Collaboration between GLOSOLAN and INSII: addressing data quality in map production

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GSPs Contribution to Data Driven Policy Making

Soil Information Systems
National, Regional & Global Soil Information Systems

Country Driven Global Data Products
Of the countries, by the countries, for the countries

Capacity Development Programme – SID
Bridging the digital divide in data science

Harmonisation
Harmonisation of Data, Information & Methods

Data
GloSIS
Harmonisation

Capacity Development – GLOSOLAN
Analytical Methods – wet/dry Chemistry

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Global Soil Organic Carbon Sequestration Potential Map
PHASE I
Mapping the current state of...
...macronutrients (N, P, K),
...micronutrients, and
...associated soil properties (CEC, pH, SOC, texture, BD)
• Resolution: 250 x 250 m
• Depth layers: 0 - 30 cm, optional: 30 - 60 & 60-100 cm

PHASE II
Mapping soil nutrient budgets
• of macronutrients (N, P, K)
• PHASE I maps are linked with data on biological fixation, fertiliser and manure input, crop removal, …
Nutrient data

- Data often analysed in laboratories
1. Data sharing

- Maximise soil data availability on national level to increase quality of national maps, i.e. nutrient data for the GSNmap
- **GSP soil data policy** as instrument to manage data sharing and data protection
  - Raw data is not shared with the GSP (only the final map)
  - Laboratories decide on degree of data protection
2. Definition of SOP conversion factors

- Soil data composed by different measurement methods
- Harmonisation of methods has the potential to increase map quality
  → Conversion factors between SOPs are needed

New SOPs needed for:

\[ K \quad Cu \quad S \quad Mg \quad Fe \quad Cl \quad Zn \]
\[ Ca \quad Mo \quad Ni \quad Si \quad B \quad Mn \]
3. Development of pedo-transfer functions

- Pedo-transfer functions (PTF) are a key element of digital soil mapping (DSM) as they enable mappers to fill gaps in data.
- Geographically more representative PTF are needed to be incorporated in the mapping process.

Support in generating an overview of existing PTFs for different environmental settings from GLOSOLAN.
Collaboration: INSII - GLOSOLAN

1. Promote **exchange of data** on national level between INSII institution and NASOLAN to produce GSP data products
2. Develop SOPs and **conversion factors**
3. Advise GSP in **use of PTF for mapping** and develop new PTF
Thank you for your attention!
Collaboration between INSII and GLOSOLAN

1. Data sharing/exchange with national INSII members
2. SOP conversion equations/protocol to harmonise SOPs
3. PTF definition