Developing the glue for a global geospatial data infrastructure

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GeoCat focus is on knowledge of specific parts of the SDI

Describe - Publish - Find
GeoCat focus is on knowledge of Open Source Software Development
Server software
Desktop or portable applications
It started in 2000 at

with initial support from:
A very comprehensive metadata editing and management system
The Basic Building Blocks

- ISO TC211 Standards

- OGC Standards
  (Open Geospatial Consortium)
The glue in a Spatial Data Infrastructure
How is it developed?
A Community Driven Project

GeoNetwork openSource

GeoNetwork is a catalog application to manage spatially referenced resources. It provides powerful metadata editing and search functions as well as an embedded interactive web map viewer. It is currently used in numerous Spatial Data Infrastructure initiatives across the world.

GeoNetwork has been developed to connect spatial information communities and their data using a modern architecture, which is at the same time powerful and low cost, based on the principles of Free and Open Source Software (FOSS) and International and Open Standards for services and protocols (a.o. from ISO/TC211 and OGC).

The software provides an easy to use web interface to search geospatial data across multiple catalogs, combine distributed map services in the embedded map viewer, publish geospatial data using the online metadata editing tools and optionally the embedded GeoServer map server. Administrators have the option to manage user and group accounts, configure the server through web based and desktop utilities and schedule metadata harvesting from other catalogs.

Main features

- Immediate search access to local and distributed geospatial catalogues
- Up- and downloading of data, graphics, documents, pdf files and any other content type
- An interactive Web Map Viewer to combine Web Map Services from distributed servers around the
800+ on English user list
200+ on French and 200+ on Spanish lists
400+ on developer list
50+ on committer list
10+ active developers
How do we collaborate?

- Community driven governance
  (proposal - discussion - voting - integration)
- Skype, Conference calls and Face-to-face meetings
- Work is split up in small packages
- Continuous contact between user and developer
- Commercial Support Contracts, Consulting, Development
What are the benefits

• Support common requirements
• Make testing and compliance easier
• Share cost
• Prevent vendor lock-in
• Fast innovation - we all participate
Sustainability through wide community support

http://www.osgeo.org
What is GeoNetwork?

GeoNetwork is an integral part of the spatial information infrastructure being developed by FAO which aims to improve access to and integrated use of spatial information to aid decision making for sustainable development among FAO member countries and stakeholders using the internet as an interoperable information exchange mechanism between UN Agencies, intergovernmental organizations and NGO’s.

GeoNetwork functionality

GeoNetwork allows individuals and organizations to work interactively and visually with FAO’s vast wealth of map and related information, making the earth’s geography a starting point for finding, retrieving and using information. This includes population density, infrastructure, administrative boundaries, land cover/use, soils, crop zones, water, fisheries and forest resources, livestock distribution, nutrition profiles and early warning information.

For more information please contact: GeoNetwork@fao.org
FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS

What? forest
Where?

AGGREGATE RESULTS MATCHING SEARCH CRITERIA: 1-10/97 (PAGE 1/10), SORT BY RELEVANCE

FOREST MAP OF KENYA

Abstract Expanding on the recently completed U.S. Geological Survey (USGS) global land cover characteristics database, USGS EROS Data Center is producing a global forest cover map for the United Nations Food ...

Keywords FORESTRY, FOREST RESOURCES, FOREST LAND, Kenya

HAITI, FOREST COVER

Abstract The map has been derived from the Global Forest Cover produced in 200 by FAO-Forest Resources Asseessment Programme. Four main forest classes have been identified: Closed, Open, Other wooded land and O
National INSPIRE Catalogs in Europe based on GeoNetwork OpenSource
Geodata-info.dk gør det muligt at søge og finde relevante geografiske data og tjenester med udgangspunkt i korte, beskrivende oplysninger - metadata.

**Søg efter geografiske data**

![Søgknobt]

**Genvej/Browse**

**Emnekategori**
- Landbrug
- Biota
- Grænser
- Klimatologi/Meteorologi/Atmosfære
- Økonomi
- Hjælpe
- Mitte
- Gevidenskabelig information
- Sundhed
- Billeder grundkort/Jorddekke
- Etternæring/Miljøer

**Dataanvendelse**
- Banedanmark
- By- og Landskabsstyrelser, Miljøministeriet
- DADI-datasets er en standardiseret reference
- Danmarks Miljøportal
- EMD International A/S
- Erhvervs- og Byggestyrelsen
- Fiskeridirektoratet
- Kommunerne
- Kort & Matricelstyre, Miljøministeriet
- Kulturavlsstyre
- Miljøcenter Åbybro, Miljøministeriet

**Nyheder**
Geodata-info.dk er blevet opdateret med nye søgemuligheder i den avancerede søgning, popupspås, printverktøj og præsentation af søgeresultaterne samt links til visning og download af metadata.

**Sidst opdateret**
- Danmarks Hjælmedei, DHM/Terræn
- Danmarks Hjælmedei
- DMI/Overskade
- Frederikshovse
- Beskyttede sten- og jorddiger
- Geodata-info.dk
Searching all content at National level
The Environment Canada (EC) Data Catalogue is a one stop solution for (1) describing, (2) publishing and (3) discovering EC datasets.

1. **Describe:** Data stewards create metadata within the catalogue to describe EC Datasets.

2. **Publish:** Data stewards publish EC datasets to the Data Catalogue tool (intranet) and external data portals (internet), such as Government of Canada Open Data Portal and GeoConnections Data Portal (Canadian Geospatial Data Infrastructure).

3. **Discover:** Stakeholders search the published datasets to discover and access EC data.

**EC Data Catalogue Benefits:**

- EC’s data assets are identified.
- EC’s data assets are preserved over time.
- EC’s datasets can be found and accessed in a timely manner.
- EC’s datasets can be easily published internally and externally, without having to maintain many copies of metadata on several portals.
- Canadians, scientists and other stakeholders can easily find and leverage EC datasets to their full potential – increasing the value and transparency of EC data!
DISCOVERING ONTARIO DATA

The Land Information Ontario (LIO) Metadata Management Tool will allow users to locate, assess and identify methods to access GIS data and information products, satellite imagery, applications and services and interactive maps. The metadata made available through this tool has been contributed by many organizations including Ontario ministries, municipalities and conservation authorities.

The Metadata Management Tool is powered by GeoNetwork open source. GeoNetwork's purpose is:

- To improve access to and integrated use of spatial data and information
- To support decision making
- To promote multidisciplinary approaches to sustainable development
- To enhance understanding of the benefits of geographic information

Featured map

"AQUATIC RESOURCE AREA SUMMARY LINE (SPATIAL VIEW)"

Description of the physical characteristics and fish species of lakes rivers or streams and links to more detailed external fish survey information for that waterbody. ARALINE is represented spatially...
What are we working on?
Development of version 3.0

- New administration User Interface
- New metadata editor User Interface
- New Search User Interface

Most of this is build upon existing functionality in v2.10!
Changing Architecture

Until v2.6

Server and Client

From v2.8

End user GUI
Editor GUI
Admin GUI
Server
New Administration UI
Based on Angular.js, D3 and Bootstrap
Administration console
Define schematron rules

![Schematron rules interface](image_url)
## Contact directory

This page is a section of a contact directory from a GeoNetwork catalogue. It shows the fields and details that can be managed and displayed in the directory. The fields include:

- **Name of the responsible organization**: Name of the responsible person, surname, given name, title separated by a delimiter.
- **Responsible party**:
  - Individual name
  - Organisation name
  - Position name
  - Function performed by the responsible party
- **Contact Information**
  - Contact
  - Phone
  - Telephone
    - Voice: Telephone number at which the organization or individual may be contacted.
    - Facsimile: Telephone number of a facsimile machine for the responsible organization or individual.
Virtual CSW configuration

New virtual CSW esw-datasets (capabilities)

Service description

Name:

csw-datasets

The virtual CSW name MUST start with csw-

Description:

CSW end-point for metadata with the category Datasets

A short description of this endpoint.

Filters

Full text

Title

Abstract

Keyword

denominator

Catalog

Category:

Datasets

Published in that group
Thesaurus management
System Status

My GeoNetwork catalogue  Admin console

Status
Information
Search statistics
Content statistics

System status

Csw GetCapabilities  OK
Database Connection  OK
Lucene Index  OK

Database status

dbPoolActive

dbPoolIdle

Powered by GeoNetwork opensource
Search statistics

The chart displays search statistics from 2013-09-02T16:00:06 to 2013-09-20T12:58:31. The chart shows the number of searches by day, with a breakdown of the type of services used for search.

The types of services used for search include:
- Internal search
- Search
- Selection
- Old search
- main.search.embedded
- metadata.edit
- metadata.show
- metadata.create.form
- csd-publication
- metadata.latest.updated
Content statistics

Records by category
Harvester configuration

My GeoNetwork catalogue  Admin console

Harvester

Filter
Demo (GeoNetwork protocol)
faø (GeoNetwork protocol)
sandre zonage (OGC Web Services)
test (OGC Web Services)

+ New harvester -

Update harvester faø

Identification

Node name
faø

The name describing the remote node.

Group

Only catalog administrator or user admin of this group will be able to manage this node.

Schedule

every
0 0 0 ? * *

Only one run
This harvester will run only once and not schedule in the future.

Configuration

dedonetworkhost
http://faø.org/geonetwork
dedonetworkhostHelp

Advanced options

Remote authentication

Privileges for harvested records

Public  Not published  Custom privileges
Metadata templates

Standards available

- Dublin Core - CSW
  Metadata records produced by CSW services.

- Dublin Core

- Federal Geographic Data Committee (FGDC)

- Geographic information - Methodology for feature cataloguing (ISO 19110:2005)

- Geographic information - Metadata (ISO 19115-DIS:2003)

- Geographic information - Metadata (ISO/TS 19139:2007)

- iso19139.napm
  iso19139.napm-help

Load templates for selected standards
Load samples for selected standards
# Metadata Schema Plugin

## Metadata Schema Operations

<table>
<thead>
<tr>
<th>Operation</th>
<th>Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter a name for the schema to be added</td>
<td></td>
</tr>
<tr>
<td>Source of schema zip archive:</td>
<td></td>
</tr>
<tr>
<td>Path to Schema Zip Archive</td>
<td></td>
</tr>
<tr>
<td>URL of Schema Zip Archive</td>
<td></td>
</tr>
<tr>
<td>UUID of local metadata record with GeoNetwork Metadata Schema Archive (URL) as online resource</td>
<td></td>
</tr>
</tbody>
</table>

[Add button]
http://metadata101.org

- A location to collect, develop and maintain metadata profiles
- Easy collaboration
- Github repository
- Versioning
- Permissive licensing to allow incorporation in open source and proprietary software
New Editor UI
Based on Angular.js, D3 and Bootstrap
Select a metadata template
Metadata editor
Select or add keywords

<table>
<thead>
<tr>
<th>Descriptive keywords</th>
<th>Add new keywords</th>
<th>Or select them in a thesaurus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Region</td>
<td></td>
</tr>
</tbody>
</table>
Select regions

Region

Netherlands  United Kingdom

+Add new keyword

Tanzania, United Rep of
United Arab Emirates

United Kingdom

United States of America
Bounding boxes
Add associated resources
Add a thumbnail
Validation of metadata
Set privileges
If you have ideas or needs, please join and help.

Our goal is for GeoNetwork to be the best geographic metadata catalog in the world.
Questions?

Jeroen Ticheler