

Irish Spatial Data Infrastructure



ISDI Metadata Profile

Version 1.2

Volume 2

Spatial Data Services

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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 data service managed by the organisations in the Irish Spatial Data Infrastructure.

Revision History

Version	Description	Author	Date
1.0	ISDI Metadata Profile (spatial datasets and dataset series) version 1.0	Trevor Alcorn	31/05/2011
1.2	Version 1.2 update	Trevor Alcorn Gareth John	07/01/2013

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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 Steering 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 19119:2005, *Geographic information – Services.*
- 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 Department of Environment, Community and Local Government wishes to acknowledge the valuable contribution made by the Irish Spatial Data Exchange project (ISDE), in the design and publication of this ISDI Metadata Profile. The ISDE project, managed by the Marine Institute in conjunction with ISDE project partners, is recognised as Irish best practice in online sharing of environmental spatial data.

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 “service” Community Profile for spatial data services

2.1 ISDI “service” Metadata Profile of ISO 19115:2003 and ISO 19119:2005

The international standards ISO 19115 “Geographic Metadata” and ISO 19119 “Geographic Information – Services” are standard of the International Organisation for Standardisation (ie. ISO). These are a constituent of the ISO series 19100 standards for spatial metadata. ISO 19115² defines the schema required for describing geographic information and services. ISO 19119 identifies and defines the architecture patterns for service interfaces used for geographic information, defines its relationship to the Open Systems Environment model, presents a geographic services taxonomy and a list of example geographic services placed in the services taxonomy. ISO 19115 provides information about the identification, the extent, the quality, the spatial and temporal schema, spatial reference, and distribution of digital geographic services.

ISO 19115 and ISO 19119 are applicable to the cataloguing of metadata for geographic services. ISO 19115 and ISO 19119 define 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 (ie. 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 services, if required.

Therefore, underpinning the ISDI “service” Metadata Profile for s the ISO 19115 standard as this fits the specialised environmental metadata requirements of the INSPIRE directive.

The ISO 19115 and ISO 19119 standards define many elements, most of which are listed as “optional”. There are, however, 22 core metadata elements³ required by ISO 19115 and ISO 19119. The ISO standard states that individual communities may develop a “community profile” of the International Standard, hence the generation of the ISDI “service” Metadata Profile. Within this ISDI “service” Metadata Profile a select set of metadata elements may be established as mandatory and others set as conditional or optional. In addition, the ISDI “service” Metadata Profile establishes additional metadata elements that are not part of the ISO standard, these requirements sourced from the INSPIRE directive technical guidance Metadata Implementing Rules requirements. The ISDI “service” 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 “service” Metadata Profile uses the ISO 19115 and ISO 19119 standards applying the ISO 19139 XML schema implementation to encode elements and code lists in order to meet the requirements of the ISDI community. The profile

² ISO 19115 is additionally known as ISO 19115:2005 & ISO 19119 is alternatively known as ISO 19119:2005.

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

identifies the core ISO elements, core INSPIRE elements, and other optional elements which are required to describe and ISDI spatial data service.

2.2 Metadata for geographic services

ISO 19115 and ISO 19119 identifies the metadata required to describe geographic services. Metadata⁴ is applicable for describing geographic services. Metadata is composed of one or more Metadata Sections⁵ containing one or more Metadata Entities and then individual elements.

2.3 Metadata sections

ISO 19115 and ISO 19119 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 ISO metadata entities included 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	SV_ServiceIdentification
Distribution information	MD_Distribution
Data quality information	DQ_DataQuality

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.

⁴ Metadata is data about data.

⁵ Referred to as 'Packages' in ISO 19115 UML model

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

MD_Metadata is mandatory for ISO and INSPIRE when describing any spatial data service (resource).

3.2 Metadata File Identifier: fileIdentifier

The Metadata File Identifier for each metadata record contains the unique metadata UUID⁶ for the spatial data service. Metadata file identifier (O) is an ISO core element.

The ISDI "service" 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 may reference or re-use another organisation's spatial data resource.

3.3 Language: language

The language information contains data on the metadata language describing the spatial data service.

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

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

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 "service" 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 on.

⁶ UUID is a Universally Unique Identifier.

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 data resources. These are:

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

The ISDI "service" Metadata Profile uses the MD_ScopeCode mandatory code list to meet the INSPIRE Metadata Implementing Rules technical guidance requirements through the third choice from the code list ie. service.

3.6 Contact Details: CI_ResponsibleParty

The contact details or CI_ResponsibleParty element contains the spatial data service 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 "service" Metadata Profile provides 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 of the point of contact.

- Individual name.
- Organisation name.
- Position name.
- Role.
- Voice.
- Fax.
- Postal address.
- Electronic mail address.

3.7 Dataset reference date: dateStamp

The dateStamp element refers to the metadata date stamp of the spatial data service.

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 "service" 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 service(s) are handled under the MD_Identification entity.

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.

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 19115/19119/19139 and INSPIRE the description of the standard references all 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 "service" Metadata Profile requires this element for metadata management purposes. The ISDI "service" 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 service(s). 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 "service" 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: SV_ServiceIdentification

The Identification information section contains information to uniquely identify the "service" 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 for describing a "service".

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

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- Citation of the resource: CI_Citation.
- Date(s) associated with the generation of the metadata: CI_Date.
- Abstract (summary) of the spatial service described: abstract.
- Purpose of the spatial service described: purpose.
- Status of the data collection process of the spatial service described: MD_ProgressCode.
- Point of Contact details associated with the service: CI_ResponsibleParty.
- Maintenance and frequency information associated with the spatial service: MD_MaintenanceInformation.
- Descriptive keyword(s) associated with the service: MD_Keywords.
- INSPIRE Thesaurus Vocabulary keyword source reference: thesaurusName.
- Constraints associated with the service: MD_Constraints.
- Spatial Representation Type information associated with the service: spatialRepresentationType.
- Service language: language.
- Geographic Extent of the spatial service: EX_Extent.
- Temporal Extent (ie. Begin and End Period) associated with the spatial service: EX_TemporalExtent.
- Service connection information: srv_ContainsOperations
- Coupled resources: srv:coupledResource and srv:couplingType
- Supplemental information associated with the spatial service: supplementalInformation.

The ISDI "service" 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 service. The Distribution information contains the following:

- Online information on the spatial data resource: 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 "service" Metadata Profile.

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

ISO 19115 and ISO 19119 define an extensive set of metadata elements. The ISDI “service” 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 data service. These core metadata elements aid answering the following questions:

- Does a service 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 interact with the service (‘who’)?

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

Listed below are the core metadata elements required for describing a spatial data service using the ISDI “service” 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)	Not applicable to services.
Dataset character set (C)	Not applicable to services.
Dataset topic category (M)	Not applicable to services.
Spatial resolution of the dataset (O)	Not applicable to services.
Abstract describing the dataset (M)	Part B 1.2 Resource abstract
Distribution format (O)	
Additional extent information for the dataset (vertical and temporal) (O)	
Spatial representation type (O)	
Reference system (O)	
Lineage (O)	
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

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	Part B 1.3 Resource Type
	Part B 1.6 Coupled Resource
	Part B 2.2 Spatial Data Service Type
	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 “service” 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 metadata header containing the metadata entities
ISO reference	MD_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” and/or “gle”

⁹ ISDI Implementing Rules ie. IR

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	Specified Class
Domain	Code List [MD_ScopeCode]
ISDI style example	"service"

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

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: OrganisationName, Email, Address, Role [CI_RoleCode]
ISDI style example	Trevor Alcorn Marine Institute Scientific & Technical Officer +353-91-387476 +353-91-387201 Marine Institute HQ Rinville Oranmore Co. Galway trevor.alcorn@marine.ie pointOfContact

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 created.
ISO reference	dateStamp
Data type	Date
Domain	ISO 8601 with Code List [MD_DateTypeCode]
ISDI style example	2010-04-13 "publication"

5.7 Metadata standard name

ISDI Implementing Rules

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

ISO Architecture

Number	
Name	metadataStandardVersion
Definition	The metadata standard version meta-information is stored in.
ISO reference	metadataStandardVersion
Data type	CharacterString
Domain	Free text
Example	1.2

5.9 Spatial reference system

ISDI Implementing Rules

Reference	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	CharacterString
Domain	Free text
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	InterRisk IREHAB Inshore Shellfish Monitoring Web Map Service (WMS)

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 resource is known.
XPath	identificationInfo[1]/*/citation/alternateTitle
Data type	CharacterString
Domain	Free text
ISDI style example	InterRisk Inshore Shellfish WMS

5.10.3 Date of publication

ISDI Implementing Rules

Reference	Part B 5.2
Element name	Date of publication
IR Obligation/condition	Conditional. One temporal reference is only required.
Multiplicity	[1]

ISO Architecture

Number	394
Name	Date
Definition	Reference date for the cited resource - publication
XPath	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 "publication"

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 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	Web Map Service of historical archive of Inshore Shellfish Sample survey locations contain various sites along the Irish coastline where commercial shellfish harvesting takes place.

5.10.7 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 organisation(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	Trevor Alcorn Marine Institute Scientific & Technical Officer

	+353-91-387476 +353-91-387201 Marine Institute HQ Rinville Oranmore Co. Galway trevor.alcorn@marine.ie distributor
--	--

5.10.8 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_MaintenanceFrequencyCode]
ISDI style example	"annually"

5.10.9 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.

N.B. For spatial data services, it shall at least define the category or subcategory of the service using its language neutral name as defined in Part D 4 of the Metadata Implementing Rules. For services at least one keyword of Part D.4 of INSPIRE shall be documented using:
MD_Metadata.identificationInfo[1].SV_ServiceIdentification.descriptiveKeywords

For the ISDI Metadata Profile descriptive keywords the following are recommended with Thesaurus Reference and Date.

1. Theme Keywords [GEMET Thesaurus]
2. Place Keywords [GEMET Thesaurus]
3. INSPIRE Feature Concept Dictionary Keywords [GEMET Thesaurus]
4. Geographic Service Taxonomy [INSPIRE legislation]

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 service and the dataset within.
XPath	identificationInfo[1]/*/descriptiveKeywords/*/Keyword
Data type	CharacterString
Domain	Free text
ISDI style example	infoMapAccessService; Protected sites; Atlantic Ocean,

5.10.10 Constraints related to access and use

There are two major requirements expressed by INSPIRE in relation to documentation of the constraints section of the metadata record.

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).

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/MD_DataIdentification/ResourceConstraints/MD_LegalConstraints
Data type	CharacterString
Domain	Free text
ISDI style example	"no conditions apply"

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. E.g. "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/MD_DataIdentification/resourceConstraints/MD_LegalConstraints/otherConstraints
Data type	Specified Class
Domain	Code List [MD_RestrictionCode]
ISDI style example	"otherRestrictions" /*/ "no limitations"

5.10.11 Coupling type

Coupling type is mandated by ISO 19119. The value is:

- **loose** if there is no coupled Resource (the operatesOn property of SV_ServiceIdentification is not instantiated);
- **tight** if the service only operates on the Coupled Resources
- **mixed** if the service operates on the Coupled Resources and external dataset and dataset series.

Implementing Rules

Reference	ISO Core Metadata Element
Element name	Coupling type
Obligation/ condition	Mandatory
Multiplicity	[1]

ISO Architecture

Number	
Name	Coupling type
Definition	Property type of "service" metadata recorded mandated by ISO 19119.
ISO reference	identificationInfo[1]/*/couplingType
Data type	Specified Class
Domain	Code List [SV_CouplingType]
ISDI style example	"loose"

5.10.12 Coupled resource (operates on)

ISDI Metadata Profile (spatial data services)

Implementing Rules

Reference	Part B 1.6
Element name	Coupled resource
Obligation/ condition	Mandatory, if linkage to data sets on which the service operates are available.. Genreally this true if you are describing ISDI View and Download services
Multiplicity	[1]

ISO Architecture

Number	9 of C.2.2
Name	identificationInfo[1]/*/operatesOn
Definition	Provides information about the datasets that the service operates on.
ISO reference	identificationInfo[1]/*/operatesOn
Data type	URL
Domain	A unique resource identifier based on a URL
ISDI style example	http://image2000.jrc.it#image2000_1_n12_multi or http://inspire.environ.ie/geonetwork/srv/en/csw?request=GetRecordById&service=CSW&version=2.0.2&id=a95940a0-5e06-4adb-84b2-0af3e7dae92b&aelementSetName=full&OutputSchema=http://www.isotc211.org/2005/gmd&elementSetName=full

5.10.13 Spatial data service type

Implementing Rules

Reference	Part B 2.2
Element name	Spatial data service type
Obligation/ condition	Mandatory.
Multiplicity	[1]

ISO Architecture

Number	1 of C2.2
Name	identificationInfo[1]/*/serviceType
Definition	A service type name from a registry of services.
ISO reference	identificationInfo[1]/*/serviceType
Data type	Specified Class
Domain	Code List [SV_ServiceIdentification]
ISDI style example	"view"

5.10.14 Geographic bounding box

Implementing Rules

Reference	Part B 4.1
Element name	Geographic bounding box
Obligation/ condition	Conditional for spatial data services: Mandatory for services with an explicit geographic extent.
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	-9: westBoundLongitude -5: eastBoundLongitude 52: southBoundLatitude 55: northBoundLatitude

5.10.15 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.

Implementing Rules

Reference	Part B 5.1
Element name	Temporal extent
Obligation/ condition	Conditional: At least one temporal reference is required.
Multiplicity	[1...*] 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 with
ISDI style example	From 2000-01-01T11:45:30 to 2000-12-31T09:10:00

5.11 Distribution Information

5.11.1 Resource locator

Implementing Rules

Reference	Part B 1.4
Element name	Resource locator
Obligation/ condition	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://geos.marine.ie/ArcGIS/services/IREHABInshoreShellfishMonitoring/MapServer/WMSServer?

5.12 Service operations

5.12.1 Contains operations

ISDI Implementing Rules

Reference	ISO 19119
Element name	Service operations
Obligation/ condition	Conditional - only applicable to Services, required for Services
Multiplicity	[0...*]

ISO Architecture

Number	Table C.2 No. 1, No.2, No.6 of ISO19119
Name	operationName; connectpoint; DCP;
Definition	<p>A service operation by which a service instance can be invoked. The sub-elements that make up this infoatiomn are:</p> <ul style="list-style-type: none"> • operationName the operation that can be invoked at the gicen URL- e.g."GetCapabilities", "GetMap". • URL An address by which the operation can be invoked - • Platform Distributed Comuting Platform (DCP) on which the operation has been implemented. ISDI recommended default is "web service"

ISO reference	distributionInfo/*/transferOptions/*/onLine/*/linkage
Data type	URL
Domain	URL (IETF RFC1738 and IETF RFC 2056)
ISDI style example	http://geos.marine.ie/ArcGIS/services/IREHABInshoreShellfishMonitoring/MapServer/WMServer?

5.13 Data Quality

5.13.1 Resource type

Implementing Rules

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

ISO Architecture

Number	6
Name	Resource type
Definition	Scope to which metadata applies. Type of spatial data resource
ISO reference	hierarchyLevel
Data type	Specified Class
Domain	Code List [MD_ScopeCode]
ISDI style example	"service"

5.11.2 Conformity^[GJ-(1)]

In conformance to INSPIRE, the metadata shall include information on the degree of conformity of the described resource to the INSPIRE Directive Implementing Rules. 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
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

ISDI Metadata Profile (spatial data services)

ISO reference	dataQualityInfo/*/report/*/result/*/pass
Data type	Boolean
Domain	true if conformant. false if non-conformant.
ISDI style example	true

Implementing Rules (Specification)

Reference	Part B 7.1
Element name	Specification
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	INSPIRE Data Specification on <ANNEX SPATIAL DATA THEME> INSPIRE Data Specifications "The INSPIRE Directive or INSPIRE lays down a general framework for a Spatial Data Infrastructure (SDI) for the purposes of European Community environmental policies and policies or activities which may have an impact on the environment." 2010-10-31 Publication

Annex A. Code Lists and Enumerations

A.1.1 ISO 19115 Code Lists and enumerations

The following codelist and enumeration descriptions are defined by ISO 19115/19139 and are used in the ISDI Community 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 8859-51, 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 – Part 7: Latin/Greek alphabet
14.	8859part8	8859part8	ISO/IEC 8859-8, Information technology – 8-bit single-byte

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			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 keywords
2.	discipline	Discipline	keyword identifies a branch of instruction or specialized

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			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_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

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			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 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

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)**

	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

SV_ServiceIdentification <<CodeList>> (INSPIRE)

	Name	Domain code	Definition
1.	SV_ServiceIdentification	codeListValue	For spatial data service types, the IR mandate the use of the value domain.
2.	Discovery Service	discovery	A metadata services that provides information on what spatial data resources exist.
3.	View Service	view	A service that makes it possible to display, navigate, zoom, pan or overlay spatial data and view associated legends.
4.	Download Service	download	A service whereby datasets can be accessed directly by the public user and the option to download the data is available.
5.	Transformation Service	transformation	A service that provides coordinate transformation functionality.
6.	Invoke Spatial Data Service	invoke	A service that allows a spatial data service to be invoked.
7.	Other Services	other	Another service type not listed.

SV_CouplingType <<CodeList>> (INSPIRE)

	Name	Domain code	Definition
1.	SV_CouplingType	codeListValue	IR mandate for Service Identification sub-class "CouplingType".
1.	loose	loose	There is no coupled Resource (the operatesOn property of SV_ServiceIdentification is not instantiated).
2.	tight	tight	If the service only operates on

			the Coupled Resources.
3.	Mixed	mixed	If the service operates on the Coupled Resources and external dataset and dataset series.

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 “service” 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, also other keywords might 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 develop by the French Geological Survey for an INSPIRE project

[Geological multilingual Dictionary](#)

ISO 19119 spatial data service types