CLC in Iceland

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General remarks I

- Iceland joined the CORINE programme in 2007
- Grant agreements for CLC2006, CLC2000 and CLC-Change with EEA signed in July 2007
- National Land Survey of Iceland (NLSI) responsible for the CLC implementation
- CLC2006 finished Dec. 2008
- CLC2000 and CLC-Change completed June 2009
- Database Technical Acceptance issued June 26th 2009
General remarks II

First: Apparent scepticism
- CLC classes defined for S- and Central-Europe
- Classes partly not fitting to Icelandic nature
- Not detailed enough (1: 100,000, 25 ha, 100m)

Then: General support
- Comparison with other countries possible
- A tool for monitoring LU/LC changes
- An umbrella for more detailed classifications
Difficulties/Problems

• **Pastures** are composed of hayfields and grazing areas. Whereas this class is easily mappable at the outset the mapping of its changes is problematic.

• CLC definitions of **classes 331 and 332** is contradictory with regard to Iceland. “Volcanic ash and lapilli fields” of recent volcanic eruptions fit better to class 331 than 332 and therefore included in class 331.

• Several types of **mires or bogs** in Iceland besides peat bogs. These are all included in class 412 (except 411)

• **Min. tree height** for classes 31x is 2m (as used by IFS)

• **Class 322** includes moss and lycchen covered areas

• All problems discussed and settled with the CLC T.T.
Data and support from many parties

Many institutions and communes provided data and information:

• The National Land Survey of Iceland, NLSI
• The Agricultural University of Iceland, AUI
• Iceland Forestry Service, IFS
• The Icelandic Institute of Natural History, IINH
• National Energy Authority, NEA
• University of Iceland, UI
• The Icelandic Coast Guard, ICG
• The Farmers Association, FA
• Institute of Freshwater Fisheries, IFF
• The National Power Company, NPC
• Planning officers of all municipalities (79)

> Widespread cooperation and support
CLC2006 results
CORINE classification results for 2006 - CLC2006

CLC2006 results for Iceland. The pie chart shows total area (km$^2$) and percentage area (%) of all 32 CLC classes in Iceland. The four largest land cover classes are: 322 Moors and heathland (35% of the total area of Iceland), 332 Bare rocks (23%), 333 Sparsely vegetated areas (13%) and 335 Glaciers (10.5%).
Absolute CLC Changes 2000 – 2006 (hectares)
Relative changes

Enlargement of 133 (construction areas): 1055%!!, 132 (dump sites): 81%. Class 121 (industrial and commercial units) enlarge by 20%.
Comparison with other countries

CLC2000 Level 1 classes of some European countries (% of national territory)
Comparison between Class 3. “Forests and semi-natural areas” in Iceland and several other European countries

3.1.x. Forests

- 3.1.1. Laufskógar
- 3.1.2. Barrskógar
- 3.1.3. Blandaðir skógar
Comparison between Class 3. “Forests and semi-natural areas” in Iceland and several other European countries

3.2.x Shrub and/or herbaceous vegetation associations

- 3.2.1. Graslendi
- 3.2.2. Mólendi, mosi og kjarr
- 3.2.4. Skógræktar- og skógarhöggssvæði
Comparison between Class 3. “Forests and semi-natural areas” in Iceland and several other European countries

3.3.x. Open spaces with little or no vegetation

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<th>Country</th>
<th>3.3.1. Ógrónir sandar</th>
<th>3.3.2. Ógrón hraun og urðir</th>
<th>3.3.3. Hálfgróið land</th>
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Yearly urban residential sprawl

Urban residential sprawl (yearly % of urban areas in 2000)

AL CY IE BA IS KV EE PT DK NL MK FR RS ME CZ PL AT CR RO LU HU LV LT BE BG SK SI MT

LCF2norm
Yearly sprawl of economic sites and infrastructure

Sprawl of economic sites and infrastructure (yearly % of economic & infrastructure sites in 2000)
Future plans in Iceland related to CLC

• CORINE was the first step, other databases will be based on or connected to the CLC
• Higher spatial resolution (~5ha, 10m)
• Some classes (i.e. 322, 332, 412) split up in level 4 or even level 5 sub-classes
• Generalisation according to EEA needs
• Continuing cooperation between institutions
• Discussions (how and what) are pending
Spatial HiRes mapping for inland use (CLC compatible)

- Data/information for most CLC classes already exist for HiRes mapping (5ha, 10m)
- Of 32 CLC classes in Iceland
  - 23 available in HiRes (~5ha, 10m): 1xx, 2xx, 31x, 324, 421, 5xx (except 522).
  - 4 can be mapped: 411, 412, 423, 522
  - 5 will not be mapped in HiRes: 321, 322, 331, 332, 333 (except maybe in limited areas)
Reykjavík capital area, SPOT-5, NIR,(2007)
CLC Classification (25 ha, 100m)
Reykjanes, CLC classification
Reykjanes, HiRes classes (Artificial areas)
Presentation and dissemination of the CLC results

- PPT-presentations and posters at various GIS- and RS- based meetings and conferences
- Printed report, distributed to all partners
- More detailed reports (English and Icelandic) on the NLSI-web
- Map viewer on the NLSI-web (comparison with maps and satellite imagery)

http://atlas.lmi.is/corine/
Thank you