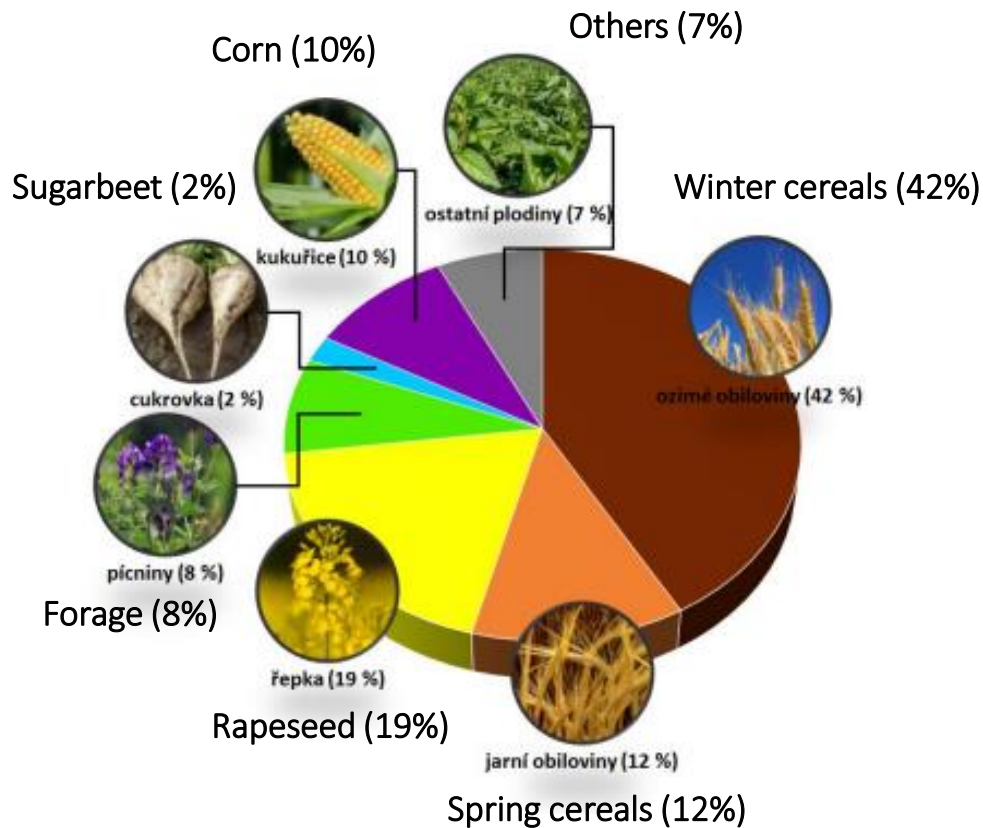


**T A
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Technologická
agentura
České republiky Program **Prostředí pro život**

Petr Lukeš

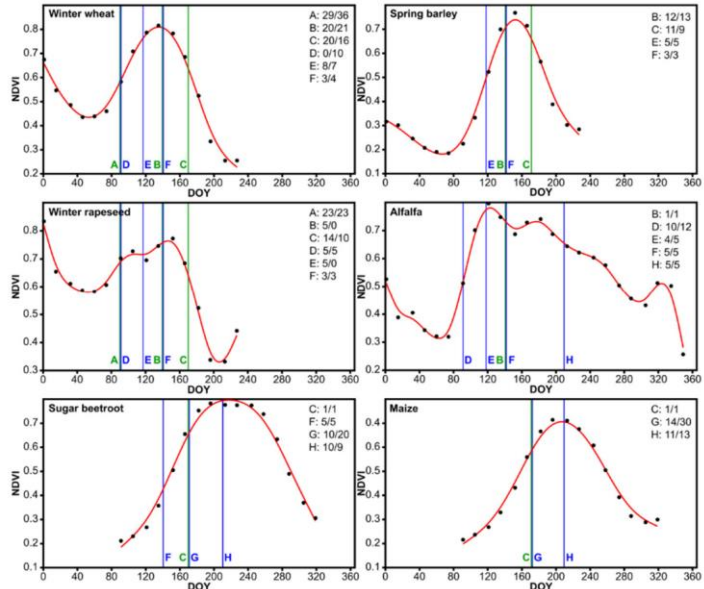
Agricultural monitoring at Czechglobe



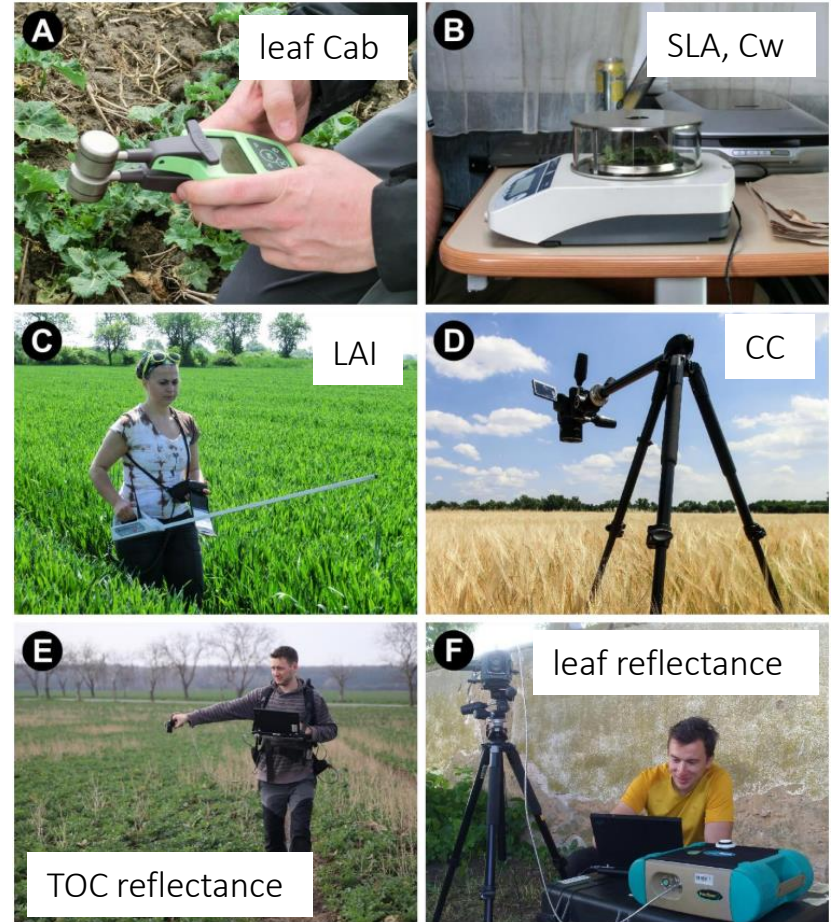
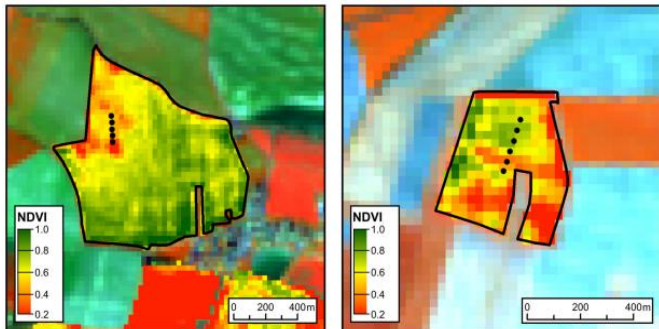
- 1) Retrieval of crop traits using RT model inversion
- 2) Assessment of crop yield risks from time series of satellite observations
- 3) Retrieval of long-term trends in soil organic content from Landsat bare soil composites

Field data collection

Selection of sampling days

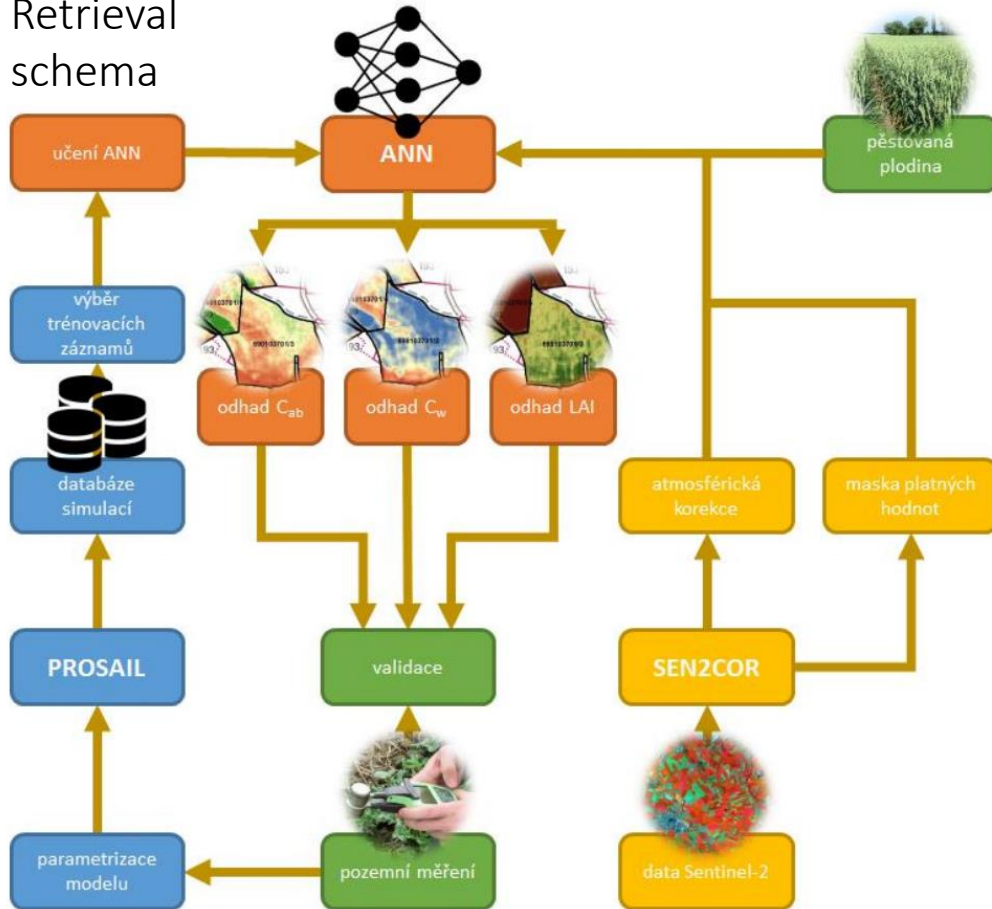


Spatial pattern

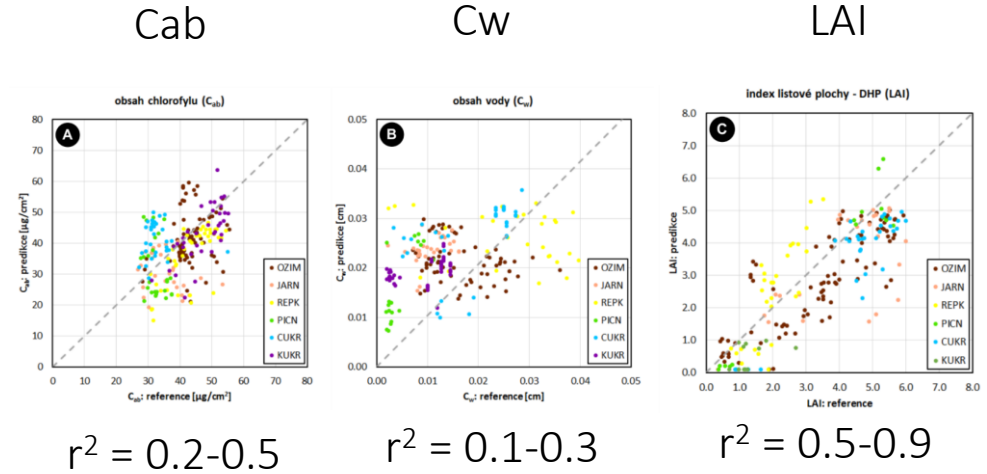


RT modelling and inversion

Retrieval schema



Validation against in-situ observations

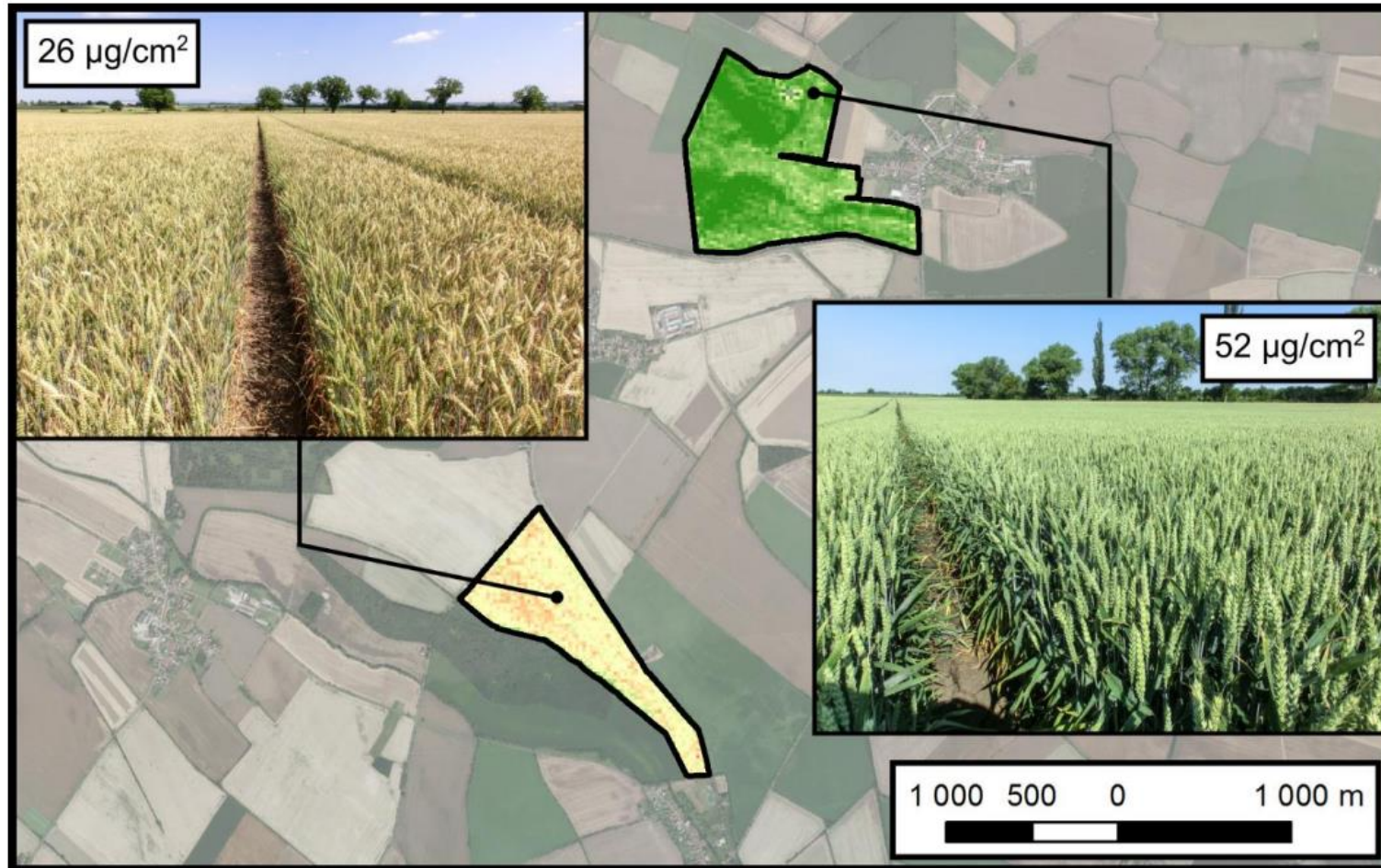


Article

Prototyping a Generic Algorithm for Crop Parameter Retrieval across the Season Using Radiative Transfer Model Inversion and Sentinel-2 Satellite Observations

Jiří Tomiček ^{1,2,*}, Jan Mišurec ¹ and Petr Lukeš ³

Spatial mapping of leaf chlorophyll content



Spatial mapping of leaf water content

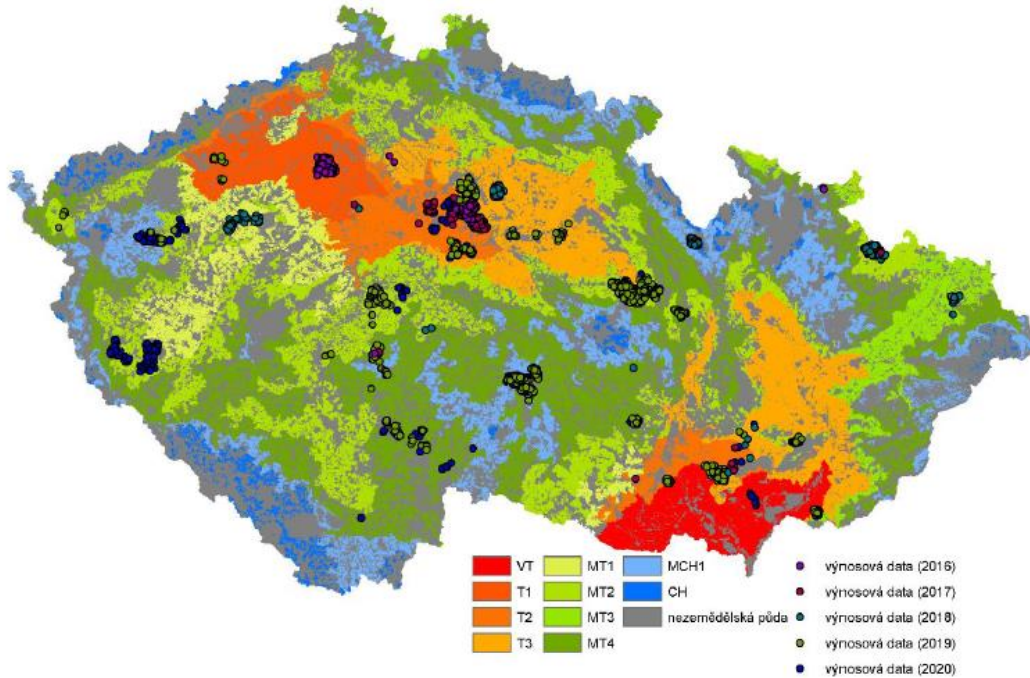


Spatial mapping of leaf area index

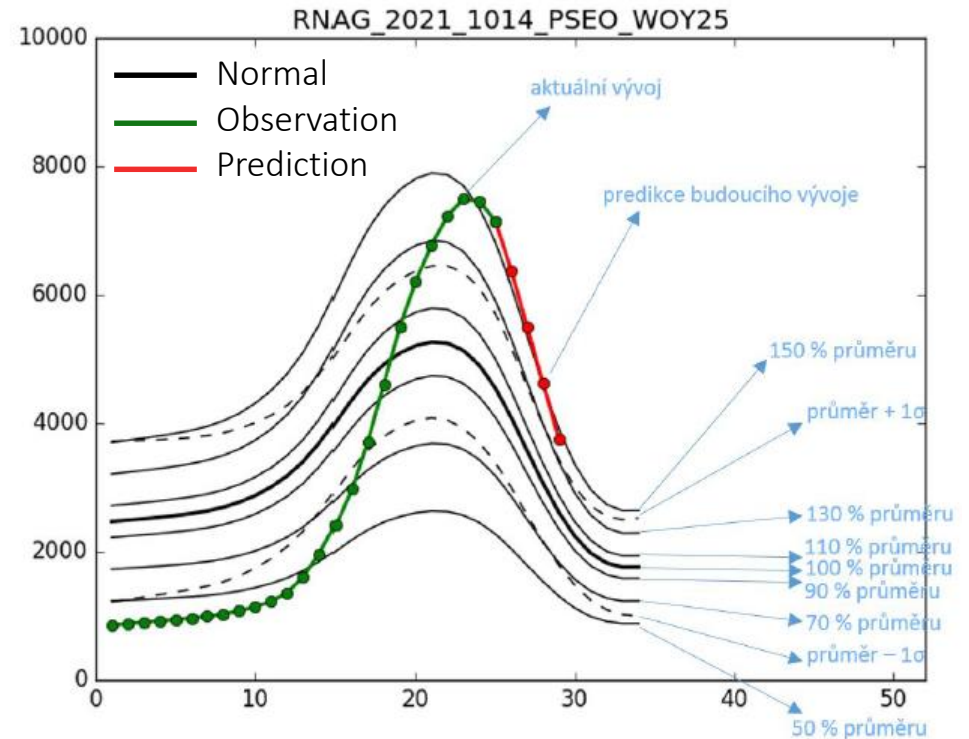


Long-term normals of VIs for different crops and agro-climate regions

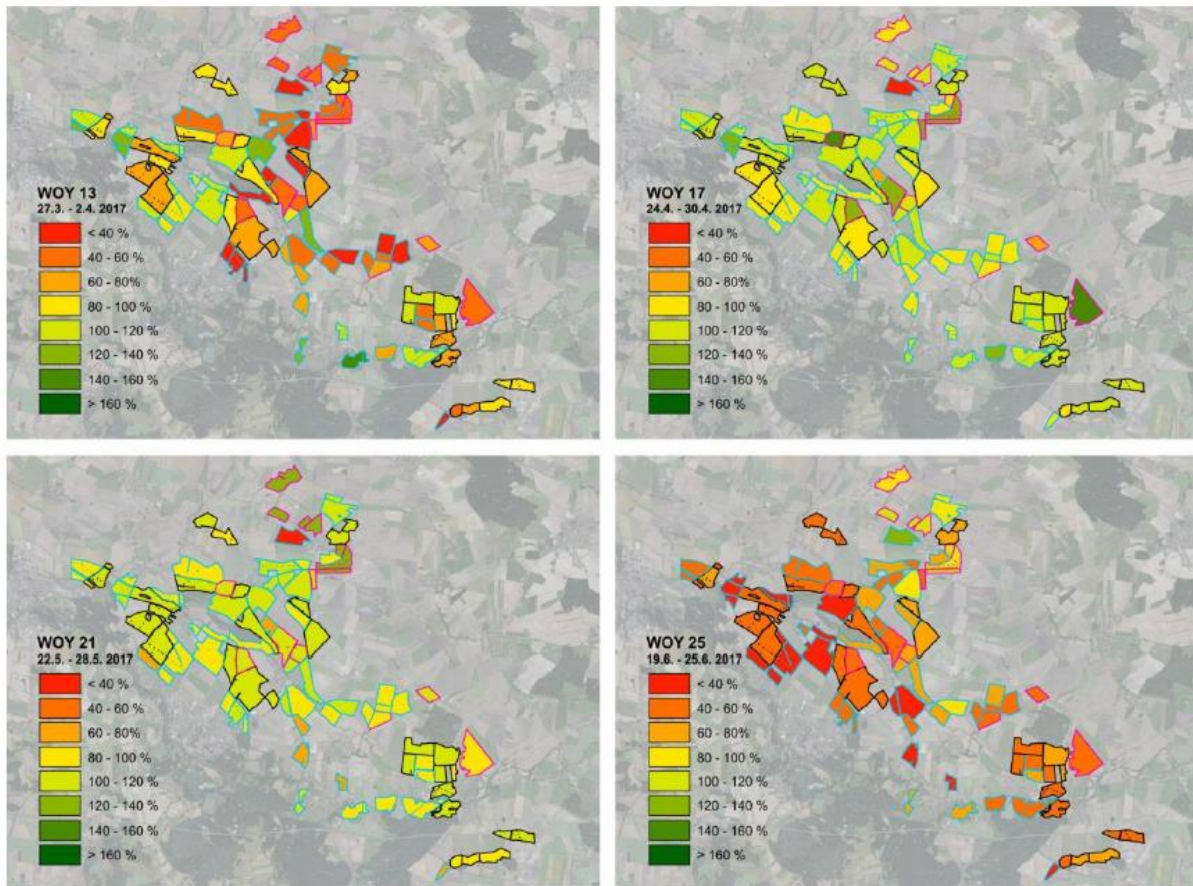
Agro-climate regions of Czech Republic



Crop and region-specific normal vs actual ob.

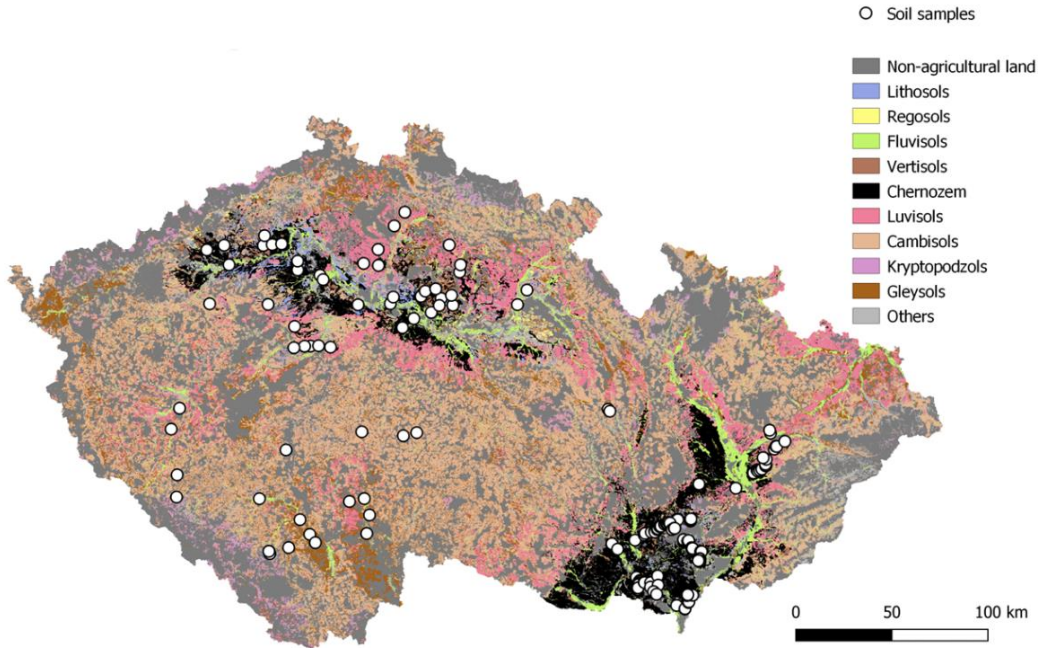


Assessing yield risk of winter wheat, rapeseed and barely throughout the season



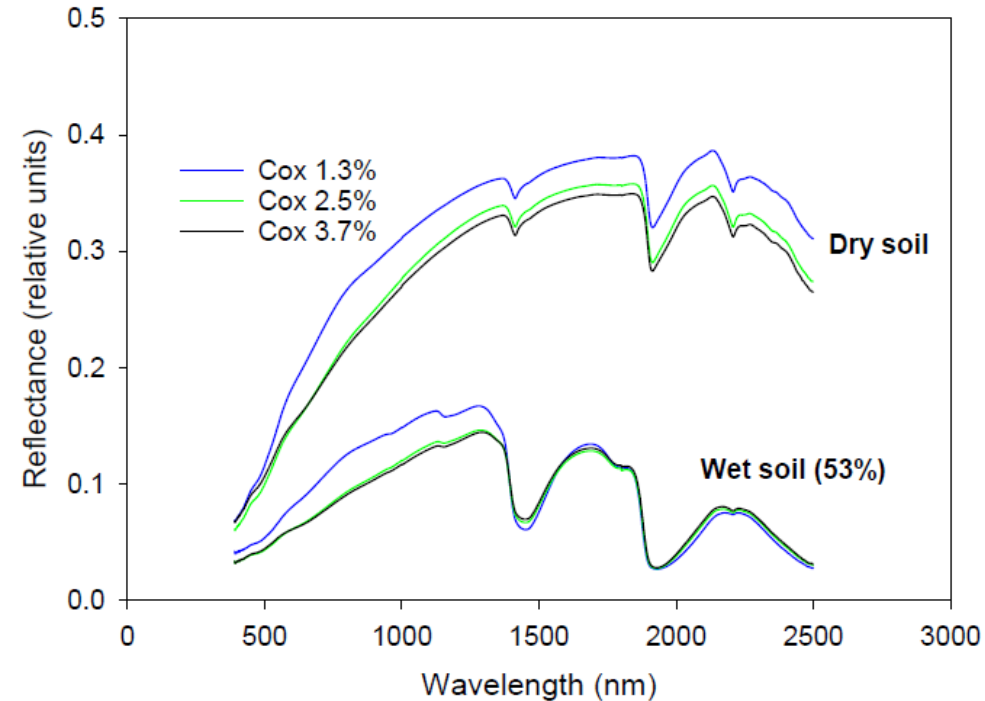
Soil organic content sampling

Soil types of Czech Republic

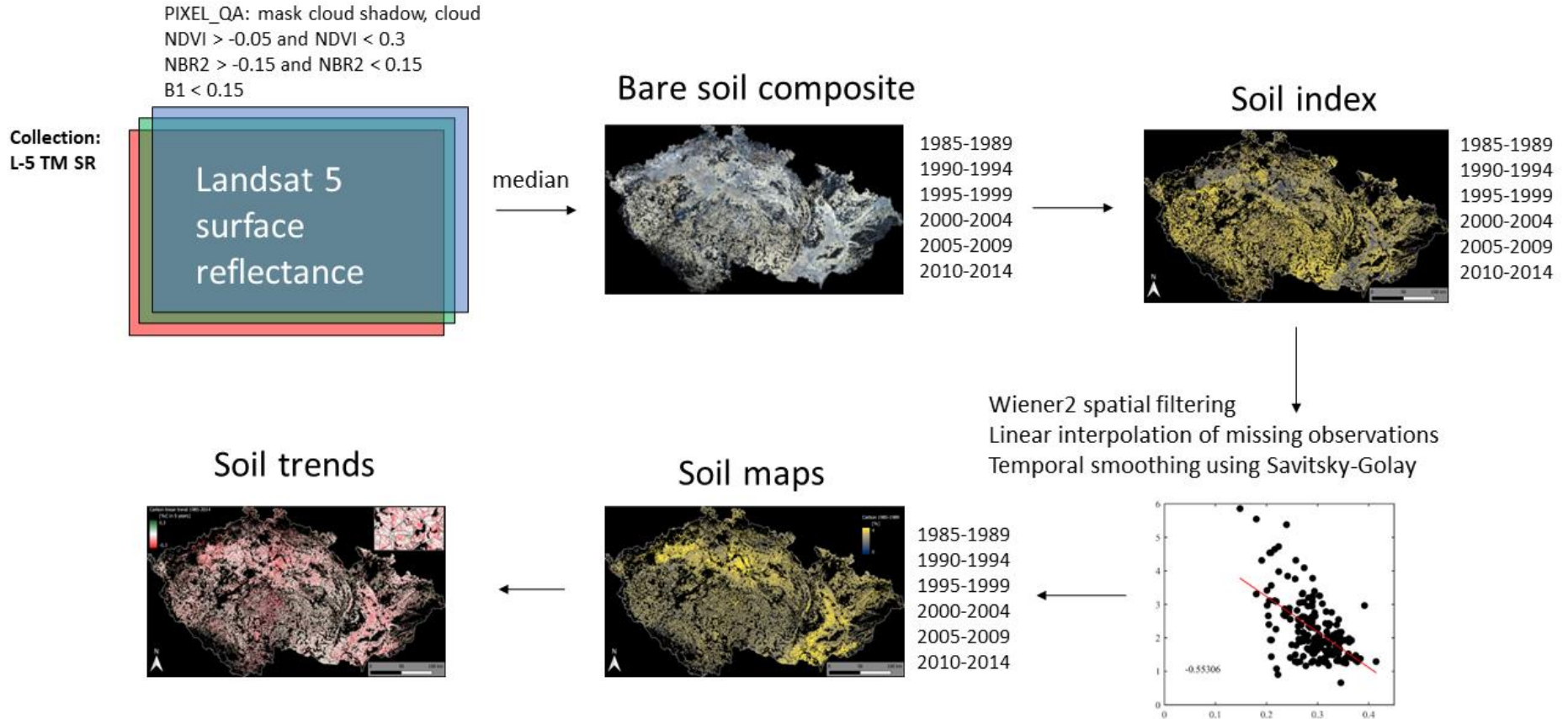


N = 185

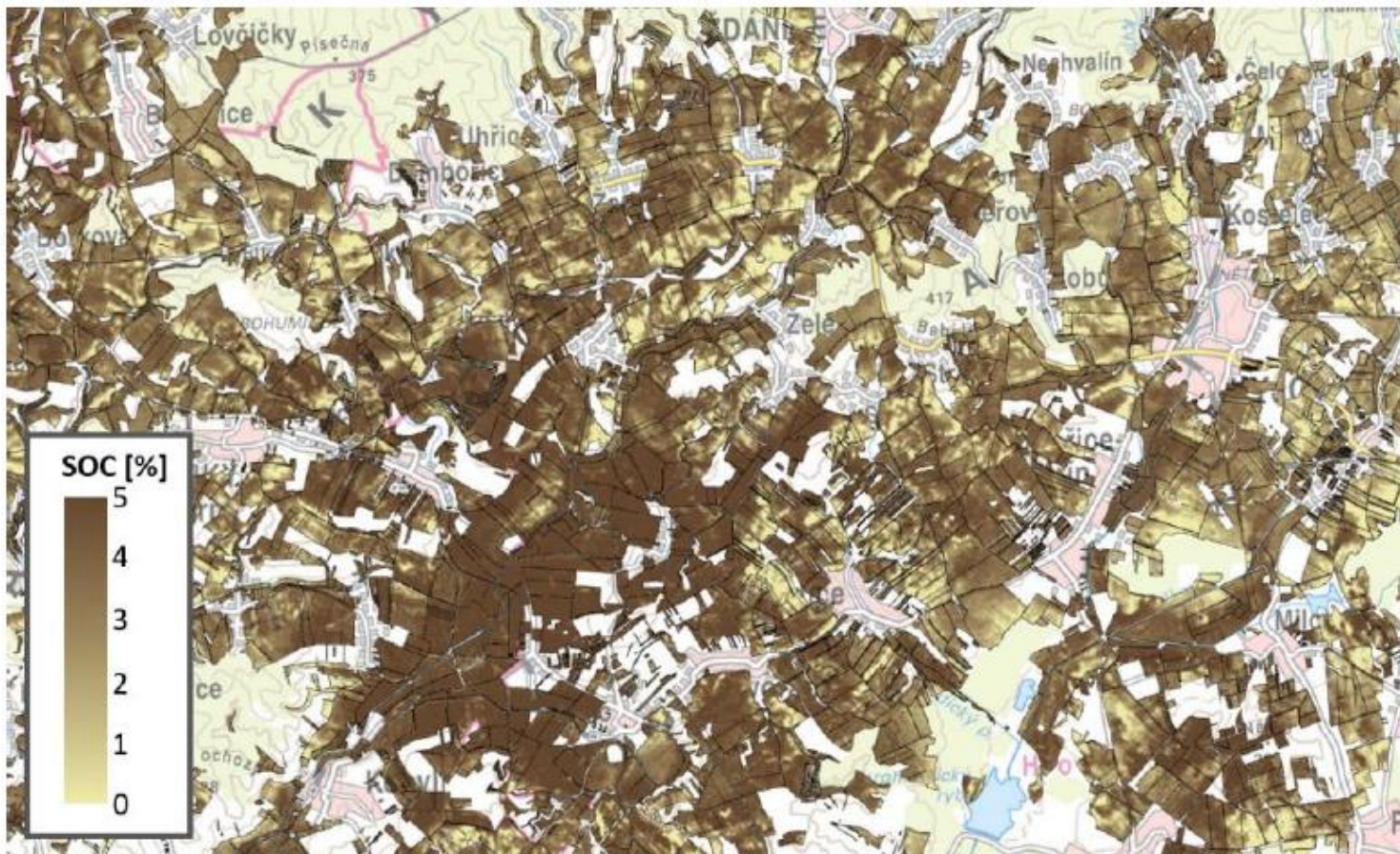
Potential of spectroscopy for SOC retrievals



Bare soil composite and its trends

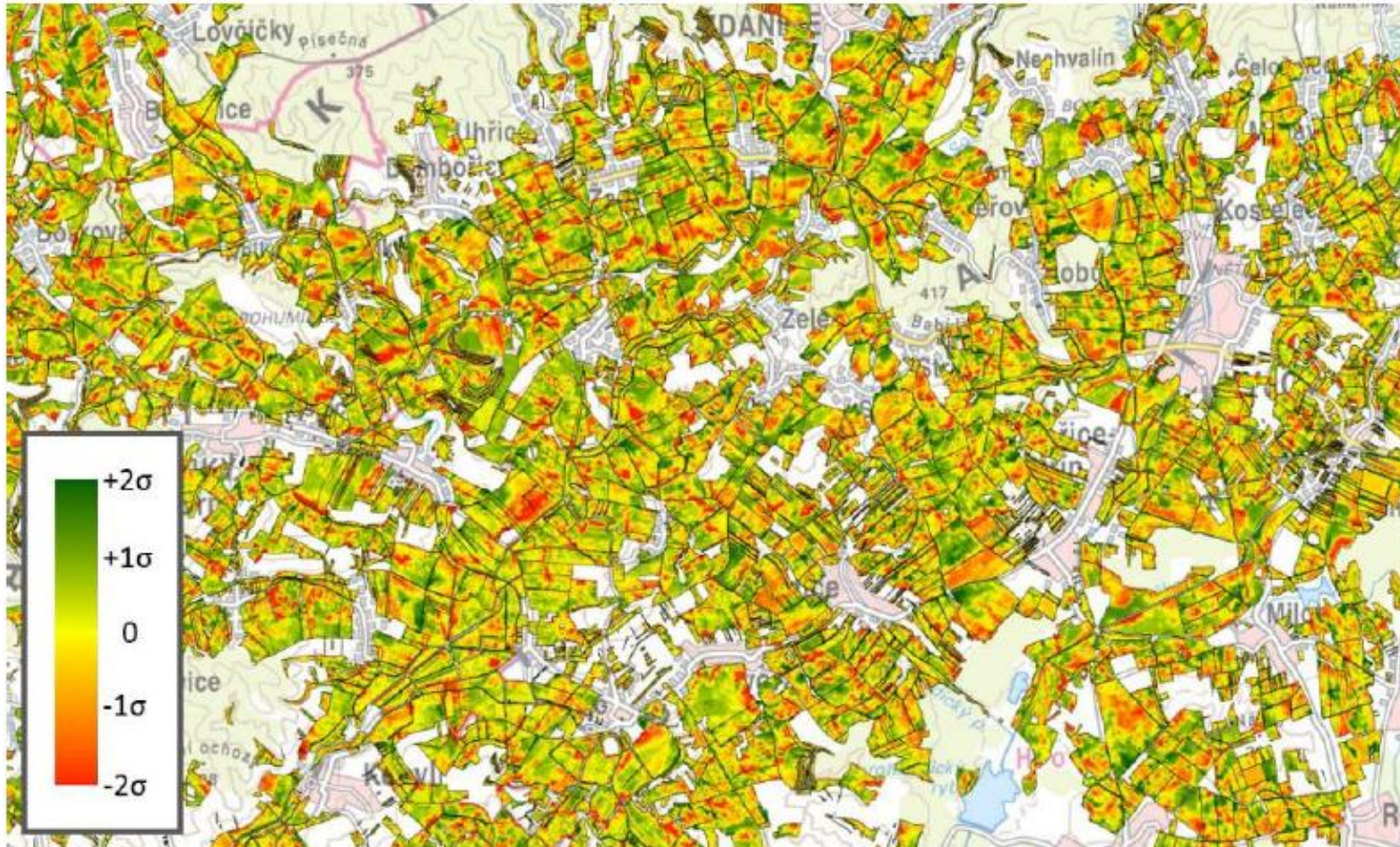


SOC maps : current status

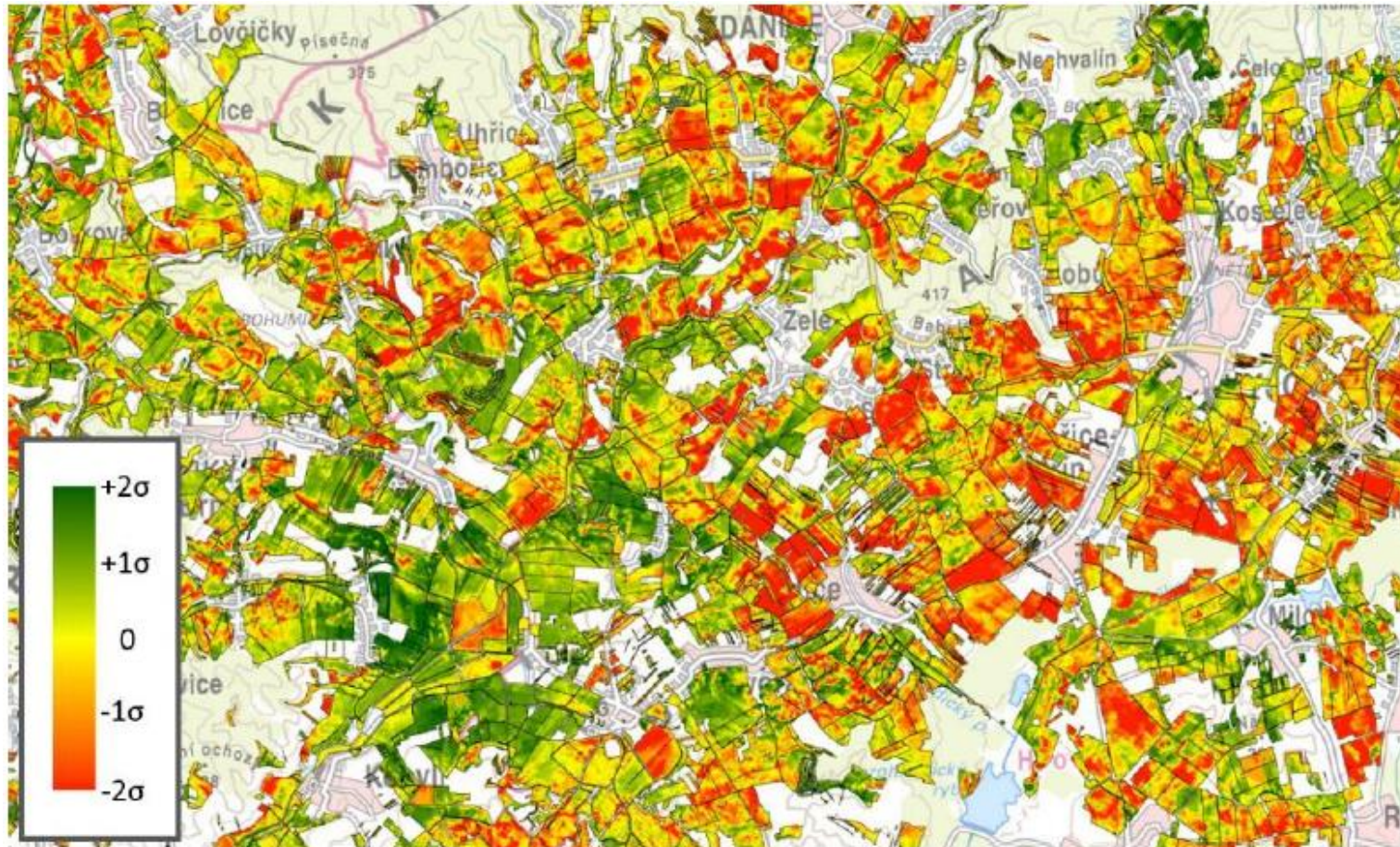


Ukázka výsledků odhadu obsahu organické hmoty v půdě pro období 2015 - 2019

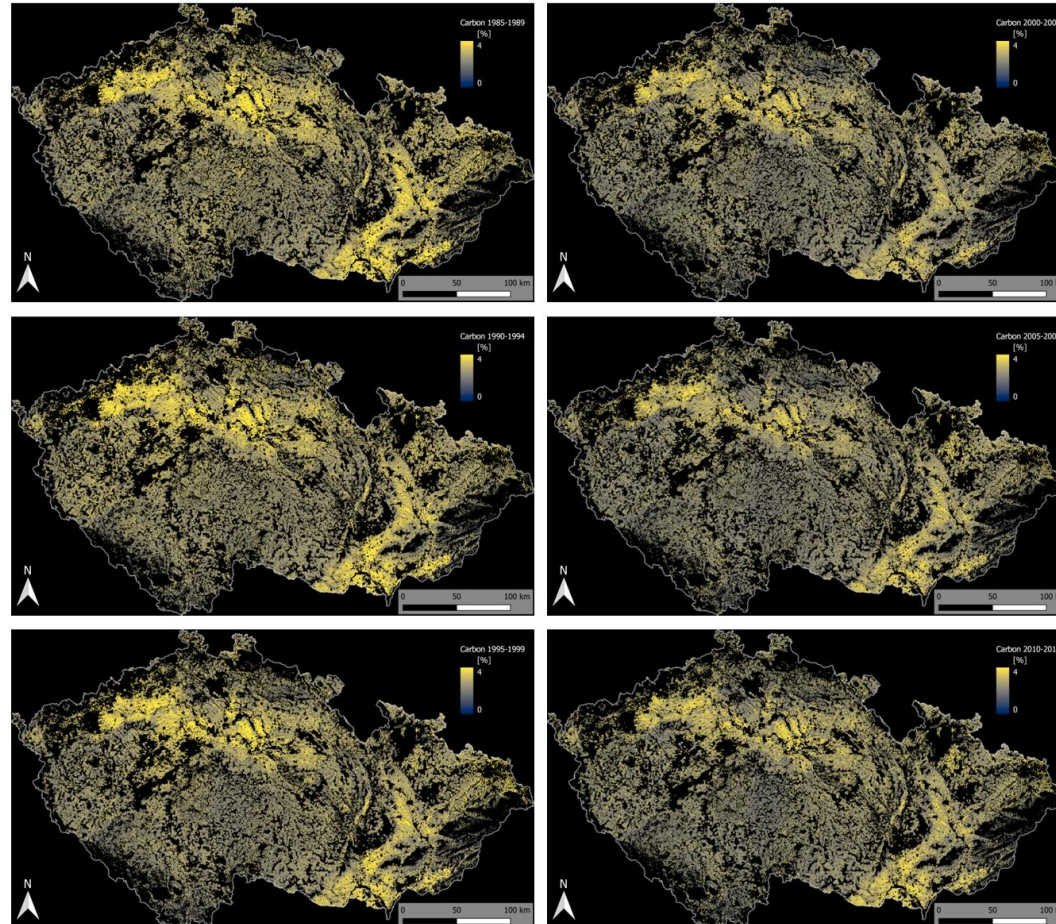
SOC interpretation: local variability



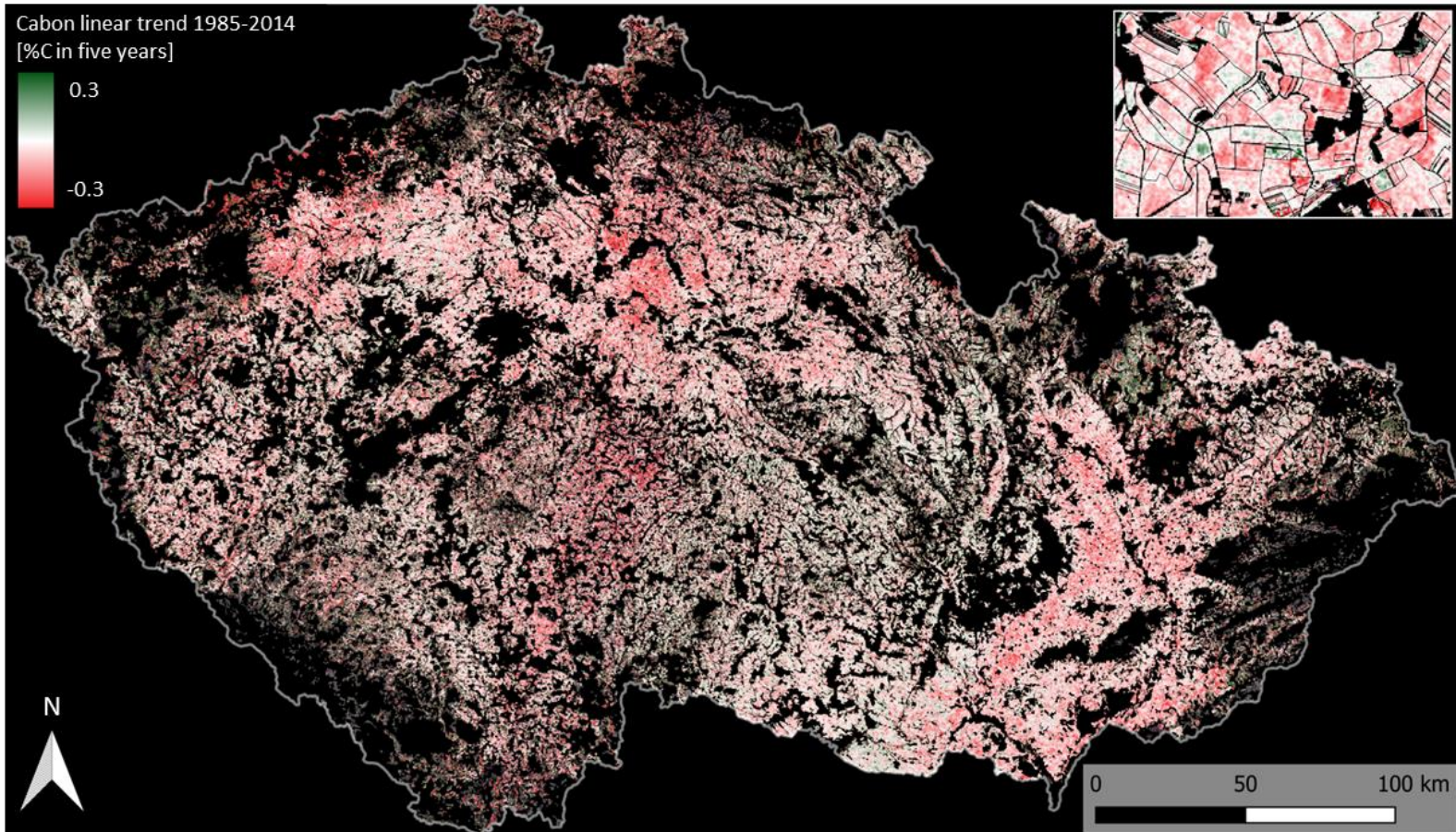
SOC interpretation: actual vs. long-term normal



SOC maps: historic observations from Landsat 5 and 8



SOC interpretation: trend analysis



Thank you for your attention

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