

Irish Spatial Data Infrastructure



ISDI Metadata Profile

Version 1.2

Volume 1

Spatial Dataset and Spatial Dataset Series

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Comhshaol, Pobal agus Rialtas Áitiúil
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Purpose of this Document

The purpose of this document is to provide the outline of the partner agreed ISDI Metadata Profile and to identify the metadata elements required to accurately describe a spatial dataset or a spatial dataset series managed by the organisations in the Irish Spatial Data Infrastructure.

Revision History

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Contents

1. Overview of ISDI Metadata Profile	5
2 ISDI Metadata Profile for spatial dataset and spatial dataset series.....	8
2.1 ISDI "dataset" Metadata Profile of ISO 19115:2005	8
2.2 Metadata for geographic data	9
2.3 Metadata sections	9
3 Metadata section descriptions	10
3.1 Metadata entity set information: MD_Metadata	10
3.2 Metadata File Identifier: fileIdentifier	10
3.3 Language: language	10
3.4 Metadata Character Set: characterSet.....	11
3.5 Resource type: MD_ScopeCode	11
3.6 Contact Details: CI_ResponsibleParty	11
3.7 Dataset reference date: dateStamp	12
3.8 Metadata Standard Name: metadataStandardName	12
3.9 Metadata Standard Version: metadataStandardVersion	12
3.10 Reference system information: MD_ReferenceSystem.....	12
3.11 Identification information: MD_Identification	13
3.12 Distribution information: MD_Distribution	13
3.13 Data quality information: DQ_DataQuality	14
4. Core ISO metadata: ISDI "dataset" Metadata Profile	15
5. ISDI "dataset" Metadata Profile: metadata elements.....	17
5.1 Metadata header.....	17
5.2 Metadata language.....	17
5.3 Metadata character set.....	18
5.4 Resource Type	18
5.5 Metadata point of contact.....	18
5.6 Metadata date	19
5.7 Metadata standard name	19
5.8 Metadata standard version	20
5.9 Spatial reference system	20
5.10 Identification	21
5.10.1 Resource title.....	21
5.10.2 Resource alternate title	21
5.10.3 Date of publication	21
5.10.4 Date of creation.....	22
5.10.5 Date of last revision.....	22
5.10.6 Unique Resource Identifier	23
5.10.7 Resource abstract	23
5.10.8 Resource purpose	24
5.10.9 Resource status.....	24

ISDI Metadata Profile (spatial data sets and data set series)

5.10.10	Responsible party	25
5.10.11	Maintenance update and frequency	25
5.10.12	Descriptive keywords	26
5.10.13	Constraints related to access and use	27
5.10.14	Spatial representation type	29
5.10.15	Spatial resolution	29
5.10.16	Dataset language	30
5.10.17	Dataset character set.....	30
5.10.18	Dataset topic category	31
5.10.19	Geographic bounding box.....	31
5.10.20	Vertical information	32
5.10.21	Temporal extent	32
5.11	Distribution Information	33
5.11.1	Distribution format/version.....	33
5.11.2	Distributor point of contact.....	33
5.11.3	Resource locator	34
5.12	Data Quality	34
5.12.1	Resource type	34
5.12.2	Conformity	35
5.12.4	Lineage	36
Annex A.	Code Lists and Enumerations	37
A.1.1	ISO 19115 Code Lists and enumerations.....	37
A.2.1	INSPIRE Code Lists and enumerations.....	46
Annex B.	ISDI "dataset" Metadata Profile Vocabularies.....	47
B.1.1	Descriptive Keywords	47

1. Overview of ISDI Metadata Profile

The purpose of this publication is to describe and define the Irish Spatial Data Infrastructure (ISDI) Metadata Profile. The ISDI Metadata Profile is designed to support the documentation and discovery of terrestrial and marine spatial datasets, spatial dataset series and spatial data services recognising the data management and sharing requirements within the ISDI community.

The ISDI Metadata Profile identifies the metadata elements required by any Irish organisation to uniformly describe their spatial data resources according to the requirements of the INSPIRE Implementing Rules for metadata. The spatial data resource types specifically addressed by this metadata profile are

- **Spatial dataset**
- **Spatial dataset series**
- **Spatial data service**

The ISDI Metadata Profile has been developed in accordance with the rules established by the International Standards Organisation (ISO) by the Marine Institute with guidance by the partners in the Irish Spatial Data Exchange project (ISDE). The ISDI Metadata Profile is a subset of the international standard ISO 19115:2003 and includes all ISO 19115 core metadata elements. The ISDI Metadata Profile has also uses additional ISO 19115 non-core elements, code lists and vocabularies to assist in the description of spatial data resources. These additional elements have been guided by the requirements of the INSPIRE directive and have been implemented according to version 1.1 and version 1.2 of the INSPIRE Metadata Implementing Rules and technical guidelines.

The ISDI Metadata Profile is maintained as three separate documents (volumes):

Volume 1: ISDI metadata for spatial datasets and spatial data series

Volume 2: ISDI metadata for spatial data services

Volume 3: ISDI Metadata Profile XML Encoding Guidance

The ISDI Metadata Profile has used the 'Marine Community Profile of ISO 19115' Version 1.4 produced by the Australian Ocean Data Centre as a template guide in documenting this profile. The UK Location GEMINI2 Encoding Guidance and the Centre for Ecology & Hydrology (CEH)¹ metadata wiki have also been important reference resources that have guided the development of this ISDI Metadata Profile.

¹ <http://www.ceh.ac.uk/>

Contact Details

The ISDI Metadata Profile is managed by the ISDI Technical Committee. Any comments or feedback should be directed to:

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References

The following normative documents contain important requisite references used by the Marine Institute in the compilation of the ISDI Metadata Profile.

- ISO 639-2, *Codes for the representation of names of languages – Part 2: Alpha-3 code.*
- ISO 3166-1, *Codes for the representation of names of countries and their subdivisions – Part 1: Country Codes.*
- ISO 8601:2000, *Data elements and interchange formats – Information interchange – Representation of dates and times.*
- ISO 8879, *Information processing – Text and office systems – Standard Generalized Markup Language (SGML).*
- ISO/IEC 10646-1, *Information technology – Universal Multiple-Octet Coded Character Set (UCS) – Part 1: Architecture and Basic Multilingual Plane.*
- ISO 19103:2005, *Geographic information – Conceptual schema language.*
- ISO 19106:2004, *Geographic information – Profiles.*
- ISO 19107:2003, *Geographic information – Spatial schema.*
- ISO 19108:2002, *Geographic information – Temporal schema.*
- ISO 19109:2005, *Geographic information – Rules for application schema.*
- ISO 19110:2005, *Geographic information – Methodology for feature cataloguing.*
- ISO 19111:2003, *Geographic information – Spatial referencing by coordinates.*
- ISO 19113:2002, *Geographic information – Quality principles.*
- ISO 19115:2005, *Geographic information – Metadata.*
- ISO 19118:2005, *Geographic information – Encoding.*
- ISO/CD 19130, *Geographic information – Sensor and data models for imagery and gridded data.*
- ISO/CD TS 19139, *Geographic information – Metadata – XML schema implementation.*
- ISO/IEC 19501:2005, *Information technology – Open Distributed Processing – Unified.*
- Modelling Language (UML) Version 1.4.2.
- Marine Community Profile of ISO 19115 – Australian Ocean Data Centre.
- INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119 – v1.1
- INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119 – v1.2

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The following people provided significant contributions to the publication of this metadata profile:

- Greg Reed, Australian Oceanographic Data Centre, Australia.
- Eoin O'Grady, Marine Institute, Ireland.
- Trevor Alcorn, Marine Institute, Ireland.
- Gareth John, Department of the Environment, Community & Local Government.
- Fiona O'Rourke, Environmental Protection Agency, Ireland.
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- Gerry Sutton, Coastal & Marine Resources Centre, University College Cork.
- Bernard Farrell, Spatial Management Consultant (formerly Ordnance Survey Ireland).
- Ali Robinson, Compass Informatics.

2 ISDI Metadata Profile for spatial dataset and spatial dataset series

2.1 ISDI "dataset" Metadata Profile of ISO 19115:2005

The International Standard ISO 19115 "Geographic Information – Metadata" is a standard of the International Organisation for Standardisation (i.e. ISO). It is a constituent of the ISO series 19100 standards for spatial metadata. ISO 19115² defines the schema required for describing geographic information. ISO 19115 provides information about the identification, the extent, the quality, the spatial and temporal schema, spatial reference, and distribution of digital geographic data.

ISO 19115 is applicable to the cataloguing of datasets, clearinghouse activities and the full description of datasets, geographic datasets, dataset series, and individual features and feature properties. ISO 19115 defines mandatory and conditional metadata sections, metadata entities, and metadata elements. In addition, ISO 19115 defines the minimum set of metadata required to serve the full range of metadata applications (i.e. data discovery, determining data fitness for use, data access, data transfer, and use of digital data.) There are optional metadata elements to allow for a more extensive standard description of geographic data, if required. Although ISO 19115 is applicable to digital data, its principles can be expanded to include other forms of geographic data such as maps, admiralty charts, and textual documents as well as non-spatial data.

Therefore, underpinning the ISDI Metadata Profile for metadata is the ISO profile as this fits the specialised environmental metadata requirements of the INSPIRE directive.

The ISO 19115 standard defines approximately 400 elements, most of which are listed as "optional". There are, however, 22 core metadata elements³ required by ISO 19115. The ISO standard states that individual communities may develop a "community profile" of the International Standard, hence the generation of the ISDI "dataset" Metadata Profile. Within this ISDI Metadata Profile a select set of metadata elements may be established as mandatory and others set as conditional, obligatory or optional. In addition, the ISDI Metadata Profile establishes additional metadata elements that are not part of the ISO standard, these requirements sourced from the INSPIRE directive technical guidance and the Metadata Implementing Rules. The ISDI "dataset" Metadata Profile establishes field sizes and domains for all metadata elements according to the rules established for creating a Community Profile are described in the International Standard Geographic Information – Profiles (ISO19106:2004).

The ISDI Metadata Profile uses the ISO 19115 standard by applying the ISO 19139 XML schema implementation of ISO 19115 to include new elements and customised code lists to meet the requirements of the ISDI community. There are core ISO elements, core INSPIRE elements, and optional elements which are useful descriptive parameters for metadata describing a spatial dataset or a spatial dataset series.

² ISO 19115 is additionally known as ISO 19115:2005.

³ INSPIRE Metadata Implementing Rules Technical Guidance, p. 7.

2.2 Metadata for geographic data

ISO 19115 identifies the metadata required to describe geographic data. Metadata⁴ is applicable to independent datasets, aggregations of datasets, individual geographic features, and the various classes of objects that compose a feature. Metadata shall be provided for geographic datasets and may, optionally, be provided for aggregations of datasets, features, and attributes of features. Metadata is composed of one or more Metadata Sections (also referred to as 'Packages' in the ISO UML⁵ model) containing one or more Metadata Entities (UML 'Classes').

2.3 Metadata sections

ISO 19115 presents metadata for geographic data in distinct information sections. Each section contains one or more entities. Entities then contain elements which identify the actual metadata values. Entities may also be related to one or more other entities and may be aggregated and repeated as necessary to meet:

- Mandatory requirements stated by ISO.
- Additional INSPIRE or ISDI requirements.

The relationship between the metadata sections and the sets of metadata entities included in the ISDI "dataset" Metadata Profile is shown below.

Metadata Section	Entity Set
Metadata entity set information	MD_Metadata
Metadata file identification information	fileIdentifier
Metadata language information	language
Metadata character set information	characterSet
Metadata resource type information	MD_ScopeCode
Responsible party information	CI_ResponsibleParty
Metadata Date information	dateStamp
Metadata standard name information	metadataStandardName
Metadata standard version information	metadataStandardVersion
Reference system information	MD_ReferenceSystem
Identification information	MD_DataIdentification
Distribution information	MD_Distribution
Data quality information	DQ_DataQuality

Figure 1. ISDI "dataset" Metadata Profile: Metadata sections and related entity sets.

⁴ Metadata is data about data.

⁵ UML is Unified Markup Language used to produce case, class, and sequence diagrams, and more.

3 Metadata section descriptions

3.1 Metadata entity set information: MD_Metadata

The metadata entity set information consists of the entity **MD_Metadata**, which is mandatory. The MD_Metadata entity contains both mandatory and optional elements. The MD_Metadata entity is an aggregate of the following entities.

- fileIdentifier
- language
- characterSet
- hierarchyLevel
- contact
- dateStamp
- metadataStandardName
- metadataStandardVersion
- referenceSystemInfo
- identificationInfo
- distributionInfo
- dataQualityInfo

MD_Metadata is mandatory for ISO and INSPIRE when describing a spatial dataset or a spatial dataset series.

3.2 Metadata File Identifier: fileIdentifier

The Metadata File Identifier for each metadata record contains the unique metadata UUID⁶ for a spatial dataset or a spatial dataset series.

Metadata file identifier (O) is an ISO core element.

The ISDI "dataset" Metadata Profile uses this element for metadata harvest management and linking OGC web services back to the metadata of the reference datasets. It is important for spatial data exchange purposes and the fact that some organisations will hold but not be legally responsible for another organisation's spatial dataset(s) or dataset series. Data exchange may mean the Marine Institute; for example, may hold a copy of an Environmental Protection Agency (i.e. EPA) spatial dataset or spatial dataset series on the Marine Institute network, and vice versa.

3.3 Language: language

The language information contains data on the metadata language describing the spatial dataset or spatial dataset series.

Metadata language (C) is an ISO core element. INSPIRE is more demanding (Part B 10.3) where the metadata language is mandated.

The element language in the ISDI "dataset" Metadata Profile is mandatory as defined by INSPIRE.

⁶ UUID is a Universally Unique Identifier.

3.4 Metadata Character Set: characterSet

The metadata character set information contains data on the character set the metadata record(s) is stored in. All metadata must be in the same character set for interoperability and exchange.

Metadata character set (C) is an ISO core element and ISO 19115 is more demanding than INSPIRE. The metadata character set has to be documented in ISO 19115 when ISO-10646-1 is being used.

The ISDI "dataset" Metadata Profile uses "UTF-8"⁷ describing this character set as 8-bit variable size UCS Transfer Format, based on ISO/IEC 10646 to fulfil the underlying ISO 19115 requirements upon which the profile is based.

3.5 Resource type: MD_ScopeCode

The Hierarchy Level contains the spatial data resource type information the metadata record(s) is describing.

Resource Type (Part B 1.3) is a requirement of INSPIRE and as a result it is more demanding than ISO. According to INSPIRE there are three types of spatial resources. These are:

1. Spatial dataset
2. Spatial dataset series
3. Spatial data service

The ISDI "dataset" Metadata Profile uses the MD_ScopeCode mandatory code list to meet the INSPIRE Metadata Implementing Rules technical guidance requirements for the first two of the three resource types, namely 'spatial dataset' and 'spatial dataset series'.

3.6 Contact Details: CI_ResponsibleParty

The contact details or CI_ResponsibleParty element contains the spatial dataset or spatial dataset series metadata point of contact.

Metadata point of contact (M) is a core ISO element. However, INSPIRE (Part B 10.1) is more demanding by mandating both the name of the organisation and a contact email address for the point of contact.

The ISDI "dataset" Metadata Profile is more comprehensive providing CI_ResponsibleParty, CI_Contact, CI_Telephone, and CI_Address for the metadata point of contact which includes the following. The code list CI_RoleCode defines the role information.

- Individual name.
- Organisation name.
- Position name.
- Role.
- Voice.
- Fax.

⁷ UTF8 (8-bit UCS/Unicode Transformation Format) is a variable-length character encoding for Unicode. It is the preferred encoding for web pages and other places where characters are stored or streamed.

ISDI Metadata Profile (spatial data sets and data set series)

- Postal address.
- Electronic mail address.

3.7 Dataset reference date: dateStamp

The dateStamp element refers to the metadata date stamp of the spatial dataset or spatial dataset series.

Metadata date stamp (M) is a core ISO element. ISO is more restrictive because this element shall contain the 'date that the metadata was created' but INSPIRE may contain the 'date when the metadata record was created or updated'.

The ISDI "dataset" Metadata Profile provides the dateStamp element as the date stamp to apply to the metadata. The INSPIRE requirements on date(s) associated with the spatial dataset(s) or dataset series are handled under the MD_Identification entity.

3.8 Metadata Standard Name: metadataStandardName

The metadata standard name contains information on the standard the metadata is described in.

The metadata standard name (O) is a core ISO 19115 element.

As the ISDI Metadata Profile is a combination of the ISO Standards 19115/19139 and INSPIRE the description of the standard references both sources. The metadata standard name is mandatory to provide a standard reference for each metadata record.

3.9 Metadata Standard Version: metadataStandardVersion

The metadata standard version contains information on the version release of the standard the metadata is described in.

The metadata standard version (O) is a core ISO 19115 element.

According to the INSPIRE Metadata Implementing Rules there are no specific comments but the ISDI "dataset" Metadata Profile requires this element for metadata management purposes. The ISDI "dataset" Metadata Profile applies the version release of the INSPIRE Metadata Implementing Rules technical guidance documentation as the version of the metadata standard to apply.

3.10 Reference system information: MD_ReferenceSystem

The reference system section contains information on the identification of the spatial reference system associated with a spatial data dataset(s) or dataset series. A spatial reference system or projection system is any method representing the surface of a sphere (ie. Earth on a plane.) onto a 2D/3D display.

Reference System (O) is a core ISO 19115 element.

According to the INSPIRE Metadata Implementing Rules technical guidance there are no specific comments. However, as the ISDI "dataset" Metadata Profile applies the ISO entities as the underlying foundation for the profile the MD_ReferenceSystem entity is included as mandatory.

3.11 Identification information: MD_Identification

The Identification information section contains information to uniquely identify the spatial dataset or dataset series being described by the metadata.

Dataset title (M), dataset reference date (M), dataset responsible party (O), Geographic location of the dataset (C), dataset language (M), dataset character set (C), dataset topic category (M), spatial resolution of the dataset (O), abstract describing the dataset (M), and additional extent information for the dataset (vertical, spatial and temporal) (O) are all ISO core elements.

Identification information for the ISDI "dataset" Metadata Profile includes the following:

- Citation of the resource: CI_Citation.
- Date(s) associated with the generation of the metadata: CI_Date.
- Dataset Unique Identifier: RS_Identifier.
- Abstract (summary) of the spatial resource described: abstract.
- Purpose of the spatial dataset or series described: purpose.
- Status of the data collection process of the spatial dataset or series described: MD_ProgressCode.
- Point of Contact details associated with the dataset or series: CI_ResponsibleParty.
- Maintenance and frequency information associated with the spatial dataset or series: MD_MaintenanceInformation.
- Descriptive keyword(s) associated with the dataset or series: MD_Keywords.
- INSPIRE Thesaurus Vocabulary keyword source reference: thesaurusName.
- Constraints associated with the dataset or series: MD_Constraints.
- Spatial Representation Type information associated with the dataset or series: spatialRepresentationType.
- Dataset language: language.
- ISO topic category or main theme of the spatial dataset or series: MD_TopicCategoryCode.
- Geographic Extent of the spatial dataset or series: EX_Extent.
- Vertical Extent of the spatial dataset or series: EX_VerticalExtent.
- Vertical Datum associated with the spatial dataset or series: verticalDatum.
- Temporal Extent (ie. Begin and End Period) associated with the spatial dataset or series: EX_TemporalExtent.
- Supplemental information associated with the spatial dataset or series: supplementalInformation.

The ISDI "dataset" Metadata Profile follows the INSPIRE Metadata Implementing Rules recommendations (elements above) using the underlying ISO entities.

3.12 Distribution information: MD_Distribution

The distribution information section contains information associated with the distribution of the spatial dataset or series. The Distribution information contains the following:

- General distribution information: MD_Distribution.
- Distribution format of the spatial dataset or series: MD_Format.
- Distribution point of contact: CI_ResponsibleParty.
- Distribution address details: CI_Address.
- Distribution voice and fax details: CI_Contact.
- Online information on the spatial data dataset or series: MD_DigitalTransferOptions.CI_OnlineResource.

Distribution format (O) is a core ISO element. There is no reference for INSPIRE but it is included as part of the ISDI "dataset" Metadata Profile.

3.13 Data quality information: DQ_DataQuality

The data quality section contains extra information entities required by INSPIRE and reference to the spatial dataset or series and lineage information on the spatial dataset or series creation. In addition the extra supplementary elements required by INSPIRE as a conformance test are included here.

According to the INSPIRE Metadata Implementing Rules technical guidance the following is a requirement. "In conformance to Directive 2007/2/EC, the metadata shall include information on the degree of conformity with the implementing rules provided in Art. 7-1. ISO 19115 provides a mechanism for reporting about the evaluation of the conformity of the resource against a given specification. This mechanism is used here to handle the conformity requirements of INSPIRE."

The ISDI "dataset" Metadata Profile contains the following to implement the requirements of INSPIRE.

- Resource type: Code list MD_ScopeCode.
- INSPIRE Conformance test: DQ_DomainConsistency.DQ_ConformanceResult.
- Statement on the lineage of the spatial data resource: LI_Lineage.

4. Core ISO metadata: ISDI “dataset” Metadata Profile

ISO 19115 defines an extensive set of metadata elements. The ISDI “dataset” Metadata Profile uses a subset of the full number of these elements and has defined a number of metadata elements required to conform to INSPIRE. These core metadata elements are required to identify a spatial dataset and a spatial dataset series. These core metadata elements aid answering the following questions:

- Does a dataset on a specific topic exist ('what')?
- For a specific place ('where')?
- For a specific date or period ('when')?
- A point of contact to learn more about or order the dataset ('who')?

Using the recommended optional elements in addition to the mandatory elements increases interoperability across ISDI, allowing users to understand without ambiguity the data and the related metadata provided by either the producer or the distributor. The ISDI “dataset” Metadata Profile includes the core metadata elements defined in ISO 19115.

Listed below are the core metadata elements required for describing a spatial dataset or a spatial dataset series using the ISDI “dataset” Metadata Profile. “**M**” indicates that the element is mandatory; “**O**” indicates that the element is optional; and “**C**” indicates that the element is mandatory under certain conditions.

ISO 19115 Core	INSPIRE
Dataset title (M)	Part B 1.1 Resource Title
Dataset reference date (M)	Part B 5 Temporal Reference
Dataset responsible party (O)	Part B 9 Responsible Organisation
Geographical location of the dataset (C)	Part B 4.1 Geographic Bounding Box
Dataset language (M)	Part B 1.7 Resource Language
Dataset character set (C)	
Dataset topic category (M)	Part B 2.1 Topic Category
Spatial resolution of the dataset (O)	Part B 6.2 Spatial Resolution
Abstract describing the dataset (M)	Part B 1.2 Resource abstract
Distribution format (O)	
Additional extent information for the dataset (vertical and temporal) (O)	Part B 5.1 Temporal extent
Spatial representation type (O)	
Reference system (O)	
Lineage (O)	Part B 6.1 Lineage
On-line resource (O)	Part B 1.4 Resource Locator
Metadata file identifier (O)	
Metadata standard name (O)	
Metadata standard version (O)	
Metadata language (C)	Part B 10.3 Metadata Language
Metadata character set (C)	
Metadata point of contact (M)	Part B 10.1 Metadata point of contact
Metadata date stamp (M)	Part B 10.2 Metadata Date
	Part B 1.3 Resource Type

ISDI Metadata Profile (spatial data sets and data set series)

	Part B 1.5 Unique Resource Identifier
	Part B 3 Keyword
	Part B 7 Conformity
	Part B 8.1 Conditions for use and access
	Part B 8.2 Limitations on public access

Figure 2. ISO and INSPIRE Core metadata elements.⁸

⁸ INSPIRE Metadata Implementing Rules: Technical Guidance INSPIRE spatial dataset and spatial dataset series

5. ISDI “dataset” Metadata Profile: metadata elements

5.1 Metadata header

ISDI Implementing Rules

Reference	
Element name	Metadata
IR Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	
Name	Metadata header
Definition	The Root Element container for all other metadata entities
ISO reference	Metadata
Data type	xml
Domain	Contains the entities describing the metadata.
ISDI style example	N/A

5.2 Metadata language

For ISDI implementation, the metadata language can be in either “English” or “Irish”.

ISDI Implementing Rules

Reference	Part B 10.3
Element name	Metadata language
IR⁹ Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	3
Name	language
Definition	Language used for documenting metadata.
ISO reference	language
Data type	LanguageCode (ISO/TS 19139)
Domain	Code list [MD_Language] (See ISO/TS 19139) based on alpha-3 codes of ISO 639-2. Use only three-letter codes from in ISO 639-2/B.
ISDI style example	“eng” or “gle”

⁹ ISDI Implementing Rules (ie. IR). The ISDI Implementing Rules follow the INSPIRE implementing rules.

5.3 Metadata character set

ISDI Implementing Rules

Reference	ISO Core Metadata Elements.
Element name	Metadata character set
IR¹⁰ Obligation/condition	Conditional.
Multiplicity	[1]

ISO Architecture

Number	
Name	Metadata character set
Definition	Character set the metadata information is stored in.
ISO reference	characterSet
Data type	Specified Class
Domain	Code List [MD_CharacterSetCode]
ISDI style example	"utf8"

5.4 Resource Type

ISDI Implementing Rules

Reference	Part B 1.3
Element name	Resource Type
IR Obligation/condition	Mandatory. ISDI profile implements either "dataset" or "series" or "service" from the scope code list
Multiplicity	[1]

ISO Architecture

Number	6
Name	hierarchyLevel
Definition	Scope to which metadata applies.
ISO reference	hierarchyLevel
Data type	MD_ScopeCode
Domain	Code List [MD_ScopeCode]
ISDI style example	"dataset" or "series"

5.5 Metadata point of contact

ISDI Implementing Rules

Reference	Part B 10.1
Element name	Metadata point of contact
IR Obligation/condition	Mandatory
Multiplicity	[1]

¹⁰ ISDI Implementing Rules. The ISDI Implementing Rules follow the INSPIRE implementing rules requirements.

ISO Architecture

Number	8
Name	Contact
Definition	Party responsible for the metadata information.
ISO reference	contact
Data type	CI_ResponsibleParty
Domain	The following properties are required: IndividualName, OrganisationName, positionName, Phone, Fax, Email, Address, Role [CI_RoleCode]
ISDI style example	<p>GIS Unit Department of Environment, Community and Local Government Custom House Dublin 1 Ireland Email: gis@environ.ie Phone: +353-1-8882000</p> <p>pointOfContact</p>

5.6 Metadata date

ISDI Implementing Rules

Reference	Part B 10.2
Element name	Metadata date
IR Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	9
Name	dateStamp
Definition	Date that the metadata was authored.
ISO reference	dateStamp
Data type	DateTime
Domain	Value must be formatted according to ISO 8601
ISDI style example	2010-04-12T16:21:32

5.7 Metadata standard name

ISDI Implementing Rules

Reference	1.1 ISO Core Metadata Elements
Element name	Metadata Standard Name
IR Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	
Name	metadataStandardName
Definition	The metadata standard meta-information is stored in.
ISO reference	metadataStandardName
Data type	CharacterString
Domain	Free text
ISDI style example	"ISDI Metadata Profile"

5.8 Metadata standard version

ISDI Implementing Rules

Reference	1.1 ISO Core Metadata Elements
Element name	Metadata Standard Version
IR Obligation/condition	Conditional
Multiplicity	[1]

ISO Architecture

Number	
Name	metadataStandardVersion
Definition	The metadata standard version meta-information is stored in. To be filled in if important to distinguish between versions.
ISO reference	metadataStandardVersion
Data type	CharacterString
Domain	Free text
ISDI style example	1.2

5.9 Spatial reference system

ISDI Implementing Rules

Reference	1.1 ISO Core Metadata Elements
Element name	Reference System
IR Obligation/condition	Optional
Multiplicity	[1]

ISO Architecture

Number	
Name	Spatial reference system
Definition	The reference system of the spatial resource for representing data on the surface of a sphere or other shape on a plane.
ISO reference	referenceSystemInfo
Data type	Detailed by a EPSG URL URI using Code and CodeSpace properties.
Domain	Free text. This is to be detailed using the code and URN from the EPSG spatial reference system register.
ISDI style example	http://www.opengis.net/def/crs/EPSSG/0/4258

5.10 Identification

5.10.1 Resource title

ISDI Implementing Rules

Reference	Part B 1.1
Element name	Resource title
IR Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	360
Name	title
Definition	Name by which the spatial resource is known
ISO reference	identificationInfo[1]/*/citation/title
Data type	CharacterString
Domain	Free text
ISDI style example	Special Area of Conservation

5.10.2 Resource alternate title

ISDI Implementing Rules

Reference	Part B 1.1
Element name	Resource alternate title
IR Obligation/condition	Optional
Multiplicity	[1]

ISO Architecture

Number	360
Name	title
Definition	Alternative name by which the spatial dataset or series is known.
ISO reference	identificationInfo[1]/*/citation/alternateTitle
Data type	CharacterString
Domain	Free text
ISDI style example	SAC

5.10.3 Date of publication

ISDI Implementing Rules

Reference	Part B 5.2
Element name	Date of publication
IR Obligation/condition	Mandatory. At least one temporal reference is required.
Multiplicity	[1...*]

ISO Architecture

Number	394
Name	Date
Definition	Reference date for the cited resource - publication
ISO reference	identificationInfo[1]/*/citation/*/date[./*/dateType/*/text()='publication']/*/date
Data type	CI_Date
Domain	Described in ISO 19108 and ISO 8601 with Code list [MD_DateTypeCode] for the type of date.
ISDI style example	2010-03-10

5.10.4 Date of creation

ISDI Implementing Rules

Reference	Part B 1.1
Element name	Date of creation
IR Obligation/condition	Optional
Multiplicity	[1]

ISO Architecture

Number	394
Name	Date
Definition	Reference date for the cited resource - creation
ISO reference	identificationInfo[1]/*/citation/*/date[./*/dateType/*/text()='creation']/*/date
Data type	CI_Date
Domain	Described in ISO 19108 and ISO 8601 with Code list [MD_DateTypeCode] for the type of date.
ISDI style example	2010-03-10

5.10.5 Date of last revision

ISDI Implementing Rules

Reference	Part B 1.1
Element name	Date of last revision
IR Obligation/condition	Optional
Multiplicity	[1]

ISO Architecture

Number	394
Name	Date
Definition	Reference date for the cited resource - revision

ISO reference	identificationInfo[1]/*/citation/*/date[./*/dateType/*/text()='revision']/*/date
Data type	CI_Date
Domain	Described in ISO 19108 and ISO 8601 with Code list [MD_DateTypeCode] for the type of date.
ISDI style example	2010-03-10

5.10.6 Unique Resource Identifier

ISDI Implementing Rules

Reference	Part B 1.5
Element name	Unique resource identifier
IR Obligation/condition	Mandatory for a spatial dataset and spatial dataset series.
Multiplicity	[1]

ISO Architecture

Number	365
Name	Identifier
Definition	Value uniquely identifying an object within a namespace
ISO reference	identificationInfo[1]/*/citation/*/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.
ISDI style example	<ol style="list-style-type: none"> 1. f0c308ae-4c5c-11df-9879-0800200c9a66 (UUID approach) 2. http://www.npws.ie/dataset/special-area-of-conservation (codespace and code approach using URL)

5.10.7 Resource abstract

ISDI Implementing Rules

Reference	Part B 1.2
Element name	Resource abstract
IR Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	25
Name	abstract
Definition	Brief narrative summary of the content of the resource(s).
ISO reference	identificationInfo[1]/*/abstract
Data type	CharacterString
Domain	Free Text
ISDI style example	This data set publishes the location data for the Special Areas

	of Conservation (SAC) for the Republic of Ireland. These are prime wildlife conservation areas in the country, considered to be important on a European as well as Irish level. Most Special Areas of Conservation (SACs) are in the countryside, although a few sites reach into town or city landscapes, such as Dublin Bay and Cork Harbour. Detailed conservation objectives are available for some SACs and as additional ones are approved they will be posted on the NPWS website (www.npws.ie). The legal basis on which SACs are selected and designated is the EU Habitats Directive, transposed into Irish law in the as amended in 1998 and 2005. The Directive lists certain habitats and species that must be protected within SACs..
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5.10.8 Resource purpose

ISDI Implementing Rules¹¹

Reference	ISDI
Element name	Resource purpose
IR Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	
Name	purpose
Definition	Brief narrative summary on why data is collected
ISO reference	identificationInfo[1]/*/purpose
Data type	CharacterString
Domain	Free Text
ISDI style example	Conservation of Natural Habitats and of Wild Flora and Fauna monitoring and reporting.

5.10.9 Resource status

ISDI Implementing Rules¹²

Reference	MyOcean
Element name	Resource status
IR Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

¹¹ This element is optional under ISO 19115 but it is mandatory in the ISDI Metadata Profile

¹² This element is optional under ISO 19115 but it is mandatory in the ISDI Metadata Profile. MyOcean extension request for this element.

Number	28
Name	status
Definition	Status of the resource(s)
ISO reference	identificationInfo[1]/*/status
Data type	Specified Class
Domain	Code List [MD_ProgressCode]
ISDI style example	Ongoing

5.10.10 Responsible party

ISDI Implementing Rules

Reference	Part B 9.1
Element name	Responsible party
IR Obligation/condition	Mandatory
Multiplicity	[1] Relative to a responsible organisation, but there may be many responsible organisations for a single resource.

ISO Architecture

Number	29
Name	pointOfContact
Definition	identification of, and means of communication with, person(s) and organization(s) associated with the resource(s)
ISO reference	identificationInfo[1]/*/pointOfContact
Data type	CharacterString
Domain	CI_ResponsibleParty with Code List [CI_RoleCode].
ISDI style example	GIS Unit Department of Environment, Community and Local Government Custom House Dublin 1 Ireland Email: gis@environ.ie Phone: +353-1-8882000 distributor

5.10.11 Maintenance update and frequency

ISDI Implementing Rules

Reference	ISDI
Element name	Maintenance update and frequency
IR Obligation/condition	Conditional
Multiplicity	[1]

ISO Architecture

Number	
Name	Maintenance update and frequency

Definition	A reference to how often the spatial resource is maintained and updated.
ISO reference	identificationInfo[1]/*/resourceMaintenance
Data type	Specified Class
Domain	Code List [MD_FrequencyCode]
ISDI style example	annually

5.10.12 Descriptive keywords

INSPIRE keywords are keyword values, which in ISO is referred to as "Keyword" and a reference to a controlled vocabulary known as a "thesaurus". The INSPIRE Implementing Rules for metadata mandate the presence of at least **one** keyword:

For a spatial dataset or spatial dataset series the keyword shall describe the relevant INSPIRE spatial data theme (as defined by Annex I, II, and III of the Directive) originating from the general environmental multilingual GEMET thesaurus. The 34 INSPIRE Spatial Data Themes are available from GEMET – INSPIRE themes, version 1.0 thesaurus.

- http://www.eionet.europa.eu/gemet/inspire_themes

keyword	title	reference date	date type
Oceanographic geographical features (theme)	GEMET – INSPIRE themes, version 1.0	2008-06-01	publication

In addition, to the minimum INSPIRE Spatial Data Theme keyword requirements other keywords from the GEMET – Concepts Version 2.4 thesaurus can be provided¹³. A facility to search this thesaurus is available for standard ISO Theme¹⁴, Place¹⁵, Temporal¹⁶, Stratum¹⁷, or Discipline¹⁸ keyword types. The ISDI "dataset" Metadata Profile cites the GEMET Thesaurus Concepts thesaurus for consistency of thesaurus source with the INSPIRE Spatial Data Theme mandatory requirement. However, other thesauri can be used in the instance. For example,

- British Oceanographic Data Centre Vocabulary Server.
 - https://www.bodc.ac.uk/data/codes_and_formats/parameter_codes/
- Geological multilingual Dictionary services [IFREMER]
 - <http://srvgeosciml.brgm.fr/eXist2010/brgm/1GEclient.html>

keyword	title	reference date	date type
Europe (theme)	GEMET – Concepts, version 2.4	2010-01-13	publication

¹³ INSPIRE allows for reference to any chosen Thesaurus as long as the full reference and reference date are included.

¹⁴ Theme – Identify Subjects or Topics.

¹⁵ Place – Geographic locations.

¹⁶ Temporal – Specific periods in time ie. 20th Century.

¹⁷ Stratum – Layers in the environment.

¹⁸ Discipline – Branches of instruction or learning.

ISDI Metadata Profile (spatial data sets and data set series)

ISDI Implementing Rules (Keyword value)

Reference	Part B 3.1
Element name	Keyword value
IR Obligation/condition	Mandatory
Multiplicity	[1...*]

ISO Architecture (keyword value)

Number	53
Name	Keyword
Definition	Commonly used word(s) or formalised word(s) or phrase(s) used to describe a dataset.
ISO reference	identificationInfo[1]/*/descriptiveKeywords/*/Keyword
Data type	CharacterString
Domain	Free text with Code list [MD_KeywordTypeCode] for optional ISO keyword type.
ISDI style example	Oceanographic geographical features (theme)

ISDI Implementing Rules (Originating Controlled Vocabulary)

Reference	Part B 3.2
Element name	Originating controlled vocabulary.
IR Obligation/condition	Conditional. Mandatory if the keyword value originates from a controlled vocabulary.
Multiplicity	[0..1] relative to the keywords used.

ISO Architecture (Originating Controlled Vocabulary)

Number	55
Name	ThesaurusName
Definition	Name of the formally registered thesaurus or a similar authoritative source of keywords.
ISO reference	identificationInfo[1]/*/descriptiveKeywords/*/thesaurusName
Data type	CI_Citation
Domain	Free text, reference date, date type [MD_DateTypeCode].
ISDI style example	"INSPIRE Feature Concept Dictionary, 2008-12-05, publication

5.10.13 Constraints related to access and use

There are two major requirements expressed by INSPIRE in relation to the documentation of the constraints that apply to the use of the spatial data resource:

1. **Conditions applying to access and use** of the resource, and the corresponding fees if applicable.
2. **Limitations on public access:** Member States may limit access to spatial datasets and spatial data services in a set of cases (ie. public security, national defence).

ISDI Metadata Profile (spatial data sets and data set series)

ISDI Implementing Rules (Conditions applying to access and use)

Reference	Part B 8.2
Element name	Limitations on public access
IR Obligation/condition	If no conditions apply to the access and use of the resource, "no conditions apply" shall be used. If conditions are unknown, "conditions unknown" shall be used. This element shall also provide information on any fees necessary to access and use the resource, if applicable, or refer to a uniform resource locator (URL) where information on fees is available.
Multiplicity	[1..*] for the resource but there is zero or one condition applying to access and use per instance of MD_Constraints.

ISO Architecture (Conditions applying to access and use)

Number	68
Name	useLimitation
Definition	restrictions on the access and use of a resource or metadata
ISO reference	identificationInfo[1]/*/resourceConstraints/*/useLimitation
Data type	CharacterString
Domain	Free text
ISDI style example	"no conditions apply"

ISDI Implementing Rules (Limitations on public access)

Reference	Part B 8.2
Element name	Limitations on public access
IR Obligation/condition	Mandatory. When Member States limit public access to spatial data sets and spatial data services under Article 13 of Directive 2007/2/EC, this metadata element shall provide information on the limitations and the reasons for them. If there are no limitations on public access, this metadata element shall indicate that fact. ie. "no limitations" The value domain of this metadata element is free text.
Multiplicity	[1..*] for the resource but there is zero or one condition applying to access and use per instance of MD_Constraints.

ISO Architecture (Limitations on public access)

Number	70
Name	accessConstraints
Definition	Access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource.
ISO reference	identificationInfo[1]/*/resourceConstraints/*/accessConstraints
Data type	Specified Class
Domain	Code List [MD_RestrictionCode]
ISDI style example	"otherRestrictions" /*/ "no limitations"

5.10.14 Spatial representation type

ISDI Implementing Rules

Reference	ISO Core Metadata Elements
Element name	Spatial representation type
IR Obligation/condition	Obligatory
Multiplicity	[1]

ISO Architecture

Number	
Name	Spatial representation type
Definition	A reference to the type of spatial representation the resource is presented in (ie. raster/vector data models)
ISO reference	identificationInfo[1]/*/spatialRepresentationType
Data type	Specified Class
Domain	Code List [MD_SpatialRepresentationTypeCode]
ISDI style example	"vector"

5.10.15 Spatial resolution

ISDI Implementing Rules

Reference	Part B 6.2
Element name	Spatial resolution
IR Obligation/condition	<p>Mandatory. Spatial resolution refers to the level of detail of the dataset.</p> <p>ISDI (INSPIRE) Metadata Implementing Rules allow either:</p> <ol style="list-style-type: none"> 1. Resolution Distance <u>or</u> 2. Equivalent Scale <p>to be entered, but not both.</p> <p><u>N.B. If both types of scale are entered then the metadata record will not be ISDI or INSPIRE compliant, It will be either one type or the other.</u></p> <p>A resolution distance shall be expressed as a numerical value associated with a unit of length. (typically for gridded data and imagery-derived products)</p> <p>OR</p> <p>An equivalent scale is generally expressed as an integer value expressing the scale denominator. (typically for maps or map-derived products).</p>
Multiplicity	[1..*]

ISO Architecture

Number	60, 61
Name	equivalentScale, distance
Definition	Level of detail expressed as the scale denominator of a comparable hardcopy map or chart. Ground sample distance
ISO reference	identificationInfo[1]/*/spatialResolution/*/distance or identificationInfo[1]/*/spatialResolution/*/equivalentScale
Data type	Integer, Distance
Domain	Integer, Number expressing the distance value and a unit of measure of the distance value.
ISDI style example	100 metres (resolution distance) Or 50000 (ie. 1:50000 equivalent map scale)

5.10.16 Dataset language

In terms of implementation, the metadata language can be in either “English” or “Irish”, the two official languages of Ireland.

ISDI Implementing Rules

Reference	Part B 1.7
Element name	Dataset language
IR Obligation/condition	Conditional for spatial dataset and spatial dataset series: Mandatory if the resource includes textual information.
Multiplicity	[0..*]

ISO Architecture

Number	39
Name	Language
Definition	Language(s) used within the spatial resource
ISO reference	identificationInfo[1]/*/language
Data type	LanguageCode (ISO/TS 19139)
Domain	Code list [MD_Language] (See ISO/TS 19139) based on alpha-3 codes of ISO 639-2. Use only three-letter codes from in ISO 639-2/B (bibliographic codes), as defined at http://www.loc.gov/standards/iso639-2/
ISDI style example	“eng” or “gle”

5.10.17 Dataset character set

ISDI Implementing Rules

Reference	ISO Core Metadata Elements
Element name	Dataset character set
IR Obligation/condition	Conditional. ISO 19115 is more demanding.

Multiplicity	[1]
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ISO Architecture

Number	
Name	Dataset character set
Definition	The character set of the content of the spatial resource.
ISO reference	/gmd:MD_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:characterSet
Data type	Specified Class
Domain	Code List [MD_CharacterSetCode]
ISDI style example	"utf8"

5.10.18 Dataset topic category

Implementing Rules

Reference	Part B 2.1
Element name	Topic category
IR Obligation/condition	Mandatory for a spatial dataset and a spatial dataset series.
Multiplicity	[1...*]

ISO Architecture

Number	41
Name	topicCategory
Definition	Main theme(s) of the spatial resource
ISO reference	identificationInfo[1]/*/topicCategory
Data type	Specified Class
Domain	Code List [MD_TopicCategoryCode]. Enumeration (See B.5.27 of ISO 19115 or Part D 2 of the INSPIRE Implementing Rules for Metadata).
ISDI style example	environment

5.10.19 Geographic bounding box

ISDI Implementing Rules

Reference	Part B 4.1
Element name	Geographic bounding box
IR Obligation/condition	Mandatory for spatial dataset and spatial dataset series.
Multiplicity	[1]

ISO Architecture

Number	344, 345, 346, 347
Name	westBoundLongitude, eastBoundLongitude, southBoundLatitude, northBoundLatitude
Definition	West, East, South, North coordinates in decimal degrees that

	represent the spatial limit of the resource
ISO reference	identificationInfo[1]/*/extent/*/geographicElement/*/
Data type	Decimal
Domain	Longitude and Latitude decimal limits
ISDI style example	-10.5: westBoundLongitude -5.5: eastBoundLongitude 51.5: southBoundLatitude 55.5: northBoundLatitude

5.10.20 Vertical information

Implementing Rules

Reference	ISO Core Metadata Elements
Element name	Additional extent information for the dataset
IR Obligation/condition	Conditional.
Multiplicity	1]

ISO Architecture

Number	
Name	Vertical Extent
Definition	Details on the Vertical Extent and Vertical Datum associated with the spatial resource. EPSG Code implementation may be used to provide a standard way to provide Vertical datum information. E.g. Malin Ordnance Datum is EPSG::5731.
ISO reference	identificationInfo[1]/*/EX_verticalExtent
Data type	CharacterString
Domain	Integer (ie. units in metres)
ISDI style example	-764, -10, "Malin Ordnance Datum", "Metres", "Derivation of altitude", "OD Based on Mean Sea Level, Malin Head 1960-1969" A URL will make up a resolvable URI identifier code for the Vertical CRS identifier element, e.g.: http://www.opengis.net/def/crs/EPSSG/0/5731

5.10.21 Temporal extent

The INSPIRE Implementing Rules for metadata require at least one temporal reference chosen from one of these four categories: temporal extent, data of publication, date of last revision or the date of creation. ISO 19115 is more demanding and requires that at least one of the following is provided: date of publication, the date of last revision or the date of creation. Therefore, whilst providing a temporal extent would suffice to satisfy the INSPIRE Implementing Rules for metadata it is not enough to be compliant with ISO 19115. To be compliant with ISO 19115 it is necessary to use at least one among date of publication, date of last revision, or the date of creation.

Therefore, the ISDI Metadata Profile includes all elements to meet INSPIRE and ISO requirements.

ISDI Implementing Rules

Reference	Part B 5.1
Element name	Temporal extent
IR Obligation/condition	Conditional: At least one temporal reference is required.
Multiplicity	[0...*] but at least one temporal reference is required.

ISO Architecture

Number	351
Name	Extent
Definition	Time period covered by the content of the dataset.
ISO reference	identificationInfo[1]/*/extent/*/temporalElement/*/extent
Data type	ISO DateTime
Domain	As described in ISO 19108
ISDI style example	From 2000-01-01T11:45:30 to 2000-12-31T09:10:00

5.11 Distribution Information

5.11.1 Distribution format/version

Implementing Rules

Reference	ISO Core Metadata Elements.
Element name	Distribution format.
IR Obligation/condition	Obligatory
Multiplicity	[1...*]

ISO Architecture

Number	
Name	Distribution format
Definition	The software format the spatial resource can be distributed in.
ISO reference	distributionFormat
Data type	CharacterString
Domain	Free text
ISDI style example	ESRI Shapefile, MapInfo TAB, ESRI Personal Geodatabase, Access Table, CSV, KML, JSON, GeoJSON

5.11.2 Distributor point of contact

Implementing Rules

Reference	ISO Core Metadata Elements.
Element name	Distributor Contact
IR Obligation/condition	Obligatory
Multiplicity	[1]

ISO Architecture

Number	8
Name	Distributor point of contact
Definition	Party responsible for the distribution of the spatial resource
ISO reference	distributorContact
Data type	CI_ResponsibleParty
Domain	The following properties are required: IndividualName, OrganisationName, positionName, Phone, Fax, Email, Address, Role [CI_RoleCode]
ISDI style example	<p>GIS Unit Department of Environment, Community and Local Government Custom House Dublin 1 Ireland Email: gis@environ.ie Phone: +353-1-8882000</p> <p>pointOfContact</p>

5.11.3 Resource locator

Implementing Rules

Reference	Part B 1.4
Element name	Resource locator
IR Obligation/condition	Conditional for spatial dataset and spatial dataset series. Mandatory if a URL is available to obtain more information on the resource and/or access to related services.
Multiplicity	[0...*]

ISO Architecture

Number	397
Name	linkage
Definition	Location (address) for on-line access using a Uniform Resource Locator address or similar addressing scheme.
ISO reference	distributionInfo/*/transferOptions/*/onLine/*/linkage
Data type	URL
Domain	URL (IETF RFC1738 and IETF RFC 2056)
ISDI style example	http://www.npws.ie/protectedsites/specialareasofconservationsac/

5.12 Data Quality

5.12.1 Resource type

Implementing Rules

Reference	Part B 1.3
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Element name	Resource Type
IR Obligation/condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	6
Name	Resource type
Definition	Scope to which metadata applies.
ISO reference	hierarchyLevel
Data type	Specified Class
Domain	Code List [MD_ScopeCode]
ISDI style example	"dataset" or "series"

5.12.2 Conformity

In conformance to INSPIRE, the metadata shall include information on the degree of conformity to the Directive. ISO 19115 provides a mechanism for reporting about the evaluation of the conformity of the resource against a given specification. This mechanism is used in the ISDI Metadata Profile to handle the conformity requirements of INSPIRE.

Implementing Rules (Degree)

Reference	Part B 7.2
Element name	Degree
IR 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 Architecture (Degree)

Number	132
Name	Pass
Definition	Indication of the conformance result
ISO reference	dataQualityInfo/*/report/*/result/*/pass
Data type	Boolean
Domain	true if conformant. false if non-conformant.
ISDI style example	"True" or "false"

Implementing Rules (Specification)

Reference	Part B 7.1
Element name	Specification
IR 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 Architecture (Specification)

Number	130
Name	specification
Definition	citation of the product specification or user requirement against which data is being evaluated.
ISO reference	dataQualityInfo/*/report/*/result/*/specification
Data type	CI_Citation
Domain	The following properties are expected: Title: CharacterString Alternate title: Character String Explanation: CharacterString Reference date: DateTime Date type: Code List [MD_DateTypeCode]
ISDI style example	<p>First Data Specification Conformity: INSPIRE Data Specification on Protected sites "Level of conformance with the stated INSPIRE Data Specification" "INSPIRE Data Specifications v3.0" False 2010-05-03 Publication</p> <p>Second INSPIRE Interoperability Regulation Conformity: COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services "INSPIRE Interoperability Regulation" 2010-08-12 Publication</p>

5.12.4 Lineage

Implementing Rules

Reference	Part B 6.1
Element name	Lineage
Obligation/ condition	Mandatory.
Multiplicity	[1] for datasets and dataset series.

ISO Architecture

Number	83
Name	Statement
Definition	General explanation of the data producer's knowledge about the lineage of a dataset.
ISO reference	dataQualityInfo/*/lineage/*/statement
Data type	CharacterString
Domain	Free text
ISDI style example	This dataset was digitised from Ordnance Survey of Ireland 1:10560 raster data. It was digitized on screen using ArcGIS. The source projection is Irish National Grid

Annex A. Code Lists and Enumerations

A.1.1 ISO 19115 Code Lists and enumerations

The following code list and enumeration descriptions are defined by ISO 19115/19139 and are used in the ISDI Metadata Profile.

CI_DateTypeCode <<CodeList>> (ISO 19115 REF: B.5.2)

	Name	Domain code	Definition
1.	CI_Date	codeListValue	identification of when a given event occurred.
2.	Creation	creation	date identifies when the spatial resource was brought into existence
3.	Publication	publication	date identifies when the spatial resource was issued
4.	Revision	revision	date identifies when the resource was examined or re-examined and improved or amended

CI_RoleCode <<CodeList>> (ISO 19115 REF: B.5.5)

	Name	Domain code	Definition
1.	CI_RoleCode	codeListValue	function performed by the responsible party
2.	resourceProvider	resourceProvider	party that supplies the resource.
3.	custodian	custodian	party that accepts accountability and responsibility for the data and ensures appropriate care and maintenance of the resource.
4.	owner	owner	party that owns the resource
5.	user	user	party who uses the resource
6.	distributor	distributor	party who distributes the resource
7.	originator	originator	party who created the resource
8.	pointOfContact	pointOfContact	party who can be contacted for acquiring knowledge about or acquisition of the resource
9.	principalInvestigator	principalInvestigator	key party responsible for gathering information and conducting research
10.	processor	processor	party who has processed the data in a manner such that the resource has been modified
11.	publisher	publisher	party who published the

			resource
12.	author	author	party who authored the resource

MD_CharacterSetCode <<CodeList>> (ISO 19115 REF: B.5.10)

	Name	Domain code	Definition
1.	MD_CharacterSetCode	codeListValue	Name of the character coding standard used for the spatial resource
2.	ucs2	ucs2	16-bit fixed size Universal Character Set, based on ISO/IEC 10646
3.	ucs4	ucs4	32-bit fixed size Universal Character Set, based on ISO/IEC 10646
4.	Utf7	Utf7	7-bit variable size UCS Transfer Format, based on ISO/IEC 10646
5.	Utf8	Utf8	8-bit variable size UCS Transfer Format, based on ISO/IEC 10646
6.	Utf16	Utf16	16-bit variable size UCS Transfer Format, based on ISO/IEC 10646
7.	8859part1	8859part1	ISO/IEC 8859-1, Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 1
8.	8859part2	8859part2	ISO/IEC 8859-2, Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 2
9.	8859part3	8859part3	ISO/IEC 8859-3, Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 3
10.	8859part4	8859part4	ISO/IEC 8859-4, Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 4
11.	8859part5	8859part5	ISO/IEC 8859-5, Information technology – 8-bit single-byte coded graphic character sets – Part 5: Latin/Cyrillic alphabet
12.	8859part6	8859part6	ISO/IEC 8859-6, Information technology – 8-bit single-byte coded graphic character sets – Part 6: Latin/Arabic alphabet
13.	8859part7	8859part7	ISO/IEC 8859-7, Information technology – 8-bit single-byte coded graphic character sets –

ISDI Metadata Profile (spatial data sets and data set series)

			Part 7: Latin/Greek alphabet
14.	8859part8	8859part8	ISO/IEC 8859-8, Information technology – 8-bit single-byte coded graphic character sets – Part 8: Latin/Hebrew alphabet
15.	8859part9	8859part9	ISO/IEC8859-9, Information technology –8-bit single-byte coded graphic character sets – Part 9: Latin alphabet No. 5
16.	8859part10	8859part10	ISO/IEC 8859-10, Information technology – 8-bit single-byte coded graphic character sets – Part 10: Latin alphabet No. 6
17.	8859part11	8859part11	ISO/IEC 8859-11, Information technology – 8-bit single-byte coded graphic character sets – Part 11: Latin/Thai alphabet
18.	8859part13	8859part13	ISO/IEC 8859-13, Information technology – 8-bit single-byte coded graphic character sets – Part 13: Latin alphabet No. 7
19.	8859part14	8859part14	ISO/IEC 8859-14, Information technology – 8-bit single-byte coded graphic character sets – Part 14: Latin alphabet No. 8 (Celtic)
20.	8859part15	8859part15	ISO/IEC 8859-15, Information technology – 8-bit single-byte coded graphic character sets – Part 15: Latin alphabet No. 9
21.	8859part16	8859part16	ISO/IEC 8859-16, Information technology – 8-bit single-byte coded graphic character sets – Part 16: Latin alphabet No. 10
22.	jis	jis	japanese code set used for electronic transmission
23.	shiftJIS	shiftJIS	japanese code set used on MS-DOS based machines
24.	eucJP	eucJP	japanese code set used on UNIX based machines
25.	usAscii	usAscii	united states ASCII code set (ISO 646 US)
26.	ebcdic	ebcdic	ibm mainframe code set
27.	eucKR	eucKR	korean code set
28.	big5	big5	traditional Chinese code set used in Taiwan, Hong Kong of China and other areas
29.	GB2312	GB2312	simplified Chinese code set

MD_KeywordTypeCode <<CodeList>> (ISO 19115 REF: B.5.17)

	Name	Domain code	Definition
1.	MD_Keywords	codeListValue	methods used to group similar

ISDI Metadata Profile (spatial data sets and data set series)

			keywords
2.	discipline	Discipline	keyword identifies a branch of instruction or specialized learning
3.	place	Place	keyword identifies a location
4.	stratum	Stratum	keyword identifies the layer(s) of any deposited substance
5.	temporal	Temporal	keyword identifies a time period related to the spatial resource
6.	theme	Theme	keyword identifies a particular subject or topic

MD_MaintenanceFrequencyCode <<CodeList>> (ISO 19115 REF: B.5.18)

	Name	Domain code	Definition
1.	MD_MaintenanceInformation	codeListValue	frequency with which modifications are made to the resource after it is first produced and the frequency a resource is sampled
2.	annually	Annually	data is updated every year
3.	asNeeded	AsNeeded	data is updated as deemed necessary
4.	biannually	Biannually	data is updated twice each year
5.	continual	Continual	data is repeatedly and frequently updated
6.	daily	Daily	data is updated each day
7.	fortnightly	Fortnightly	data is updated every two weeks
8.	irregular	Irregular	data is updated in intervals that are uneven in duration
9.	monthly	Monthly	data is updated each month
10.	not planned	Not planned	there are no plans to update the data
11.	quarterly	Quarterly	data is updated every three months
12.	unknown	Unknown	frequency of maintenance for the data is not known
13.	weekly	Weekly	data is updated on a weekly basis

MD_ProgressCode <<CodeList>> (ISO 19115 REF: B.5.23)

	Name	Domain code	Definition
1.	MD_ProgressCode	ProgCd	status of the dataset or progress of a review
2.	completed	001	production of the data has been completed
3.	historicalArchive	002	data has been stored in an offline storage facility
4.	obsolete	003	data is no longer relevant

ISDI Metadata Profile (spatial data sets and data set series)

5.	onGoing	004	data is continually being updated
6.	planned	005	fixed date has been established upon or by which the data will be created or updated
7.	required	006	data needs to be generated or updated
8.	underDevelopment	007	data is currently in the process of being created

MD_RestrictionCode <<CodeList>> (ISO 19115 REF: B.5.24)

	Name	Domain code	Definition
1.	MD_RestrictionCode	codeListValue	limitation(s) placed upon the access or use of the spatial resource
2.	copyright	Copyright	exclusive right to the publication, production, or sale of the rights to a literary, dramatic, musical, or artistic work, or to the use of a commercial print or label, granted by law for a specified period of time to an author, composer, artist, distributor
3.	intellectual property rights	Intellectual property rights	rights to financial benefit from and control of distribution of non-tangible property that is a result of creativity
4.	license	License	formal permission to do something
5.	other restrictions	Other restrictions	limitation not listed
6.	patent	Patent	government has granted exclusive right to make, sell, use or license an invention or discovery
7.	patentPending	Patent pending	produced or sold information awaiting a patent
8.	restricted	Restricted	withheld from general circulation or disclosure
9.	trademark	Trademark	a name, symbol, or other device identifying a product, officially registered and legally restricted to the use of the owner or manufacturer

MD_SpatialRepresentationTypeCode <<CodeList>> (ISO 19115 REF: B.5.26)

	Name	Domain code	Definition
1.	MD_SpatialRepresentationType	codeListValue	method used to represent geographic information in the

ISDI Metadata Profile (spatial data sets and data set series)

			dataset
2.	Grid	grid	grid data is used to represent geographic data
3.	Stereo model	stereo model	three-dimensional view formed by the intersecting homologous rays of an overlapping pair of images
4.	TIN	tin	triangulated irregular network
5.	Text table	text table	textual or tabular data is used to represent geographic data
6.	Vector	vector	vector data is used to represent geographic data
7.	Video	video	scene from a video recording

MD_TopicCategoryCode << Enumeration>> (ISO 19115 REF: B.5.27)

	Name	Domain code	Definition
1.	MD_TopicCategoryCode	codeListValue	high-level geographic data thematic classification to assist in the grouping and search of available geographic datasets. Can be used to group keywords as well. Listed examples are not exhaustive. NOTE It is understood there are overlaps between general categories and the user is encouraged to select the one most appropriate.
2.	biota	biota	flora and/or fauna in natural environment. Examples: wildlife, vegetation, biological sciences, ecology, wilderness, sea life, wetlands, habitat
3.	boundaries	boundaries	legal land descriptions Examples: political and administrative boundaries
4.	climatologyMeteorologyAtmopshere	climatologyMeteorologyAtmopshere	processes and phenomena of the atmosphere. Examples: cloud cover, weather, climate, atmospheric conditions, climate change, precipitation
5.	economy	economy	economic activities,

ISDI Metadata Profile (spatial data sets and data set series)

			conditions and employment. Examples: production, labour, revenue, commerce, industry, tourism and ecotourism, forestry, fisheries, commercial or subsistence hunting, exploration and exploitation of resources such as minerals, oil and gas
6.	elevation	elevation	height above or below sea level. Examples: altitude, bathymetry, digital elevation models, slope, derived products
7.	environment	environment	environmental resources, protection and conservation Examples: environmental pollution, waste storage and treatment, environmental impact assessment, monitoring environmental risk, nature reserves, landscape
8.	farming	farming	rearing of animals and/or cultivation of plants Examples: agriculture, irrigation, aquaculture, plantations, herding, pests and diseases affecting crops and livestock
9.	geoscientificInformation	geoscientificInformation	information pertaining to earth sciences. Examples: geophysical features and processes, geology, minerals, sciences dealing with the composition, structure and origin of the earth's rocks, risks of earthquakes, volcanic activity, landslides, gravity information, soils, permafrost, hydrogeology, erosion
10.	health	health	health, health services, human ecology, and safety Examples: disease and illness, factors affecting health, hygiene, substance abuse, mental and physical health, health services
11.	imageryBaseMapsEarthCover	imageryBaseMapsEarthCover	base maps Examples: land cover, topographic maps,

ISDI Metadata Profile (spatial data sets and data set series)

			imagery, unclassified images, annotations
12.	inlandWaters	inlandWaters	inland water features, drainage systems and their characteristics. Examples: rivers and glaciers, salt lakes, water utilization plans, dams, currents, floods, water quality, hydrographic charts
13.	intelligenceMilitary	intelligenceMilitary	military bases, structures, activities Examples: barracks, training grounds, military transportation, information collection
14.	location	location	positional information and services. Examples: addresses, geodetic networks, control points, postal zones and services, place names
15.	oceans	oceans	features and characteristics of salt water bodies (excluding inland waters) Examples: tides, tidal waves, coastal information, reefs
16.	planningCadastre	planningCadastre	information used for appropriate actions for future use of the land. Examples: land use maps, zoning maps, cadastral surveys, land ownership
17.	society	society	characteristics of society and cultures. Examples: settlements, anthropology, archaeology, education, traditional beliefs, manners and customs, demographic data, recreational areas and activities, social impact assessments, crime and justice, census information
18.	structure	structure	man-made construction. Examples: buildings, museums, churches, factories, housing, monuments, shops, towers
19.	transportation	transportation	means and aids for conveying persons and/or goods. Examples: roads, airports/airstrips, shipping routes, tunnels, nautical charts, vehicle or vessel

ISDI Metadata Profile (spatial data sets and data set series)

			location, aeronautical charts, railways
20.	utilitiesCommunication	utilitiesCommunication	energy, water and waste systems and communications infrastructure and services Examples: hydroelectricity, geothermal, solar and nuclear sources of energy, water purification and distribution, sewage collection and disposal, electricity and gas distribution, data communication, telecommunication, radio, communication networks

CI_OnLineFunctionCode << Enumeration>> (ISO 19115 REF: B.5.27)

	Name	Domain code	Definition
1.	CI_OnLineFunctionCode	codeListValue	Online function of the URL in terms of the spatial resource
2.	Download	download	The spatial resource can be downloaded from the link.
3.	Information	information	More information on the spatial resource is available from the link.
4.	Offline Access	offlineAccess	Details on how to request an offline copy of the spatial resource is available from the link.
5.	Order	order	More information on how to order the spatial resource is available from the link.
6.	Search	search	Online link provides more search details

A.2.1 INSPIRE Code Lists and enumerations

MD_ScopeCode <<CodeList>> (INSPIRE Metadata Implementing Rules – reduced options from ISO codelist)

	Name	Domain code	Definition
1.	MD_ScopeCode	codeListValue	class of information to which the referencing entity applies according to INSPIRE requirements
2.	dataset	dataset	information applies to the dataset
3.	series	series	information applies to the series
4.	service	service	information applies to a capability which a service provider entity makes available to a service user entity through a set of interfaces that define a behaviour, such as a use case

MD_RepresentativeFraction <<CodeList>> (ISDI Suggestions)

	Name	Domain code	Definition
1.	MD_RepresentativeFraction	codeListValue	Spatial resolution of the resource
2.	1: 5'000	5000	1 to 5000 scale
3.	1:10'000	10000	1 to 10000 scale
4.	1:25'000	25000	1 to 25000 scale
5.	1:50'000	50000	1 to 50000 scale
6.	1:100'000	100000	1 to 100000 scale
7.	1:200'000	200000	1 to 200000 scale
8.	1:300'000	300000	1 to 300000 scale
9.	1:500'000	500000	1 to 500000 scale
10.	1:1000'000	1000000	1 to 1000000 scale

equivalentScale<distance <<CodeList>> (ISDI Suggestions)

	Name	Domain code	Definition
1.	equivalentScale	codeListValue	Distance units of measure associated with the spatial resolution of the resource
2.	millimeter	mm	millimetre distance unit
3.	centimetre	cm	centimetre distance unit
4.	metres	m	metre distance unit
5.	kilometer	km	kilometre distance unit

	Name	Domain code	Definition
1.	equivalentScale	codeListValue	Distance units associated with the spatial resolution of the resource
2.	10 cm	0.10	10 centimetres
3.	25 cm	0.25	25 centimetres
4.	50 cm	0.5	50 centimetres
5.	1 m	1	1 metre
6.	30 m	30	30 metres
7.	100 m	100	100 metres

Annex B. ISDI “dataset” Metadata Profile Vocabularies

The following controlled vocabulary lists are used by the ISDI Metadata Profile.

B.1.1 Descriptive Keywords

The ISDI Metadata Profile uses the GEneral Multilingual Environmental Thesaurus (ie. GEMET), that has been developed as an indexing, retrieval and control tool for the European Topic Centre on Catalogue of Data Sources (ETC/CDS) and the European Environment Agency (EEA), Copenhagen.

According to the INSPIRE Metadata Implementing Rules it is mandatory to reference the INSPIRE Spatial Data Themes GEMET thesaurus reference:

- GEMET - INSPIRE themes, version 1.0, 2008-06-01

This complete list of 34 Annex I, Annex II and Annex III themes is available from http://www.eionet.europa.eu/gemet/inspire_themes.

In addition to the INSPIRE Spatial Data Theme, other keywords may be added. These may be described as a free text or may originate from any Controlled Vocabulary. If they originate from a Controlled Vocabulary (Thesaurus, Ontology), for example GEMET or EUROVOC, then the citation of the originating Controlled Vocabulary shall be provided, The ISDI Metadata Profile recommends reference to other ISO keyword type from the GEMET Concepts Thesaurus:

- GEMET - Concepts, version 2.4, 2010-01-13

The Search Thesaurus for keywords can be accessed from <http://www.eionet.europa.eu/gemet/search?langcode=en>.

- An alternative Thesaurus for marine information can be accessed from the NERC Vocabulary Server.

[NERC BODC Parameter Dictionary](#)

- Another alternative Thesaurus for ‘geological’ information can be accessed from the online Geological multilingual Dictionary services developed by the French Geological Survey for an INSPIRE project

[Geological multilingual Dictionary](#)