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MAPS & LOCATION

CAPE TOWN SOUTH AFRICA  
FOSS4G 2008

# Introduction to Geoportal Management using Mapbender

—

**Orchestrating the Geospatial Concert**  
a FOSS and OGC compliant Geoportal Software

**FOSS4G Workshop**

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**<http://www.wherogroup.com>**

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<http://www.mapbender.org>

Main Page - MapbenderWiki - Mozilla Firefox

http://www.mapbender.org/Main\_Page

Getting Started Latest BBC Headli...

article discussion edit history

## Main Page

[Welcome und Willkommen to the Mapbender Project](#)  
 Mapbender is an [Open Source Geospatial Foundation](#) project and all about maps! Have a look at this [map application](#). You can zoom in, out, pan, click and query, turn layers on and off or add more maps. You can also add new points to the map with the flag button, all Mapbender operators are invited to do so. There are many different possibilities to make use of maps, see some more examples in the [Mapbender Gallery](#). Please observe that this software only shows and manages maps. The maps themselves come from many different [Map Services](#) all over the world.

  
 OSGeo Foundation Project

**News (Archive)**

- Mapbender is the OGC Website of the month
- Mapbender 2.5 rc3 released (2008-06-11) [download](#) [changelog](#)
- OpenLayers Integration prototype
- Mapbender 2.4.5 released (2008-04-07) [download](#) [changelog](#)
- Security Leak!** Take a look at [security issues](#) for instructions
- [Mapbender in der Literatur](#)

- Mapbender Gallery
- Download Mapbender
- SVN Source Code Repository
- Mapbender Mailing Lists and IRC
- Report errors; read How-to
- Licensed under GNU GPL


Mapbender is the software and portal site for geodata management of OGC OWS architectures. The software provides web technology for managing spatial data services implemented in PHP, JavaScript and XML and licensed under the [GNU GPL](#). It provides a data model and interfaces for displaying, navigating and querying OGC compliant map services. The Mapbender framework furthermore provides authentication and authorization services, OWS proxy functionality, management interfaces for user, group and service administration in WebGIS projects.



Mapbender InfoSheet | OSGeo.org - Mozilla Firefox

http://www.osgeo.org/mapbender

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 Your Open Source Compass

navigation
 

- Main Page
- Recent changes
- Help
- download
- Documentation
- Gallery
- Community

development
 

- Development
- Discussions
- Trac

search

toolbox
 

- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link

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OSGeo Foundation

- Home
- About the Foundation
- FAQ
- Sponsors
- Sponsor OSGeo
- Incubator
- Swag Store
- Contact

OSGeo Community

- Welcome
- News
- Events
- Wiki
- Mailing Lists
- Blogs
- Books
- IRC
- Service Providers
- Journal
- Sol Katz Award
- Local Chapters
- Spotlights

Language

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Home

## Mapbender InfoSheet

### Summary

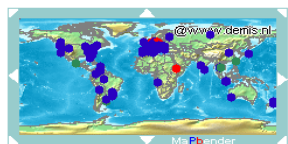
Home Page: <http://www.mapbender.org/>  
 Mailing List: [http://www.mapbender.org/index.php/Mapbender\\_Mailing\\_Lists](http://www.mapbender.org/index.php/Mapbender_Mailing_Lists)

### Description

Mapbender is the tip of the iceberg, a meta layer of software providing access to the OSGeo SDI stack.

The end-user interfaces are highly focused, only showing the required functionality, making is easy to use. At the same time, it is possible to create full-fledged interfaces with security proxying, digitizing, auto snapping and more.

Management interfaces empower administrators who need to maintain and

  
 Screen Shot



- ### OSGeo Projects
- Web Mapping
- deegree
  - Mapbender
  - MapBuilder
  - MapGuide Open Source
  - MapServer
  - OpenLayers
- Desktop Applications
- GRASS GIS
  - OSSIM
  - Quantum GIS
  - QGIS
  - Geoportal Utilities
  - FDL

<http://www.osgeo.org/mapbender>



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**Agenda**

- **Mapbender – More than just a viewer**
- Community building in Free and Open Source Software - how the Mapbender community developed
- Best practice Examples
- The WhereGroup



## Mapbender Snapshot

### Mapbender

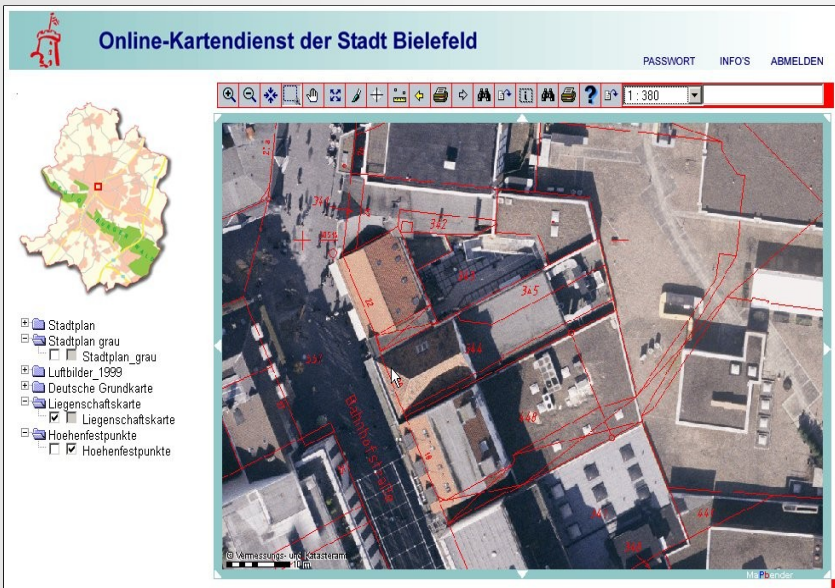
- is a framework to deploy OGC compliant Geoportals (OGC WMS, WFS, WMC, KML, GML) – implemented in php
- Provides interfaces to manage, bind and orchestrate web map and feature services
- includes user and service management and combines them into manageable user interfaces
- represents a typical workflow: create user account, create user application, build map service catalogs, populate with maps, grant user access to interface, add interactive elements, secure the infrastructure

**Mapbender is a framework to make data more available for internal power users or to the public to make government more efficient. It is a communication medium in the information society using the web.**

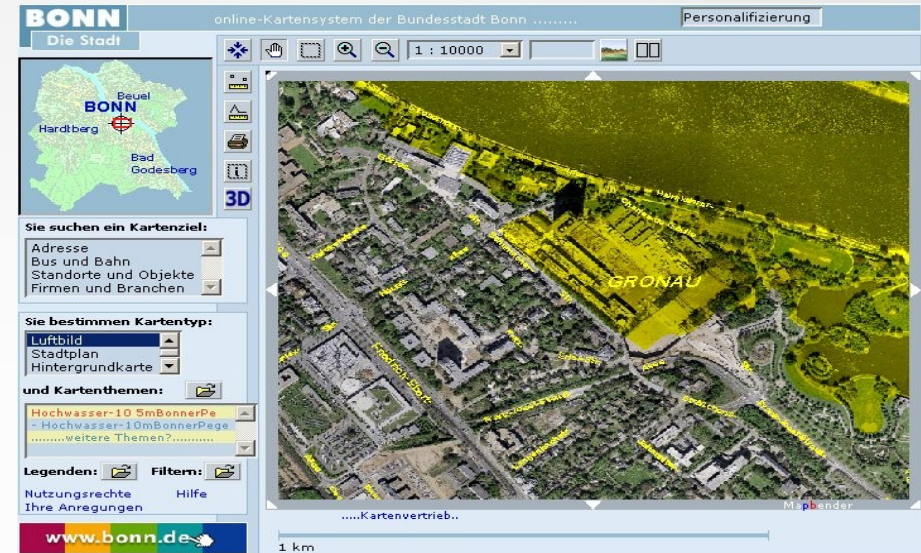




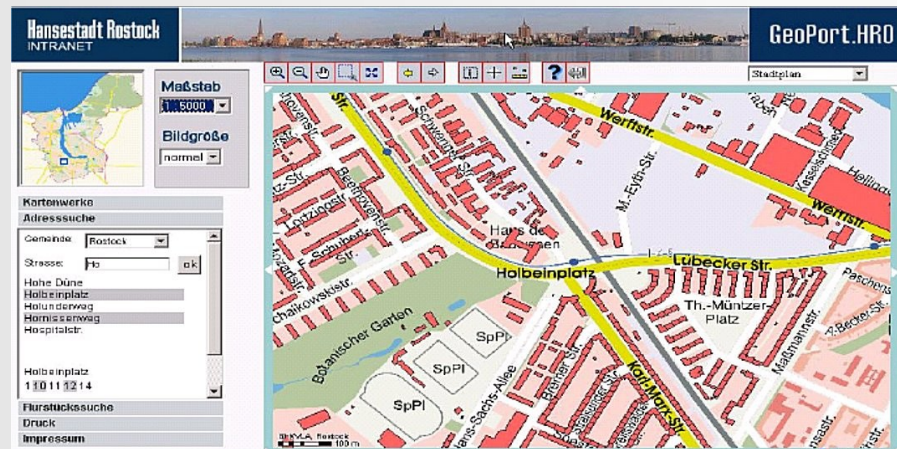
# Mapbender Snapshots – City Map Services



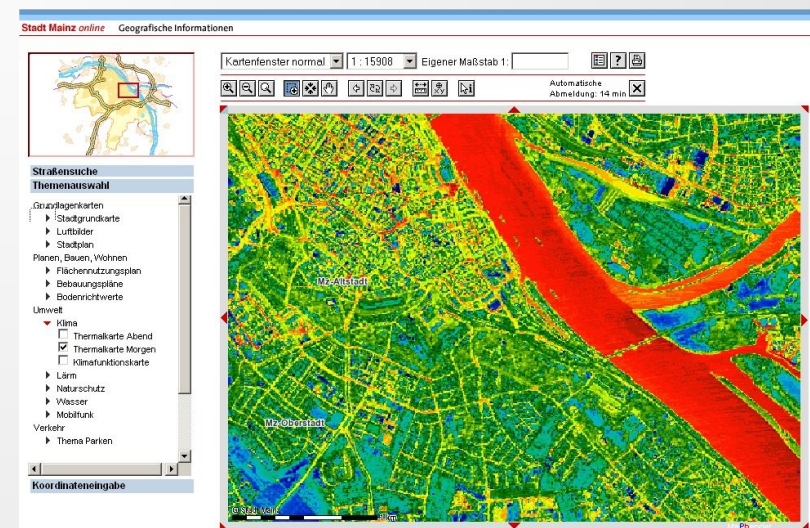
Online Map Service Bielefeld



SDI Bonn



GeoPort Rostock

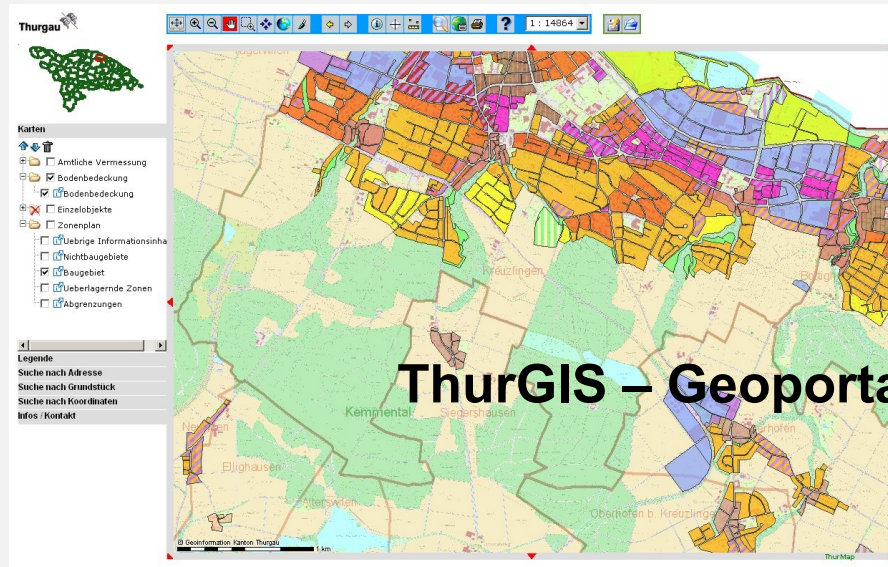


City Map Portal Mainz



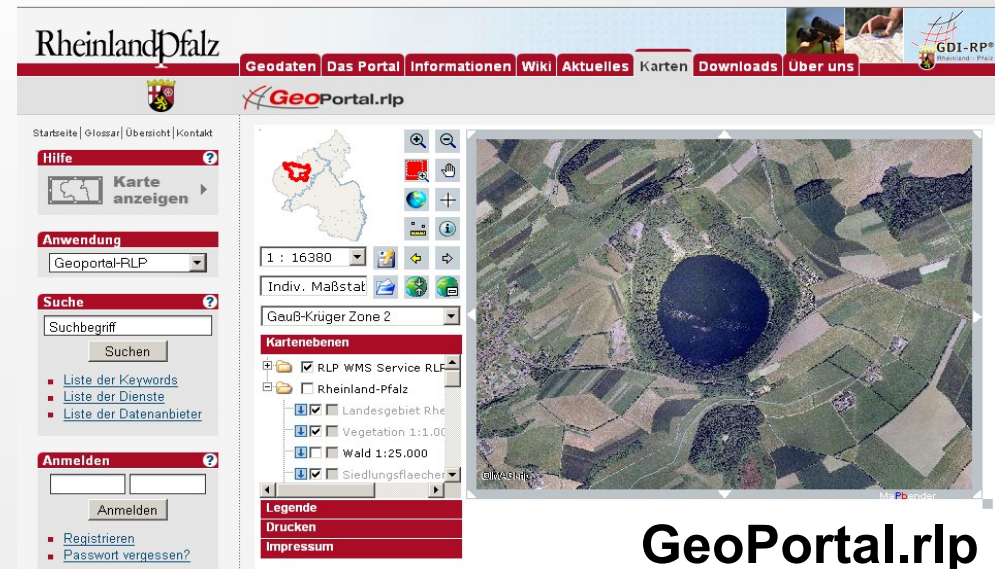
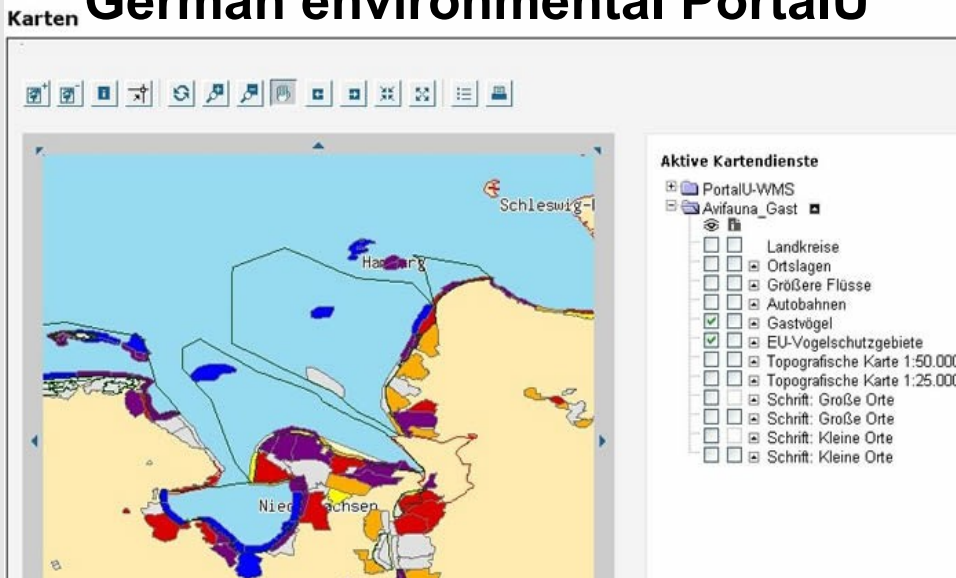


# Mapbender Snapshots - Geoportals



ThurGIS – Geoportal Canton Thurgau

## German environmental PortalU



GeoPortal.rlp





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# Mapbender Snapshots

Find many more on <http://www.mapbender.org/Gallery>

## Tourenplaner Rheinland-Pfalz

Rheinland-Pfalz  
Eine Initiative des Ministeriums für Wirtschaft, Verkehr, Landwirtschaft und Weinbau des Landes Rheinland-Pfalz

Startseite Radfernwege Themenrouten Eigene Route Darstellung Hilfe

Radfernwege

- Ahr-Radweg**  
Von der Landesgrenze zu Nordrhein-Westfalen nach Remagen-Kripp
- Kyll-Radweg**  
Von der Quelle am Losheimer Graben nach Trier
- Lahn-Radweg**  
Von der Landesgrenze bei Diez/Aull nach Lahnstein
- Mosel-Radweg**  
Von der Landesgrenze bei Perl nach Koblenz
- Nahe-Radweg**  
Von der Landesgrenze zum Saarland nach Bingen
- Rhein-Radweg**  
Von Mainz zur Landesgrenze nach

## FIONA online subsidies

FIONA - Flächeninformation und Online-Antrag

Ministerium für Ernährung und Ländlichen Raum Baden-Württemberg

Flurstück

FlurID: 080256-000-00982/1  
FLIK: DEBWLI025600MMW  
Katasterfläche [ha]: 0.4779 (ALB)

Eigene Flächen

Objekttyp: Landw. Nutzfl.  
Bemerkung: IDABC OSOR  
Erfassungsdatum: 26.06.2008 22:53  
Fläche [ha]: 0.3881

Gemeinde: Schöntal

Gemarkung: Aschhausen

Antragsdaten Vorjahr  
Schlag: NC bean. Fläche

HNODC

Details

Cruise-id: F135196716221000  
number of stations: 22  
Param-code: PRES PSAL TEMP  
start: 2067-08-21  
end: 2067-09-11  
geo. coverage: West=E023 27.48  
East=E027 58.98  
North=N36 28.02  
South=N33 22.02  
chief: Henri LACOMBE  
ship-name: JEAN CHARCOT  
code-conf: P  
download data: [download](#)

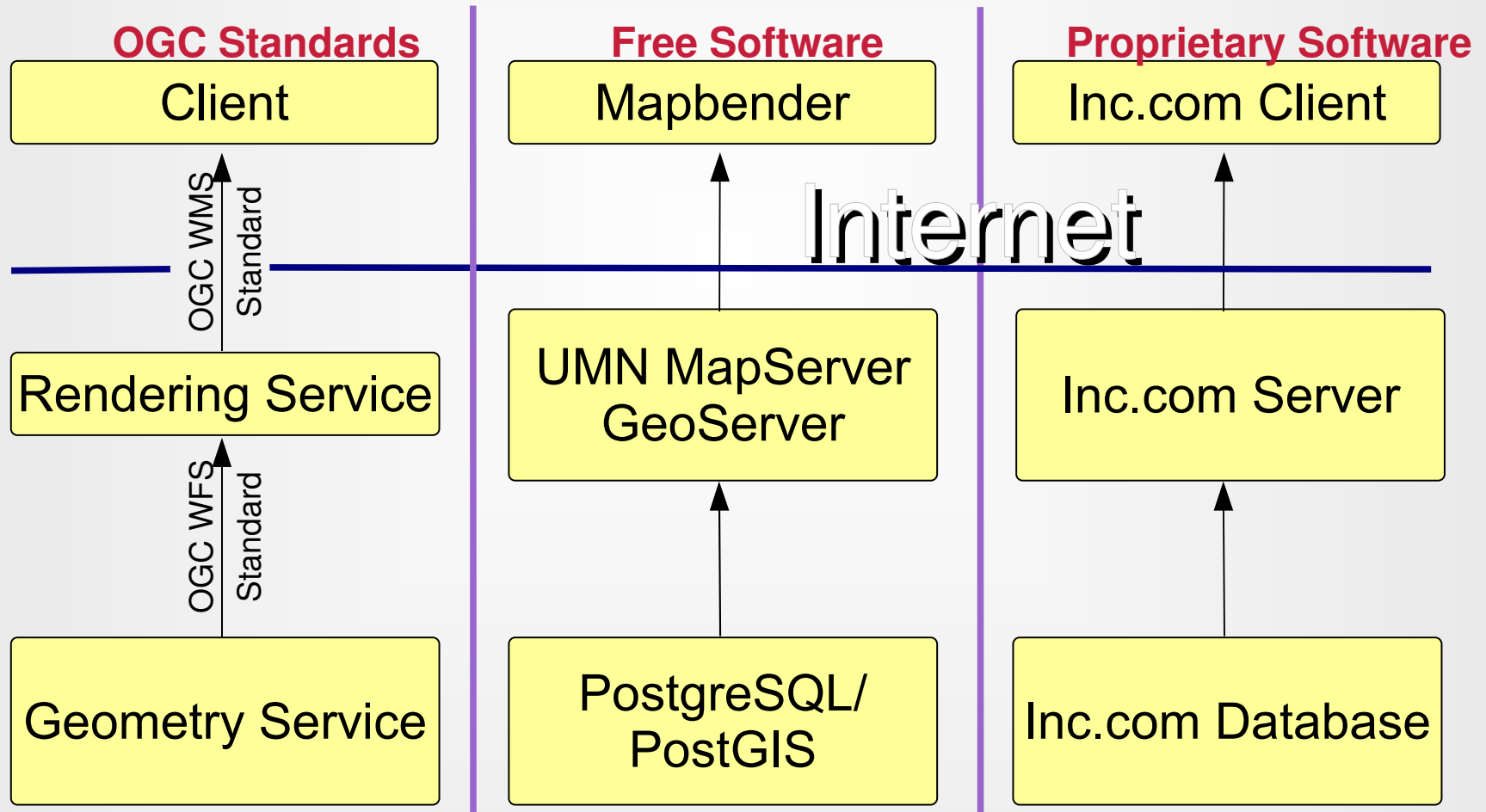
Search results

ID	Name	Number of Stations	Start	End
F126191091091000	undefined	67	2010-04-28	2010-09-11
F135195505061000	undefined	116	2055-07-11	2055-08-27
F135195605071000	undefined	72	2056-09-21	2056-10-24
F135196600151000	undefined	154	2066-02-02	2066-03-15
F135196716221000	undefined	66	2066-09-07	2066-10-10
F135196716221000	undefined	22	2067-08-21	2067-09-11

## Oceanographic information Portal HCMR



# OGC compliant SDI







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## Agenda

- Mapbender – More than just a viewer
- **Community building in Free and Open Source Software - how the Mapbender community developed**
- Best practice Examples
- The WhereGroup



## Mapbender history - the software perspective

- 2001: development of the CCGIS Client Suite, WMS Client optimised for proprietary WMS software
- 2002/2003: reengineering of the CCGIS Client Suite, renaming to Mapbender and licensing under the GNU GPL
- 2003: registration of Mapbender at sourceforge.net
- 2005: introduction of a CVS at sourceforge.net
- 2006: Foundation of OSGeo
- 2006: Mapbender enters the incubation process and becomes the first graduated OSGeo Project
- 2006-2008: three developer sprints (for 2008 integration with OpenLayers)



## Mapbender history - the business perspective

- 2001: some customers use the CCGIS Client Suite
- 2002/2003:
  - early adopters are starting to use Mapbender: Cities of Bielefeld, Bonn, Wesseling, Remscheid
  - beginning of the user-community building, but still: only a few users, no external developers

**Uncertainty and lack of information on the concepts of**

**Free Software and FOSS business models.**





## Mapbender history - the business perspective

- 2003 – 2005: slowly acceptance of the software on a broader scale
  - what helped: sticking to OpenGIS standards, the web, new challenges for the geospatial web (geoGovernment)
  - „development chains“: City of Mainz – FLOrlp – Fiona - Geoportal.RLP
- more and more interest from other companies and external developers
  - PortalU
  - ISTE (Extractive Industry Association)



## Mapbender history - financial aspects

- No external funding
- investment by the company CCGIS
- financing of the software and module development through projects
- generic development is harder to fund (but: high RoI, high transfer potential)
- OSGeo operates development platform
- Google summer of code (two projects for three months)
- planned: OSGeo Project Sponsorship Program
- planned (2): get in contact with OSOR



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# Good Practice Example

## GeoPortal.rlp – part of GDI-DE

(OGC website of the month - <http://www.opengeospatial.org> -> Newsletter)

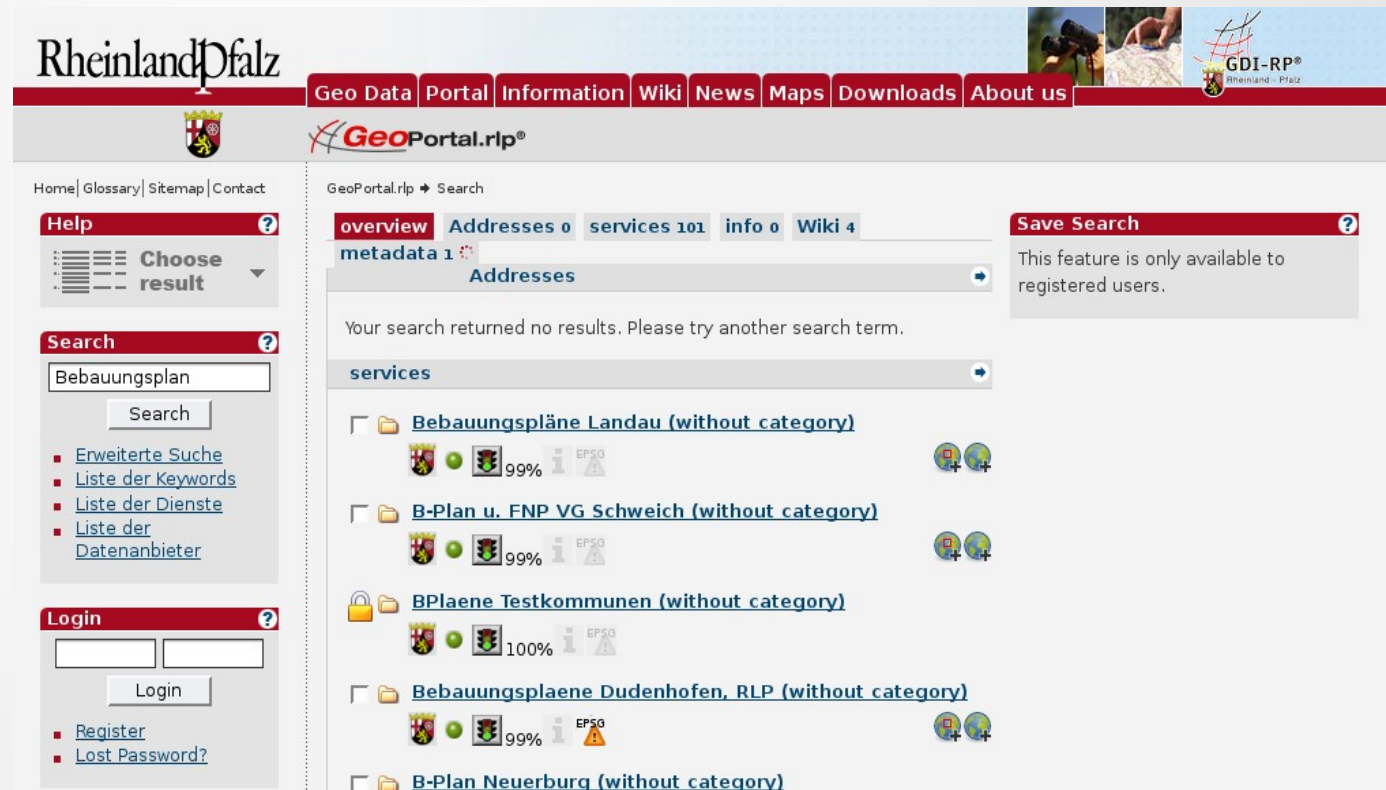
The screenshot shows the GeoPortal.rlp website interface. At the top, there is a navigation bar with links for Geo Data, Portal, Information, Wiki, News, Maps, Downloads, and About us. Below the navigation bar, the website title 'GeoPortal.rlp' is displayed. The main content area features a large image of a soccer ball with the text 'GeoPortal.rlp' overlaid. To the left of the main content, there is a search bar and a login section. To the right, there is a news section with several articles, including 'Extension of the GeoPortal.rlp will be activated' and 'Draft of the INSPIRE implementation instructions for meta data'.

The spatial portal site GeoPortal.rlp (<http://www.geoportal.rlp.de/>) is designed to act as a broker between users and providers of spatial information and geo-related services. With more than 2000 layers from 70 OGC WMS services it is a perfect example of an interoperable service architecture and a living example of the emerging INSPIRE directive.

## Example - GeoPortal.rlp

GeoPortal.rlp offers the opportunity for federal state agencies, municipal authorities and private companies to present their data and services. Online-access to the distributed data sources of each geospatial product- and service-provider ensures that information made available by these institutions on a joint platform is as up-to-date as possible.

Instead of users having to copy the data, links to the original sources enable them to have direct access. This metadata is managed by the providers themselves using the multi-client-capable administrative framework implemented by Mapbender.



The screenshot displays the GeoPortal.rlp website for Rheinland-Pfalz. The top navigation bar includes links for Geo Data, Portal, Information, Wiki, News, Maps, Downloads, and About us. The main content area shows a search for 'Bebauungsplan' with no results. The search results are categorized under 'services' and include several planning documents with metadata such as 'Bebauungspläne Landau (without category)', 'B-Plan u. FNP VG Schweich (without category)', 'BPlaene Testkommunen (without category)', 'Bebauungsplaene Dudenhofen, RLP (without category)', and 'B-Plan Neuerburg (without category)'. The interface also features a 'Save Search' button and a 'Help' section.





# Good Practice Examples

The screenshot displays the GeoPortal.rlp website interface. At the top, there is a navigation bar with links: Geodaten, Das Portal, Informationen, Wiki, Aktuelles, Karten, Downloads, Über uns, and a logo for GDI-RP Rheinland-Pfalz. Below this is the 'GeoPortal.rlp' logo and a search bar. The main content area features a map of Rheinland-Pfalz with various GIS layers overlaid. The layers are listed in a sidebar under 'Kartenebenen':

- RLP\_LUFTBILD (DOP40)
- RLP\_RELIEF
- RLP\_UEBERSICHT
- B-Plan u. FNP VG Schwe

The map interface includes a scale of 1:76781, a coordinate system of Gauß-Krüger Z.2 (31466), and a legend. The map shows a detailed view of a region with various colored overlays representing different data layers. The interface also includes a search bar, a help section, and a login section.

GeoPortal.rlp is designed to provide information about geospatial data and the data owners, as well as offering integrated functionality for use in standard GIS viewers and in specific applications.





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## The WhereGroup

- The WhereGroup was founded January 2007 as merger of the companies CCGIS, KARTA.GO GmbH and Geo-Consortium
- app. 22 staff (Geographers, Informatics, Geodesists, Geoinformatic scientist)
- service provider in WebGIS, SDI, cadastral information, databases with Free Software
- Know-How transfer through: training, workshops, information events, conferences
- Principal Member of the OGC
- OSGeo Board of Director and Charter members
- OSGeo Sponsor
- fosterer of Mapbender



**Mapbender**



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## WhereGroup Services

- **Consulting**
  - System analysis
  - Requirements and Specifications analysis
  - Architecture Design
- **Project Management**
- **Implementations**
  - Application design
  - Application development
  - Data administration
- **Training, maintenance, Support**





## Some closing thoughts

- If you are interested in using Free and Open Source Software, do a proper research of existing software (OSGeo, OSOR, FreeGIS.org etc.)
- contact your colleagues, get information from other users
- „not invented here“: before starting a new project, check the possibilities supporting, joining and participating in other projects (language, sustainability)
- roles in Free Software projects: users and developers
- join forces to finance modules, participate in the community and use the transfer potential of Free Software





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**Now we really start...** (turn page)

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**Now on to the real stuff! Lets do some hands on practical work. All the rest is available online, please follow this link:**

**<http://www.mapbender.org/FOSS4G> 2008 Workshop**

- \* create web mapping interfaces;
- \* upload remote OGC WMS services (Capabilities caching);
- \* combine uploaded WMS services for overlay, editing layer visibility, order, format, caption;
- \* edit and extend service meta data (ISO profile) based on Capabilities document;
- \* upload and configure WFS services to search, find and highlight geo objects;
- \* bind transactional WFS with WMS service to enable online digitizing;
- \* create users, groups and grant access to services and modules;
- \* restrict user access with the OWS security proxy module via trusted servers and encrypted protocols;
- \* monitoring, status notification and auto-update service for remote OGC services;
- \* interface fine tuning;
- \* customize modules;
- \* add new functionality.