  
availability

## ... becoming information ...

putting in context  
meta information

- thematic
- geographic

## ... to transfer knowledge

- internet
- information infrastructures

# Knowledge

Meet the information needs  
or  
to answer questions



Google  
Deutschland

Web Bilder Groups News Produkte Mehr »

Suche:

Suche:  Das Web  Seiten auf Deutsch  Seiten aus Deutschland

[Werbung](#) - [Unternehmensangebote](#) - [Über Google](#) - [Google.com in English](#)

[Machen Sie Google zu Ihrer Startseite!](#)



Portal German Environmental Information Portal

Home | myPortal | Site Map | Help | Contact | German

Service | News | Events | Hubs | Almanac | About Portal!

Portal Search

Environmental Information | Addresses | Research Projects

Enter a query

Advanced Search | History | Options | Tips & Tricks

Topics

Waste • Soil Pollution • Construction • Soil • Chemicals • Energy • Forestry • Gene-Technology • Geology • Health • Noise • Agriculture • Air and Climate • Sustainable Development • Nature and Landscape • Radiation • Animal Health • Environmental Information • Environmental Economy • Traffic • Water

News

Countdown zur Rettung der biologischen Vielfalt Prominente Naturallianz unterstützt Kampagne zur UN-Naturschutzkonferenz 2008 20.7.2007 14:14  
Bundesumweltminister Sigmar Gabriel bekommt prominente Unterstützung für eine bundesweite Kampagne zur biologischen Vielfalt mit der Gründung der "Naturallianz". Diese neue Bündnis für die

Portallife INFO

Portallife participates in the European eGovernment Awards 2007 and has been selected as one of 52 finalists out of 211 applicants. The environmental information portal will be presented within the theme group "Participation and transparency" at the Ministerial eGovernment Conference on 20-21 September 2007 in Lisbon.

More ...

SERVICE

News-Guides  
Publications  
Events

DATA

Radiation

# Knowledge II

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**Information Infrastructures support access to (environmental) information by different tools:**

**Sophisticated search engines**

**Pre-Structured supply and active dissemination of information**

**Semantic context (knowledge) of terms**

**Geographical reference**

**Decentralized maintenance of information**

# Information Infrastructures

www.portalu.de



German Environmental Information Portal

Home | myPortalU - Site Map - Help - Contact | German

Search Service Data Topics Maps Almanac About PortalU

## PortalU Search

Environmental Information Addresses Research Projects

(land management)

PortalU Search

» Advanced Search » History » Options » Tips & Tricks

## Topics



Waste · Soil Pollution · Construction · Soil · Chemicals · Energy · Forestry · Gene-Technology · Geology · Health · Noise · Agriculture · Air and Climate · Sustainable Development · Nature und Landscape · Radiation · Animal Health · Environmental Information · Environmental Economy · Traffic · Water

## PortalU INFO

PortalU participates in the European eGovernment Awards 2007 and has been selected as one of 53 finalists out of 311 attendants. The environmental information portal will be presented within the theme group "participation and transparency" at the Ministerial eGovernment Conference on 20-21 September 2007 in Lisbon.

» More ...

## SERVICE

» News-Bulletins  
» Publications  
» Events

## DATA

» Radiation

EEA EnviroWindows

Login Acronyms Search Search Eionet

## EIONET

European Environment Information and Observation Network

SERVICES REPORTNET TOOLS TOPICS

You are here: Eionet

- » User directory
- » Roles
- » NFP/Eionet IG
- » Mails to NFPs
- » Eionet ABC Wiki
- » 50 latest updates
- » Priority dataflows

Find a person

Frontpage Partners Activities Countries About

Eionet is a partnership network of the [European Environment Agency](#) (EEA) and its member and participating countries involving approximately 900 experts and more than 300 national institutions. The network supports the collection and organisation of data and the development and dissemination of information concerning Europe's environment ([More...](#))

## News from across the Eionet ([Archive...](#))

- 2007-07-27 [CFT: Inspire monitoring facilities](#)  
Call for tender for development and prototyping of Inspire technical specifications for air, water, waste and biodiversity environmental monitoring facilities ([More...](#))
- 2007-07-17 [GMES Land User Newsletter - Spring 2007](#)  
In April 2007, the third issue of the GMES Land Newsletter had been published. ([More...](#))
- 2007-07-17 [CFT: IT solutions linking INSPIRE to CAFE](#)  
Prior information notice: Development and demonstration of technical IT solutions linking INSPIRE services to the reporting and data

July 2007

Mo	Tu	We	Th	Fr	Sa	Su
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

## Coming up

- 2007-07-02: Review of emission inventories under the NEC Directive and the LRTAP convention
- 2007-07-15: 7.2.2 UNEP/EEA report on SCP (2007)
- 2007-07-23: Annual NEC Directive emission inventory report

www.eionet.europa.eu

# Information Infrastructures



Startseite | Glossar | Sitemap | Hilfe | Kontakt | Impressum | Inhaltsuche | Seite empfehlen

WebGIS Geodatenuche und mehr.....

Über uns | Das Portal

**Geodatenkatalog**

► [Einfache Suche](#)    ► [Erweiterte Suche](#)

**Geoviewer**

[Java-freier Basisviewer](#)    [Java-basierter Expertenviewer](#)

[GDI-DE Modellprojekt "Schutzgebieteinformationen"](#)

Nutzen Sie den [Java-freien Basisviewer](#) für eine Java-freie Darstellung oder den [javabasierten Expertenviewer](#) für die Darstellung von Online-Geodaten.

Beachten Sie bitte, dass GeoPortal.Bund Angebote verschiedener öffentlicher Einrichtungen visualisiert. Für die Erreichbarkeit und die Inhalte dieser Angebote sind vor allem jeweiligen Einrichtungen verantwortlich.

GeoPortal.Bund Team

**News**

- Juli 2007
- Mai 2007

**Newsletter**

► Juli 2007

► Mai 2007

www.geoportal.bund.de

www.ec-gis.org/inspire

HOME

WHY INSPIRE?

WHAT'S NEW

OPEN LETTER

KEEP INFORMED / REGISTER

Registered SDIC/LMOS

SDIC/LMO LOGIN and REGISTRATION

METADATA SURVEY

DATA SPEC SURVEYS

INSPIRE WORKPROGRAMME

STATE OF PLAY: Reports

EVENTS

DOCUMENT ARCHIVE

CONTACTS

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Important Legal Notice

## INSPIRE DIRECTIVE

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) was published in the official Journal on the 25th April 2007. The INSPIRE Directive entered into force on the 15th May 2007

[Full text of the directive \(EN\)](#)

The directive is available in the official languages.  
[Official Journal of the European Union](#)

## Headline News

July 11, 2007

### Two important new calls have been published today:

The Call for Expression of Interest for Development of Data Specifications:

- to submit candidate Specifications (scenario 1)
- to participate in Specification Development process (scenario 2)

published today, 11th July 2007, are addressed to the SDICs and LMOS to submit candidate specifications (scenario 1) and propose experts for the Thematic Working Groups according to scenario 2.

### Call for expression of interest: Monitoring Feasibility Test

The INSPIRE directive requires the Member States in article 21 to monitor the implementation and use of their infrastructures for spatial information, and to provide a report every year to the Commission. To that aim the Directive

## SDICs and LMOs

Registered SDICs and LMOS can add new reference material and projects to the Implementing Rules Development databases.  
[Read More](#)

[Login](#) to update your entry  
[Register](#) a new SDIC/LMO.

## NEWS

- **24-Jul-07** Call for tender: development and prototyping of INSPIRE technical specifications for air, water, waste and biodiversity environmental monitoring facilities
- **12-Jul-07** The minutes of the first INSPIRE Committee meeting that took place on 26 June 2007 at Brussels have been made available to the European Parliament.
- **11-Jul-07** Today, two new INSPIRE calls have been published: one Call for Expression of Interest for Development of Data Specifications and one for participation in the Monitoring Feasibility Test.
- **10-Jul-07** eContentPlus work programme and call for proposals have been adopted by the Commission on 6 July 2007
- **26-Jun-07** 1st INSPIRE Committee Meeting
- **16-May-07** INSPIRE Work Programme : Transposition Phase 2007-



Thank you very much  
for your attention!

*Michael Biló*

*Michael.Bilo@BfN.de*

Busy *for* Nature



Federal Agency for  
Nature Conservation





# Annex

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# ANNEX

# Annex Data Exchange



*State and Federal level agree upon a mutual exchange of data to fulfil their respective tasks according to the mechanisms explained ...*

## Recently annexes on:

- *Water Quality*
- *Air Quality*
- *PCDD/PCDF*
- *Soil*
- *Nature and Landscape*
- *Hydro-Meteorology*
- *Quality of Inland Water*
- *Waste Water discharge*
- *Ground Water*
- *Ocean and Coastal Water*
- *Gauges*

# Annex I INSPIRE



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

# Annex II INSPIRE



<b>1. Elevation</b>	<b>3. Orthoimagery</b>
<b>2. Land cover</b>	<b>4. Geology</b>

# Annex III INSPIRE



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