2. METADATA AS THE FOUNDING STONE FOR LINKING BETWEEN ESDI COMPONENTS

The concept of ESDI metadata
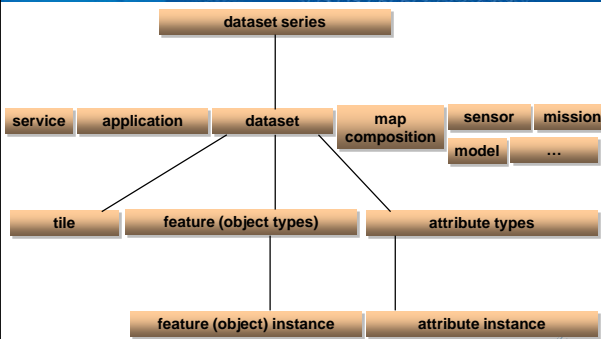
- The main principles presented during the previous lecture

- Metadata to:
  - *identify* a product
  - *promote* a product
  - *describe* a product

- "Product" is a commercial term
  while we use the term "resource"
  in geographic sciences

Hierarchy levels of metadata in ESDI

dataset series

service | application | dataset | map composition | sensor | mission | model | …

tile | feature (object types) | attribute types

feature (object) instance | attribute instance

INSPIRE metadata

- Only three legally-binding hierarchy levels
  - dataset
  - series
  - service

- Subset of ISO 19115 (Geographic information – Metadata) and ISO 19119 (Geography information – Services) standards

INSPIRE metadata

INSPIRE

ISO 19115/19119

Commission Regulation (EC) No. 1089/2010
Metadata for interoperability

Commission Regulation (EC) No. 1205/2008
Identification
Classification
Keywords
Geographic location
Temporal reference
Quality and validity
Conformity
Constraints related to access and use
Responsible party
Metadata on metadata

Metadata for interoperability (for each spatial data theme)

8.2   Metadata elements for interoperability
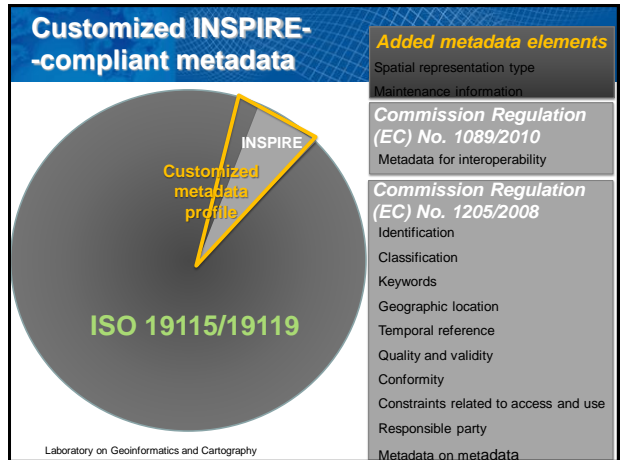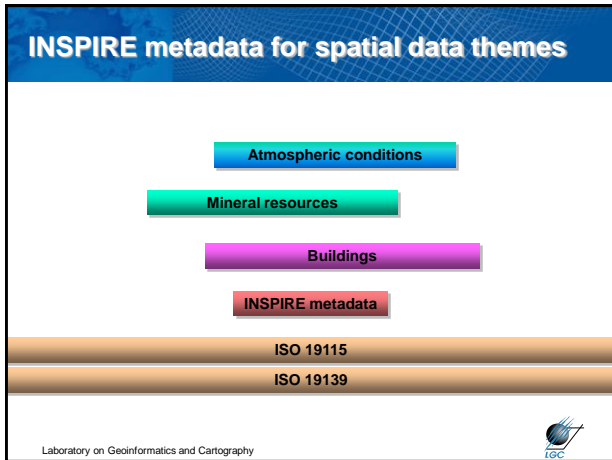
IR Requirement
Article 13
Metadata required for Interoperability

The metadata describing a spatial data set shall include the following metadata elements required for interoperability:

1. Coordinate Reference System: Description of the coordinate reference system(s) used in the data set.

2. Temporal Reference System: Description of the temporal reference system(s) used in the data set.

This element is mandatory only if the spatial data set contains temporal information that does not refer to the default temporal reference system.

3. Encoding: Description of the computer language construct(s) specifying the representation of data objects in a record, file, message, storage device or transmission channel.

4. Topological Consistency: Correctness of the explicitly encoded topological characteristics of the data set as described by the scope.

This element is mandatory only if the data set includes types from the Generic Network Model and does not assure centreline topology (connectivity of centrelines) for the network.

5. Character Encoding: The character encoding used in the data set.

This element is mandatory only if an encoding is used that is not based on UTF-8.

6. Spatial Representation Type: The method used to spatially represent geographic information.

INSPIRE metadata for spatial data themes

Atmospheric conditions

Mineral resources

Buildings

INSPIRE metadata

ISO 19115

ISO 19139

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Customized INSPIRE--compliant metadata

INSPIRE

Customized metadata profile

ISO 19115/19119

Added metadata elements

Spatial representation type

Maintenance information

Commission Regulation (EC) No. 1089/2010

Metadata for interoperability

Commission Regulation (EC) No. 1205/2008

Identification

Classification

Keywords

Geographic location

Temporal reference

Quality and validity

Conformity

Constraints related to access and use

Responsible party

Metadata on metadata

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Automatic creation of metadata

- ETL = Extract Transform Load

Title	Map sheet XX
Year of revision	XX
Organisation	Czech Office for Surveying, Mapping and Cadaster

Name	Year of revision	Price
Letovice	2012	4.50
Křetín	2013	2.50
Lazinov	2014	1.90

Title	Map sheet Letovice	Title	Map sheet Křetín
Year of revision	2012	Year of revision	2013
Organisation	Czech Office for Surveying, Mapping and Cadaster	Organisation	Czech Office for Surveying, Mapping and Cadaster
Scale	1 : 10 000	Scale	1 : 10 000
Price	4.50	Price	2.50
…	…	…	…

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Use of automatically created metadata

- For instance, see http://geoportal.cuzk.cz

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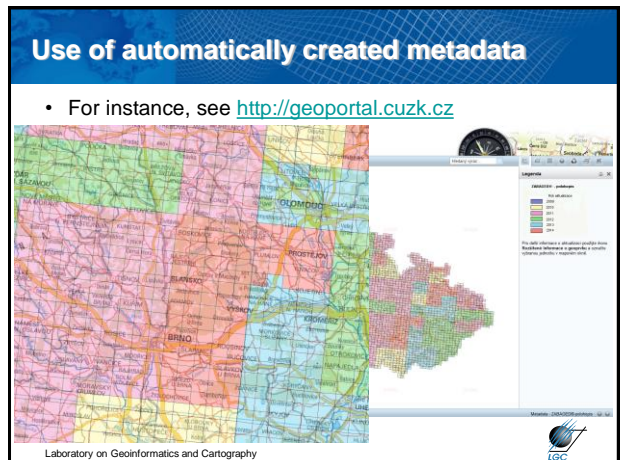
Relevant INSPIRE metadata documents

- http://inspire.ec.europa.eu/index.cfm/pageid/101 and http://inspire.ec.europa.eu/index.cfm/pageid/2
- **INSPIRE Metadata Regulations**
  - COMMISSION REGULATION (EC) No 1205/2008 of 3 December 2008 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards metadata
  - 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 Metadata Implementing Rules**
  - Technical Guidelines based on EN ISO 19115 and EN ISO 19119
  - INSPIRE data specifications for each spatial data theme

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Metadata editor

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Metadata Editor & Validator at INSPIRE Geoportal

- http://inspire-geoportal.ec.europa.eu

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