

From Data to Decision Making

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The National Land Survey of Iceland

- Established in 1956
- Governmental institute under the Ministry for the Environment and Natural Resources
- Main roles: Spatial Data Infrastructure (INSPIRE), Geodesy, Spatial Data, and Remote Sensing
- 25 employees
- Located in Akranes, 45 km North of Reykjavík



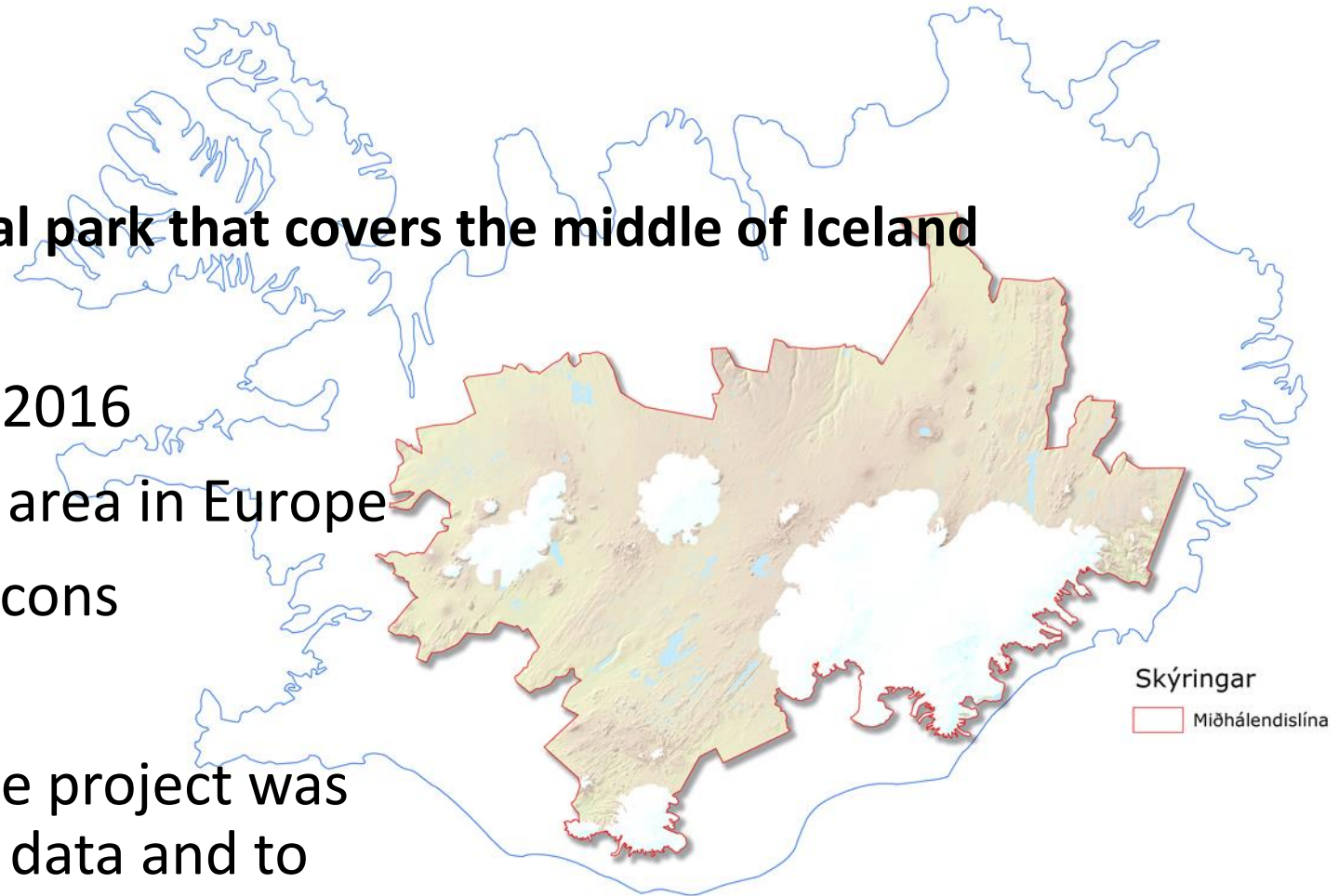
New users that are not involved in GIS

- Different lingo
 - Why are transport lines for cars not just called roads?
 - Why are buildings not just called houses?
 - End users are all kinds of people
- Visualize view of layers
 - Don't think of overlays or intersects
 - Have no problems with clicking on objects to get further info
- Why not just lat/lon? Like my GPS
 - Different coordinate systems confuse people
 - Difficult to have different formats of lat/lon
 - (DDD° MM' SS.S") (DDD° MM.MMM') and (DDD.DDDDD°)

The project

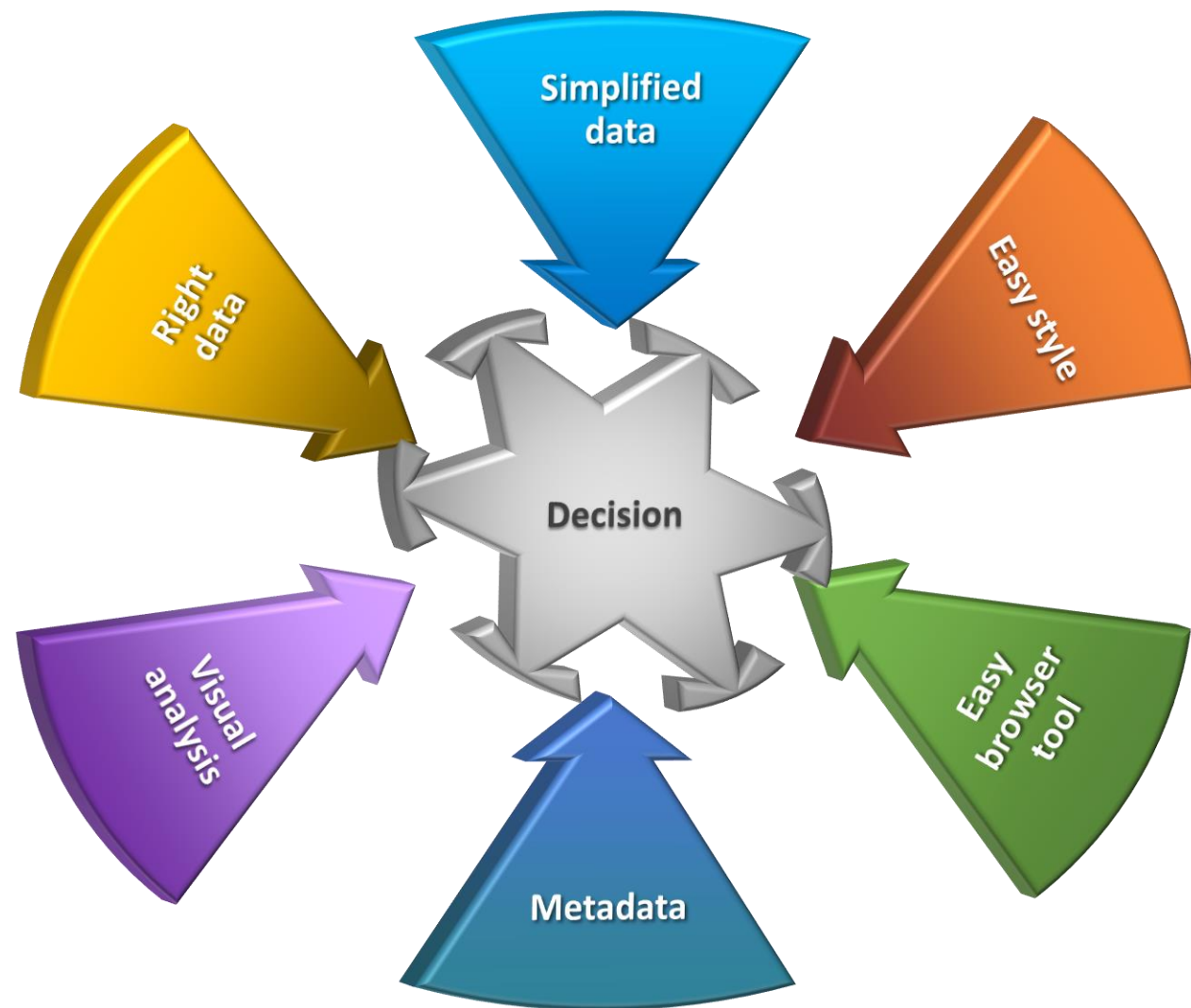
Validation for a National park that covers the middle of Iceland

- 40% of Iceland
- Timeframe Sep-Dec 2016
- Biggest uninhabited area in Europe
- Evaluating pros and cons
- Our contribute to the project was the collecting of GIS data and to make it available

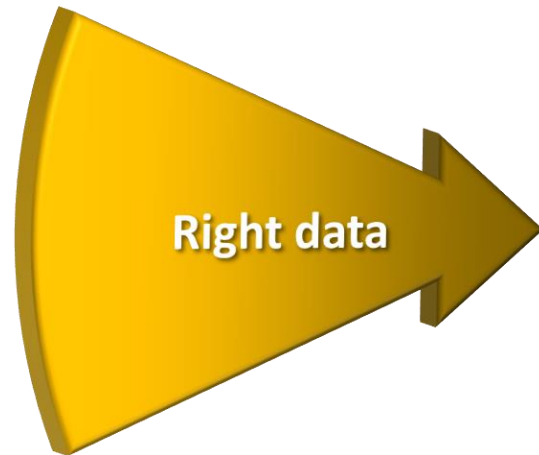


How can a politician make a decision with map data?

- Bring out the right data
- Simplify data
- Easy readable styles
- Easy useable Browser tool
- “To the point” metadata
- Visual Analysis

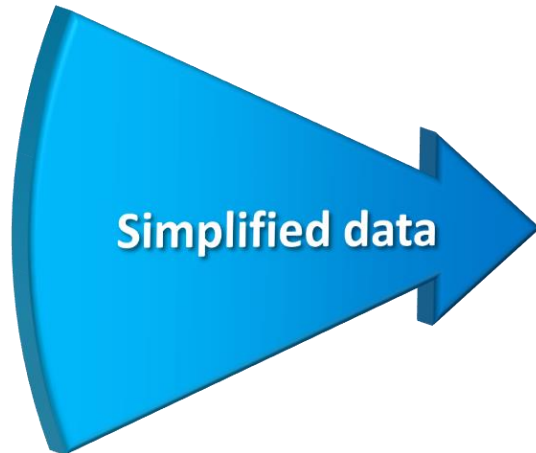


Bring out the right data



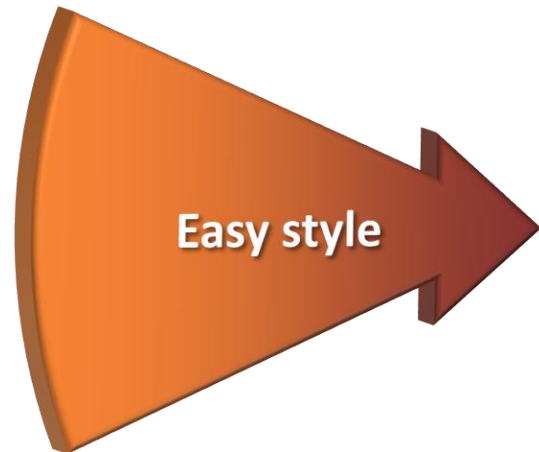
- Define the data to be used
- Find the data
- Get permission to use the data
 - Restricted access
- Convince people that other users really can use their data

Help the user and data providers



- Different formats
 - From text format to WMS services
- Different projections
- We installed 74 map layers from
 - 14 institutions
 - 2 ministries
 - 1 public organization
 - 1 private company
- Data was installed in PostGIS
- Access through web services

Readable data



- Most data without style
- Data put on server needed style
- As simple styles as possible
- Styles are accessible in the browser tool

- Did not cut the data but mask outlined the working area

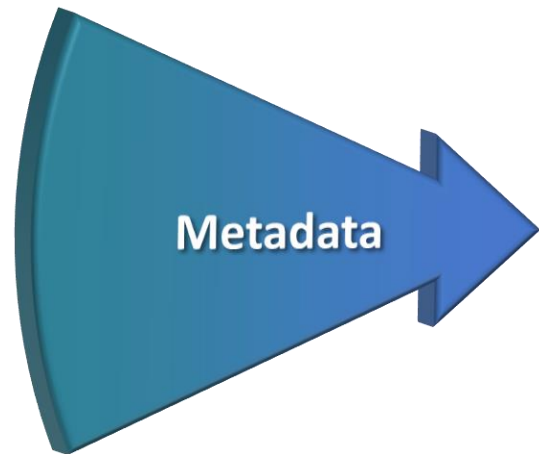
Use of data



- Easy-to-use tool
- Browser based

- Oskari from the National Land Survey of Finland

Know what data you are working with



- Metadata is important
- Getting metadata is time-consuming as data providers often do not have the necessary information
- Easy access to metadata is important
- It is important to have metadata in plain and easily understood phrases
- Attribute data

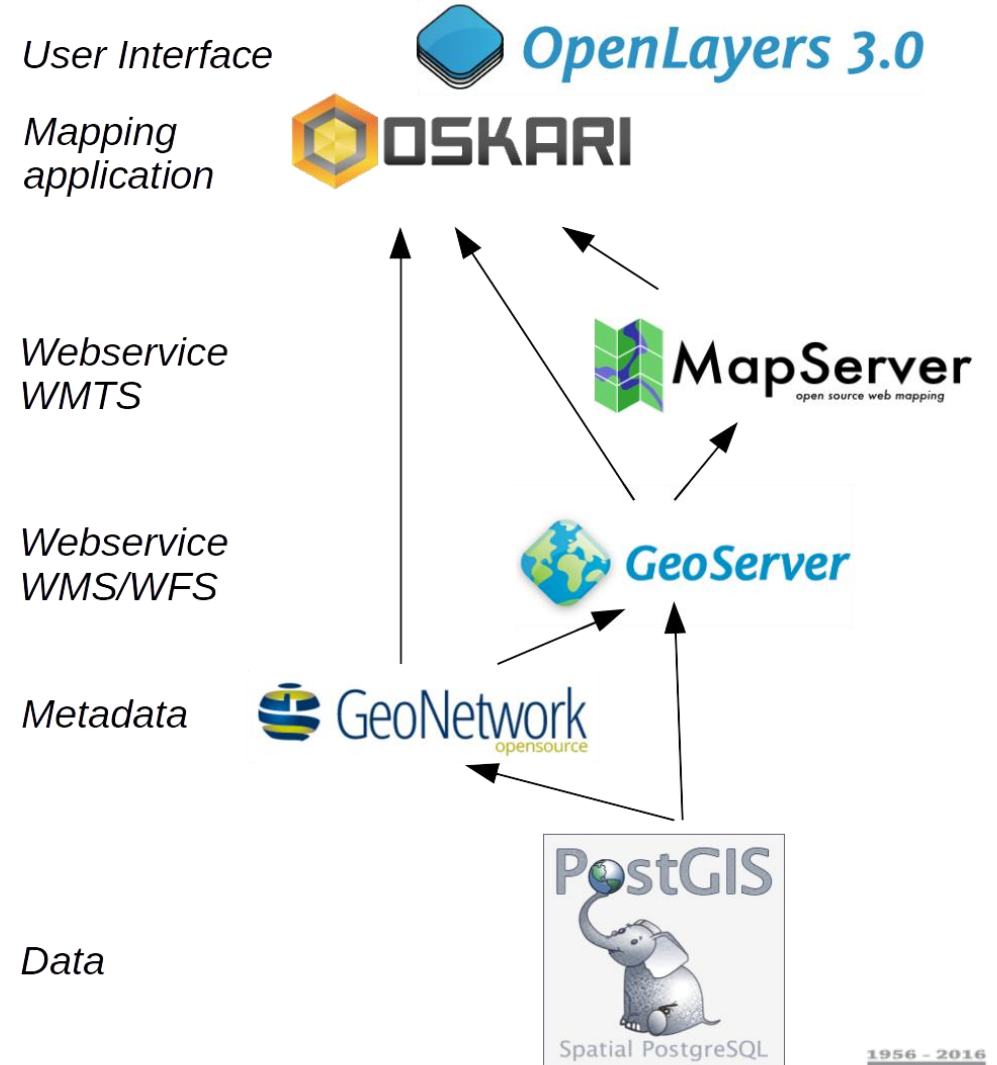
Use of data



- Users can
 - View many map layers simultaneously
 - Make data transparent
 - In some cases choose between styles
 - Change order of map layers
 - Choose different base maps
- Get information from map (attribute data)

GeoPortal beta version

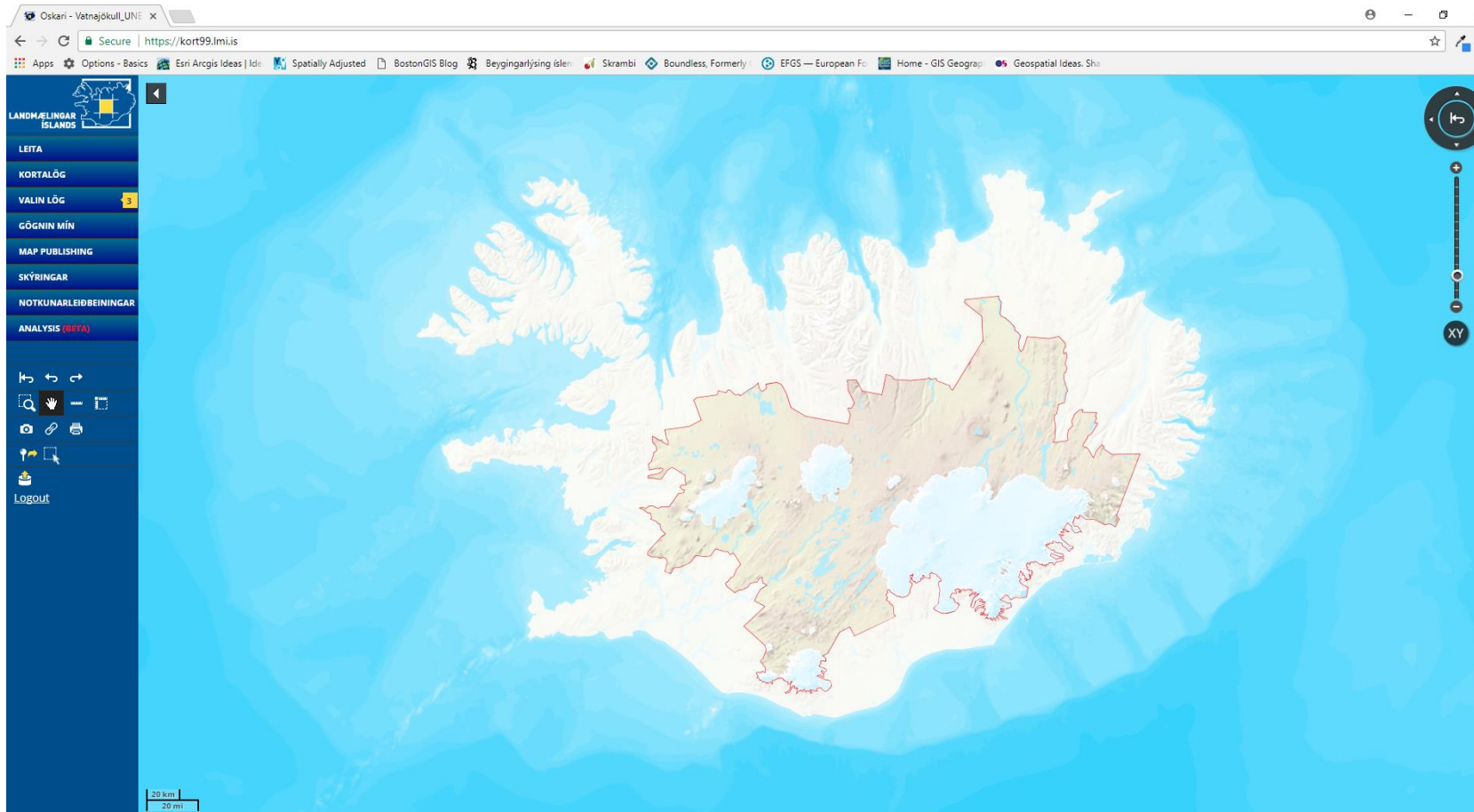
- All data in PostGIS
- Metadata served by GeoNetwork
- Webservice WMS/WFS by GeoServer
- Webcache WMTS via MapCache
- Mapping through Oskari
- User interface (openlayers) through Oskari



Why Oskari?

- Oskari is an open source tool for easily building multipurpose web mapping applications utilizing distributed Spatial Data (<http://www.oskari.org/>)
- Browse by theme or by data provider
- Easy to search for map layers by names or metadata
- Easy to view many map layers together
- Easy to teach new users to use map layers and play with them
- Delivery time for new map layers is short
- We can customize the source data, from end users' point of view
- Embedded maps

<https://kort99.lmi.is> - first view after login



User interface

The screenshot displays the user interface of the Landmælingar Íslands (Icelandic Mapping Agency) website. The interface is divided into a left sidebar, a central search and results panel, and a map area on the right.

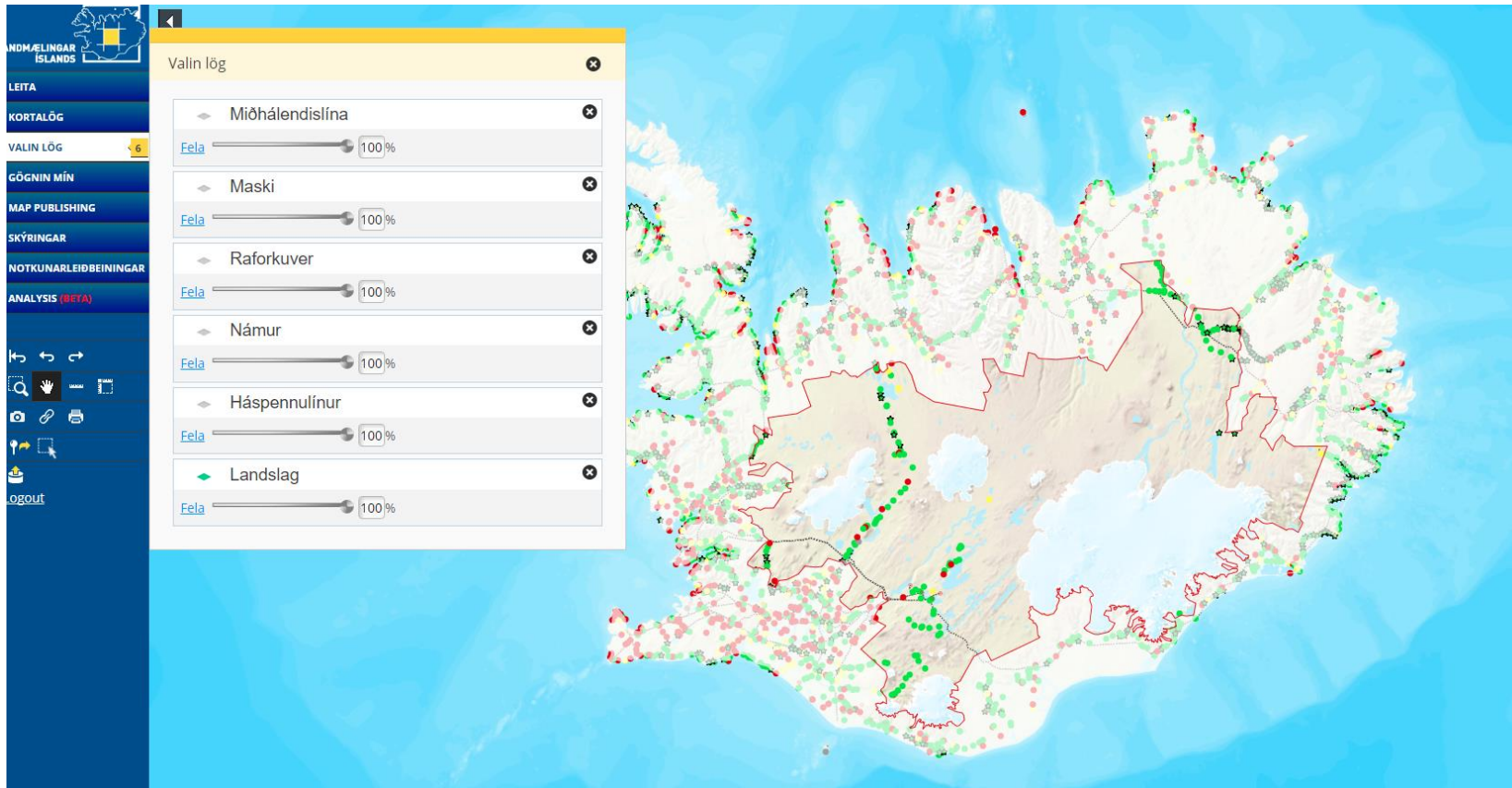
Left Sidebar: Contains navigation links such as LEITA, KORTALÖG, VALIN LÖG, GÖGNIN MÍN, MAP PUBLISHING, SKÝRINGAR, NOTKUNARLEIÐBEININGAR, and ANALYSIS (BETA). It also includes a toolbar with various map interaction icons and a Logout button.

Central Panel (Kortalög): Features a search bar with the text "Leita að kortalögum." and a search button. Below the search bar, there is a list of search results for map layers:

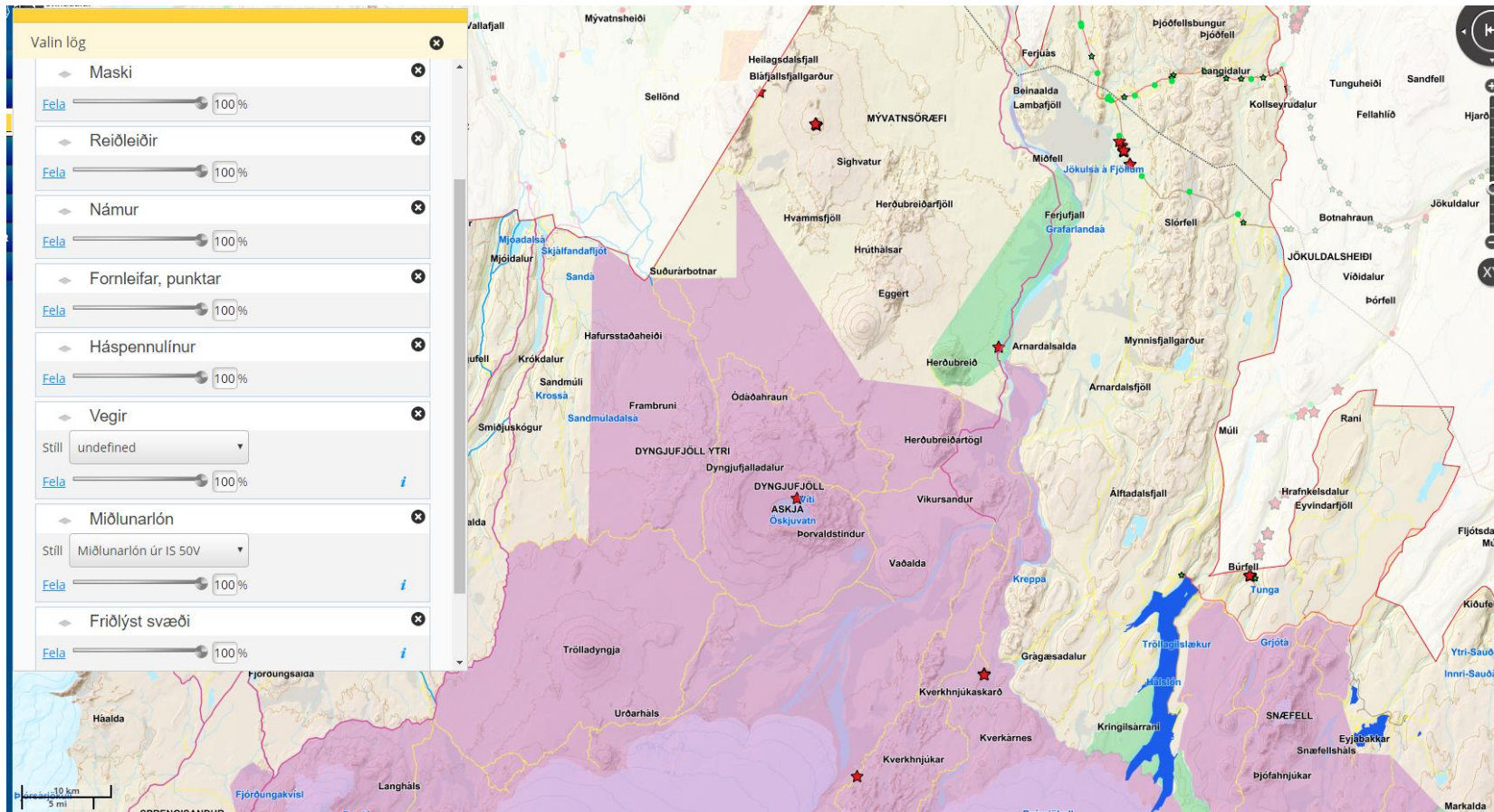
- ▶ Ferðamálastofa (5)
- ▶ Forsætisráðuneyti (1)
- ▶ Landgræðsla Ríkisins (2)
- ▶ Landmælingar Íslands (17)
- ▶ Landmótun (1)
- ▶ Landsnet (2)
- ▶ Landssamband hestamannafélaga (1)
- ▶ Minjastofnun (1)
- ▶ Náttúrufræðistofnun og Landsvirkjun (17)
- ▶ Náttúrufræðistofnun Íslands (7)
- ▶ Orkustofnun (1)
- ▶ Skipulagsstofnun (2)
- ▶ Umhverfisráðuneyti (7)

Map Area: Shows a topographic map of Iceland with a red outline indicating a specific region of interest.

User interface



User interface





Native data



Data packages/format



Webservices



Map applications



User applications

Simple - challenge?

- Native data is maintained
- Data packages produce from native data
- Different types of data access
- Various user applications and interfaces
- Easy to find the right data
- Easy to use the data correctly

Conclusion

- Gathering data from different sources is a challenge
- Use of standards like OGC is vital
- We need to embrace the future if we are going to succeed
- Good metadata, easy to understand
- Easy access to data
- Databrowser so easy to use that your grandparents can use it
- Open data
- Linked data