



EUROPEAN UNION



EU MISSIONS

SOIL DEAL FOR EUROPE



© European Union, 2023

Living labs under the EU Mission 'A Soil Deal for Europe'

Jelena Vidovic, Dr.Sc., Research Programme Officer
Soil Mission Secretariat
Unit F2 Research and Innovation
DG Agriculture and Rural Development, European Commission

#EUmissions #HorizonEU #MissionSoil

This presentation is delivered by a member of a Horizon Europe Mission Board, which is an informal group of experts set up by the European Commission to support the implementation of Horizon Europe Missions. The contents of the presentation do not represent the official views of the European Commission nor do they constitute a commitment of any kind on its behalf



Why an EU Mission on soil?

Soils support ecosystem services and provide vital functions:

producing nutritious
and safe food



hosting
biodiversity



cycling
nutrients



purifying and regulating
water, protection from
droughts and floods



storing and cycling carbon,
supporting climate mitigation
and adaptation



Supporting human
activities, landscapes
and cultural heritage



Soil Deal
for Europe

Soils are threatened:

60-70% of soils in Europe are considered to be **unhealthy** due to current management practices, pollution, urbanisation and the effects of climate change.

Soil is a finite resource,

meaning its loss and degradation is not recoverable within a human timespan.



EUROPEAN UNION

Goal: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

Specific objectives:



1. Reduce desertification



2. Conserve and increase soil organic carbon stocks



3. Stop soil sealing and increase re-use of urban soils



4. Reduce soil pollution and enhance restoration



5. Prevent erosion



6. Improve soil structure to enhance soil biodiversity



7. Reduce the EU global footprint on soils



8. Improve soil literacy in society

Each specific objective is backed by **one or more quantified targets** and **measurable indicators**.

Objectives apply to **all types of land use**.

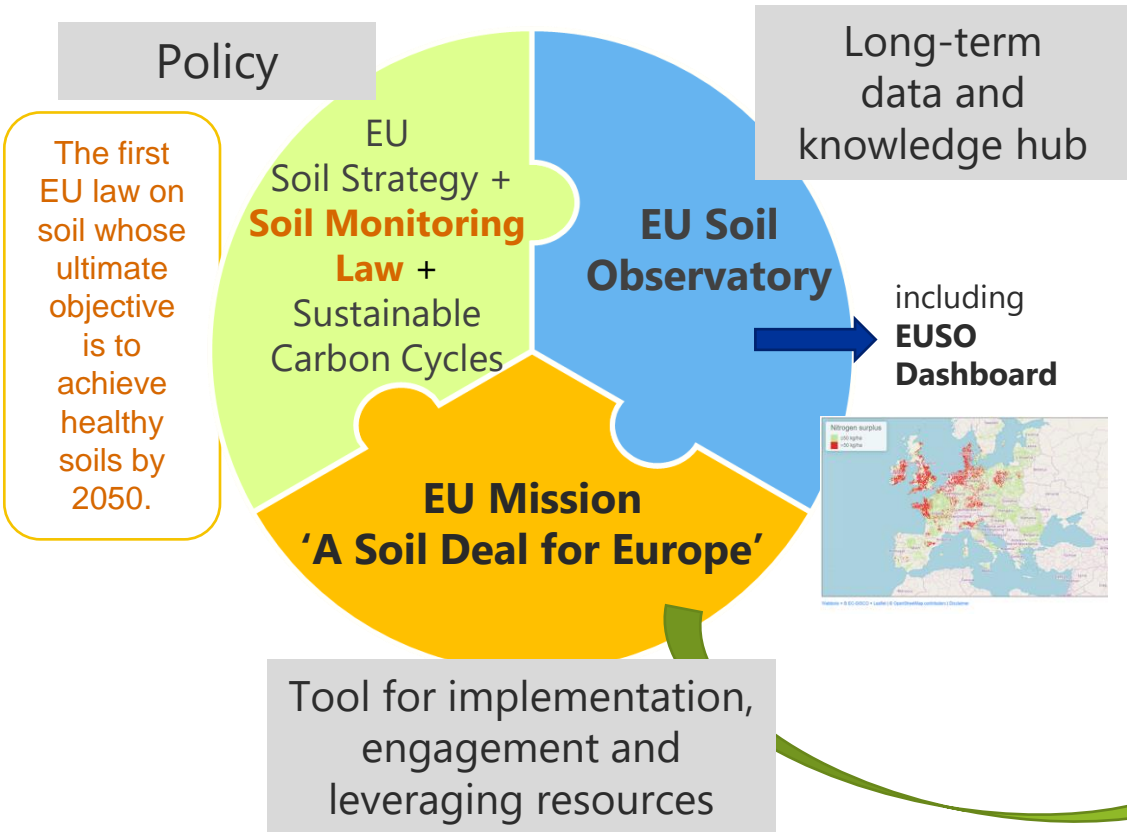


EU
MISSIONS

SOIL DEAL FOR EUROPE



European pathway to healthy soils: the role of innovation



Challenges

- Knowledge regarding sustainable soil management is not sufficiently applied in practice (**knowledge – practice divide**).
- More knowledge and data needed to address soil health: **biodiversity, contamination** (pesticides, nutrients...), **carbon farming, waste management**.
- In the EU, **soil monitoring** is **not harmonised** or undertaken in a **systematic** way.

The Mission Soil

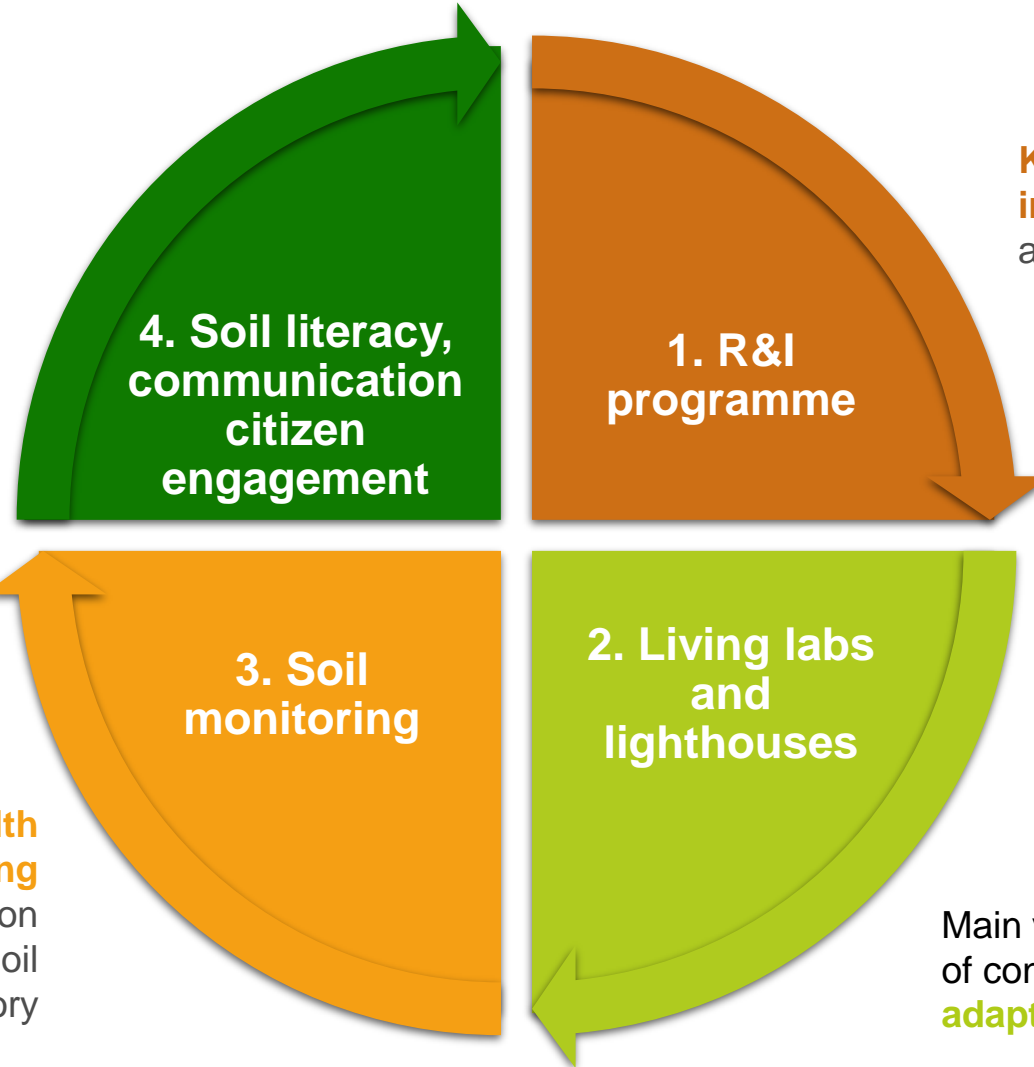


A novel **transdisciplinary**, cross-sectoral, **real-life** testing approach to soil management addressing **all land uses**: agriculture, forestry, urban, industrial.



How is the Mission implemented

Communication, training and advise targeted to different target groups; specialised “soil advisors”



Knowledge, data, technologies and infrastructures to support practices and business models for soil health

A comprehensive **network of real-life sites** for co-creating, testing, demonstrating and upscaling of solutions

Harmonization **of soil health monitoring and reporting** across Europe; contribution to European Soil Observatory

Main vehicle for addressing the diversity of conditions and generating **locally adapted solutions**



Living labs and lighthouses according to the Mission Soil (1)

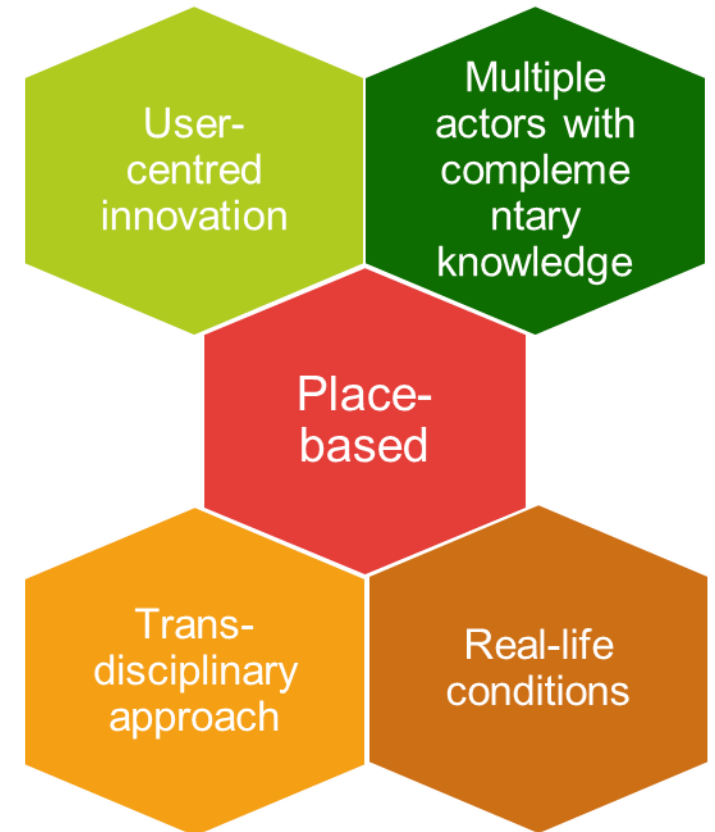
Living labs are a core element of the mission

- **Aim:** innovation, co-creation, improving soil health and ecosystem services
- **Activities:** co-design/co-development/co-creation, networking, knowledge exchange (Demonstration for LH)
- **Participants:** Public-private partnership (science, policy, practice, citizens)
- **Context:** transdisciplinary, multi-method and multi dimensions, place-passed, real life, scientific set up, openness, communication, dissemination

Lighthouses are individual sites of exemplary performance

- Individual sites, such as a single farm
- Showcase good practices, training and communication

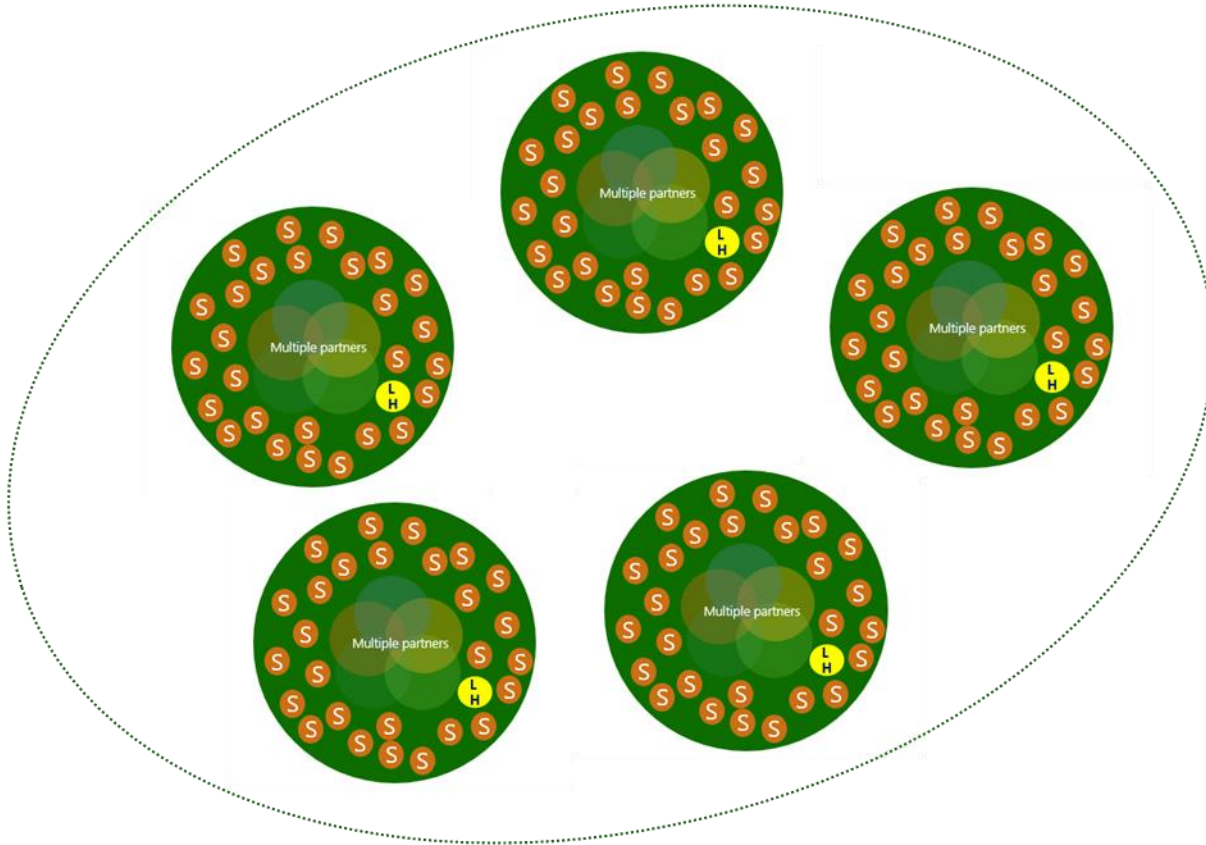
Living labs and lighthouses are key to **accelerate the adoption of sustainable practices by users** and co-developed methods adapted to the local conditions.





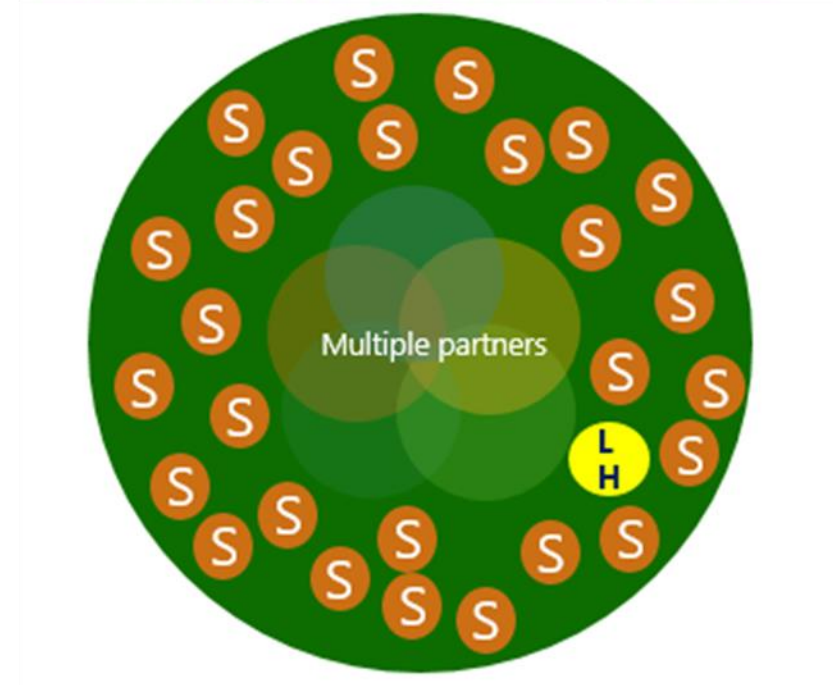
Living labs and lighthouses according to the Mission Soil (2)

1 project (LL cluster) with 5 Living labs



Each LL cluster covers at least 3 **Member States** and/or **Associated Countries**

Each living lab with multiple sites



LLs can be located in **rural or urban areas**, covering one or several land types



Gradual development of Mission LLs&LHs

Phase 1 (2021-2023)

Work programme 2021:
Preparatory actions

- PREPSOIL



- NATI00NS



Work programme 2022:

LL Support Structure

- SOILL

Work programme 2023:

Call for creation of 1st soil health LLs

- **First 25 LLs**

Phase 2 (2024-2026)

Expansion of LL:

Launch of successive calls for expanding the network of LL

→ Look at wide coverage of geographies (EU and AC), themes (Mission's objectives) and land uses (agricultural, forest, urban, industrial)

Phase 3 (2027 onwards)

Scaling up of LL:

Launch of last calls for setting LL

→ also measures to facilitate the mainstreaming, continuation and sustainability of the LL

CUMULATIVE NUMBER OF SOIL HEALTH LIVING LABS



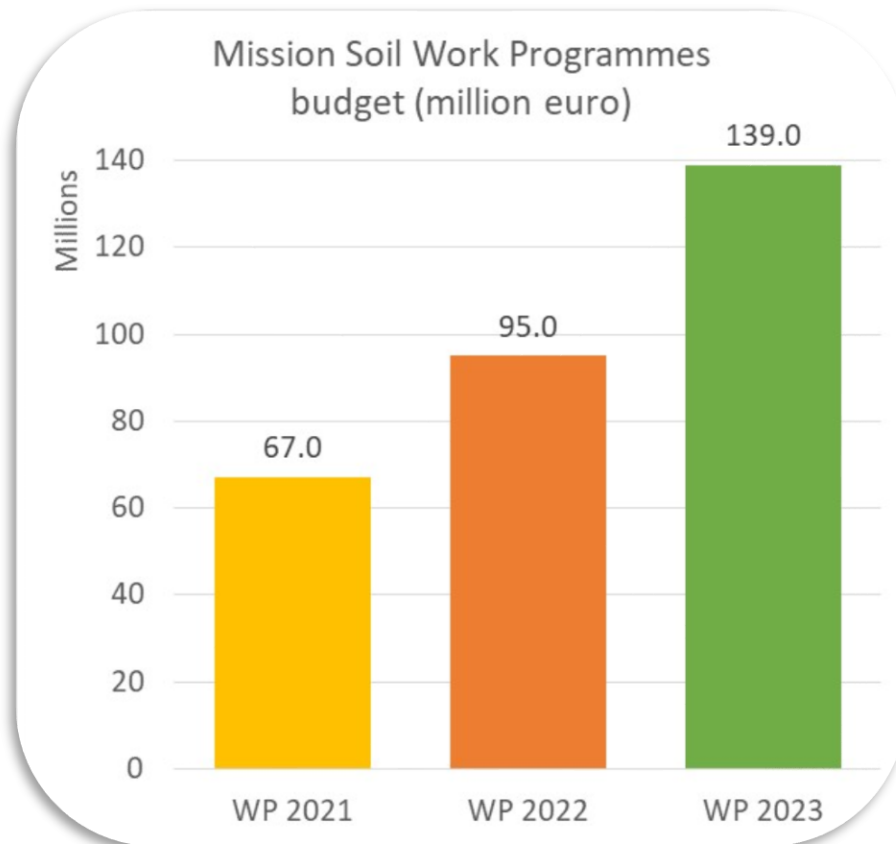


Living labs & lighthouses: what do we expect?

- **Support policy making**, in particular, the **Soil Monitoring Law** implementation.
- **Provide evidence of which practices** translate sustainable soil management principles and regenerate soil to healthy conditions
- **Solutions adapted to local, socio-cultural-economic conditions** across Europe (systemic approach) **accessible** to land managers.
- Help defining the **most cost-effective remediation techniques**.
- Provision of relevant **soil data**.
- **Lighthouses to provide practical tools** for advisors to best inform soil managers on how to move to SSM practices
- **Balanced network** of LLs across Europe covering major pedo-climatic areas, land uses and mission's specific objectives.
- **Greater involvement of (unusual) stakeholders**: land managers, farmers, foresters, SMEs... (FSTP)
- **Mobilisation of additional funding**: other EU programmes, Member States, private, philanthropy.
- Improved **citizen awareness** and increased **social capital** (norms, networks, relations between actors) in regions where LL are developed, triggering further positive long-term developments in soil health and ecosystem services.

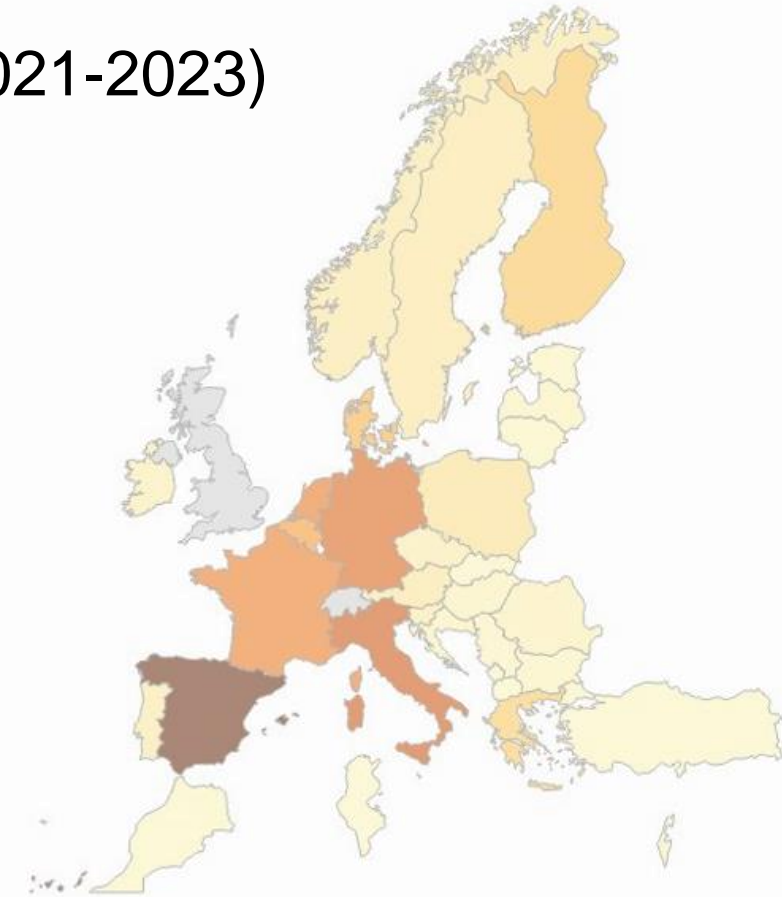


Mission Soil's state of play: R&I projects



≈EUR 320 million (2021-2023)

- 2021-2022
 - 29 ongoing projects
 - ≈360 participants
- 2023
 - +19 new projects
 - First 25 living labs
- 2024-2027





EUROPEAN UNION

Mission Soil ongoing projects – some examples



EU
MISSIONS
SOIL DEAL FOR EUROPE

Carbon farming:

- Network on carbon farming -



Soil pollution and restoration:

- Decontamination and reuse of land – ARAGORN / EDAPHOS / ISLANDR

Soil biodiversity:

- Soil biodiversity and ecosystem services –



Circular economy solutions:

- Food processing residues for soil health innovations for soil improvement –



Monitoring:

- Validating and further developing indicators for soil health and functions
- Monitoring, reporting and verification of soil carbon and GHG balance



Business models:

- Developing new business models for soil health



European Soil Mission research and innovation roadmap

- Identifies knowledge gaps, drivers, bottlenecks, and novel R&I approaches



Soil literacy and citizen engagement

- Foster soil education across society



2023 topics (19 projects)

- **Living Labs**
- Discovering the **subsoil**
- **Soil pollution** processes modelling
- **Digital tools** for soil and plants monitoring
- Innovations to prevent and combat **desertification**
- Soil-friendly practices in **horticulture**
- Soils in **spatial planning**
- Communities and **citizens engagement**
- Joint topics with:
 - Mission Ocean (on **reduction of nutrient flows**),
 - Missions Ocean & Climate Adaptation (on increasing **landscape water retention capacity**)



EUROPEAN UNION

Citizens' engagement: the Mission Soil Manifesto

Launched in April 2023



Objective

Non-legally binding document to formalize stakeholder and citizen **participation** in and **support** to Mission activities

Who can sign it?

Individuals and organizations (regional and local public authorities, private and public organisations, NGOs, philanthropic organisations, schools, universities, research institutes, associations)

Why to sign it?

Become part of a **community**, gain visibility, access to Mission-led knowledge, involvement in Mission activities beyond Horizon Europe calls

Join the fast-growing Mission Soil community



+2,700 signatories





EUROPEAN UNION



EU **MISSIONS**
SOIL DEAL FOR EUROPE



Thank you!

For further information and questions please contact the Mission Secretariat:

EU-HORIZON-MISSION-SOIL@ec.europa.eu

#MissionSoil #EUmissions #HorizonEU

© European Union, 2021

Reuse is authorised provided the source is acknowledged and the original meaning or message of the document are not distorted. The European Commission shall not be liable for any consequence stemming from the reuse. The reuse policy of the European Commission documents is implemented by Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39).

All images © European Union, unless otherwise stated. Icons © Flaticon – all rights reserved.
Photos: © Alfred Grand, all right reserved.