

ESBN

Working Group on

INSPIRE

by

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behalf of the WG members

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Mandate by ESNB SC – March 2008

In May 2007, the INSPIRE Directive became into force; this requires that Member States (MSs) will develop a spatial data infrastructure (SDI) for various themes, including soil; such an SDI will need to include the provision of metadata for soil data holdings in the MS and the creation of network services that allow the interchange and interoperability of soil data sets, at the service of European users. **INSPIRE drafting teams will need to make specifications on how to technically achieve this. This working group will assist in this process.** ESDAC, conceived as a distributed system of soil data and services, will benefit from specifications, jointly developed with soil data stakeholders. This work should also be linked to developments at the ISO/TC190 (on soil quality) that seeks to set-up an international standard for soil data recording and exchange.

Mandate by ESNB SC – September 2008

The INSPIRE Directive became in force and it is decided to establish ESDAC. ESDAC will not contain all the data itself. In the case users need data from ESDAC the system will online contact the national soil databases and draw information from there.

It is needed to set up a data specification for the data to be included in the ESDAC. This specification should be in line with the present data available in the European Soil Information System and the data present at national level.

The mandate of the group is the development of this data specification and support to JRC activities for ESDAC (soil action working plan for 2009).

Introduction to the INSPIRE Directive and data specification procedures

INSPIRE Directive

- INSPIRE lays down general rules to establish an infrastructure for spatial information in Europe
 - for the purposes of Community environmental policies and
 - policies or activities which may have an impact on the environment.
- INSPIRE to be based on the infrastructures for spatial information established and operated by the Member States
 - INSPIRE is a distributed infrastructure.
- INSPIRE does not require collection of new spatial data
- INSPIRE does not affect existing Intellectual Property Rights
- Entry into force 15 May 2007



INSPIRE Spatial Data Scope

Annex I

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

Annex II

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

Harmonised spatial data specifications more stringent for Annex I and II than for Annex III

INSPIRE Thematic Scope

Annex III

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

INSPIRE Components

- Metadata
- Interoperability of spatial data sets and services
- Network services (discovery, view, download, invoke)
 - Made available through the European geo-portal
- Data and Service sharing (policy)
- Coordination and measures for Monitoring & Reporting

INSPIRE is a Framework Directive

Detailed technical provisions for the issues above will be laid down in Implementing Rules

Once adopted, Implementing Rules become European legislative acts and national law in 27 Member States and in some EFTA countries



Roadmap related to data specifications

Adoption

Milestone date	Article	Description
<i>2007-05-15</i>		<i>Entry into force of INSPIRE Directive</i>
2009-05-15	9(a)	Adoption of IRs for the interoperability and harmonisation of spatial data sets and services for Annex I spatial data themes
<i>2012-05-15</i>	9(b)	Adoption of the IR s for the interoperability and harmonization of spatial data sets and services for Annex II and III

* = *date proposed by Commission*

Interoperability and harmonisation of spatial data sets and services

- The development of INSPIRE Implementing rules for the interoperability and, where practicable, harmonisation of spatial data sets and services follow a two-step approach:
 - Development of conceptual framework and specification methodology.
 - DS-D 2.3 Definition of Annex Themes and Scope
 - DS-D 2.5 *Generic Conceptual Model (GCM)*,
 - DS-D 2.6 *Methodology for Specification Development*.
 - DS-D 2.7 Guidelines for Encoding
 - Development of data specifications for each data theme based on the
 - conceptual framework
 - common specification development methodology,
 - and on the INSPIRE roadmap



INSPIRE

Infrastructure for Spatial Information in Europe

Drafting Team "Data Specifications" Definition of Annex Themes and Scope

Title	Drafting Team "Data Specifications" – deliverable D2.3: Definition of Annex Themes and Scope
Creator	Drafting Team "Data Specifications"
Date	2008-03-18
Subject	Definition and scope of the spatial data themes for INSPIRE
Publisher	Drafting Team "Data Specifications"
Type	Text
Description	This document identifies definitions and scope of the spatial data themes for INSPIRE
Contributor	Members of the INSPIRE Drafting Team DS, the Consolidation Team and Thematic Working Groups
Format	MS Word (doc)
Source	Drafting Team "Data Specifications"
Rights	Public
Identifier	D2.3_v3.0 doc
Language	en
Relation	n/a
Coverage	Project duration



INSPIRE
Infrastructure for Spatial Information in Europe

INSPIRE Generic Conceptual Model

Title	D2.5: Generic Conceptual Model, Version 3.0
Status	"Baseline version"]
Creator	Drafting Team "Data Specifications"
Date	2008-06-20
Subject	Generic Conceptual Model of the INSPIRE data specifications
Publisher	Drafting Team "Data Specifications"
Type	Text
Description	Baseline version of the Generic Conceptual Model of the INSPIRE data specifications
Contributor	Members of the INSPIRE Drafting Team "Data Specifications", INSPIRE Spatial Data Interest Communities & Legally Mandated Organisations, INSPIRE Consolidation Teams and other Drafting Teams
Format	MS Word (doc)
Source	Drafting Team "Data Specifications"
Rights	Public
Identifier	D2.5_v3.0.doc
Language	En
Relation	n/a
Coverage	Project duration

„interoperability components addressed in this document are: rules for application schemas, coordinate referencing and units model, identifier management, multi-lingual text and cultural adaptability, object referencing modelling, multiple representations (levels of detail) and consistency, and more.”



INSPIRE

Infrastructure for Spatial Information in Europe

Drafting Team "Data Specifications" Methodology for the development of data specifications

Title	Drafting Team "Data Specifications" – deliverable D2.6: Methodology for the development of data specifications
Status	Baseline version
Creator	INSPIRE Drafting Team "Data Specifications"
Date	2008-06-20
Subject	Methodology for the development of data specifications
Publisher	INSPIRE Drafting Team "Data Specifications"
Type	Text
Description	Proposed methodology for the development of INSPIRE data specifications for the spatial data themes as specified in the Annexes of the INSPIRE Directive
Contributor	Members of the INSPIRE Drafting Team "Data Specifications", INSPIRE Spatial Data Interest Communities & Legally Mandated Organisations, INSPIRE Consolidation Teams and other Drafting Teams
Format	MS Word (doc), pdf
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Rights	Public
Identifier	D2.6_v3.0.doc, D2.6_v3.0.pdf
Language	En
Relation	n/a
Coverage	Project duration

„data product specifications for the individual themes, i.e. conceptual information models that describe the relevant classes, their attributes, relationships, constraints, and possibly also operations as well as other appropriate information like data capturing information or data quality requirements. „

Data Specification development roadmap

Description	Who	Start	End
Task 1: User requirements and use cases	TWG	2008-03	2008-05
Task 2: Analysis of the relevant reference materials	TWG	2008-02	2008-05
Task 3: “As-is” analysis according to the methodology in D2.6	TWG	2008-02	2008-08
Task 4: Gap analysis according to the methodology in D2.6	TWG	2008-02	2008-08
Task 5: Drafting data specification of Annex I data themes	TWG	2008-05	2009-03
Task 6: Testing of draft data specifications for themes	SDICs, LMOs	2008-10	2009-02
Task 7: Preparation and adoption of IR for the interoperability and harmonisation of spatial data sets and services for Annex I spatial data themes	CT, TWG INSPIRE Committee	2009-02	2009-05

1st Meeting of ESNB – WG on INSPIRE and ESDAC

21 October 2008, Ispra, JRC

- Agenda
 - Objective of the meeting and adoption of agenda (for decision)
 - Introduction to ESDAC (for info)
 - INSPIRE general – state of play (for info)
 - INSPIRE data spec process & data spec example (for info)
 - INSPIRE TWG on Soil
 - Proposed role of ESNB WG (for discussion and decision)
 - State of play in soil community / ENVASSO (for info)
 - Definition of milestones and action list
 - AOB (ESNB Plenary, ...)

Objective of the meeting

Define the path **how** the WG is going to contribute to INSPIRE data specifications (plan of action)

Input:

- INSPIRE Directive
- the INSPIRE architectural overview
- the soil chapter in Definition of Annex Themes and Scope (D 2.3 Version 3)
- Generic Conceptual model (requirements for data specifications)
- Methodology for the development of data specifications
- Candidate specifications and reference material proposed for the soil theme (personal!)
- Framework contract for soil related studies
- (Framework) contract for soil data

Candidate specifications and reference material at European level

-the collation of data in order to create European soil maps; operated at the scale of 1:1,000,000; description of the database concepts and structure along with instructions for users in the so-called “**Instruction Guide**”; basis for the creation of the European Soil Database Version 2.0

-the collation of data in order to create European soil datasets at scale 1:250,000; described in the so-called “**Manual of Procedures**”, introducing a new set of terms (such as soilscape and soilbody). At practical level, the ideas represented in this manual have not really been taken up by the European soil community and are therefore **under revision** by the ESNB.

-The **revision** of this manual will align ideas and concepts from the Instruction Guide and Manual of Procedures and integrate in **one conceptual model** all the different soil data elements (soil mapping units, soil typological units, soil profiles, soil horizons, etc.). Moreover, this model will be **applicable at multiple scales**.

- BioSoil
- ENVASSO
- LUCAS

Candidate specifications and reference material at European level

- The revised Manual introduce also **new technical framework** that aims at simplification of soil data interchange, involving a **hierarchical system of grids** (or rasters) with a common point of origin and a standardized location and size of grid cells.
- This system
 - would constitute a suitable framework for the building of a nested European system of soil data and
 - facilitates interoperability through a common coordinate reference system, a unique grid coding system
 - could lay the basis for a Multi-scale European Soil Information System (MEUSIS)

Candidate specifications and reference material at World level

- a number of soil related ISO standards and internationally agreed conventions (e.g. FAO) have been elaborated.
- Currently, the ISO/TC 190 on Soil Quality has started an initiative in order to create an ISO standard for the exchange of soil information. This standard will be XML based and cover soil data related to soil profiles and samples taken at geo-referenced sites. The initiative is European-based and is in a proposal state. It will build on previous ISO and FAO soil standards, data specification work from the ESNB and contributions from experiences within a few EU member states (Netherlands, Germany, France).
- **ISO/TC 211** on “Geographic Information/Geomatics”

Action list – milestones (short term)

- *Scoping study (review D2.3) – to be done by WG (1 month)*
- *Study the existing example of Data Specifications (DS) on Hydrography*
- *Conduct a survey on the user requirements (by JRC INSPIRE, 2007) : **contract (1 personday/ MS)***
- *Use case development – User requirements: should follow revision of the scope: **contract (20 to 30 persondays)**; INSPIRE to provide templates on how to collect these data*
- *Analysis of reference material (after April2009): **contract (20 persondays)***
- *As-is analysis according to the methodology D2.6 (inventory of existing situation in MSs) : **contract (20 persondays)***
- *Terms of reference for the editor: to be provided by PS*
- *Determine who: WG or contract*

Next steps

- Proposal for process:
 - November 2008: call for expression of interest
 - ESNB WG submits proposal
 - Reference material
 - Experts (CVs)
 - April-June 2009: composition of TWGs Annex II and III
 - kick-off
 - TWGs will propose own work programme
 - Taking into account the tasks
 - Draft INSPIRE data specifications ready by Summer 2011
 - Followed by testing and stakeholder consultation
 - Commission to draft Implementing Rules (legislative measures) based on draft specifications
 - May 2012: INSPIRE Committee to vote on proposed legislative measures

- SDIC Spatial Data Interest Community
- LMO Legally Mandated Organisation