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A new instrument for contributing to the soil science - policy interface: the EJP SOIL National Hubs

Claire Chenu¹, Saskia Visser², Adam O'Toole³, Saskia Keesstra², Ana Besse², Line Carlenius⁴

¹INRAE, AgroParisTech, France

²Wageningen Research The Netherlands

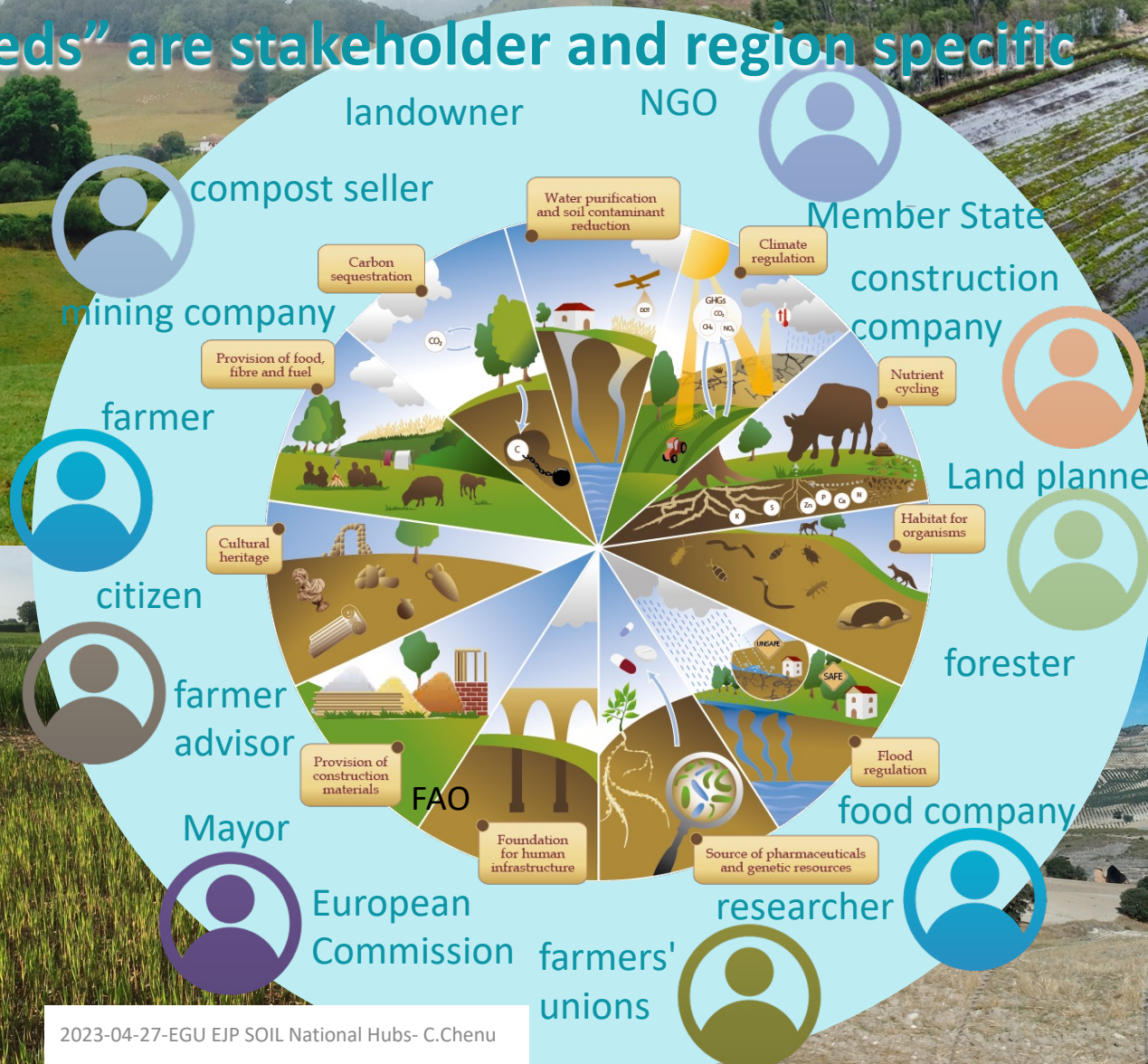
³NIBIO Norwegian Institute for Bioeconomy Research, Norway

⁴Aarhus University, Denmark

Soil "needs" are stakeholder and region specific



Soil "needs" are stakeholder and region specific



@Chenu

@NorthinterReg

@Chenu

Soil stakeholders engagement is crucial

For implementation of sustainable soil management

For policy development

- Inform on soil challenges and policy needs
- Debate policy proposals and implementation
- Feedback on how proposed policies may impact stakeholders

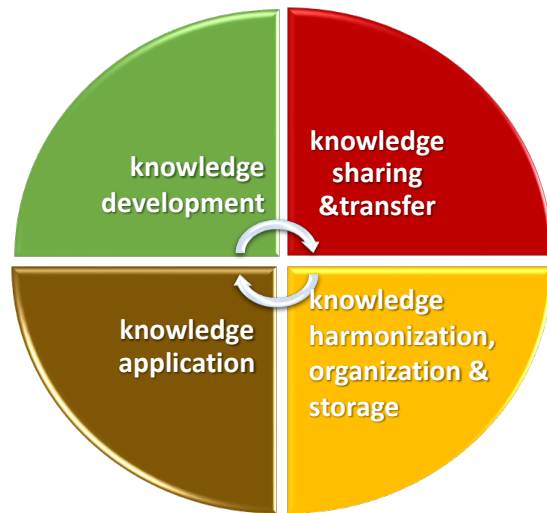
EJP SOIL: A European Joint research Programme “Towards climate-smart and sustainable management of agricultural soils”

- **Co-fund action:** 👉 coordinated research and innovation programme EU & countries
- **Critical Mass:** 👉 24 countries, 26 partners, > 400 scientists
- **Public- public funding:** 50% EC – 50% institutes
- **Annual Programming:** 2020-2025
- **Wide range of activities**



Participant organisation name	Country
Institut National de la recherche Agronomique (INRA)	FR
Wageningen Research (WR)	NL
BIOS Science Austria (BIOS)	AT
Flanders Research Institute for Agriculture, Fisheries and Food (EV-ILVO)	BE
Centre Wallon de Recherches Agronomiques (CRAW)	BE
Czech University of Life Sciences (CULS)	CZ
Aarhus University, Danish Centre for Food and Agriculture (AU)	DK
Estonian University of Life Sciences (EMU)	EE
Natural Resources Institute Finland (LUKE)	FI
Johann Heinrich von Thünen-Institut (vTI)	DE
Forschungszentrum Jülich (Jülich)	DE
Centre for Agricultural Research of the Hungarian Academy of Sciences (MTA ATK)	HU
Teagasc (Teagasc)	IE
Council for Agricultural Research and Economics (CREA)	IT
University of Latvia (UL)	LV
Lithuanian Research Centre for Agriculture and Forestry (LAMMC)	LT
Norwegian Institute of Bioeconomy Research (NIBIO)	NO
Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG)	PL
National Institute for Agrarian and Veterinarian Research I. P. (INIAV)	PT
National Agricultural and Food Centre (NPPC)	SK
University of Ljubljana, Biotechnical Faculty, Centre for Soil and Environmental Science (ULBF)	SI
National Institute for Agriculture and Food Research and Technology (INIA)	SP
Swedish University of Agricultural Sciences (SLU)	SE
Agroscope (AGS)	CH
Ministry of Food, Agriculture and Livestock, General Directorate of Agricultural Research and Policies (TAGEM)	TR
Agri-Food and Biosciences Institute (AFBI)	UK

EJP SOIL: knowledge framework & expected impacts towards climate-smart and sustainable management of agricultural soils



understanding of soil management for climate change mitigation, adaptation, sust^o production & sustainable environment

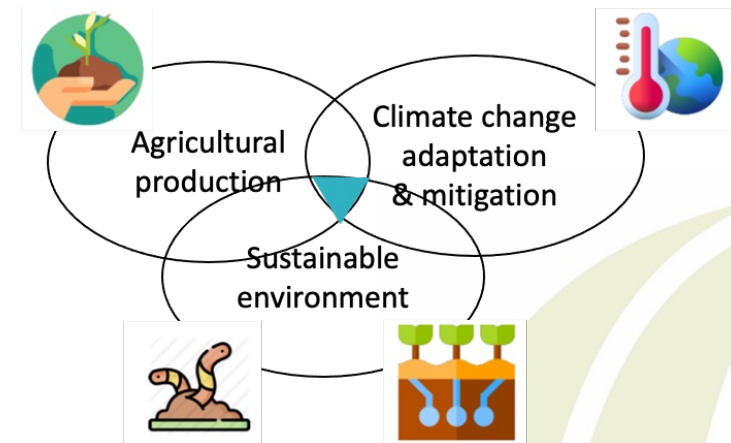
understanding soil carbon sequestration and its contribution to climate change mitigation

strengthening scientific capacities and cooperation

supporting harmonised European soil information

fostering the uptake of climate-smart sustainable soil management practices

developping region-specific fertilisation practices



**Knowledge users
& ambassadors**



EJP SOIL

**Stakeholders are
essential**

**Knowledge & data
providers**



1- What are EJP SOIL National Hubs?

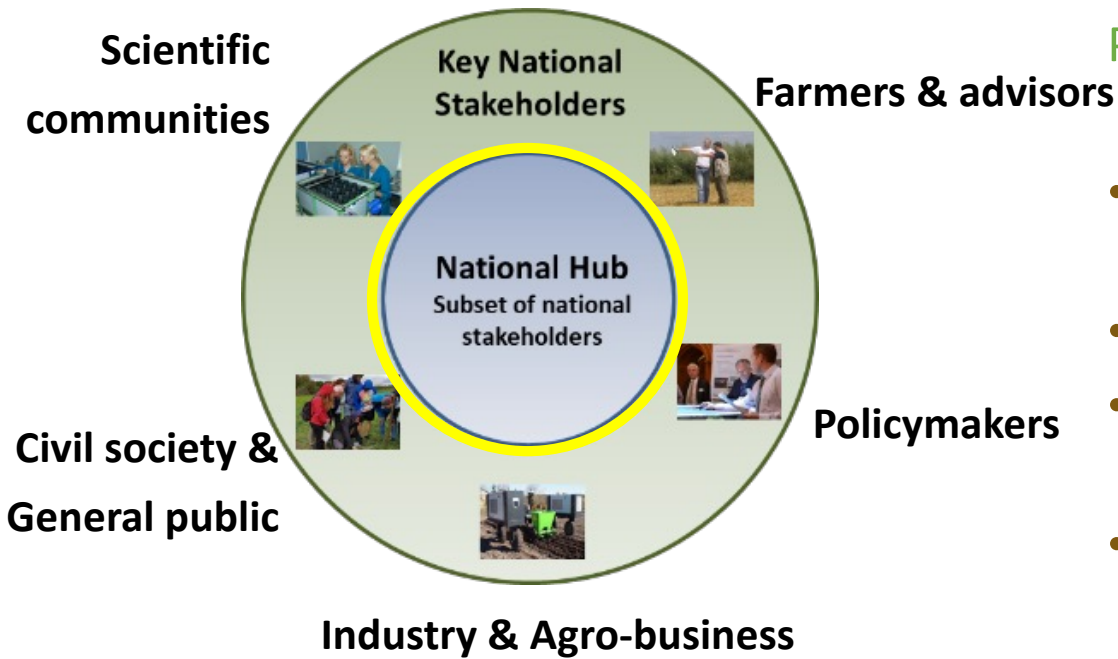


EJP SOIL
European Joint Programme

EJP SOIL has received
funding from the European
Union's Horizon 2020
research and innovation
programme. Grant
agreement No 862695



National Hubs composition and role



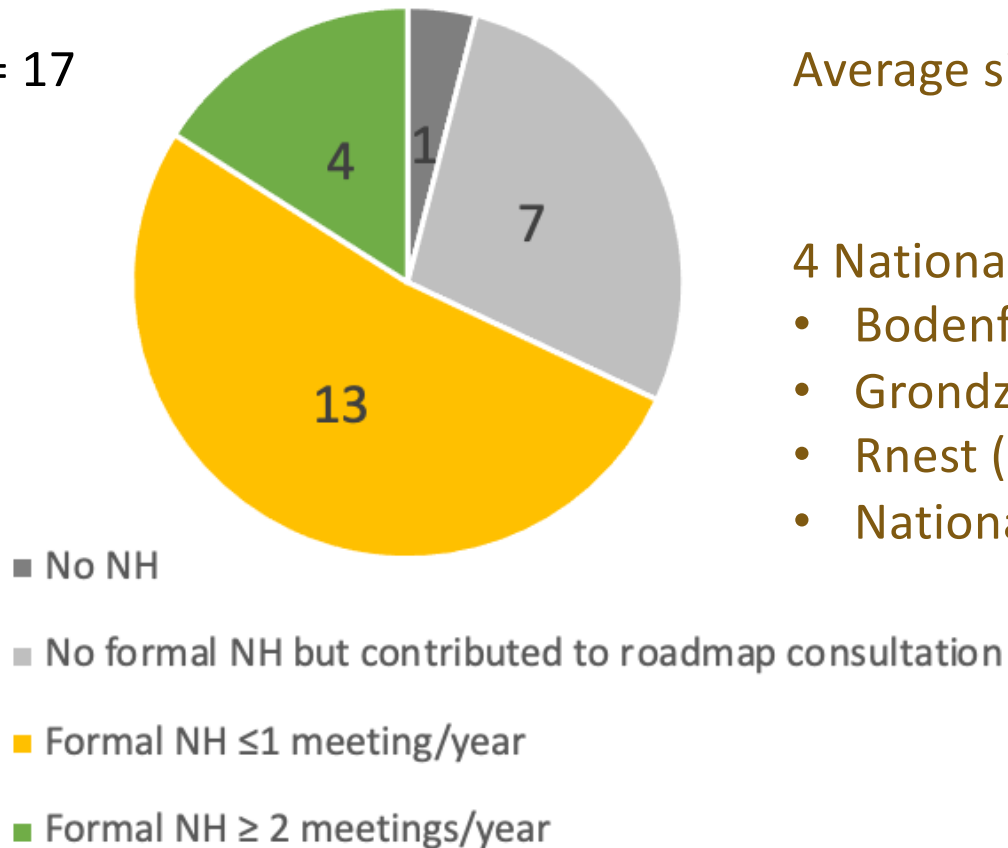
Programme Owners, not compulsory, flexibility

- Provide input & feedback to EJP SOIL programme
- Voice national position & needs
- Contribute to and learn from the work done in research
- Contribute to dissemination of EJP SOIL outputs.



Actual EJP SOIL National Hubs

N= 17



Average size : 25 stakeholders

4 National Hubs build on pre-existing committees

- Bodenforum (Austria)
- Grondzaken (Belgium, Flanders)
- Rnest (France)
- National Agriculture mirror group (Spain)



2- Some activities and outcomes of EJP SOIL National Hubs



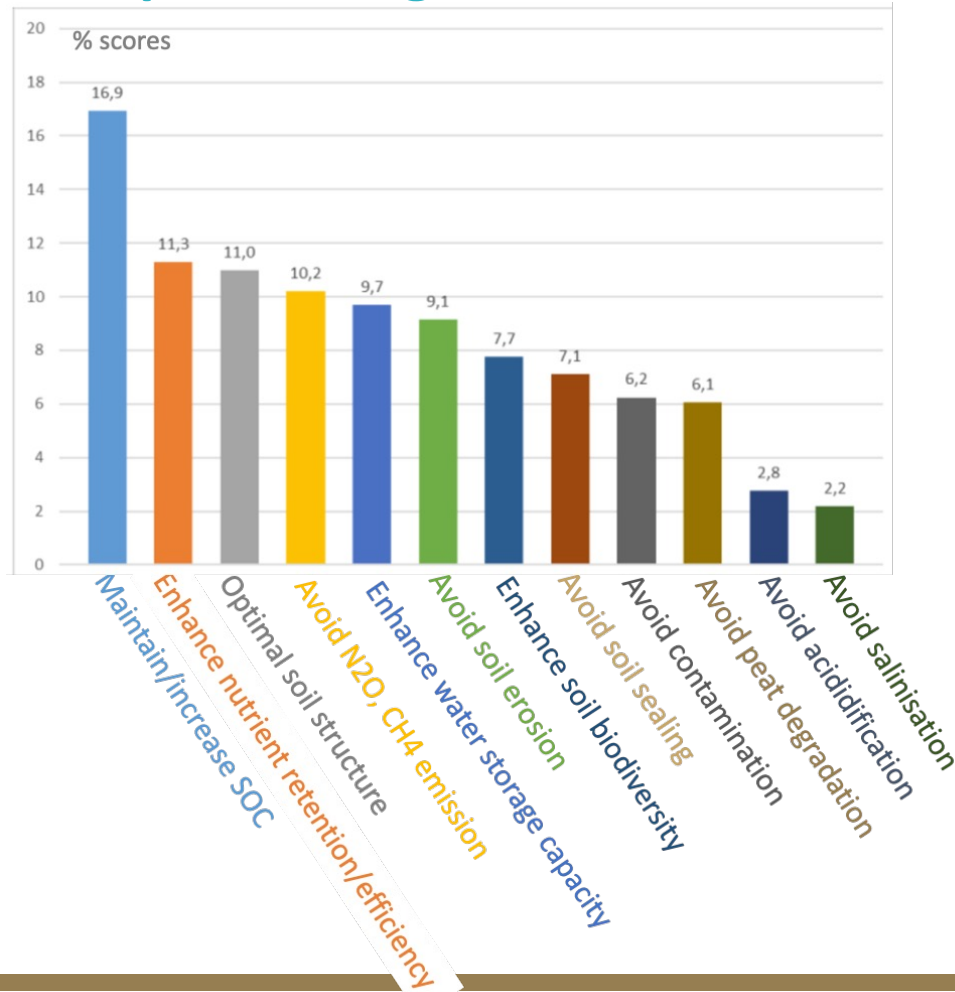
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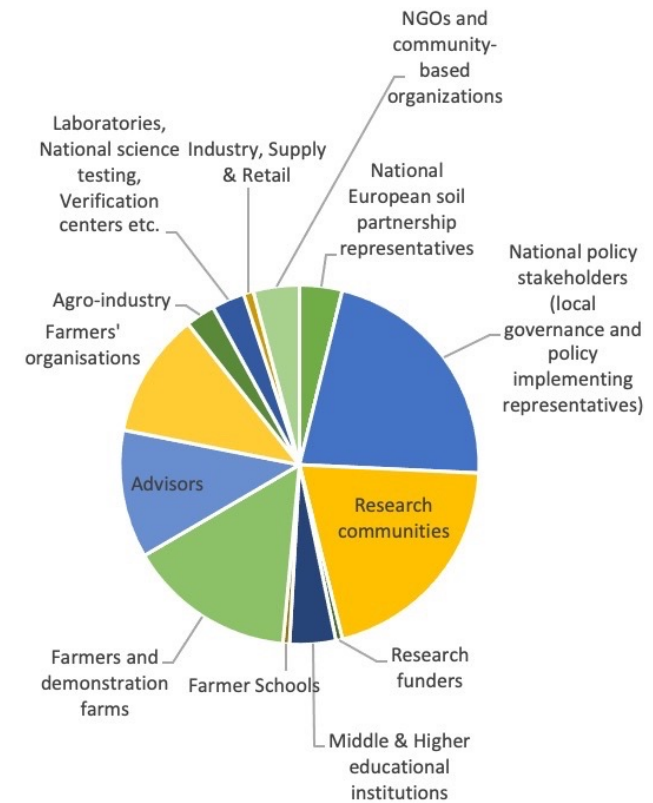


2023-04-27 EGU EJP SOIL National Hubs- C.Chenu

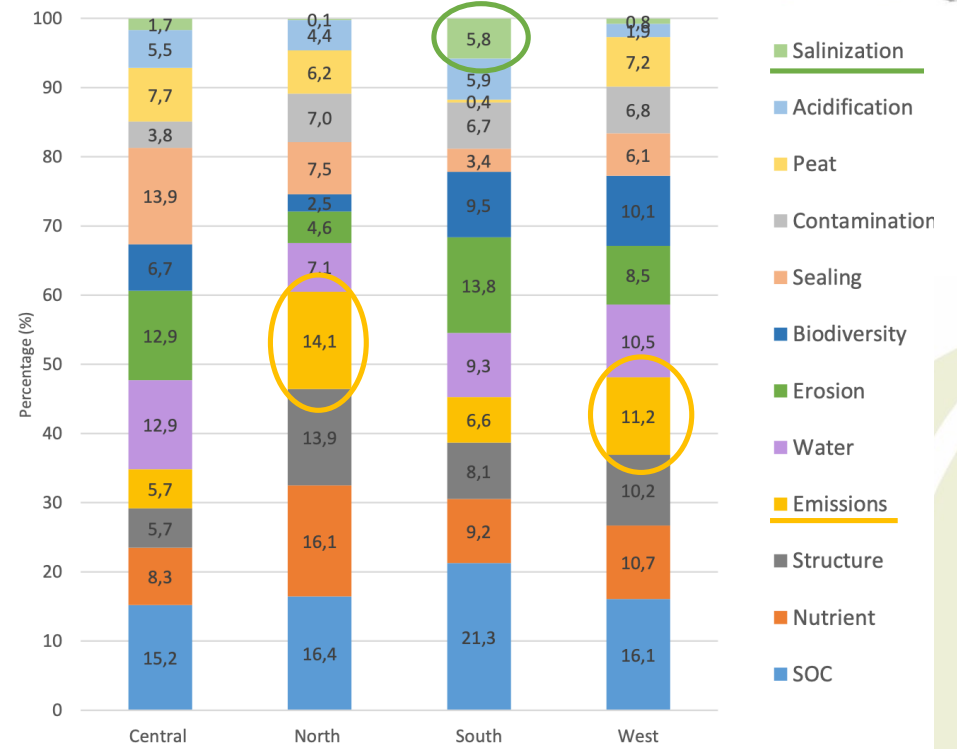
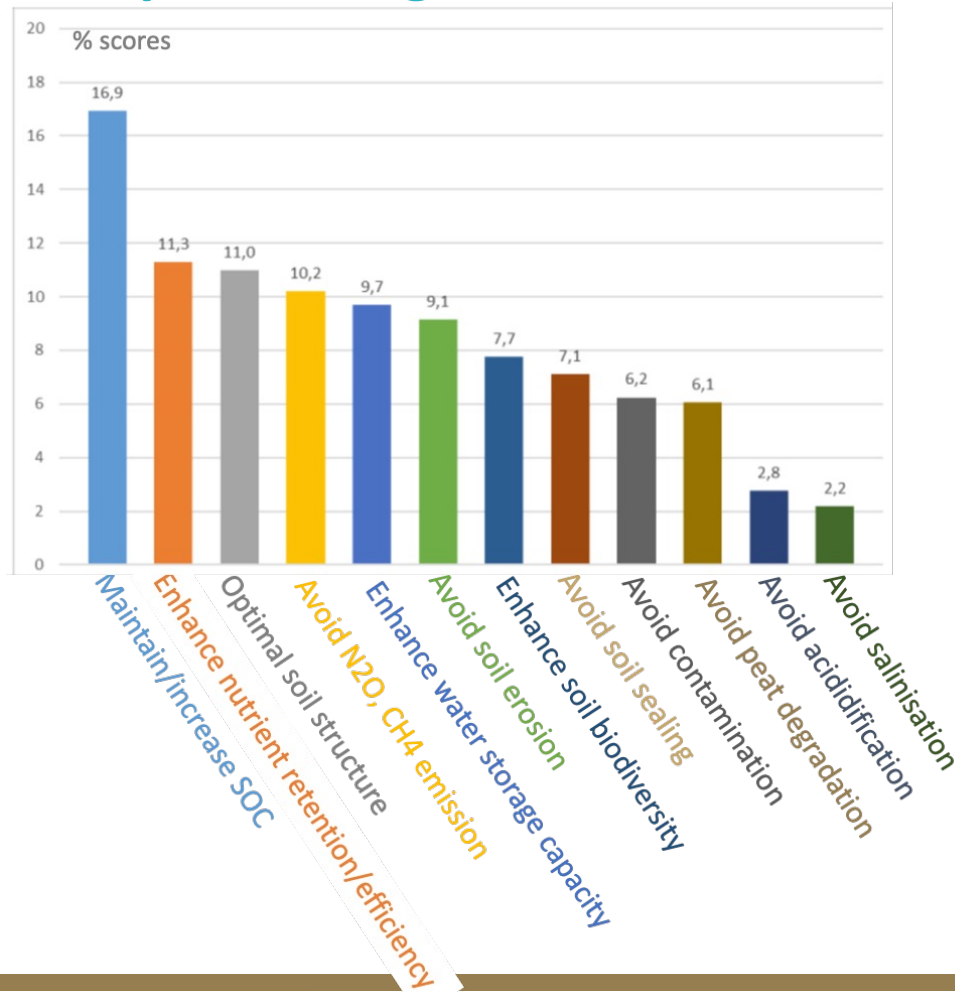
Perception of agricultural soil challenges by EJP SOIL National Hubs



National Hubs (>350)



Perception of agricultural soil challenges by EJP SOIL National Hubs



Barriers and opportunities regarding soil information

Barriers	Responses (%)
Different methodologies used for soil sampling, analysis and mapping or storage	14.8
Outdated information	12.5
Data fragmentation	11.4
Lack of common data policy	11.4
Storage data dispersed and often not available to the public	11.4
Lacking common “decision support” ICT tools able to secure soil data storage	10.2

Opportunities	Responses (%)
Creation of national infrastructures and interactive web-based communication of soil data	21.1
Promotion of harmonization and standardization methodologies	19.7
Validation and integration of large data sets by using new ICT tools	19.7
Data storage with international standards	15.8

⇒ EJP SOIL activities

- Data sharing agreements
- Developing transfer functions for a set of soil characteristics
- INSPIRE capacity building
- Etc..

Vanino et al. 2023 J. Environ Management

EJP SOIL Deliverable D2.8

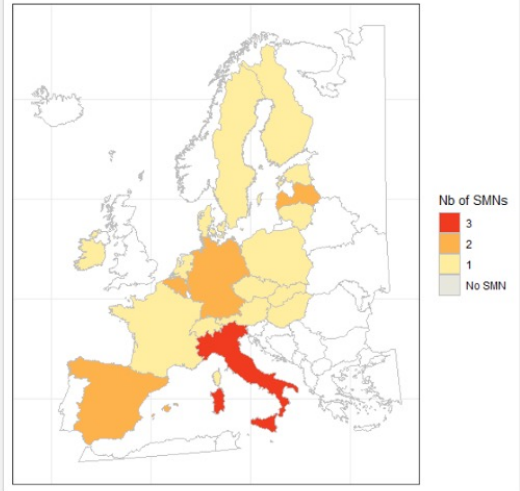
knowledge
harmonization,
organization &
storage

Towards integrated soil monitoring systems at EU scale

2022-23 National Hub meetings to present & discuss EJP SOIL results (8 countries)

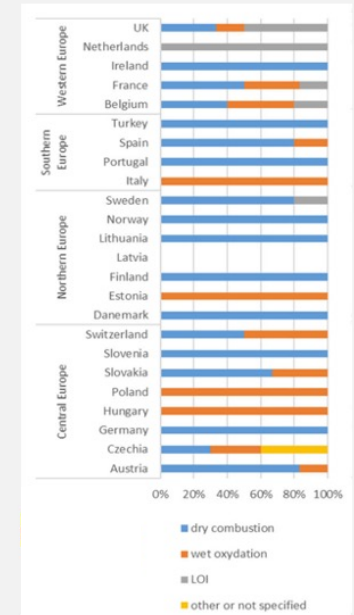


National Soil Monitoring Systems (19 countries)



Methods used in National Soil Monitoring Systems.

E.g. Soil Organic Carbon



Bispo et al. 2021. EJP SOIL Delierable 6.3

- Data availability in countries
- Intercomparison with LUCAS-Soil
- Contribution to EUSO

3- Critical analysis of EJP SOIL National Hubs , recommendations & future outlook



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Inventory on functioning of EJP SOIL National Hubs

Well functioning National Hub

Members:

- Appointed by program owner
- Have a good understanding of EJP SOIL
- Understand the function of NH
- Know one another well and can interact easily
- Meet often enough
- Take ownership over their role

Non-functioning National Hub

Members:

- Identified on paper but no meetings
- Do not feel a strong obligation to attend meetings
- Attend meetings but don't really know why they have been gathered and what their purpose is
- Do not contribute actively or at all in meetings
- Do not really know one another and thus are not comfortable in discussing freely



Clear/shared objectives & mandate
Lead by a National authority

Towards Soil Health National Hubs in the framework of the Mission “A soil deal for Europe” ?



A forum which brings together relevant stakeholders in each of the member states to discuss and deliberate on the topic of soil health



Key tasks:

- Account for/integrate regional & National soil needs at EU Mission level
- Elaborate a common national (stakeholder supported) position towards soil health targets /soil management
- Contribute to and learn from ongoing soil research

Challenges:

- Soil Mission : ALL soils => unique hub or one per land use?
- Governance & organization of the hubs: formal representation of stakeholders /voluntary?

Conclusion

- Stakeholder involvement is crucial for successful implementation of EU Soil Strategy
- National Hubs of stakeholders can be key assets at the science to policy interface
- Stakeholders perception ; wealth of knowledge
- Inter-stakeholders forum
- Engaging stakeholders requires elaborating on mutual benefits