



IMPETUS

The Geodata system for Benin and Morocco based on GeoNetwork opensource

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Current Situation

Data transfer to our partners is a special challenge:

IMPETUS manages and offers data

- Datasets generated within IMPETUS are transferred to a central storage
- Metadata records contain information about the data
- Search of the metadata catalogue and download of data available on the IMPETUS website (www.impetus.uni-koeln.de/en/data.html)

Conditions which have to be considered in Africa

- Access over internet often is not very feasible from Africa
- Low or no budget for specialized software
- Developing net infrastructure and faster internet connections may improve the conditions in the future
- Growing interest in implementing and maintaining geodata infrastructures

So the aim is

- To guarantee best possible access to the data especially for our project partners
- To provide user friendly software for data search and retrieval
- To facilitate our partners the integration of their own data
- To provide a solution towards a web based geodata infrastructure

The IMPETUS Solution

Start locally – but be ready for the internet:

Ensure local access to the IMPETUS data base

- Local storage of data and installation of software in several institution

Avoid costs and improve functionalities

- Based on open source software components

Future proof

- Server-client architecture and browser based interface facilitates future publishing over the internet
- Use of international standards for metadata (ISO 19115/19139)
- Geodata supply by OGC conformal web services

Easy selection of the data you need

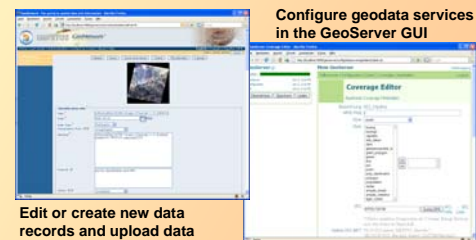
- Interactive choice of area for geographical search
- Search by keywords or categories

Browse the results of the search

- Metadata sheets show detailed information
- Geodata preview in interactive map viewer

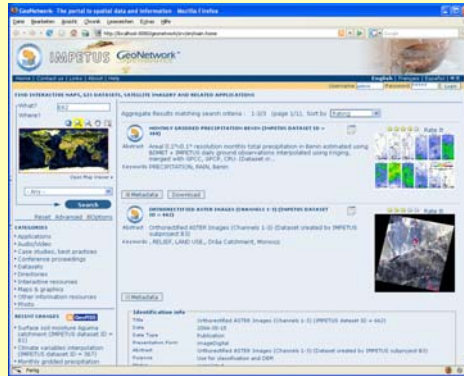
Work with the database

- Edit existing or create new metadata records
- Add real data for download or configure a geodata service
- Use the system locally, in the local network of your organisation or for publishing over the internet



Configure geodata services in the GeoServer GUI

Edit or create new data records and upload data



GeoNetwork opensource

With GeoNetwork opensource towards a spatial data infrastructure:

GeoNetwork opensource is a standards based catalog application to manage spatially referenced resources through the web (developed by FAO, WFP and UNEP).

The portal for data access and administration

- Metadata and data search and administration functionalities are implemented
- Map viewer provides geographical search and preview

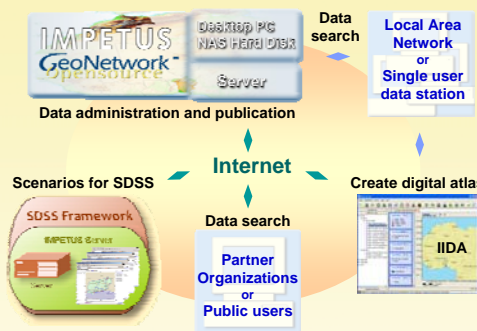
GeoNetwork is www-ready

- Designed as server, facilitates future publishing of data over the internet

Integration of GeoServer

- Component for serving spatial vector and raster data
- Graphic User Interfaces available for configuration of data stores and map layers

Further Development



From stand-alone solutions to integrated products – Linking the GeoNetwork, the SDSS Framework and the IMPETUS Atlas:

Data supply for SDSS

- Edit existing or create new metadata records
- Easy exchange via internet of predefined and calculated scenarios for existing Spatial Decision Support Systems
- Integration of the SDSS Framework and the IMPETUS Data Base Server constitutes a Spatial Decision Support Systems Server

Development and Integration of an Atlas Creator

- Selection of maps and data on IMPETUS Server for automatic creation of a digital atlas

IMPETUS Add-ons for GeoNetwork

Preparing the data and adding functionality:

Metadata Crosswalk – standard conformal metadata without need for typing:

- Metadata in standard ISO 19115/19139 XML format

Geodata supply in standard formats and projections

- Vector and raster geodata is stored in widely used formats: ESRI Shape File and GeoTiff
- Geodata can be converted between projected source reference systems (UTM, Lambert IMPETUS Morocco) and geographic coordinate system (WGS 84)

Easy installation process

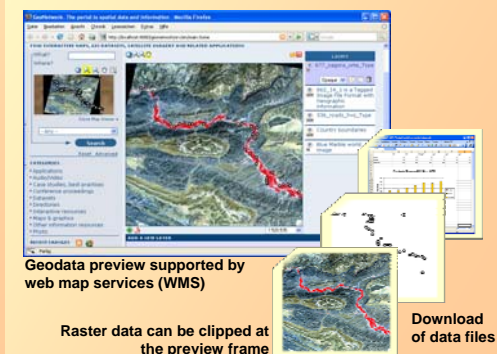
- The software components and data are transferred to a local computer as a 'out-of-the-box' product

Setup of Geodata Services

- IMPETUS geodata comes configured in GeoServer

Selection and download of raster data

- Clipping of large raster data sets at the map viewer frame



Geodata preview supported by web map services (WMS)

Raster data can be clipped at the preview frame

Download of data files

The IMPETUS Database

IMPETUS possesses heterogeneous datasets:

Available data types

- Vector geodata (ESRI Shape Files): basic map data and thematic layers
- Raster geodata (GeoTIFF): remote research results like land use classification, digital elevation models or modelling results
- Diverse tables, reports and documents (docs, xls, pdf, sdss, mdb, etc.): georeferenced through bounding boxes for geographical search

Metadata

- Metadata for description of all available dataset

The Installation Options

Installation follows the existing conditions in different organizations:

- Installation on a server, where the existing network allow integration and local IT staff provides maintenance
- Installation on a desktop PC, primarily intended to be used as stand-alone data station
- Installation on NAS hard disks for integration in local networks

Further Information

www.impetus.uni-koeln.de, www.geonetwork-opensource.org
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