

AGENDA PAPER

FAO Global Soil Partnership International Network of Soil Information Institutions (INSII)	Meeting Number: 7
	Location: Online
	Date: 9-11 November 2021
Agenda Item No	V
Agenda Item	GSOCseq v1.1 - Global Soil Organic Carbon Sequestration Potential map

Background

I. GSOCseq (Global Soil Organic Carbon Sequestration Potential Map)

- A. The GSOCseq is the first country-driven global assessment of Soil Organic Carbon Sequestration Potential. The various GSOCseq layers show estimations of topsoil (0-30 cm) soil organic carbon sequestration potential in agricultural areas under four soil management scenarios. The methodology is based on a spatialized version of the process-based Rothamsted Carbon Model (RothC), made available through the open-source R software. Countries are using this software to model their national SOC sequestration potential over agricultural areas 20 years into the future based on a Business as Usual (BAU) scenario and three Sustainable Soil Management (SSM) scenarios that vary in the degree of carbon input to the soil. Alongside this standardized approach, countries are encouraged to further refine the methodology to better suit their environmental condition and available data. By fostering and leveraging local expertise, the methodology of the GSOCseq is constantly being extended and improved to better reflect local SOC dynamics.
- B. The GSOCseq launched in September during the 9th GSP PA as the first country-driven global estimation of SOC sequestration potential. The resulting map offers various layers of information, helping users visualise crucial data such as initial SOC stocks and predicted SOC stocks under various sustainable soil management and business-as-usual scenarios, as well as relative sequestration rates for each scenario.
- C. According to GSOCseq , soils - if managed sustainably - can sequester up to 0.56 petagrams of carbon --or 2.05 gigatonnes of CO₂ equivalent -- per year, having the potential to offset yearly as much as 34 percent of agricultural global greenhouse gas emissions.
- D. The GSOCseq v1.0 layers were made available on [GloSIS Global Platform \(Beta\)](#).

- E. GSOCseq Technical Report has been prepared and to be reviewed by INSII. The . The review period will run from 5 November until 20 November 2021. This document will then be further revised in response to input received through peer review, as appropriate, prior to publishing. The aim of this review is to share the main findings with INSII, to increase the quality of the report and improve the document by engaging the network . This would not be a comprehensive overhaul of those fundamental principles of SOC sequestration, but a reviewing the results and main findings.

Key issues

- Members with limited computational resources

Required action

- Review of the GSOCseq Technical Report by 20/11/2021.
 - Please **download the review copy of the GSOCseq Technical Report** and the Review Sheet here [GSOCseq TR review](#)
 - Please send your review (filled review sheet) by 20/11/2021 to isabel.luotto@fao.org by email.
- Review of the GSOCseq Way Forward concept note by 20/12/2021.
 - Please provide comments and suggestions **directly on the online document**:
 - [w](#) `Concept Note_GSOCseq_Wayforward.docx`

Resource implications

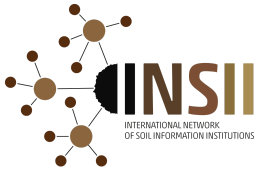
- NA

Preparation and consultation

- Ms Isabel Luotto, Mr Guillermo Peralta, Mr Luciano Di Paolo (GSP Secretariat)

Attachments

- [GSOCseq Country Guidelines and Technical Specifications](#)
- [Global Soil Organic Carbon Sequestration Potential Map Technical Manual](#)
- [GSOCseq Technical Development Material](#)



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