

# Metadata and ncISO services



1. Why metadata is important
2. THREDDS and metadata
3. NcISO services
4. Data discovery systems
5. The brokering approach

# 1.1 What's metadata



Yeah, is that boring thing about data...

## 1.2 What's metadata



Contact  
information



Access  
information



Spatial  
coverage



Time  
coverage



Access  
protocols



More...

# 1.3 We are data providers...

Catalog [http://localhost:8081/thredds/metadata\\_catalog.html](http://localhost:8081/thredds/metadata_catalog.html)

Dataset: photo

- *Data type:* IMAGE
- *ID:* photoSharing

Access:

1. **HTTPServer:** [/thredds/fileServer/testStandardTds/images/22.jpg](http://localhost:8081/thredds/fileServer/testStandardTds/images/22.jpg)

Viewers:

- [NetCDF-Java ToolsUI \(webstart\)](#)

Catalog [http://localhost:8081/thredds/metadata\\_catalog.html](http://localhost:8081/thredds/metadata_catalog.html)

Dataset: photo

- *Data format:* image/jpeg
- *Data size:* 29.0 Kbytes
- *Data type:* IMAGE
- *ID:* photoSharing

Documentation:

- **summary:** This is my staff picture taken few weeks after I started to work at UNIDATA
- **rights:** This image is distributed under creative commons license

Access:

1. **HTTPServer:** [/thredds/fileServer/testStandardTds/images/22.jpg](http://localhost:8081/thredds/fileServer/testStandardTds/images/22.jpg)

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Keywords:

- staff pictures

Projects:

- UNIDATA Training Workshop 2012

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Properties:

- category = "staff pictures"

Viewers:

- [NetCDF-Java ToolsUI \(webstart\)](#)

## 1.3 Enables data discovery



- **BETTER INTEROPERABILITY**
- **IMPROVES DATA EXCHANGE**

## 2.1 Default THREDDS metadata

- Access, spatial and time coverage....
- Unidata Data Discovery Conventions (UDDC)
- Get metadata from files (CF-conventions...)

## 2.2 Adding metadata to catalogs

- Metadata tags:
  - Documentation
  - metadata
  - property
  - ...
- Inheritance: `inherited="true"`

## 2.3 Minimal set of metadata?

- Depends on your needs

- UDDC recommendations:

<http://www.unidata.ucar.edu/software/netcdf-java/formats/DataDiscoveryAttConvention.html>



## 3.1 Why NcISO?

Translate TDS metadata into standard formats:

- ISO-19115**: Geographic information
- ISO-19115-2**: imagery and gridded data
- ISO-19119**: Geographic information services

## 3.2 What is NcISO?

- Developed by NGDC (National Geophysical Data Center)
- Not just translate into ISO:
  - NcML information of our datasets: ncml service
  - Assesses our metadata: UDDC service
  - ISO documents: ISO service

## 3.3 Enabling ncISO

- ThreddsConfig.xml:

```
<NCISO>  
  <ncmlAllow>true</ncmlAllow>  
  <uddcAllow>true</uddcAllow>  
  <isoAllow>true</isoAllow>  
</NCISO>
```

- ncISO for datasets:

```
<service name="ncml" serviceType="NCML" base="/thredds/ncml/" />  
<service name="uddc" serviceType="UDDC" base="/thredds/uddc/" />  
<service name="iso" serviceType="ISO" base="/thredds/iso/" />
```

## 3.4 ncISO demo (metadata tour)

*-NOAA NCDC NOMADS:*

\* <http://nomads.ncdc.noaa.gov/thredds/catalog.html>

*-NOAA Pacific Fisheries Environmental LabL:*

\* <http://oceanwatch.pfeg.noaa.gov/thredds/catalog.html>

*-USGS Woods Hole Science Center:*

\* <http://coast-enviro.er.usgs.gov/thredds/catalog.html>

*-UNIDATA IDD Real-time Archive:*

\* <http://motherlode.ucar.edu:8080/thredds/catalog.html>

## 3.5 ncISO exercise

1. Enable ncISO
2. Check your UDDC score
3. Add metadata and improve the UDDC score

## 4.1 GI-Cat, Geoportal

- Harvest metadata from thredds catalogs
- Enabling searches on TDS (brokers)
- Running instances:
  - EuroGeoss Broker:  
<http://www.eurogeoss-broker.eu/>
  - ESIP Discovery Cluster :  
<http://23.23.211.222:8080/geoportal/>

## 4.2 Issues harvesting metadata

- Tds instances don't provide too much metadata
- Crawl at dataset level. Don't harvest metadata at collection level.
- Provide access to datasets rather than to actual data

## 4.3 GI-Cat & Geoportal demo

Running instances:

\* EURO GEOSS (GI-Cat):

<http://www.eurogeoss-broker.eu/>

\* NGDC geoportal:

<http://www.ngdc.noaa.gov/geoportal/catalog/main/home.page>

\* ESIP Discovery Cluster:

<http://23.23.211.222:8080/geoportal/catalog/main/home.page>



[illegible]

## Sample Brokering Framework (from Earthcube Brokering Manifesto)

## 5.2 Examples

- \* CSW catalog
- \* OpenSearch