



Food and Agriculture  
Organization of the  
United Nations

# International Network of Soil Information institutions (INSII)

## GLOBAL SOIL PARTNERSHIP

### 11<sup>th</sup> Plenary Assembly

12-14 July 2023



# Overview

## INSII - Soil Information and Data

The Year Behind

GloSIS

Country Driven Global Maps

SoilSTAT

Capacity Development

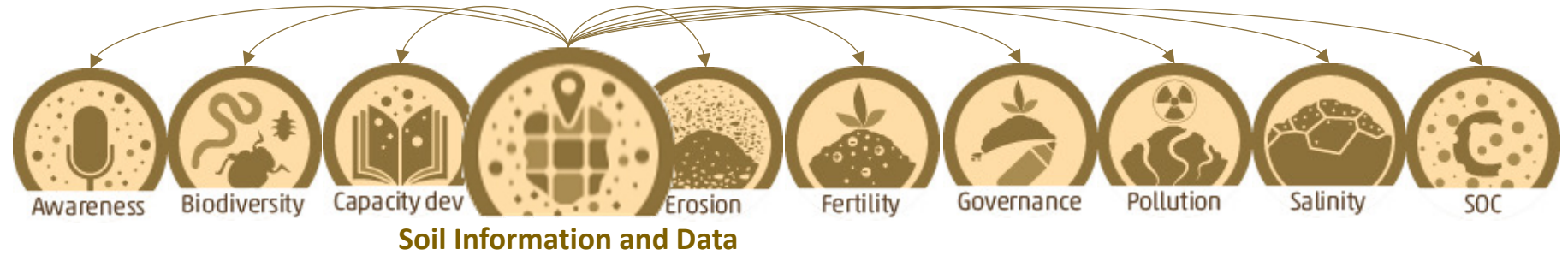
The Year Ahead

Global symposium '24



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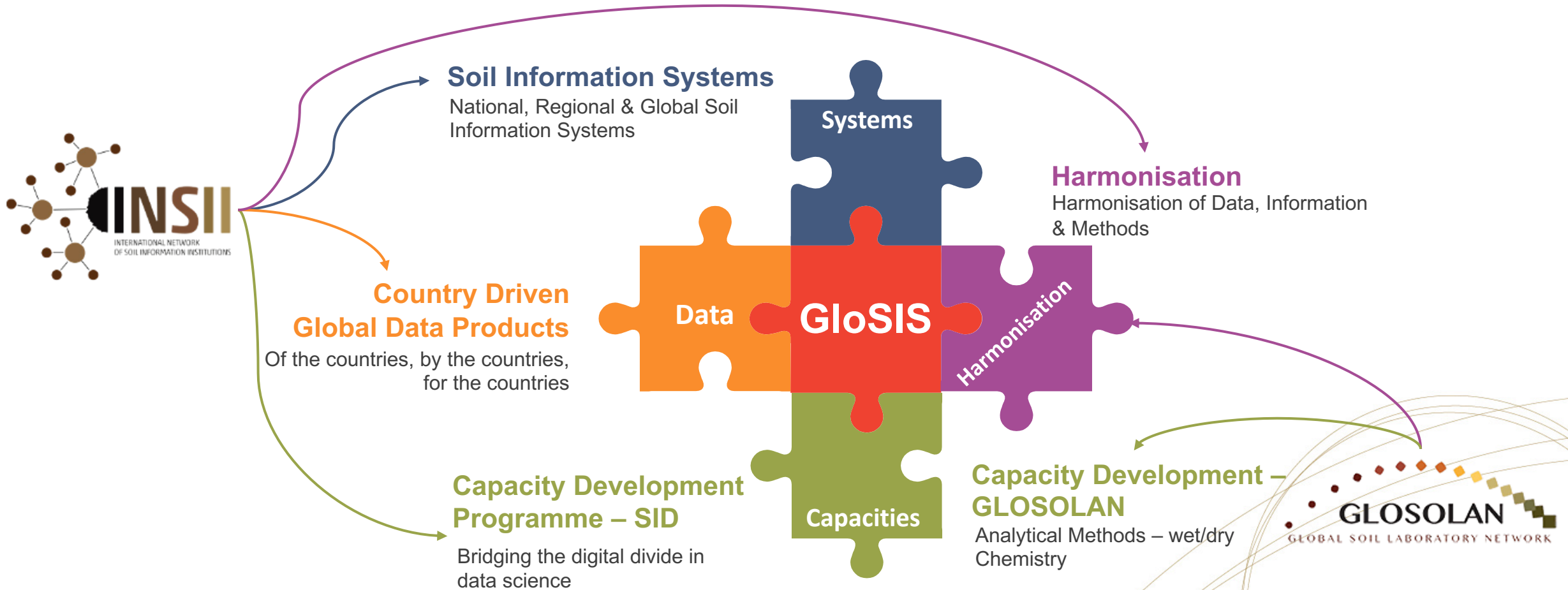


## International Network of Soil Information Institutions

- GSPs **first** technical network, established in 2016
- Implements the activities under the GSP Area of Work: **Soil Information and Data**
- **122** FAO Member Countries + European Union
- Chaired by Mr Luca Montanarella (EU)
- INSII develops GloSIS, National Soil Information Systems and Country-Driven Global Data Products
- Supported by GSP Secretariat, ITPS, Thematic Working Groups



# INSII: Data Driven Policy Making



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# INSII in Numbers - 6 Years

**122**

FAO Member Countries & EU

**122**

Soil Information Institutions

Global Data Products



36 Map Layers

**+2 ongoing**

System Development



National Soil Information Systems

**1** in 2023 (LibSIS)  
22 ongoing\*

Capacity Development



Training Workshops

**127**  
countries

Capacity Development



National Experts

**400**  
in 2023

Publications



Key Publications

**+6**  
In 2023

\*Caribbean (SoilCARE), Asia (AFACI), Azerbaijan

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# GloSIS Discovery Hub (online)

Home / Organizations / Global Soil Partnership



**Global Soil Partnership**  
The Global Soil Partnership (GSP) is a globally recognized mechanism established in 2012. Our mission is to position soils in the Global Agenda through collective action. Our... [read more](#)

Followers: **2**      Datasets: **44**

**Organizations**  
Global Soil Partner... **44**

**Groups**  
There are no Groups that match this search

**Tags**

**Datasets**    Activity Stream    About

Search datasets...

**44 datasets found**      Order by: Relevance

**Soil Workability (HWSD)**  
On the basis of soil parameters provided by the Harmonized World Soil Database (HWSD) seven key soil qualities important for crop production have been derived, namely: nutrient...  
[PDF](#) [WMS](#)

**Topsoil CEC (CLAY)**  
This field gives the cation exchange capacity of the clay fraction in top-soil. The type of clay mineral dominantly present in the soil is often characterizes a specific set of...  
[PDF](#) [WMS](#) [tif](#)

**Topsoil Clay Fraction**  
Percentage clay respectively in the in the topsoil. Clay is naturally occurring firm earthy material, composed primarily of fine-grained (diameter less than 0.002mm) that is...  
[PDF](#) [WMS](#) [tif](#)

**Topsoil Gravel Content**  
Volume percentage gravel respectively in the topsoil. Gravel stands for the percentage of materials in a soil that are larger than 2 mm. Data publication: 2012-03-01 Citation:

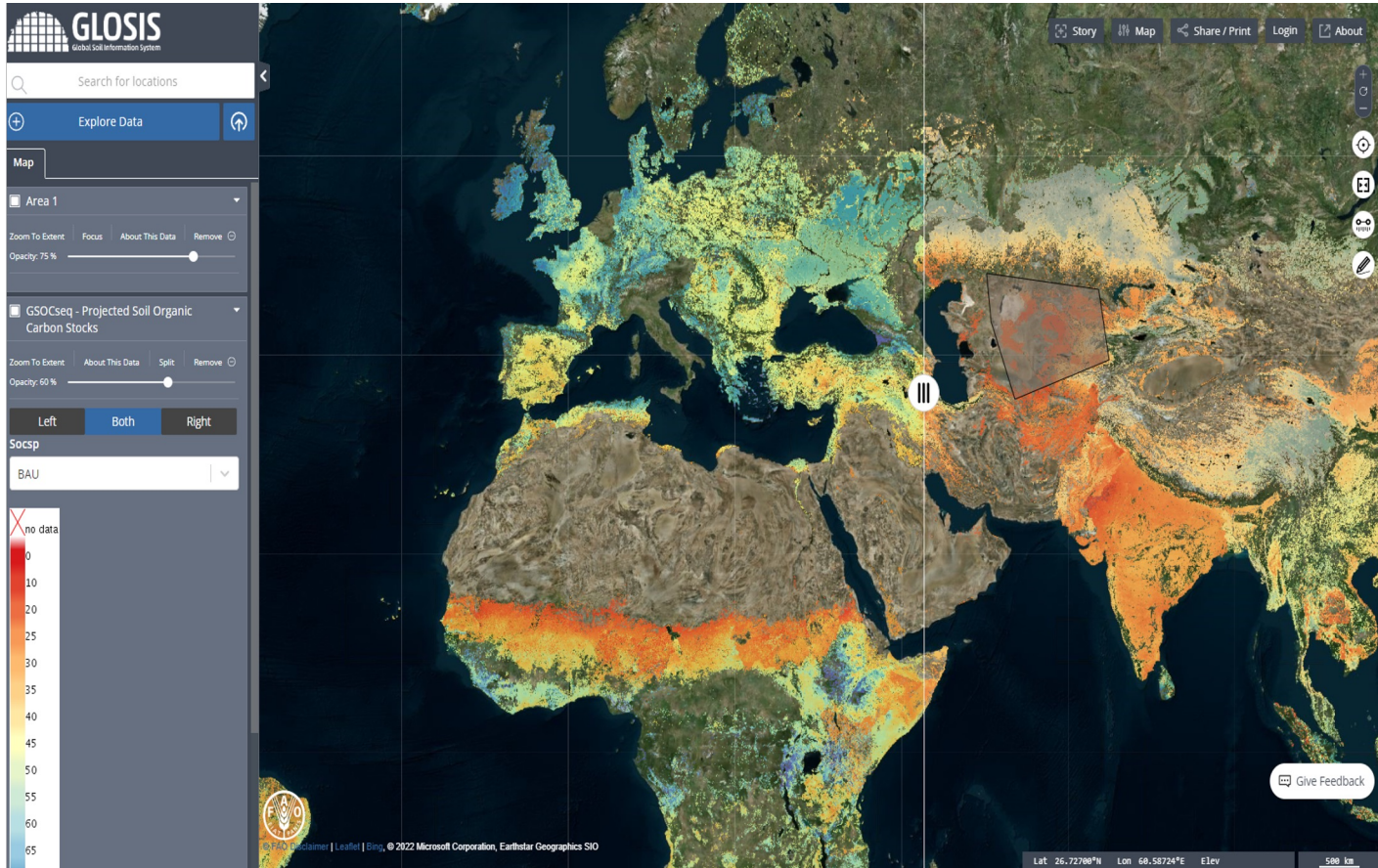
## GloSIS Data Catalogue

- Global Data (Global Maps)
- NSIS will be connected (2023)
- SISLAC will be connected (2023)





# GloSIS Map Service (online)



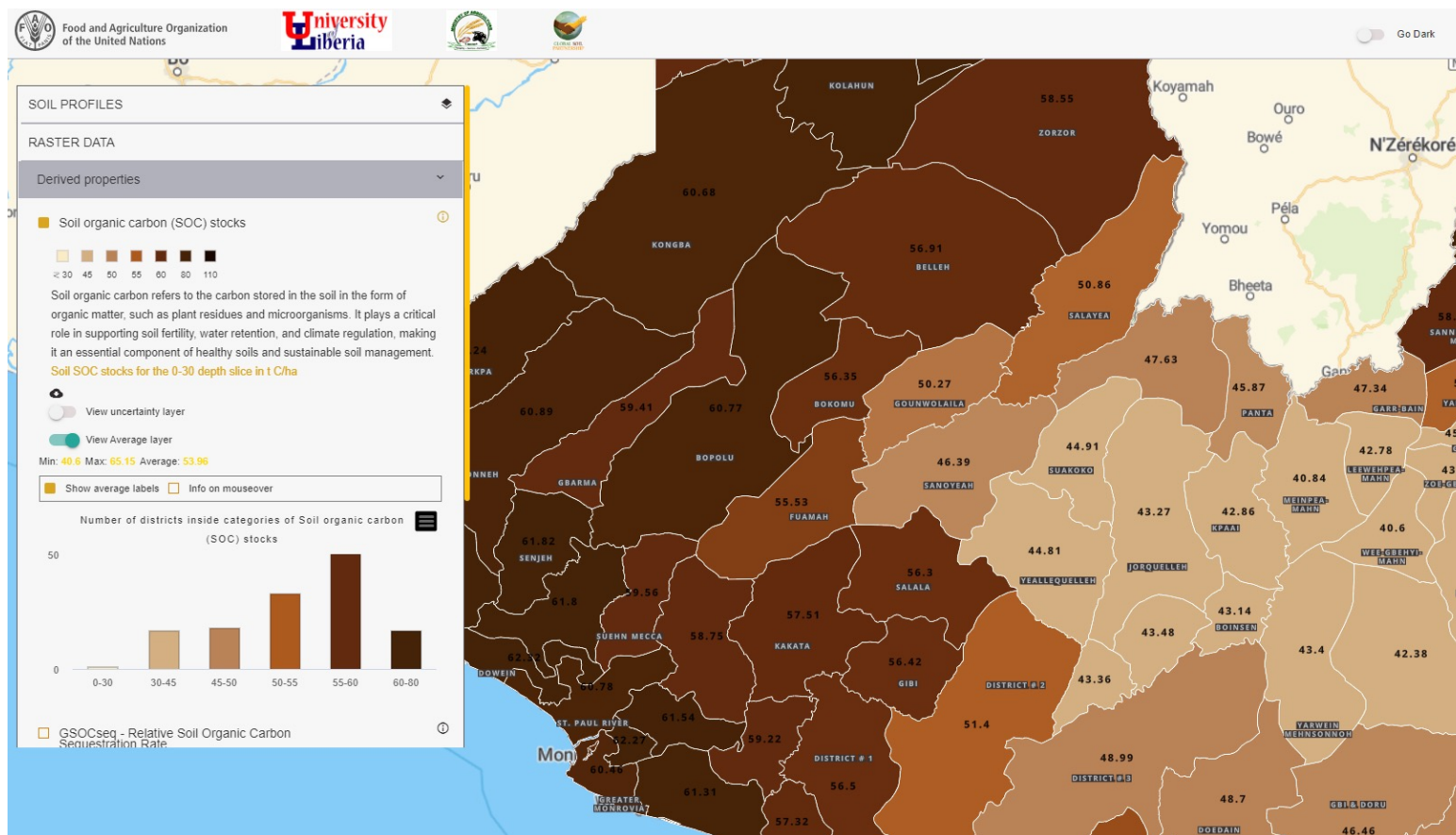
- GloSIS Map Services
- Connected to GloSIS Discovery Hub
- Advance Features
  - Compare, Download, Export, Share, Map Stories

<https://data.fao.org/GloSIS/>

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# NEW - Liberian Soil Information System – LibSIS



Result of a TCP Project  
(to be launched in August 2023)



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# of the countries, by the countries, for the countries

Kick-off

25%

50%

75%

100%



**GSOCmap**

*v1.0 (2017) >> ...v1.6 (2022)*

Global Soil Organic Carbon Map



**GSOCseq**

*v1.0 – (2021) >> v1.1 (2022)*

Global Soil Organic Carbon Sequestration Potential Map



**GSASmap**

*v1.0 (2021)*

Global Salt Affected Soils Map



**GBSmap**

*v1.0 (2022)*

Global Black Soil Distribution Map



**GSNmap**

Global Soil Nutrient and Nutrient Budget Maps



**GSERmap**

Global Soil Erosion Map (on hold)



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GSP Members  
request for  
GSNmap

December 2023 (World Soil Day) – GSNmap

Two-phase initiative

Phase I: Nutrient maps (current status)

Phase II: Nutrient budget maps



### Methodology

Definition of a methodology through the support of the GSP's technical networks, International Network on Soil Information Institutions (INSII), Working groups and the ITPS



### Technical specifications and country guidelines

Publication and divulgation to define a standardized approach



### Capacity Building Program

Online Technical Manual  
Online regional training & follow-up one to one technical sessions with National Experts



### National Submission

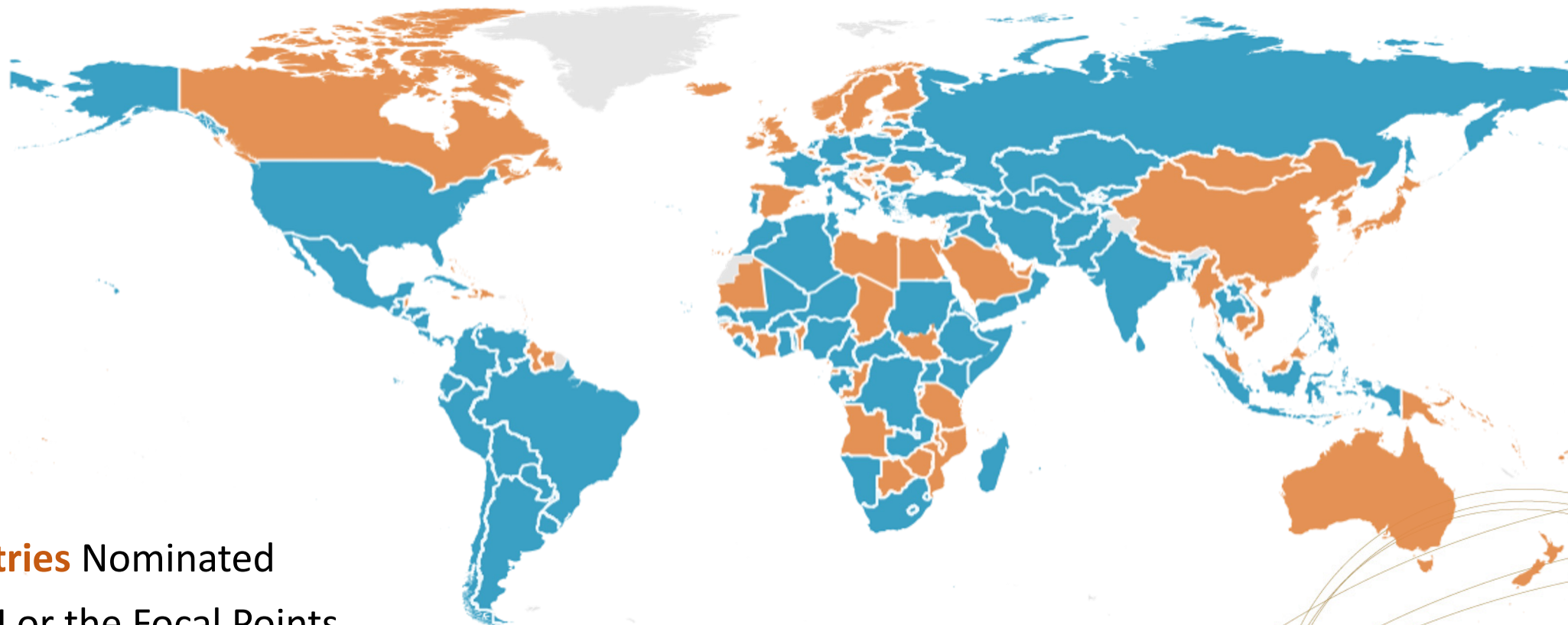
Quality assessment and quality check of the submitted maps  
31 August 2023



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National Expert(s)

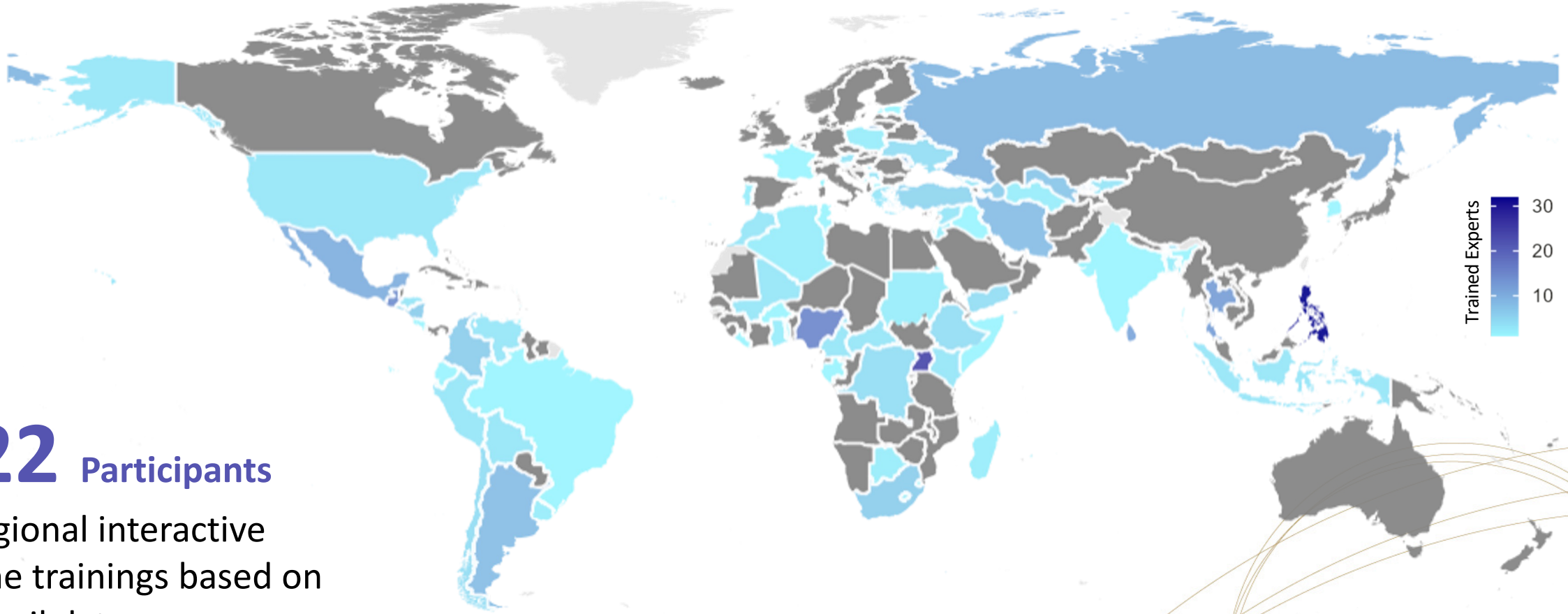


**98 Countries** Nominated

through INSII or the Focal Points  
one or more national experts to be  
in charge of the GSNmap exercise.

Source: United Nations Geospatial. 2020. Map geodata [shapefiles]. New York, USA, United Nations, modified by the authors. Notes: Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.





# 322 Participants

6 Regional interactive online trainings based on real soil data

Source: United Nations Geospatial. 2020. Map geodata [shapefiles]. New York, USA, United Nations, modified by the authors. Notes: Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.





## 24 Experts on Soil Nutrition

2 Meetings for discussing methodologies to produce national maps, get insight and recommendations

### Agenda

- |  |               |
|--|---------------|
| 1. Opening and Tour de Table                               | 14:00 - 14:15 |
| 2. GSNmap: Progress and challenges (15 min)                | 14:15 - 14:30 |
| 3. GSNmap Phase I: top-down gap-filling strategy (15 min)  | 14:30 - 14:45 |
| Q&A  | 14:45 - 15:00 |
| 4. GSNmap Phase II: mapping soil nutrient budgets (30 min) | 15:00 - 15:30 |
| Open discussion  | 15:30 - 16:00 |

Source: United Nations Geospatial. 2020. Map geodata [shapefiles]. New York, USA, United Nations, modified by the authors. Notes: Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.





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# SoilSTAT

- As stated in the new GSP Action Framework 2022–2030, **INSII's role in the development and subsequently monitoring and reporting of key performance indicators will be central.**
  - SoilSTAT Soil Health Indicators;
  - Global Soil Health Dashboard;
  - GSP AF Indicator System

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# CAPACITY DEVELOPMENT – SOIL INFORMATION and DATA



## Capacity Development

1800+



National Experts

78+



Training Workshops



127+ Countries  
All GSP Regions



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# 2023-2024

- 9<sup>th</sup> INSII Meeting – 7-9 November 2023
- GSNmap Phase I – 5 December 2023 (World Soil Day)
- GSNmap Phase II (Tier 1) – 5 December 2023 (World Soil Day)
- Global Symposium on Soil Information and Data in 2024 (title TBD)
- GloSIS Improvements



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# The Plenary Assembly may wish to

*invite the International Network of Soil Information Institutions (INSII) to lead the working group for the development of key performance indicator system for the GSP Action Framework 2022-2030 and global soil health index in line with SoilSTAT reporting objectives and consider approval of the document prepared by the working group at the 9<sup>th</sup> session of the INSII in November 2023;*



# The Plenary Assembly may wish to

***invite** FAO Members to establish national soil information systems in accordance with INSII guidelines and with the support of the GSP Secretariat;*

***invite** INSII members to nominate national experts for the GSNmap initiative;*

***welcome** and **acknowledge** the progress of the capacity development programme aimed at empowering countries in digital soil mapping and soil data management.*

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Thank You 😊  
-on behalf of-

ISAF Working Group  
ITPS (Intergovernmental Technical Panel on Soils)  
7 GSP Technical Networks  
7 Regional Soil Partnerships

