Project ECHO: Engaging citizens in soil science

a presentation by
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TOPIC: HORIZON-MISS-2022-SOIL-01-09 Citizen science for soil health

Start Date 1\textsuperscript{st} June 2023  
Duration: 48 months

Mission Specific Objectives covered
- conserve soil organic carbon stocks
- reduce soil pollution and enhance restoration
- reduce the EU global footprint on soils
- improve soil literacy in society

Mission Operational Objectives covered
- build capacities and the knowledge base for soil stewardship
- develop an integrated EU soil monitoring system and track progress towards soil health
- engage with the soil user community and society at large
Partners

ECHO is a shared effort of 16 partners from all over Europe, including leading universities, research centres, SMEs, and foundations - under the coordination of the Free University of Bolzano-Bozen.
Why is ECHO important?

EU MISSIONS
SOIL DEAL FOR EUROPE
Concrete solutions for our greatest challenges

#EUmissions #HorizonEU #MissionSoil
Why is ECHO important?

**MISSION AREAS:**

- Adaptation to climate change, including societal transformation
- Climate-neutral and smart cities
- Healthy oceans, seas, coastal and inland waters
- Soil health and food
- Cancer

#HorizonEU

European Commission

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 ✓ EU Missions are a new way to bring concrete solutions to some of our greatest challenges. They have ambitious goals and will deliver tangible results by 2030.

 ✓ EU Missions are a novelty of the Horizon Europe research and innovation programme for the years 2021-2027.

 ✓ They will deliver impact by putting research and innovation into a new role, combined with new forms of governance and collaboration, as well as by engaging citizens.
What is ECHO?

AIM: To engage citizens in protecting and restoring soils by building their skills and enhancing their knowledge.

June 2023

ECHO
ENGAGING CITIZENS IN SOIL SCIENCE: THE ROAD TO HEALTHIER SOILS

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Our objectives

THE “3Es” FOR CITIZENS:

ENGAGE

EMPOWER

ENABLE
Our objectives

- **ENGAGE** citizens and through increased knowledge and improved literacy stimulate their interest in soil health

- **EMPOWER** citizens and invite them to take an active role in data collection and soil science to generate knowledge on soil health

- **ENABLE** citizens to directly participate in decision-making on soil issues based on acquired knowledge
## Expected results

### Objective 1:
Engage citizens and stimulate their interest in soil health related issues and motivate them to protect and restore soils

- **Result 1:** Pan-European map of target citizen groups
- **Result 2:** Citizen engaged with soil health activities
- **Result 3:** Soil stewardship across Europe

### Objective 2:
Empower citizens to understand the functioning and value of soils and to be capable of taking an active role in soil science

- **Result 4:** Citizen science platform
- **Result 5:** Increased knowledge among citizens about soil health
- **Result 6:** Increased knowledge about soil health amplifying scientific research

### Objective 3:
Enable citizens to take an active role in directly participating in decision-making on soil issues thanks to the acquired knowledge

- **Result 7:** Long-term digital data repository
- **Result 8:** Different end-users groups engaged
- **Result 9:** Showcase of the utility of citizen science data on soil health

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**Tools & Activities**

- **28**
  - tailor-made citizen science initiatives across EU Member States

- **16 500**
  - sites in different climate and biogeographic regions assessed

**TOOLBOX**

Citizen Science Toolbox - a free resource including open access field guidelines, protocols and forums

**ECHOREPO**

a long-term open access repository with a direct link to the EUSO
BROADEN THE SPECTRUM OF SOIL TYPES AND LAND-USES

Distribution of the major European soil types and biogeographic regions, and the location of the ECHO partners:
Tools & Activities

Soil health indicators (Mission Soil implementation Plan)

<table>
<thead>
<tr>
<th>Soil health indicators</th>
<th>Approach</th>
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<tbody>
<tr>
<td>Presence of pollutants</td>
<td>Plastic and/or metals debris count, visual observation</td>
</tr>
<tr>
<td>Soil organic carbon</td>
<td>Colour grid</td>
</tr>
<tr>
<td>Soil structure</td>
<td>Spade Test</td>
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<tr>
<td>Soil biodiversity</td>
<td>Earthworm count, tea bag assay, animal and seed counting</td>
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<tr>
<td>Soil acidity (pH)</td>
<td>Presence of indicator plant species, test with vinegar/baking soda</td>
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<tr>
<td>Vegetation cover</td>
<td>Visual observation, Plant identification</td>
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<tr>
<td>Landscape heterogeneity</td>
<td>Visual observation</td>
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<tr>
<td>Forest cover</td>
<td>Visual observation, Plant identification</td>
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</table>
How can you contribute to the ECHO Soil project?

Join the ECHO Project for Europe's future and become an ECHO Ambassador!

What will ECHO Ambassadors do?

ECHO Ambassadors are vital for spreading awareness of soil health and our mission to contribute to improving European soil health in local communities. They will lead ECHO’s citizen science efforts and soil sampling in their areas, supported by our team.

Become an ECHO Ambassador

https://echosoil.eu/become-an-echo-ambassador
Expected impact

- Knowledge, literacy and awareness
- Action across sectors
- Monitoring programmes
- Support to missions
check out echosoil.eu for updates!
check out echosoil.eu for updates!
thank you for your attention!

CONTACT US!

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