



HoliSoils

Working together for forest soils

HoliSoils (Holistic management practices, modelling and monitoring for European forest soils) provides an improved, integrated, and harmonised monitoring and modelling framework for forest soils across Europe. It is a 54-month project funded by the European Commission's Horizon 2020 programme, running from May 2021 to October 2025.



Analytical techniques



Data and model sharing



Soil properties, biodiversity and ecosystem services



Soil model development



Tools for soil monitoring



Climate-Smart Forest management practices for soils

ACTION ON GREENHOUSE GASES!

We need a better understanding of the role of forest soils in the global climate through carbon storage and emissions and removals of greenhouse gases (GHG).

HoliSoils provides support and training on standardised sampling and monitoring protocols for land use and forestry experts who work on GHG inventories.

HoliSoils also provides guidance to forest owners and managers, as well as decision makers, extension services and industry, on Climate-Smart Management options for forest soils.



What is special about soils?

Soils are crucial for the global climate and human wellbeing. There are clear benefits for people and the planet in the sustainable transition of land management to practices that strengthen mitigation of climate change, reduce soil degradation, avoid or reduce erosion, and maintain or restore soil organic carbon, nutrients, and soil water. From maintaining biodiversity to providing ecosystem services, sustainable forest management practices start in the soil.

Why HoliSoils?

Knowledge gaps on forest soil processes and the lack of harmonised soil monitoring limits our ability to maintain soil-related ecosystem services and achieve climate policy objectives.

A better understanding of soil processes is urgently needed to support decision making in meeting climate and sustainability goals. This requires harmonised monitoring methods, models, tools and data to develop and inform policies and strategies to meet the SDGs of the UN 2030 Agenda, the Paris Agreement, as well as the European Green Deal.

Main outputs

Over the course of the project, HoliSoils is building a comprehensive toolkit of databases, tools, models, maps, protocols, guidelines and publications, improving and adapting existing tools and methodologies, and creating new ones where appropriate.

1. Toolbox of analytical techniques

Harmonised methods for measuring soil properties and drivers of microbiological processes with importance for soil carbon sequestration capacity.

2. Harmonised soil modelling

State-of-the-art soil models including the effects of soil biodiversity on forest carbon balances.

3. Network of test sites on climate-smart forest management practices for soils

Management guidance for holistic, climate-sustainable soil management.

4. Climate-smart soil and forest management strategies

Good practices for management to mitigate and adapt to climate change.

5. Soil resilience and recovery capacity

Advanced understanding of soil resilience and recovery capacity after natural disturbances.

6. Forward looking assessment of climate-smart forest management strategies

Quantify impacts, trade-offs and synergies of climate-smart forest management under different management and climate scenarios in Europe.

7. Training and capacity building

Workshops, webinars, field visits, test-site visits, handbooks, guidelines and protocols for LULUCF experts, forest managers and owners and forest and soil monitoring networks.

8. Multi-actor approach

Transfer of approaches, knowledge and tools to operators within the forest sector globally.



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Partners

HoliSoils is coordinated by the Natural Resources Institute Finland (Luke), and is made up of a consortium of 20 project partners, 18 from across Europe with partners from South America (Uruguay) and Asia (Japan) broadening the perspective globally.

The multidisciplinary consortium consists of universities and research institutes with leading expertise on soil analysis and databases, development of advanced analytical techniques, complex system modelling, digital soil mapping, soil ecology, disturbance ecology, forest and GHG inventories, social sciences, and communications.



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