

CORINE land database assessment of forest and woodlands in Iceland

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Introduction

- Definitions
- CORINE
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- Forested and wooded area in Iceland
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Definitions

- Forested areas with trees higher than 2 m are defined as forests in Iceland
- Forested areas with trees lower than 2 m are defined as shrubs or young plantations



CORINE

- *Coordination of Information on the Environment*
- One of the CORINE main issues is to map changes at the land surface
- Due to frequent changes in forested areas, the data has to be submitted to CORINE every 5 years
- Database for forested areas in Iceland is maintained by the Icelandic Forest Research.

The forest class in CORINE

3. Forests and semi-natural areas

3.1. Forests

3.1.1. Broad-leaved forest

3.1.2. Coniferous forest

3.1.3. Mixed forest

3.2. Shrub and/or herbaceous vegetation association

3.2.1. Natural grassland

3.2.2. Moors and heathland

3.2.3. Sclerophyllous vegetation

3.2.4. Transitional woodland shrub

3.3. Open spaces with little or no vegetation

3.3.1. Beaches, dunes, and sand plains

3.3.2. Bare rock

3.3.3. Sparsely vegetated areas

3.3.4. Burnt areas

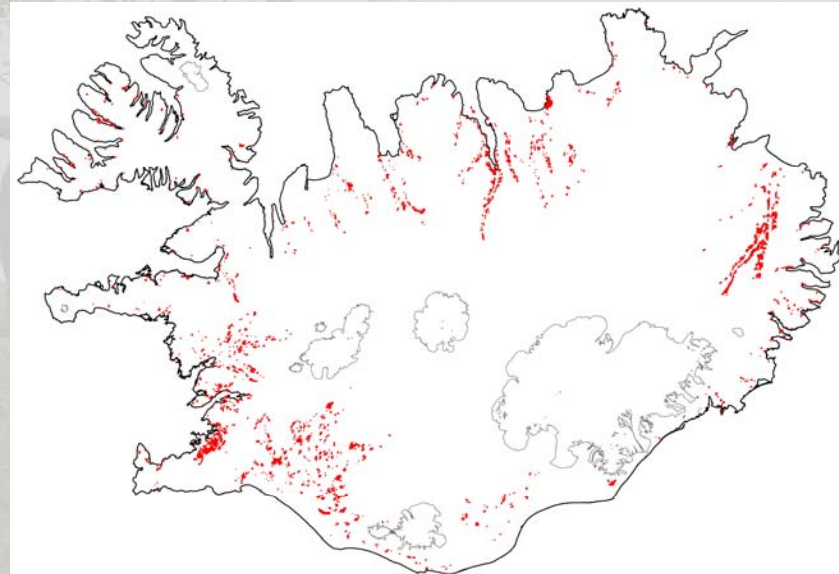
3.3.5. Glaciers and perpetual snow

Data

- Two forest databases have been developed in Iceland
 - Plantation database
 - Database for natural birch forests and birch shrubs

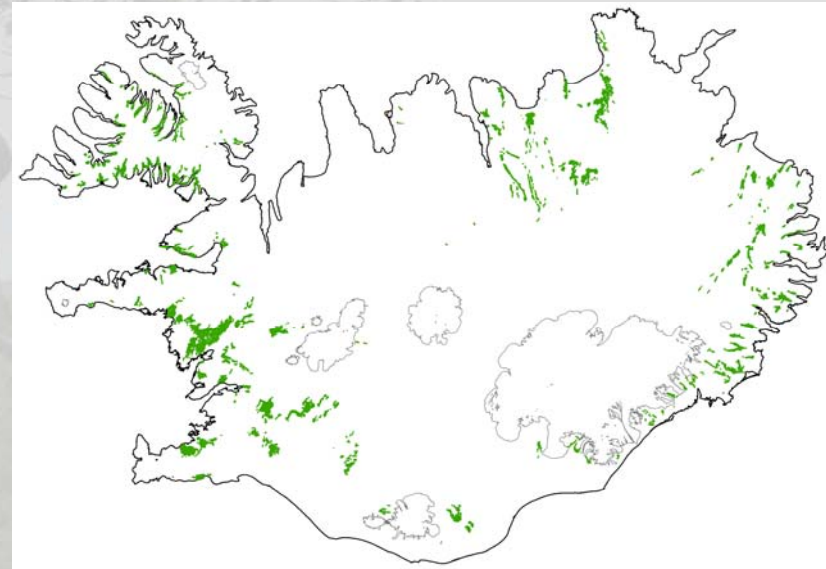
Plantation database

- The National Forest Inventory in Iceland has been developing a database for all planted areas in Iceland. The database is one of the main tools in the NFI.
- Spatial and tabular data are gathered from many constituents in the forest sector
- Forests are mapped by the NFI staff in the field.
 - Forests that are not part of the database are mapped visually on arial photos or SPOT satellite images



Database for natural birch forests and birch shrubs

- Spatial distribution of natural birch forests and shrubs was mapped in two national inventories in 1972-1975 and 1987-1991
- The database was improved in 2006 by rectification and tabular data were connected to the polygons



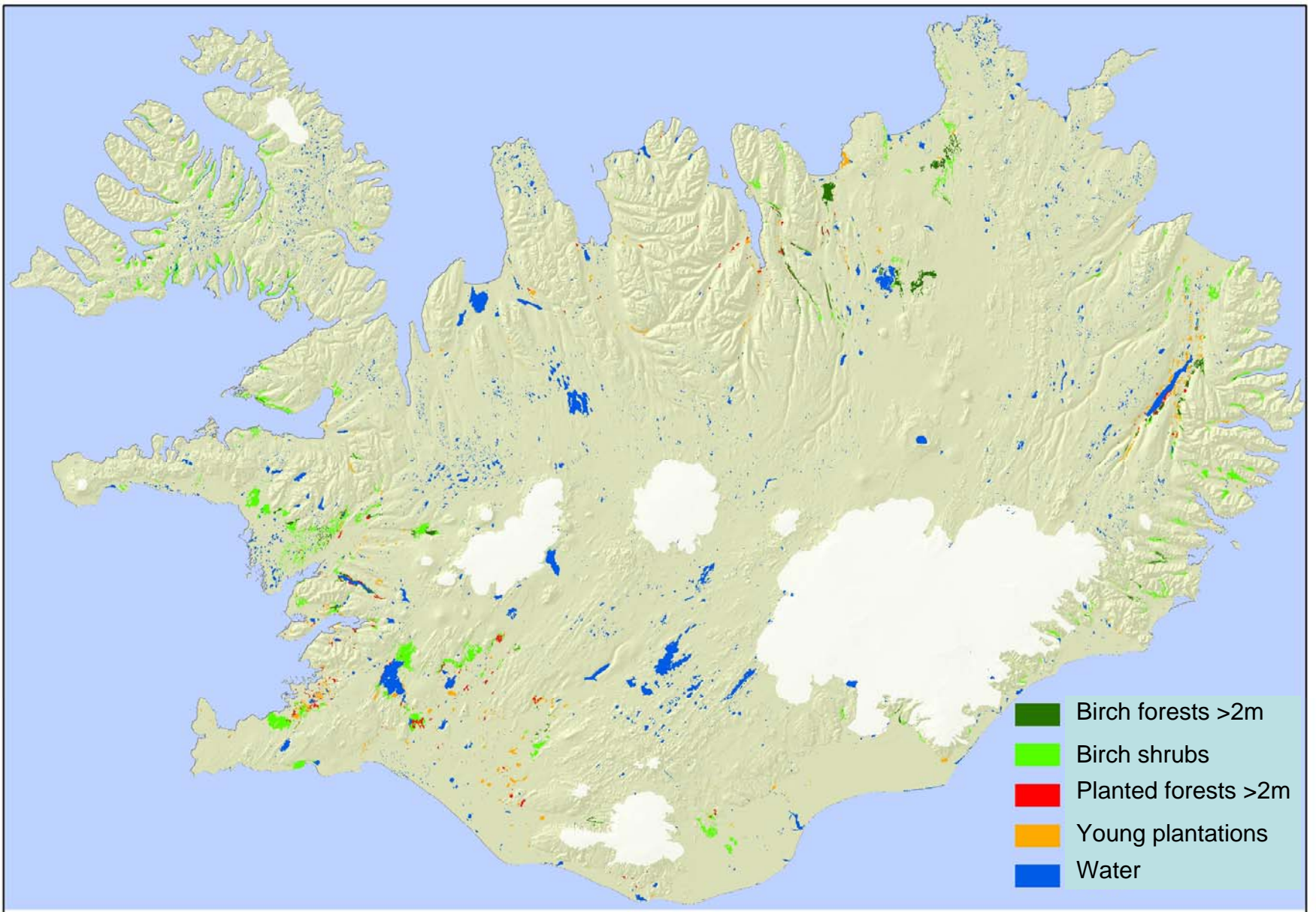
United geographical forest database

- Includes all known forest and woodland areas in Iceland, both natural and planted is
- Is based on the two databases for planted and natural forests and shrubs
- Is build up in accordance to the CORINE definitions and the Icelandic geographical standard.

Linkage between CORINE classification and country classification

CORINE classes		Country classes	
Number	Name	Name	Height
3.1.1	Broad-Leaved forest (more than 75% broadleaves)	Natural birch woodland	≥ 2 m
		Broad leaved plantation forest	≥ 2 m
3.1.2	Coniferous forest (more than 75% conifers).	Coniferous plantation forest	≥ 2 m
3.1.3	Mixed forest (a mix of broadleaved and coniferous trees.).	Mixed plantation forest or mixture of plantation and birch woodland forest	≥ 2 m
3.2.2	Moors and heathland	Natural birch woodland	< 2 m
3.2.4	Transitional woodland shrub	Young forest plantation	< 2 m

United forest database



Area of wooded land in Iceland according to the CORINE classes

Number	Name	Size (ha)	Ratio (%)
3.1.1	Broad-Leaved forest	24,200	15
3.1.2	Coniferous forest	2,400	2
3.1.3	Mixed forest	8,300	5
3.2.2	Moors and heathland	91,800	59
3.2.4	Transitional woodland shrub	30,100	19
	Total (ha)	156,800	100

Area of wooded land according to mean tree height

Forest type	Size (ha)	Ratio of Iceland (%)	Ratio below 400 m (%)
Natural birch	115,400	1.1	2.6
Birch forests > 2m	23,600	0.2	0.5
Shrubs < 2m	91,800	0.9	2.1
Plantation	41,400	0.4	1.0
Forests > 2m	11,300	0.1	0.3
Broad leaved forests	600	0.0	0.0
Coniferous forests	2,400	0.0	0.1
Mixed forests	8,300	0.1	0.2
Plantation < 2m	30,100	0.3	0.7
Total forested area in Iceland	156,800	1.5	3.6

Conclusion

- The first complete forest database on a national level in Iceland
- New plantations are added to the database every year and deforested areas deleted
- The database overestimated the area of forest plantations which indicate that the original mapping of new plantations has to be improved
- The database can be used for various geographical analysis
- New edition of the database will be presented in 2009 with additions



Thank you