



MACROPORES

Land use and soil types affect macropore network, organic carbon and nutrients retention. Highest macroporosity along the soil profile in grassland, followed by arable land and forests



THE ROLE OF ORGANIC CARBON

Soil organic carbon had a significant effect on the total macroporosity, especially on medium and fine macropores in all soil types, irrespective of land use. Consequently, N-total, P-total and K-total retention also depended on medium and fine macropores.



3D STRUCTURE

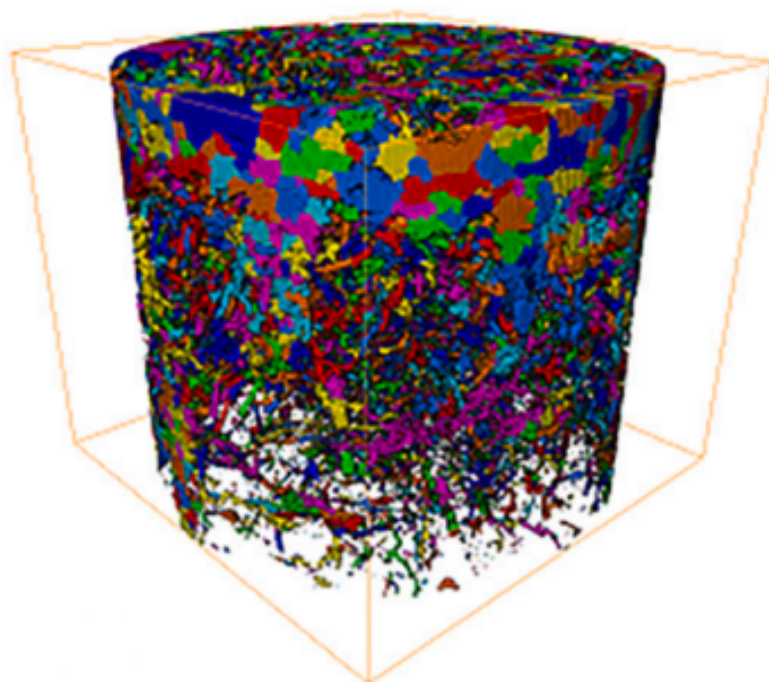
3D visualization of macropores at different soil horizons was performed X-ray computational tomography in Cambisol (grassland), Luvisol (forest), Retisol (forest and arable land – conventional tillage).



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LAND USE AND SOIL TYPES AFFECT MACROPORE NETWORK, ORGANIC CARBON AND NUTRIENT RETENTION



3D visualization to study soil structure

Quantifying the macropore structure of a soil is critical for understanding plant growth and the movement of water or solutes in the soil.

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. <https://ejpsoil.eu/>

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

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

EJP SOIL FRAMEWORK PROGRAMME TRACE-SOILS

The aim of the TRACE-Soils project is to identify the mechanisms underpinning trade-offs and synergies of soil carbon sequestration, greenhouse gas emissions and nutrient losses in agricultural soils across Europe, and propose climate-zone specific indicators and measures to mitigate trade-offs.

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TARGET EJP SOIL EXPECTED IMPACT AND EU MISSION SOIL OBJECTIVES

Understanding of soil management for climate change mitigation, adaptation, sust production & sustainable environment

Understanding soil carbon sequestration and its contribution to climate change mitigation

Mission SOIL: improve soil structure to enhance soil biodiversity

HIGHLIGHT FACTS FROM:

EJP SOIL project
TRACE SOILS



Applicability:
all climatic zones according to
Metzger et al. (2005)
<https://doi.org/10.1111/j.1466-822X.2005.00190.x>

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