



Issues in LULCC Research in Czechia

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Current issues

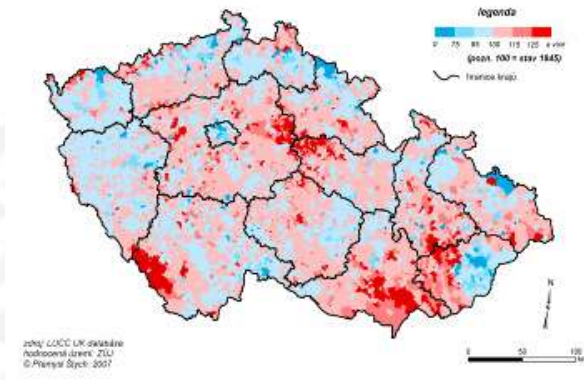
Current issues

- *LUCC research very well established (tradition of 40 years), rich archive of long-term LULC data*
- **Main processes** in present – suburbanization, grassing over, afforestation.... loss of agricultural and especially arable land, changes in forest (disturbances...)
- **Driving forces:** transition processes, EU accession, open EU market, land preservation changes, CAP, restitutions, private land ownership, nature preservation)
- **Research effort:** (1) to find complex of **driving forces** (physical and socio-economic), (2) **hyperspectral data** in combination with laboratory spectral measurements and laboratory chemical analyses to evaluate not just a quantitative state of land cover but also physiological state of ecosystems (3) **long-term land use changes** (archive of Landsat, SPOT..) (4) **data fusions:** optical, radar and lidar data (5) **multidisciplinary initiatives** (cooperation with biologists, social geographers...)

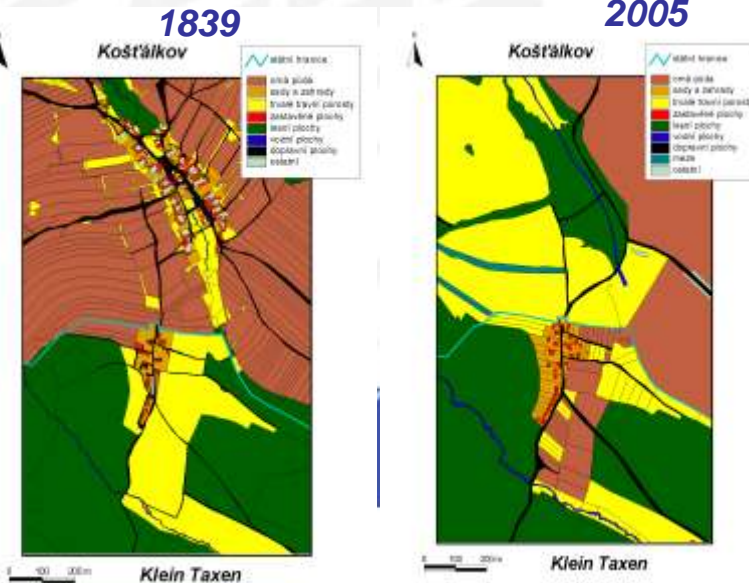
Current issues and needs for remote sensing

Changes of arable land 1845-1948

Vývoj rozlohy orné půdy v Česku v období 1845 - 1948 (v %)

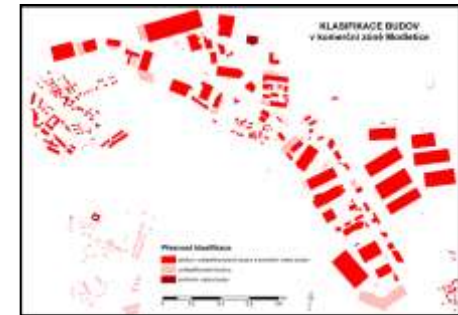


Cross-border Case studies

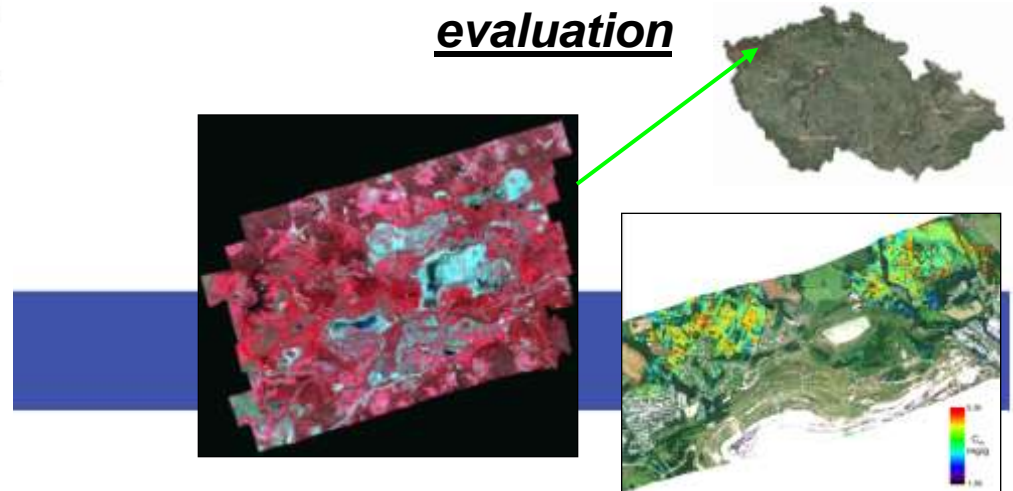


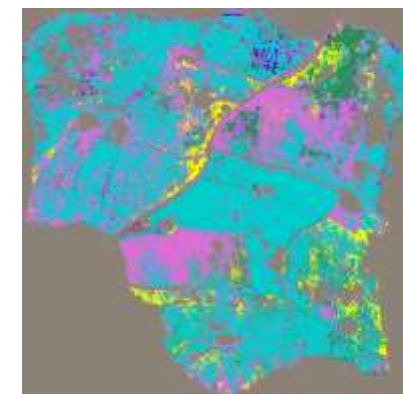
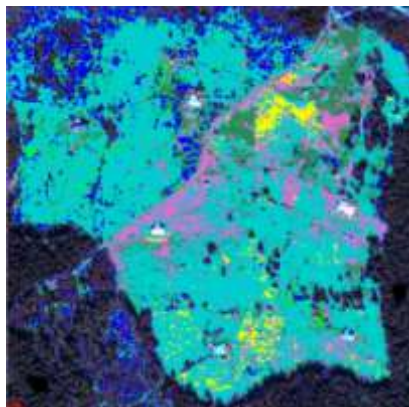
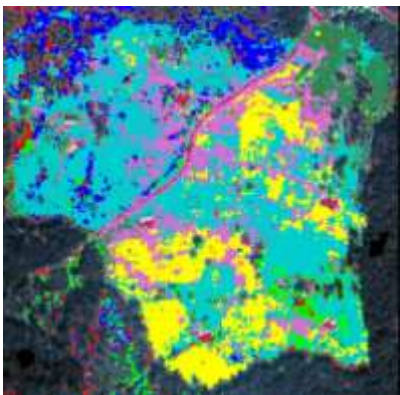
Evaluation of suburban processes

QuickBird images 2007 - OBIA + laser scanning data (nDSM)
buildings classification

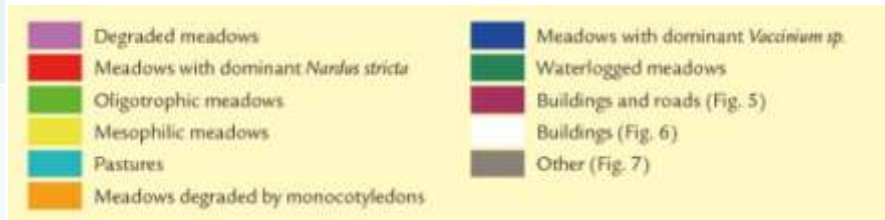


Hyperspectral data based environmental evaluation





Data type	sensor	Spectral resolution	Spatial resolution	Date of acquisition
Hyperspectral aerial data	APEX	288 bands	2.4 m	September 2012
Multispectral satellite data	WorldView-2	8 multispectral bands + Panchromatic band	2 m	September 2011
Ortophoto	Digital camera VEXCEL UltraCamX	RGB + IR	0.12 m	August 2013



Current issues and needs for remote sensing

Current needs

- *International and multidisciplinary cooperation (comparative studies, cross-border research, data and experiences sharing...)*
- *Cooperation with decision makers, state administration sector...*
- *Collaboration with new generation of researchers (PhD students, post docs...)*

How can we contribute?

- ***Sharing our data, experiences, capacities...a strong remote sensing team at my department***
joint publications (LCLUC and driving forces), joint research effort (LUCCNET)...
- ***Sharing our partnerships (ESA, IGU, GEO Group...)***
- ***Training and capacity building activities***
TAT training, success stories,





Thank you for your attention

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