REDD+ compatible National Forest Inventory in Mongolia

Proposal on establishment of online M&I and NFI databases.

Dr. Markus Weidenbach,
ÖBF – Austrian Federal Forest Agency and
landConsult.de, Bureau for Geographic Information
Management, Environmental Planning and Consulting,
Germany.

Status Quo

NFI Database completed in MS Access Format (some technical editing is still needed)

M/I Database and Geodata available from FRDC (shape and dbf format with up-to-date and historical forest management inventory data)

Other public and forestry relevant data is being hosted on external servers such as the Environmental Information Centre (EIC), Google or BING server, Open Street Map community and others.

Skilled GIS staff working at FRDC and the GIZ office

A Windows 2012 R2 Server is installed locally at the FRDC and accessible via Remote Control (but yet not visible on the Internet)

The National Data Centre and the Environmental Information Centre are possible locations to host an Internet Server with the Forest Atlas and the Online Database

Planning Phase (completed and ongoing)

Conceiving the technical and administrational system structure, this includes the definition of

- Target groups to be adressed

- Data provider, data standards and accuracy (metadata base)

- Scales and projections to be used

- Data accessibility and licensing, depending on service, such as Web Mapping (WMS) and/or Web Feature Service (WFS) or others.

- System location and mid- to long-term operation and maintenance.

Selection of innovative, flexible, cost-effective and powerful technical system components with a long life duration (open source based on international data and software standards).

Concept of a DB driven WebGIS

Web Users

Mobile Users

GIS Users

GIS Servers

Authors

Web GIS

Source: esri.com

Implementation Phase 1 (completed)

Assessing and installing necessary IT infrastaructure:

- Set-up remote access to Server at FRDC using Teamviewer Software to provide remote support

- Installation of Open Source software on the Server and on the PCs of the responsible staff: PostgreSQL Database, PostGIS spatial db extension, QGIS Desktop, QGIS Mapserver and QGIS WebClient.

- Optimizing the system environment for the GIS support from GIZ office: a standardised folder and file structure for the geodata is necessary to publish geoinformation in a very effective and fast way (separate HDD inside the LAN with Forest Atlas geoinformation)

Installing first operational Forest Atlas on http://www.lcgis.de

GIS-Browser - Forest Atlas Demo
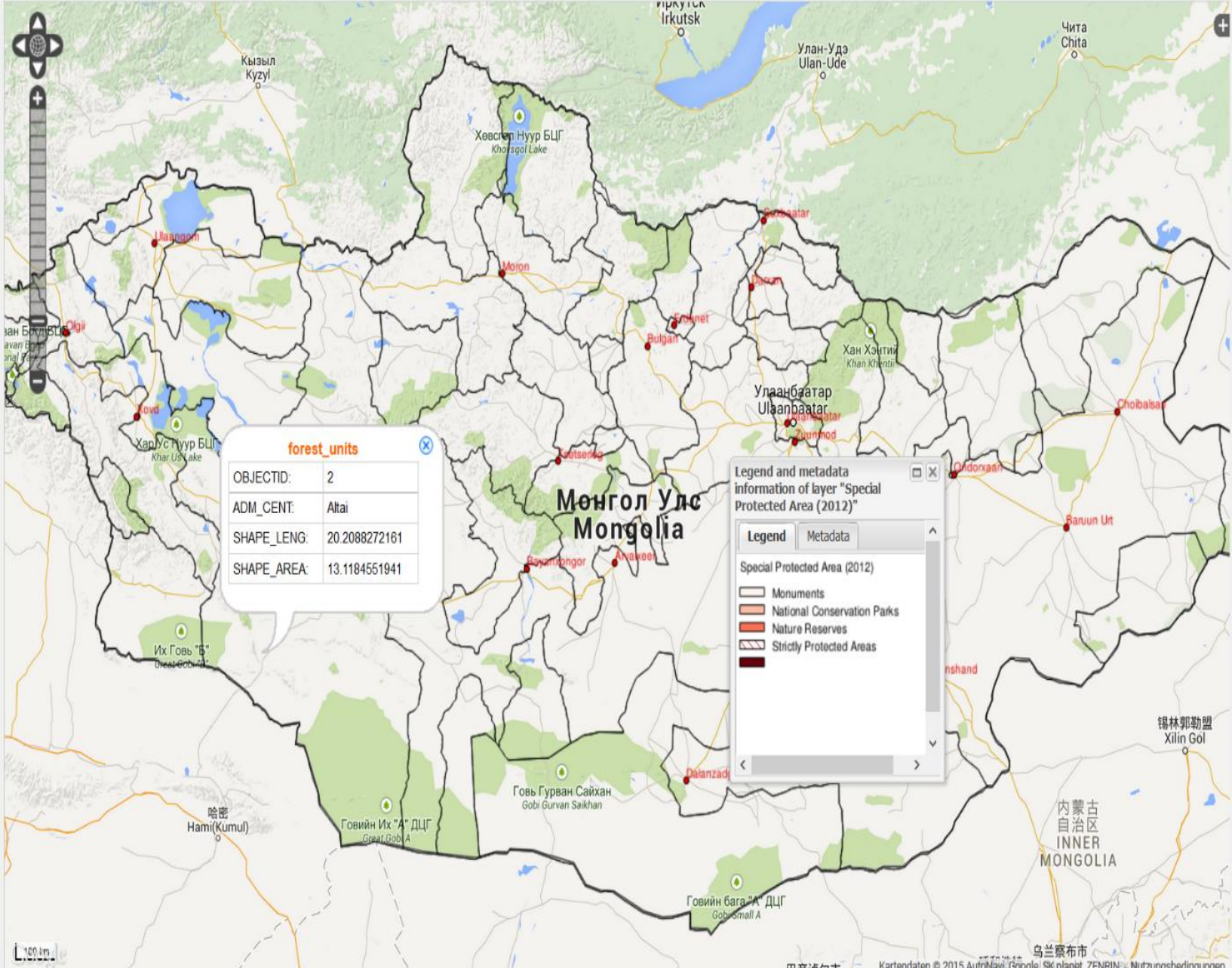
Info and Tools

Map themes

Search

Map

Map Layers

- Forest Atlas Demo
  - ☑ aimagcenter
  - ☐ forest_units_center
  - ☐ ramsar_sites
  - ☐ soumcenter
  - ☐ mainroad
  - ☐ rivers
  - ☐ minorroad
  - ☐ railway
  - ☑ statebnd
  - ☐ waterbasin
  - ☐ big_lakes
  - ☐ forest
  - ☑ forest_units
  - ☐ Special Protected Area (2012)
  - ☐ aimagbnd
  - ☐ soumbnd
- Background Layers
  - ☐ Google Satellite
  - ☑ Google Map

Layer order

Object identification: Active Layer

forest_units

OBJECTID:	2
ADM_CENT:	Altai
SHAPE_LENG:	20.2088272161
SHAPE_AREA:	13.1184551941

Legend and metadata information of layer "Special Protected Area (2012)"

Legend | Metadata

Special Protected Area (2012)

- Monuments
- National Conservation Parks
- Nature Reserves
- Strictly Protected Areas

Mode: object identification. Move the mouse over an object to identify it, click it to view its attribute data.

Coordinate: 12194107,6216826   1:   9244649

Kartendaten © 2015 AutoNavi, Google, SK planet, ZENRIN · Nutzungsbedingungen

Implementation Phase 2 (started)

Developing the Structure of the NFI Database for Online Publication:

- Technical revision of existing MS Access DB structure

- Transforming MS Access DB to PostgreSQL

- Define Forest Parameters to be generated from the DB

- Query the Postgres DB to obtain the required information

- Present results in Forest Atlas for pre-defined Forest Regions

- Develop webpage to query and present results in tables and forms

Move the database server to its final destination and connect it to the Internet. Configure the map server, the web server and the db server for the Internet and the remote support from GIZ office and FRDC department.

Implementation Phase 3 (starting in due time)

Further Development of M/I database and Forest Atlas functionalities

- Implement search function

- Enable thematic selections

- Create user specific projects

- Translate user interface into Mongolian language.

Training of potential system users and administrators in applying the Forest Atlas and using the Webmapping Service for QGIS Desktop.

Development of Forest Atlas App with outdoor navigation for tablets, laptops and smartphones (if required).

Thank you for your attention!

Questions and Remarks?

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Bldg. of National Agency for Meteorology and Environment Monitoring
Juulchnii gudamj-5
P.O.B. 1264,
Ulaanbaatar 14251,
Mongolia

T   +49 61 96 79-0
F   +49 61 96 79-1115

E   Klaus.Schmidt-Corsitto@giz.de
I   www.giz.de

Author
Dr. Markus Weidenbach
office@landconsult.eu
http://www.landconsult.de

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Dr. Markus Weidenbach

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