

# Landscape history



## Geodatabase creation: data processing, vectorization, first results

**Jitka Elznicová, Johana Vardarman, Petr Novák, Jan Jaroš, David Raida,  
Marie Kopecká, Oldřich Holešinský**

**Ing. Jitka Elznicová, PhD.**

[jitka.elznicova@ujep.cz](mailto:jitka.elznicova@ujep.cz)

**Ing. Johana Vardarman, PhD.**

[johana.vardarman@ujep.cz](mailto:johana.vardarman@ujep.cz)



University of J. E. Purkyně in Ústí nad Labem  
Faculty of Environmental Studies  
Ústí nad Labem



Europäische Union. Europäischer  
Fonds für regionale Entwicklung.  
Evropská unie. Evropský fond pro  
regionální rozvoj.

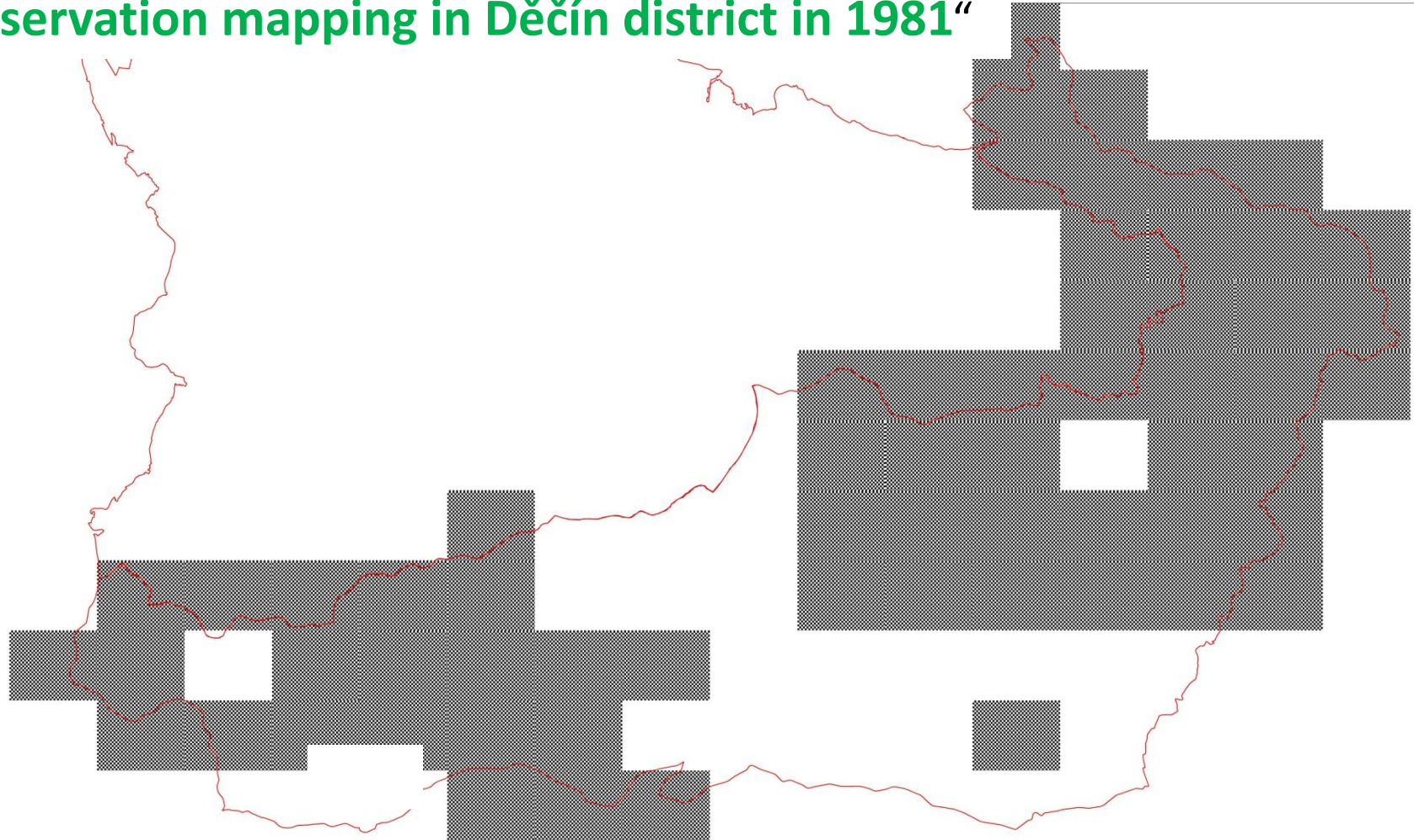


Ahoj sousede. Hallo Nachbar.  
Interreg V A / 2014 – 2020

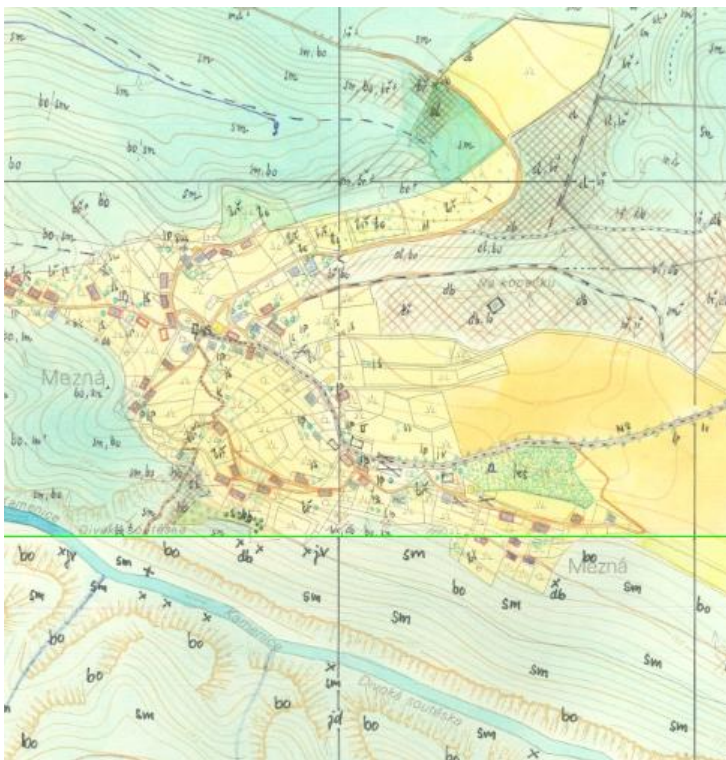
## New data collection

Data from PLA Labské pískovce

„**Conservation mapping in Děčín district in 1981**“



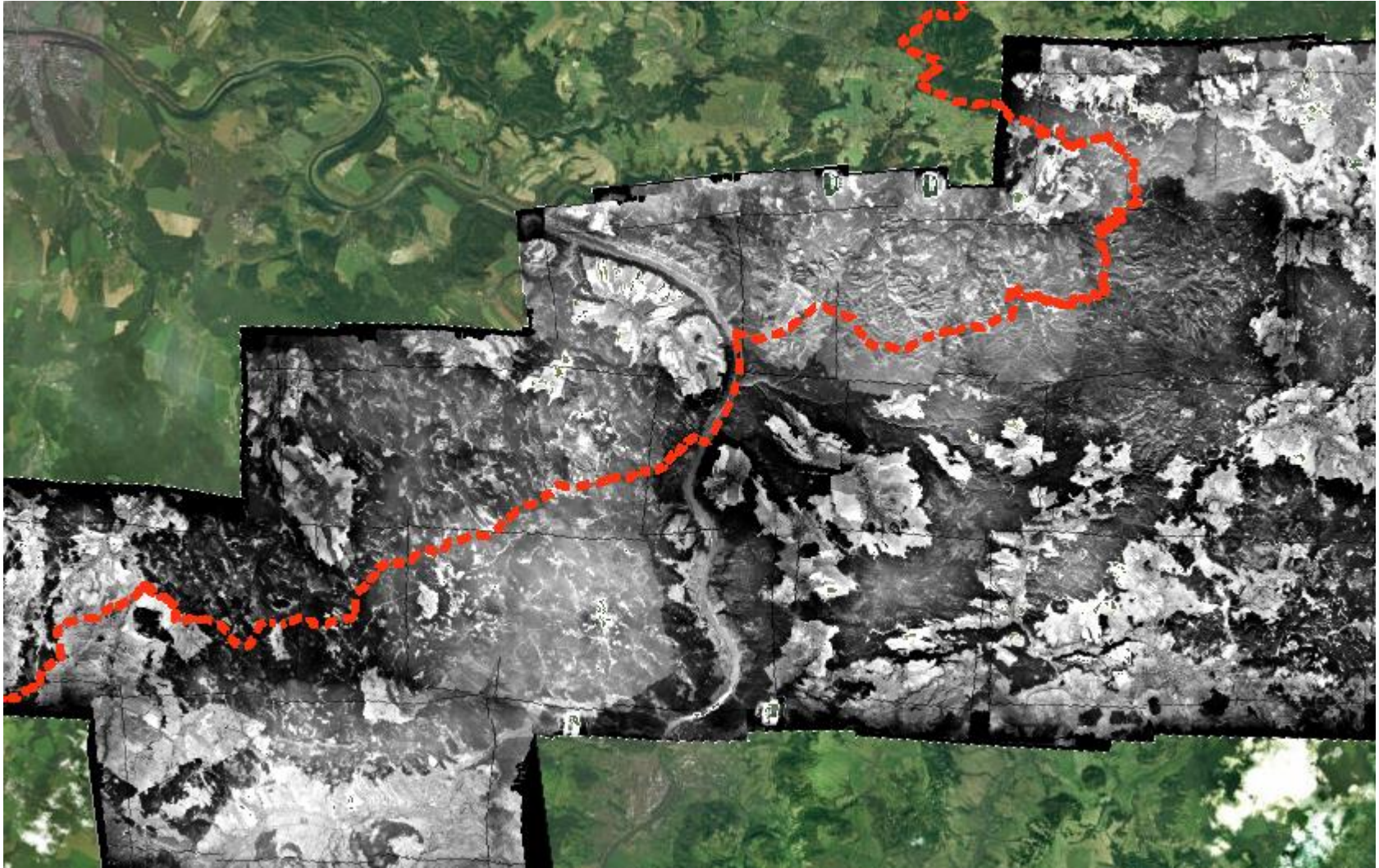
- Data from PLA Labské pískovce  
**„Conservation mapping in Děčín district in 1981“**
  - scanned and merged into individual map sheets
  - georeferenced individual map sheets by map sheet SMO5
  - mosaics creating
- control layer for vectorization of 1989  
 (field/pasture)





# Archive orthos from 1968 – Bohemia Switzerland

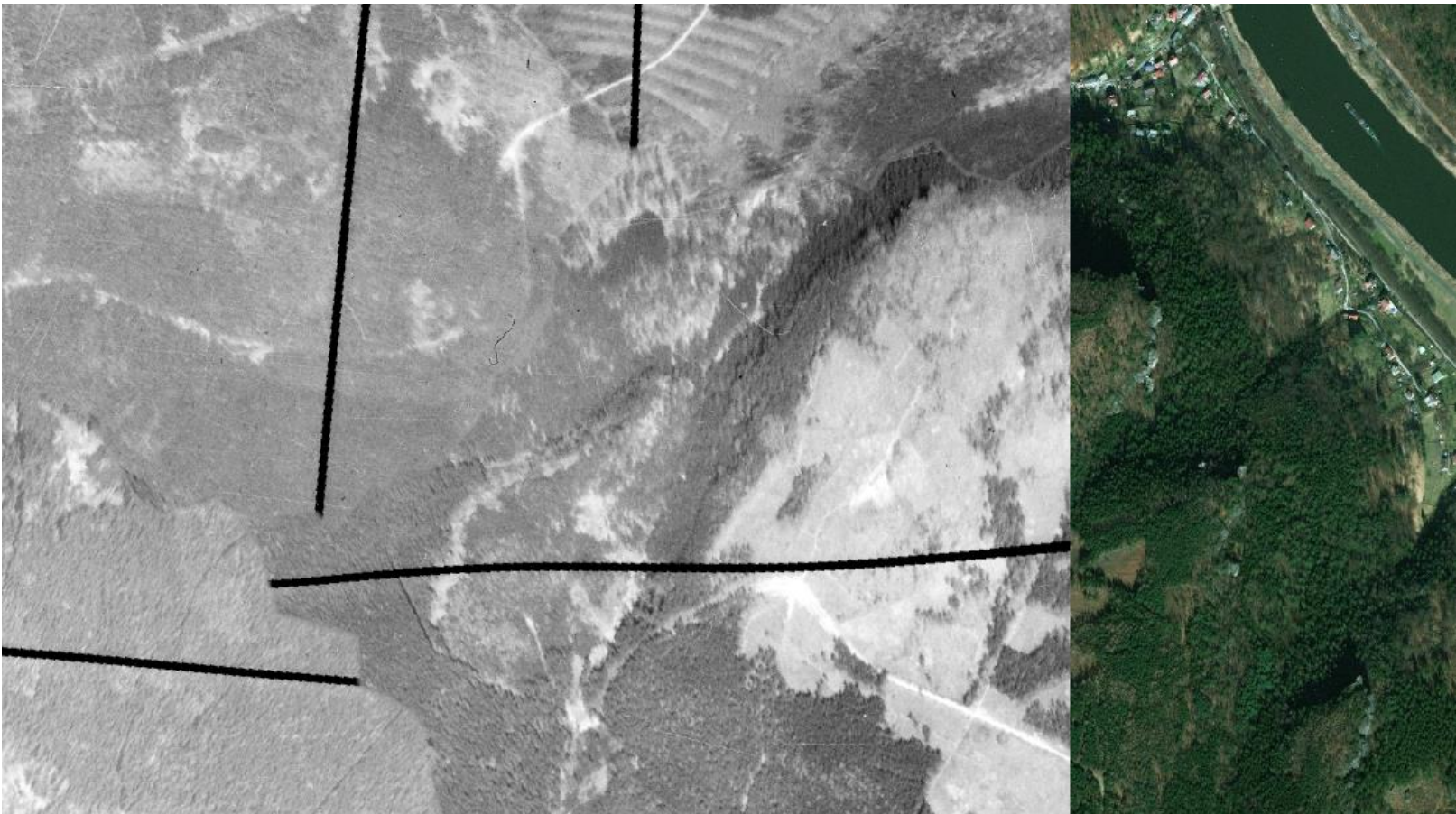
- ArcGIS Pro (Ortho Mapping) has been used
- upper and lower part will be finish till the end of November





# Archive orthos from 1968 – Bohemia Switzerland

- low quality of images (black lines)
- the quality of georeferencing is very high
- the vectorization will start at the beginning of December (after finishing of the vectorization control of 1953)

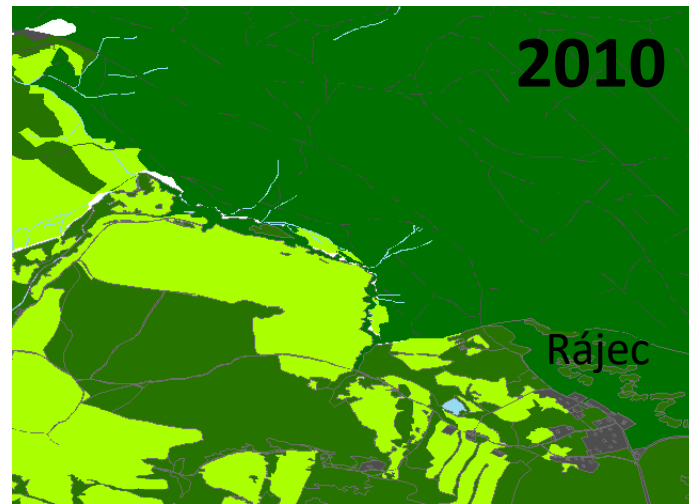
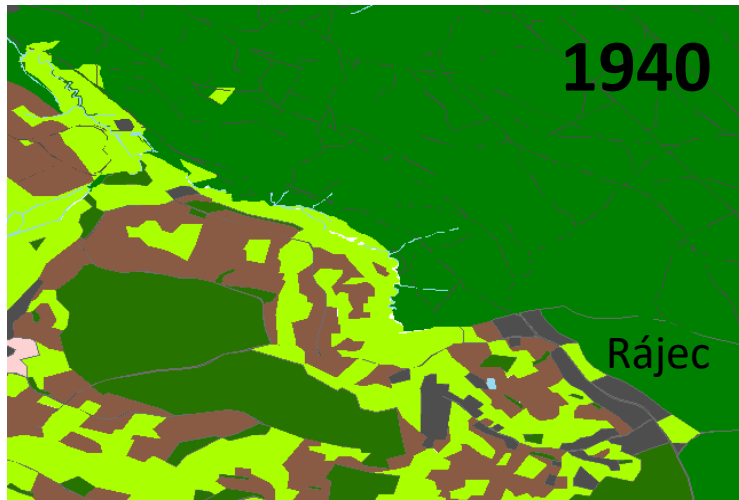


# Data vectorisation

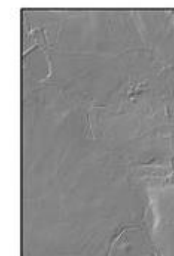
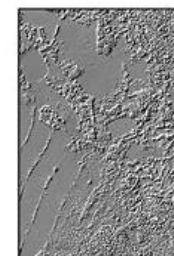
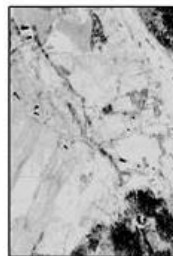
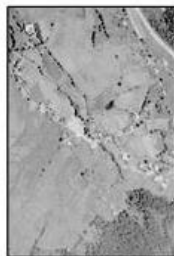
Done: 1940, 2010, 2005

Now: control of vectorised data from 1989, 1953

Started: 1968, 2000, 2015

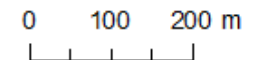
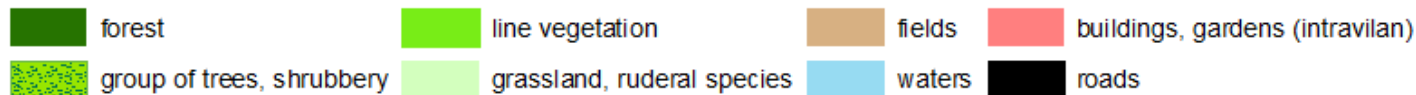
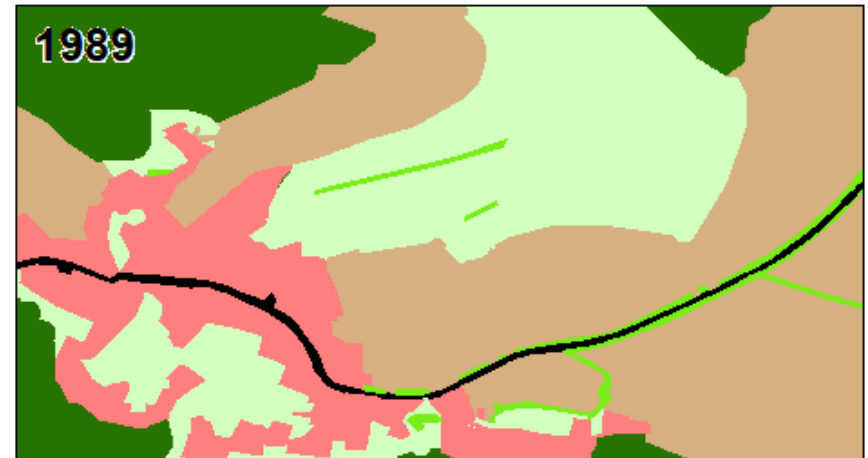


1718–1880–1900–1940–1953–1968–1989–2000–2005–2010–2015



# Vectorization – Bohemia Switzerland

## Mezná louka village





# Cross border data - 2005

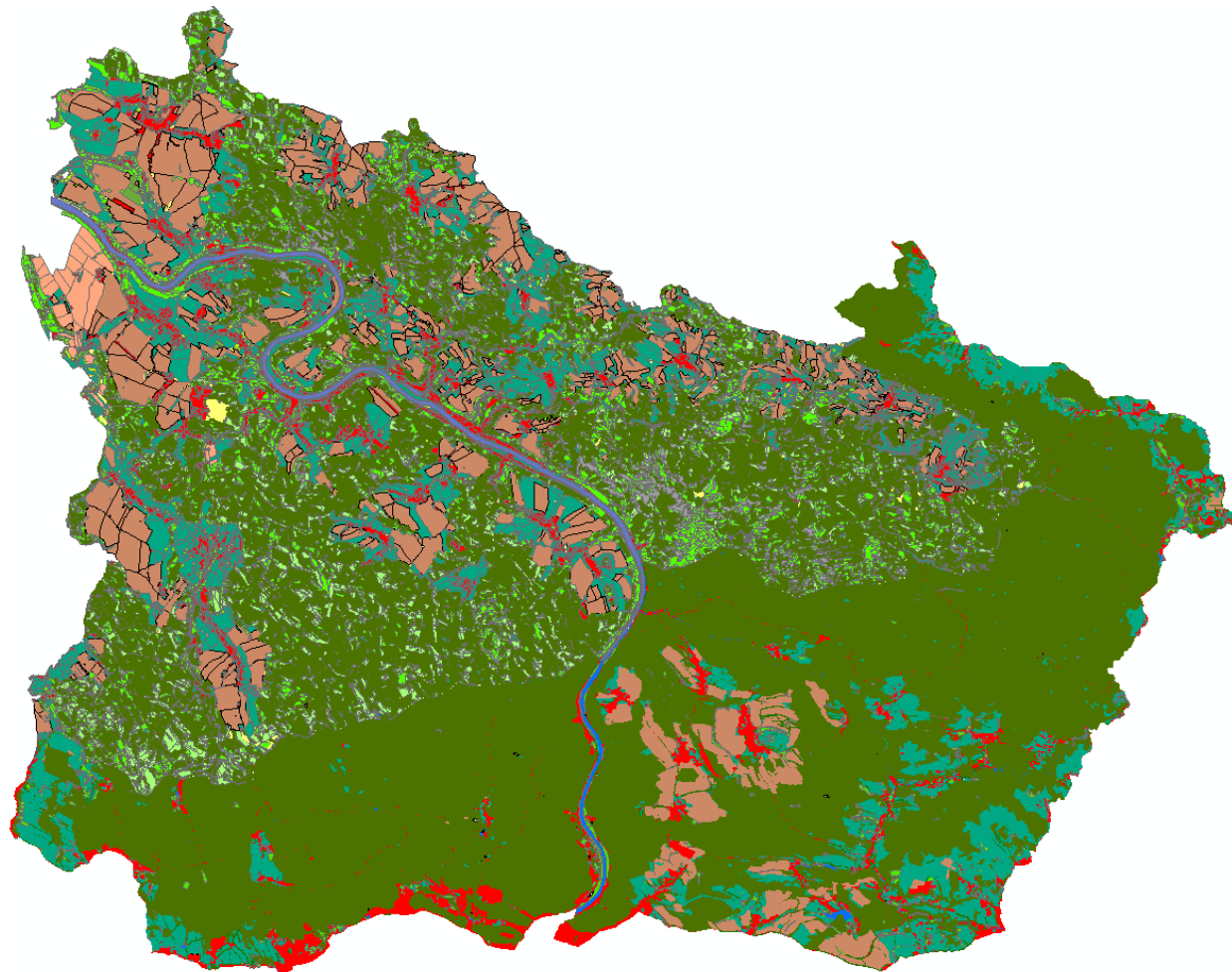
Two ways:

- IBOT more classify forest
- for cross-border analyzes, TransEconet data (IOR data)

D - biotope mapping



CZ - land-use mapping





# Analysis of landcape change after the 2nd WW in Czech-Saxon Switzerland

draft for discussion

*at meeting in Dresden 14.11. 2018*

To be discussed:

- ✓ Input data for landscape change analysis
- ✓ Method of analysis
- ✓ Expected outputs



# Input data - German and Czech side

---

Vector layer finished or to be finished by the end of the year:

1940 – start point

1954

1968?

1989

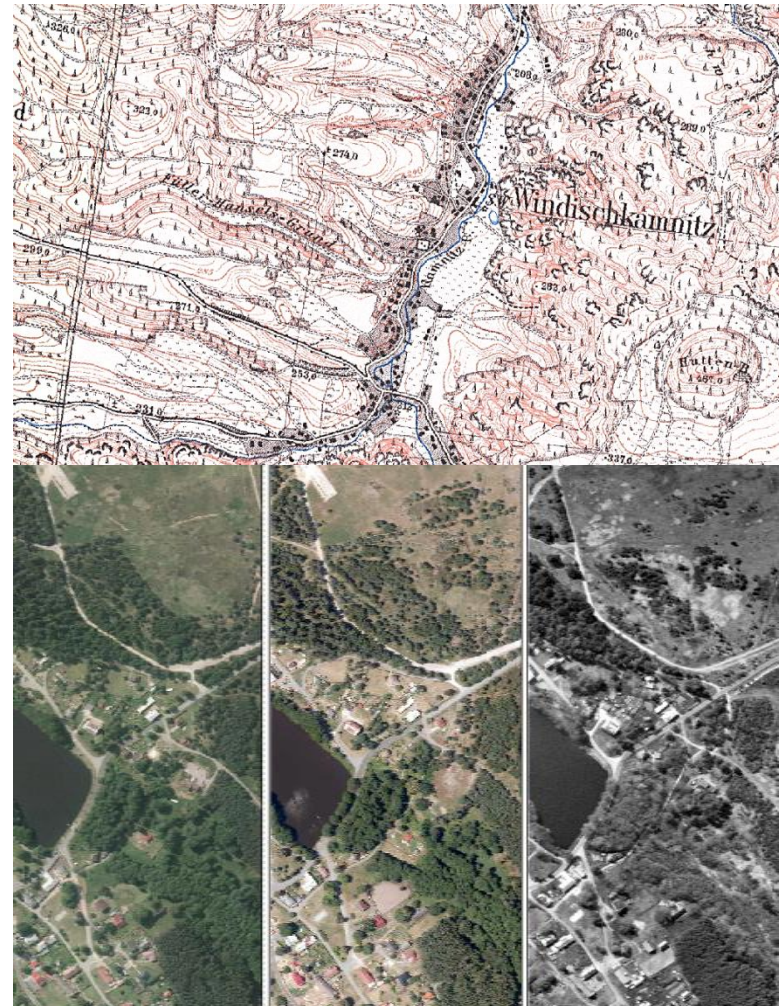
2000?

2005


2010?

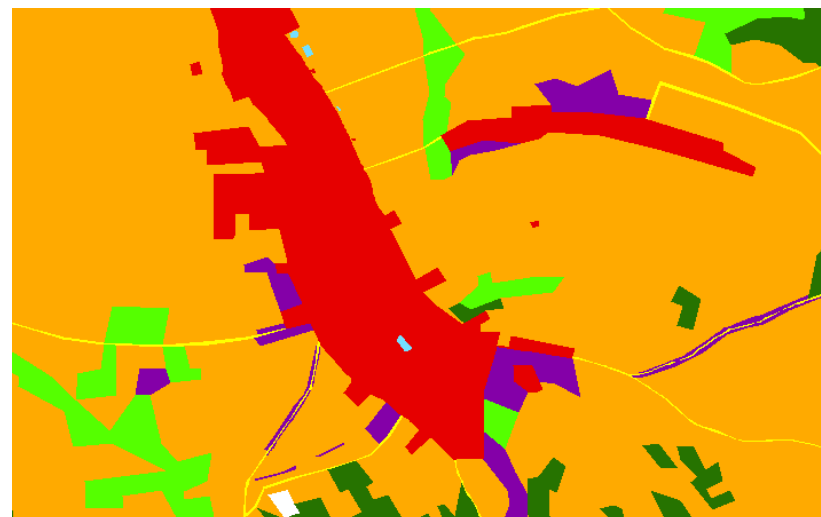
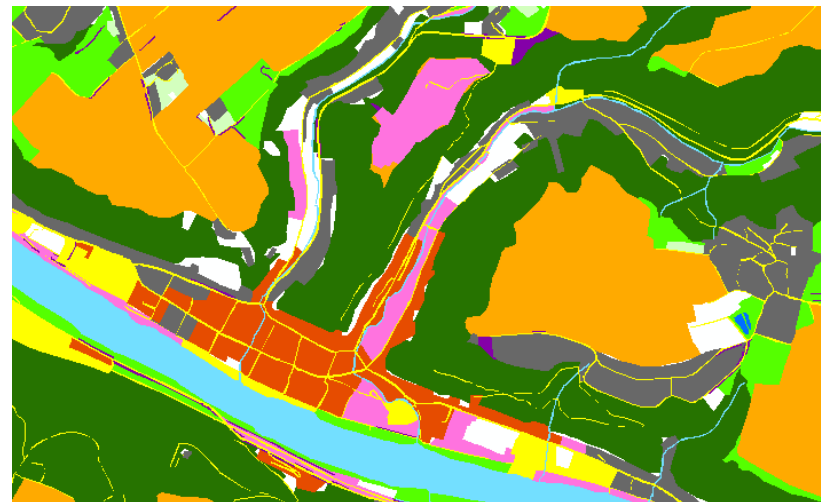
2015?

**Spatial scales of  
vector layers?**



## Vector layers – classification key

-  Urban fabric
-  Industrial, comercial and transport units
-  Road and rail network and associated land
-  Mine, dump and construction sites
-  Artificial non-agricultural vegetated areas
-  Arable land
-  Permanent crops
-  Pastures
-  Heterogeneous agricultural areas
-  Forests
-  Open spaces with littel or no vegetation
-  Inland wetlands
-  Water courses

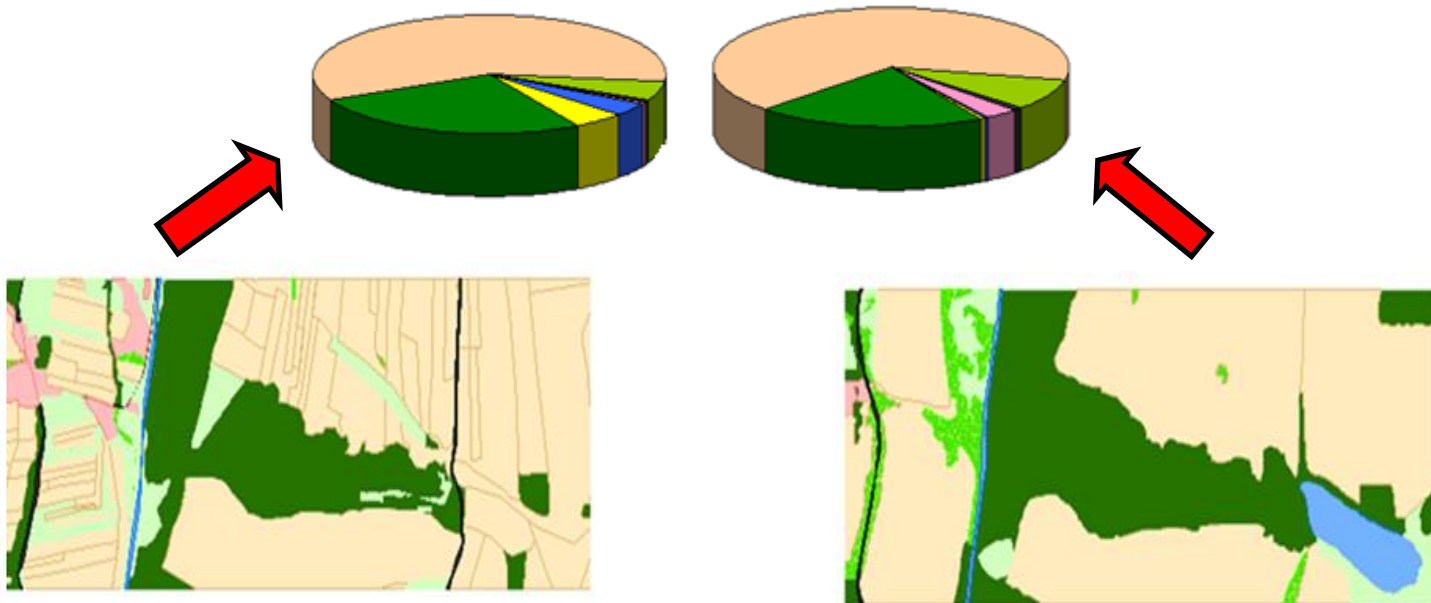




# Approaches to landscape analysis I.

## Changes in share and total area of LC classes

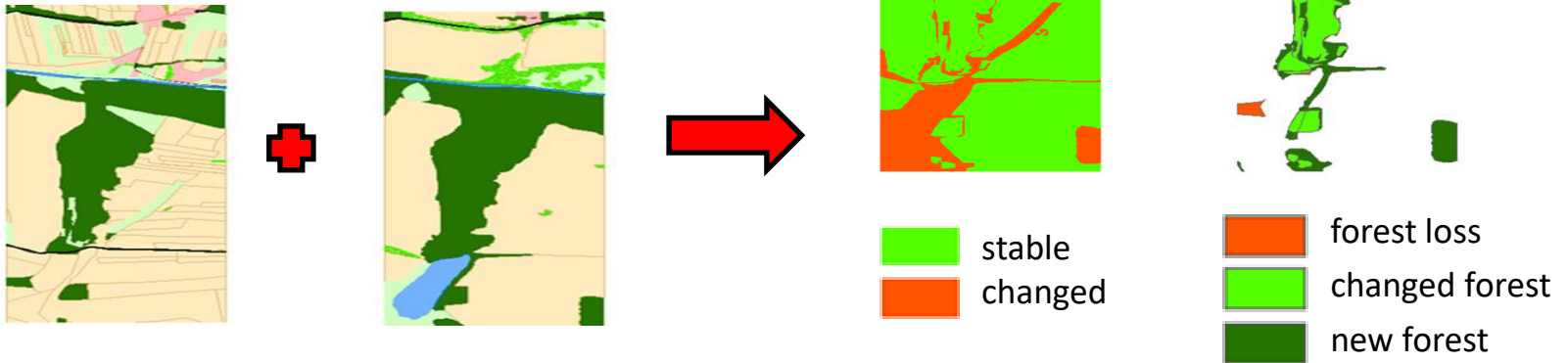
- compare German x Czech region
- area of national park and outside the park
- use of landscape metrics?



## Approaches to landscape analysis II.

### LC change trajectories for particular classes in Germany and Czechia

- How much and in place of what categories the forest patches have developed?
- What are the changes in agricultural land block sizes?
- What are the changes of LC in connection to elevation and slope?
- Other ideas?



**Danke für Ihre  
Aufmerksamkeit!**

**Děkuji  
za pozornost.**