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Water Information System for Europe - WISE metadata profile

EMWIS workshop
Nice 08/09-06-2009

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Plan Design Enable

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- * I think a brief introduction on WISE would be useful as most of the participants might not be familiar with it (coming from non EU countries).
- You can show some outputs such as indicators or maps, if possible with examples of data provided by country on voluntary basis rather than mandatory due to the WFD or other directives (there is no obligation for non EU Med countries)
- * Introducing QA / QC processes might also be relevant, if you have enough time, showing that it is necessary for WISE but also an added value for countries
- * the geographical reference data sets proposed in the guidance document
- * The role of metadata into WISE
- * the WISE metadata profile: it would be good if you could present briefly all the elements. Is that ok for you?
- * Next steps on metadata management within WISE

Overview

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- Large international consultancy

- EEA GIS framework contract

- Commission contract from October 2008 to provide technical support to WFD implementation – River Basin Management Plans

Overview of the session

- WISE overview

- Reference data in WISE

- Metadata in WISE

- How the metadata is structured

- Next steps with WISE and metadata
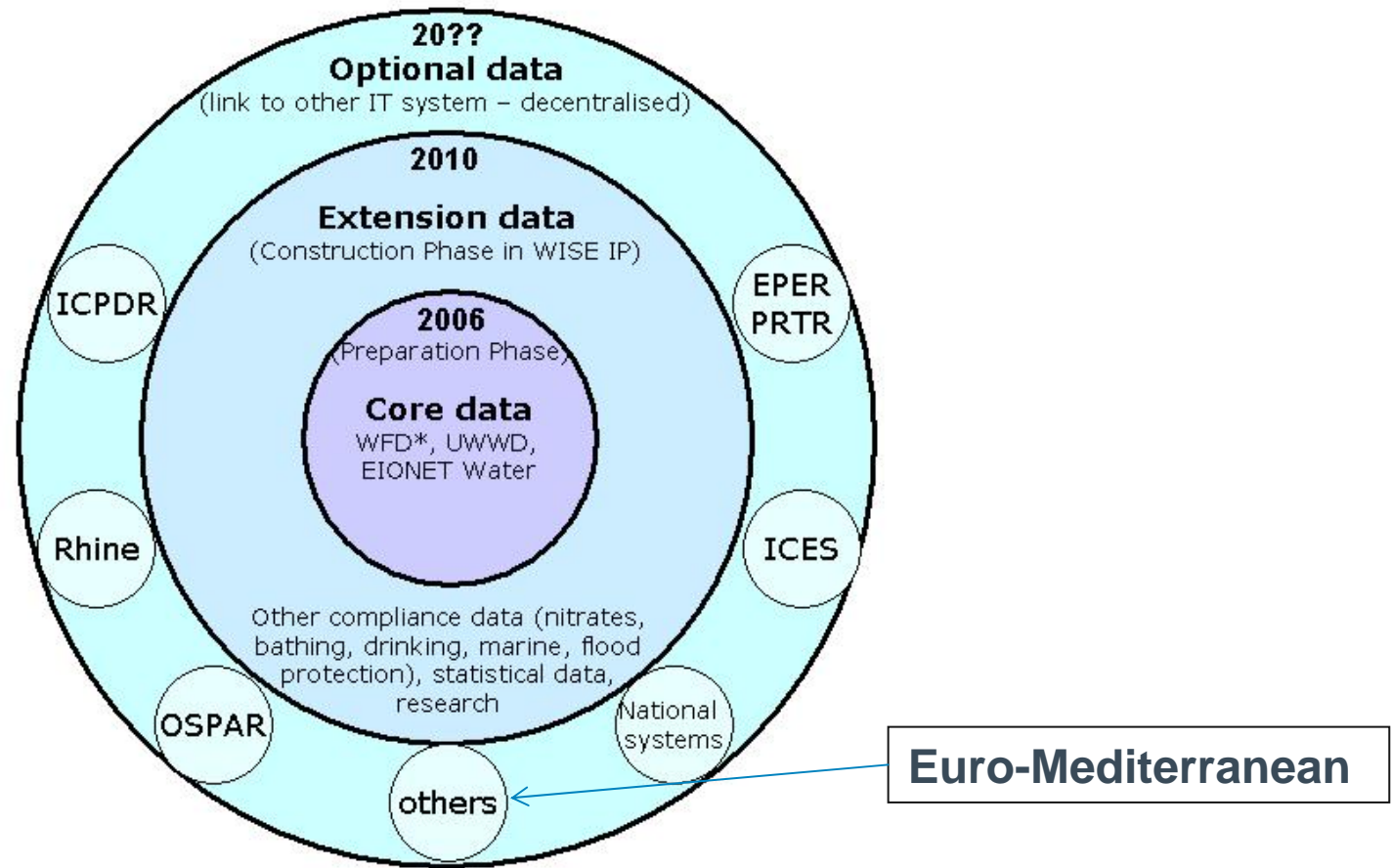
Water Information System for Europe (WISE)

Key WISE principles

- Common approach to how water related data and geogrpahic information is gathered, reported and shared

- Agreed and implemented in cooperation with DG Environment, JRC, Eurostat and EEA

- Developing a distributed system by 2010 linking to the member states

- Implementation plan until 2010

- Bringing together SoE and compliance reporting

- Merging water related directives and the needed data work (Water Framework Directive (WFD), UWWT, Ba..., Nitrates, water statistics ...)

- Provide data and information to the public

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WISE
WATER INFORMATION
SYSTEM FOR EUROPE

WISE evolution

- DG Environment and Member States stakeholders

- Working/Technical/Steering groups

- WISE GIS Guidance – CIS Guidance document no. 22

WISE integration circle

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Role of EEA

- European water data center
- Provider of thematic content

WISE Inputs

- Water Framework Directive

- UWWTD Directive

- Bathing Water Directive

- WISE SoE

- Other water related information in Europe

- Electronic reporting - defined information to report through schemas/data dictionaries

WISE Outputs

- WISE mapviewer released in 2007

- Services planned

- Data viewer/download functionality

- Distributed network (metadata component critical)

WISE viewer
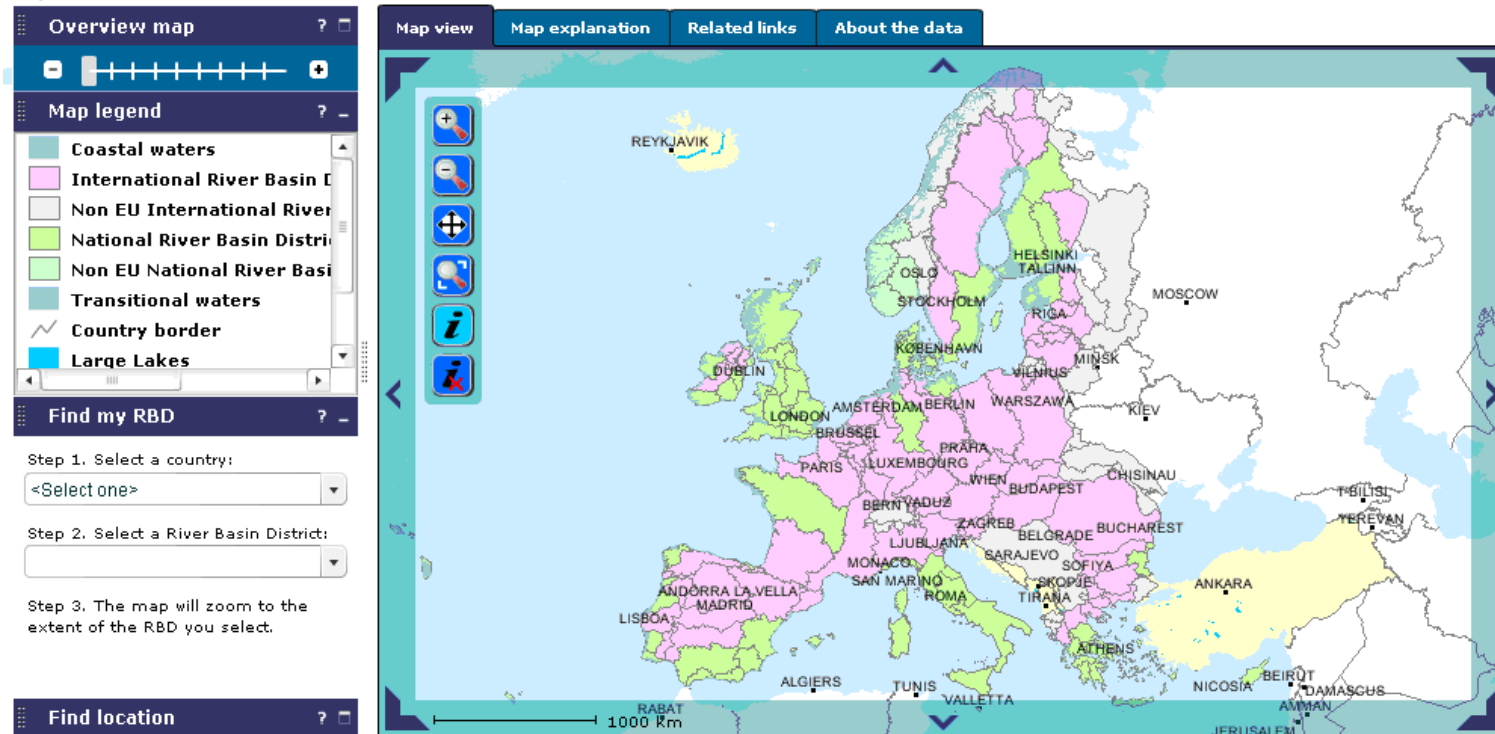
WISE viewer

WISE MS service layer
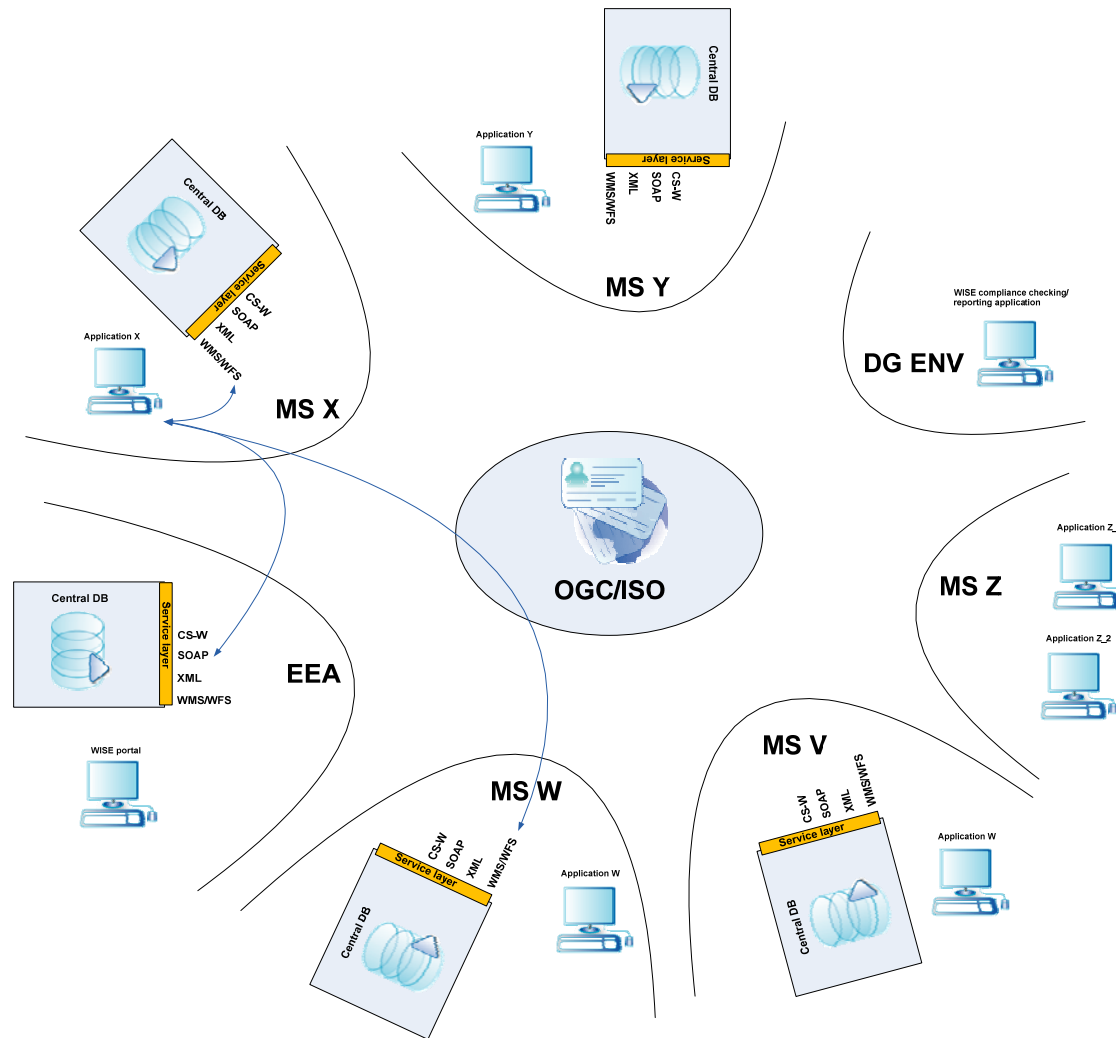
WISE adding value

- Streamlining

- Interoperability

- European picture - harmonization

- Link to local picture

- Quality control/assurance - validation

WISE SoE – voluntary reporting

- The EEA bases its water quality data on a representative sub-sample of national monitoring results, which EEA member countries report voluntarily each year to the EEA. The EEA has mainly collected annual values (e.g. average, median, minimum and maximum).

- Transition from Eionet-Water to WISE-SoE reporting has already been done for water quality related determinands for rivers, lakes and groundwater.

- The aim is a delivery of one dataset that might be useful for both WFD compliance by the European Commission services and EEA SoE assessments.

Nitrate by river basin districts

Mean annual concentrations of nitrate measured at Eionet-Water River monitoring stations, by river basin districts
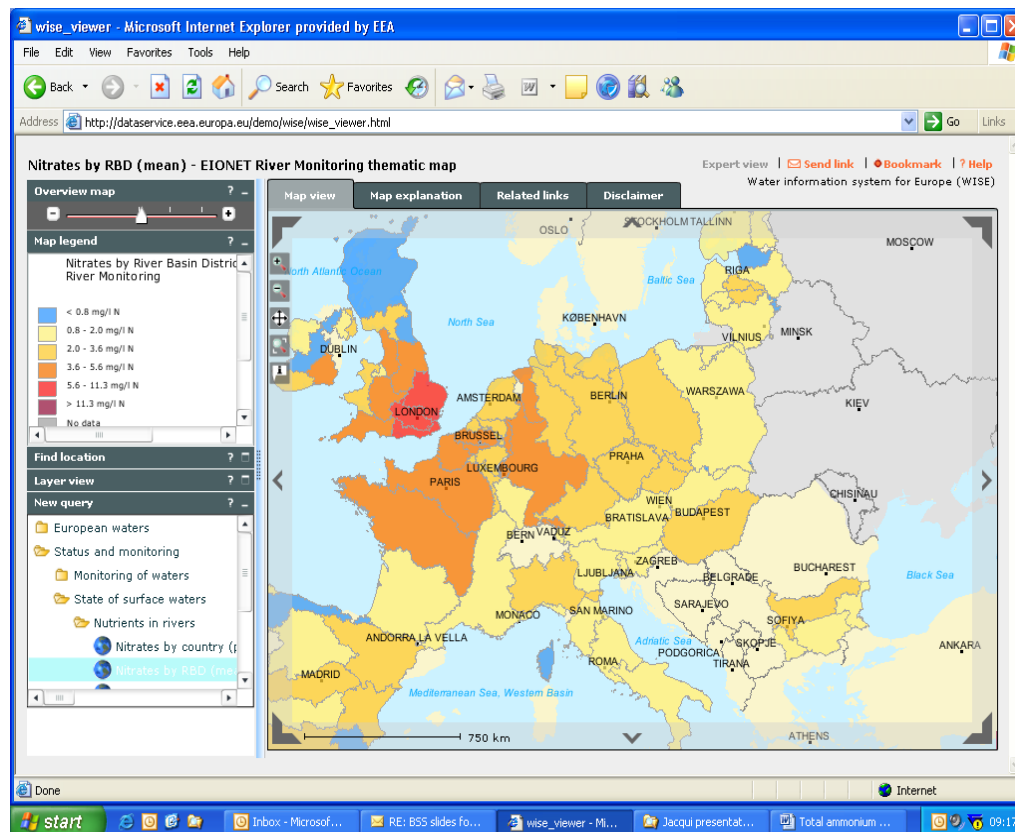
- Good agreement between nitrate map and regions of intensive agricultural land
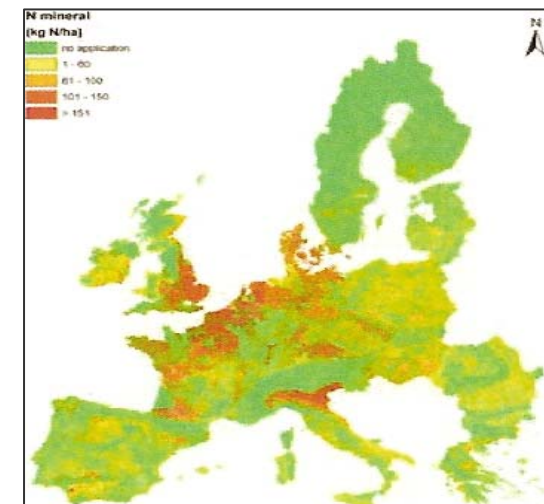
Total ammonia reduction and increase

Policy relevant trends:
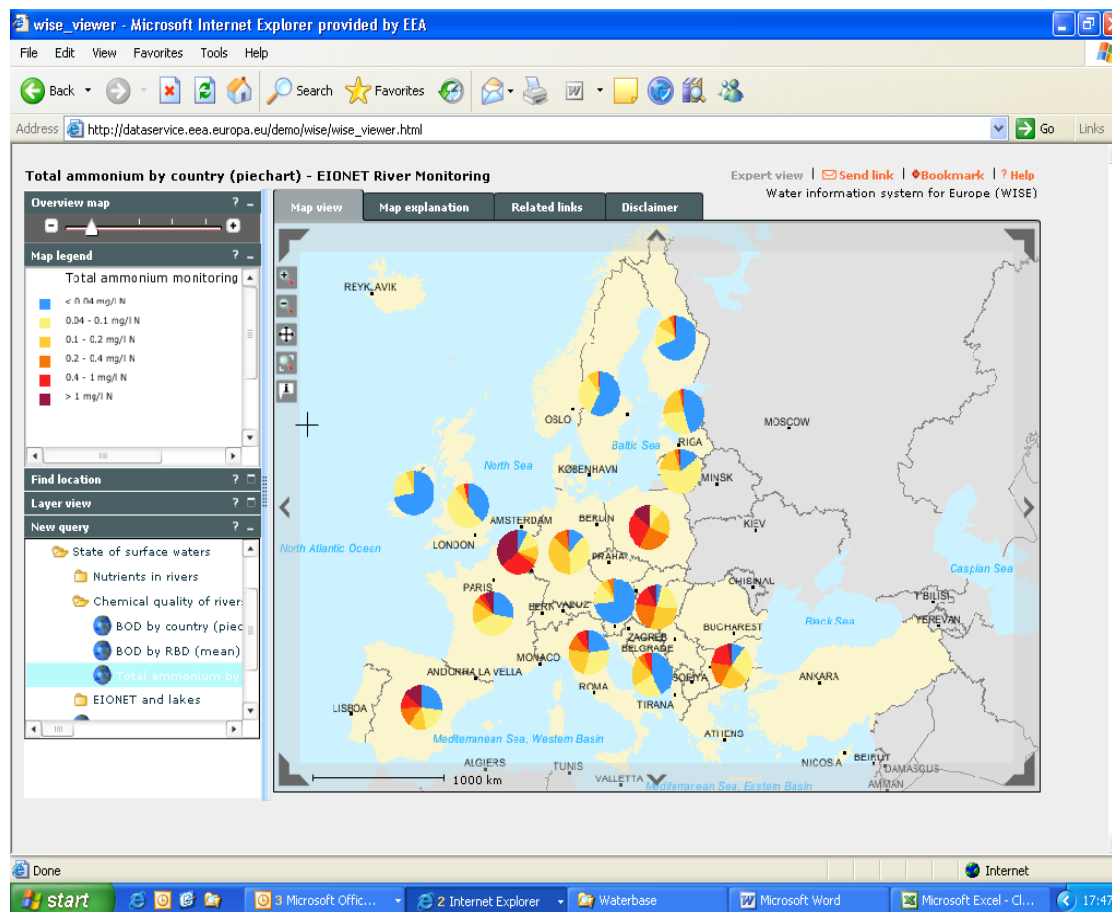
low pollution levels
- sparsely populated northern countries and
- in the Alps (Austri

high pollution levels are
- Belgium and
- Poland

Geographical reference data sets

Purpose

- Integral part of WISE

- Created using detailed digital spatial data provided by Member States and other sources, generalised for the purposes of visualisation and assessment of geo-referenced data across Europe.

- Thematic data can be attached or linked to WISE Reference GIS datasets;

- Relatively stable over time

- Currently five WISE Reference GIS datasets

Principles

- The process of preparing the datasets using data provided by MS will be transparent for MS;

- MS will be contacted to ensure the correct interpretation and use of submitted data.

- The WISE Reference GIS dataset will be released for further use by EC through the WISE portal;

- WISE Reference GIS datasets will be provided for download. They will be published with a version number and time stamp. Furthermore, detailed documentation of data sources of the respective WISE Reference GIS dataset will be available;

- WISE Reference GIS datasets will be published in the WISE viewer.

Types of reference layers

- Hydrological infrastructure layers describe the features of the physical hydrological system, e.g. rivers, lakes and river basins.

- Water management layers describe the hydrological features from a management perspective that allow the aggregation of features across river basin boundaries, e.g. River Basin Districts and water bodies.

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Current WISE Reference GIS datasets

- Large Rivers and Large Lakes;

- Main Rivers and Main Lakes;

- Water Bodies;

- River Basin Districts;

- Sub-units.

River Basin Districts

Purpose of Reference datasets (I)

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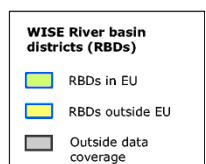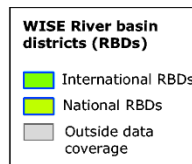
- Visualisation: through the WISE Viewer it is possible to display features reported by Member States, the results of any analysis of the data, or a combination of any information available.

- Analysis: the data reported by Member States and contained in WISE can be used for analysis and assessment (compliance checking, policy effectiveness, modelling of scenarios for policy development, etc). Indicators can be determined at various levels. They should be produced using methodologies that are robust and transparent in agreement with the Member States

Purpose of Reference datasets (II)

- Reporting: future reporting exercises should be linked with the WISE Reference GIS datasets. Integrity and consistency of codes should be maintained. For example, whenever a Member State reports a river monitoring station, it should be located on and linked by code with its associated river water body.

Metadata in WISE

Scope

- Implementation of Water Framework Directive
- Wise Implementation
- Defined set of metadata primarily for
  - data exchange
  - Metadata publication (catalogue services)
- Purpose
  - Data discovery
  - Data usage
- Application
  - Spatial datasets,
  - Dataset series,
  - Services
- Compliance with INSPIRE proposal on metadata implementing rules

Which WISE components require metadata?

- Metadata should be created with all geographical information being reported to, developed in the context of, or disseminated through WISE.

- A sub-set of the metadata elements found in the WISE profile for spatial data would also be applicable for non-spatial data submitted by Member States.

Metadata principles (I)

- The WISE metadata profile should support the functions of discovery and usage.

- Since the majority of WISE datasets and services fall under the scope of INSPIRE, the profile extends the INSPIRE metadata to include all those additional elements already agreed by the WISE community.

- Use of INSPIRE terminology for element names wherever possible, thus ensuring compatibility with metadata created in other environmental policy areas.

Metadata principles (II)

- The INSPIRE metadata elements have been selected to support the primary function of discovery. For 10 categories, there are a total of 27 metadata elements.

- It is important to note that whilst in general INSPIRE advocates the use of recognised standards it is not a requirement to fulfil the obligations of the INSPIRE metadata regulation to adopt ISO19115 or related standards for implementation.

WISE metadata profile

1. Identification

WISE	WISE Element Name	Resource title
INSPIRE	INSPIRE MD cross reference	1.1
	Obligation / condition	Mandatory
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	Title
	Data type	CharacterString
	Domain	Free text
	Example	WISE River basin districts
Implementing instructions		Should be kept short. Short guidance should specify the title to be used in reporting

1. Identification

WISE	WISE Element Name	Resource abstract
INSPIRE	INSPIRE MD cross reference	1.2
	Obligation / condition	Mandatory
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	abstract
	Data type	CharacterString
	Domain	Free text
	Example	Water Framework Directive (WFD) Article 3 river basin districts (RBDs) v1.3. Definition in WFD: River basin district means the area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is identified under Article 3(1) as the main unit for management of river basins.
Implementing instructions		Short guidance should specify the text to be used in reporting. Include references to directives, conventions, etc.

1. Identification

WISE	WISE Element Name	Resource type
INSPIRE	INSPIRE MD cross reference	1.3
	Obligation / condition	Mandatory
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	hierarchyLevel
	Data type	MD_ScopeCode
	Domain	CodeList
	Example	Dataset
Implementing instructions		For INSPIRE, three of the 17 ScopeCode values are used : •Dataset for spatial datasets •Series for spatial dataset series •Services for spatial data services Short guidance should specify the code to be used in reporting

1. Identification

WISE	WISE Element Name	Resource locator
INSPIRE	INSPIRE MD cross reference	1.4
	Obligation / condition	• Conditional for spatial datasets and spatial dataset series: Mandatory if a URL is available to obtain more information on the resources and/or access related services. • Conditional for services: Mandatory if linkage to the service is available.
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	linkage
	Data type	URL
	Domain	URL
	Example	
Implementing instructions		• Specify a valid URL to the resource. If no direct link to a resource is available, provide link to a contact point where more information about the resource is available. [contd in Appendix 11]

1. Identification

WISE	WISE Element Name	Unique resource identifier
INSPIRE	INSPIRE MD cross reference	1.5
	Obligation / condition	Mandatory
	Multiplicity	[1..*]
ISO 19115	ISO19115/19119 cross reference	Identifier
	Data type	MD_Identifier
	Domain	See B.2.7.3 of ISO 19115. The code property is required at a minimum, and a codeSpace property may be provided.
	Example	Code: 9876543210 codeSpace: http://www.ign.fr
Implementing instructions		None

1. Identification

WISE	WISE Element Name	Coupled resource
INSPIRE	INSPIRE MD cross reference	1.5
	Obligation / condition	Mandatory
	Multiplicity	[1..*]
ISO 19115	ISO19115/19119 cross reference	Identifier
	Data type	MD_Identifier
	Domain	See B.2.7.3 of ISO 19115. The code property is required at a minimum, and a codeSpace property may be provided.
	Example	Code: 9876543210 codeSpace: http://www.ign.fr
Implementing instructions		None

1. Identification

WISE	WISE Element Name	Couple d resource
INSPIRE	INSPIRE MD cross reference	1.6
	Obligation / condition	o Not applicable to dataset and dataset series o Conditional to services: Mandatory if linkage to datasets on which the service operates are available.
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	identificationInfo[1]/*/operatesOn
	Data type	MD_DataIdentification
	Domain	A unique resource identifier or locator of the MD_DataIdentification object.
	Example	http://www.ign.fr/9876543210#dataId
Implementing instructions		• The property shall be implemented by reference and the MD_DataIdentification object reference value is the code of the Coupled resource metadata element. • For consistency, the code of the Coupled resource metadata element should also be the code of one of the Unique resource identifiers of the corresponding coupled resource.

1. Identification

WISE	WISE Element Name	Resource language
INSPIRE	INSPIRE MD cross reference	1.7
	Obligation / condition	• Conditional for spatial dataset and spatial dataset series: Mandatory if the resource includes textual information. • Not applicable to services.
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	Language
	Data type	LanguageCode (ISO/TS 19139)
	Domain	CodeList (See ISO/TS 19139) based on alpha-3 codes of ISO 639-2.
	Example	dan
Implementing instructions		An instance of the language property is mandated by ISO19115; it can be defaulted to the value of the Metadata Language when the dataset or the dataset series does not contain textual information.

2. Classification of spatial datasets and services

WISE	WISE Element Name	Topic category
INSPIRE	INSPIRE MD cross reference	2.1
	Obligation / condition	• Mandatory for dataset and dataset series. • Not applicable to services.
	Multiplicity	[1..*]
ISO 19115	ISO19115/19119 cross reference	topicCategory
	Data type	MD_TopicCategory
	Domain	Enumeration (See B.5.27 of ISO 19115)
	Example	inlandWaters
Implementing instructions		The topic categories defined in Part D2 of the INSPIRE Implementing Rules for metadata are derived directly from the topic categories defined in B.5.27 of ISO 19115. INSPIRE Implementing Rules for metadata define the INSPIRE data themes to which each topic category is applicable, i.e. Administrative units (I.4) and Statistical units (III.1) are INSPIRE themes for which the "boundaries" topic category is applicable.

2. Classification of spatial datasets and services

WISE	WISE Element Name	Spatial data service type
INSPIRE	INSPIRE MD cross reference	2.2
	Obligation / condition	• Not applicable to dataset and dataset series. • Mandatory for services.
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	identificationInfo[1]/*/serviceType
	Data type	GenericName
	Domain	The list below defines an initial set of possible values of the serviceType property. OGC:CSW for Discovery Service OGC:WMS for View Service OGC:WFS or OGC:WCS for Download Service OGC:WCTS for Transformation Service OGC:WPS for Invoke Spatial Data Service Any non registered value for Other Services
	Example	OGC:CSW (the corresponding INSPIRE value is Discovery Service)
Implementing instructions		None

3. Keyword value

WISE	WISE Element Name	Keyword value
INSPIRE	INSPIRE MD cross reference	3.1
	Obligation / condition	Mandatory
	Multiplicity	[1] relative to a single keyword, but there may be many keywords, with each a different keyword value, originating from one or many different controlled vocabularies.
ISO 19115	ISO19115/19119 cross reference	Keyword
	Data type	CharacterString
	Domain	Free text
	Example	Water Framework Directive, Article 3, River Basin Districts
Implementing instructions		Each instance of ISO 19115 keyword may originate from a controlled vocabulary described through the thesaurusName property of the instance of descriptiveKeywords to which the keyword pertains. Short guidance should specify the keywords to be used in reporting

3. Keyword value

WISE	WISE Element Name	Originating controlled vocabulary
INSPIRE	INSPIRE MD cross reference	3.2
	Obligation / condition	Conditional: Mandatory if the keyword value originates from a controlled vocabulary.
	Multiplicity	[0..1] relative to a single Keyword, but there may be many keywords originating from different controlled vocabularies.
ISO 19115	ISO19115/19119 cross reference	ThesaurusName
	Data type	CI_Citation
	Domain	The following properties are expected: •Title of type CharacterString (Free text) •Reference date defined as: o A date type: creation, revision or publication o An effective date
	Example	• Title: "GEMET Thesaurus version 1.0" • Date: o dateType: publication o date: 2009-06-30
Implementing instructions		GEMET should be prescribed for WISE reporting

4. Geographic location

WISE	WISE Element Name	Geographic bounding box
INSPIRE	INSPIRE MD cross reference	4.1
	Obligation / condition	• Mandatory for spatial dataset and dataset series. • Conditional for spatial services: Mandatory for services with an explicit geographic extent.
	Multiplicity	[1..*] for spatial dataset and spatial dataset series [0..*] for spatial data services
ISO 19115	ISO19115/19119 cross reference	westBoundLongitude eastBoundLongitude southBoundLatitude northBoundLatitude
	Data type	Decimal
	Domain	-180.00 ≤ westBoundLongitude ≤ 180.00 -180.00 ≤ eastBoundLongitude ≤ 180.00 -90.00 ≤ southBoundLatitude ≤ northBoundLatitude southBoundLatitude ≤ northBoundLatitude ≤ 90.00
	Example	[contd in Appendix 11]
Implementing instructions		

5. Temporal reference

WISE	WISE Element Name	Temporal extent
INSPIRE	INSPIRE MD cross reference	5.1
	Obligation / condition	Conditional: At least one temporal reference is required.
	Multiplicity	[0..*] but at least one temporal reference is required.
ISO 19115	ISO19115/19119 cross reference	Extent
	Data type	TM_Primitive
	Domain	As described in ISO 19108
	Example	From 1997-03-10T11:45:30 to 2005-01-15T09:10:00
Implementing instructions		Each instance of the temporal extent may be an interval of dates or an individual date. The overall time period covered by the content of the resource may be composed of one or many instances. Short guidance should specify e.g. the reporting date to be used in reporting

5. Temporal reference

WISE	WISE Element Name	Date of publication
INSPIRE	INSPIRE MD cross reference	5.2
	Obligation / condition	Conditional: At least one temporal reference is required.
	Multiplicity	[0..*] but at least one temporal reference is required.
ISO 19115	ISO19115/19119 cross reference	Date
	Data type	CI_Date
	Domain	As described in ISO 19108 and ISO 8601
	Example	2008-06-27 or 2008-06-27T11:15:00
Implementing instructions		Short guidance should specify e.g. the reporting date to be used in reporting

5. Temporal reference

WISE	WISE Element Name	Date of last revision
INSPIRE	INSPIRE MD cross reference	5.3
	Obligation / condition	Conditional: At least one temporal reference is required.
	Multiplicity	[0..1] but at least one temporal reference is required.
ISO 19115	ISO19115/19119 cross reference	Date
	Data type	Date
	Domain	As described in ISO 19108 and ISO 8601
	Example	2008-09-15 or 2008-09-15T11:15:00
Implementing instructions		There may be more than one revision date provided in an ISO 19115 metadata set, but the INSPIRE date of last revision is the more recent. Should be mandatory for resubmission / update

5. Temporal reference

WISE	WISE Element Name	Date of creation
INSPIRE	INSPIRE MD cross reference	5.4
	Obligation / condition	Conditional: At least one temporal reference is required.
	Multiplicity	[0..1] but at least one temporal reference is required.
ISO 19115	ISO19115/19119 cross reference	Date
	Data type	Date
	Domain	As described in ISO 19108 and ISO 8601
	Example	2008-06-27 or 2008-06-27T11:15:00
Implementing instructions		If in practice an ISO 19115 metadata set may define more than one creation date, this has no sense. There shall be a single creation date for the resource.

6. Quality and validity

WISE	WISE Element Name	Lineage
INSPIRE	INSPIRE MD cross reference	6.1
	Obligation / condition	• Mandatory for spatial dataset and spatial dataset series. • Not applicable to services.
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	Statement
	Data type	CharacterString
	Domain	Free text
	Example	Dataset was originally created from country submissions under WFD, Art. 3, by JRC. Member States were asked to deliver data preferable at scale 1:250 000 but scale 1:1 000 000 were accepted. The European feature layer was further processed by WRc: 'Districts.shp' was downloaded from the JRC WISE website on June 2007 using the Synchronise Shape Files function. The European dataset were border harmonised using EuroGlobalMap 1:1 000 000.
Implementing instructions		• [contd in Appendix 11]

6. Quality and validity

WISE	WISE Element Name	Spatial resolution
INSPIRE	INSPIRE MD cross reference	6.2
	Obligation / condition	Conditional: Mandatory if an equivalent scale or a resolution distance can be specified. Conditional: Mandatory when there is a restriction on the spatial resolution for service.
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	equivalentScale
	Data type	Integer
	Domain	Positive integer
	Example	1000000 (e.g. 1:1000000 scale map)
Implementing instructions		• Each spatial resolution is either an equivalent scale OR a ground sample distance. • When two equivalent scales or two ground sample distances are expressed, the spatial resolution is an interval bounded by these two values.

7. Conformity

WISE	WISE Element Name	Specification
INSPIRE	INSPIRE MD cross reference	7.1
	Obligation / condition	Mandatory
	Multiplicity	[1] understood in the context of a conformity statement when reported in the metadata – there may be more than one conformity statement
ISO 19115	ISO19115/19119 cross reference	Specification
	Data type	CI_Citation

	Domain	The following properties are expected:
		
		•Title of type CharacterString (Free text)
		
		•Reference date defined as:
		
		    o A date type: creation, revision or publication
		
		    o An effective date

	Example	• Title: "INSPIRE Implementing rules laying down technical arrangements for the interoperability and harmonisation of administrative boundaries"
		
		• Date:
		
		    o Date type: publication
		
		    o Date: 2009-05-15

Implementing instructions		Short guidance should specify the citation to be used in reporting

7. Conformity

WISE	WISE Element Name	Degree
INSPIRE	INSPIRE MD cross reference	7.2
	Obligation / condition	Mandatory
	Multiplicity	[1] understood in the context of a conformity statement when reported in the metadata – there may be more than one conformity statement
ISO 19115	ISO19115/19119 cross reference	Pass
	Data type	Boolean
	Domain	• True if conformant • False if not conformant
	Example	True
Implementing instructions		The first two degrees of conformity defined in Part D5 of the INSPIRE Implementing rules for metadata map to two values of the Boolean domain of ISO 19115. The last value corresponds to the case where no conformance statement is expressed in the metadata for the related specification.

8. Constraint related to access and use

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WISE	WISE Element Name	Conditions applying to access and use
INSPIRE	INSPIRE MD cross reference	8.1
	Obligation / condition	Mandatory
	Multiplicity	[1..*] for the resource but there is zero or one condition applying to access and use per instance of MD_Constraints.
ISO 19115	ISO19115/19119 cross reference	useLimitation
	Data type	CharacterString
	Domain	Free text
	Example	Not to be used for navigation
Implementing instructions		Where applicable, the corresponding fees shall be provided. WISE should have "standard classes" of text

9. Organisations responsible for the establishment, management, maintenance and distribution of spatial datasets and services

WISE	WISE Element Name	Responsible party
INSPIRE	INSPIRE MD cross reference	9.1
	Obligation / condition	Mandatory
	Multiplicity	[1] Relative to a responsible organisation, but there may be many responsible organisation for a single resource.
ISO 19115	ISO19115/19119 cross reference	pointOfContact
	Data type	CI_ResponsibleParty
	Domain	The following properties are expected: •organisationName: CharacterString •contactInfo: o address: ■ electronicMailAddress [1..*]: CharacterString
	Example	• organisationName: Institut Géographique National • contactInfo: o address: ■ electronicMailAddress: support@ign.fr
Implementing instructions		None

9. Organisations responsible for the establishment, management, maintenance and distribution of spatial datasets and services

WISE	WISE Element Name	Responsible party role
INSPIRE	INSPIRE MD cross reference	9.2
	Obligation / condition	Mandatory
	Multiplicity	[1] Relative to a responsible organisation, but there may be many responsible organisations for a single resource.
ISO 19115	ISO19115/19119 cross reference	Role
	Data type	CI_RoleCode
	Domain	CodeList (see B.5.5 of ISO 10115)
	Example	resourceProvider (Resource Provider)
Implementing instructions		There is a direct mapping between the responsible party roles defined in Part D 6 of the INSPIRE Implementing rules for metadata and the values of the CI_RoleCode codelist of ISO 19115.
		Would this in WISE reflect the responsible organisations roles from e.g. RBD layer. It would be helpful to provide the list.

10. Metadata on metadata

WISE	WISE Element Name	Metadata point of contact
INSPIRE	INSPIRE MD cross reference	10.1
	Obligation / condition	Mandatory
	Multiplicity	[1..*]
ISO 19115	ISO19115/19119 cross reference	Contact
	Data type	CI_ResponsibleParty

	Domain	The following properties are expected:
		
		•organisationName: CharacterString
		
		•contactInfo:
		
		   o address:
		
		      ▪ electronicMailAddress [1..*]: CharacterString
		
		•role: CI_RoleCode

	Example	• organisationName: European Environment Agency
		
		• contactInfo:
		
		   o address:
		
		      ▪ electronicMailAddress: xxx@eea.europa.eu
		
		• role: pointOfContact

Implementing instructions		The role of the responsible party serving as a metadata point of contact is out of scope of the INSPIRE Implementing rules, but this property is mandated by ISO 19115. Its value can be defaulted to pointOfContact. It is very valuable information – who filled the metadata sheet.

10. Metadata on metadata

WISE	WISE Element Name	Metadata date
INSPIRE	INSPIRE MD cross reference	10.2
	Obligation / condition	Mandatory
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	dateStamp
	Data type	Date
	Domain	ISO 8601
	Example	2008-06-27
Implementing instructions		None

10. Metadata on metadata

WISE	WISE Element Name	Metadata language
INSPIRE	INSPIRE MD cross reference	10.3
	Obligation / condition	Mandatory
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	Language
	Data type	LanguageCode (ISO/TS 19139)
	Domain	CodeList (See ISO/TS 19139) based on alpha-3 codes of ISO 639-2.
	Example	dan
Implementing instructions		The language property is not mandated by ISO 19115, but is mandated for conformance to the INSPIRE Metadata Implementing rules.

11. Additional WISE metadata

WISE	WISE Element Name	Distribution format
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Mandatory
	Multiplicity	[1..*]
ISO 19115	ISO19115/19119 cross reference	distributionFormat
	Data type	Association
	Domain	MD_Format (B.2.10.3) MD_Distributor (B.2.10.2) MD_DigitalTransferOptions (B.2.10.1)
	Example	cd
Implementing instructions		WISE should provide the domains in schema

11. Additional WISE metadata

WISE	WISE Element Name	Metadata standard name
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Mandatory
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	Metadata standard name
	Data type	CharacterString
	Domain	Free text
	Example	ISO 19115 Geographic information – Metadata
Implementing instructions		WISE should have a standard text reflecting the WISE profile

11. Additional WISE metadata

WISE	WISE Element Name	Metadata standard version
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Mandatory
	Multiplicity	[1]
ISO 19115	ISO19115/19119 cross reference	Metadata standard version
	Data type	CharacterString
	Domain	Free text
	Example	ISO 19115:2003
Implementing instructions		WISE should have a standard text.

11. Additional WISE metadata

WISE	WISE Element Name	Metadata file identifier
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..1]
ISO 19115	ISO19115/19119 cross reference	Metadata file identifier
	Data type	CharacterString
	Domain	Free text
	Example	123456789abc
Implementing instructions		Guidelines needs to be developed

11. Additional WISE metadata

WISE	WISE Element Name	Metadata character set
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..1]
ISO 19115	ISO19115/19119 cross reference	Metadata character set
	Data type	Class
	Domain	MD_CharacterSetCode <<CodeList>> (B.5.10)
	Example	ISO/IEC 8859-1
Implementing instructions		None – however "uft8" – full code list in schema

11. Additional WISE metadata

WISE	WISE Element Name	Reference system
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	Reference System
	Data type	Association
	Domain	MD_ReferenceSystem (B.2.7)
	Example	ETRS89
Implementing instructions		None WISE should have "standard name"

11. Additional WISE metadata

WISE	WISE Element Name	Spatial representation type
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Conditional: if the resource is a dataset or dataset series
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	Spatial representation type
	Data type	Class
	Domain	MD_SpatialRepresentationTypeCode
	Example	Vector
Implementing instructions		None Short guidance should specify text to be used in reporting (most often "Vector" Can it be more specific [Points, Lines; Polygons]?

11. Additional WISE metadata

WISE	WISE Element Name	Credit
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	Credit
	Data type	CharacterString
	Domain	Free text
	Example	Organisation X
Implementing instructions		None

11. Additional WISE metadata

WISE	WISE Element Name	Presentation form
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	presentationForm
	Data type	Class
	Domain	CI_PresentationFormCode
	Example	001 documentDigital
Implementing instructions		None Domain to be included in schema

11. Additional WISE metadata

WISE	WISE Element Name	Purpose
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	Purpose
	Data type	CharacterString
	Domain	Free text
	Example	Reporting WFD Art 3
Implementing instructions		None Short guidance should specify text to be used in reporting

11. Additional WISE metadata

WISE	WISE Element Name	Specific usage
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	SpecificUsage
	Data type	CharacterString
	Domain	Free text
	Example	Mapping
Implementing instructions		A specific recommendation should be developed to e.g. provide a structured form to document the relationship to other data set e.g. the version of other referenced data set: Life cycle rules for identifiers used:

11. Additional WISE metadata

WISE	WISE Element Name	Vertical extent
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	Additional extent information for the dataset (vertical)
	Data type	Class
	Domain	EX_VerticalExtent
	Example	
Implementing instructions		None – Should be mandatory if data are 3-D ! What about the relative vertical extent used in GW?

11. Additional WISE metadata

WISE	WISE Element Name	Vertical extent
INSPIRE	INSPIRE MD cross reference	-
	Obligation / condition	Optional
	Multiplicity	[0..*]
ISO 19115	ISO19115/19119 cross reference	Additional extent information for the dataset (vertical)
	Data type	Class
	Domain	EX_VerticalExtent
	Example	
Implementing instructions		None – Should be mandatory if data are 3-D ! What about the relative vertical extent used in GW?

Next steps on metadata

Metadata future activities

- Resolve questions/issues

- Define the XML Schema

- Encourage the production of metadata (2010 reporting)

- Tools and support – metadata editor

- Publish the metadata

- Portal to allow metadata to be searched

ATKINS

Thank you!

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