

Use of LPIS and COPERNICUS data in the elaboration of trans-border reference land cover datasets

Example from CBC Project MIS-ETC 171 "Common Strategy for Sustainable Territorial Development of the cross-border area Romania-Bulgaria"

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Work Package 3 – Development of common resources for a territorial planning analysis and strategy

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Setup and development of systems and information services allowing the integration of the new, harmonized spatial databases and services with the existing information systems at local and regional levels.

The database will ensure the necessary data for a comprehensive set of indicators at the level of NUTS 3, 2 and LAU (local administration unit).

Project Area

One of the longest borders within the EU stretching for 610 km., largely demarcated by the course of the River Danube.

16 regional districts with a total surface of 71,930 sq. km, of which 55% is in Romania and 45% is in Bulgaria.

The cross-border area covers 20.6% of the total area of the two countries



Fig. 1: Area of the CBC project

Reference land cover layer

Uniquely defined geo-referenced units of management, holding the information on land cover and land use.

Created and updated on the base of:

- Classification concepts of ISO 19144-2 (Land Cover Meta Language – LCML) and Annex F of INSPIRE Data Specifications on Land Cover
- Best management practices from the Land Parcel Identification System (LPIS) that channels all EU area-based aids in agriculture
- COPERNICUS CORE satellite image datasets in combination with spatial information from the LPIS and the national orthophoto
- Methodology elaborated in collaboration with the MARS Unit of the Joint Research Centre of the European Commission

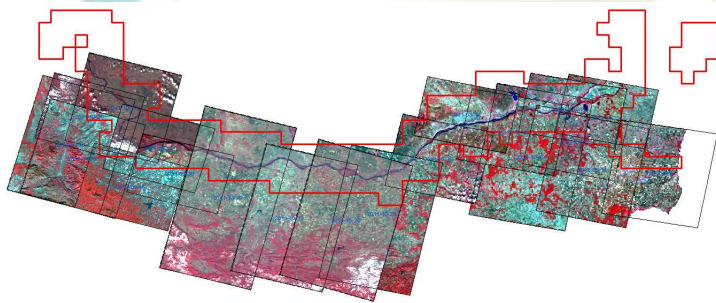


Fig. 2: Mosaic of orthorectified RapidEye imagery from Core 01 dataset

Distinct features of the Bulgarian LPIS

Multilayer system, based on production (physical) block

- Reference parcel + eligibility layer
- ReferenceArea calculated on-the-fly
- Type of land use code assigned to each reference parcel

Covers the whole territory

- Properties inherited from the land reclamation plans
- Reference parcels with zero ReferenceArea on non-agricultural land
- Differentiation between non-agriculture classes (forest, water bodies, urban areas)

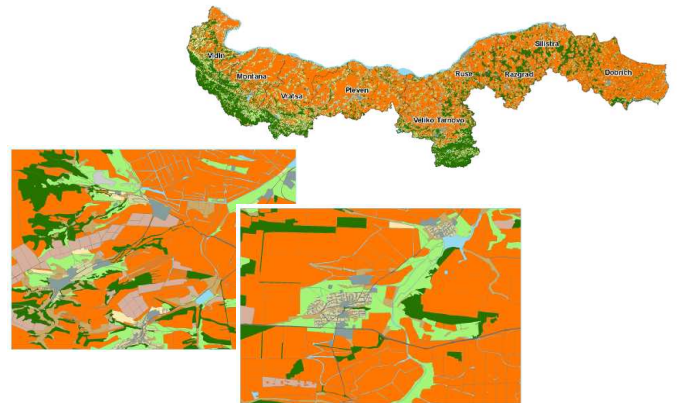


Fig. 3: Bulgarian LPIS – thematic map based on type of land use

Expected Deliverables

Two adjacent reference land cover dataset for the Bulgarian and Romanian part of the cross-border cooperation (CBC) project area

- Both layers fully interoperable following the INSPIRE principles
- Common specification ensuring efficient cross-border analysis and reporting
- Classification coherence ensured by the use of standardized semantic language
- Spatial objects compliant with LPIS concept of "management unit"
- Provided through Web-based geo-service

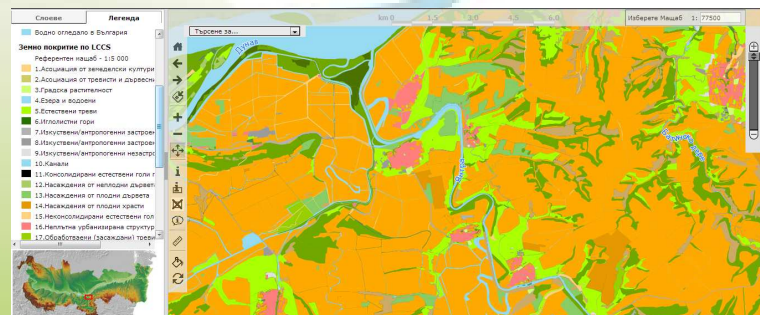


Fig. 4: First results of the reference land cover dataset for the Bulgarian territory provided through the Geoportal as WMS