

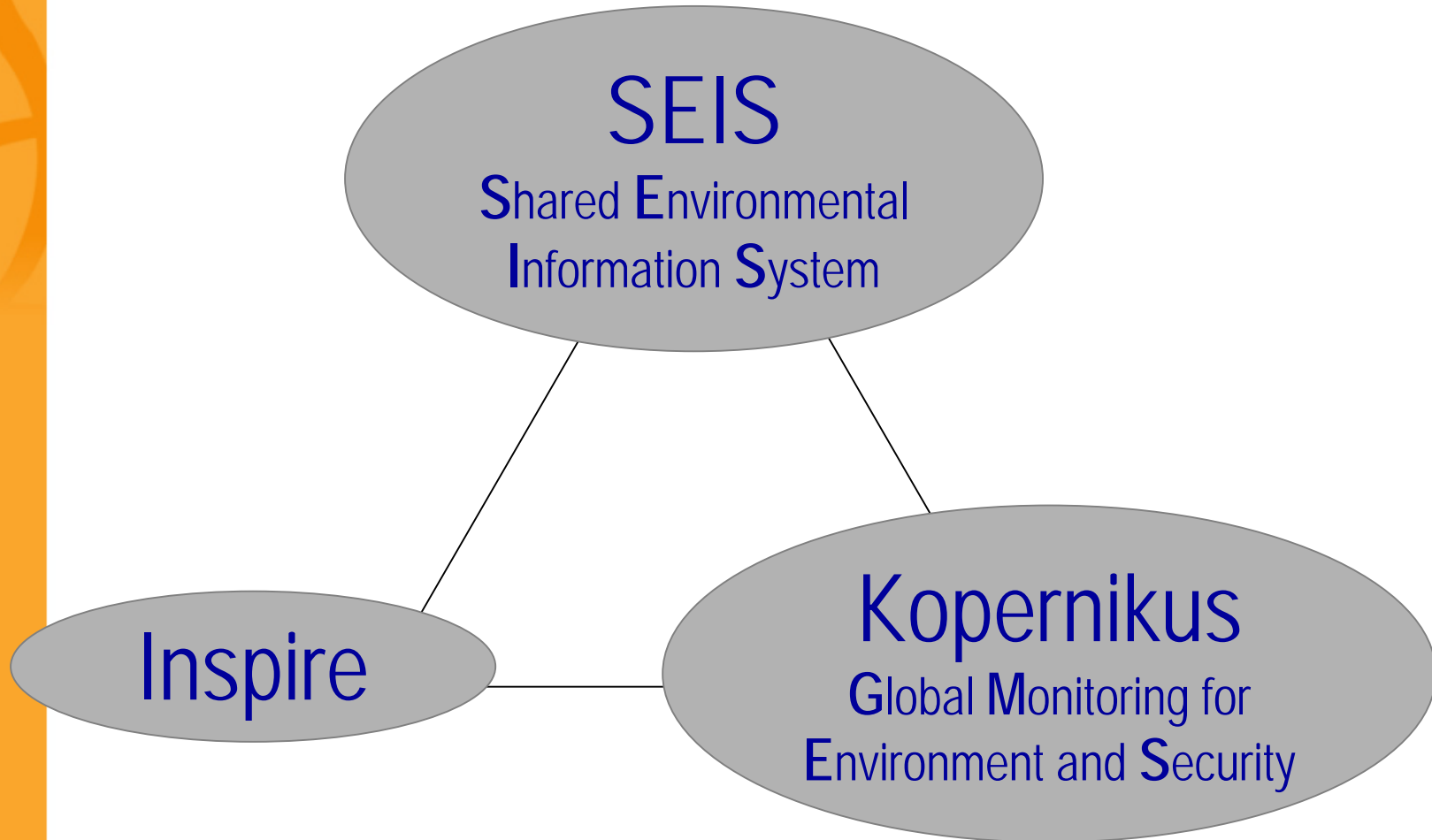


# Directiva INSPIRE e Iniciativas Europeias: SEIS e Kopernikus

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Águeda, 21 de Outubro de 2008

# Tópicos





# SEIS

## Shared Environmental Information System

### Sistema de Informação Ambiental Partilhada

Comunicação da Comissão COM(2008)46 de 01.02.2008

O que é ?  
(por enquanto)

"abordagem para [...] modernização e simplificação da recolha, intercâmbio e utilização dos dados e informações [...] para a elaboração e implementação da política ambiental,

[...] os actuais sistemas de comunicação de informações, em grande parte centralizados, serão progressivamente substituídos por sistemas baseados no acesso, na partilha e na interoperabilidade [...]

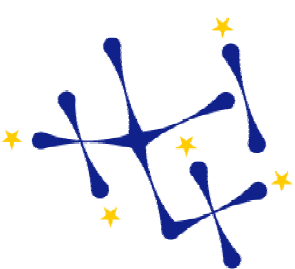


# SEIS

## Shared Environmental Information System

Como ?  
(do ponto de  
vista da CE)

"modernizar a forma como são disponibilizadas as informações exigidas em vários diplomas legislativos em matéria de ambiente, através de um instrumento legislativo a propor em 2008, o qual assumirá provavelmente a forma de uma revisão da actual Directiva "Normalização e Racionalização dos Relatórios" (Directiva 91/692/CE)."



# SEIS

## Shared Environmental Information System

### Princípios:

A informação deve ser:

- gerida tão próximo da fonte quanto possível;
- recolhida uma vez e partilhada / reutilizada muitas vezes.

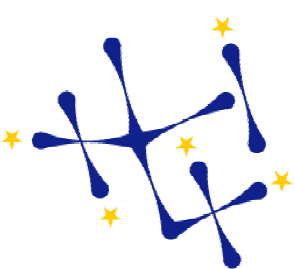
A informação deve estar prontamente ao dispor

- das autoridades públicas para que cumpram as suas obrigações legais de comunicação de informações;
- e dos utilizadores finais

(sobretudo autoridades públicas do nível local até ao europeu)  
para monitorização, implementação e elaboração  
de políticas ambientais.

**+100**  
directivas,  
regulamentos...

**70%**  
no âmbito de  
Convenções  
Internacionais



# SEIS

## Shared Environmental Information System

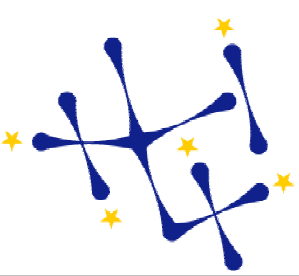
### Princípios:

A informação deve estar

- acessível aos utilizadores finais  
(tanto autoridades públicas como cidadãos)  
para efectuar comparações à escala geográfica adequada  
(e.g. países, cidades, bacias hidrográficas)
- inteiramente ao dispor do grande público, *após se ter em devida consideração* o nível adequado de agregação dos dados e sob reserva de condicionalismos de confidencialidade adequados.

A partilha e tratamento da informação deve ser apoiada por

ferramentas informáticas comuns abertas e gratuitas.



# SEIS

## Shared Environmental Information System

Na prática:

"Within the **Commission**, priority will be given to the implementation of the INSPIRE directive and the continued development of the GMES initiative [...]

The success of both of these activities will be carefully monitored in order to assess whether complementary initiatives need to be launched.

This is to ensure that SEIS, INSPIRE and GMES will be mutually supportive.

A **SEIS Task Force** has been established to assist the Commission [...] and will bring together all relevant stakeholders (Commission services, MSs, EEA, Regions, NGOs, International Organisations, businesses) [...] first meeting on Monday **29 September 2008** in Brussels.

The **European Environment Agency (EEA)** has a crucial role [...] in implementing SEIS. As its mandate is to provide timely and reliable environmental information, it is essential that EEA continues make SEIS the centre of its strategy.

The EEA's Reportnet tool needs to be taken up fully by all EEA member countries and will need to be progressively adapted with the new European environmental information system.



# EEA

## European Environmental Agency



- 27 EU  
+  
Islândia  
Liechtenstein  
Noruega  
Suiça  
Turquia
- Albânia  
Bosnia Herzegovina  
Croácia  
FYR Macedonia  
Montenegro  
Sérvia





# SEIS

## Shared Environmental Information System

Na visão da EEA:

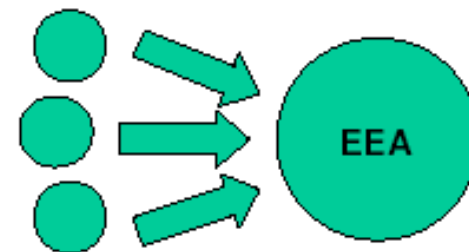
**1985 – 1995+**

**"stand alone" information system**



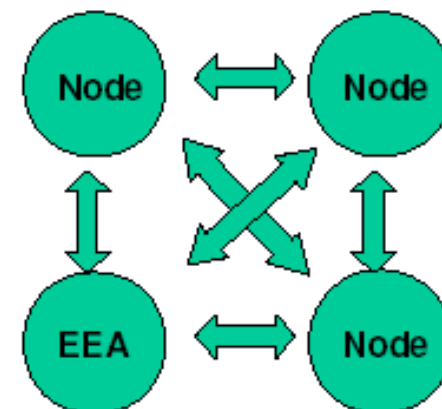
**1995 - 2005+:**

**"reporting" information system**



**2005 – 2015+:**

**"shared" information system**





# SEIS

## Shared Environmental Information System

Na visão da EEA:



**Snail mail  
Fax**

**Tapes  
CD-ROM  
Floppy disks**

**Email  
with  
attachments**

**Web-based  
data  
delivery**

**80's**

**90's**

**21<sup>st</sup> century**

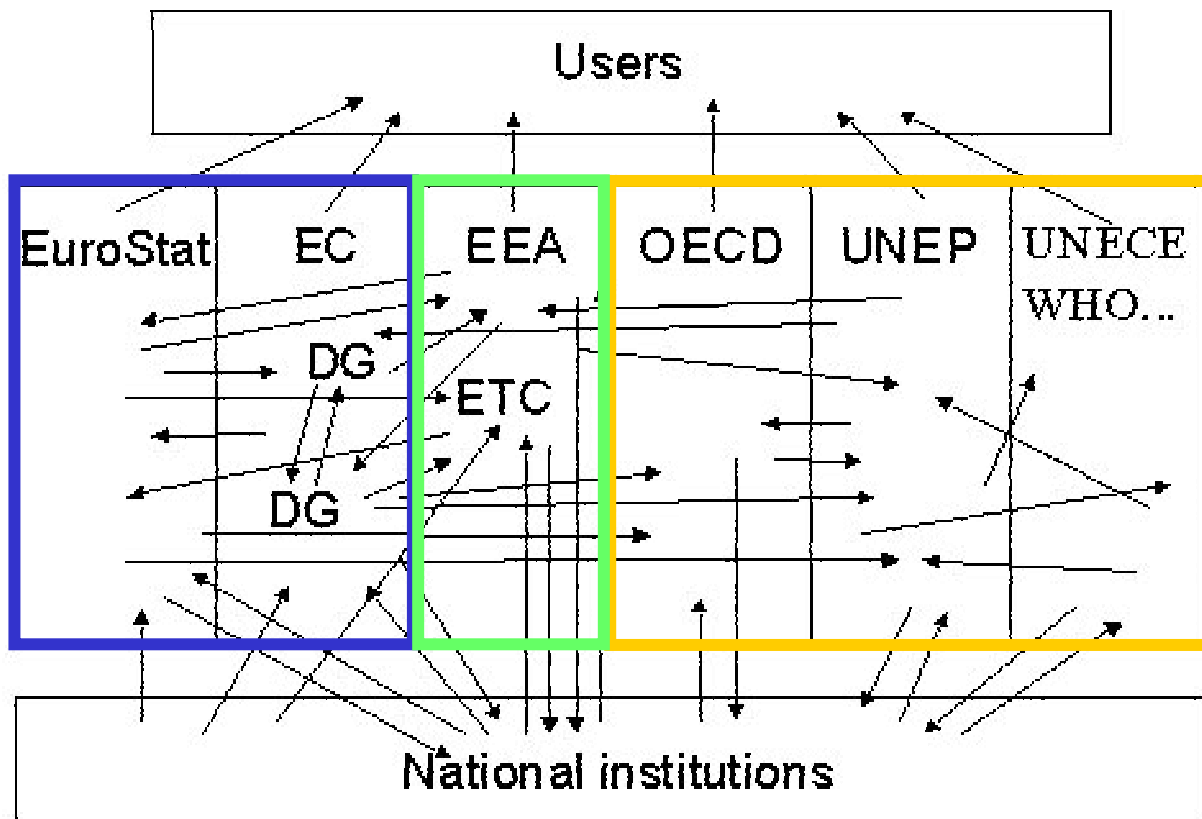
**Paper based reporting >> Electronic data reporting**



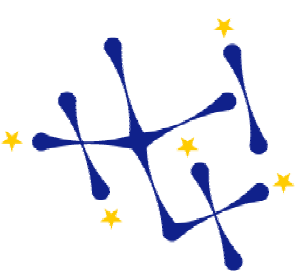
# SEIS

## Shared Environmental Information System

Fluxos de  
Informação  
actualmente:



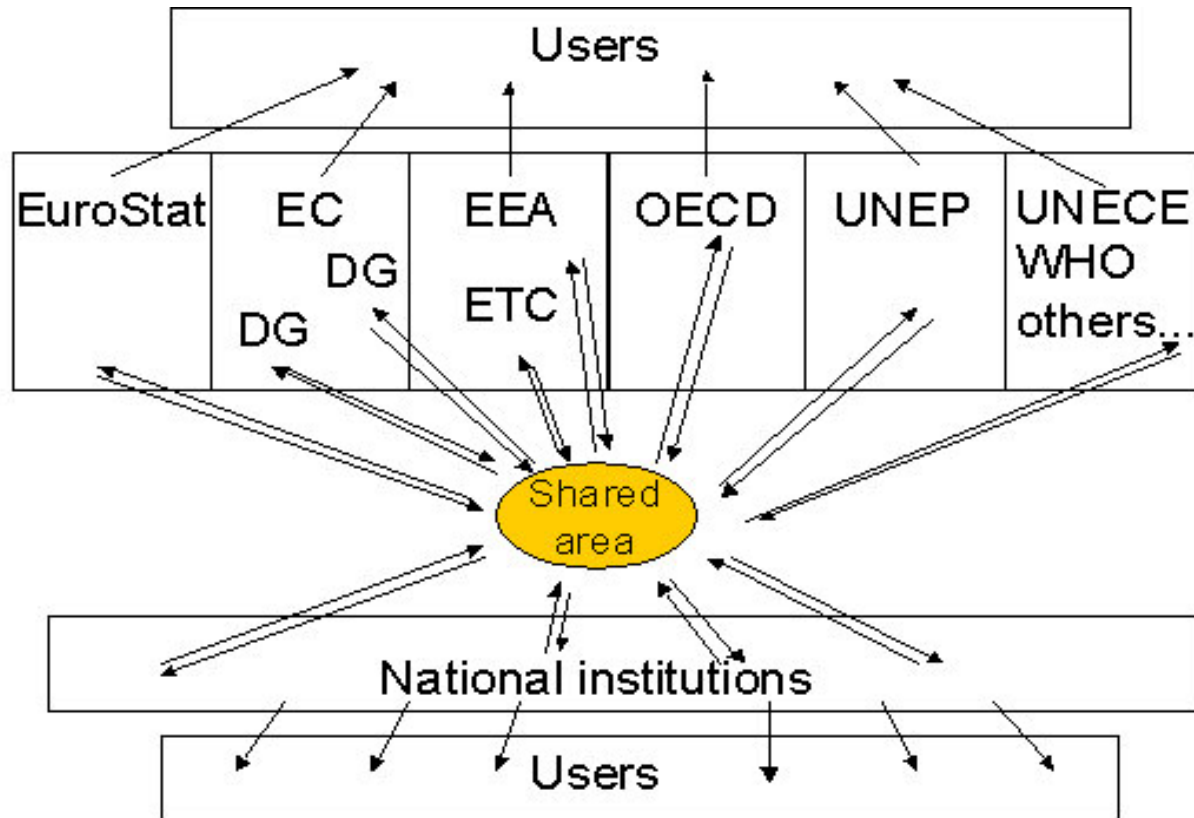
EC: European Commission  
Eurostat: European Commission statistical office  
EEA: European Environmental Agency  
OECD: Organisation for Economic Cooperation and Development  
UNEP: United Nations Environment Programme  
UNECE: United Nations Economic Commission for Europe



# SEIS

## Shared Environmental Information System

Fluxos de  
informação  
no SEIS:



EC: European Commission  
Eurostat: European Commission statistical office  
EEA: European Environmental Agency  
OECD: Organisation for Economic Cooperation and Development  
UNEP: United Nations Environment Programme  
UNECE: United Nations Economic Commission for Europe



# EIONET

European Environment Information and Observation Network

O que existe actualmente "parecido" ao SEIS:

The screenshot shows the EIONET Central Data Repository website. The browser window title is "CDR - Microsoft Internet Explorer". The address bar shows "http://cdr.eionet.europa.eu/". The website header includes the EEA logo and "EnviroWindows". The main heading is "EIONET Central Data Repository". Below this is a navigation menu with "SERVICES", "REPORTNET", "TOOLS", and "TOPICS". The current page is "CDR".

**Navigation**

- » Search
- » Global worklist
- » Notifications
- » Help

The login has been moved to the upper-right corner.

The Central Data Repository is part of the ReportNet architecture. The Central Data Repository is like a bookshelf, with data reports on the environment as submitted to international clients.

Each country either has a collection (📁) for its deliveries or a referral (🔗) to a different preferred repository. The data reports within each country collection are arranged under the relevant reporting obligations or agreements.

EEA Member countries

<a href="#">Austria</a>	<a href="#">Belgium</a>
<a href="#">Bulgaria</a>	<a href="#">Cyprus</a>
<a href="#">Czech Republic</a>	<a href="#">Denmark</a>
<a href="#">Estonia</a>	<a href="#">Finland</a>
<a href="#">France</a>	<a href="#">Germany</a>
<a href="#">Greece</a>	<a href="#">Hungary</a>
<a href="#">Iceland</a>	<a href="#">Ireland</a>
<a href="#">Italy</a>	<a href="#">Latvia</a>
<a href="#">Liechtenstein</a>	<a href="#">Lithuania</a>
<a href="#">Luxembourg</a>	<a href="#">Malta</a>
<a href="#">Netherlands</a>	<a href="#">Norway</a>
<a href="#">Poland</a>	<a href="#">Portugal</a>

**Global worklist**

**Search**

**Search XML files**

**Recent uploads**

- [PT: Monthly Ozone Exceedances - September 2008](#)
- [DE: Annual report and questionnaire for 2007](#)
- [AT: WISE\\_SoE\\_2008\\_Rivers\\_test\\_please\\_ignore](#)
- [DE: Nitrates Directive Report 2008 \(Data\)](#)
- [SE: Inland waters \(even years\) delivery 2008](#)
- [FR: controles operationnels complement 2007](#)
- [SI: Report June 2007](#)
- [SI: Art 16& 17\\_Dec 2005](#)



# EIONET

European Environment Information and Observation Network

Dados  
enviados  
por  
Portugal:

The screenshot shows the EIONET Central Data Repository website for Portugal. The browser window title is "Portugal - Microsoft Internet Explorer" and the address bar shows "http://cdr.eionet.europa.eu/pt". The website header includes the EEA logo and "EnviroWindows". The main content area is titled "EIONET Central Data Repository" and features a navigation menu with "SERVICES", "REPORTNET", "TOOLS", and "TOPICS". Below the menu, the breadcrumb "You are here: Eionet > CDR > Portugal" is displayed. The "Navigation" sidebar lists "Search", "Global worklist", "Notifications", and "Help". The main content area has an "Overview" tab selected, showing "Portugal Obligations" and a section for "Envelopes and subcollections". A table lists various subcollections with their respective dates.

Subcollection	Date
<a href="#">EEA requests</a>	10 Jul 2008
<a href="#">European Pollutant Emission Register (EPER)</a>	26 Sep 2008
<a href="#">European Union (EU), obligations</a>	29 Sep 2008
<a href="#">Eurostat/OECD joint questionnaire</a>	05 Jul 2004
<a href="#">Helcom</a>	05 Jul 2004
<a href="#">Ospar/Parcom</a>	05 Jul 2004
<a href="#">Other conventions and agreements</a>	05 Jul 2004
<a href="#">United Nations (UN)</a>	16 Jun 2008

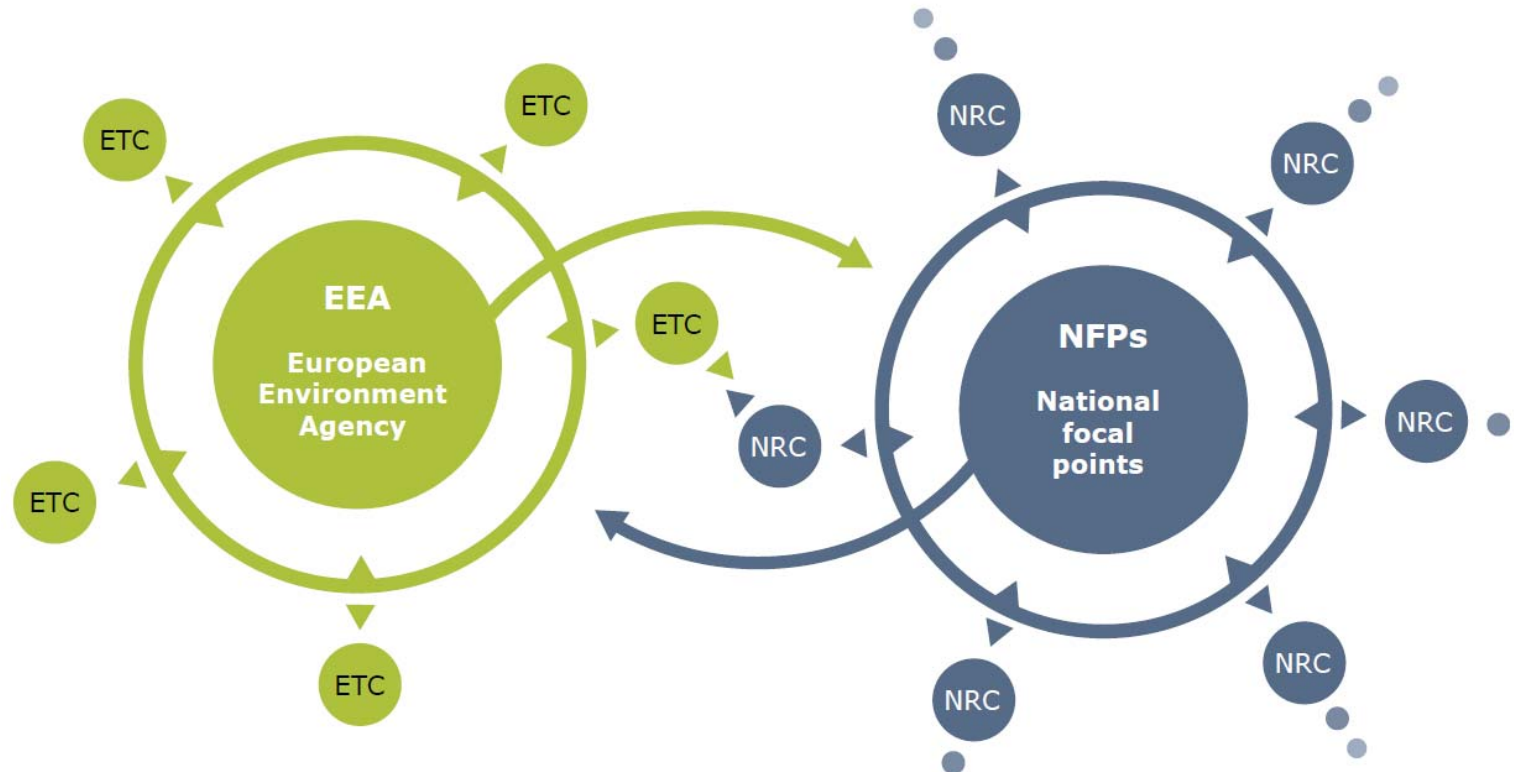


# EIONET

European Environment Information and Observation Network

...muito centrada na produção de indicadores de âmbito europeu...

"... aims to provide timely and quality-assured data, information and expertise for assessing the state of the environment in Europe and the pressures acting upon it. This enables policy makers to decide on appropriate measures for protecting the environment at national and European level and to monitor the effectiveness of policies and measures implemented.





# EIONET

European Environmental Agency + 5 European Topic Centres

...estrutura  
do lado da  
EEA...





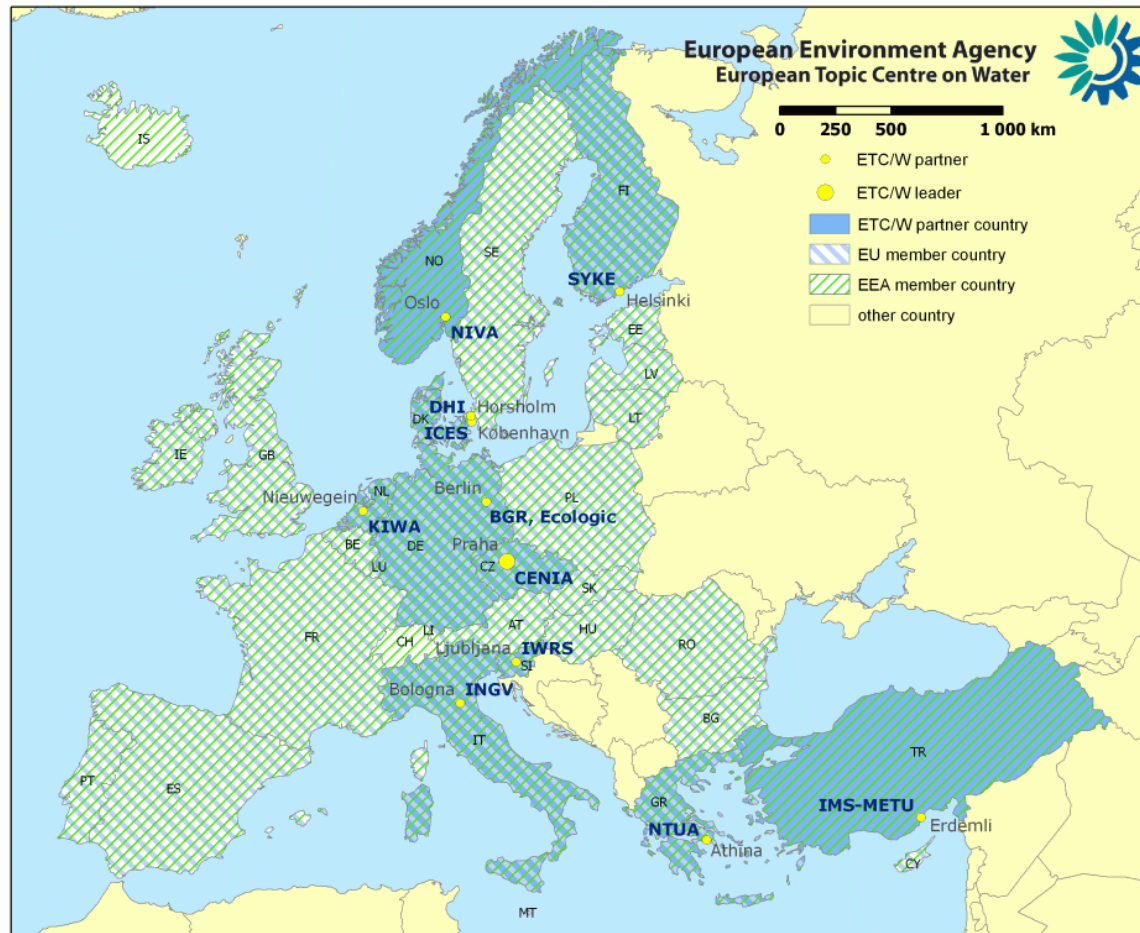


# ETC/W

European Topic Centre on Water

12  
instituições  
agregadas  
em consórcio

fornece  
consultoria  
especializada  
à EEA

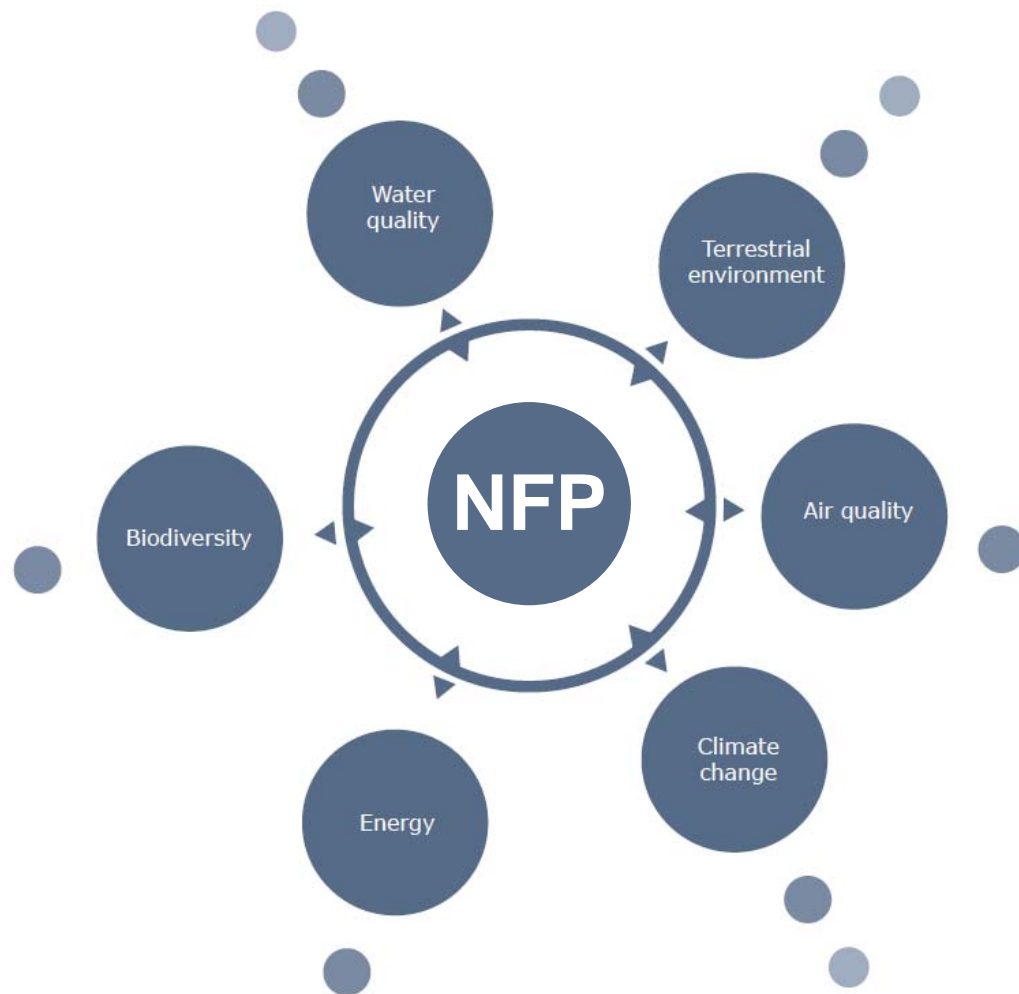




# EIONET

37 National Focal Points + National Reference Centres

...estrutura  
do lado dos  
Estados-  
Membros ...

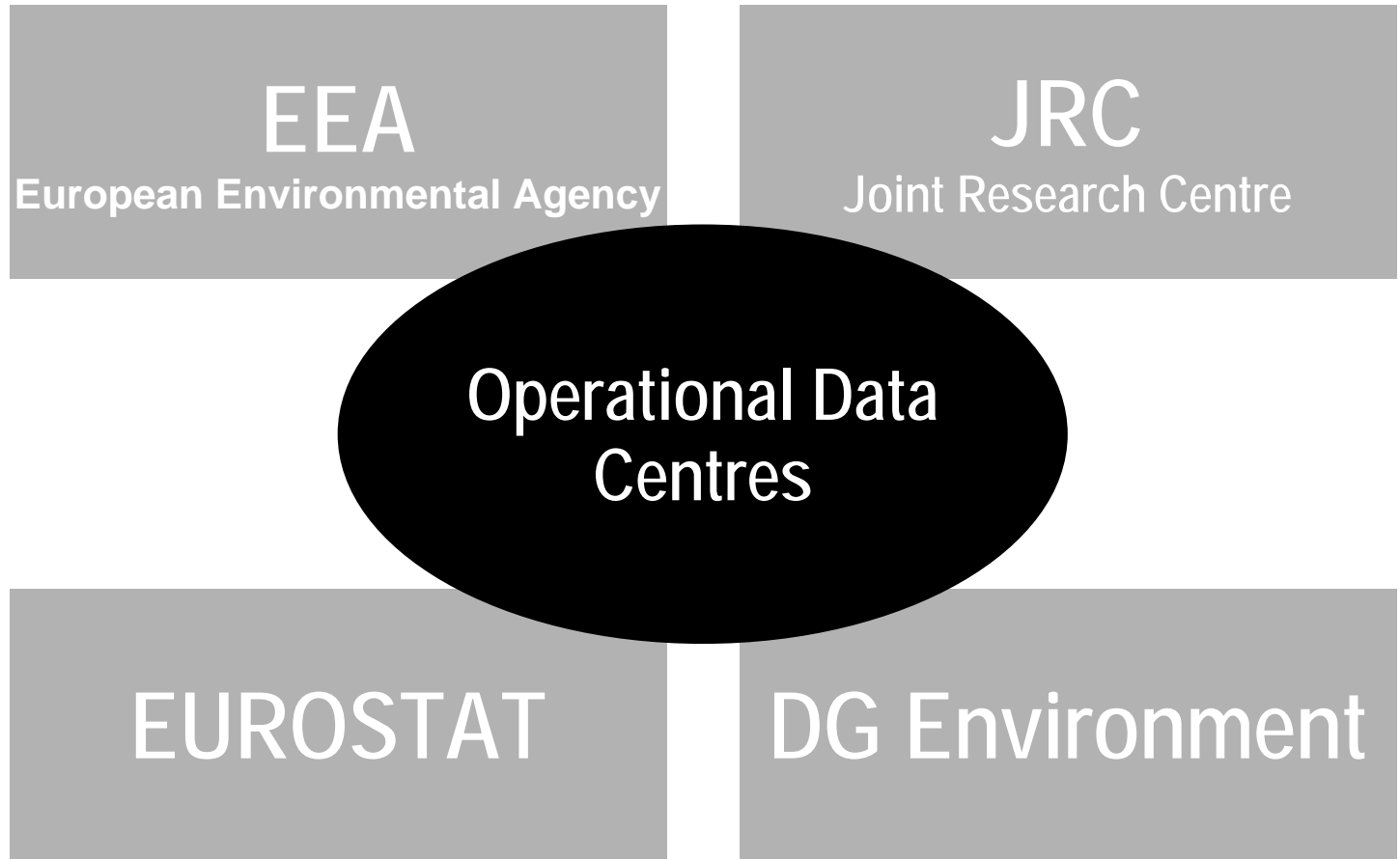




# SEIS

## Shared Environmental Information System

Na visão  
da EEA:





# SEIS

## Shared Environmental Information System

Operational  
Data  
Centres

*"an institutionally supported facility providing convenient access to, manipulation of, and/or distribution of data sets pertaining to a specific thematic area (including supporting information and expertise) for a community of users."*

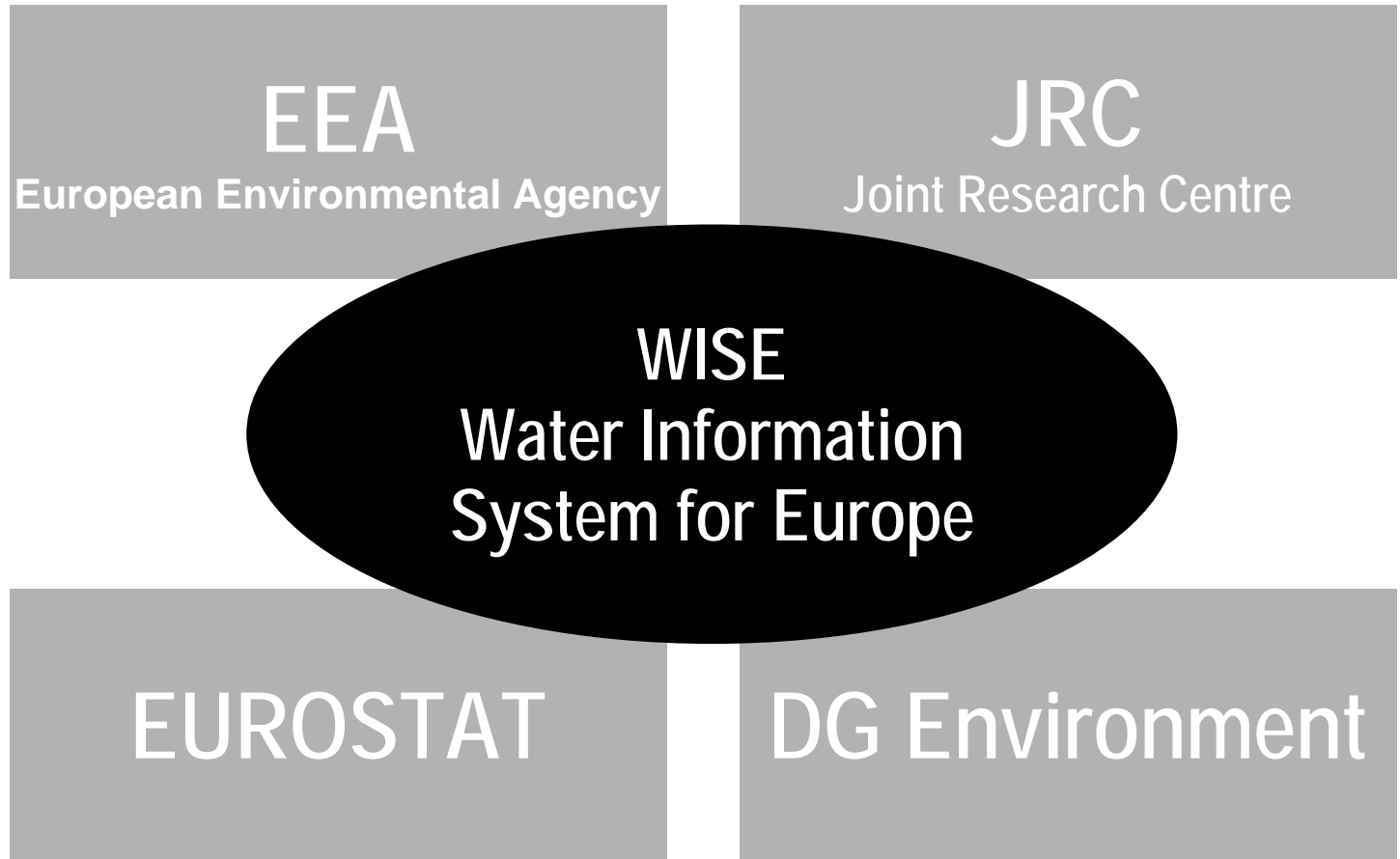
- ▶ long-term lifetime not tied to a specific project
- ▶ provides information in a supervised and proofed quality
- ▶ storing, maintaining, and making available data for users
- ▶ adapted for current and expected user needs



# SEIS

## Shared Environmental Information System

...semelhante  
ao modelo  
já adoptado  
no WISE...





# SEIS

## Shared Environmental Information System

WISE

Sistema Europeu de Informação sobre a Água

- Foi inicialmente concebido para *reporting* no contexto da Directiva-Quadro da Água.
- Está em alargamento até 2010, para incluir informação de várias Directivas relacionadas com recursos hídricos, bem como dados estatísticos relevantes no domínio da água.



# SEIS

## Shared Environmental Information System

...main  
roles ...

### EEA

**European Environmental Agency**  
"is the water data centre and host the public WISE web page which has as a central feature the section on *themes and data*"

### JRC

**Joint Research Centre**  
"is responsible for the data synchronisation and has developed a number of useful tools, including the CCM2 database"

### WISE

### EUROSTAT

"is collecting water statistics and provides significant input in the development of the GIS part of WISE and in particular ensuring the link to INSPIRE"

### DG Environment

"is leading the policy and strategic part of WISE and interfaces with the Member States, [in the] definition of official reporting needs in the context of EU water legislation"



# SEIS

## Shared Environmental Information System

Environment - Water - Water Framework Directive - Wise Main Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Google G Settings Links

Address <http://water.europa.eu/content/view/20/36/lang,en/> Go

**WISE**  
WATER INFORMATION  
SYSTEM FOR EUROPE

POLICY THEMES AND DATA PROJECTS LINKS

Water Information System for Europe

### Welcome to the Water Information System for Europe

<b>POLICY</b> 	<b>THEMES AND DATA</b> 
<b>PROJECTS</b> 	<b>LINKS</b> 

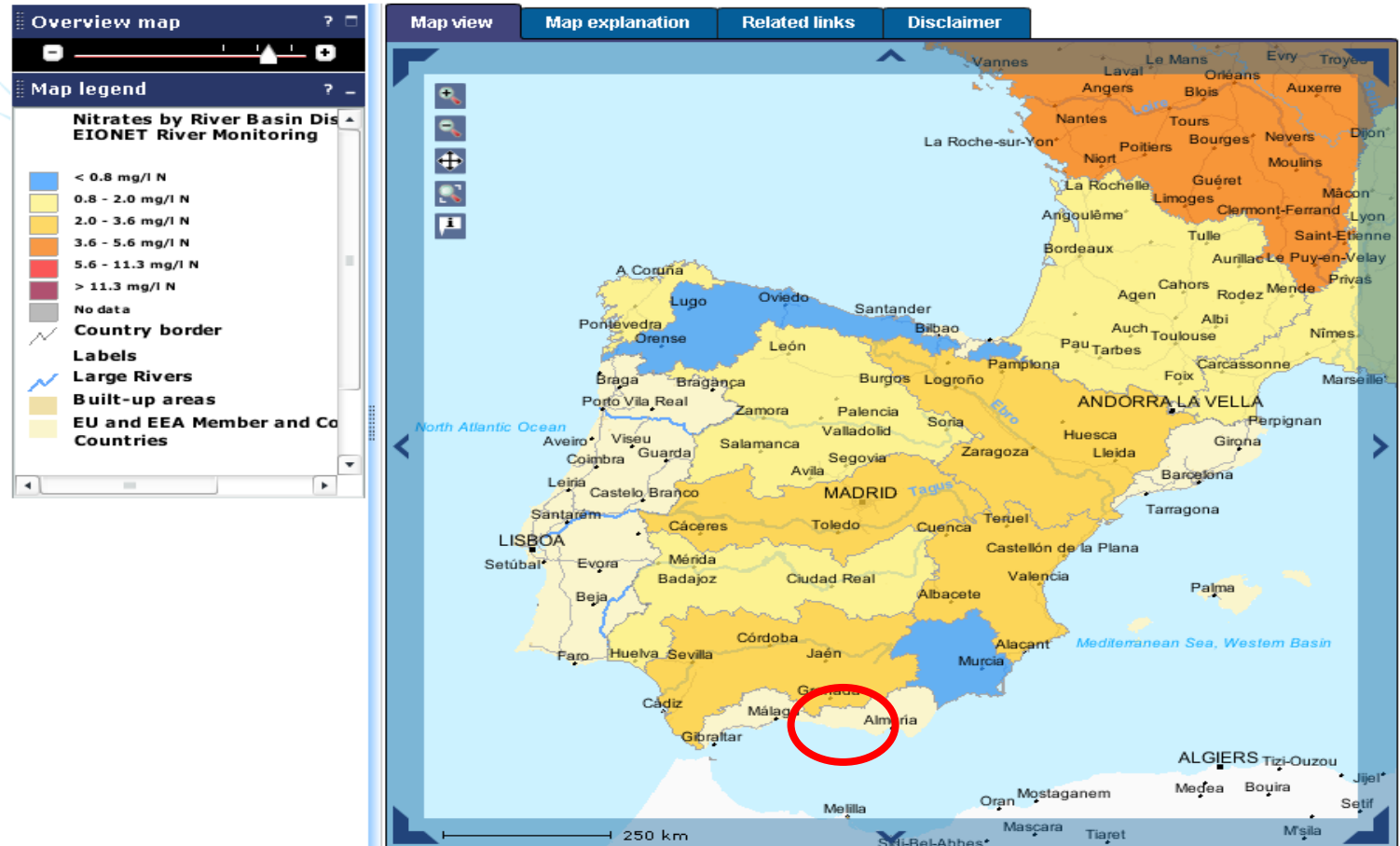
WISE - Water Information System for Europe, Kongens Nytorv, DK - 1050 Copenhagen K, Denmark  
[Comments to WISE Web Team](#), © Copyright 2006-2007, [Disclaimer](#) and [Private policy](#)



## WISE Map Viewer

Mean annual nitrate in rivers for 2005 by National River Basin District

[Expert view](#) | [Send link](#) | [Bookmark](#) | [? Help](#)



Este é um exemplo de um mapa simplificado para fins de divulgação ao público (concentração média de nitratos em 2005).

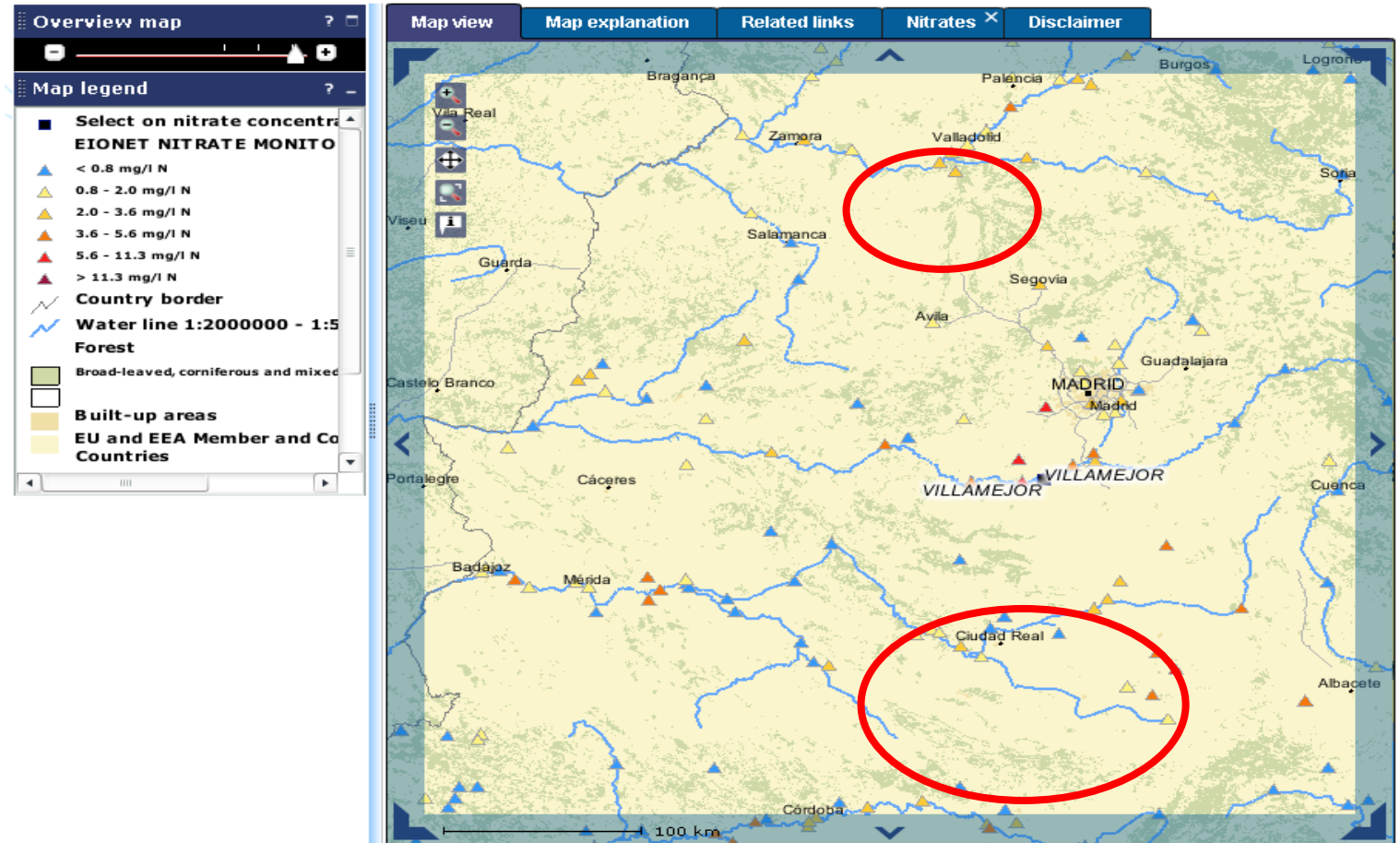
O separador "Map explanation" tem alguns metadados.

Não há dados para Portugal, mas fazendo zoom na bacia do Tejo, surgem as estações EIONET em Espanha.

## WISE Map Viewer

Mean annual nitrate in rivers for 2005 by National River Basin District

[Expert view](#) | [Send link](#) | [Bookmark](#) | [? Help](#)



Para 2 postos junto a Toledo, temos acesso às séries temporais de dados EIONET.

## WISE Map Viewer

Ground water monitoring by River Basin District (WFD Article 8)

Expert view | [Send link](#) | [Bookmark](#) | [? Help](#)

The screenshot displays the WISE Map Viewer interface. On the left, there is a sidebar with several panels: 'Overview map' with a zoom slider, 'Map legend' for 'Corine Land Cover (Legend)' with a color-coded list of land cover types, 'Find location', 'Layer view' showing a list of available layers with checkboxes, and 'New query'. The main map area shows a topographic map of Spain with a 250 km scale bar at the bottom. The map is overlaid with a grid and navigation controls. The legend lists the following categories for Corine Land Cover:

- CONTINUOUS URBAN FABRIC
- DISCONTINUOUS URBAN FABRIC
- INDUSTRIAL OR COMMERCIAL UN
- ROAD AND RAILNETWORKS AND A
- PORT AREAS
- AIRPORTS
- MINERAL EXTRACTION SITES
- DUMP SITES
- CONSTRUCTION SITES
- GREEN URBAN AREAS
- SPORT AND LEISURE FACILITIES
- NON-IRRIGATED ARABLE LAND
- PERMANENTLY IRRIGATED LAND

The 'Layer view' panel shows the following layers currently available:

- Digital Elevation
- Corine Land Cover
- Satellite image
- CCM Catchments
- CCM Riversegments

Ou a outros dados servidos a partir do JRC

## WISE Map Viewer

Ground water monitoring by River Basin District (WFD Article 8)

Expert view | [Send link](#) | [Bookmark](#) | [? Help](#)

The screenshot displays the WISE Map Viewer interface. On the left, there is a sidebar with several sections: 'Overview map' with a zoom control, 'Map legend' for 'Corine Land Cover (Legend)' listing 14 categories with color-coded boxes, 'Find location', 'Layer view' showing a list of layers with checkboxes, and 'New query'. The 'Layer view' section shows the following layers checked: Corine Land Cover, Digital Elevation, Satellite image, CCM Catchments, and CCM Riversegments. Below the list are 'Add Layers' and 'New' buttons. The main map area, titled 'Map view', shows a map of Spain with a complex overlay of colors representing different land cover types. A scale bar at the bottom of the map indicates 250 km. The map is surrounded by a blue border with navigation arrows.

... tais como a cartografia CORINE Land Cover de 2000.

## WISE Map Viewer

Mean annual nitrate in rivers for 2005 by National River Basin District

Expert view | [Send link](#) | [Bookmark](#) | [? Help](#)

The screenshot displays the WISE Map Viewer interface. At the top, there are navigation tabs: Overview map, Map view (selected), Map explanation, Related links, Nitrates, and Disclaimer. Below the tabs is a map showing river basins in Spain, with labels for regions like Castile and León, Castile-La Mancha, and Andalusia, and cities like Logroño, Soria, Cuenca, Córdoba, and Albacete. A 100 km scale bar is visible at the bottom of the map. A dialog box titled 'Add layers' is open, showing a list of available layers under the 'Institutions' category. The 'Riversegments' layer is selected. The dialog also includes a 'Selected layers to add to viewer' section, which is currently empty. At the bottom of the dialog are 'Cancel' and 'Apply' buttons. On the left side of the interface, there are several panels: 'Map legend', 'Find location', 'Layer view', and 'New query'. The 'Layer view' panel shows a list of layers with checkboxes, including 'Selecti', 'EIONE', 'Nitrab', 'Cities', 'Count', and 'Needs'. The 'New query' panel shows a list of queries, with 'Mean annua' selected.

Acesso à rede hidrográfica (gerada a partir do DTM):  
É um único *dataset* e não a compatilização de dados nacionais.

## WISE Map Viewer

Mean annual nitrate in rivers for 2005 by National River Basin District

Expert view | [Send link](#) | [Bookmark](#) | [? Help](#)

**Overview map** ? □

**Map legend** ? □

**Find location** ? □

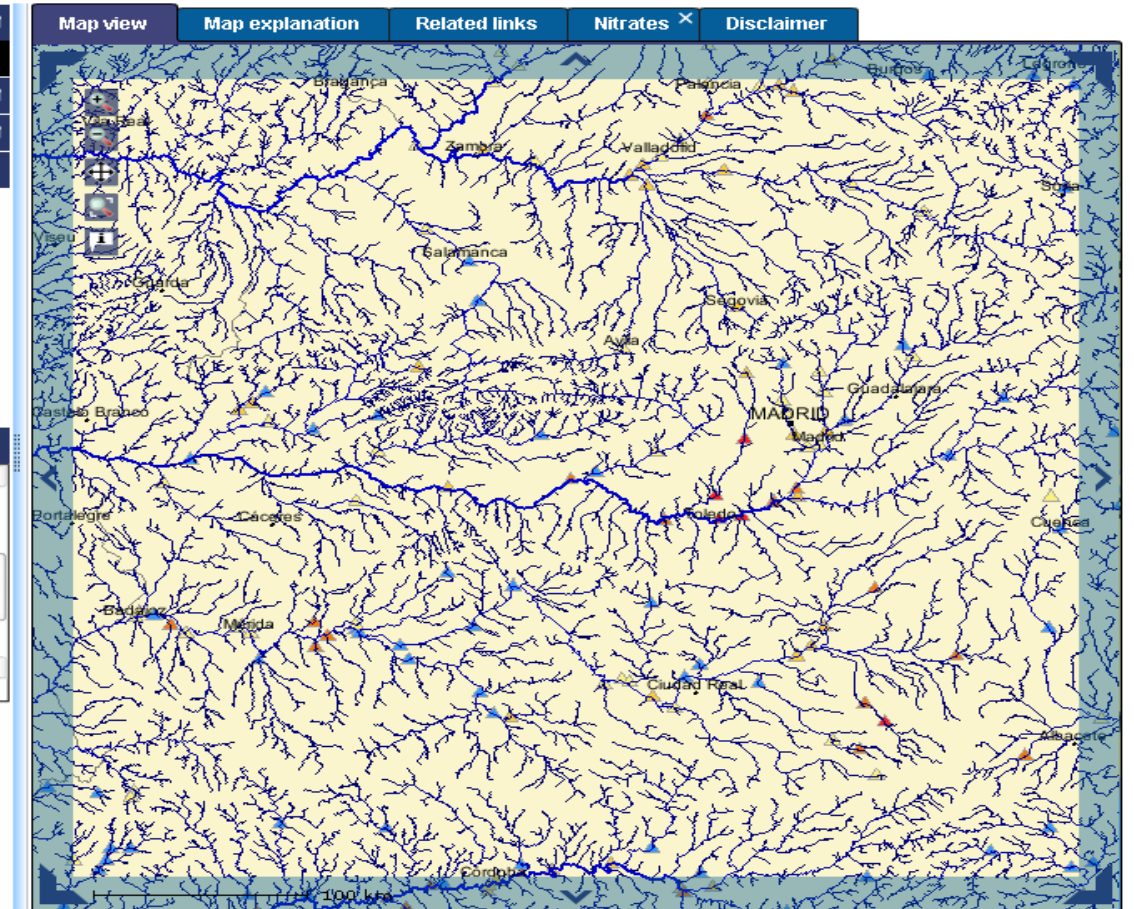
**Layer view** ? □

Layers currently available:

- CCM Riversegments
- EIONET NITRATE MONI
- Nitrates by River Basin
- Cities and capitals
- Countries
- Roads

**New query** ? □

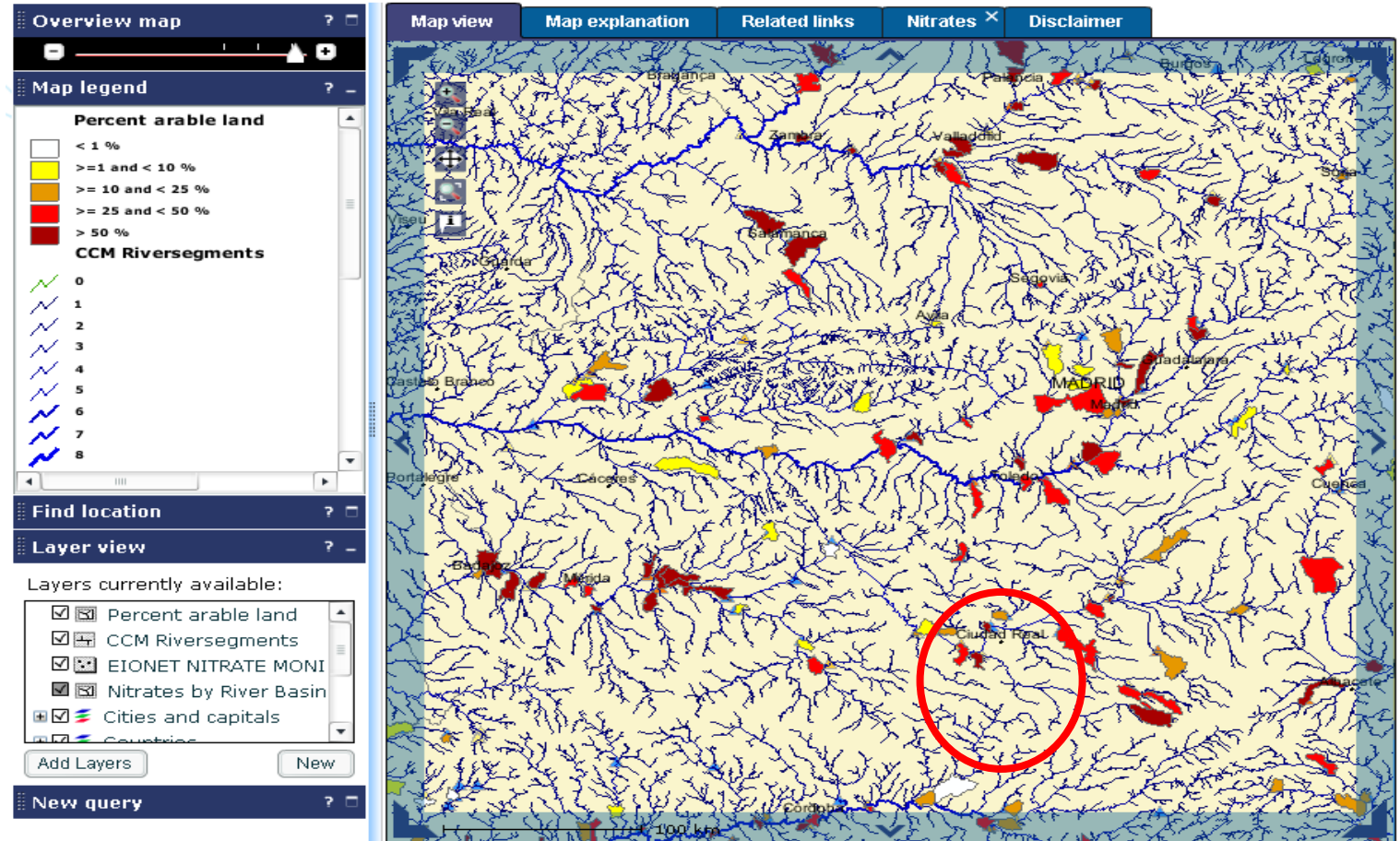
- Urban Waste Water Treatment
- State of bathing water
- Overview of the Eionet-Water d
- Mean annual nitrate in rivers fo
- Mean annual nitrate in rivers fo**
- Mean annual orthophosphate in
- Mean annual BOD in rivers for 2



## WISE Map Viewer

Mean annual nitrate in rivers for 2005 by National River Basin District

Expert view | [Send link](#) | [Bookmark](#) | [? Help](#)

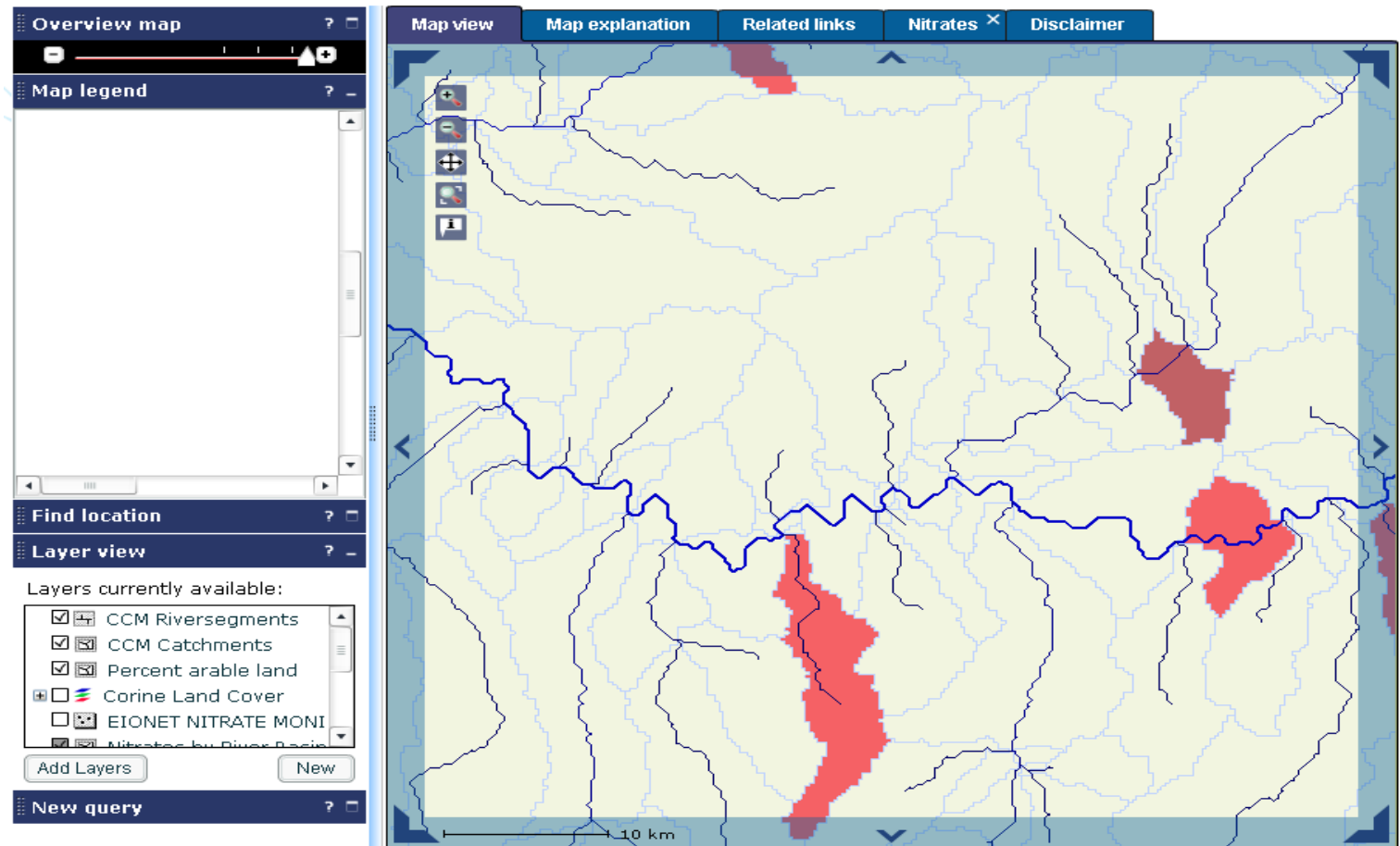


Porcentagem de terra arável por sub-bacia –  
relacionada com os coeficientes de exportação de azoto –  
na maior parte das bacias a proporção de terra arável é inferior a 1%.

## WISE Map Viewer

Mean annual nitrate in rivers for 2005 by National River Basin District

Expert view | [Send link](#) | [Bookmark](#) | [? Help](#)



Zoom na área assinalada no slide anterior.

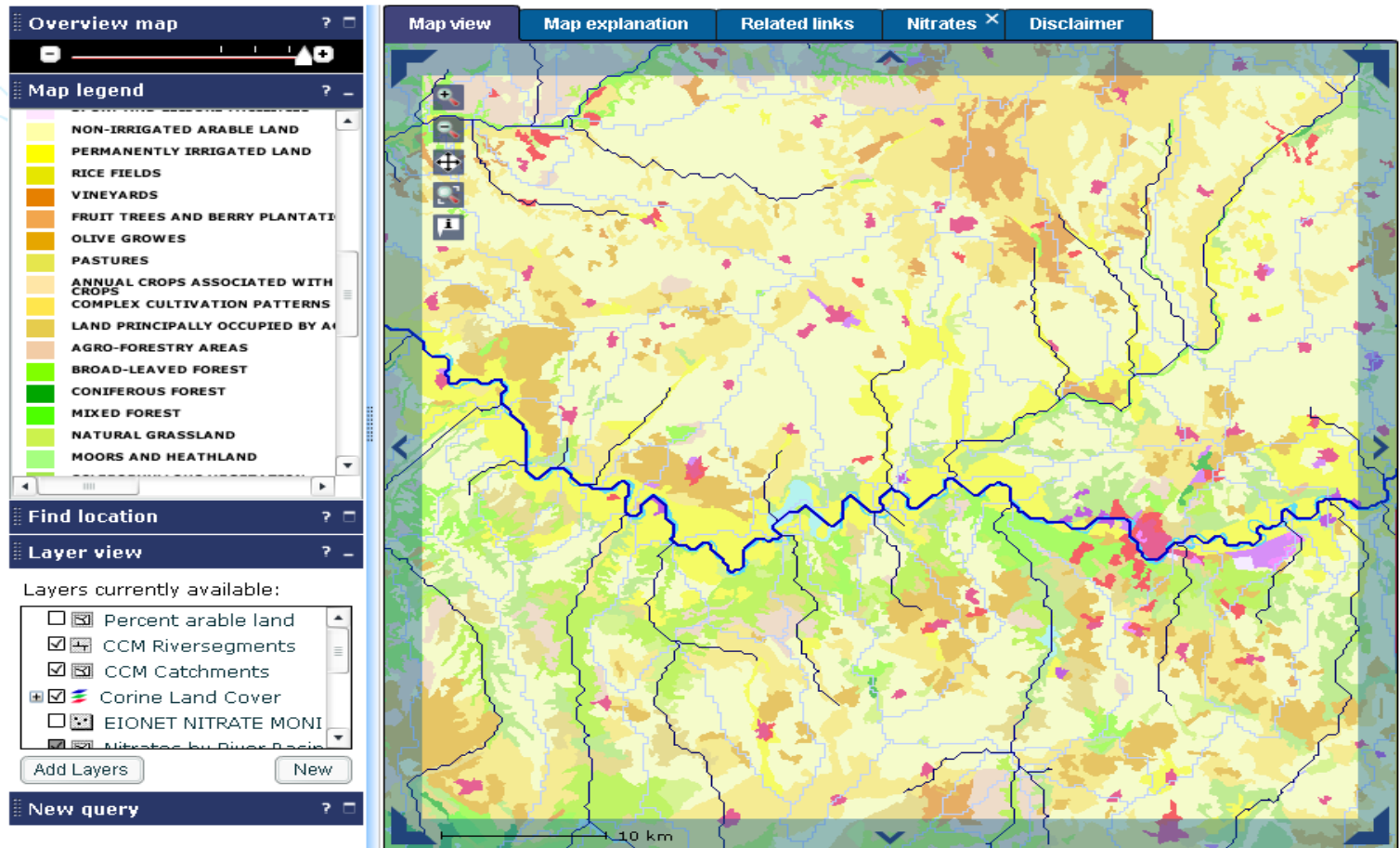
Só há terra arável nas subbacias a vermelho.



## WISE Map Viewer

Mean annual nitrate in rivers for 2005 by National River Basin District

Expert view | [Send link](#) | [Bookmark](#) | [? Help](#)



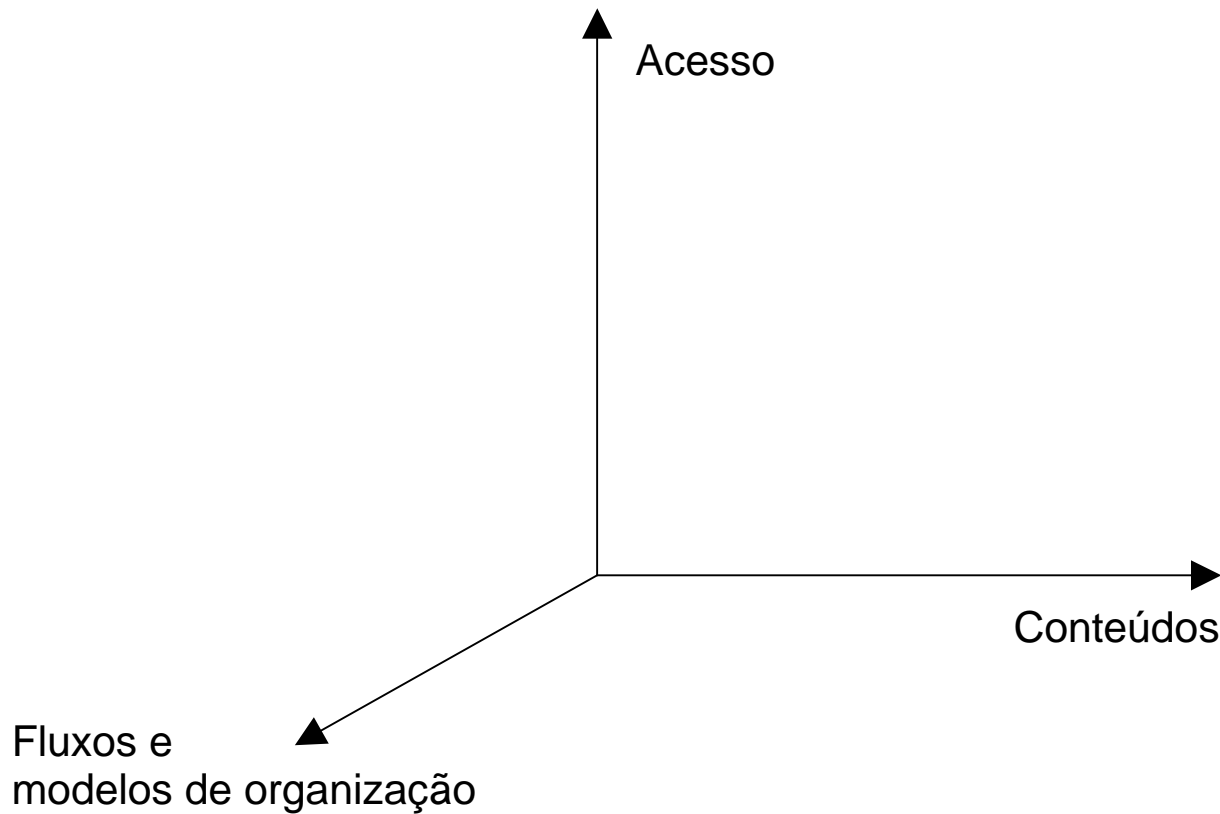
Cruzando com a carta CORINE Land Cover 2000, verifica-se que o indicador “percentagem de terras aráveis por bacia” estará incorrecto ou desactualizado. O que levanta a questão da informação resultante de análise espacial e do tipo de serviços que eventualmente poderão ser desenvolvidos no âmbito da iniciativa Kopernikus (ex-GMES).



# SEIS

## Shared Environmental Information System

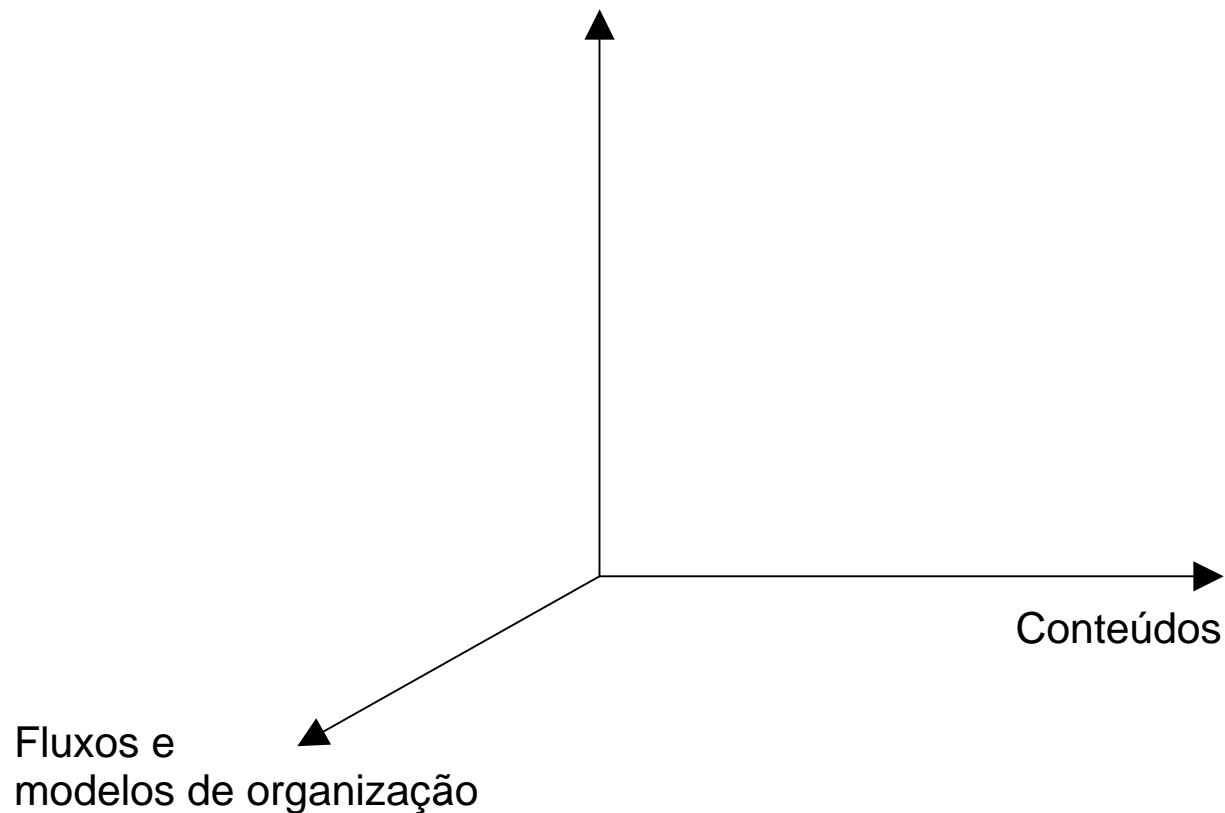
3 vectores:





# SEIS

## Shared Environmental Information System



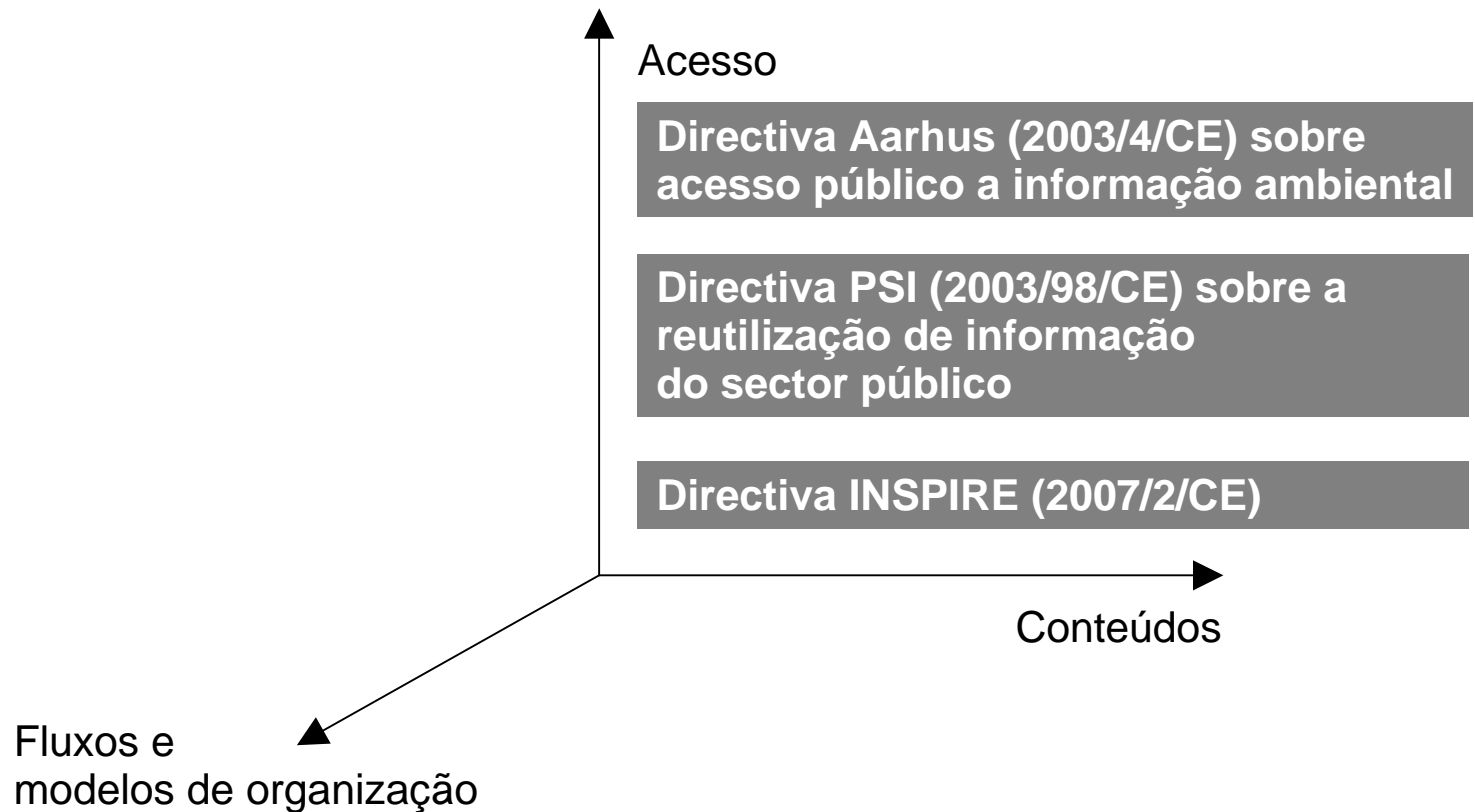
A rever

**Directiva (91/692/CE) sobre a normalização e racionalização de relatórios respeitantes a directivas na área do ambiente**



# SEIS

## Shared Environmental Information System





# SEIS

## Shared Environmental Information System

### Directiva Aarhus (2003/4/CE)

acesso

público

informação ambiental

- Alvo: **Cidadãos**
- Direito a saber em matérias de ambiente (saúde humana e segurança)

### Directiva PSI (2003/98/CE)

re-utilização

*outros*

informação do sector público

PIRA 2000  
MEPSIR 2006

- Alvo: **Sector privado**
- Crescimento e desenvolvimento **económico**.
- Re-utilização <> acesso

### Directiva INSPIRE (2007/2/CE)

uso partilhado

autoridades públicas

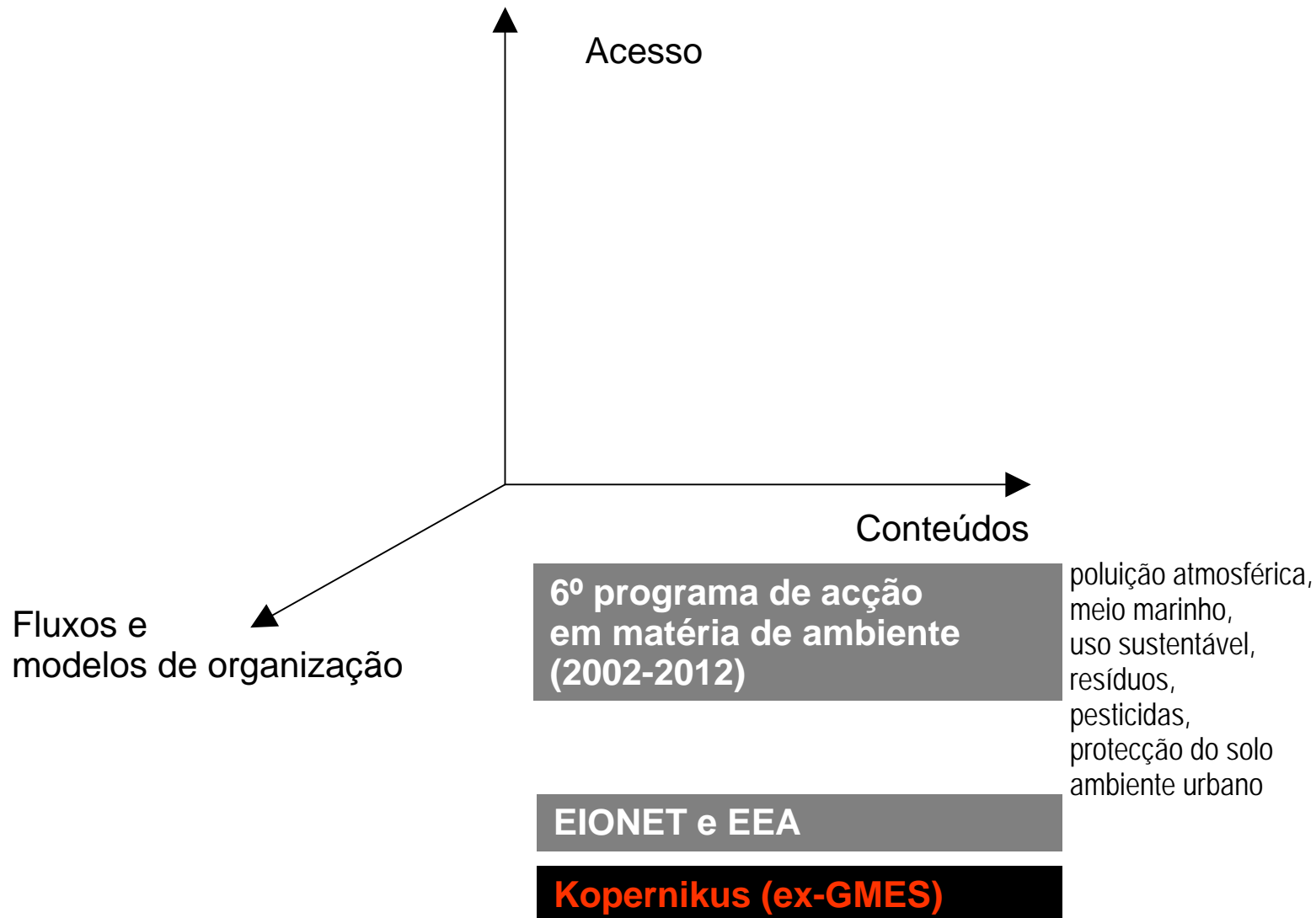
dados e serviços espaciais

- Alvo: **Autoridades públicas**
- Eficácia e eficiência no desempenho de obrigações.



# SEIS

## Shared Environmental Information System



**EC**  
Comissão Europeia

**ESA**  
European Space Agency

Estados Membros da  
**ESA**

O que é ?  
(por enquanto)

- ex-GMES (Global Monitoring for Environment and Security)  
... Mudou de nome em Lille a 16 Setembro 2008.
- Contributo europeu para o  
Global Earth Observation System of Systems (GEOSS)  
... 2005 – 2015

Baseado em:

- Informação obtida por sensores em **satélites**
- Informação *in-situ* (e.g. redes de monitorização).

Pretende:

- Disponibilizar **serviços** :  
os dados são "cozinhados" e servidos ao utilizador final.



Fast track  
services:

- LMCS - Land Monitoring Core Service  
Usó do solo / Ocupação do solo
- ERCS - Emergency Response Core Service  
Protecção civil, cheias, incêndios, catástrofes naturais.
- MCS - Marine Core Service

Pilot  
services:

- Atmospheric service:  
Atmospheric composition and dynamics monitoring
- Security service:  
Information services for Security related activities



- **Mapping**, including topography or road maps but also land-use and harvest, forestry monitoring, mineral and water resources that do contribute to short and long-term management of territories and natural resources. This service generally requires exhaustive coverage of the Earth surface, archiving and periodic updating of data.



- **Support for emergency management** in case of natural hazards and particularly civil protection institutions responsible for the security of people and property. This service concentrates on the provision of the latest possible data before intervening.



- **Forecasting** is applied for marine zones, air quality or crop yields. This service systematically provides data on extended areas permitting the prediction of short, medium or long-term events, including their modelling and evolution.

# Kopernikus

Marine, Emergency Response,  
Land, Atmosphere and Security services



ATMOSPHERE SERVICES

MARINE SERVICES



LAND SERVICES



SECURITY SERVICES



EMERGENCY RESPONSE SERVICES



# Kopernikus Land Services

EMERGENCY RESPONSE SERVICES

LAND

MARINE

ATMOSPHERE

SECURITY

Concept



Urban Planning Services



Global Carbon



Forest Monitoring



Food Security and Crop Monitoring



Water Services



Sustainable Management of Africa



Soil Erosion



Spatial Planning



Nature Protection Services



# Kopernikus Land Services

## Food Security and Crop Monitoring

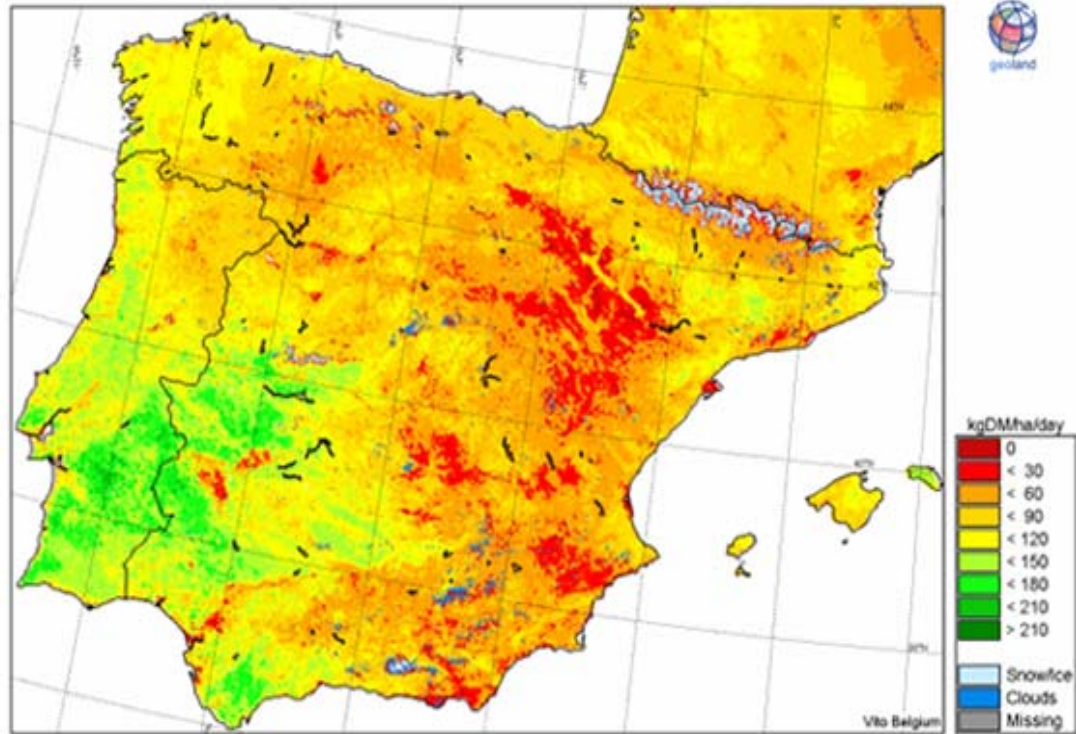
### Product Example



Region: Iberian Peninsula  
Period: April, 2002, Dekad 2/3  
Theme: Dry Matter Productivity (DMP)  
Mean value in period  
Source: SPOT-VEGETATION  
Projection: Lambert Azimuthal Equal-Area

geoland

Observatory for  
Food Security and Crop  
Monitoring



Dry matter productivity in Spain describing vegetation condition as input parameter for yield forecast

# Kopernikus Land Services

## Food Security and Crop Monitoring

### Product Example



#### GRAIN MAIZE

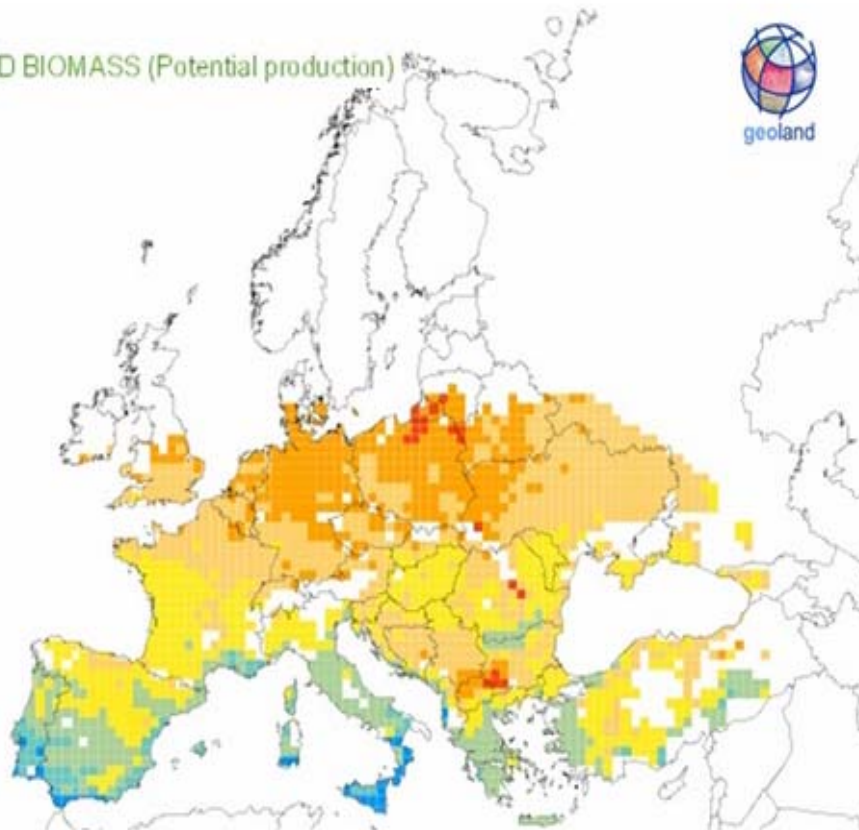
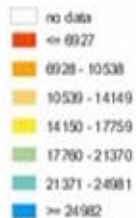
ABOVE GROUND BIOMASS (Potential production)



Status at:  
3th decade-July-2004

Current Year

Units: kg / ha



Maize biomass estimation based on model simulation using in-situ weather input

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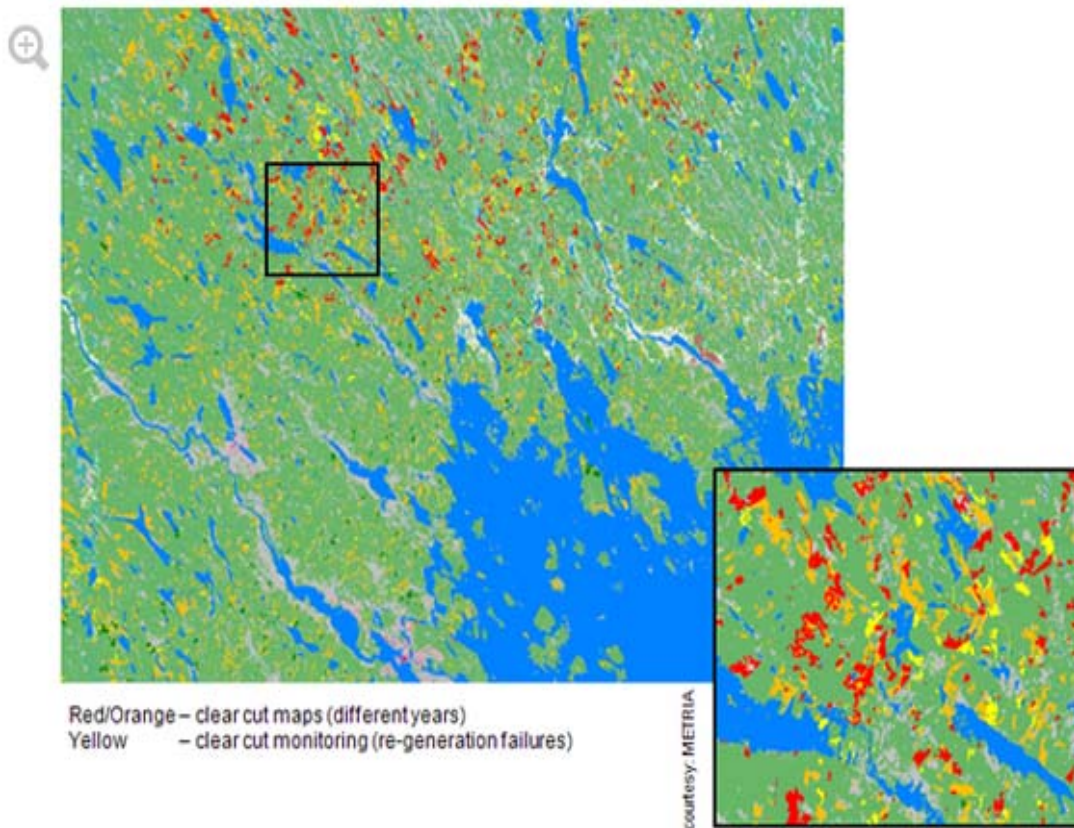
Nature Protection Services



# Kopernikus Land Services

## Forest Monitoring

### Product Example



Clear cut mapping and monitoring

Users: Federal Ministries and Regional Forest Authorities responsible for implementation of national forest laws/programmes



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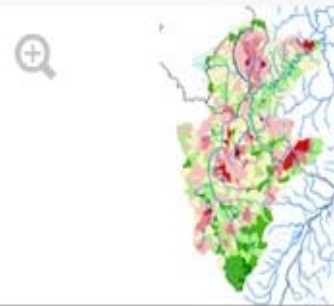
# Kopernikus Land Services

## Water Services

*Product Example : Water Quality Services*

*Identification and management of nutrient and pesticide inputs into the water cycle resulting from diffuse and point sources to support reporting obligations in the frame of the Water Framework Directive.*

*Example from the international catchment of the rivers Saar and Moselle.*



Area-wide, cross-border harmonized information on nutrient wash-out (nitrogen and phosphorus) from agricultural fields (model MONERIS).



Kopernikus Land use and land cover information builds the basis for the modelling of pesticide and nutrients inputs into the water cycle.



Area-wide, cross-border harmonized information on pesticide wash-out from agricultural fields (model DRIPS)



# Kopernikus Land Services

## Water Services

Product Example: Water Quantity Services

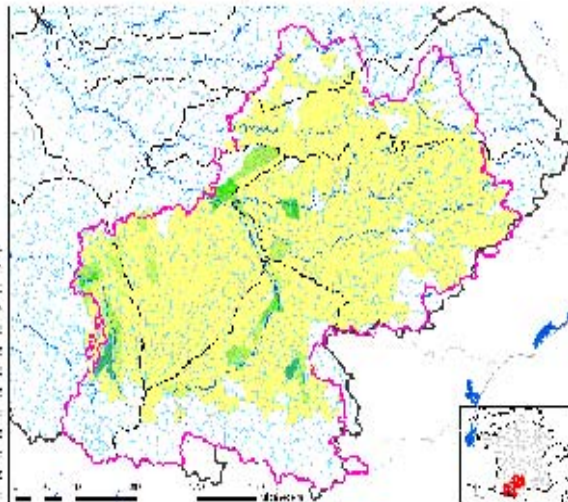
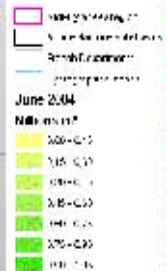
infoterra  
an ESA Technology



GSE Land



### Estimate of the irrigation volume used in June 2004 per hydrographic zone - Midi-Pyrénées region -



Maps of the annual crop areas per hydrographical zone in the Adour-Garonne catchment in 2005, derived from MERIS images (ENVISAT). Irrigated crop area estimates are used as basic inputs into water quantity models.

infoterra



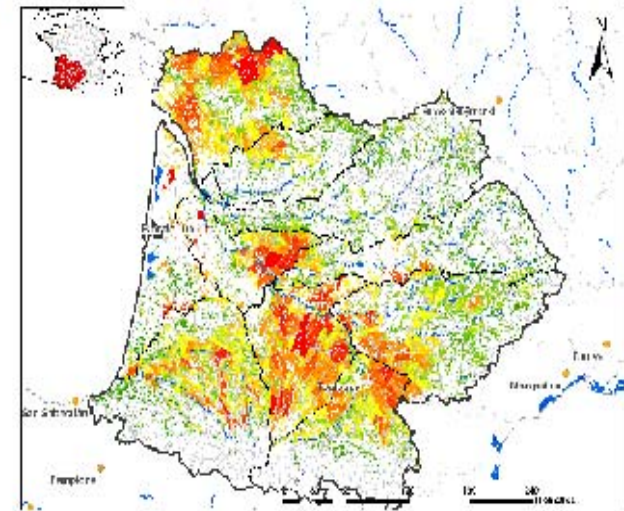
infoterra  
an ESA Technology



GSE Land



### Irrigated summer crop area estimate per hydrographic zone in 2005 - Adour-Garonne catchment -



Maps of the monthly and annual water volumes used for irrigation per hydrographic zone of the Midi-Pyrénées region in 2004 and 2005

infoterra



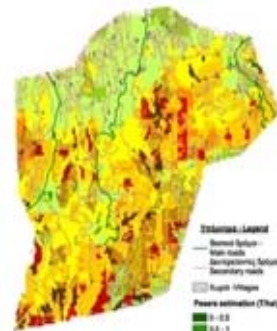
# Kopernikus Land Services

## Soil Erosion

### Product Example

#### *Temporal changes of Soil Erosion Risk.*

This illustrates the considerable role of the dynamic vegetation cover factor in soil erosion risk assessment as well as the importance of permanent monitoring of the environment from Space.



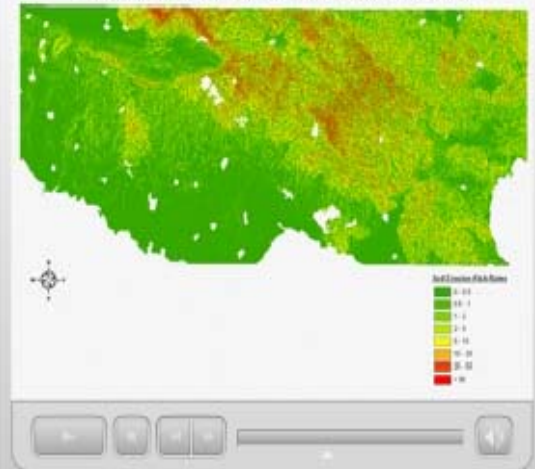
**REMARKS:**  
Cultured areas corresponded to any other types of vegetation coverage except forest

PESERA soil erosion risk map (Crete) showing a high level of local variations



Aristotle University  
of Thessaloniki

**USLE - Soil Erosion Risk Maps**  
Northern Chalkidiki test site (1:50,000)  
Soil Erosion Risk rates between different seasons (January / October / July)



Erosion changes



Aristotle University  
of Thessaloniki

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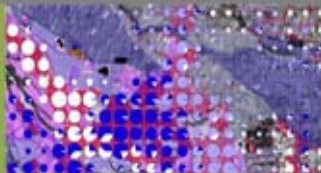
Sustainable  
Management of  
Africa



Soil Erosion



Spatial Planning

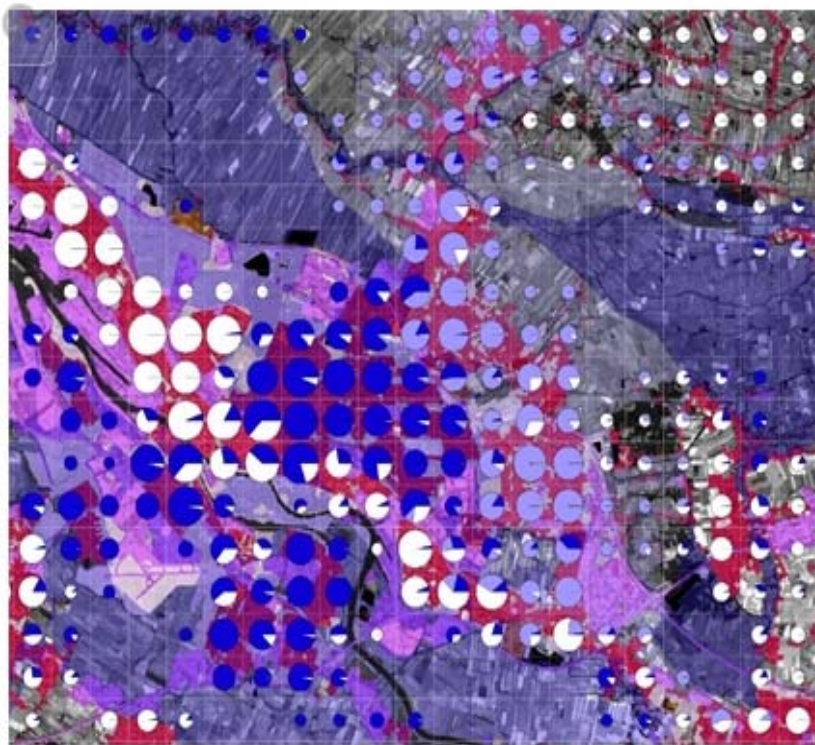


Nature Protection  
Services

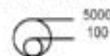


# Kopernikus Land Services

Spatial Planning  
*Product Example*



Reporting units: 1 x 1 km grid cells



*"Based on satellite observations of actual floodings in recent years we will be able to see some trends. We can point out which areas are at higher risk of future flooding, and we can analyse how roads and other forms of sealing of the soil will impact flooding."*

Spatial Planning Example: Population exposed to flood risk in the city of Bremen/Germany.

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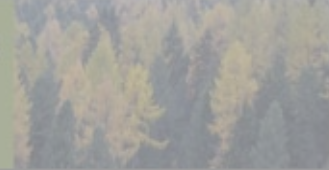
Spatial Planning



Urban Planning  
Services



Forest Monitoring



Water Services



Soil Erosion



Nature Protection  
Services



# European Urban Atlas

## Cities Mapped

2005/2006:

- Madrid,
- Weimar-Jena,
- Munich,
- Metropole Area Lille,
- Bari,
- Venice Region,
- Naples,
- Oristano

2007ff:

28 more cities planned

## Product

18 classes of which 14 urban at 0.25 ha and 4 non-urban at 1 ha: minimum mapping unit scale of use 1:10.000 - 1.25.000

## Input Data

SPOT-5 (10m multispectral and 2.5 m panchromatic pixel resolution)

## Methodology

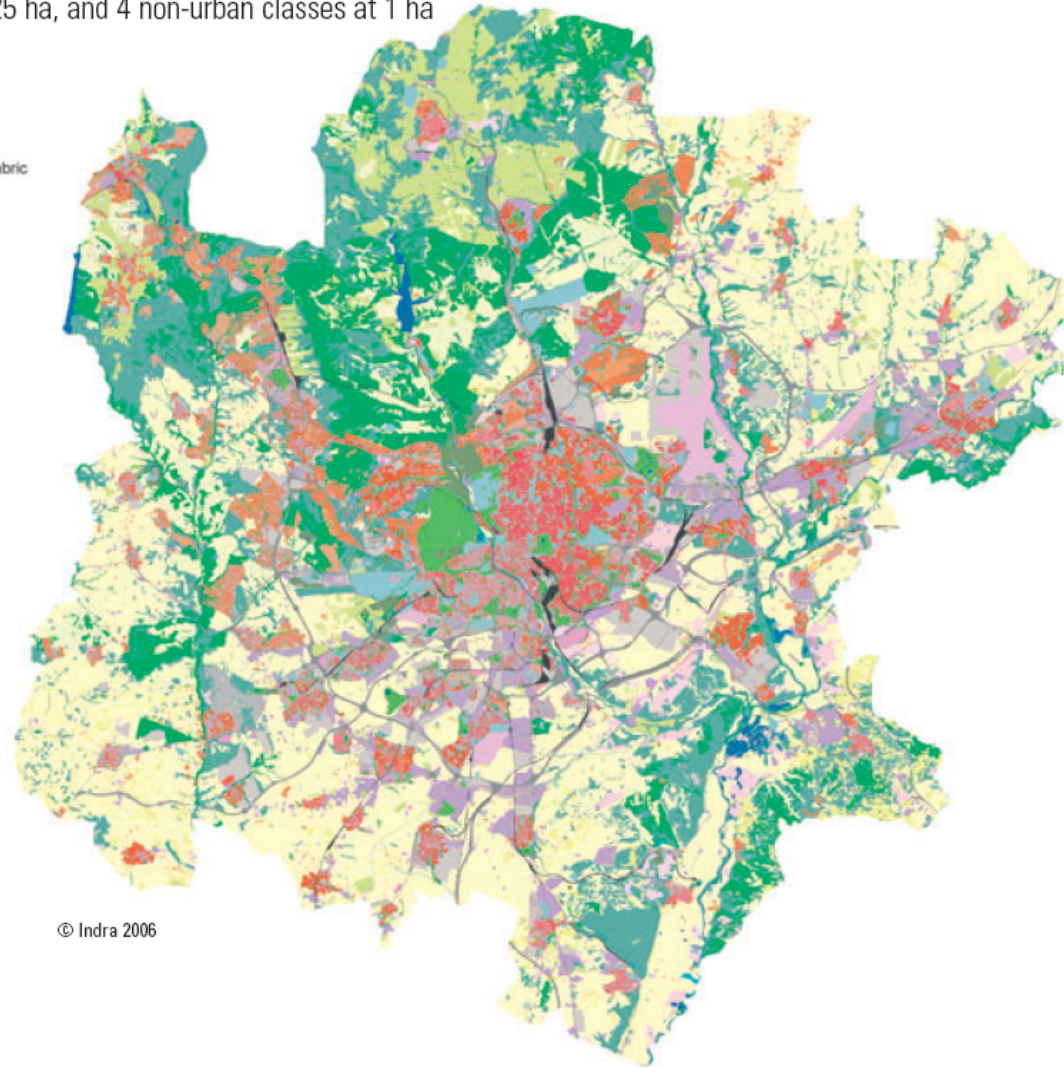
- Urban Atlas maps:  
Pre-processing, geocoding, segmentation, classification, visual interpretation, accuracy assessment
- Urban Atlas indicators:  
Segmentation, Pre-classification, NDVI, calibration, visual interpretation, accuracy assessment

## Type and Format of Output

GIS-file (all standard formats), analogue maps on request

## Madrid Urban Atlas

18 classes: 14 urban classes at 0.25 ha, and 4 non-urban classes at 1 ha



© Indra 2006



GSE Land Information Services - Map - Microsoft Internet Explorer

File Edit View Favorites Tools Help Google G Settings Links Windows

Address http://www.geoway.de/infoportal/? Go

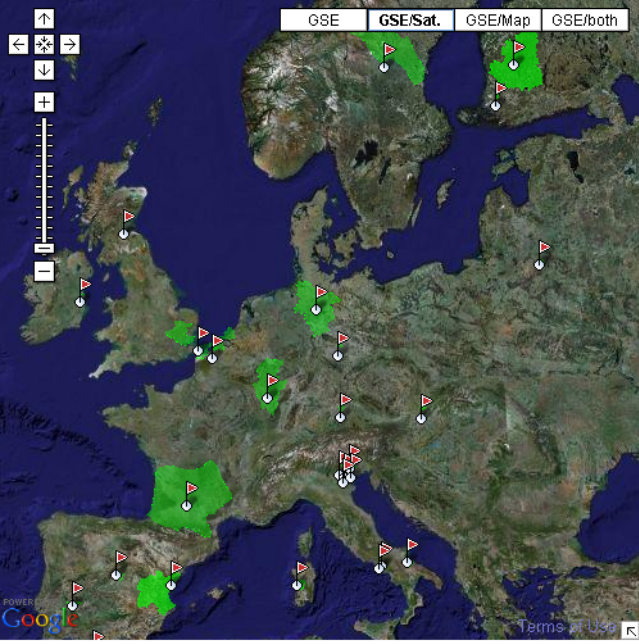
**gmes** GSE Land Information Services

Map Metadata Manage Help Contact Login

GSE GSE/Sat. GSE/Map GSE/both

Choose information  
choose service  
choose region

Please click on a flag or choose a service and a region or choose a region only.



Geographic Coordinate System, WGS84

The image shows a screenshot of a web browser displaying the GSE Land Information Services map interface. The browser window title is "GSE Land Information Services - Map - Microsoft Internet Explorer". The address bar shows "http://www.geoway.de/infoportal/?". The page header includes the GME logo and the text "GSE Land Information Services". Below the header is a navigation bar with buttons for "Map", "Metadata", "Manage", "Help", "Contact", and "Login". The main content area features a satellite map of Europe with several red triangular flags and green shaded regions indicating GSE service locations. Above the map is a legend with four options: "GSE", "GSE/Sat.", "GSE/Map", and "GSE/both". To the right of the map is a "Choose information" section with two dropdown menus: "choose service" and "choose region". Below these menus is a green box with the instruction: "Please click on a flag or choose a service and a region or choose a region only." The map includes standard navigation controls like zoom in/out, pan, and a scale bar. The Google logo and "Terms of Use" link are visible at the bottom left of the map area.

GSE Land Information Services - Map - Microsoft Internet Explorer

File Edit View Favorites Tools Help

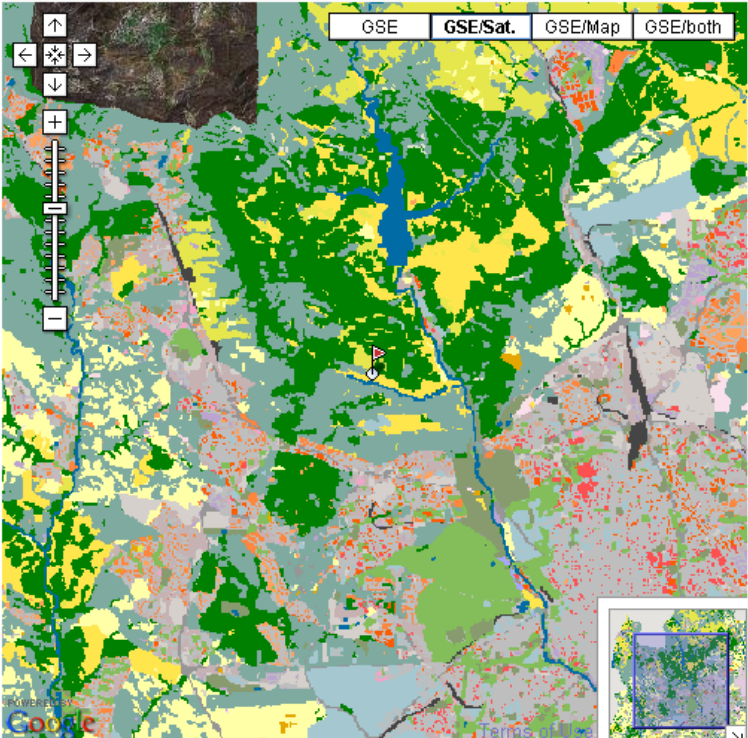
Google G Settings Links Go

Address http://www.geoway.de/infoportal/?

**gmes** GSE Land Information Services

Map Metadata Manage Help Contact Login

GSE GSE/Sat. GSE/Map GSE/both



**Choose information**

choose service

Madrid

Urban ATLAS Map

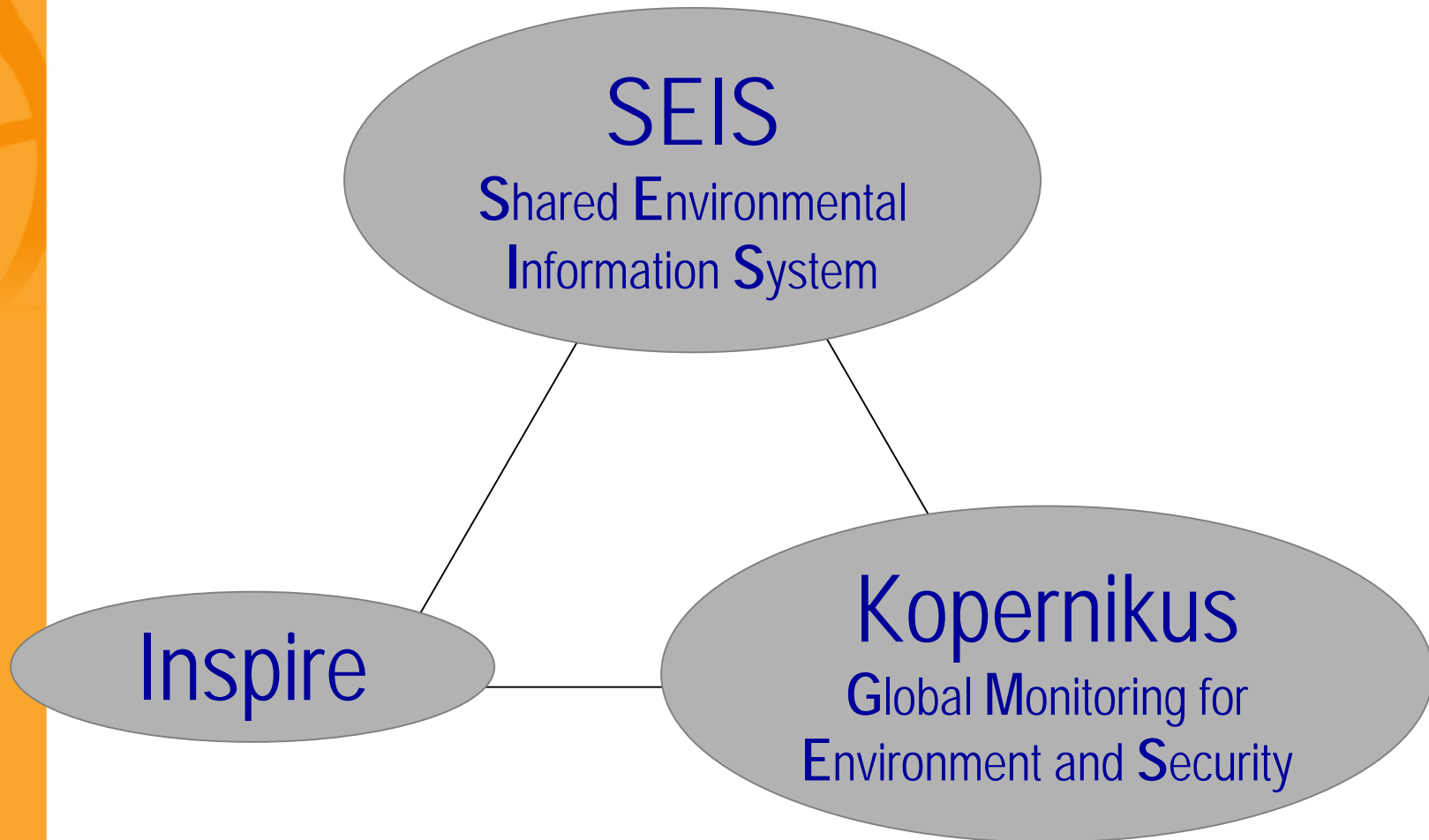
**Information**

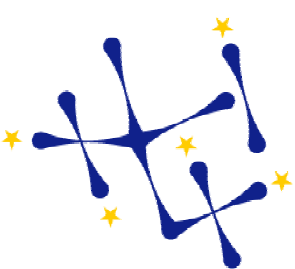
[show metadata](#)

- Central Business District (CBD), mixed use, very dense urban fabric
- Informal continuous dense settlement
- Mixed use, dense urban fabric (S.L.: 50% - 80%)
- Primarily residential, medium density urban fabric (S.L.: 30% - 50%)
- Primarily residential, low density urban fabric (S.L.: 10% - 30%)
- Informal discontinuous residential structures
- Apartment blocks with communal open space
- Isolated structures
- Industrial uses and related areas
- Commercial uses, retail parks and related areas
- Public, military and private services
- Water supply infrastructure, sea walls and flood defences



## Voltando ao início...





# SEIS

## Shared Environmental Information System

Relação  
com a  
INSPIRE:

- ↑ A Directiva INSPIRE baseia-se em princípios semelhantes ao SEIS.
- ↑ A boa aplicação desta directiva contribuirá substancialmente para superar as actuais insuficiências [na] utilização e usabilidade dos dados geográficos conservados pelas autoridades públicas.
- ↓ A Directiva INSPIRE não contemplará directamente os dados de natureza não geográfica ou não numérica,
- ↓ não garantirá [...] consolidação organizacional nos Estados-Membros
- ↓ e não resultará directamente numa melhoria da qualidade e comparabilidade dos dados.



# SEIS

## Shared Environmental Information System

Relação  
com o  
GMES:

↑ A iniciativa Global Monitoring for Environment and Security [actual Kopernikus] visa providenciar serviços operacionais de informação baseada em dados de satélite e observações in-situ (água, ar, solo).




↓ "But at present there is no integrated platform that can link all these initiatives into a shared and common system.

SEIS aims to fill this gap.

With the help of Member States this new system will modernise the production, exchange and use of environmental data and information based on the latest information technology.



# Prioridades nas 3 iniciativas ?

			
Conteúdos	+	++	+++
Infra-estrutura	+++	++	+
Serviços	+	+++	++
Obrigatoriedade para o sector público	+++	+	++ ?
Mercado	++	+++	+ ?

