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SOILPROM



PRESS RELEASE

SOILPROM: Monitoring and modelling soil pollution to preserve Europe’s natural resources.

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▶ Watch the project video

This project has received funding from the European Union’s Horizon Europe Research and Innovation program under Grant Agreement No. 101156589. This output reflects only the author’s view, and the European Union cannot be held responsible for any use that may be made of the information contained therein.

After two years of project, first field data from 9 SOILPROM use-cases across Europe confirm the scale of the challenge: 60-70% of EU soils are estimated to be in an unhealthy state.

European soils are under mounting pressure. Evidence shows that the decline in soil quality, leading to reduced soil functioning (soil degradation), is prevalent and extensive across the EU territory, with about **60-70% of soils in an unhealthy state today**. [1]

SOILPROM is a Horizon Europe project that fights soil pollution across Europe using cutting-edge technologies and collaborative research to reduce harmful pollutants and promote sustainable soil management. The project tracks metals, PFAS, nutrients, microplastics, and pesticides across soil, air, water, and plant compartments, working towards reduced pollution levels and healthier soils across Europe.

Coordinated by Wageningen University, the project unites over 12 leading institutions, including universities, research centres, and environmental agencies from 10 European countries. It started in September 2024 and will run until the end of August 2028.

> *The first 24 months of SOILPROM have laid an important foundation for understanding the fate and transport processes of five categories of soil pollutants across the soil-water-air-plant continuum. Through two-years of extensive field campaigns, the collection of soil, water, air and sediment samples, and improved and upgraded SOILPROM models, the project has generated valuable insights into pollution levels and their transport across environmental compartments.*
>
> **Dr Mahrooz Rezaei**, Project Coordinator, Wageningen University

> *The innovative aspect of the pollutant modelling work in SOILPROM is that better process descriptions are included, and that pollutant transport pathways between different environmental compartments receive specific attention. This underpins how soil pollutants can spread across entire ecosystems and makes it possible to explore to explore and evaluate preventive scenarios.*
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> **Emeritus Prof. Coen Ritsema**, Scientific Coordinator, Wageningen University

PROJECT OBJECTIVES AND APPROACH

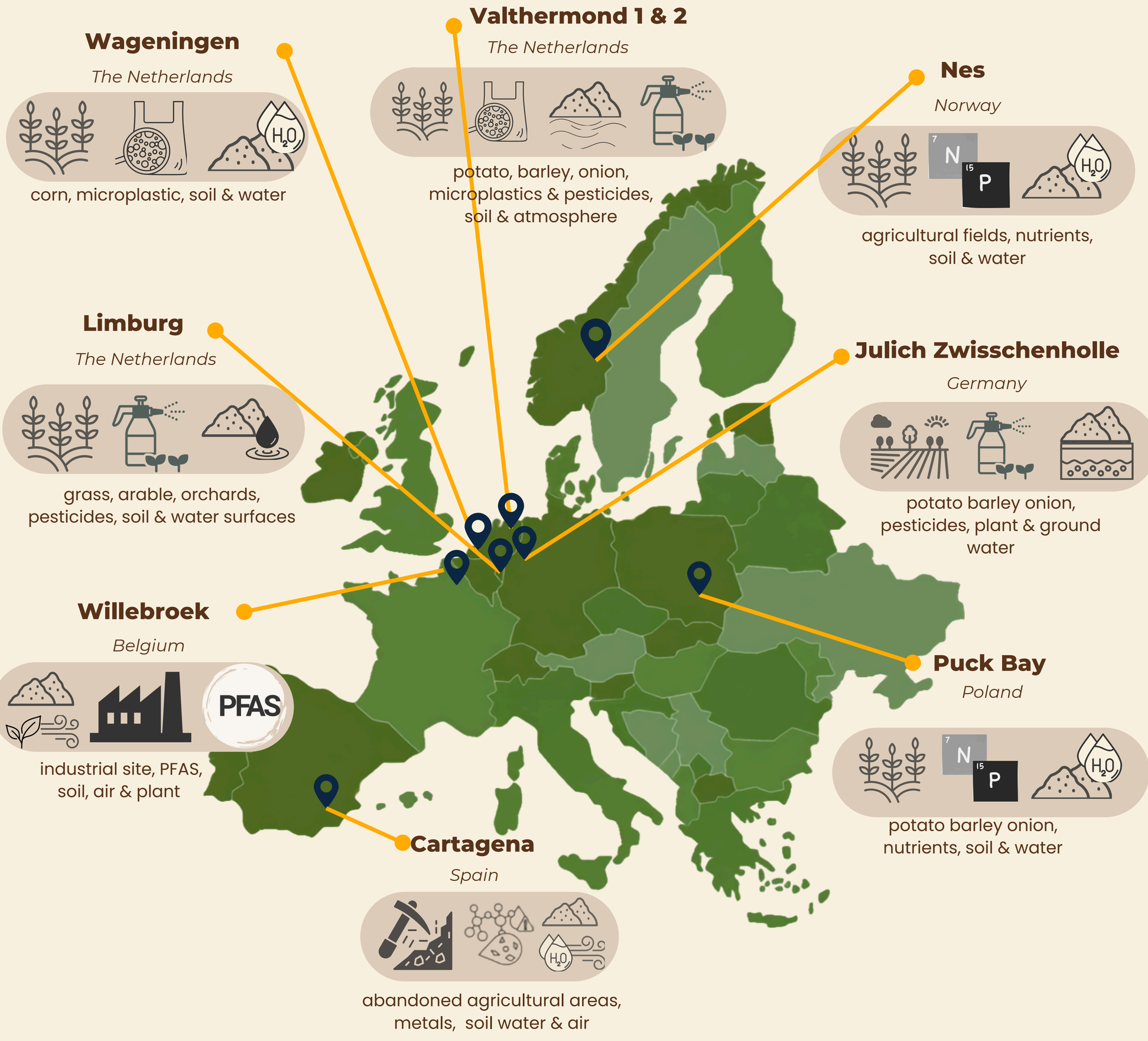
SOILPROM is built around four core objectives:

1. **Upgrade soil pollution models:** Improve existing models that monitor and predict soil pollution and test them under real field conditions.

2. **Develop an open-access modelling platform and Decision Support Tool**. Provide improved models and databases, integrating them into an open-access European platform with a user-friendly decision-making tool.

3. **Support smarter soil management**. SOILPROM designs strategies that balance soil health with environmental needs, so soils can keep providing essential services such as clean water, clean air, and healthy crops. **Deliver data-driven recommendations to stakeholders**. The project provides actionable recommendations and data access to farmers, local authorities, and European decision-makers to promote better soil management practices.

9 use-cases across six countries



Pollutant	N°	Use-case	Use Case Leader	Location
Microplastics	1	Colloidal transport of microplastics in soil	WU	Wageningen, The Netherlands
	2	Wind erosion and atmospheric transport and deposition of dust and microplastics		Valthermond, The Netherlands
Pesticides	3	Water erosion and run-off of dissolved and sediment-bounded pesticides		Limburg, The Netherlands
	4	Wind erosion and atmospheric transport and deposition of dust-bounded pesticides		Valthermond, The Netherlands
	5	Flow of water and transport of pesticides in soils and groundwater, and uptake by plants	FZJ	Jülich, Zwischenscholle, Germany
PFAS	6	Atmospheric PFAS deposition to soil, and plant uptake of PFAS	VITO	Willebroek, Belgium
Metals	7	Transport of metals due to water and wind erosion processes	UPCT	Cartagena-La Unión Mining District, Spain
Nutrients	8	Transport of nutrients in soil, groundwater, and surface water with marine discharge	GUT	Puck Bay, Poland
	9	Sorption and desorption of phosphorus in soil, and transport of phosphorus to surface water	NIBIO	Nes, Norway

PROJECT IMPORTANCE

The project contributes to the objectives of the Mission 'A Soil Deal for Europe'. It helps build the knowledge base for soil health and its support to ecosystem services. SOILPROM aligns with the ambition of leading this transition through cutting-edge research that brings innovation in soil monitoring and open-access platforms.

SOILPROM's research outcomes will effectively contribute to the EU Soil Strategy for 2030 and the recently adopted Soil Monitoring Law. The project's models, data, and decision-support tool could enhance the quality of the EU-wide soil health monitoring system, helping to mitigate the effects of climate change and biodiversity loss. It could therefore contribute to establishing a common EU methodology for assessing soil quality.

SOILPROM's final outputs will also be relevant for Member States and national authorities responsible for monitoring and reporting on the physical, chemical, and biological status of soils. The methodology developed throughout the project can deliver a set of comparable data, which could help establish a first set of coordinated measures, hence reflecting the efforts of Member States under the Soil Monitoring Law.

What happened in 2 years? Since kicking off in Cartagena, Spain, in September 2024, the consortium has moved from planning to first results:

- Two-years fieldwork results from all 9 use-cases across 6 European countries
- Ten models undergoing improvement and integration across different environmental compartments
- First version of the open-access modelling platform and decision-support tool launched
- A new international working group on soil pollution modelling, bringing together over 80 experts
- Stakeholder workshops held across all 9 use-cases to capture the needs of farmers, land managers, and policymakers
- Over 15,500 people reached through the project's communication campaigns

MORE INFORMATION

Project website | Project partners | YouTube channel

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ABOUT SOILPROM

SOILPROM (Grant Agreement No. 101156589) is a Horizon Europe project running from September 2024 to August 2028, with a consortium of over 12 partner institutions from 10 European countries, coordinated by Wageningen University. The project develops upgraded models, an open-access platform, and policy recommendations to reduce soil pollution and protect ecosystem services across Europe, contributing to the Mission 'A Soil Deal for Europe' and the EU Soil Strategy for 2030.

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