

# Croatian NSDI Metadata Profile

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# CONTENT:

- **Introduction**
- **Metadata Documents**
- **Croatian NSDI Metadata Profile**
- **Elements of the NSDI Metadata Profile**
- **Metadata Comparison (ISO/INSPIRE/CRO/UK)**
- **Conclusions**

# INTRODUCTION

## What can be articulated as metadata?

- Metadata are information that are describing, explaining, locating, make easier accessible, used or maintained data resource.
- Term metadata are used with different meanings in different groups and branches, but two are mostly articulated:
  - metadata are standardized, structured information that machines can interpret and use,
  - metadata is record to describe a resource .

# Terms and Definitions

- **metadata:** information describing spatial data sets and spatial data services and making it possible to discover, inventory and use them [INSPIRE Directive] (**metadata:** data about data [ISO])
- **metadata element:** means a discrete unit of metadata, in accordance with EN ISO 19115
- **data set:** identifiable collection of data [ISO 19115]
- **spatial data set series:** collection of data sets sharing the same product specification [ISO 19115]

# Metadata are describing the data and they have to answer on questions related to data:

- Who created the data?
- What is the content of the data?
- When was the data created and updated?
- Where are the data in space?
- How was the data developed?
- Why was the data developed?
- What data are accessible?
- What is the quality of data?
- How is distribution of data made?
- ...

# Metadata Documents

# The referenced essential documents

- **EN ISO 19115:2005**, Geographic information - Metadata 1
- **ISO 19115/Cor.1:2006**, Geographic information – Metadata, Technical Corrigendum 1
- **ISO 19119:2005**, Geographic information - Services
- **ISO 19119:2005/Amd 1:2008**, Extensions of the service metadata model
- **EN ISO 19108:2005**, Geographic information – Temporal Schema 2
- **ISO 639-2**, Codes for the representation of names of languages - Part 2: Alpha-3 coded a control
- **ISO 8601**, Data elements and interchange formats - Information interchange - Representation of dates and times
- **ISO/TS 19139:2007**, Geographic information - Metadata – XML Schema Implementation
- **CSW2 AP ISO**, OpenGIS Catalogue Services Specification 2.0.2 - ISO Metadata Application Profile, Version 1.0.0, OGC 07-045, 2007
- **IETF RFC 1738**: Uniform Resource Locators (URL), December 1994

# INSPIRE Metadata Documents

<http://inspire.jrc.ec.europa.eu/index.cfm/pageid/101>

## Metadata Legislation:

- INSPIRE Metadata Regulation, 03.12.2008
- Corrigendum to INSPIRE Metadata Regulation, 15.12.2009

## Metadata Guidance Document:

- INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119, Creation date: 2007-10-26, Last revision: 2010-06-16, v. 1.2 – previous versions: 1.0, 1.1

## Other Metadata Documents:

- INSPIRE Metadata Implementing Rules: Changes from V 1.1 to V. 1.2 of Technical Guidelines based on EN ISO 19115 and EN ISO 19119, 17.06.2010



# Croatian NSDI Metadata Documents

<http://www.nipp.hr>

- Provedbena pravila za metapodatke, NN 102/2010

- Specifikacija metapodataka Nacionalne infrastrukture prostornih podataka NIPP-a, DGU 28.11.2011

## VLADA REPUBLIKE HRVATSKE

2794

Na temelju članka 90. stavka 2. Zakona o državnoj izmjeni i katastru nekretnina («Narodne novine» broj 16/2007), Vlada Republike Hrvatske je na sjednici održanoj 19. kolovoza 2010. godine donijela

### ODLUKU

#### O UTVRĐIVANJU KRITERIJA I NORMI RAZMJENE PODATAKA

I.

Ovom Odlukom propisuju se kriteriji i norme razmjene podataka (skupova prostornih podataka) subjekata Nacionalne infrastrukture prostornih podataka: »Provedba pravila za metapodatke«.

II.

Sastavni dio ove Odluke su »Provedbena pravila za metapodatke«.

III.

Ova Odluka stupa na snagu osmog dana od dana objave u »Narodnim novinama«.

Klasa: 930-01/10-01/02

Urbroj: 5030120-10-1

Zagreb, 19. kolovoza 2010.

Predsjednica  
Jadranka Kosor, dipl. inž.

#### PROVEDBENA PRAVILA ZA METAPODATKE

##### DIO A. Tumačenje

1. Primjenjuju se sljedeće definicije:

- »znak znakova« označava polje vrijednosti elemenata metapodataka izraženih u znakovima koji se tretiraju kao cjelina,
- »slobodan tekst« označava polje vrijednosti elemenata metapodataka izraženih u jednom ili više žirih jezika,



Nacionalna infrastruktura prostornih podataka

### Specifikacija metapodataka Nacionalne infrastrukture prostornih podataka Hrvatske

Naslov: Specifikacija metapodataka Nacionalne infrastrukture prostornih podataka Hrvatske  
Datum: 2011-11-28  
Tema: NIPP metapodaci  
Status: Verzija 1.0  
Izdavač: Državna geodetska uprava  
Tip: Tekst  
Opis: Specifikacija metapodataka NIPPa Hrvatske u skladu s EN ISO 15115 i EN ISO 15119, INSPIRE Metodološki Implementing Rules (v.1.2) i Provedbenim pravilima za metapodatke (NN 102/2010)  
Format: Portable document format (PDF)  
Dostupnost: Javni dokument  
Oznaka: NIPP\_MP\_v1\_0\_20111128  
Jezik: hrv  
Poveznice: Direktive 2007/2/EZ Europskoga parlamenta i Vijeća od 14. ožujka 2007. kojom se uspostavlja infrastruktura za prostorne informacije u Europskoj zajednici (INSPIRE), Zakon o državnoj izmjeni i katastru nekretnine (NN 16/2007, 124/2010), Provedbena pravila za metapodatke (NN 102/2010).

Povijest:	Verzija	Datum	Promjena
	1.0	28.11.2011.	-



INSPIRATION workshop 21st - 22nd Nov.  
2012, Zagreb

[www.dgu.hr](http://www.dgu.hr)  
[www.nipp.hr](http://www.nipp.hr)

# Croatian NSDI Metadata Profile

Metadata are made for resource types:

- spatial data sets,
  - spatial data set series,
  - services.
- 
- National metadata profile contains metadata that should be implemented in the data that will be included in NSDI.
  - National metadata profile could be used as fundament by development of metadata profiles of other thematic data sets.
  - Too many metadata could demand new data collections and additional costs.
  - Too few metadata could lead to not sufficient data description and problems during data discovery and use.

# INSPIRE services

INSPIRE SERVICES	
discovery service (discovery)	Services making it possible to search for spatial data sets and services on the basis of the content of the corresponding metadata and to display the content of the metadata.
view service (view)	Service that makes it possible, as a minimum, to display, navigate, zoom in and out, pan or overlay viewable spatial data sets and to display legend information and any relevant content of metadata.
download service (download)	Service that enables copies of spatial data sets, or parts of such sets, to be downloaded and, where practicable, accessed directly.
transformation service (transformation)	Service that enables spatial data sets to be transformed with a view to achieving interoperability.
invoke spatial data service (invoke)	Service that allows defining both the data inputs and data outputs expected by the spatial service and a workflow or service chain combining multiple services. It also allows defining the external web service interface of the workflow or service chain.
other service (service)	The service is included in the classification of the spatial data service types, described in the metadata element "Spatial data service type".

# Croatian NSDI Metadata Elements Definitions – part 1/2

Element name	Definition
<b>1. IDENTIFICATION</b>	
Resource title	This a characteristic, and often unique, name by which the resource is known.
Resource abstract	This is a brief narrative summary of the content of the resource.
Resource type	This is the type of resource being described by the metadata.
Resource locator	The resource locator defines the link(s) to the resource and/or the link to additional information about the resource.
Unique resource identifier	A value uniquely identifying the resource.
Coupled resource	If the resource is a spatial data service, this metadata element identifies, where relevant, the target spatial data set(s) of the service through their unique resource identifiers (URI).
Resource language	The language(s) used within the resource.
<b>2. SPATIAL DATA AND SERVICES CLASSIFICATION</b>	
Topic category	The topic category is a high-level classification scheme to assist in the grouping and topic-based search of available spatial data resources.
Spatial data services	Services of spatial data.
<b>3. KEYWORDS</b>	
Keyword value	The keyword value is a commonly used word, formalized word or phrase used to describe the subject.
Originating controlled vocabulary	The name of a formally registered thesaurus or a similar authoritative source of keywords.
<b>4. GEOGRAPHIC BOUNDING BOX</b>	
Geographic bounding box	This is the extent of the resource in the geographic space. The extent shall be expressed by westbound and eastbound longitudes, and southbound and northbound latitudes in decimal degrees, with a precision of at least two decimals.
<b>5. TEMPORAL REFERENCE</b>	
Temporal extent	The temporal extent defines the time period covered by the content of the resource.
Reference date	A reference date for the resource being described.
Frequency of update	Frequency with which modifications are made to the resource
Date of creation	Date of creation of the source.

# Croatian NSDI Metadata Elements Definitions – part 2/2

Element name	Definition
<b>6. QUALITY</b>	
Lineage	This is a statement on process history and/or overall quality of the spatial data set.
Spatial resolution	Spatial resolution refers to the level of detail of the data set.
<b>7. CONFORMITY</b>	
Conformity – specification	The degree of conformity with the product specification or user requirement against which the data is being evaluated.
Conformity – degree	The degree of conformity with the product specification or user requirement against which the data is being evaluated. The degree is the indication of the conformance result.
<b>8. CONDITIONS APPLYING TO ACCESS AND USE</b>	
Conditions applying to access and use	Defines the conditions for access and use of spatial data sets and services.
Limitations on public access	Provides information on the type and the reasons for limited public access to spatial data sets and spatial data services.
<b>9. RESPONSIBLE PARTY</b>	
Responsible party	This is the description of the organization responsible for the establishment, management, maintenance and distribution of the resource.
Responsible party role	This is the role of the responsible organization.
<b>10. METADATA ABOUT METADATA</b>	
Metadata point of contact	This is the description of the organization responsible for the creation and maintenance of the metadata.
Metadata date	The date which specifies when the metadata record was created or updated.
Metadata language	This is the language in which the metadata elements are expressed.

# Elements of the Croatian NSDI metadata profile

## Spatial data sets and series

Ime elementa (Element name)	Obligation	Cardinality
Ime izvora (Resource title)	M	1
Sažetak o izvoru (Resource abstract)	M	1
Vrsta izvora (Resource type)	M	1
Adresa izvora podataka (Resource locator)	C	N
Jedinstvena oznaka izvora (Unique resource identifier)	M	1
Prostorni referentni sustav (Spatial reference system)	M	1
Format podataka (Data format)	M	N
Učestalost ažuriranja (Frequency of update)	M	1
Jezik izvora (Resource language)	C	N
Tematska kategorija (Topic category)	M	N
Ključna riječ (Keyword)	M	N
Geografski granični pravokutnik – zapad (West bound longitude)	M	N
Geografski granični pravokutnik – istok (East bound longitude)	M	N
Geografski granični pravokutnik - jug (South bound latitude)	M	N
Geografski granični pravokutnik - sjever (North bound latitude)	M	N
Vremenski obuhvat (Temporal extent)	M	1
Datum objave (Reference date)	M	N
Podrijetlo (Lineage)	M	1
Prostorna rezolucija – udaljenost (Spatial Resolution – distance)	C	1
Prostorna rezolucija - ekvivalentno mjerilo (Spatial Resolution – equivalent scale)	C	1
Sukladnost (Conformity)	M	N
Uvjeti za pristup i korištenje (Conditions for access and use)	M	N
Ograničenja javnog pristupa (Limitations on public access)	M	N
Odgovorna organizacija (Responsible party)	M	N
Uloga odgovorne organizacije (Responsible party role)	M	N
Kontaktna točka za metapodatke (Metadata point of contact)	M	N
Datum metapodataka (Metadata date)	M	1
Jezik metapodataka (Metadata language)	M	1

## Spatial data services

Ime elementa (Element name)	Obligation	Cardinality
Ime izvora (Resource title)	M	1
Sažetak o izvoru (Resource abstract)	M	1
Vrsta izvora (Resource type)	M	1
Adresa izvora podataka (Resource locator)	C	N
Prostorni referentni sustav (Spatial reference system)	C	1
Ključna riječ (Keyword)	M	N
Geografski granični pravokutnik – zapad (West bound longitude)	M	N
Geografski granični pravokutnik – istok (East bound longitude)	M	N
Geografski granični pravokutnik - jug (South bound latitude)	M	N
Geografski granični pravokutnik - sjever (North bound latitude)	M	N
Vremenski obuhvat (Temporal extent)	C	1
Datum objave (Reference date)	M	N
Podrijetlo (Lineage)	M	1
Prostorna rezolucija – udaljenost (Spatial Resolution – distance)	C	1
Prostorna rezolucija - ekvivalentno mjerilo (Spatial Resolution – equivalent scale)	C	1
Sukladnost (Conformity)	M	N
Uvjeti za pristup i korištenje (Conditions for access and use)	M	N
Ograničenja javnog pristupa (Limitations on public access)	M	N
Odgovorna organizacija (Responsible party)	M	N
Kontaktna točka za metapodatke (Metadata point of contact)	M	N
Datum metapodataka (Metadata date)	M	1
Jezik metapodataka (Metadata language)	M	1
Vrsta usluga prostornih podataka (Spatial data service type)	M	1
Upareni (kombinirani) izvori (Coupled Resource)	C	N

# METADATA ELEMENTS

<b>Element number</b>	the consecutive number of the element
<b>Element name</b>	the name of the element
<b>Element definition</b>	a formal definition of the element
<b>INSPIRE equivalent</b>	if applicable the corresponding INSPIRE metadata element is named by number and name
<b>Comparison with INSPIRE</b>	indicates if elements are equal or different in comparison with INSPIRE
<b>ISO 19115/9 equivalent</b>	the corresponding ISO 19115 or ISO 19119 element is named
<b>Comparison with ISO</b>	indicates if elements are equal or different in comparison with ISO 19115/19
<b>XPath</b>	an XPath expression indicating the metadata element within the ISO 19115 / ISO 19119 UML model
<b>Obligation</b>	whether the element is mandatory or conditional
<b>Cardinality</b>	whether the element is single-valued or can have multiple values
<b>Data type</b>	the data type of the entry (character string, number, Boolean or other)
<b>Domain</b>	the allowable set of values
<b>Example</b>	a common example for the element value(s)
<b>Implementation instructions</b>	any comment or hint that shall be considered when implementing this element



# Metadata XML Shema

- More ISO 19139 Metadata XML Schemas are available (ISO, OGC, EDEN...)
- EDEN (l'Equipe D'Experts en Normalisation): collaborative standardization working space in the field of spatial data  
<http://eden.ign.fr/welcome>
- Advantage of the EDEN XML Schema:
  - consistent XSD schema,
  - GML 3.2.1 support,
  - Service metadata are included
- EDEN Metadata XML Schemas are available on:  
<http://eden.ign.fr/xsd/isotc211/isofull/20090316>
  - EDEN Data set XML Schema: gmd/gmd.xsd,
  - EDEN Service XML Schema: srv/srv.xsd.

# Metadata Comparison (ISO/INSPIRE/CRO/UK)

# Metadata comparison – data set INSPIRE/ISO/CRO/UK – part 1/2

Nr.	INSPIRE (ISO 19115 and ISO 19119)	ISO 19115 Core	NSDI Croatia			UK - GEMIN v.2.1		
	Element name	Element name	Element name	Obliga- tion	Cardina- lity	Element name	Obliga- tion	Cardina- lity
1	Resource Title	Dataset title	Resource title	M	1	Title	M	1
2	Temporal Reference	Dataset reference date	Reference date	M	N	Dataset reference date	M	N
3	Responsible organization	Dataset responsible party	Responsible party Responsible party role	M M	N N	Responsible organization	M	N
4	Geographic Bounding Box	Geographic location of the dataset	West bound longitude East bound longitude South bound latitude North bound latitude	M M M M	N N N N	West bound longitude East bound longitude South bound latitude North bound latitude	M M M M	1 1 1 1
5	Resource Language	Dataset language	Resource language	C	N	Dataset language	C	N
6	-	Dataset character set	-	-	-	-	-	-
7	Topic Category	Dataset topic category	Topic category	M	N	Topic category	M	N
8	Spatial Resolution	Spatial resolution of the dataset	Spatial Resolution – distance Spatial Resolution – equivalent scale	C C	1 1	Spatial Resolution – distance Spatial Resolution – equivalent scale	C O	1 1
9	Resource abstract	Abstract describing the dataset	Resource Abstract	M	1	Abstract	M	1
10	-	Distribution format	-	-	-	-	-	-
11	Temporal extent	Additional extent information for the dataset (vertical and temporal)	Temporal extent	M	1	Temporal extent	M	1
12	-	Spatial representation type	-	-	-	-	-	-
13	-	Reference system	Spatial reference system	M	1	Spatial reference system	M	1
14	Lineage	Lineage	Lineage	M	1	Lineage	M	1
15	Resource Locator	On-line resource	Resource locator	C	N	Resource locator	C	N

Nr.	INSPIRE (ISO 19115 and ISO 19119)	ISO 19115 Core	NSDI Croatia			UK - GEMIN v.2.1		
	Element name	Element name	Element name	Obliga- tion	Cardina- lity	Element name	Obliga- tion	Cardina- lity
16	-	Metadata file identifier	-	-	-	-	-	-
17	-	Metadata standard name	-	-	-	-	-	-
18	-	Metadata standard version	-	-	-	-	-	-
19	Metadata Language	Metadata language	Metadata language	M	1	Metadata language	C	1
20	-	Metadata character set	-	-	-	-	-	-
21	Metadata point of contact	Metadata point of contact	Metadata point of contact	M	N	Metadata point of contact	M	N
22	Metadata Date	Metadata date stamp	Metadata date	M	1	Metadata date	M	1
23	Resource Type	-	Resource type	M	1	Resource type	M	1
24	Unique Resource Identifier	-	Unique resource identifier	M	1	Unique resource identifier	M	1
25	Keyword	-	Keyword	M	N	Keyword	M	N
26	Conformity	-	Conformity	M	N	Conformity	C	N
27	Conditions for access and use	-	Conditions for access and use	M	N	Use constraints	M	N
28	Limitations on public access	-	Limitations on public access	M	N	Limitations on public access	M	N
33	-	-	-	-	-	Alternative title	O	N
34	-	-	-	-	-	Extent	O	N
35	-	-	-	-	-	Vertical extent information	O	1
36	-	-	Data format	M	N	Data format	O	N
37	-	-	Frequency of update	M	1	Frequency of update	M	1
38	-	-	-	-	-	Additional information source	O	1

# Conclusions

- Every data resource should have associated metadata.
- Metadata should be keep up to date.
- Metadata are basis of the NSDI.
- Metadata are the fundamental elements needed to discover, access, and use geographic data.
- INSPIRE Discovery service is based on Metadata.

# Thank you for your attention!

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