



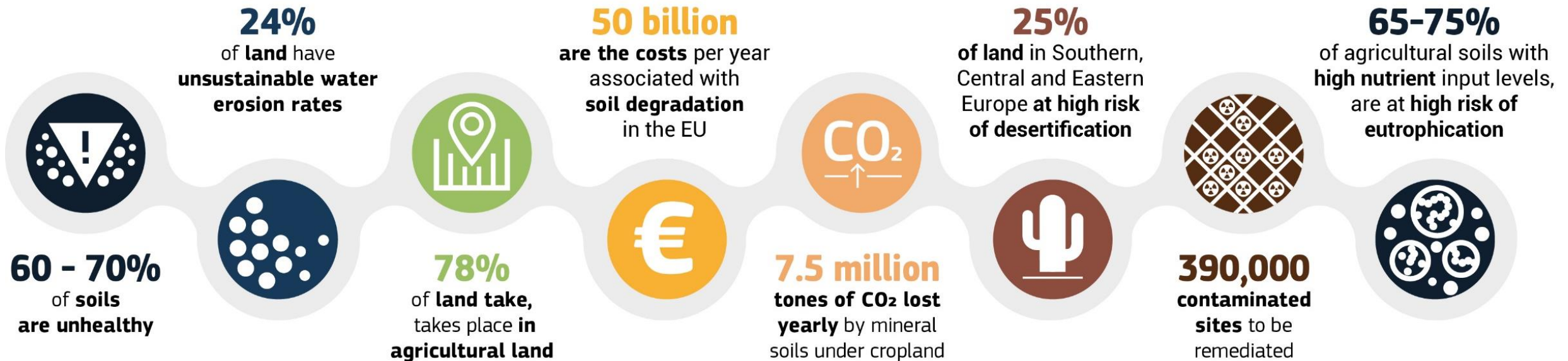
The EU Soil Observatory's contribution to EU Soil Policies

Nils Broothaerts, Panos Panagos and Arwyn Jones

European Commission
Joint Research Centre (JRC)

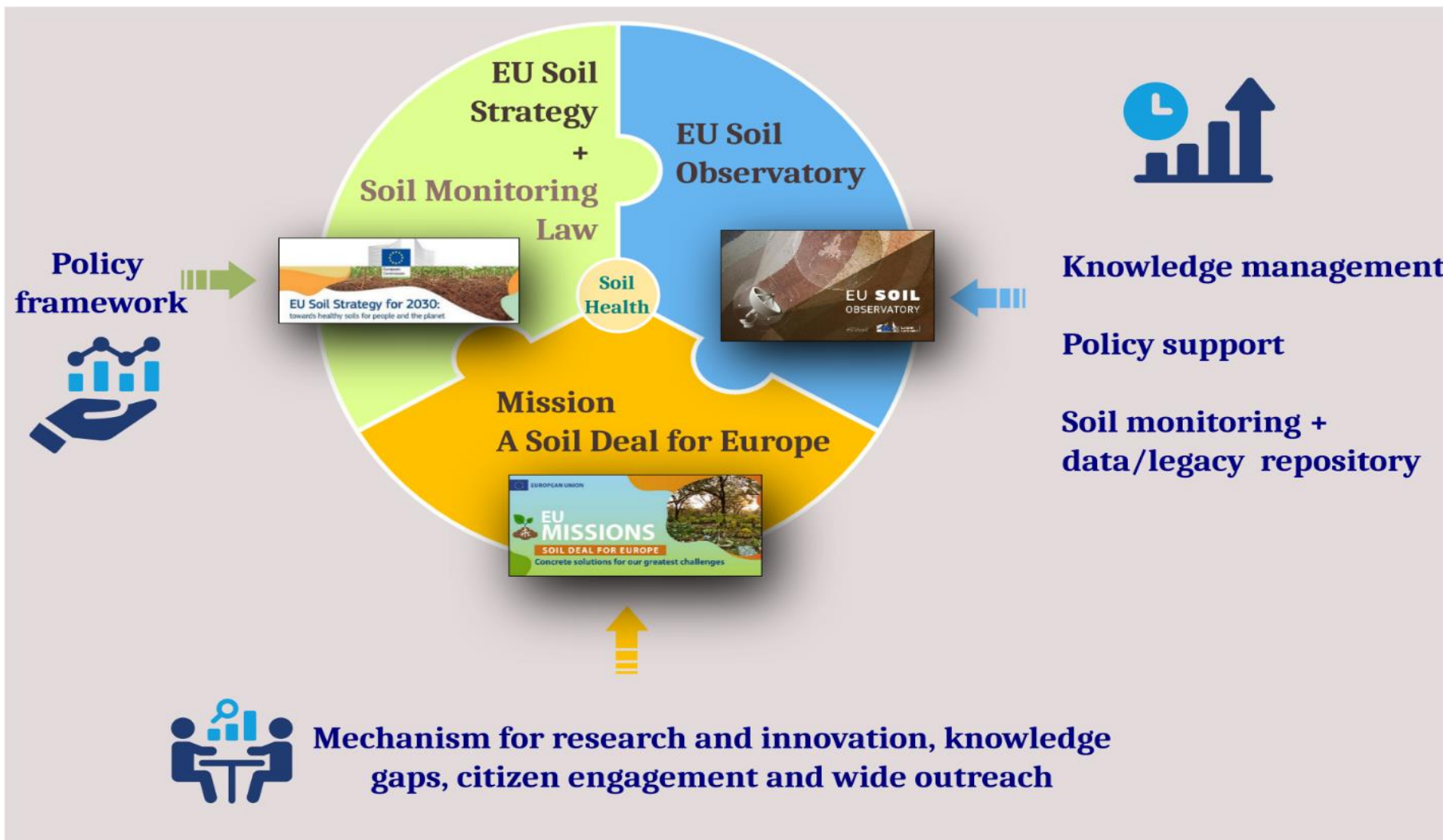
Joint
Research
Centre

Soil degradation in the EU



desertification erosion sealing land take compaction pollution organic matter decline salinisation } SOIL THREATS

Framework for Soil Protection in the EU



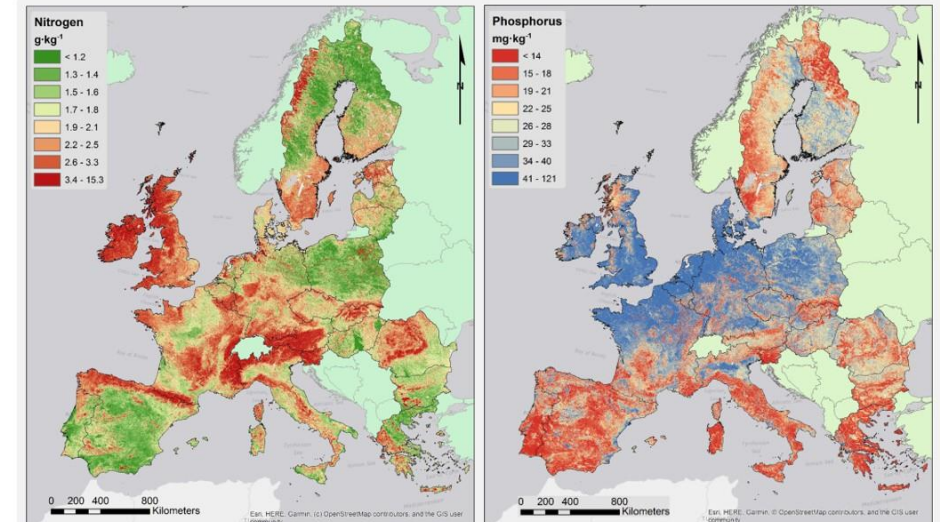
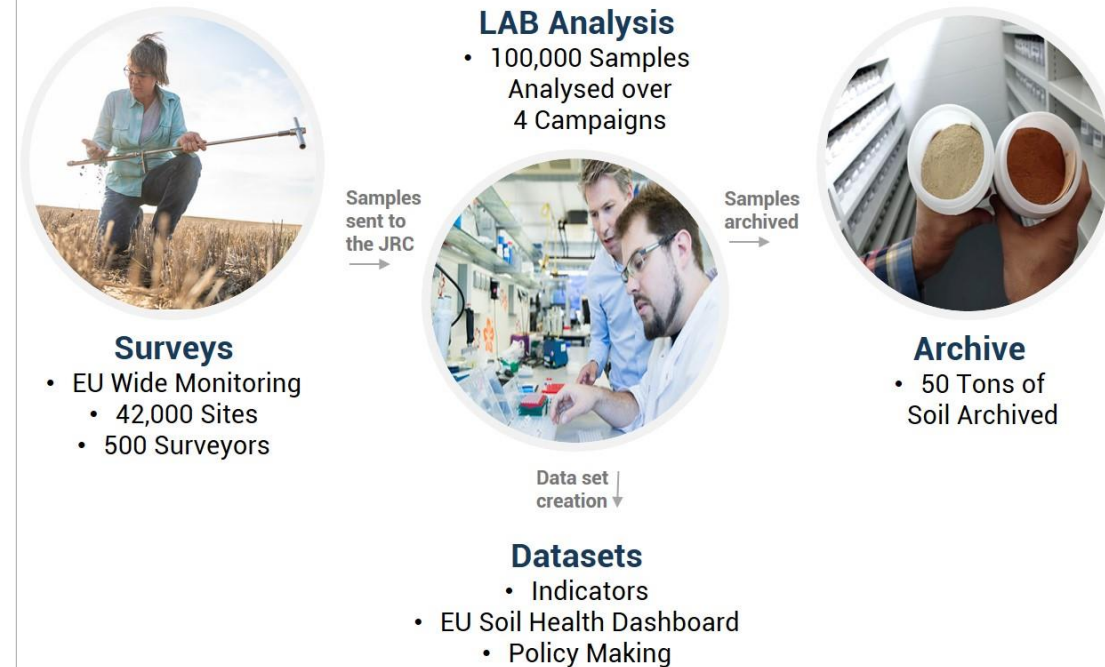
EU Soil Observatory (EUSO)



1. EU-wide soil monitoring

- **LUCAS SOIL survey**
- 2009, 2015, 2018, 2022
- > 40,000 observations
- Soil archive at the JRC
- Close cooperation with MSs
- **EU-wide datasets**
- **Input for policy support**

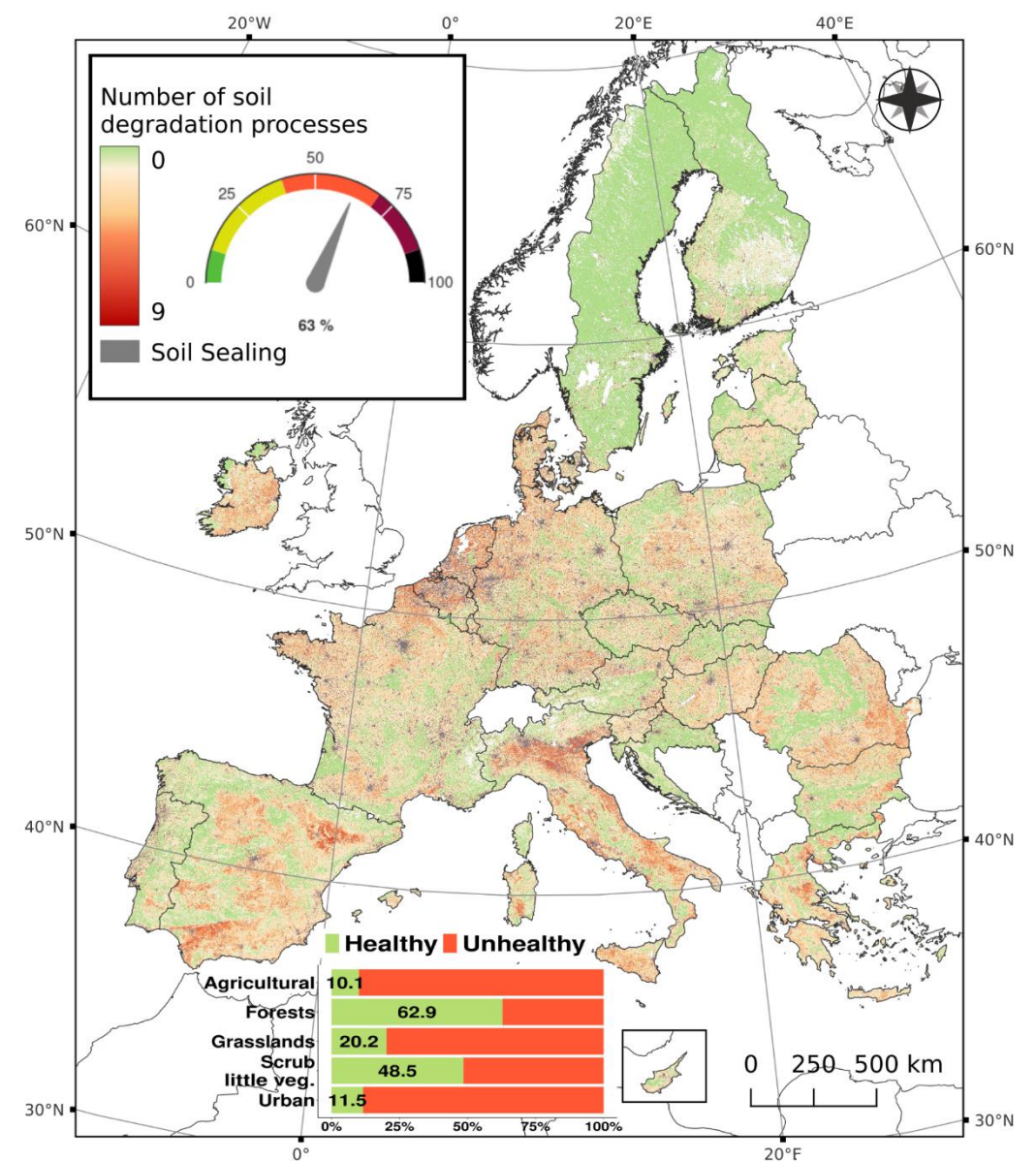
Lucas Soil Survey



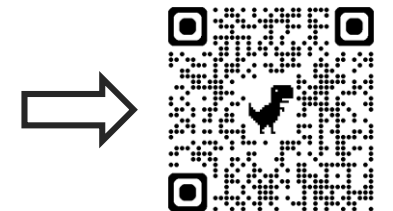
2. Monitoring soil health

EUSO Soil Degradation Dashboard

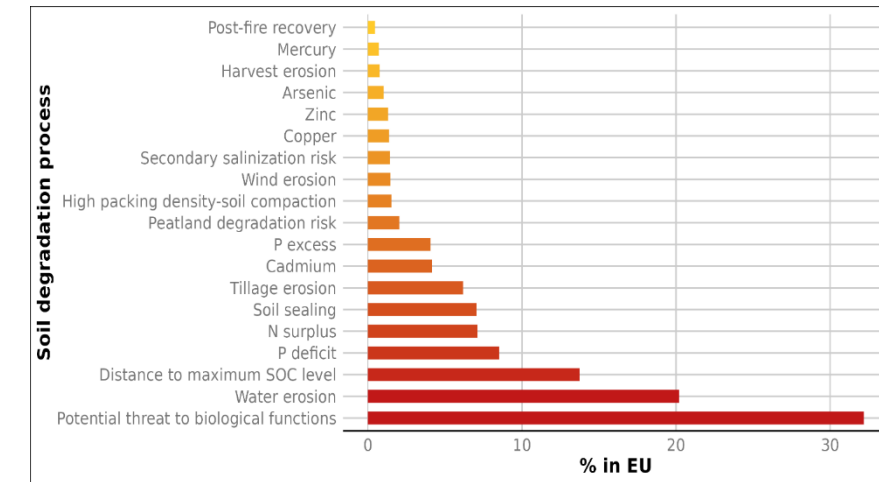
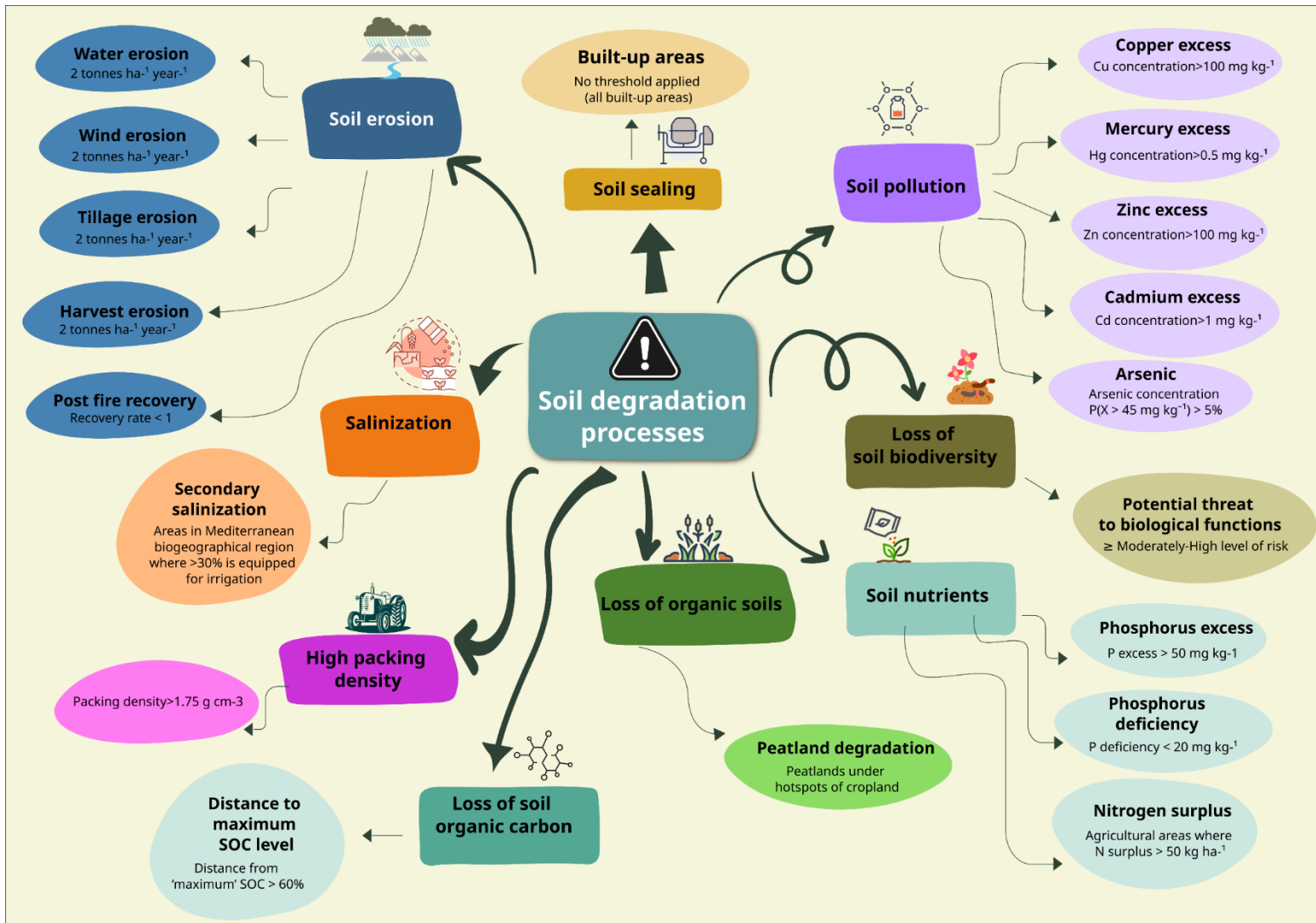
- Launched in March 2023, updated June 2024
- 19 soil degradation processes
- EU-wide datasets
- Healthy / unhealthy based on thresholds and 'one out all out'
- **> 60 % unhealthy**



<https://esdac.jrc.ec.europa.eu/esdacviewer/euso-dashboard/>



2. Monitoring soil health



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DOI: 10.1111/ejss.13507

REVIEW ARTICLE

European Journal of
Soil Science WILEY

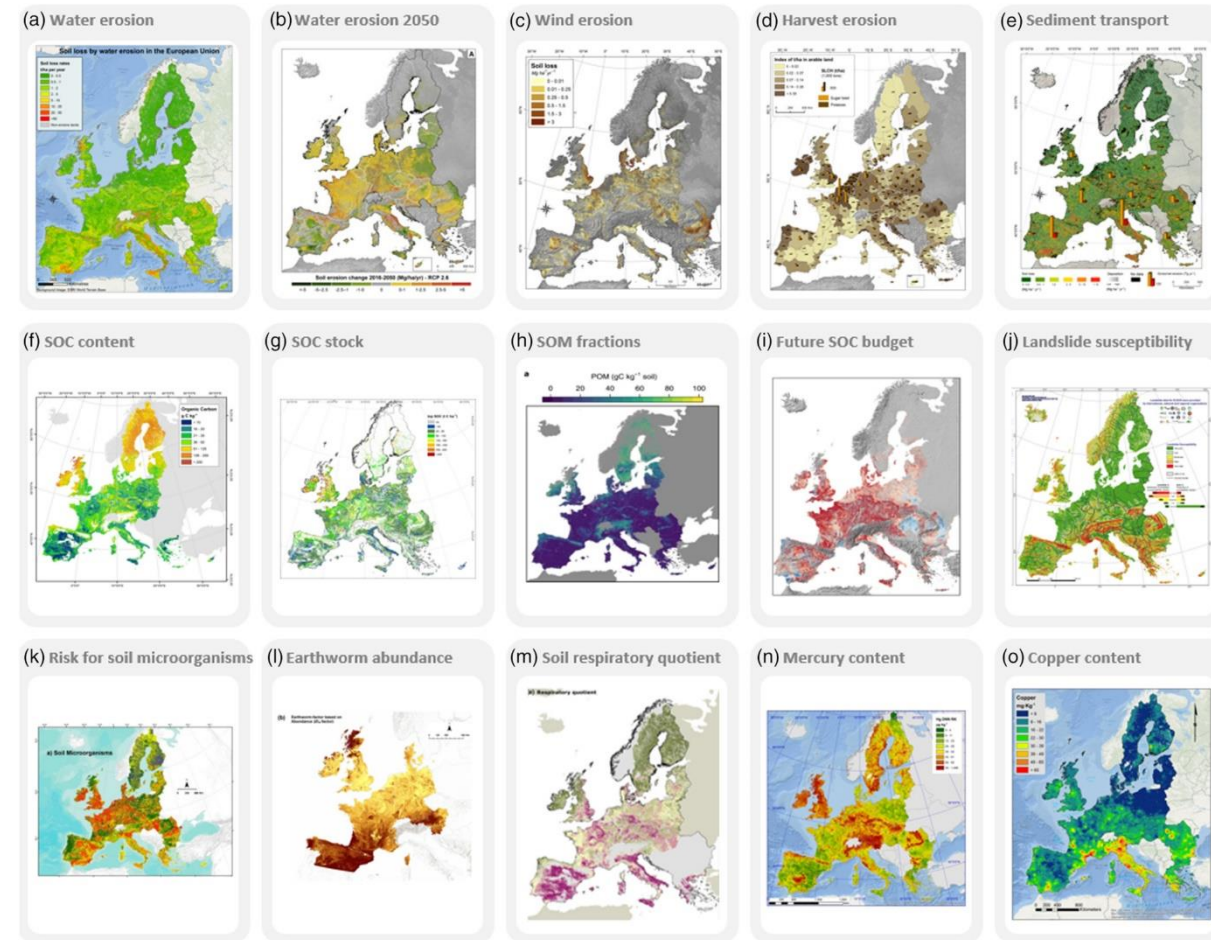
How the EU Soil Observatory is providing solid science for healthy soils

Panos Panagos¹ | Nils Brothaus¹ | Cristiano Ballabio¹ | Alberto Orgiazzi² | Daniele De Rosa³ | Pasquale Borrelli⁴ | Leonidas Liakos⁵ | Diana Vieira¹ | Elise Van Eynde¹ | Cristina Arias Navarro¹ | Timo Breure¹ | Arthur Fendrich⁶ | Julia Köninger⁷ | Maeva Labouyrie⁸ | Francis Matthews⁹ | Anna Muntwyler¹⁰ | Juan Martin Jimenez¹¹ | Piotr Wojda¹ | Felipe Yunta¹ | Anne Marechal¹² | Serenella Sala¹ | Arwyn Jones¹

3. European Soil Data Centre (ESDAC)

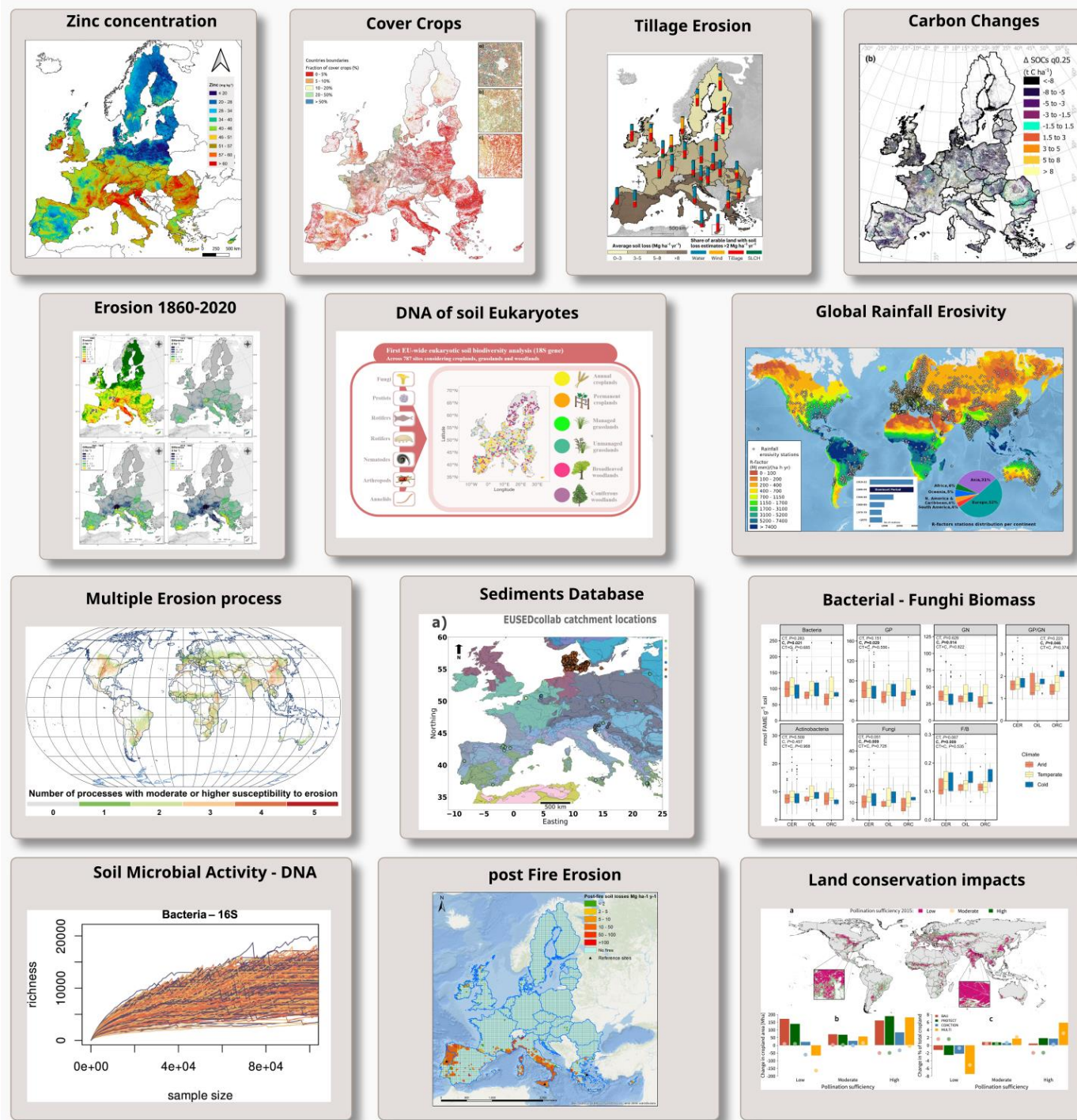
- Leading platform for soil scientific data and knowledge in the EU
- Single-stop-shop for soil data in EU
- ESDAC is at the core of the EUSO

<https://esdac.jrc.ec.europa.eu/>



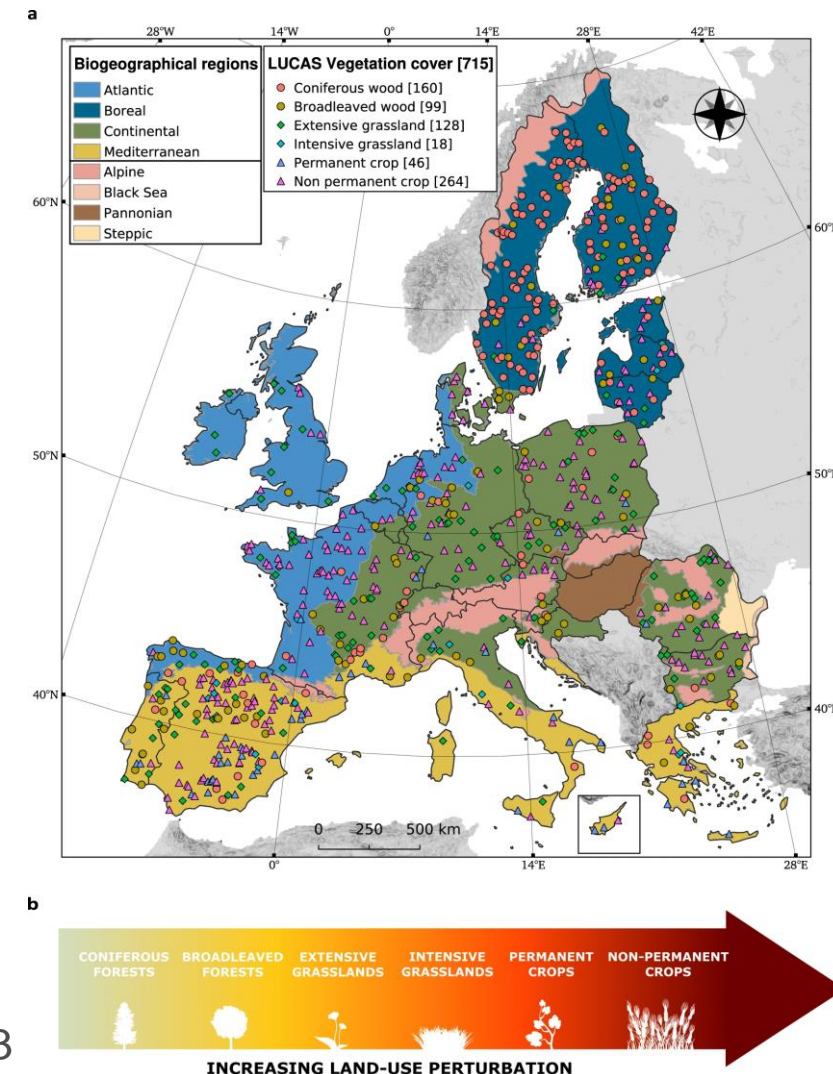
3. ESDAC

- Available data:
 - 110 datasets
 - 6000 maps, incl 7 atlases
 - 600 scientific documents
 - 12 000 data downloads in 2023
- ESDAC 3.0:
 - Data flows from Members States
 - Outcomes of Mission Soil projects
 - Enhanced functionality



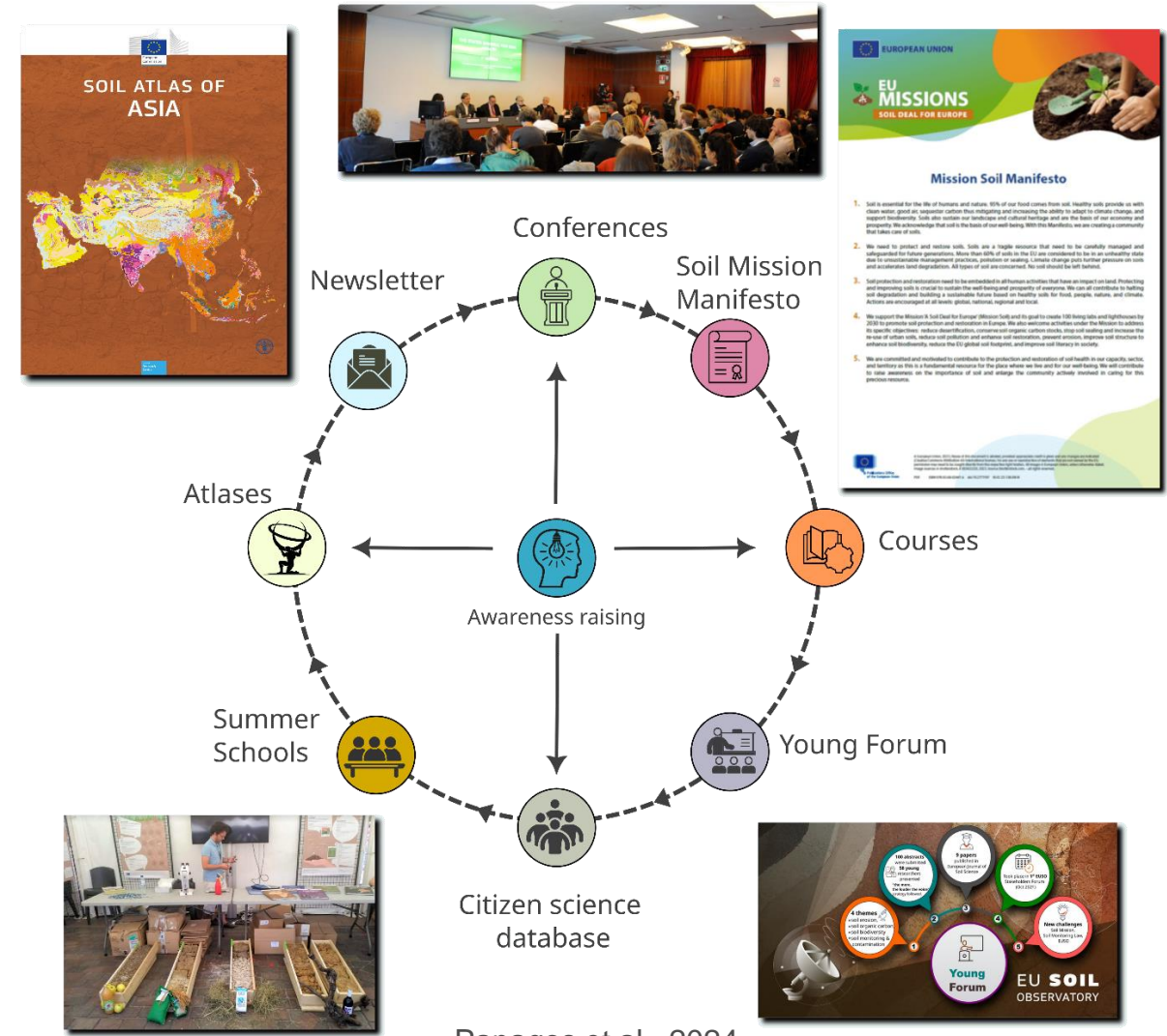
4. Supporting soil research and innovation

- Soil monitoring elements within the Soil Mission
- > 40 publications in 2023 by EUSO
- Co-hosting 6 PhD candidates
- Close collaboration with **Mission Soil Projects**
 - SoilWise, AI4SoilHealth, Benchmarks, Prepsoil, etc.
 - EUSO as beneficiary of research activities in Soil Mission Projects



5. Supporting citizen engagement

- Supporting soil literacy and dialogue with stakeholders
- Atlases, conferences, online courses, summer schools
- European Mission Soil Week
- EUSO Stakeholders Forum



5. EUSO Stakeholders Forum – Oct 2024



4th EUSO Stakeholders Forum

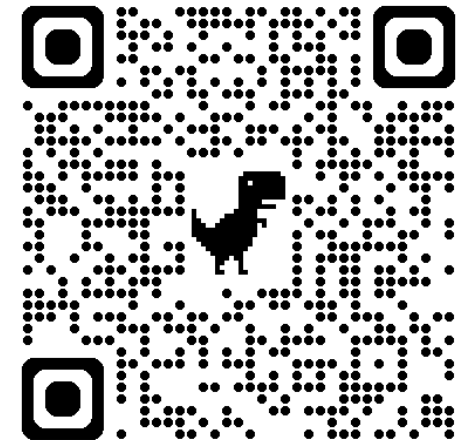
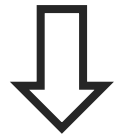
14-15 October 2024:
2nd Young Soil Researchers Forum. Online.





21-23 October 2024:
4th EUSO Stakeholders Forum. Online.

Registration link



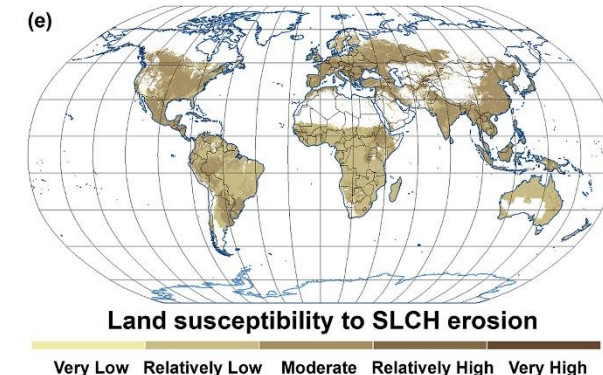
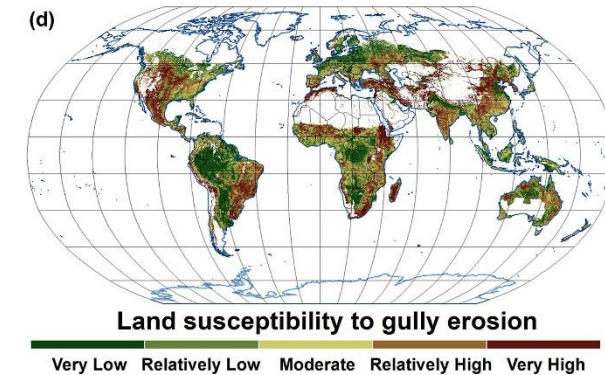
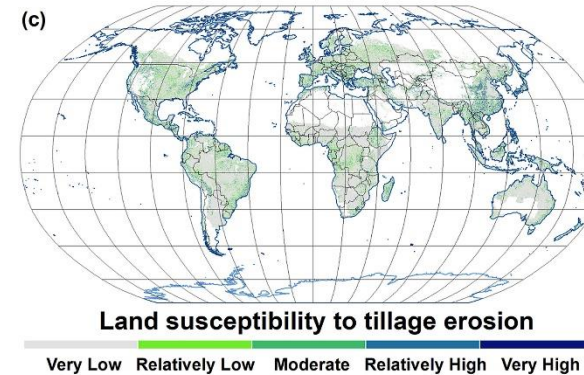
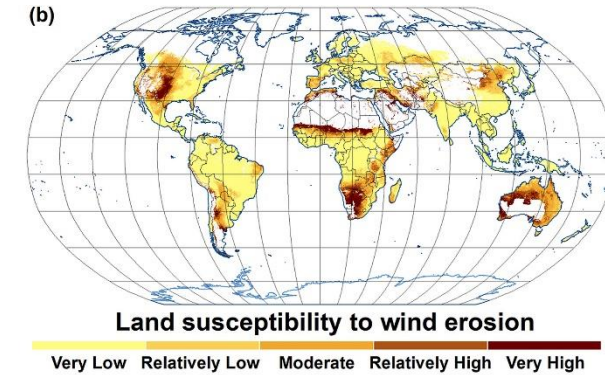
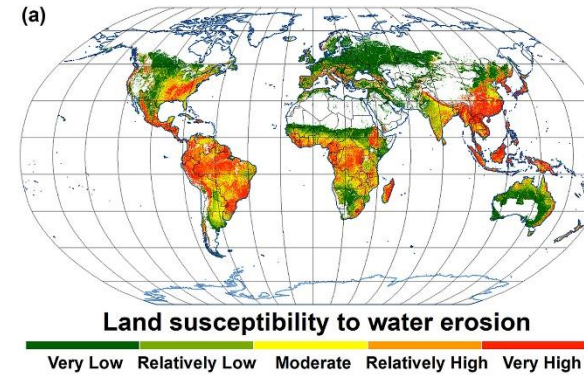
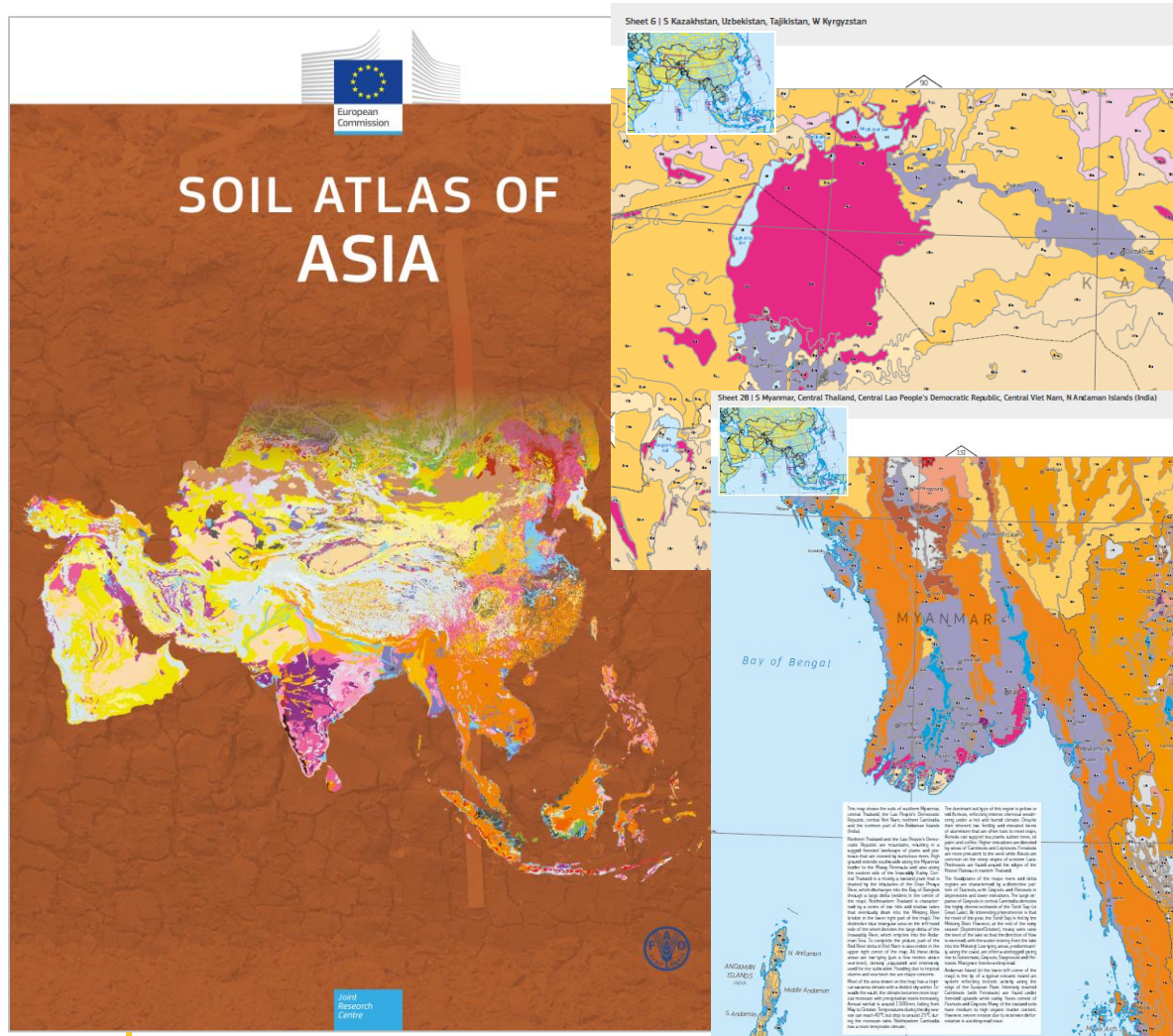
<https://esdac.jrc.ec.europa.eu/euso/4th-euso-stakeholders-forum>

6. Support for soil policy

- EUSO contributes to:
 - EU Soil Strategy 2050
 - Soil Monitoring Law
 - Clean Soil Outlook
 - EU Mission 'A Soil Deal for Europe'
 - Review of CAP Performance indicators (Soil Organic Carbon, Soil Erosion)



EUSO beyond the EU



What's next for EUSO?

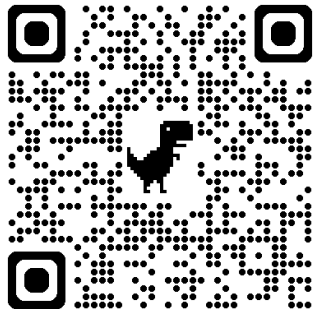


Thank you



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EU Soil Observatory: <https://esdac.jrc.ec.europa.eu/euso>

Nils.Broothaerts@ec.europa.eu