



Food and Agriculture  
Organization of the  
United Nations



# 4<sup>th</sup> Workshop of the International Network of Black Soils

## EduSoils

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*(GSP-Secretariat)*



30 March 2023



FAO's Global Soil Partnership (GSP) has centered capacity development at the heart of its main activities.



### Soil laboratories

The Global Soil Laboratory Network (GLOSOLAN) was established in 2017 to build and strengthen the capacity of laboratories in soil analysis and to respond to the need for harmonizing soil analytical data.



### Sustainable Soil Management

The programme provides soil doctors with training, educational material and soil testing kits to build capacity on the principles of soil science and promote the practice of sustainable soil management.



### Soil Information and data

The GSP has trained 1400+ National Experts from 127+ countries as part of its country-driven global soil property mapping exercise for the establishment of a Global Soil Information System.

# The pandemic has accelerated the paradigm shift towards open learning



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# EduSoils – Educational online platform on soils

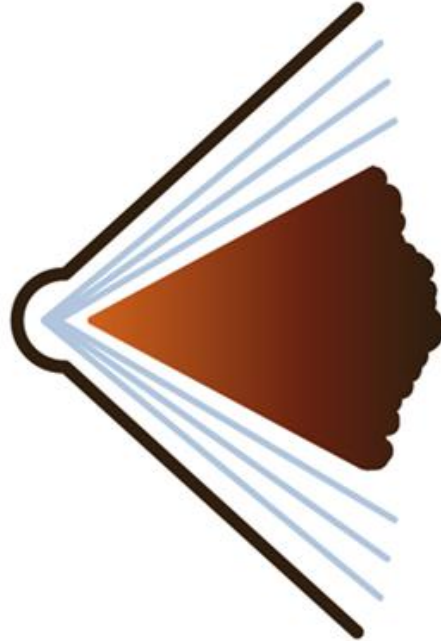


EduSoils

*An educational online platform on soils to catalogue and service the knowledge generated by the GSP, including its partners and technical networks, in a curated way to increase its outreach and benefit a broader public.*

# Main Objectives:

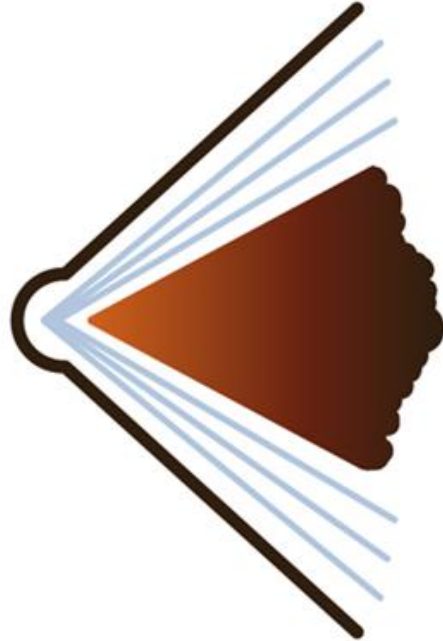
EduSoils



1. Provide an online platform to service curated educational content on soils generated by the GSP, including its partners and technical networks
2. Increase the outreach to relevant soil-related content to a broader public (e.g. students, researchers, farmer associations etc.)
3. Leverage and show-case the expertise within the GSP's partners and technical networks

# Available content:

EduSoils



1. Video courses
2. Webinars
3. Technical Manuals/Reports
4. Educational Posters

# Example: Digital Soil Mapping (DSM)

**EduSOILS - DSM**  
Full DSM Course  
6+ Hours

**Video Content:**

**Main learning outcomes**

**Why was this course created**

- > The Global Soil Partnership (GSP)
- > The Global Soil Information System (GloSIS)
- > Soil Information & Data: Capacity development
- > The Global Soil Organic Carbon Map (GSOCCmap)
- > The Global Soil Organic Sequestration Potential Map (GSOCCseq)

**Target Audience**

**Course Content**



EduSOILS | e-learning soil education

**Digital Soil Mapping in R**  
Video 2  
**Software and Dataset**



**Digital Soil Mapping in R**  
Video 3  
**Introduction to Spatial Data**



**Digital Soil Mapping in R**  
Video 4  
**Introduction to R**



**Digital Soil Mapping in R**  
Video 5  
**Preparation of Soil Data**



**Digital Soil Mapping in R**  
Video 6  
**Preparation of Covariates**



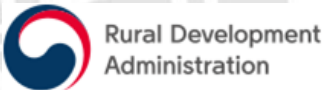
**Digital Soil Mapping in R**  
Video 7  
**Regression Kriging**



**Digital Soil Mapping in R**  
Video 8  
**Random Forest**



**Digital Soil Mapping in R**  
Video 9  
**Uncertainty and Validation**



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# The platform will be continuously extended and available on the FAO's soils portal

What are you interested in?  [SEARCH](#)

## Soil Spectroscopy

### Video Tutorials



**Spectroscopy COURSES**


#### Soil spectral inference

This series of lectures will give a general overview and some basic implementations and examples with R of soil spectral inference.

May 2021 | 1.40h

[Learn More](#)

### Webinars




**Webinar #1 An Introduction to Soil Spectroscopy**  
by Mr Bo Stenberg  
Swedish University of Agricultural Sciences

This webinar is the first training of the Soil Spectroscopy series held in the framework of the Global Soil Laboratory Network (GLOSOLAN) capacity development programme.

[Learn More](#)

### Publications



**Soil spectroscopy TRAINING MATERIAL**

**“A primer on soil analysis using visible and near-infrared (vis-NIR) and mid-infrared (MIR) spectroscopy”**

is the first training material on the topic of soil spectroscopy for beginner levels, by the Global Soil Laboratory Network Initiative on Soil Spectroscopy (GLOSOLAN-Spec) of the Global Soil Partnership, FAO.

[Learn More](#)

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# How to get involved

- GSP Partners and Technical Networks can support by developing content for EduSoils
- The content needs to be created under the supervision and cleared by the GSP secretariat
- Guidelines for content creation will be ready soon
- Feel free to contact [Isabel.Luotto@fao.org](mailto:Isabel.Luotto@fao.org) and [Yuxin.Tong@fao.org](mailto:Yuxin.Tong@fao.org) to get involved



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