



Food and Agriculture
Organization of the
United Nations

Soil Organic Carbon: Integrator and Indicator

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Intergovernmental Technical Panel on
Soils

Three sub-indicators for SDG Indicator 15.3.1

In UNCCD decision 22/COP. 11,
Soil Organic Carbon
was adopted as the metric for
assessing carbon stocks

Soil organic carbon is a
proxy for soil organic matter
(carbon + nitrogen + phosphorus + microbes +.....)

2.4
Sustainable
and resilient
agricultural
practices



3.9
Reduce deaths
from soil
pollution
and contamination



13.1
Strengthen
resilience and
adaptive capacity

← Soil Organic Carbon →

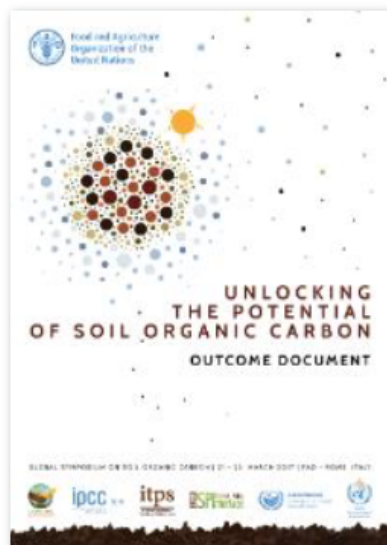


12.2
Achieve sustainable
management
of natural resources



15.3
Restore degraded
land and soil

Unlocking the Potential of Soil Organic Carbon – Outcome Document of the Global Symposium on Soil Organic Carbon



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Abstract:

This document presents the main outcomes of the Global Symposium on Soil Organic Carbon (GSOC17) held at FAO headquarters (Rome, 21-23 March 2017). It presents key messages intensively discussed and developed by the GSOC17 participants and subsequently reviewed and synthesized by the Scientific Committee. The GSOC17 Outcome Document highlights major issues and future directions regarding Soil Organic Carbon preservation and enhancement in research, practice and policy.

Also Available in:

[Spanish](#) [French](#)

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KICK-OFF
GSOCmap as a contribution to the **SDG indicator 15.3.1**: proportion of land that is degraded over total land area.



TECHNICAL SPECIFICATIONS
agreed upon by member countries during the 2nd Workshop of the International Network of Soil Information Institutions (INSII).



NATIONAL SOIL DATA COMPILATION AND HARMONIZATION

Database creation bringing together **recovered** soil legacy data from different institutions, projects and archives; and also harmonization of lab methods and units.



CAPACITY DEVELOPMENT
Over **150 experts** from **110 countries** trained in digital soil organic carbon mapping.



MAPPING BY COUNTRIES
Assessment of different methodologies to predict **SOC stock distribution** and estimate **uncertainty**



GLOBAL DATA HARMONIZATION
including **quality control**, **mosaicking**, **border harmonization** and **gap filling**

GSOCmap

With more than **1 Million sampling points** behind the GSOCmap, the **country-driven SOC mapping approach** has proved to be successful.

2018

LAUNCH

2017

WORK BY AND WITH COUNTRIES

PREPARATORY WORK

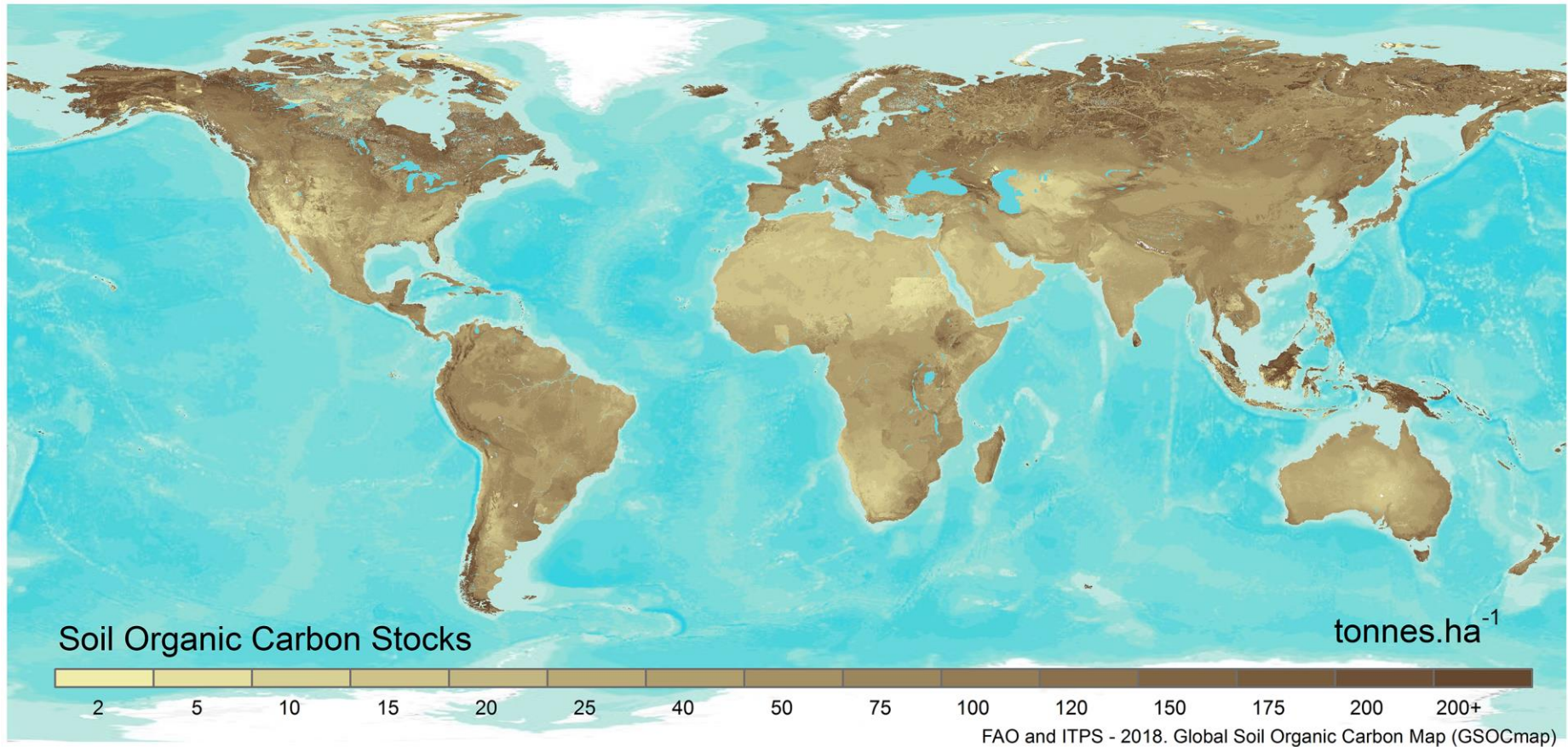
2016

GSOCmap: A COUNTRY-DRIVEN PROCESS

WHAT'S NEXT?

- **GSOCmap V2.0** with new and updated national SOC maps
- Full establishment of the **Global Soil Information System** based on National Soil Information Systems
- Towards a **Global SOC Monitoring System** based on the GSOCmap
- Feasible **Guidelines** for measuring, mapping, monitoring and reporting SOC stocks to be adapted locally

Global Soil Organic Carbon Map 1.2



tonnes per hectare to 30 cm depth

Total SOC stock: 680 Pg C



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GSOC can serve as global and national data source for modelling SOC change through time

Challenge

Absence of national-level data on land management (e.g. soil tillage, N fertilization); these are key human-management drivers of SOC change

“The truth is that getting carbon back in the land is a natural remedy for climate change. It will help the mitigate and adapt. Putting carbon where it belongs can drastically reduce land degradation, protect communities from drought and boost livelihoods”

*Monique Barbut,
UNCCD Executive Secretary
Global Symposium on Soil
Organic Carbon,
Rome 2017*