

LAND COVER MAPPING AT THE REGIONAL SCALE WITH USE OF LANDSAT DATA: THE CARPATHIANS CASE STUDY

Katarzyna Ostapowicz, Patrick Griffiths, Catalina Munteanu, Matthias Baumann, Tobias Kuemmerle, Patrick Hostert, Agnieszka Gajda, Volker C. Radeloff



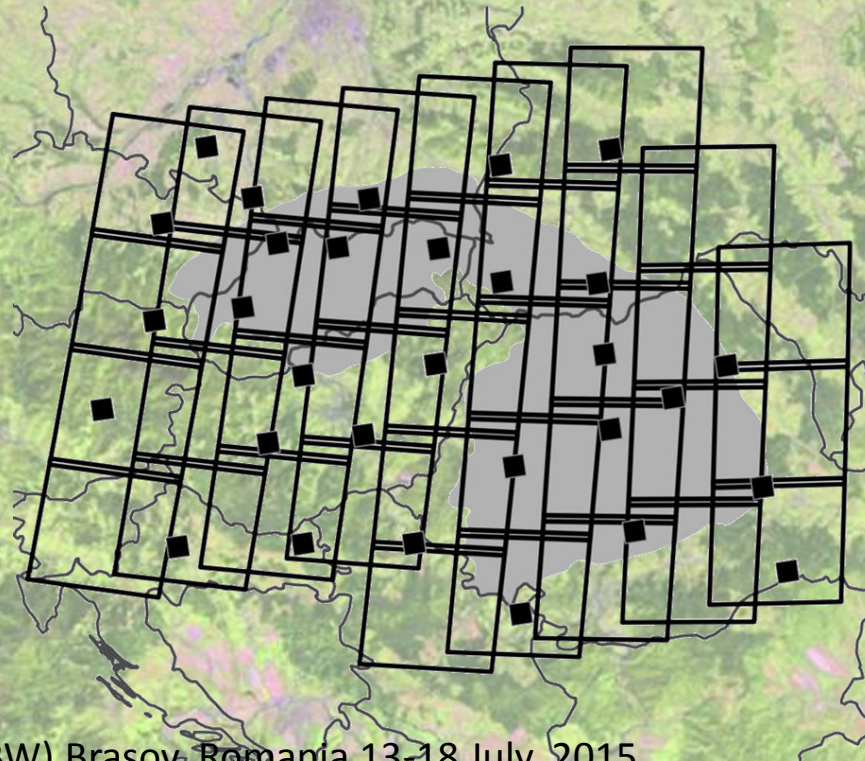
AIM

to develop a simple semi-automatic methodology that would make use of the full Landsat archive for fine-resolution regional extent land cover mapping

INPUT DATA

composite of Landsat TM imagery (2010 +/- two years; mid-February - mid-November): scenes 182-191/25-29

30 tiles (30x30 km) with 1000 training points training extraction (for each tile)



METHODOLOGY

Random sample of 100 initial training points

- assignment of eight land cover classes to the points based on GoogleEarth or Landsat composite
- Landsat image classification (SVM or Random Forest)

Stratified sample of 2000 final training points”:

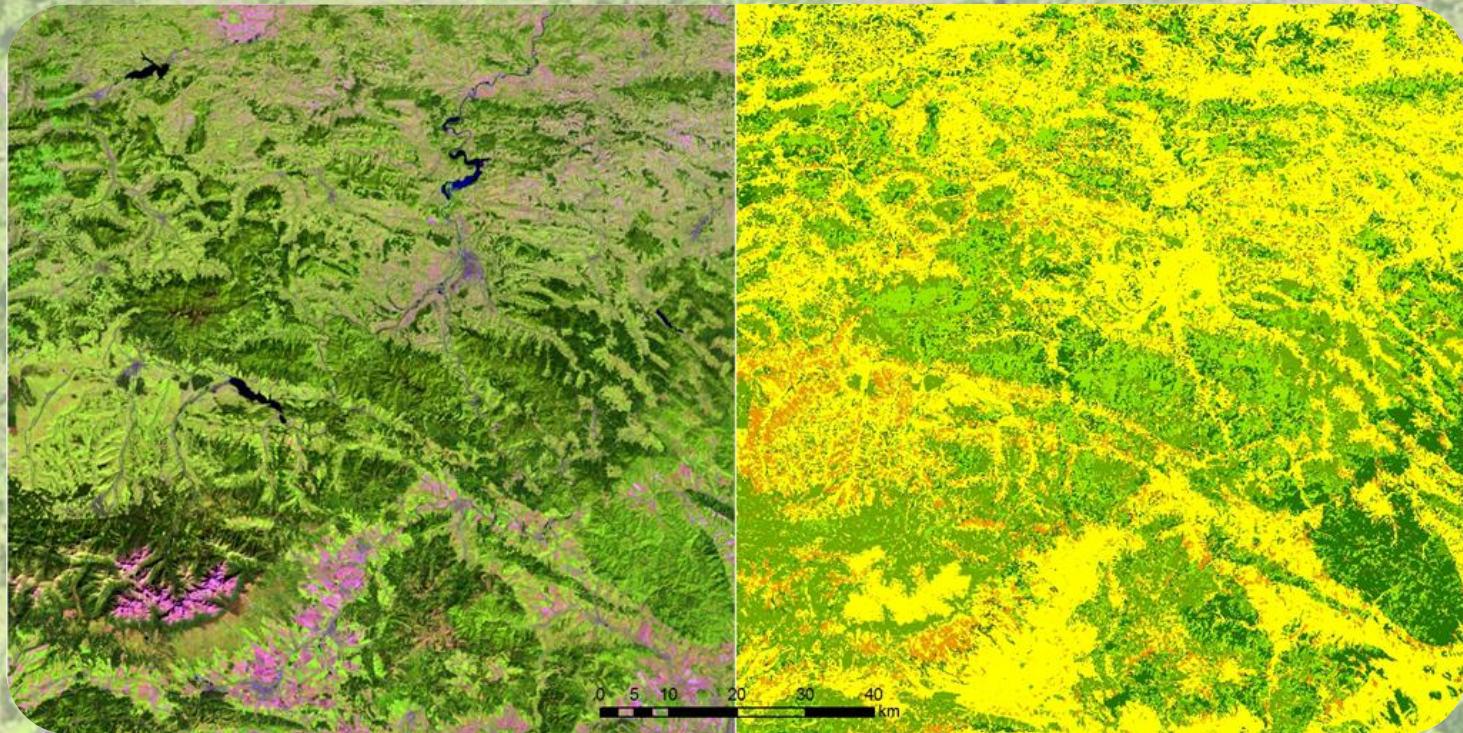
- visual validation points based on GoogleEarth or Landsat composite

Accuracy assessment

- point based (1000 points per tile)
- allows to analyze classification errors not just in the aggregate way, but spatially



PRELIMINARY RESULTS & CONCLUSIONS



- coniferous forest;
- deciduous forest;
- mixed forest;
- grasslands and shrubs;
- others

Land cover classes

- (1) built-up areas;
- (2) agriculture areas (croplands);
- (3) grasslands and shrubs;

- (4) coniferous forest;
- (5) deciduous forest;
- (6) mixed forest;
- (7) open spaces with little or no vegetation;

PRELIMINARY RESULTS & CONCLUSIONS

- initial result - promising
- need to adapt better training to land cover classes like built-up areas, water or grassland representative validation sample is work in progress...



Thank you for your attention

