INSPIRE

Infrastructure for Spatial Information in Europe

INSPIRE Metadata Implementing Rules: Changes from V 1.1 to V. 1.2 of Technical Guidelines based on EN ISO 19115 and EN ISO 19119

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Foreword

This document details the changes introduced to the INSPIRE Metadata Implementing Rules (Regulation 1205/2008) Guidelines published on 3rd February 2009 (Version 1.1) to the current new version (1.2) published on the INSPIRE web site on 17/06/2010.

Request for changes ere collected during 2009 by the Members of the INSPIRE Metadata Drafting Team (see Guidelines document for list) and other stakeholders and sent to the Metadata editor at the Joint Research Centre (massimo.craglia@jrc.ec.europa.eu). All comments were reviewed internally at the JRC and with the Drafting Team.

At the time of writing, the Draft COMMISSION REGULATION implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services and associated guidelines detailing the data specifications for Annex I data themes have been voted favourably by the INSPIRE Regulatory Committee on 14th December 2009 and are currently under the scrutiny of the European Parliament. Some of the recommendations of those Guidelines pertaining to relevant elements of the Metadata Implementing Rules have been considered in this revision.

The changes introduced are largely editorial in nature and meant to add clarity or remove inconsistencies and typos. More extensive changes in relation to Keywords, Controlled Vocabularies, and reference to Data Specification Guidelines that would facilitate multi lingual search and discovery by using controlled lists, language neutral values and / or Unique Resource Identifiers have been proposed but are not implemented in Version 1.2 as they require broader discussions on the organisational arrangement needed to support the operations and maintenance of the INSPIRE infrastructure. Once these discussions take place and stable arrangements, from both technological and organisational points of view, are made, it may be necessary to revise the Guidelines accordingly.

Changes introduced

(all page numbers refer to Version 1.1)

Page 5: Introduction: Added Reference to Corrigenda published December 2009

Regulation 1205/2008 has been amended with the corrigenda published in the OJ L 328/83 of 15.12.2009 as follows:

- *On page 12 delete the subtitle "Text with EEA relevance" (European Economic Area)*
- *On page 20, Annex D, point 1.3 replace "Spatial data services (services)" with "Spatial data services (service)".*

ADDED NOTE:

*PLEASE NOTE that in the course of this revision, another typing error has come to light in the Regulation 1205/2008 which will need a further amendment. In Part D 4, the language neutral name for element 501: Geoparameter calculation service should be (thematic**Geo**parameterCalculationService) and not (thematic**Go**parameterCalculationService) (part in bold is added to put in evidence the typing error.*

DELETED reference to document on implementation based on ISO 15386 as no request was received from Member States to develop this further.

Page 11: SC 13

REPLACED:
Geographic coordinate reference system

WITH:
Geodetic coordinate reference system

Page 11: SC 18

REPLACED:
For services at least one keyword of Part D.4 of INSPIRE shall be documented using MD_Metadata.identificationInfo[1].SV_ServiceIdentification.descriptiveKeywords

WITH:
For services at least one keyword of Part D.4 of Commission Regulation (EC) No. 1205/2008 shall be documented using MD_Metadata.identificationInfo[1].SV_ServiceIdentification.descriptiveKeywords

Section 1.3.2:

REPLACED:
For classification of spatial data services, the Implementing Rules mandate the use of the value domain of Part D 4. In order to ensure a language independent expression of the classification of spatial data services, the language neutral name to be used as the value of the ISO 19115 keywords (See 2.4).

WITH:
For classification of spatial data services, the Implementing Rules mandate the use of the value domain of Part D 4 of Regulation 1205/2008. In order to ensure a language independent expression of the classification of spatial data services, the language neutral name is to be used as the value of the ISO 19115 keywords (See 2.4).

Page 13: **ADDED** the following reference to INSPIRE Validator:

INSPIRE Validator Service: A RESTful Web service that can be invoked by http request to validate Inspire Metadata

The purpose of the INSPIRE Metadata Validator is to test compliance of INSPIRE metadata with the INSPIRE Metadata Regulation. The validator accepts metadata which follow the Metadata Technical Guidance encoded in EN ISO 19139 schema. The INSPIRE Metadata Validator is implemented by ISO Schematron (2006).

The web application and service are provided for testing, please report any issues you find so that they can be improved at inspire-geoportal@jrc.ec.europa.eu

End point: http://www.inspire-geoportal.eu/INSPIREValidatorService/resources/validation/inspire
Supported method: POST
Supported response formats: XML, HTML (The response format is returned according to the Accept value of the http request header)
Request parameter: dataFile (This is the name of the parameter associated with the metadata record xml file that should be added to the request)
(see also http://www.inspire-geoportal.eu/index.cfm/pageid/48)

PLEASE NOTE: The validator is a proof of concept that has been developed to test these guidelines. It is not intended to be an operational tool, and at the present time works in English only. All the files of the Validator including documentation are available under EU Public License from the OSOR web site

(http://www.osor.eu/projects/validator). Interested stakeholders are welcome to adapt the Validator to their own language, and contribute it back through OSOR to enrich the collective portfolio of tools supporting the implementation of INSPIRE.

Page 18: Section 2.2.5

Examples:
Clarified that the 3 examples provided refer to a URI form, ID + Codespace form, and UUID form

Implementing Instructions:

REPLACED:
If a codeSpace is provided, the data type to be used is RS_Identifier.
If the dataset is coupled to a service, the value of the "id" attribute assigned to the MD_DataIdentification element should correspond to the code of one of the Unique Resource Identifiers (2.2.6 Coupled resource).

WITH:
If a value for a codeSpace is provided, then the data type for the identifier should be RS_Identifer, which is substitutable for the usual MD_Identifier.

Page 19: Section 2.2.6

Implementing Instructions:

REMOVED the sentence**:**
For consistency, the value of the "id" attribute assigned to the referenced MD_DataIdentification element should correspond to the code of one of the Unique Resource Identifiers defined for the coupled resource (see 2.2.5 Unique resource identifier)

This removal is justified because:
The XML attribute MD_DataIdentification@id (type='xs:ID') provides an identifier for this element within the document. It may be used for cross-references within the document, or as the fragment identifier in links to the element from external resources. In some systems it may be convenient for the value to replicate the value of the code part of the identifier, but this is not required, and indeed is not valid XML if the value is a URI. A system-provided opaque identifier may be preferred.

Page 20: Section 2.2.7

Clarified that the list of all the codes is defined at http://www.loc.gov/standards/iso639-2/ Regional languages also are included in this list.

REPLACED:
In the XML examples, replaced
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodelists.xml#LanguageCode"

WITH:
codeList="http://www.loc.gov/standards/iso639-2/"

Reason is that the former only includes English and French, while the latter has all language codes.

Page 22: Section 2.3.2

REPLACED:
identificationInfo[1]/*/serviceType

WITH:
serviceType

Page 23: Section 2.4

CLARIFIED that the titles and definition of the 34 INSPIRE themes have been integrated into *"a dedicated branch"* of GEMET

ADDED the following sentence to clarify multilingual aspects.

It is understood that these mandatory keywords may be expressed:
- *as neutral language values such as the neutral language values defined in Part D.4 of the Metadata Implementing Rules for spatial data services;*
- *in the language of the metadata for the 34 INSPIRE Spatial Data Themes (please use the terms in each of the official languages in which the INSPIRE Directive has been translated)*

UPDATED the reference to the GEMET – Concepts from version 2.1 to version 2.4 of 2010-01-13 in the second table of examples i.e.

keyword	title	reference date	date type
freshwater	GEMET - Concepts, version 2.4	2010-01-13	publication

Page 24: Section 2.4.1

UPDATED the examples in the table form *Land Cover* to

Land cover (INSPIRE Spatial Data Theme)
humanCatalogueViewer (spatial data service subcategory)
water springs (AGROVOC)
freshwater (GEMET Concepts)

ADDED an example of XML encoding:

Here is an example of XML encoding of the keyword value for a spatial data services category or subcategory as defined in Part D.4 of the Metadata Implementing Rules.

```
<gmd:MD_Metadata …
…
  <gmd:identificationInfo>
    < srv:SV_ServiceIdentification >
…
      <gmd:descriptiveKeywords>
        <gmd:MD_Keywords>
          <gmd:keyword>
            <gco:CharacterString>humanCatalogueViewer</gco:CharacterString>
          </gmd:keyword>
          <gmd:thesaurusName>
…(see 2.4.2)
          </gmd:thesaurusName>
        </gmd:MD_Keywords>
      </gmd:descriptiveKeywords>
    </ srv:SV_ServiceIdentification >
  </gmd:identificationInfo>
…
```

</gmd:MD_Metadata>

An INSPIRE aware tool is expected to manage the neutral language values (e.g. humanCatalogueViewer), of the service category or subcategory and eventually display the corresponding value in a language chosen by the user (e.g. Visualiseur de catalogue in French).

Here is an example of XML encoding for a keyword referring to a spatial data set. Whether the keyword refers to an INSPIRE spatial data theme or not, is defined by the originating controlled vocabulary (see 2.4.2)

Page 25: Section 2.4.2

REPLACED in Name: ThesaurusName

WITH: thesaurusName

REPLACED in the Examples

- *title: "**GEMET Thesaurus version 2.1**"*
- *date:*
  - *dateType: **publication***
  - *date: **2008-06-13***

WITH:

- *title: "**GEMET- INSPIRE themes version 1.0**"*
- *date:*
  - *dateType: **publication***
  - *date: **2008-06-01***
  - o
- *title: "**GEMET- Concepts version 2.4**"*
- *date:*
  - *dateType: **publication***
  - *date: **2010-01-13***

CLARIFIED that the example of XML encoding is for *keyword referring to an INSPIRE Spatial Data Theme*

Page 26:

REMOVED example of multiple keywords as it was redundant.

Page 28: Section 2.5.1: Implementing instructions, last bullet

REPLACED: geographic

WITH: geodetic

Page 29: Section 2.6 Temporal Reference:

Added the following paragraph, based on Recommendation 16 of the Guidelines for the Draft Implementing Rule on the Interoperability of Spatial Data Sets and Services:

To be compliant with the INSPIRE Data Specifications - Guidelines, it is recommended, if feasible, to report the date of last revision.

Pages 31 and 32: Sections 2.6.3 and 2.6.4

REPLACED: in dataType: Date

WITH: CI_Date

Page 33: Section 2.7.1 Lineage

Implementing Instructions:

REPLACED first Bullet:
In addition to general explanation of the data producer's knowledge about the lineage of a dataset it is possible to put data quality statements here

WITH text from Recommendation 16 of Data Specifications Guidelines
Apart from describing the process history, the overall quality of the dataset (series) should be included in the Lineage metadata element. This statement should contain any quality information required for interoperability and/or valuable for use and evaluation of the data set (series).

Page 36: Section 2.8 Conformity

REPLACED paragraphs 2, 3, and 4 of this Section with the following text to clarify mechanisms to report conformance, and clarify multi-lingual aspects;

The Implementing Rules for metadata defines in Part D 5 three degrees of conformity: conformant, not conformant and not evaluated. The expression of these three degrees follows the following rules:

- *When the conformity to an INSPIRE Specification has been evaluated, it shall be reported as a domain consistency element (i.e. an instance of DQ_DomainConsistency) in ISO 19115 metadata (see 2.8.1). In that case, if the evaluation has passed, the degree is conformant, otherwise it is not conformant.*
- *The absence[1] of ISO 19115 metadata related to the conformity to an INSPIRE specification does imply that the conformity to this specification has not been evaluated.*

Known relevant specifications include the INSPIRE Data Specification guidelines[2] established for each INSPIRE theme. The Specification element should be given as follows:

- title: "INSPIRE Data Specification on <Theme Name> –Guidelines"
- date:
- dateType: publication

It is acknowledged that the title of the specification may be in any of the official languages of the European Union.

Other relevant specifications may have to be considered at a later stage. An identification mechanism corresponding to the nature of these specifications will then be defined.

When the metadata does not contain any information about one of these specifications, the user applications exploiting the metadata shall report that the conformity to that specification has not been evaluated. Therefore, the general process for exploiting the metadata is for each INSPIRE conformity specification to:

- *check using the quality measure identifier defined for the specification whether the conformance to any INSPIRE specification has been reported;*
- *for each known relevant specification:*
  - *report that the conformity to this specification has not been evaluated if none of the INSPIRE conformity statement relates to it;*

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[1] In ISO 19115, it is possible to report about the conformity to a specification when it has been evaluated, but the only way to express the fact that the conformity with a given specification has not been evaluated is not to report anything in the metadata.
[2] A common abstract test suite including detailed instructions on how to test each requirement will be defined at a later stage.

     ○ *exploit the metadata, i.e. the description of the specification and the degree of conformity, as stated hereafter when the specification has been evaluated.*

Page 37: Section 2.8.1

REPLACED XML example of encoding with the following to increase clarity:

```
<gmd:result>
 <gmd:DQ_ConformanceResult>
  <gmd:specification>
… <!-- See 2.8.2 -->
  </gmd:specification>
    <!-- gmd:explanation is mandated by ISO 19115. A default value is proposed -->
  <gmd:explanation>
   <gco:CharacterString>See the referenced specification</gco:CharacterString>
  </gmd:explanation>
    <!-- the value is false instead of true if not conformant -->
  <gmd:pass>
   <gco:Boolean>true<gco:Boolean>
  </gmd:pass>
 </gmd:DQ_ConformanceResult>
</gmd:result>
```

Page 38: Section 2.8.2 Specification

In the Domain: MOVED effective date ahead of date type

In the Example: DELETED:
INSPIRE Implementing rules laying down technical arrangements for the interoperability and harmonisation of orthoimagery

REPLACED with:
- title: "**INSPIRE Data Specification on orthoimagery - Guidelines**"
- date:
  ○ date: **2010-04-26**
dateType: **publication**

XML Example: REPLACED
INSPIRE Implementing rules laying down technical arrangements for the interoperability and harmonisation of orthoimagery

WITH:
INSPIRE Data Specification on Orthoimagery - Guidelines

Page 41. Section 2.9.1: Implementing Instructions

REPLACED:
The value of accessConstraints is otherRestrictions, if and only if there are instances of otherConstraints expressing limitations on public access. In such case, the instances of otherConstraints are reported as part of the INSPIRE limitations on public access, but the special value otherRestrictions of accessConstraints should not be reported. This means that the value otherRestrictions is reserved for INSPIRE. This because there is no way to express that the free text contained in otherConstraints is a limitation on public access.

WITH:
If the value of accessConstraints is otherRestrictions there shall be instances of otherConstraints expressing limitations on public access. This is because the limitations on public access required by the INSPIRE Directive may need the use of free text, and otherConstraints is the only element allowing this data type.

Page 46: Section 2.11.1: Implementing Instructions

EDITED text from: "Its value can be defaulted to PointOfContact"
To: "The default value is PointOfContact"

Page 49:

EDITED text from: transferOptions [0..*] : MD_Format
To: transferOptions [0..*] : MD_DigitalTransferOptions

EDITED text from: CI_Onlineresource
To: CI_OnlineResource

ADDED Note 4: In case of datasets and dataset series at least an instance of dataQualityInfo is mandatory.

ADDED reference to Note 4 after "See 3.4"

Page 51: Section 3.3.2:

REPLACED:

+ extent [1..*] : EX_Extent.. See Note 4

WITH

+ extent [0..*] : EX_Extent.. See Note 4

Because extent is mandatory not for all services but only for those with an explicit geographic extent.

Page 53: Section 3.5.2: Note 1:

EDITED text from: ISO 19115 mandates the definition of the role of the responsible party. The default role is pointOfContact, but a more appropriate choice is encouraged.

To:ISO 19115 mandates the definition of the role of the responsible party. The default role is pointOfContact.

Section 3.6: Note 1

REPLACED
If the value of accessConstraints is otherRestrictions, then the instances of otherConstraints also describe Limitations on public access (See 2.9.1), but the special value otherConstraints has not to be reported as a Limitations on public access.

WITH
If the value of accessConstraints is otherRestrictions, then the instances of otherConstraints may be used to describe Limitations on public access (See 2.9.1)

Page 54: Section 3.7

ADDED TWO ABBREVIATIONS introduced in Section 2.2.5
ID   IDentifier

UUID   Universally Unique IDentifier

Page 58 and 59:

REPLACED: "fra"
WITH: "fre"

A 6.1 and A 6.2:

REPLACED:
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodelists.xml#LanguageCode"

WITH:
codeList="http://www.loc.gov/standards/iso639-2/"

ADDED footnote:

Please note that both "fre" and "fra" are compatible with ISO 639-2 which distinguishes the bibliography codes (e.g. fre) from the terminology codes (e.g. fra). This issue concerns also any language having different codes for bibliography and terminology. The Drafting team has chosen the bibliography codes.

Page 63: Section A11

REMOVED TYPO: REPLACED
2.7.2 Resource Language.

WITH
2.2.7 Resource Language.

Page 64: Section A12.1.1

REPLACED
Part B 7.1 Specification:
+ title: INSPIRE Implementing rules laying down technical arrangements for the interoperability and harmonisation of orthoimagery

WITH
Part B 7.1 Specification:
+ title: INSPIRE Data Specification on Orthoimagery – Guidelines

Page 67

After </gmd:date>
REPLACED: </gmd:identifier>
WITH: <gmd:identifier>

Page 69 and Page 73:

REPLACED:

```
<gmd:MD_Format>
        <gmd:name gco:nilReason="inapplicable"/>
        <gmd:version gco:nilReason="inapplicable"/>
</gmd:MD_Format>
```

WITH

```
<gmd:MD_Format>
        <gmd:name>
                <gco:CharacterString>Unknown</gco:CharacterString>
        </gmd:name>
        <gmd:version>
                <gco:CharacterString>Unknown</gco:CharacterString>
         </gmd:version>
</gmd:MD_Format>
```