



INSPIRE

Directive of the European Parliament and the Council
establishing an
Infrastructure for Spatial Information in the European Community

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Representing

Metadata Drafting Team

and

Met Office UK

World Meteorological Organisation Region 6 (Europe)



Content of Presentation



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- Review of 2nd Version



INTRODUCTION

Dramatis Personae



Who am I?



- Gil Ross
- working for Met Office UK.
 - Physicist – Mathematician
 - Meteorologist
 - Research scientist
 - Bench forecaster
 - Deputy chief forecaster
 - Aviation forecaster
 - Shipping forecast
 - Production manager
 - IT strategy and planning
 - Member of several WMO “Expert Teams”
 - Aviation meteorology team
 - WMO - ISO 19115 Profile team
 - WMO Information System team



Who are the Metadata Drafting Team?

- **Chair Marcel Reuvers, Netherlands** Ravi/NCGI / Cadastre, Land Registry and Mapping Agency
- **Deputy Michael Gould, Spain** Universitat Jaume I /IDEE Working Group of the Commission on Geomatics (National Geographic High Council)
- **Deputy Kristian Senkler, Germany** con terra GmbH Lenkungsgrremium / GDI-DE
 - **Franz Daffner, Germany** European Environment Agency /EIONET
 - **David Danko, USA** ESRI /Europe OGC-SDIC
 - **Jan Hjelmager, Denmark** National Survey and Cadastre, Denmark / KMS
 - **Nicolas Lesage, France** Institut Géographique National / EuroSDR /Eurographics
 - **Stefano Nativi, Italy** Italian National Research Council (CNR) / OGC-SDIC / INTERO-SDIC
 - **Gil Ross, UK** Met Office / WMO-RAVI
 - **Per Ryghaug, Norway** Geological Survey of Norway / EuroGeoSurveys
 - **Thomas Voegele, Germany** Coordination Center UDK/GEIN (KUG)
- **Facilitated by the European Commission**
 - **Max Craglia** JRC
 - **Paul Smits** JRC



INSPIRE Directive

Components
What kind of data?



Need for action

Environmental Needs

- **Better information** needed to support policies [6EAP]
- Improvement of existing **information flows**
- **Diversity across regions** to be considered
- Revision of approach to reporting and monitoring, moving to concept of **sharing of information**

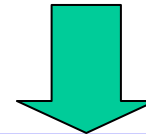
Environmental data

- 90% of is linked to geography
- Out of 58 data components needed for environmental policy :
 - 32 are multi-sectoral
 - 16 are environmental only
 - 10 are related to other sectors
- These 32 components allow to:
 - link different ENV themes together: policy coherence
 - link with other sectors: integration

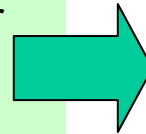
source EEA

Situation in Europe

- **Data policy restrictions**
- **Lack of co-ordination** across borders and between levels of government
- **Lack of standards** incompatible information and information systems
- **Existing data not re-usable** fragmentation of information, redundancy, inability to integrate



EC Proposal for a Directive establishing an infrastructure for spatial information in the Community – INSPIRE





What is INSPIRE?



- INSPIRE is a Directive (O.J. L108/1 25.4.2007 p.1),
- laying 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,
- built upon infrastructures for spatial information established and operated by the Member States.
- INSPIRE Directive must be transposed into national legislative systems by 15 May 2009.



INSPIRE Components

- Metadata
- Interoperability of spatial data sets and services
- Network services (discovery, view, download, invoke)
- 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 (IR), which are being developed in close collaboration with Member States' organisations and other stakeholders



What Kind of Spatial Data ?

- Whose ? - Spatial data held by or on behalf of a public authority operating down to the lowest level of government when laws or regulations require their collection or dissemination
- Which data ? - INSPIRE covers 34 Spatial Data Themes laid down in 3 Annexes – *(required to successfully build environmental information systems)*



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



Metadata



Metadata



*Member States shall create metadata and keep them
up to date*

- Metadata shall include:
 - Conformity with IR on interoperability
 - Conditions for access and use
 - Quality and validity
 - The public authorities responsible
 - Limitations on public access
- Once Implementing Rules adopted:
 - Metadata to be created within 2 years for Annex I, II
 - To be created within 5 years for Annex III



Process for Implementing Rules

- Oct 2005-Feb 2007 - Drafting Team writes
 - D1.2 Review of reference material
 - D1.3 Draft Metadata Implementing Rules
- Decisions:
 - INSPIRE is *legislation* not a standard
 - But used standards-based approach
 - Create abstract requirements – not a specific standard
 - Mapping to ISO 19115 and Dublin Core
 - CEN TC287 metadata sub-committee agreed to use INSPIRE abstract metadata (and ISO19115 mapping)
 - IR expands on and *interprets* the Directive



Metadata Implementing Rules



- 1st Review
 - Other DTs and Consolidation Team
- 2nd Review (period 2nd February to 30 March 2007)
 - SDIC (Spatial Data Interest Community)
 - LMOs (Legally Mandated Organisation)
 - 1253 comments from 61 of ~305 SDIC/LMOs
- CT Now responsible for IR. DT now advisory
 - 9th to 11th May 1st review of comments
- Report to CT July
 - CT will redraft document
 - Actual IR likely to be ~2 pages
 - Document all now advisory.
- Release for 3rd review in September
 - Full public release



2nd Version Implementing Rules



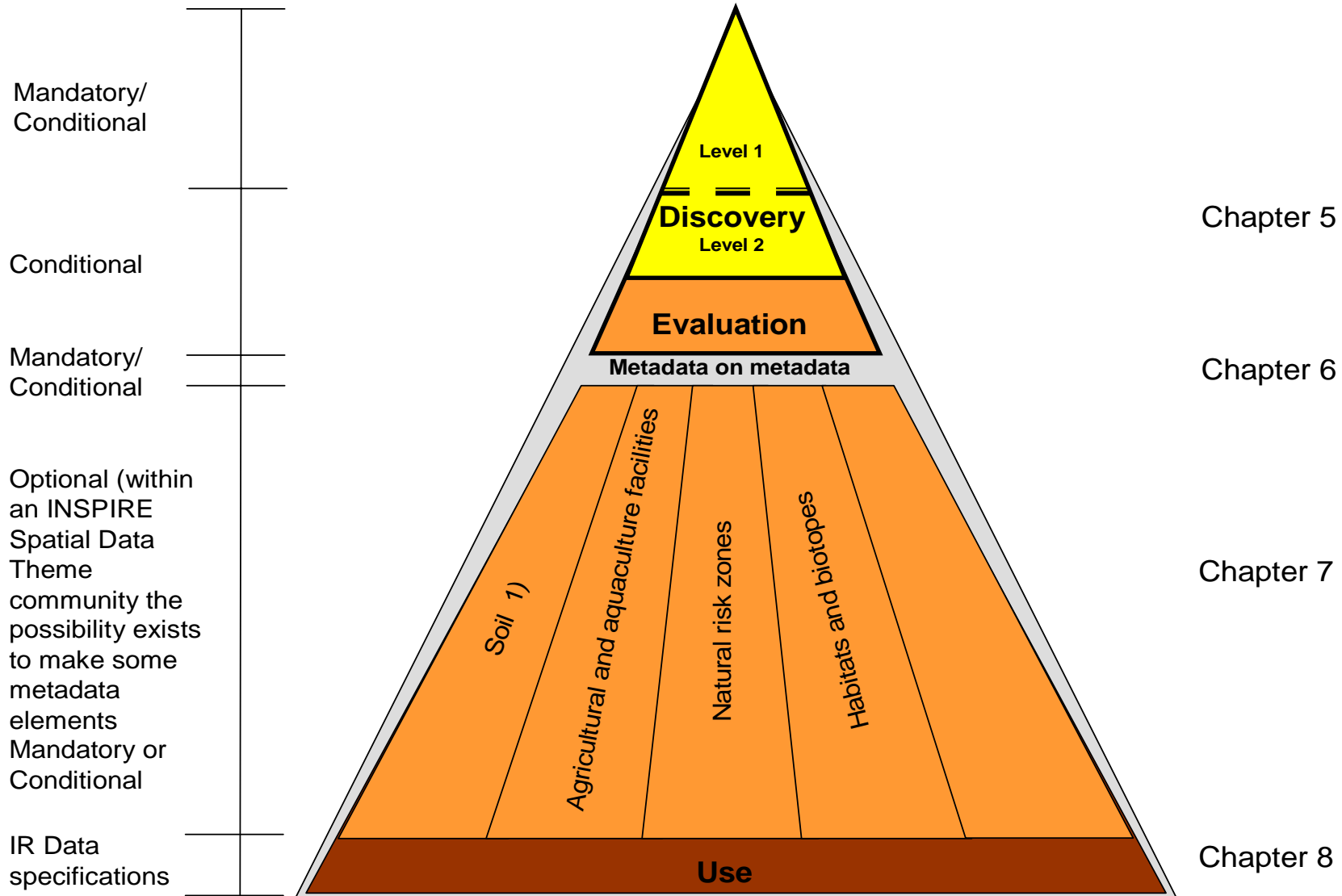
Metadata Implementing Rules



- D1.3 Draft Metadata Implementing Rules
 - Abstract specification of Framework Directive requirements
 - discovery metadata for data **and services**
 - Vision for metadata, model and use cases for discovery
 - guidance on quality, identifiers, granularity, evaluation and use metadata
 - Annexes illustrating mappings to existing standards
 - specific mappings of Directive to IRs, ISO 19115 lists etc.



INSPIRE Metadata model



¹⁾ The mentioned INSPIRE Spatial Data Themes are pointed out as examples to give an impression



Abstract Elements

- **Discovery Level 1 - mandatory or conditional**
- elements are metadata that provide basic and essential descriptions of a resource.
 - Resource title
 - Abstract
 - Resource responsible party
 - Resource locator
 - Temporal reference
 - Geographic extent of the resource
 - Resource language
 - Resource topic category
 - Keyword
 - **Service type**



Abstract Elements

- **Discovery Level 2 - conditional**
- metadata that describe a resource in more detail - not essential for the first response.
- additional information about a resource as specified in Article 5 and 11 of the INSPIRE directive or are essential for an evaluation of the metadata information itself.
 - Constraints
 - Lineage
 - Conformity
 - **Service type**
 - **Version**
 - **Operation name**
 - **Distributed computing platform**
 - Resource Identifier
 - Spatial resolution



**Service
Metadata**



Abstract Elements



- **Metadata on metadata**
mandatory or conditional
 - Metadata point of contact
 - Metadata date stamp
 - Metadata language



General guidance



- Metadata on metadata
- Identifiers
- Granularity
- IR for Evaluation metadata
- IR for Use metadata



Annexes - mappings of abstract set

- Annex A - ISO 19115/ISO 19119 mapping
- Annex B - Dublin Core mapping
- Annex C - mappings to the Directive
- Annex D - applicability of ISO standards
- Annex E - mapping of INSPIRE themes to ISO19115 Topic Category
- Annex F - placeholder for conformance to data specification
- Annex G - response to quality and validity requirements of INSPIRE
- Annex H - guidelines for ISO19139 implementation
- Annex I - guidelines for catalogue implementation
- Annex J - conformance - abstract test suite
- Annex K - bibliography



2nd Review by SDICs and LMOs



All change after 2nd Review?



- Summary of comments
 - Many comments do not have proposed changes
 - All comments responded to.
 - Comments, responses and clarifications will be published.
 - Not clear what is mandatory, best practice, guidance and information
 - Of course – errors, ambiguities and inconsistencies
 - Want instructions – what do we do?
 - Incomplete sections
 - Decisions/code lists/implementation to be decided by other DTs
 - how will they be completed?



All change after 2nd Review?



- Summary of comments - continued
 - Discovery evaluation and use
 - Temporal aspects
 - Quality and Validity
 - Q and V are community/theme dependent
 - Directive translations are inconsistent
 - Metadata on metadata
 - Identifiers
 - Granularity
 - Status of Annexes
 - 19139 examples – implementation?



Any Questions?