



SPATIAL STRUCTURE OF PEDODIVERSITY – AN EXAMPLE FROM THE CZECH REPUBLIC



THE NATURE OF SOIL

Pedodiversity (PD) is the variation of soil properties within an area. Deeper knowledge of PD is important for understanding the functioning of soil properties and their relationships in the changing environment.



SHANNON'S ENTROPY

Proposed to investigate spatial structure of pedodiversity (PD) using the concept of potential PD (PPD)—PD at each raster cell—proved suitable for PD spatial structure study.



SPATIAL STRUCTURE OF PD IN A MORE DETAILED WAY

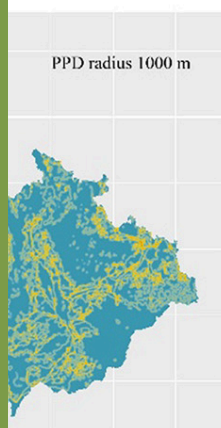
Eliminating the need for spatial interpolation to achieve spatial distribution map.

This study showed the linkage between the special structure of PPD and associated land area.

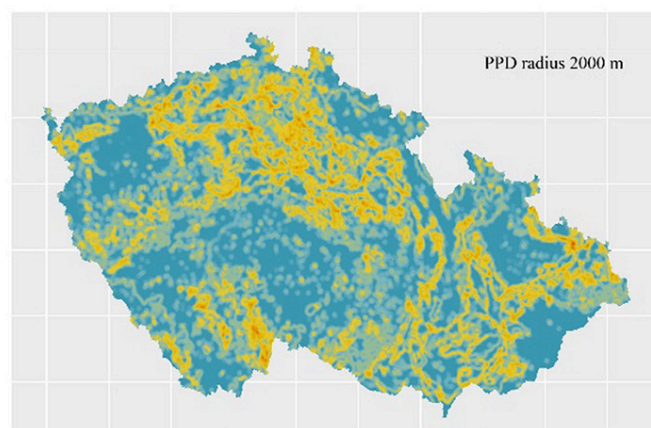


AUTHORS

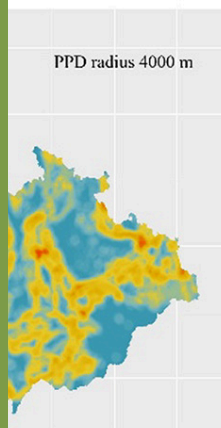
Radim Vašát, Oldřich Vacek,
Luboš Borůvka (2023)



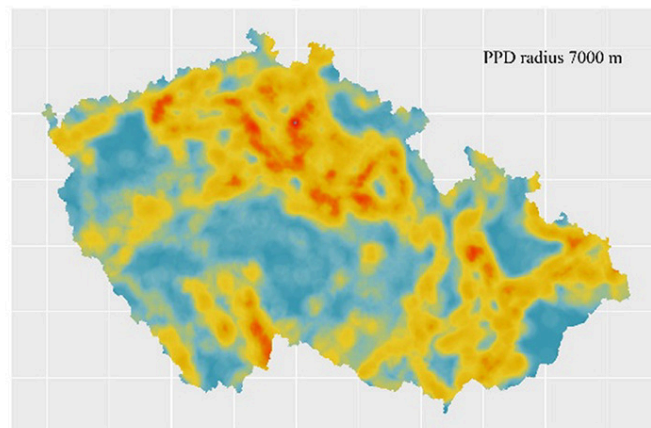
PPD radius 1000 m



PPD radius 2000 m



PPD radius 4000 m

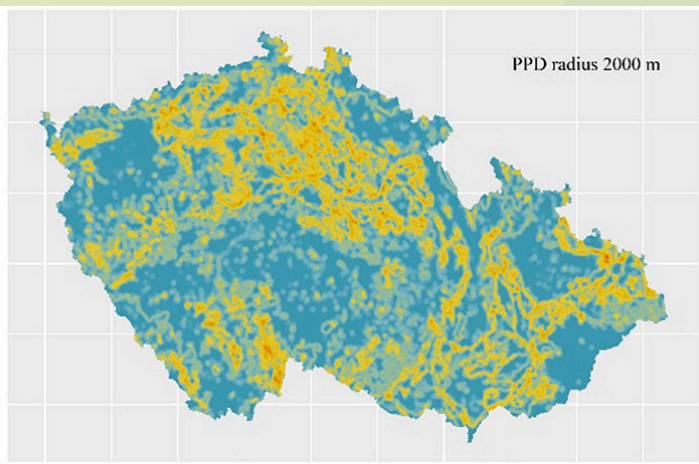
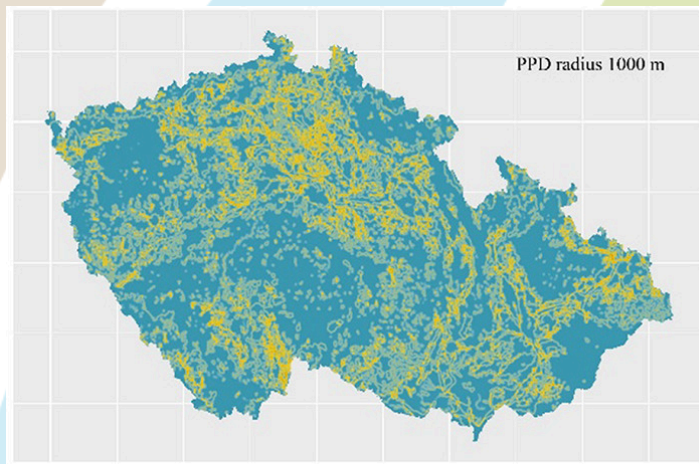


PPD radius 7000 m

Spatial patterns of potential pedodiversity (PPD)

The concept of PPD is an useful method to account variability and patterns in soil properties across scale.

EJP SOIL INNOVATION HIGHLIGHTS



TOWARDS CLIMATE-SMART SUSTAINABLE MANAGEMENT OF AGRICULTURAL SOILS

EJP SOIL is a European Joint Programme on Agricultural Soil Management addressing key societal challenges including climate change and future food supply.

The goal is to improve the understanding of agricultural soil management by finding synergies in research, strengthening research communities and raising public awareness.

1100+ scientists, 24 countries, addressing multiple aspects of soil management across different European agroecosystems.

EJP SOIL FUNDED PROJECT ROAD4SCHEMES

Shannon's entropy is often used to express the magnitude of soil diversity, but its applicability for the study of spatial structure of pedodiversity is limited by its nature of characterizing the entire monitored area with only one value.

PROJECT COORDINATOR

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TARGET EJP SOIL EXPECTED IMPACT AND EU MISSION SOIL OBJECTIVES

Supporting harmonized European soil information, including for international reporting.

SOIL MISSION: Conserve soil organic carbon and improve soil structure

HIGHLIGHT FACTS FROM:

EJP SOIL funded project:
ROAD4SCHEMES



Applicability:
Alpine South and Continental climatic zones
according to
Metzger et al. (2005)

<https://doi.org/10.1111/j.1466-822X.2005.00190.x>

EJP SOIL has received
funding from the European
Union's Horizon 2020
research and innovation
programme: Grant
agreement No 862695

