

National Land Cover Dataset of Bulgaria, based on FAO LCCS, and GlobCover, launched in 2005 - ESA's Earth Observation Data User Element (DUE)

Elaboration of a land cover dataset for the whole Bulgaria, based on the classification methodology LCCS of FAO/UN, as a first step for the creation of a national reference database - in accordance with the European program for Global Monitoring Environment and Security and the Global Earth Observing System of Systems (GMES – GEOSS)

The elaboration of this land cover dataset, aims to support the harmonization of various thematic data at scale of 1:25 000 – 1: 50 000, available in the country. The land cover dataset will be used in agreement with and for implementation of the Directive 2/2007/EC, Directive 60/2007/EC and other directives and programs of the European Union. It includes up-to-date information of the basic land over types, enriched with elevation and slope data (from SRTM v3, obtained by DG JRC) – thus, creating a suitable bundle product for planning and management of the territory.

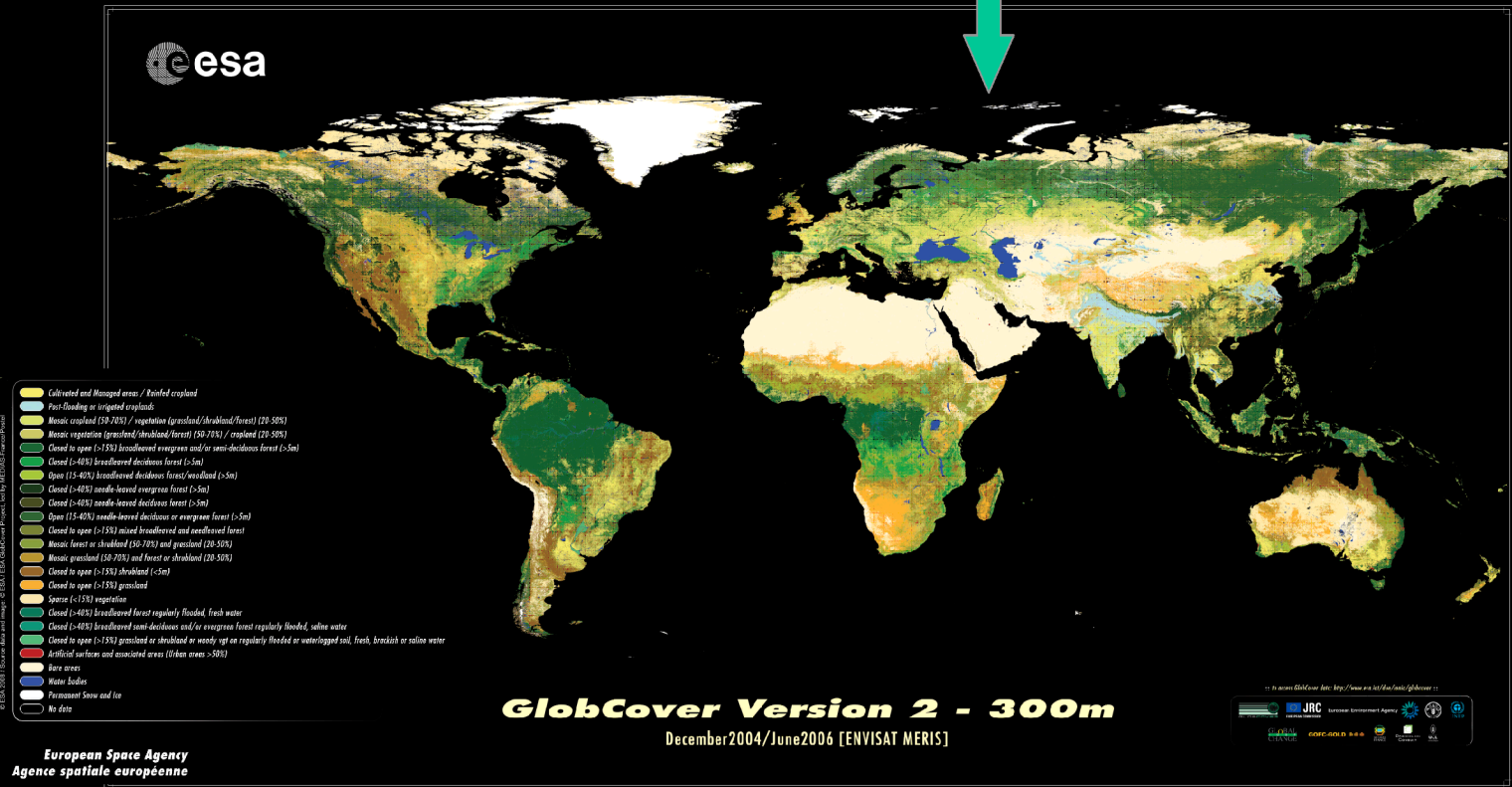
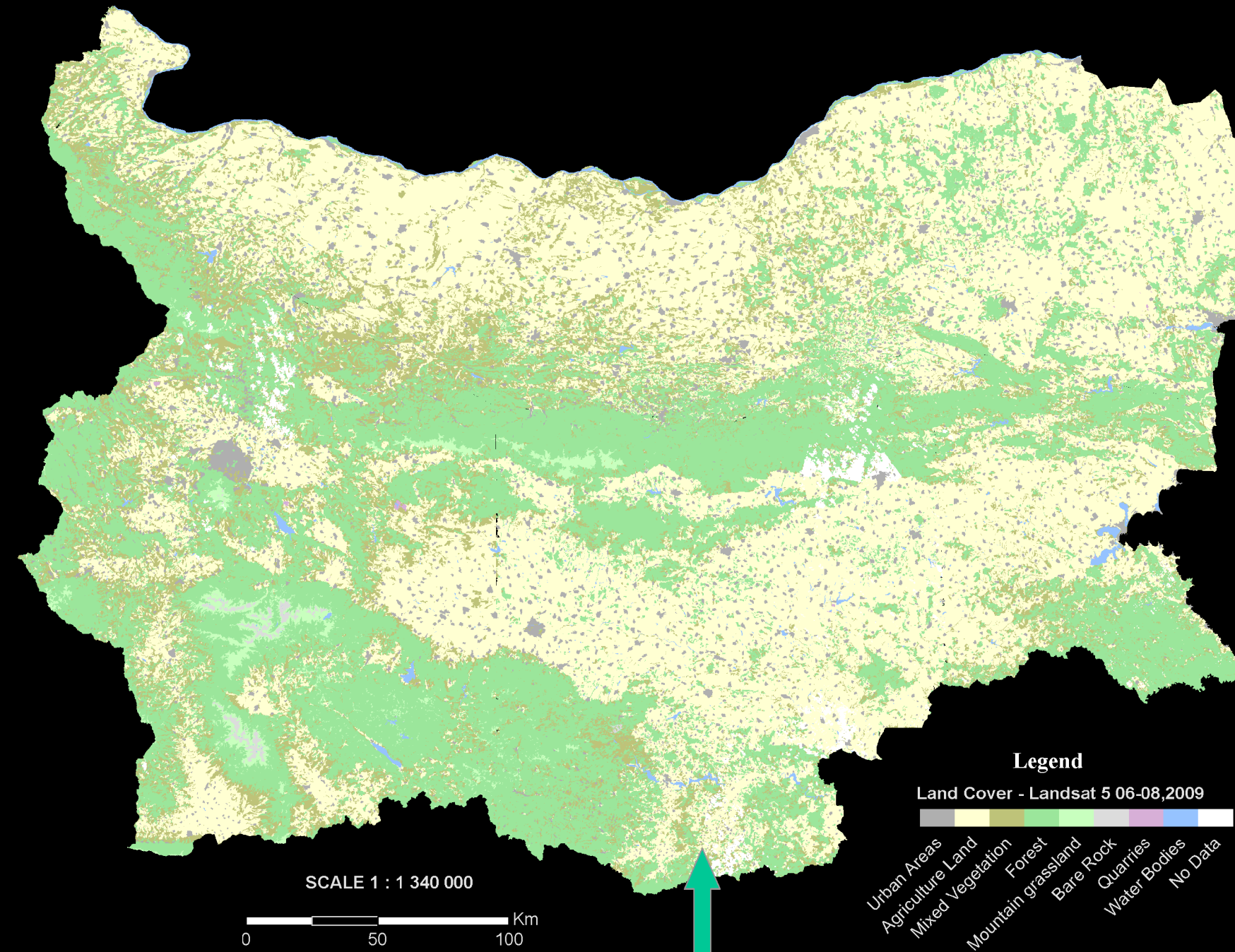
Class Name	LCCS Boolean Formula	Used Class	Used Class BG
Urban Areas	A4-A13	Urban Areas	Урбанизирани територии
Agriculture Land	A3XXXXC2D1D9 // A2A11B4XXE5F2F6F10G3 //	Agriculture Land	Земеделска земя
Mixed natural and cultivated (annual and permanent crops)	A1A11B4XXXXXXF2F4F7G4F1 // A3XXXXC2D1 //	Mixed Vegetation	Смесена Растителност (Природна среда)
Forest	A3A20B2XXXXXXF2F6F7G3F2F4F7G4	Forest	Гори
Mountain grassland	A2A10B4XXE5-P3 // A3-P3	Mountain grassland	Планинска трева
Bare Rock on alpine areas	A3-P13	Bare Rock	Голи Скали
Quarries	A2-A6	Quarries	Карриери и открити мини
Water Bodies	A1Z001 // A1	Water	Водни тела

Figure 3. Description of the FAO - LCCS classes used in the National Land Cover Dataset.

The land cover mapping was made on the base of satellite data (Landsat TM), acquired in summer 2009. The previous experience in the creation of land cover datasets, based on the Land Cover Classification System of FAO/UN, has been used. The land cover data will be a subject of systematic enhancement and update, with the aim to produce a final product with spatial resolution, corresponding to a cartographic scale of 1:25 000

ADMINISTRATIVE LEVEL	VERY HIGH RESOLUTION	HIGH RESOLUTION	MEDIUM RESOLUTION	GLOBAL SCALE RESOLUTION
LOCAL	1 M (URBAN) 2.5 M	5 – 10 M	20 – 60 M	0.2 – 1 KM
DISTRICT/ NATIONAL	1 M (URBAN) 2.5 M	5 – 10 M	20 – 60 M	0.2 – 1 KM
REGIONAL (EU)	1 M (URBAN) 2.5 M	5 – 10 M	20 – 60 M	0.2 – 1 KM
CONTINENTAL	1 M (URBAN) 2.5 M	5 – 10 M	20 – 60 M	0.2 – 1 KM
GLOBAL	1 M (URBAN) 2.5 M	5 – 10 M	20 – 60 M	0.2 – 1 KM

NO/VERY LOW IMPORTANCE	LOW IMPORTANCE	HIGH IMPORTANCE	VERY HIGH IMPORTANCE
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LCCS in Bulgaria

Extension to other domains, by creating thematic LC datasets for:

1. Development of EU transport corridors.
2. Biomass estimation for energy efficiency.
3. Monitoring data accuracy-cadastre and regulation plans.
4. Monitoring of urban sprawl.
5. Risk Management – floods and forest fires.
6. Land use planning.

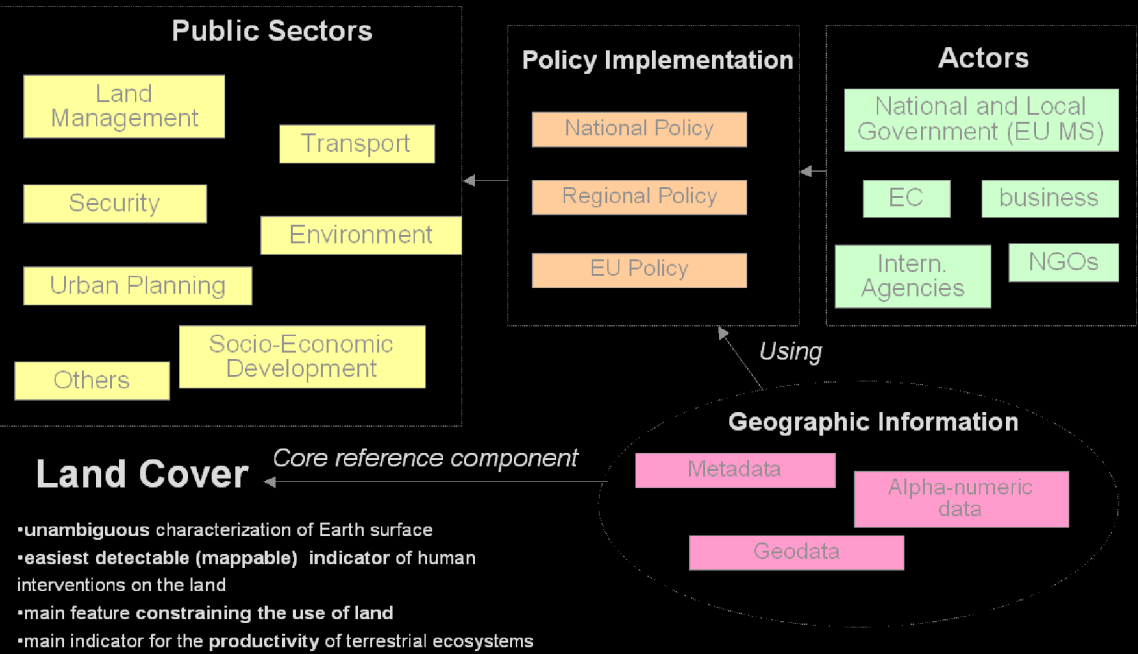
1. Concept adopted by the Ministry of Agriculture and Forestry
2. In the Frame of FAO project TCP/BUL/8922
3. With main objective to help the strengthen the agriculture development
4. By mapping the land cover using RS data
5. Follow-up cooperation with Romania in the frame of FAO project TCP/ROM 2801

Proposal of Bulgaria to GMES:

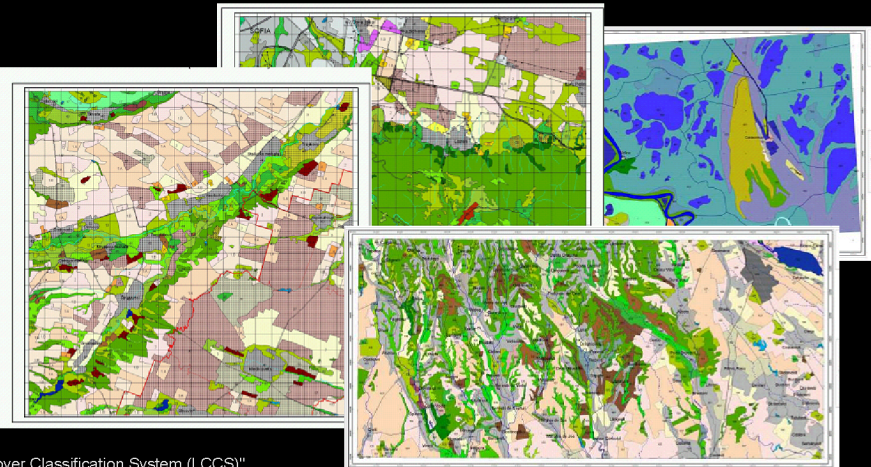
National land cover dataset as a reference core information used for harmonization and verification of all other relevant thematic spatial datasets.

1. Idea generally accepted by the EU Parliament and the Council (EU-2891 meeting, 2.12.2008)
2. Support the transposition of INSPIRE in the EU Member States, as well as to support the technical implementation
3. Support the development of GMES services on national and regional level
4. Land Cover data in different spatial resolution
5. Based on LCCS
6. Consultation with other EU MS, FAO, the GLOBCOVER ESA project

Role of land cover



Land cover datasets based on LCCS – extracts from Bulgaria and Romania



Toward data harmonization – example with Bulgaria and Romania

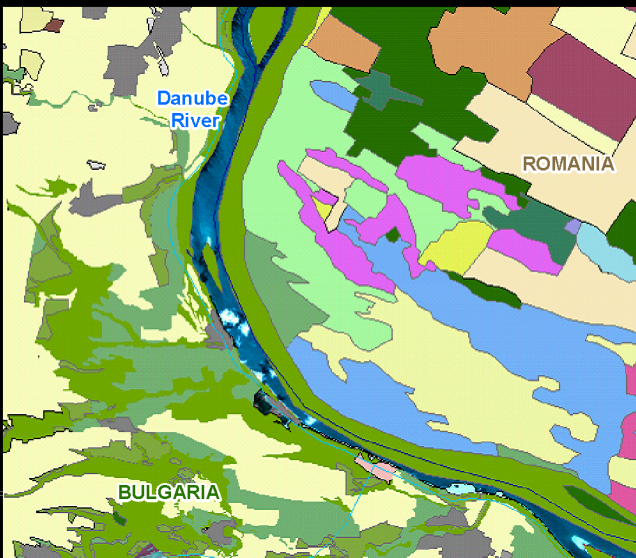


Figure 4. Harmonization and translation of the LC data (coded in LCCS) for EU trans-border corridor No. 7 (different scales, different source of data)



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Elaborate

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Beneficiaries



Ministry of Transport,
Information Technology
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Food and Agriculture
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