



1st EU Soil Observatory Stakeholder Forum

Workshop on soil erosion for the EU

Wed 20 October 2021, 14:00-16:30 (WEBEX & STREAM)

Moderator: Panos Panagos, European Commission Joint Research Centre

Rapporteur: Francis Matthews, European Commission Joint Research Centre

Scope: Exploring the role of soil erosion in relation to land degradation, climate change, food security

This WG is formed in a basis of past meetings of soil erosion modellers in Ispra (March 2017), Seoul (December 2017) and Gully erosion workshop (March 2018). In addition, 67 scientists worldwide developed the first Global Applications of Soil Erosion Modelling Tracker (GASEMT).

The WG will develop linkages between soil erosion and emerging issues such as climate change, food security and land degradation. The WG will propose modelling approaches that can respond to new developments in the European policies: Post-2020 Common Agricultural Policy (CAP), New Soil Strategy for soils, Biodiversity Strategy, Farm to Fork and Zero Pollution Action Plan.

The Soil Erosion Working Group will have the following objectives:

1. develop an object oriented (bottom-up) approach for estimating soil erosion and health indicators at farm scale
2. Integrate soil erosion with emerging issues such as soil contamination, carbon loss and food security.
3. improve large scale assessments
4. have different sub-groups based on research question or policy request.

The proposed modelling approach should be a modular/adaptive one and would target applications at regional and local scale. This requests the involvement of all potential stakeholders: Farmers, advising services, regional authorities, Member States, EU policy makers and scientists. This new approach would use as a basis the information/data on a farm level. Therefore, new datasets at high spatial resolution (e.g. Land Parcel Identification System LPIS) and new Remote sensing inputs (e.g. Phenological indexes) would be important inputs. This modelling tool could be applied at farm and local scale taking also into account the farmers management practices to reduce erosion and improve soil health. Our biggest challenge is to take the feedback from farmers and local stakeholders and include it in assessments, proposed management practices and policy inputs.

The second challenge for the WG would be the integration with soil pollution and climate change. As soil erosion is contributing to “transfer” soils from one field to another and potentially to water resources, we aim to explore the possible linkages between soil erosion and soil pollution (e.g. heavy metals, microplastics, pesticides), excess of nutrients and finally to understand the feedbacks of soil loss and carbon cycle.

The third challenge is to improve large-scale assessments by including all kind of erosion processes: Wind, gully, tillage, etc.

The fourth challenge of this WG is to face new research challenges and policy questions in a specific subject. This means that sub-group of experts and stakeholders can be formed to either collect data or review or develop new approaches. As an example, an extensive data collection of Sediment distribution data takes place in 2021 with the objective to populate all the findings at EU level by 2022.

Deliverables:

- a farm based conceptual framework for estimating soil erosion at parcel scale
- Better Integration of soil erosion in the Land Degradation indicators 15.3.1
- Include soil erosion both with large scale Earth Science modelling and in the global assessments of IPCC or/and IPBES
- Develop the Lighthouses network for soil erosion: Practitioners who apply the best management methods for soil conservation and protection.

Establishment of EUSO Soil Erosion Technical Working Group

Chair: Panos Panagos, EUSO

Vice-chair from stakeholders - policy:.....

Vice-chair from academia: Pasquale Borrelli

Working group: in a first stage informal and voluntary; in consecutive stages, a more formal approach could be envisaged. It is proposed that persons/organizations that want to contribute actively send a mail to panos.panagos@ec.europa.eu , with their intentions.

Among these persons: look for candidates to become Vice Chair (1 or 2);

Next steps & Conclusions

2021-2022					
	Milestone	Focus (vs. 4 objectives)	Date	Who	Relevant Policies
1.	EUSO Stakeholder Forum	EUSO soil Erosion WG: Introduction and Scope	Oct. 2021	Stakeholders	
2.	Sub-WG Sediments	Collect the sediment data at EU scale with focus in agricultural lands (No 4)	Dec. 2021	Data owners, modellers	Zero Pollution; EU Soil Strategy
3.	Sub-WG Farm model	Specifications for the development of a farm-scale model (No 1)	Mar. 2022	Modellers, policy makers, farmers	CAP
4.	Sub-WG Integration with Carbon	Collect contributions from WG Members (No 2)	June 2022	Carbon experts, erosion modellers	LULUCF
5.	Sub-WG Young Generation	Challenges of new research in relation to policy needs (All) Policy Brief – Special issue	Jul. 2022	Young researchers	
6	Sub-WG Integration with Food security	Assessment of nutrient losses due to soil erosion(No 2)	Oct. 2022		Farm to Fork
7	Sub-WG Large scale assessments	How to improve current large scale assessments	Dec. 2022		SDGs