A supportive framework for soil protection in the EU

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Life on Earth depends on healthy soils

- Healthy soils are the **basis for nutritious and safe food**
- Soils deliver **vital, interconnected ecosystem functions**:  
  - water regulation,  
  - hosting biodiversity,  
  - nutrient cycling,  
  - climate mitigation and adaptation,  
  - cultural services
- Soil is a **scarce, non-renewable resource**: it takes hundreds of years to generate 1 cm of top soil but only a couple of years or less to destroy it
- **Soils are threatened**: 60-70% of all soils in Europe are unhealthy as due to current management practices, pollution, urbanisation and the effects of climate change
- Main threats: Erosion, compaction, organic matter decline, pollution, loss of soil biodiversity, salinization, desertification, land take, sealing
Soils need our attention - EU Examples

- **2.8 million potential contaminated sites** (only 24% inventoried) posing major health risks
- 65-75% of agricultural soils with **nutrient inputs** at levels risking eutrophication of soils and water and affecting biodiversity
- **Cropland soils losing carbon** at a rate of 0.5% per year; 50% of peatlands drained and losing carbon – this is contributing to the climate crisis
- 24% of land with unsustainable **water erosion** rates
- 25% of land at High or Very High risk to **desertification** in Southern, Central and Eastern Europe in 2017
- The costs associated with **soil degradation** in the EU exceed 50 billion € per year

**Effects of climate change** are putting further pressure on soils and accelerate land degradation.
Healthy soils are key to support Green Deal targets

Examples of Green Deal Targets related to soil health

By 2030

- 25% of land under organic farming
- Reduce the overall use and risk of chemical pesticides by 50% and the use of more hazardous pesticides by 50%
- Reduce fertilizer use by at least 20%
- Reduce nutrient losses by at least 50%
- Reduce by 30% microplastics released into the environment
- Reduce net greenhouse gas (GHG) emissions by at least 55% compared to 1990 levels.

By 2035

- the EU should aim to reach climate neutrality in the land use, forestry & agriculture sectors
Soil protection in the EU

New Soil Strategy, European Soil Observatory and Mission A Soil Deal for Europe together build an **effective framework for soil protection and restoration**
Soils in the new Common Agricultural Policy

- Soil management is recognised in the new CAP as an important element to improve farm sustainability in economic and environmental terms:
  - Specific objective five: “Foster sustainable development and efficient management of natural resources such as water, soil and air”.

- Higher environmental ambition of the new CAP is channelled e.g. via
  - stronger requirements for conditionality
  - new GAEC 2: preservation of carbon rich soils such as peatlands and wetlands
  - eco-schemes
  - agri-environment-climate measures
  - farm investments
  - Farm Sustainability Tool for Nutrient Management (FaST)
The new EU Soil Strategy

The Vision:

▪ By 2050, all EU soil ecosystems are in healthy condition and are thus more resilient, which will require very decisive changes in this decade.
▪ By then, protection, sustainable use and restoration of soil has become the norm.
▪ Healthy soils contribute as key solution to our big challenges to achieve climate neutrality, a clean and circular economy, revert biodiversity loss, safeguard human health, halt desertification and revert land degradation.

How to get there:

▪ Strategy identifies a set of guiding (voluntary) actions driven by the Commission (e.g. in areas of carbon farming, soil biodiversity assessment, soil pollution, soil sealing, soil education, monitoring, research)
▪ Propose legal protection of soils similar through Soil Health Law (including legally binding targets for soil restoration)
Missions: a new instrument under Horizon Europe to address major societal challenges

- Adaptation to Climate Change
- Cancer
- Climate-neutral and Smart Cities
- Restore our Ocean and Waters
- Soil Deal for Europe

Mission Manager
DG AGRI
The research and innovation mission: A Soil Deal for Europe

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

Specific objectives

1. Reduce desertification
2. Conserve 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
How will the mission be implemented?

1. R&I programme
   - Data infrastructures and platforms; knowledge to support management practices, business models, technologies

2. Living labs and lighthouses
   - A network of real-life sites for testing, demonstrating and upscaling of solutions; due attention to balanced representation across regions

3. Soil monitoring
   - Harmonisation of indicators, measuring and reporting for soil health across Europe; contribution to European Soil Observatory

4. Soil literacy, communication and citizen engagement
   - Communication material, training curricula for different target groups and specialised “soil advisors”

320m€ funding for 2021 - 2023

Co-implementation of mission by: researchers, land managers, regions, businesses, policy makers, citizens and international partners
International cooperation under the mission

- Participation to calls under Horizon Europe and the missions is open to international partners.

- First call for international collaboration on soils launched under the first Horizon Work Programme.

- Topic: Building an international consortium on soil carbon sequestration; resulting project under negotiation.

- Significant interest of international partners in linking up with the mission.
Communication and citizen engagement...

- 200+ co-creation and engagement events from Sept. ‘19 – Jan’ 22
  - including 3 International fairs and global events (e.g. FAO World Soil Day 3 Dec. 2021, GFFA 2022 session)
- #EIPAgriSoil campaigns; new one planned in 2022
- Articles, press releases, newsletters, social media, videos (Mission video more than 110,000 views in August 2020) + new video for World Soil Day 2021
- Podcast episode
- Soil health results pack
- Interactive games for kids
- Survey
  - sent to more than 7000 contacts (EN, FR, DE, PL, CS, PT) and more than 2500 contributions received
Useful links

- Video https://www.youtube.com/watch?v=53bbzE2IpKc&feature=emb_logo
- Soil mission session (EU R&I Days 2020) https://research-innovation-days-conference.online/hubs/mission