



## Progress on metadata

## Standards implementation for data and services



**ICGC**  
Institut  
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de Catalunya



Generalitat  
de Catalunya

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- Data
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  - ISO 19115:2003 ⇔ ISO/TS 19139:2007
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  - ISO 19115-1:2014 ⇔ DTS 19115-3
- Services
  - ISO 19119:2005 ⇔ ISO/TS 19139:2007
  - ISO 19115-1:2014 ⇔ DTS 19115-3

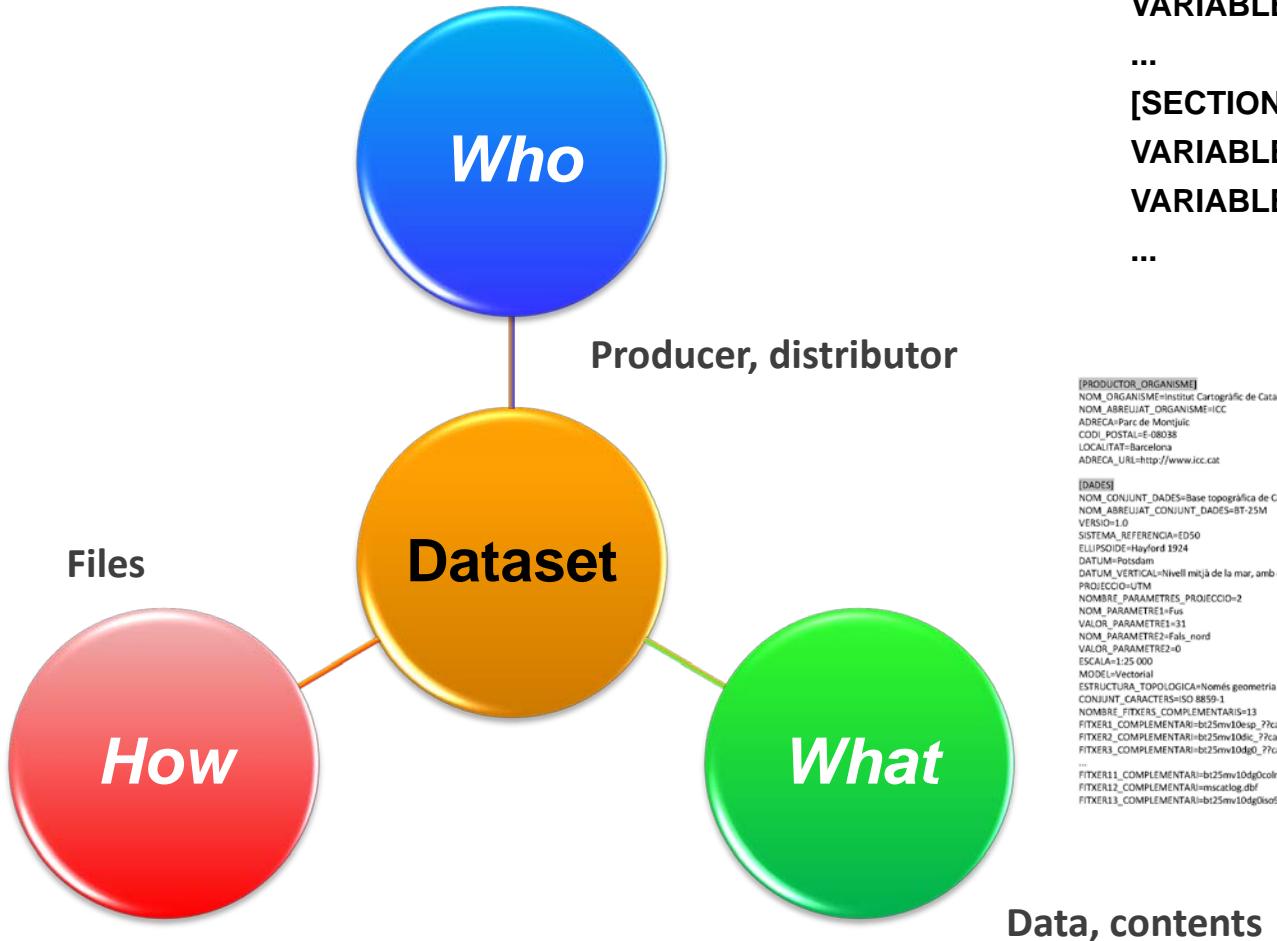
## MIGRA - 1998

## Metadata as marginalia

Mechanism of exchanging relational geographic information formed by aggregation

- Digital spatial data
- Metadata to add information about data  $\Leftrightarrow$  Marginalia

# MIGRA



## **IMPLEMENTATION**

[SECTION01]

## VARIABLE01 1=

## VARIABLE01 1=

## [SECTION02]

## VARIABLE02 1=

## VARIABLE02 2=

2

[PRODUCTOR\_ORGANISME]  
NOM\_ORGANISME=Institut Cartogràfic de Catalunya  
NOM\_ABREUJAT\_ORGANISME=ICC  
ADRECA=Parc de Montjuïc  
CODI\_POSTAL=E-08038  
LOCALITAT=Barcelona  
ADRECA\_URI=http://www.icc.cat

```

[Dades]
NOM_CONJUNT_DADES=Base topogràfica de Catalunya 1:250000
NOM_ARREUAT_CONJUNT_DADES=BT-25M
VERSIO=1.0
SISTEMA_REFERENCIA=ED50
ELLIPSOIDE=Hayford 1924
DATUM=Potsdam
DATUM_VERTICAL=Nivell mitjà de la mar, amb origen a Almeria
PROJECCIO=UTM
NOMBRE_PARAMETRES_PROIECCIO=2
NOM_PARAMETRE1=Fus
VALOR_PARAMETRE1=31
NOM_PARAMETRE2=Fals_nord
VALOR_PARAMETRE2=0
ESCALA=1:25 000
MODEL=Vectorial
ESTRUCTURA_TOPOLOGICA=Només geometria
CONJUNT_CARACTERIS=BS859-1
NOMBRE_FIXERS_COMPLEMENTARIS=13
FITXER1_COMPPLEMENTARI=bt25mws10e_7ca.pdf
FITXER2_COMPPLEMENTARI=bt25mws10d_7ca.pdf

```

...  
FITXER11\_COMPLEMENTARI=bt25mv10dg0colmapa\_???.tbl  
FITXER12\_COMPLEMENTARI=mscatlog.dbf  
FITXER13 COMPLEMENTARI=bt25mv10dg0ks96601dbf.ex

[CONTINGUT]\_DESCRICIO\_CONTINGUT=Cartografia topogràfica de l'àmbit d'un full 1:25 000  
REVISIÓ=1  
CORRECCIÓ=0  
FORMAT\_DISTRIBUCIÓ=MicroStation Design File (DGN)  
VERSIO\_FORMAT\_DISTRIBUCIÓ=v7  
OPCIÓ\_FORMAT\_DISTRIBUCIÓ=NA  
IMPLEMENTACIÓ\_FORMAT\_DISTRIBUCIÓ=0

```

UNITATS_X_Y=mmdd.com
RESOLUCION_X_Y=0.01
UNITATS_Z=metres/cm
NOM_CANTONADA=1234567890
SISTEMA_IDENIFICADORES_GEOGRAFICS=Tall 1:25 000 MTN
NOM_AREA_GEOGRAFICA=ND
NOMBRE_CODIS_AREA_GEOGRAFICA=2
COD11_AREA_GEOGRAFICA=72-19
COD12_AREA_GEOGRAFICA=217-2-1
NOMBRE_CANTONADES=13
CANTONADA1=416222-1,41706005-8:4
CANTONADA2=419641-8,40705965-4:0
...
CANTONADA12=429874-1,8,46956905-6:0
CANTONADA13=426395-9,8,4695636-3:4
NOMBRE_FONTS_INFORMACIO=C
DESCRICIO_FONT1=Base topogràfica de Catalunya 1:5 000 v2.0
DATA_FONT1=ND
DESCRICIO_FONT2=imatges aèries de diverses escales
DATA_FONT2=2005-08

```

**DESCRIPCIO\_FONTS**=Projectes de noves infraestructures de vials i ferrocarrils  
**DATA\_FONTS**=2006-09  
**DESCRIPCIO\_FONT6**=Base topogràfica de Catalunya 1:50 000 v3.1 r4  
**DATA\_FONT6**=ND  
**NOMBRE\_FITXERS**=34

**[FITXER\_1]**

**DESCRIPCIO**=Altimetria (línies, punts, centroides, textos)

[FITXER\_7]  
DESCRIPCIO=Atributs d'altimetria (línies)  
FITXER=bt25mv10de0f7219a0r010.dbf

Its implementation should be useful to:

- Provide information to characterize geographical data.
- Enable apply geographic data in the most efficient way.
  
- Facilitate data discovery, retrieval and reuse.
- Enable users to determine whether geographic data in a holding will be of use to them.

Users **will be better able to locate**, **access**, **evaluate**, purchase and utilize geographic data.

# ISO 19115

## Metadata to locate

Data identification for catalogue purposes

- Dataset existence on a specific topic (What)
- Dataset existence for a specific place (Where)
- Dataset existence for a specific period (When)
- Point of contact to learn more or order (Who)

## Metadata to evaluate

Data quality to choose the most appropriate

- Data origin - Knowledge about sources or processes or lack of it
- Goodness of data
- Usage

# ISO 19115

## Metadata to access

### Data obtaining

- Distribution:
  - Distributor
  - Transfer options (online / offline) for digital data, order process
  - Formats
- Conditions:
  - Limitations of use
  - Legal and access constraints

# Implementation

# Technical

Applications to create, edit and validate metadata according to the implementation standard ISO 19139

- ISO 19139 > MetaD, CatMEdit, GeMM, GeMa...

Software to create and publish a CSW

- OGC-CSW 2.0.2 > Geonetwork, terraCatalog, pycsw...

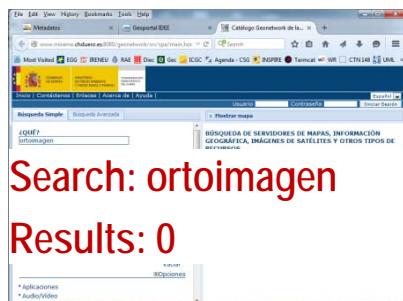
Tools and mechanisms to connect catalogues

# Implementation

## Useful

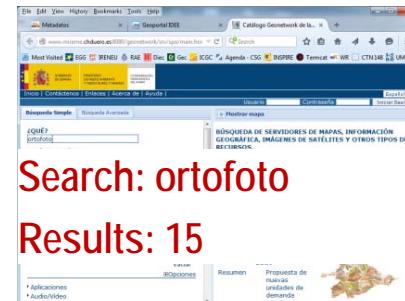
### To locate

- The minimum items required is not always enough
  - What > title, abstract, keywords
  - Where > bounding box, keywords
  - When > temporal extent, revision date, keywords
  - Who > point of contact, contact, distributor...
- Textual items require complex search engines (semantics multilingual aspects, orthographic mistakes...)



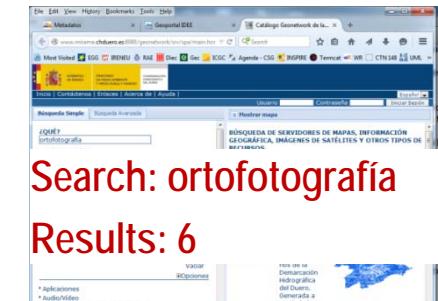
Search: ortoimagen

Results: 0



Search: ortofoto

Results: 15



Search: ortofotografía

Results: 6

# Implementation

## Useful

### To evaluate

- Lineage
  - Origin > statement
  - Sources > description, extension (spatial, temporal)
  - Process > description
- Goodness
  - Conformance results
  - Quantitative results
- Quantitative information should be displayed graphically and ready to be compared



# Implementation

# Useful

Búsqueda de Servicios de mapas, Información Geográfica y otro tipo de recursos.

## Información de Distribución

Nombre	SHP-ArcView ShapeFile
Versión	10.0
Nombre	ArcSDE sobre Oracle
<b>Distribuidor</b>	
Nombre de la organización	Fondo Español de Garantía Agraria (FEWA), Subdirección General de Ayudas Directas - Ministerio de Agricultura, Alimentación y Medio Ambiente (MAGRAMA)
Teléfono	(+34) 91 347 64 68
Fax	(+34) 91 347 64 65
Dirección	C/ Beneficencia nº 8
Ciudad	Madrid
Provincia (área administrativa)	Madrid
Código Postal	28004
País	España
Correo electrónico	<a href="mailto:sq.ayudasdirectas@feqa.es">sq.ayudasdirectas@feqa.es</a>
Rol	Distribuidor: Parte que distribuye el recurso.

## Opciones de transferencia

Enlace	Descripción del Servicio de SIGPAC: <a href="http://wms.magrama.es/wms/wms.aspx?Request=GetCapabilities">http://wms.magrama.es/wms/wms.aspx?Request=GetCapabilities</a>
Enlace	Visor SIGPAC nacional: <a href="http://sigpac.magrama.es/fea/visor">http://sigpac.magrama.es/fea/visor</a>
Enlace	Información del Ministerio sobre el Sistema de Información de Parcelas Agrícolas (SIGPAC): <a href="http://www.magrama.gob.es/es/agricultura/temas/sistema-de-informacion-geografica-de-parcelas-agricolas-sigpac">http://www.magrama.gob.es/es/agricultura/temas/sistema-de-informacion-geografica-de-parcelas-agricolas-sigpac</a>
Enlace	Información sobre el Visor SIGPAC: <a href="https://www.fega.es/PwfGcp/es/ayudas_dir_desa_rural/aplicacion_sipac/index.jsp">https://www.fega.es/PwfGcp/es/ayudas_dir_desa_rural/aplicacion_sipac/index.jsp</a>

# ISO 19119

## Metadata for a catalogue

Its implementation should be useful to:

- Provide information to identify the service and describe the service operations.
- Provide information about the data available from the service

Service metadata should be derived from service capabilities.

# Summary

- Discovery
  - There are metadata but the contents is not always enough to locate, evaluate or access the data.
- Evaluation
  - Lineage is relevant to know the age of the spatial data.
- Access
  - It's not possible to access directly the data from the metadata.

# Ongoing

- Location
  - Metadata and web searching engines
  - Simple / refined searches
  - Display results grouped / ordered
- Evaluation
  - Use of graphics to show metadata
  - Focus the attention on key elements
- Access
  - Link between data and services more relevant
  - Historical datasets

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