



ELS Metadata requirements

Training webinar

26th September 2018

Objective

ELS data comprises of geospatial reference data including raster and vector data in accordance with one or more ELS specifications and made available through ELS. The data is usually provided by European NMCAs.

To enable the search, comparison and access to ELS data and services, for example with ELS Geo Product Finder, these data and services have to be described with metadata.

The aim of this webinar is to give instructions on what ELS metadata should include and how it should be delivered to the ELS platform.

- What metadata is requested for ELS datasets and services?
- To enable NMCA's and other data providers to deliver ELS metadata for data and services to the ELS Platform.

Agenda

- Introduction to ELS dataset-level metadata
- Introduction to ELS service metadata
- How to provide service metadata according to INSPIRE service metadata profile
- Metadata harvesting and XML import
- Questions and Answers

ELS Metadata



ELS Data



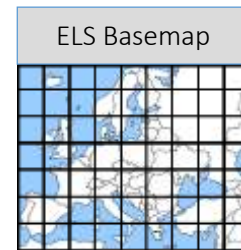
ELS Dataset-level metadata
(maintained by the NMCA)



ELS National Services



ELS services metadata
(maintained by the NMCA)



ELS Central Service



ELS dataset and service metadata
(maintained by the ELS metadata expert)



ELS Data



ELS Dataset-
level metadata

ELS Dataset-level Metadata

Levels of Metadata

- Discovery
 - enabling fulfilling INSPIRE requirements regarding metadata
- Evaluation
 - enable a better understanding of the contents of the dataset
 - ★ the requirements from the INSPIRE Implementing rules for Interoperability of Spatial Datasets and Services [IR DS],
 - ★ common requirements identified in the specifications of the INSPIRE Thematic Working Group,
 - ★ and additional elements from the requirements to have a harmonised, seamless and complete coverage for Europe.

ELS metadata for discovery purposes (1)

Source: ELF_DataSpecification_v0.12_20160328.pdf (chapter 8 Metadata)

INSPIRE IR Section	Metadata element	Multiplicity in ELS (INSPIRE)	Condition
1.1	Resource title	1 (1)	
1.2	Resource abstract	1 (1)	
1.3	Resource type	1 (1)	
1.4	Resource locator	1..* (0..*)	Mandatory. (In INSPIRE mandatory if an URL is available, to obtain more information on the resources and/or access related services.) See 8.1.1
1.5	Unique resource identifier	1..* (1..*)	
1.7	Resource language	1..* (0..*)	Mandatory. (In INSPIRE mandatory if resource includes textual information.) See 8.1.2
2.1	Topic Category	1..* (1..*)	
3	Keyword	1..* (1..*)	
4.1	Geographic bounding box	1..* (1..*)	
5	Temporal reference	1..* (1..*)	

ELS metadata for discovery purposes (2)

Source: ELF_DataSpecification_v0.12_20160328.pdf (chapter 8 Metadata)

INSPIRE Section	IR Metadata element	Multiplicity in ELS (INSPIRE)	Condition
6.1	Lineage	1 (1)	Mandatory. In ELS also information about the source and process steps are recommended.
6.2	Spatial resolution	1..* (0..*)	Mandatory. (In INSPIRE mandatory for data sets if an equivalent scale or a resolution distance can be specified)
7	Conformity	2..* (1..*)	Mandatory to indicate the conformity to both ELS and INSPIRE data specifications.
8.1	Conditions for access and use	1..* (1..*)	M
8.2	Limitations on public access	1..* (1..*)	M
9	Responsible organisation	1..* (1..*)	M
10.1	Metadata point of contact	1..* (1..*)	M
10.2	Metadata date	1 (1)	M
10.3	Metadata language	1..* (1)	English is the recommended language for ELS metadata.

Lineage

- This metadata element shows what kind of transformation methodologies were used to transform local data to common INSPIRE structures, including a description of the source data.
- The value domain of this metadata element is free text.

(<http://inspire.ec.europa.eu/glossary/MetadataElement-Lineage>)

- Statement: This is a general explanation of the data producer's knowledge about the lineage of a dataset. ELS proposes the following guidance for the national data producers:
“ELS <dataset> is the result of the harmonization of existing national products. More details on the schema mapping can be found under the fields *Source* and *Process Step*.”
 - Statement (mandatory)
- Optional lineage elements are:
 - Information about the process steps (transformation)
 - Information about the source
 - National specifics (Currency/Update)

Multilingual metadata

- English can be the primary or secondary language of the metadata. ISO19139 provides a mechanism for presenting metadata in multiple languages in a single metadata document. This mechanism should be used if the metadata is available in two or more languages.
- See INSPIRE Metadata Technical Guidance [1] Annex A.6 “ISO 19139 and multilingual metadata” for further information.
- If English is not the primary language of the metadata, it should be defined as an alternative language in <gmd:locale> metadata element.
- An XML example of multilingual metadata is given in ELF deliverable D2.3.6_Quality_AnnexB.pdf (chapter 2.1)

ELS metadata for evaluation

Source: ELF_DataSpecification_v0.12_20160328.pdf (chapter 8 Metadata)

INSPIRE TG Section	Metadata element	Multiplicity in ELS (INSPIRE)	Condition
8.2.1	Coordinate Reference System	1..*	M
8.2.2	Temporal Reference System	0..*	Mandatory, if the spatial data set or one of its feature types contains temporal information that does not refer to the Gregorian Calendar or the Coordinated Universal Time.
8.2.3	Encoding	1	M
8.2.4	Character Encoding	0..*	Mandatory if an encoding is used that is not based on UTF-8
8.2.5	Spatial representation type	1..*	M
8.2.6	Data Quality – Logical Consistency – Topological Consistency	0..*	The results of ELS quality evaluations should be reported in the ELS Metadata. See chapter 8.2.1.
8.3.1	Maintenance Information	1 (0..1)	Mandatory in ELS. See chapter 8.2.2.

Data Quality (1)

- Results of additional data quality evaluations

INSPIRE TG Section	Metadata element	Multiplicity in ELS (INSPIRE)	Condition
8.3.2	Positional Accuracy – Absolute or external Accuracy	1..* (0..*)	Mandatory in ELS. See chapter 7.1.1
8.3.2	Logical Consistency – Conceptual Consistency	1..* (0..*)	Mandatory in ELS. See chapter 7.2
8.3.2	Logical Consistency – Domain Consistency	1..* (0..*)	Mandatory in ELS. See chapter 7.2
8.3.2	Logical Consistency – Format Consistency	1..* (0..*)	Mandatory in ELS. See chapter 7.2
8.3.2	Logical Consistency – Topological Consistency	0..*	Mandatory if the dataset is a vector dataset (only exception is ELS elevation) See chapter 7.1.3 and 7.2
8.3.2	Completeness – Commission	0..*	INSPIRE themes : AD, AU, EL, HY, LC, PS, SU, TN
8.3.2	Completeness – Omission	0..*	INSPIRE themes : AD, AU, CP, GN, HY, EL, LC, PS, SU, TN

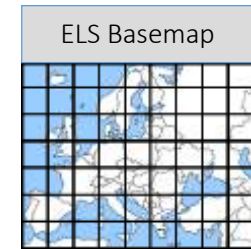
Data Quality (2)

- Results of additional data quality evaluations

INSPIRE TG Section	Metadata element	Multiplicity in ELS (INSPIRE)	Condition
8.3.2	Thematic Accuracy – Classification Correctness	0..*	INSPIRE themes : LC, SU, TN
8.3.2	Positional Accuracy – Relative or Internal Accuracy	0..*	INSPIRE themes : EL, LC
8.3.2	Positional Accuracy – Gridded Data Position Accuracy	0..*	INSPIRE themes : EL – if spatial representation type is grid
8.3.2	Temporal Accuracy – Temporal Consistency		INSPIRE themes : LC
8.3.2	Temporal Accuracy – Temporal Validity		INSPIRE themes : LC, SU
8.3.2	Thematic Accuracy – Non-quantitative Attribute Accuracy		INSPIRE themes : AD, HY, LC, TN
8.3.2	Temporal Accuracy – Quantitative Attribute Accuracy		INSPIRE themes : HY, LC
8.3.3	Content information	0..1	INSPIRE themes : BU

OpenELS Products metadata is maintained by the ELS metadata team

- Topographic Basemap
- Cadastral Index Map
- Geolocator Service



ELS Central
Service



ELS service
metadata
And ELS dataset-
metadata

ELS metadata for National Services



ELS National
Services



ELS National Service
metadata

Metadata for ELS National services

- Typical situation in many countries
 - Service metadata for INSPIRE services in national MD catalogue (mostly in native languages only)
 - Early ELF national services are registered at ELS project website
 - A subset of the metadata is also available in the Capabilities files of the services
- Dataset and service metadata for ELS National services have to be created by the NMCA in their national MD catalogue.
- National ELS metadata is harvested by the ELS metadata portal (GeoProductFinder).

Metadata for ELS National services

- Level of metadata for National Services is at least minimum INSPIRE requirements (IR DS)
 - Minimum mandatory Discovery metadata elements.
- A template (XML file) will be provided on request.

Metadata language for ELS National services

- English is recommended for at least these 4 metadata elements
 - Resource Title
 - Resource Abstract
 - Responsible Organisation
 - Keyword(s)

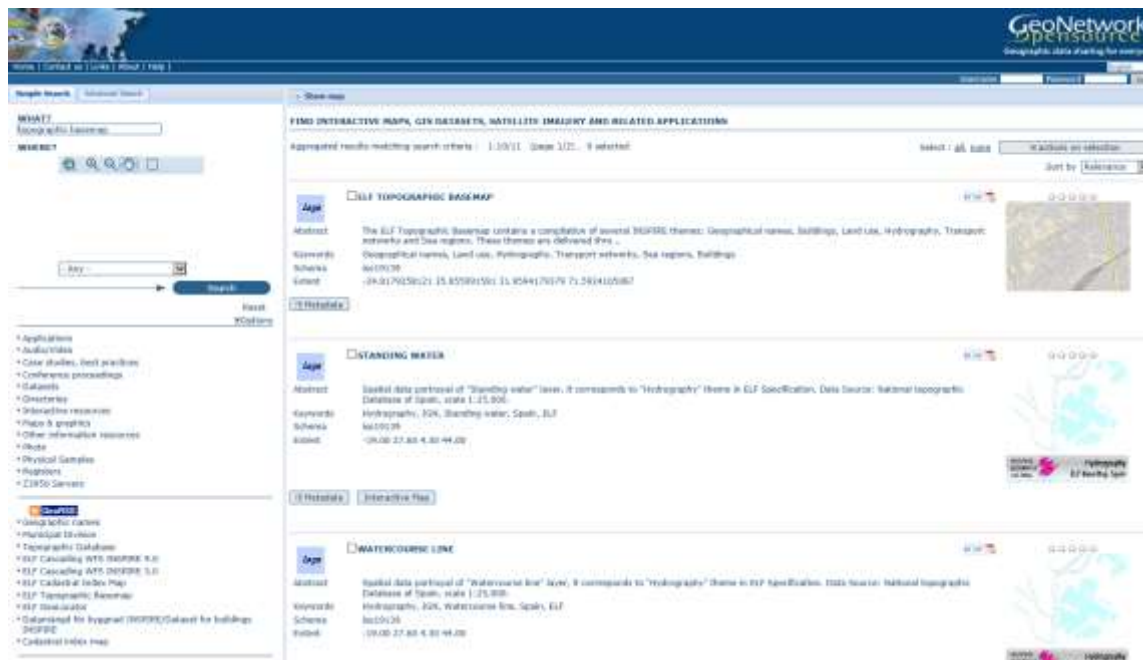
How to deliver ELS metadata?

ELS delivery [D2.3.6 Quality v0.6 AnnexB](#)

- Harvesting by the GPF from the national INSPIRE geoportal (CSW API protocol)
 - For all NMCAs
- Sending the metadata as a valid ISO 19115 (for dataset metadata) or 19119 (for service metadata) XML file to the platform manager
 - Other data producers (e.g. EuroGeographics)
- Validation tooling: <http://validator.locationframework.eu/etf-webapp/>

ELS GeoProductFinder

- <https://demo.locationframework.eu/geonetwork/srv/eng/main.home>



EDP and MQA

- EDP (European Data Portal):
 - Harvesting from GPF
 - Only Open ELS products (3)
 - Harvesting from National Metadata Portals
- MQA (Metadata Quality Assurance):
 - Open ELS metadata expert runs ETF Validator checks
 - Only Open ELS products (3)
 - Open ELS reports on these 3 Open ELS products
 - Including service metadata
 - NMCA's must run ETF Validator checks on own national metadata.

From isolated components to integrated,
cross-border seamless authoritative reference
data ...

OpenELS | European
Location Services



Thank you!