



Food and Agriculture
Organization of the
United Nations



Institute of Soil Science,
Chinese Academy of Sciences



GLOBAL SYMPOSIUM ON SOIL INFORMATION AND DATA MEASURE | MONITOR | MANAGE

September 25-28, 2024 | Nanjing, China



AGENDA





GLOBAL SYMPOSIUM ON SOIL INFORMATION AND DATA MEASURE | MONITOR | MANAGE

September 25-28, 2024 | Nanjing, China

Hybrid event

Nanjing International Youth Convention Hotel

Co-organized by

Food and Agriculture Organization of the United Nations (FAO)

Institute of Soil Science Chinese Academy of Sciences (ISSCAS)

Agenda	4
Keynote speakers	18
General information	25

Join the symposium online



www.fao.org/global-soil-partnership/gsid24

Summary Agenda

The times indicated are local times for Nanjing, China (GMT+8)

Tuesday 24th Sep

All Day

Registration

Wednesday 25th Sep

08:00-09:00

Late Registration

PLENARY SESSION

09:00-12:30

High level opening

Keynote presentations

12:30-14:00

Lunch & Poster Exhibition

14:00-17:30

PARALLEL SESSIONS

Room 1
Theme 1

Room 2
Theme 1

Room 3
Theme 2

Room 4
Theme 2

Room 5
Theme 3

Room 6
Theme 3

18:00

Gala Dinner

Thursday 26th Sep

08:30-12:00

PARALLEL SESSIONS

Room 1
Theme 1

Room 2
Theme 1

Room 3
Theme 2

Room 4
Theme 2

Room 5
Theme 4

Room 6
Theme 3

12:00-13:30

Lunch & Poster Exhibition

13:30-17:00

PARALLEL SESSIONS

Room 1
Theme 1

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Theme 3

Friday 27th Sep

08:30-12:00

PARALLEL SESSIONS

Room 2
Theme 1

Room 4
Theme 2

Room 6
Theme 3

Poster Exhibition

12:00-13:30

Lunch & Poster Exhibition

13:30-17:00

Main session outcomes and key messages

Closure remarks

Saturday 28th Sep

All Day

Field Trip

Theme 1: Mainstreaming soil data: innovations in analysis, standardization, harmonization and communication

Theme 2: Advances in soil mapping and monitoring

Theme 3: Soil data for policy and decision-making

Theme 4: Soil data as a common good

OPENING AND PLENARY SESSION

Room 1

09:00

HIGH LEVEL OPENING REMARKS

Jiabao Zhang - President, Soil Science Society of China, China

Renfang Shen - Director-General, Institute of Soil Science, Chinese Academy of Sciences (ISSCAS), China

Ke Jin - Director General Department of International Cooperation, Chinese Academy of Agricultural Sciences, China - Intergovernmental Technical Panel on Soils (ITPS)

Lifeng Li - Director Land and Water Division, Food and Agriculture Organization of the United Nations (FAO)

Moderator: Xiaoyuan Yan - Deputy Director-General Institute of Soil Science, Chinese Academy of Sciences (ISSCAS), China

KEYNOTE PRESENTATIONS

Integrate legacy data to better predict soil behavior and soil resource management

Ganlin Zhang - Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences, China

Next-generation soil carbon systems

Raphael Viscarra Rossel - Curtin University, Australia

The third law of geography: a new perspective on digital soil mapping

A-Xing Zhu - University of Wisconsin-Madison, USA

FAIR Soil data in support of sustainable land management

Fenny van Egmond - ISRIC World Soil Information, The Netherlands

Past, present, and future of proximal sensing of soils: challenges and opportunities

Eyal Ben Dor - Tel Aviv University, Israel

From data to decisions: transforming nitrogen management for sustainable food production and environment

Deli Chen - University of Melbourne, Australia

Break barriers in soil data stewardship by rewarding data generators

Asim Biswas - University of Guelph, Canada

Moderator: Lifeng Li - Director, Land and Water Division, Food and Agriculture Organization of the United Nations (FAO)

12:30

LUNCH BREAK AND POSTER EXHIBITION

PARALLEL SESSIONS

*Corresponding author (when different from the first author)

14:00 - 15:30

THEME 1: MAINSTREAMING SOIL DATA: INNOVATIONS IN ANALYSIS, STANDARDIZATION, HARMONIZATION AND COMMUNICATION

Sub-theme 1.2:
Soil Data Standardization And Harmonization

Sub-theme 1.4: The Emergence Of Proximal Sensing
Solutions For Soil Analysis

Room 1

Moderator: **Fenny van Egmond**

Room 2

Moderator: **Yi Peng**

Keynote

Soil data recency: the foundation for harmonizing soil data across time

Tegbaru B. Gobezie - University Of Guelph, Canada

FAIR and harmonized soil and subsoil data through a cross domain collaboration: database underground Flanders (Regional Soil and Subsoil Information System)

Luts Dries - Department of Environment & Spatial Development, government of Flanders, Belgium

Formalized data and models descriptions for the development of a soil digital twins framework

Vasilyeva Nadezda - V.V. Dokuchaev Soil Science Institute, Russia

Harmonizing legacy soil data to transfer sustainable soil management (SSM) technology in coastal region of Bangladesh

Afm Manzurul Hoque - Soil Resource Development Institute, Bangladesh

Enabling the effective exchange of inspire-compliant soil data through the ejp soil implementation of the inspire good practice on geopackage encoding

Andrea Lachi, Maria Fantappiè* - Council For Agricultural Research And Agricultural Economy Analysis (CREA), Italy

Keynote

Advancing soil spectroscopy in Morocco: optimization of spectra acquisition and machine learning model's quality

Issam Barra - Mohammed VI Polytechnic University, Morocco

Mapping and estimating soil toxic elements from rare earth mining area using visible-near infrared spectroscopy and GF-5 hyperspectral imagery

Nisha Bao - Northeastern University, China

Improving the prediction of multiple soil properties using Vis-NIR spectroscopy by combining ensemble preprocessing with variable selection methods

Jiangtao Yang, Hongyi Li* - Jiangxi University of Finance and Economics, China

The complementarity of conventional soil testing and FTIR Spectroscopy for rapid appraisal of soil properties in Morocco

Laila Tajeddine - Mohammed VI Polytechnic University, Morocco

Non-linear memory-based learning for predicting soil properties using A regional Vis-NIR spectral library

Zheng Wang - Zhejiang University, China

15:30 - 16:00

COFFEE BREAK

16:00 - 17:30

Moderator: **Tegbaru Belle Gobezie**

Keynote

Soilwise: repository pioneering the future of soil data and knowledge management for the european union soil observatory

Tomas Reznik - Masaryk University, Czechia

Harmonization of methods - the way to implement global initiatives: the case on SOM by Tyurin, Walkley-black, loss of ignition and dry combustion methods

Elena Shamrikova - Komi Science Centre of the Ural Branch of RAS, Russia

Harmonization and standardization of soil data for compatibility in soil health assessment using an open-source computer package

Nyaradzo Marilyn Muzira - University of Nairobi, Kenya

Harmonized soil biodiversity database to foster sustainable management practices and monitor soil health

Rajasekaran Murugan - University Of Natural Resources And Life Sciences, Austria

Participatory soil, land, crop data catalog to facilitate informed decision-making based on open standards and open-source software

Paul Van Genuchten, Fenny Van Egmond*
ISRIC - World Soil Information, The Netherlands

Use of visible near-and mid-infrared spectroscopy for the prediction of soil properties in highland agricultural land

Elton Mammadov - Ministry of Agriculture, Azerbaijan

Performance of in situ vs. Laboratory-based MIR and vis-nir spectroscopy in the depth-prediction of soil properties in A typical black soil area

Jianxin Yin, Wenjun Ji* - China Agricultural University, China

A comprehensive review of the accuracy and costs of prediction and mapping of soil properties using proximal electromagnetic sensors

Carlos Lozano Fondón, Triven Koganti*
Council For Agricultural Research And Agricultural Economy Analysis (CREA), Italy

Quantitative characterization of bidirectional reflectance distribution of mine soil with different particle sizes using BRDF models

Haimei Lei, Nisha Bao* - Northeastern University, China

Enhancing soil profile analysis with global soil spectral libraries and laboratory hyperspectral imaging

Yuwei Zhou, Shuo Li, Feng Liu* - Central China Normal University, China

PARALLEL SESSIONS

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14:00 - 15:30

THEME 2: ADVANCES IN SOIL MAPPING AND MONITORING

Sub-theme 2.1: Soil Survey and Monitoring Strategies

Room 3

Moderator: **Yusuf Yigini**

Keynote

High-resolution thematic soil mapping at EU level based on the combined use of LUCAS and national soil monitoring data in the framework of the EJP SOIL project

Maria Fantappiè - Council For Agricultural Research And Agricultural Economy Analysis (CREA), Italy

Vertical distribution of soil health indicators and their inter-relationship under various land use systems

Rohan Khopade - International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), India

Global soil salinity estimation at 10 m using multi-source remote sensing

Nan Wang - Zhejiang University, China

Advancing agricultural sustainability: the Australian national soil monitoring program

Gerard Grealish - Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia

Technologies for remote assessment of soil degradation based on large-scale mapping data on the example of Minsk region in Belarus

Chervan Aliaksandr - Belarussian State University, Belarus

Mapping the spatial variation of soil erosion potential in a semi-arid rural district

Takawira Tafadzwa, Mujere Never* - University of Zimbabwe, Zimbabwe

Sub-theme 2.2: Digital Soil Mapping Techniques and Applications

Room 4

Moderator: **Isabel Luotto**

Keynote

Size, distribution, and vulnerability of the global soil inorganic carbon

Xiaodong Song, Yuanyuan Huang*

Institute Of Soil Science, Chinese Academy Of Sciences (ISSCAS), China

Emi technique: rapid appraisal of soil salinity at regional scale

Bhaskar Narjary - Icar-central Soil Salinity Research Institute, India

Minimizing vegetation influence on soil salinity mapping with novel bare soil pixels from multi-temporal images

Danyang Wang, Zhaofu Li* - Nanjing Agricultural University, China

Mappin high-resolution soil maps of Gombe state - Nigeria with ground truth data and satellite remote sensing using Google Earth engine and machine learning algorithms

Adewoye Ralph - Forestry Research Institute Of Nigeria, Nigeria

High-resolution soil mapping based on LiDAR data: a case study of a hungarian lowland area

Katalin Takács - HUN-REN ATK Institute For Soil Sciences, Hungary

15:30 - 16:00

COFFEE BREAK

16:00 - 17:30

Influences of soil sampling on the accuracy of soil property mapping at the county level

Di Wang - Institute Of Agricultural Resources And Regional Planning, Chinese Academy Of Agricultural Sciences, China

Delineating the heavy metal profile of A landfill site and characterizing its risk to the environment through machine learning

Sudip Sengupta - Swami Vivekananda University, India

Spatio-temporal Evolution Of Cropland Ecosystem Services Value and its spatially varying dominate over the past two decades: A case study in Jiangxi province in Southern China

Modian Xie, Hongyi Li* - Jiangxi University Of Finance And Economics, China

Soil organic carbon under different land use and land cover (LULC) and tree species: methods of data collection and analysis

Nasradeen A. H. Gadallah - University Of Khartoum, Sudan

Enhancing soil organic carbon mapping: the role of multi-scale landscape metrics

Jiaxue Wang, Yiyun Chen* - Wuhan University, China

Mapping the WRB 2022 soil types of europe at 30 m resolution

Robert Minarik - Opengeohub, The Netherlands

Mapping high-vertical-resolution soil moisture using machine learning and depth function

Mo Zhang - Chinese Academy Of Sciences, China

Modelling soil organic carbon stock changes as affected by land use/land cover change between 2017 and 2022 in the Makhalaneng and Maletsunyane sub-catchments, Lesotho.

Masobeng Thabo Augustinus - National University Of Lesotho, Lesotho

Temporal and spatial dynamics of productivity in eurasian black soils: trends between 2001 and 2021

Nándor Csikós - HUN-REN ATK Institute For Soil Sciences, Hungary

PARALLEL SESSIONS

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14:00 - 15:30

THEME 3: SOIL DATA FOR POLICY AND DECISION-MAKING

Sub-theme 3.1: The Role of Soil Data in Achieving and Measuring the Progress on Global Development Agendas

Room 5

Moderator: **Pasicha Chaikaew**

Keynote

National atlas of Mexico 2022: the anthropogenic impact on the soil

Carlos Omar Cruz-Gaistardo

National Autonomous University Of Mexico, Mexico

Creation of the national soil information system of Ukraine as a component of the global informatization process

Vitalii Lebed

National Scientific Centre "Institute For Soil Science And Agrochemistry Research Named After A. N. Sokolovsky" (NSC ISSAR), Ukraine

Application of high spatial density soil geochemical mapping - the geochemical atlas of Cyprus

David Cohen

University Of New South Wales, Australia

Indonesian digital soil mapping development - challenges and urgency

Wirastuti Widyatmanti

Universitas Gadjah Mada, Indonesia

Comparing soil properties between Lucas soil and national soil information monitoring system (N-sims) in Europe: major differences and implications for future policies to evaluate soil quality

Claire Froger

French National Institute For Agricultural Research (INRAE), France

Sub-theme 3.2: Soil Data for Improved Food Security and Resource Management

Room 6

Moderator: **Yuxin Tong**

Keynote

Time-series of landsat-based spectral indices for continental europe for 2000 - 2022 to support soil health monitoring

Xuemeng Tian

Opengeohub & Wageningen University And Research, The Netherlands

Expertise in SSM and fertilizer production aspects in Russia and globally

Aleksander Antonov

PJSC PhosAgro, Russia

Healthy soil for healthy society: major threats in soil management at the european level - lessons from the GEMAS project

Anna Ladenberger

Geological Survey Of Sweden, Sweden

Depth to water index as a tool to identify cultivated peat soils suitable for rewetting

Hanna Kekkonen

Luke Natural Resources Institute, Finland

National scale soil geochemical data and their multidisciplinary use: the case of Spain

Paula Adáñez-sanjuan

Instituto Geológico Y Minero De España, Spain

15:30 - 16:00

COFFEE BREAK

16:00 - 17:30

Reporting on the status of all soils in Flanders (Belgium) based on a soil organic carbon monitoring network on soils of all land use classes including soils in settlement areas (land take)

Katrien Oorts - Department Of Environment & Spatial Development, Government Of Flanders, Belgium

Assessing the extent of soil degradation in A semi-arid ecosystem in South Deccan plateau, India

Karthika K S - National Bureau Of Soil Survey And Land Use Planning, India

The european soil data centre (ESDAC 2.0) evolution in the core of EU agro-environmental policies

Panos Panagos - European Commission

Reflections on large benefits in producing soil information in Soils4med project: the Tunisia case study

Attia Rafla - Soil Direction Ministry Of Agriculture, Tunisia

Soil data for increasing soil organic matter: the key to food security, resource management, and global development agendas

Praveena Sridhar - Isha Foundation, India

Effect of intercropping maize with selected agroforestry species on soil water dynamics (soil water content and total water use) in Western Kenya

Erastus Masika Wasikoyo - Maseno University, Kenya

Enhancing food security: leveraging soil data for informed resource management

Nitan Kumar - University Of Federal Urdu University Of Art, Science And Technology, Pakistan

Evaluation of fertilization practices in Northwestern Libya: a soil fertility assessment

Jalal Elgadi - Agricultural Research Center, Libya

Features of spatio-temporal variation of soil heavy metal pollution in China's greenhouse agricultural over the past two decades

Chongcan Wu, Bifeng Hu* - Jiangxi University Of Finance And Economics, China

Agropedological potential of natural fallow soils of Estuary province in Gabon

Ndzengboro Endamane - Institute Of Agricultural And Forestry Research, Gabon

PARALLEL SESSIONS

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08:30 - 10:00

THEME 1: MAINSTREAMING SOIL DATA: INNOVATIONS IN ANALYSIS, STANDARDIZATION, HARMONIZATION AND COMMUNICATION

Sub-theme 1.2:
Soil Data Standardization And Harmonization

Sub-theme 1.4: The Emergence Of Proximal Sensing
Solutions For Soil Analysis

Room 1

Moderator: **Elizabeth Rieke**

Room 2

Moderator: **Issam Barra**

Keynote

GLOSIS soil data exchange model and ontology: current status and future developments

Luís M. De Sousa, Fenny Van Egmond* - ISRIC - World Soil Information, The Netherlands

Ggsoiltexture: an R package for plotting soil textural data

Sara Acevedo - Pontificia Universidad Católica de Chile, Chile

Hydrophysical database for brazilian soils: a holistic and updated version

Marta Ottoni - Geological Survey of Brazil, Brazil

Factors influencing spatial variability of N₂O emissions across diverse land use types in Argentina: a structural equation modeling approach

Juan Manuel Piñeiro-Guerra, Nuria Lewczuk* - Facultad De Agronomía, Argentina

Innovative technology, soil information modelling and distributed query allow delivery of nationally standardised soil site and analytical data through a well-governed Australian national soil information system (ANSIS)

Peter Wilson - Commonwealth Scientific And Industrial Research Organisation (CSIRO), Australia

Keynote

Application of mid-infrared (MIR) spectroscopy to identify and quantify minerals in New Zealand soils

Yuxin Ma - Manaaki Whenua-Landcare Research, New Zealand

Soil spectroscopy strategy for PAH detection in an aged creosote-contaminated site

Alexandre Muselli Barbosa - Instituto de Pesquisas Tecnológicas, Brazil

Estimating the soil copper content of urban land in a megacity using piecewise spectral pretreatment and vis-nir spectroscopy

Yi Liu - Guangdong University Of Finance & Economics, China

Potential of Vis-NIR reflectance spectroscopy for enhanced soil contamination assessment

Claudio Colombo - University of Molise, Italy

Prediction of soil key attributes based on provincial-scale full profile near infrared spectral library using deep learning algorithms

Tianyu Miao, Wenjun Ji* - China Agricultural University, China

10:00 - 10:30

COFFEE BREAK

10:30 - 12:00

Towards global harmonization of soil spectral data: standards and protocols in the context of IEEE SA P4005 working group

Eyal Ben Dor - Tel Aviv University, Israel

Information model-driven harmonisation of distributed soil observation data for the Australian national soil information system (ANSIS)

Alistair Ritchie - Manaaki Whenua Landcare Research, New Zealand

Translating soils: a key to putting the zimbabwean soil classification system on the global map

Nyaradzo Marilyn Muzira - University Of Nairobi, Kenya

Insights from developing A global, harmonized, and normalized database of soil parameters for agricultural practices

Gaël Foëx - Stenon GmbH, Germany

The problem of global soil data integration and its possible solution

Aleksandra Nikiforova, Maria E. Fleis, Nina K. Belyonova - Lomonosov Moscow State University, Russia

In-situ characterization of soil properties using Vis-NIR spectroscopy

Asim Biswas - University of Guelph, Canada

Soil heterogeneity at mesoscale in-situ qualified by laser induced breakdown spectroscopy

Fei Ma, Changwen Du* - Institute Of Soil Science Chinese Academy Of Sciences (ISSCAS), China

Quantitative analysis of hydraulic soil proprieties using mid-infrared spectroscopy coupled with chemometric modeling

Chassan Mohamed - Mohammed VI Polytechnic University, Morocco

Spectral prediction of soil organic carbon fractions in tropical cropland using A regional visible and near-infrared spectral library and machine learning

Lingju Dai, Songchao Chen* - Zhejiang University, China

PARALLEL SESSIONS

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08:30 - 10:00

THEME 2: ADVANCES IN SOIL MAPPING AND MONITORING

Sub-theme 2.1: Soil Survey and Monitoring Strategies

Room 3

Moderator: **Triven Koganti**

Keynote

Fine-scale mapping of phosphorus stocks in Brazilian soils by geotechnologies toward A sustainable agriculture

Jorge Tadeu Fim Rosas, José A. M. Demattê*

University Of São Paulo, Brazil

Multisoiils: A digital platform for information search and project management in soil science

Marcos Bacis Ceddia - Federal Rural University Of Rio

De Janeiro, Brazil

Surface soil moisture estimation for temperate forests with the application of remote sensing techniques

Kyaw Win - University of Tokyo, Japan

Soil health information and monitoring system of Mexico (SHIMS): from soil surveys and photointerpretation to big data and soil neural networks

Carlos Omar Cruz-Gaistardo - Fastfarm Inc., USA

Cropland abandonment in Jiangxi: patterns, drivers, and implications for food security

Qian Zhu, Bifeng Hu* - Jiangxi University Of Finance

And Economics, China

Sub-theme 2.2: Digital Soil Mapping Techniques and Applications

Room 4

Moderator: **Rong Zeng**

Keynote

Advances in DSM for global and continental applications: innovative covariates, model applicability and spatial uncertainty assessment

Laura Poggio - ISRIC-World Soil Information, The Netherlands

Spatio-temporal mapping of topsoil organic carbon stocks under different lulc dynamics in Brazil (1985-2021)

Bárbara Costa Da Silva - Amazon Environmental

Research Institute (IPAM), Brazi

Peruvian soil legacy data: a tool for quantify pedodiversity

Carlos Mestanza - Universidad Nacional Agraria La

Molina, Peru

When machine learning-based digital soil mapping meets knowledge-guided process-based models: applications, potentials, and challenges

Lei Zhang - Nanjing University, China

Mapping SOC in farmland of Southern China using a Bayesian spatial model

Hanjie Ni, Bifeng Hu* - Jiangxi University Of Finance

And Economics, China

10:00 - 10:30

COFFEE BREAK

10:30 - 12:00

Implementing A Pan-African protocol for field survey and implications on soil data quality and integration

Samuel Ayodele Mesele - International Institute Of Tropical Agriculture, Nigeria

Mapping of trace elements in topsoil of arid areas and assessment of ecological and human health risks in Qatar

Basem Shomar - Environmental Science Center, Qatar University, Qatar

Measuring integrated smallholder soil fertility management practices in Megech watershed, Tana sub-basin, Ethiopia

Abebe Birara Dessie - University Of Gondar, Ethiopia

Soil organic carbon sequestration potential, storage, and drivers in China

Jinhua Cao, Zipeng Zhang* - Xinjiang University, China

Spatial downscaling of SMAP soil moisture to high resolution using machine learning over China's Loess Plateau

Ye Wang, Haijing Shi* - Northwest A&F University, China

Digital soil maps reveal highly degraded coarse textured soils of eastern uganda: suitable restoration options are needed

Emmanuel Opolot - Makerere University, Uganda

Remotely sensed inter-field variation in soil organic carbon content as influenced by the cumulative effect of conservation tillage in Northeast China

Jiamin Ma - Jilin University, China

Using satellite-derived attributes as soil carbon cycling proxies for mapping carbon stocks of alpine grassland soils

Renmin Yang - Tianjin University, China

PARALLEL SESSIONS

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08:30 - 10:00

THEME 4: SOIL DATA AS A COMMON GOOD

Theme 4 Soil Data as a Common Good

Room 5

Moderator: **Songchao Chen**

Keynote

The current status and the future planning of the China soil database

Xianzhang Pan - Institute Of Soil Science, Chinese Academy Of Sciences (ISSCAS), China

SmartSolos expert: software for classifying brazilian soil profiles

Glauber José Vaz - Embrapa Digital Agriculture, Brazil

The soil spectral library reaches society towards sustainable development

Jean Jesus Macedo Novais - University Of São Paulo, Brazil

Federated learning in soil spectroscopy

Giannis Gallios - University Of Florida, USA

The contribution of soil laboratories to the sustainable management of fragile and degraded soils

Hanane Aroui - Global Soil Laboratory Network (GLOSOLAN)

THEME 3: SOIL DATA FOR POLICY AND DECISION-MAKING

Sub-theme 3.2: Soil Data for Improved Food Security and Resource Management

Room 6

Moderator: **Yuxin Tong**

Keynote

Developing high resolution national soil information grids of China

Feng Liu
Institute Of Soil Science, Chinese Academy Of Sciences (ISSCAS), China

Sensitiveness of soil organic C fractions to sugarcane straw removals

Gianina Vassallo, Jorge Chalco-vera*
Universidad Nacional De Salta, Argentina

Soil quality assessment in high and low productivity areas of a banana farm in the caribbean of Costa Rica

Jose Pablo Vargas Fernández
Universidad De Costa Rica, Costa Rica

Interacting effects of land use and soil types on soil quality based on soil carbon management index and aggregate stability in Melka Kuntrie watershed, upper awash river basin, Ethiopia

Mohammed Yimam
Addis Ababa University, Ethiopia

Impact of long-term fertilization and manuring on carbon carrying capacities of alfisols

Suvana Sukumaran
ICAR-Central Research Institute For Dryland Agriculture, India

10:00 - 10:30

COFFEE BREAK

10:30 - 12:00

Enhancing agricultural and environmental sustainability through the syrian soil database

Hussam Hag Husein - University Of Erlangen-nuremberg, Germany

Iran soil info: open access soil data at your fingertips

Sina Mallah - Agricultural Research, Education And Extension Organization (ARREO), Iran

Creating a public-private soil data federation: the visualizing australasia's soils project

Peter Dahlhaus - Federation University Australia, Australia

On soil data sharing: legal framework and general sharing policies resulting from the investigation done in EJP SOIL H2020 EU research programme

Maria Fantappiè - Council For Agricultural Research And Agricultural Economy Analysis (CREA), Italy

Increasing the green manure seed value chain for enhanced soil sustainability and multi-stakeholder empowerment in Thailand

Nisa Meesang - Land Development Department, Thailand

Redox potential as an indicator of express assessment of crisis situations of overmoistened acidic albic pantostagnic luvisol

Yurii Olifir - Institute Of Agriculture Of Carpathian Region Of National Academy Of Agrarian Sciences Of Ukraine, Ukraine

Are recommended fertilizer rates able to maintain nutrient status and balance in soil and optimize crop profit in intensive rice-based crop rotations: evidence from A 20-year study

Utpol Kumar - Ministry Of Agriculture, Bangladesh

National analysis of soil information and relevant policies in line with the EU soil monitoring law

Sevinc Madenoglu - Ministry Of Agriculture And Forestry, Türkiye

Farming digital data; even when the cows come home

John Triantafyllis - Manaaki Whenua Landcare Research, New Zealand

PARALLEL SESSIONS

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13:30 - 15:00

THEME 1: MAINSTREAMING SOIL DATA: INNOVATIONS IN ANALYSIS, STANDARDIZATION, HARMONIZATION AND COMMUNICATION

Sub-theme 1.1: Laboratory Techniques and
Standard Procedures for Soil Analysis &
Evaluating, Interpreting and Communicating
Soil Data and Its Uncertainty

Room 1

Moderator: **Asim Biswas**

Keynote

**A novel modality for measuring aggregate stability via
smartphone image analysis**

Elizabeth Rieke - Soil Health Institute, USA

**The importance of A harmonized approach in soil microbial
analysis: the standard operating procedures of the FAO's
Global Soil Laboratory Network (GLOSOLAN)**

Nopmanee Suvannang - Ministry Of Agriculture And
Cooperatives, Thailand

**Allocation of mapping salt-affected soil and halophytic
plants in Vietnam coastal agro-ecologies**

Kien Nguyen Van - Vietnam National Plant Genebank,
Vietnam

**Functional diversity of plant growth-promoting
rhizobacteria in Bharuch, Gujarat, India**

Neil J Shah, Krishna Chudasama* - Agri Biochem
Research Lab, India

THEME 2: ADVANCES IN SOIL MAPPING AND MONITORING

Sub-theme 2.3:
Unlocking the Potential of Soil Legacy Data

Room 2

Moderator: **David Rossiter**

Keynote

**Expanding the european soil bulk density and organic
carbon stock database using machine learning based
pedotransfer functions**

Songchao Chen - Zhejiang University, China

**Sampling design influence on predictions of elements in
petroferic formations in the brazilian amazon**

Niriele Rodrigues - Federal University Rural Of Rio De
Janeiro, Brazil

**Spatial prediction of soil depth from legacy soil data by
quantile regression forest model**

Lalitha Manickam - ICAR-national Bureau Of Soil
Survey And Land Use Planning, India

**Legacy data for information digital assessment of
contemporary soil-forming processes**

Irina Mikheeva - Institute Of Soil Science And
Agrochemistry Of SB RAS, Russia

15:00 - 15:30

COFFEE BREAK

15:30 - 17:00

Keynote

**A GLOSOLAN quality certificate for carbon analytical results:
why and how it should be quickly implemented**

Nopmanee Suvannang, Christian Hartmann*
Ministry Of Agriculture And Cooperatives, Thailand

**Assessing spatial variability of soil physicochemical
properties for precision agriculture, in A ghanaiian semi
deciduous forest**

Angela Lartey - Young
University Of Cape Coast, Ghana

**Standardisation and harmonisation of soil geochemical
methods**

Alecos Demetriades
Institute Of Geology And Mineral Exploration, Greece

**Modelling and quantifying soil organic carbon in australian
agricultural soils using interpretable machine learning
techniques**

Huirong Jing, Alexis Pang*
University Of Melbourne, Australia

**Soil mapping for resilient agri-food systems in
Central America and sub-Saharan Africa
(SoilFER)
Experiences from Zambia, Guatemala
and Honduras**

Moderator: **Yusuf Yigini**

Information from the soil up: The SoilFER project

Isabel Luotto
Food and Agriculture Organization of the UN (FAO)

**Strengthening national soil analysis capacities: laboratory
component under the SoilFER project in Central America
and sub-Saharan Africa**

Edgar Martinez
National Coffee Association (ANACAFÉ), Guatemala
Carlos Zelaya
Agricultural Soil Laboratory of the National University
of Agriculture, Honduras
Rogers Kabiti
Zambia Agricultural Research Institute (ZARI), Zambia

**Building National Soil Information Systems: leveraging data
for sustainable soil management and decision support in
the SoilFER Project**

Stalin Schinga
Zambia Agricultural Research Institute (ZARI), Zambia
Rafael Lopez
Directorate of Geographic Information, Strategic
Planning, and Risk Management (DIGEGR), Guatemala
Ricardo Peña
University of Zamorano, Honduras

PARALLEL SESSIONS

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13:30 - 15:00

THEME 2: ADVANCES IN SOIL MAPPING AND MONITORING

Sub-theme 2.1: Soil Survey and Monitoring Strategies

Room 3

Moderator: **Carlos Omar Cruz-Gaistardo**

Keynote

Evaluating digital soil maps by their patterns

David G. Rossiter - ISRIC-World Soil Information, The Netherlands

Assessing the suitability of proximal soil sensors for peat characterization

Triven Koganti - Aarhus University, Denmark

Predicting and mapping of soil organic carbon stock in Karnataka using multiple datasets

Dharumarajan S - National Bureau Of Soil Survey And Land Use Planning, India

Local mapping and monitoring of chernozems military degradation for Chkalov community of Ukraine

Sviatoslav Baliuk, Arkadiy Levin* - National Scientific Centre "Institute For Soil Science And Agrochemistry Research Named After A. N. Sokolovsky"(NSC ISSAR), Ukraine

Research on key algorithms for global erosion topographic factor extraction

Yuwei Sun, Lu Du* - Northwest A & F University, China

Sub-theme 2.2: Digital Soil Mapping Techniques and Applications

Room 4

Moderator: **Wenjun Ji**

Keynote

Improving digital mapping of topsoil and subsoil organic carbon stock in coastal wetlands of mainland China through understanding their diverse environmental controls

Lin Yang - Nanjing University, China

Exploring the impact of national-based covariates and sample size in digital soil mapping performance - a french case study

Azamat Suleymanov - French National Institute For Agricultural Research (INRAE)

Deciphering soil heavy metal contamination: a refined mapping framework integrating causal inference with machine learning

Chi Zhang, Yiyun Chen* - Wuhan University, China

Advances in digital mapping of soil quality indices

Yahya Parvizi - Agricultural Research, Education And Extension Organization (AREEO), Iran

Fine-resolution mapping of cropland topsoil pH of Southern China and its environmental application

Bifeng Hu, Hongyi Li* - Jiangxi University Of Finance And Economics, China

15:00 - 15:30

COFFEE BREAK

15:30 - 17:00

Digital mapping of peat extent and thickness in Finland using machine learning and remote sensing

Maarit Middleton - Geological Survey Of Finland (GTK), Finland

High-resolution digital mapping of topsoil organic carbon fractions in China

Yi Xiao, Songchao Chen* - Zhejiang University, China

Soil fertility maps of Mali

Souleymane Dambe - CRRA/Sotuba, Mali

Digital soil mapping based on individual sample representativeness

Fanghe Zhao - Institute Of Geographic Sciences And Natural Resources Research, CAS, China

New perspectives on chemo-cultural spatial anomalies in soils: the role of high resolution soil chemistry

Roger Doonan - Archaeological Research Services Ltd, UK

Developing Digital Soil Health Monitoring and Assessment Infrastructure: Way Towards Climate-smart Agriculture

Pushpajeet L. Choudhari - International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

Carbon stock modeling for better understanding agroecosystems through soil information system (case of Tunisia)

Attia Rafia - Soil Direction Ministry Of Agriculture, Tunisia

Mapping SOC and its fractions using hyperspectral imagery and topography from a copper mining site in the Tibet plateau

Kaiwusha Tayier, Nisha Bao* - Northeastern University, China

Space-time modelling of soil organic carbon stock change at multiple scales: case study from Hungary

Gábor Szatmári - HUN-REN ATK Institute For Soil Sciences, Hungary

The thickness estimation of soil layers in the coastal saline areas based on GPR measurement and U-Net model

Ping Wang - Qufu Normal University, China

Soil remote sensing intelligent monitoring and detailed mapping

Yongsheng Hong - Chinese Academy Of Sciences, China

PARALLEL SESSIONS

*Corresponding author (when different from the first author)

13:30 - 15:00

THEME 4: SOIL DATA AS A COMMON GOOD

Theme 4 Soil Data as a Common Good

Room 5

Moderator: **Yuxin Ma**

Keynote

Automated extraction and lossless fusion of multi-source test data for heterogeneous tables - example of constructing a database of heavy metals in groundwater from contaminated sites based on literature sources
Anbo Li, Xianli Xie* - Nanjing Normal University, China

Soil information initiatives at national level: a need for collaboration

Fenny Van Egmond - Wageningen University And Research, The Netherlands

Research on ensemble modeling-based pedotransfer functions for predicting soil bulk density in China

Zhongxing Chen, Songchao Chen* - Zhejiang University, China

Yield and soil status disparity under rice-wheat cropping system: a 40 years journey

Abhisek Shrestha - College Of Natural Resource Management Bardibas, Nepal

Enabling environments for soil information system (SIS) success: new evidence for improving sis intervention design

Mariah Coley, Fenny Van Egmond*
CAB International, Data Policy & Practice

THEME 3: SOIL DATA FOR POLICY AND DECISION-MAKING

Sub-theme 3.2: Soil Data for Improved Food Security and Resource Management

Room 6

Moderator: **José A. M. Demattê**

Keynote

Unlocking soil potential through regression kriging-based micronutrient management in calcareous soils in central area, Thailand

Pasicha Chaikaew - Chulalongkorn University, Thailand

Accurate global cropland data helps farmers and policymakers

Adanela Musaraj - European University Institute, Italy

Valuing soil laboratory information in defining policy guidelines for improving soil health and productivity

Aftab Naseem, Abbas Muhamamd Aziz* - Fauji Fertilizer Company Limited, Pakistan

Soil quality index (SQI) for evaluating the sustainability status of kakia-esamburmbur catchment under three different land use types in Narok county, Kenya

Wendyam Arsene Flavien Damiba - Jomo Kenyatta University Of Agriculture And Technology (JKUAT), Kenya

Potassium leaching in a sandy duplex profile of southwest WA

Abubakari Fariya - Murdoch University, Australia

15:00 - 15:30

COFFEE BREAK

15:30 - 17:00

National soil data in EU countries, where do we stand?

Sophie Cornu, Antonio Bispo* - French National Institute For Agricultural Research (INRAE), France

The status of soil laboratories worldwide: the results of the GLOSOLAN global assessment on laboratories capacities and needs

Filippo Benedetti - Food And Agriculture Organization Of The UN (FAO)

Lime-SoDa: open-access datasets for trustworthy benchmarking in digital soil mapping studies

Jonas Schmidinger - Osnabrück University, Germany

Expanding access to soil data: soilhive strategy to promote global collaboration

Ester Miglio - Varda, Switzerland

Spatio-temporal soil information based on open and collaborative science

Taciara Zborowski - Paraná University Of Technology, Brazil

Leveraging soil data for enhanced policy and decision-making: case studies from the joint FAO/IAEA centre soil and water and crop nutrition subprogramme

Magdelaine Vlasimsky - International Atomic Energy Agency (IAEA)

The EU soil observatory contribution to EU policies

Nils Broothaerts - European Commission - Joint Research Centre (JRC)

GIS Sol: the french consortium in charge for more than 20 years of collecting and disseminating soil information

Antonio Bispo - French National Institute For Agricultural Research (INRAE), France

Soil information for land use planning and combating desertification in Lebanon, East Mediterranean

Talal Darwish - National Council For Scientific Research, Lebanon

Soil feasibility study of an agricultural perimeter in southern algeria using remote sensing and soil information data in El Menea Region (Algeria)

Saddek Medjahed - National Institute Of Soil, Irrigation And Drainage, Algeria

PARALLEL SESSIONS

08:30 - 10:00

**THEME 1: MAINSTREAMING SOIL DATA:
INNOVATIONS IN ANALYSIS,
STANDARDIZATION, HARMONIZATION AND
COMMUNICATION**

**Sub-theme 1.4: The Emergence of Proximal
Sensing Solutions for Soil Analysis**

Room 2

Moderator: **Yi Peng**

Keynote

Research on soil source identification methods based on matching of spectra fingerprint indicators and prediction of soil-forming environments

Rong Zeng - Nanjing University Of Information Science And Technology, China

Decision trees to assist soil sensing measurement choices

Fenny Van Egmond - Wageningen University And Research, The Netherlands

Do we need all principles components in the external parameter orthogonalization to remove the moisture effect on the spectra?

Meihua Yang - Yuzhang Normal University, China

Mapping vertical distribution of SOC and TN in reclaimed mine soils using point and imaging spectroscopy

Sihan Peng , Nisha Bao* - Northeastern University, China

**THEME 2:
ADVANCES IN SOIL MAPPING AND
MONITORING**

**Sub-theme 2.2: Digital Soil Mapping Techniques
and Applications**

Room 4

Moderator: **Isabel Luotto**

Keynote

Three-dimensional mapping of soil organic matter at regional-scale in the black soil areas with the fusion of proximal and remote sensing data using INLA-SPADE

Wenjun Ji - China Agricultural University, China

Mapping soil properties and land evaluation for agricultural purposes, el alamein area, the North-Western Coast, Egypt

Emad Abdelaty - Damanhour University, Egypt

Incorporating cultivation feature and crop information for soil salinity mapping in cropland

Caiyun Wen, Miao Lu* - Institute Of Agricultural Resources And Regional Planning, Chinese Academy Of Agricultural Sciences, China

Mapping organic carbon in cropland soils of Poonch Division, Azad Jammu & Kashmir for future monitoring under land use and climate change

Majid Mahmood Tahir - University Of Poonch Rawalakot, Pakistan

Predicting and mapping the occurrence of Mattic Epipedon Ruptures in a valley area of Qinghai-Tibet Plateau based on UAV measurements

Zhuodong Jiang, Fujun Sun* - Shenyang Agricultural University, China

PARALLEL SESSIONS

08:30 - 10:00

Exhibition Hall

Poster Exhibition

THEME 3: SOIL DATA FOR POLICY AND
DECISION-MAKING

Sub-theme 3.2: Soil Data for Improved Food
Security and Resource Management

Room 6

Moderator: **Bellington Mudyawabikwa**

Soil information systems opportunities and gaps: colombian case study

Rosalina Gonzalez

Universidad De La Salle, Colombia

Harnessing microbial diversity for sustainable agriculture in southeast Asia: a framework analysis

Yuen Yoong Leong

UN Sustainable Development Solutions Network,
Malaysia

National-scale soil geochemical data for the Conterminous United States

David B. Smith

International Union Of Geological Sciences (IUGS)

Soil data driving decision-making and good soil care by non-soil experts in Flanders (Belgium)

Annick Gommers, Katrien Oorts*

Kenter B.V., Belgium

Assessing the soil capacity to produce food and biomass worldwide

Nícolás Augusto Rosin

University Of São Paulo, Brazil

10:00 - 10:30

COFFEE BREAK

10:30 - 12:00

Poster Exhibition

Crop production gaps and revisiting soil characteristics of the agro-ecological zone of Bangladesh to attain food security

Muhammad Abdur Rahaman

Center For People And Environ, Bangladesh

Improving soil quality and nitrogen input for sustainable rice production in China

Liu Jun Xiao

Nanjing Agricultural University, China

Utilizing soil data for precision lime distribution in zimbabwean agricultural systems

Shelter Mangwanya

Chemistry And Soil Research Institute, Zimbabwe

Soil data for decision-making: lessons learned from the geochemistry of forest island phenomenon in West Africa

Samuel Ayodele Mesele

International Institute Of Tropical Agriculture (IITA),
Nigeria

Friday 27th Sep | 13:30 - 17:00

PLENARY SESSION

13:30 - 17:00

Room 1

MAIN SESSION OUTCOMES AND KEY MESSAGES (RAPPORTEUR)

Theme 1: Mainstreaming soil data: innovations in analysis, standardization, harmonization and communication

Nopmanee Suvannang

Land Development Department, Ministry of Agriculture and Cooperatives, Thailand

Theme 2: Advances in soil mapping and monitoring

Feng Liu

Institute of Soil Science, Chinese Academy of Sciences, China

Theme 3: Soil data for policy and decision-making

Sevinc Madenoglu

Ministry of Agriculture and Forestry, Türkiye

Theme 4: Soil data as a common good

Fenny van Egmond

ISRIC - World Soil Information, Netherlands

CLOSURE REMARKS

CONCLUSIONS AND WAY FORWARD

Yuxin Tong

Land and Water Division, Food and Agriculture Organization of the United Nations (FAO)

CLOSURE OF THE SYMPOSIUM

Yusuf Yigini

Land and Water Division, Food and Agriculture Organization of the United Nations (FAO)

Renfang Shen

Director-General, Institute of Soil Science, Chinese Academy of Sciences (ISSCAS), China

Moderator: **Xiaoyuan Yan** Deputy Director-General Institute of Soil Science, Chinese Academy of Sciences (ISSCAS), China

Saturday 28th Sep

FIELD TRIP

All Day

Nanjing City

FIELD TRIP

Three inspiring destinations have been planned for the field trip, scheduled from 08:30 to 18:30. Depending on the number of participants, two groups will be formed, each following a distinct route. Participants will be picked up directly from the International Youth Convention Hotel Nanjing (No. 8 Ye Cheng Road, Nanjing, Jiangsu, China) and returned to the hotel for dinner at the end of the tour.

Site 1: The Institute of Soil Science, Chinese Academy of Sciences (ISSCAS)

Established in 1953, ISSCAS is a leading international research center in soil science, committed to solving agricultural, ecological, and environmental challenges. It is renowned for its partnerships with research institutions worldwide and will host the 2026 World Congress of Soil Science.

Site 2: Zhong Hua City Gate Castle

Built in 1386, this grand and historic Ming Dynasty fortress is the largest and best-preserved barbican in China. It offers a unique glimpse into ancient city defense structures and architecture.

Site 3: Suburban farm in Tangshan

This modern agricultural cooperative, founded in 2014, showcases sustainable farming practices. Visitors will experience eco-friendly rice cultivation, innovative water management, and agro-biodiversity efforts that align with China's vision for sustainable development.

Find
more
details
about
field trip



Keynote speakers



Plenary keynote speaker

Name

Ganlin Zhang

Title of keynote speech

Integrate legacy data to better predict soil behavior and soil resource management

Current position and title

Professor, Director of Nanjing Institute of Geography & Limnology, Chinese Academy of Sciences, China

Key message

“An example of how Chinese experience with legacy soil data enhances soil resource management and soil science research”.

Suggest: “China’s experience with legacy soil data is a testament to the power of historical information in enhancing soil resource management and advancing soil science research. GSID24 will bring together global expertise to build on this foundation and drive innovation in soil science”



Plenary keynote speaker

Name

A-xing Zhu

Title of keynote speech

The Third Law of Geography: A New Perspective on Digital Soil Mapping

Current position and title

Manasse Chair Professor, Department of Geography, University of Wisconsin-Madison, USA

Key message

“The more similar the geographic configurations, the more similar the soil conditions – a new perspective for mapping detail soil spatial variation”

Suggest: “As geographic configurations converge, so do soil conditions, leading to a new perspective for mapping soil spatial variation. GSID24 will provide a platform to explore how this principle improves our ability to predict and manage soil resources globally”



Plenary keynote speaker

Name

Raphael VISCARRA ROSSEL PhD

Title of keynote speech

Next-generation soil carbon systems

Current position and title

Professor Soil & Landscape Science, Curtin University, Director Australia-China Joint Research Centre on Next-Generation Soil Carbon Systems

Key message

“An era where data drives science and innovation, next-generation technologies are transforming our understanding of soil and shaping the future of sustainable development. By leveraging modern measurement and modelling tools, we are laying the groundwork for a resilient planet, ensuring that soils remain central to global food security, environmental sustainability, and climate action”



Plenary keynote speaker

Name

Fenny van Egmond

Title of keynote speech

FAIR Soil data in support of sustainable land management

Current position and title

ISRIC - World Soil Information, Netherlands.

Key message

“Global or local soil data exchange is vital to allow informed decision making on soil related challenges at all scales. It is essential for FAIR data. The technical standards and tools to make this a reality are advancing and ready for first implementations. This keynote will highlight the needs, challenges and options”



Plenary keynote speaker

Name
Deli Chen

The title of keynote speech

From data to decisions: Transforming nitrogen management for sustainable food production and environment

Current position and title

Distinguished Professor and Director ARC Research Hub of Smart Fertilizers, University of Melbourne, Australia

Key message

"Inefficient use of nitrogen fertilizers causes enormous societal and environmental damage. Integrating data-driven nitrogen management into decision-making and policy is crucial for a paradigm shift in agriculture"



Plenary keynote speaker

Name
Asim Biswas

Presentation Title

Break Barriers in Soil Data Stewardship by Rewarding Data Generators

Affiliation

University of Guelph, Canada

Key message

"Emerging technologies can enhance the measurement and analysis of soil data and unleash its potential to support different ecosystem functions. However, concerns about ownership and reward complicate how and when the resulting data is shared. Soil data sharing must be incentivized to promote soil science"



Plenary keynote speaker

Name
Eyal Ben Dor

Title of keynote speech

Past, Present, and Future of Proximal Sensing of Soils: Challenges and Opportunities

Current position and title

Tel Aviv University, Israel

Key message

"The keynote presentation will highlight the significant advances in passive remote and proximal soil monitoring over the last three decades, focusing on advances in data quality, analytical processes and remote sensing technologies"





*Parallel session
keynote speaker*

Name

Elizabeth Rieke

Sub-Theme 1.1 presentation title

A Novel Modality for Measuring Aggregate Stability Via Smartphone Image Analysis

Affiliation

Soil Health Institute, USA

Key message

"This presentation will highlight a new, free smartphone app for measuring aggregate stability. The innovative method allows for measurement outside of traditional soil testing laboratories"



*Parallel session
keynote speaker*

Name

**Tegbaru B.
Gobezie**

Sub-Theme 1.2+1.3 presentation title

Soil Data Recency: The Foundation for Harmonizing Soil Data Across Time

Affiliation

University of Guelph, Canada

Key message

"Soil data serves as the cornerstone of all soil information systems. However, the integration of legacy and recent soil data often overlooks the critical aspect of data age, making the consideration and analysis of soil data recency essential for accurate spatio-temporal assessments"



*Parallel session
keynote speaker*

Name

José A.M. Demattê

Theme-2 presentation title

Fine-scale mapping of phosphorus stocks in Brazilian soils by geotechnologies toward a sustainable agriculture

Affiliation

Luiz de Queiroz College of Agriculture, University of Sao Paulo, Brazil

Key message

"Phosphorous is one of the most important element for soil productivity, and its use must be optimized. We will present a 30 m phosphorous stocks mapping by remote sensing and machine learning techniques, for the whole Brazilian country. This will bring the picture of the impact of the distribution and necessity of this element on agriculture and food security"



*Parallel session
keynote speaker*

Name

Feng Liu

Sub-Theme 2.2 presentation title

Developing high resolution National Soil Information Grids of China

Affiliation

Institute of Soil Science, Chinese Academy of Sciences, China

Key message

"This presentation will introduce the development of a high-resolution National Soil Information Grids of China with limited samples in the large territory with complex soil landscapes, which will be greatly improved by the on-going third National Soil Survey of China"



*Parallel session
keynote speaker*

Name

Lin Yang

Sub-Theme 2.2 presentation title

Improving digital mapping of topsoil and subsoil organic carbon stock in coastal wetlands of mainland China through understanding their diverse environmental controls

Affiliation

School of Geography and Ocean Science, Nanjing University, China

Key message

"The key role of hydrological factors and vegetation in shaping the spatial distribution of coastal soil carbon in both topsoil and subsoil in the Chinese mainland is highlighted. The high-resolution (90 m) coastal wetland topsoil and subsoil SOC density maps of the Chinese mainland have been generated"



*Parallel session
keynote speaker*

Name

Xiaodong Song

Sub-Theme 2.2 presentation title

Size, distribution, and vulnerability of the global soil inorganic carbon

Affiliation

Institute of Soil Science, Chinese Academy of Sciences, China

Key message

"We estimate the global soil inorganic carbon stock over the top 2-meter depth and quantify its vulnerability under future scenarios"



*Parallel session
keynote speaker*

Name

Xianzhang Pan

Sub-Theme 4 presentation title

The current status and the future planning of the China Soil Database

Affiliation

Director of the soil sub-center of the Chinese Ecosystem Research Network, Institute of Soil Science, Chinese Academy of Sciences, China

Key message

"The presentation will give an introduction to the current progress in the construction of China soil database and the consideration of its future development"



*Parallel session
keynote speaker*

Name

Laura Poggio

Sub-Theme 2.2 presentation title

Advances in DSM for global and continental applications: innovative covariates, model applicability and spatial uncertainty assessment

Affiliation

Senior digital soil mapping and remote sensing expert at ISRIC - World Soil Information, Netherlands.

Key message

"Digital Soil mapping (DSM) at continental and global scale provides standardised global information products and it is ever more important to assess the quality of DSM-derived products, in particular the fitness for intended use. The talk will provide some practical reflections on how to integrate different elements contributing to the overall uncertainty to identify regions where the confidence in the predictions is highest and the resulting uncertainty lowest"



*Parallel session
keynote speaker*

Name

**Carlos Omar
Cruz-Gaistardo**

Sub-Theme 2.2 presentation title

National Atlas of Mexico 2022: The anthropogenic impact on the soil Affiliation: Climate Institute of Mexico and Latin America, Mexico

Key message

"What are we losing from our soil? What can we still recover? The 28 national maps of NAM 22 summarize soil baselines, soil change factors, and soil impacts from this disturbance"



*Parallel session
keynote speaker*

Name

David G. Rossiter

Sub-Theme 2.2+2.1 presentation title

Evaluating Digital Soil Maps by their patterns Affiliation: Soil & Crop Sciences Section, College of Agriculture & Life Sciences, Cornell University, Ithaca, NY (USA)

Key message

"Soils are managed as areas of similar soils, not as individual grid cells, however digital soil mapping (DSM) is typically evaluated at points. We propose to also evaluate DSM products by how well they match the soil landscape pattern at various scales"



*Parallel session
keynote speaker*

Name

Wenjun Ji

Sub-Theme 2.2 presentation title

Developing Three-dimensional mapping of soil organic matter at regional-scale in the black soil areas with the fusion of Proximal and Remote Sensing Data using INLA-SPADE

Affiliation

College of Land Science and Technology, China Agricultural University, China

Key message

"By fusing remote sensing data and the depth-specific soil information obtained from optical proximal soil sensors, more accurate three-dimensional soil organic matter maps were able to be generated using INLA-SPDE algorithms in the black soil areas in China"



*Parallel session
keynote speaker*

Name

Songchao Chen

Sub-Theme 2.3 presentation title

Expanding the European soil bulk density and organic carbon stock database using machine learning based pedotransfer functions

Affiliation

Zhejiang University, China

Key message

"We built topsoil BD and SOC stock databases for LUCAS Soil 2018 using machine learning based pedotransfer functions with local modelling strategy"



*Parallel session
keynote speaker*

Name

Issam Barra

Sub-Theme 1.4 presentation title

Advancing Soil Spectroscopy in Morocco:
Optimization of spectra acquisition and machine
learning model's quality

Affiliation

Mohammed VI Polytechnic University, Morocco

Key message

"Optimized soil spectroscopy techniques,
combined with advanced data collection and
extraction methods, are revolutionizing soil
diagnosis in Morocco and worldwide, leading
to more precise and affordable soil analysis and
sustainable agricultural practices"



*Parallel session
keynote speaker*

Name

Řezník Tomáš

Sub-Theme 1.2 presentation title

SoilWise: Repository Pioneering the Future of
Soil Data and Knowledge Management for the
European Union Soil Observatory

Affiliation

Masaryk University, Nature Balance, Czech
republic

Key message

His Keynote speech highlights the challenges of
digital sharing of soil-related data and knowledge.
It focuses on experiences from Europe and
other regions over the past twenty years Parallel
session



*Parallel session
keynote speaker*

Name

Xuemeng Tian

Sub-Theme 1.4 presentation title

Time-series of Landsat-based spectral indices for
continental Europe for 2000--2022 to support soil
health monitoring

Affiliation

OpenGeoHub & Wageningen University and
Research, Netherlands

Key message

"The Landsat-based ARCO spectral indices data
cube, covering continental Europe from 2000-
2022, delivers 30m gap-free high-resolution data.
It includes essential spectral indices"



*Parallel session
keynote speaker*

Name

**Nopmanee
Suvannang**

Sub-Theme 1.3 presentation title

A GLOSOLAN quality certificate for carbon
analytical results: why and how it should be
quickly implemented

Affiliation

Land Development Department, Ministry of
Agriculture and Cooperatives, Thailand

Key message

"This key note will present the potential problem
that exist on data quality focus on carbon
data as an example and make suggestions of
implementing the GLOSOLAN quality certificate
to identify the good quality data for increasing
the confidence we can have in soil data and
decisions/conclusions based on those data"



*Parallel session
keynote speaker*

Name

Pasicha Chaikaew

Sub-Theme 3.2 presentation title

Unlocking soil potential through regression kriging-based micronutrient management in calcareous soils in central area, Thailand

Affiliation

Department of Environmental Science ,
Chulalongkorn University, Thailand

Key message

“Widespread micronutrient deficiencies in Thailand’s calcareous soils are significantly hindering crop productivity. Precision micronutrient maps can optimize fertilization and unlock the full yield potential of these lands”



*Parallel session
keynote speaker*

Name

Maria Fantappiè

Sub-Theme 2.1+2.2 presentation title

High-resolution thematic soil mapping at EU level based on the combined use of LUCAS and national soil monitoring data in the framework of the EJP SOIL project

Affiliation

Council for Agricultural Research and Agricultural Economy Analysis (CREA), Italy

Key message

“Integration of National and European soil data may increase the accuracy and reliability of soil properties maps used for soil health assessment, but several challenges need to be overcome, such as data sharing and data harmonisation. Insights from both top-down and bottom-up mapping approaches using European Member States soil data and EU-wide LUCAS soil monitoring suggest a way forward for an integrated approach”



*Parallel session
keynote speaker*

Name

Rong Zeng

Sub-Theme 1.4 presentation title

Research On Soil Source Identification Methods Based On Matching Of Spectra Fingerprint Indicators And Prediction Of Soil-forming Environments

Affiliation

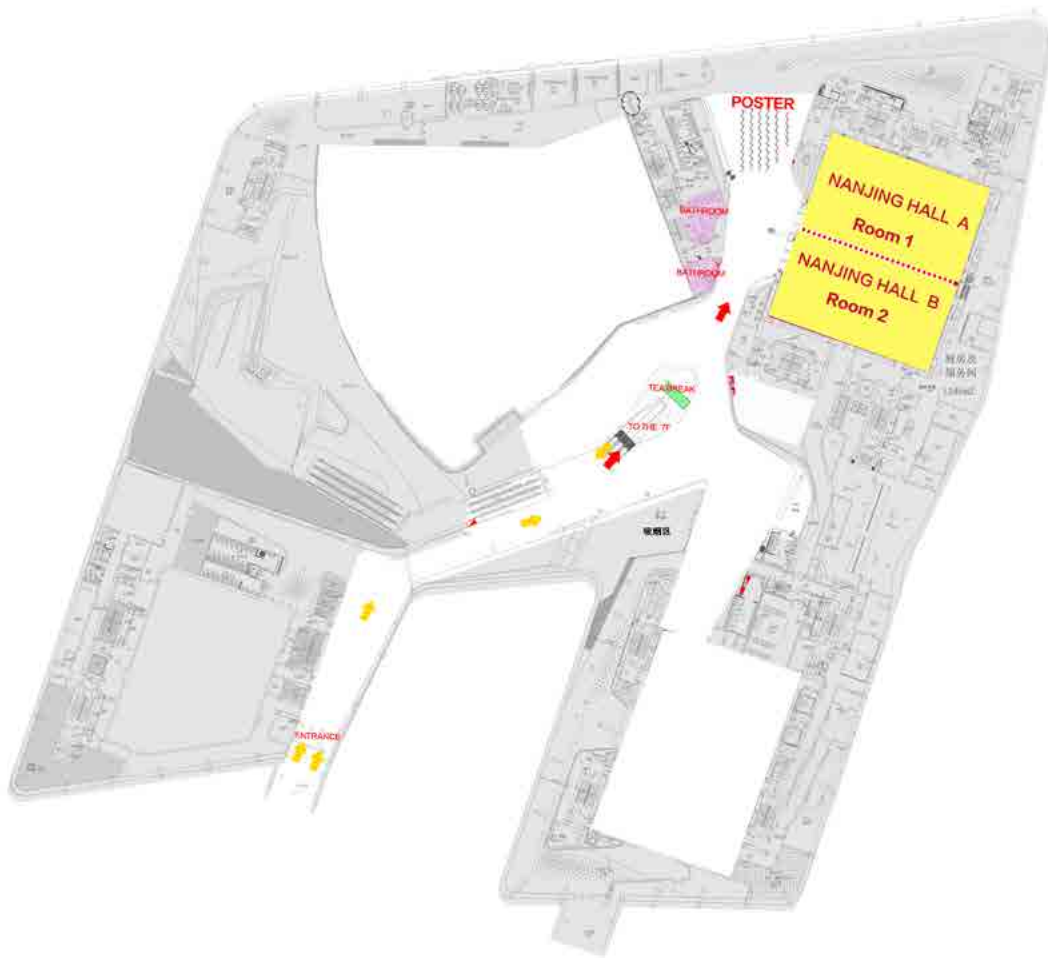
Nanjing University of Information Science and Technology, China

Key message

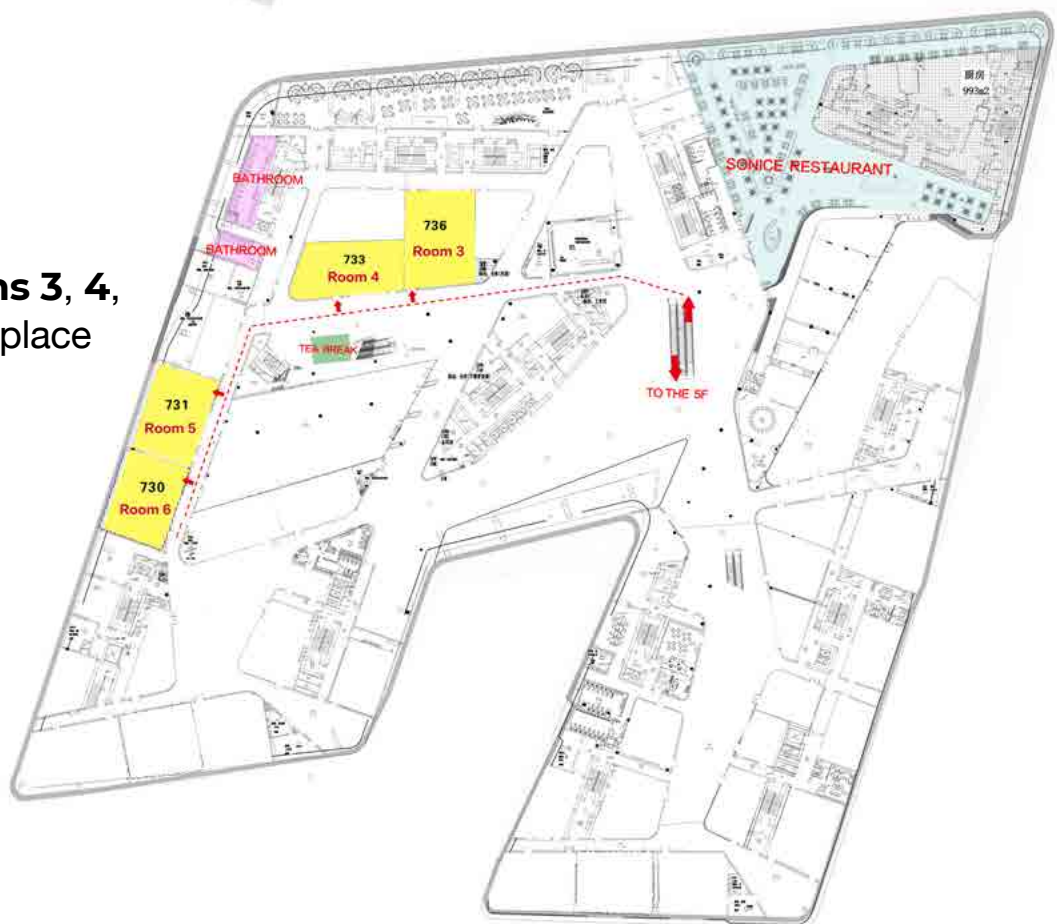
“Soil spectra, as important digital soil fingerprint indicators, can assist in soil source identification based on similarity matching and prediction of soil-forming environments.”

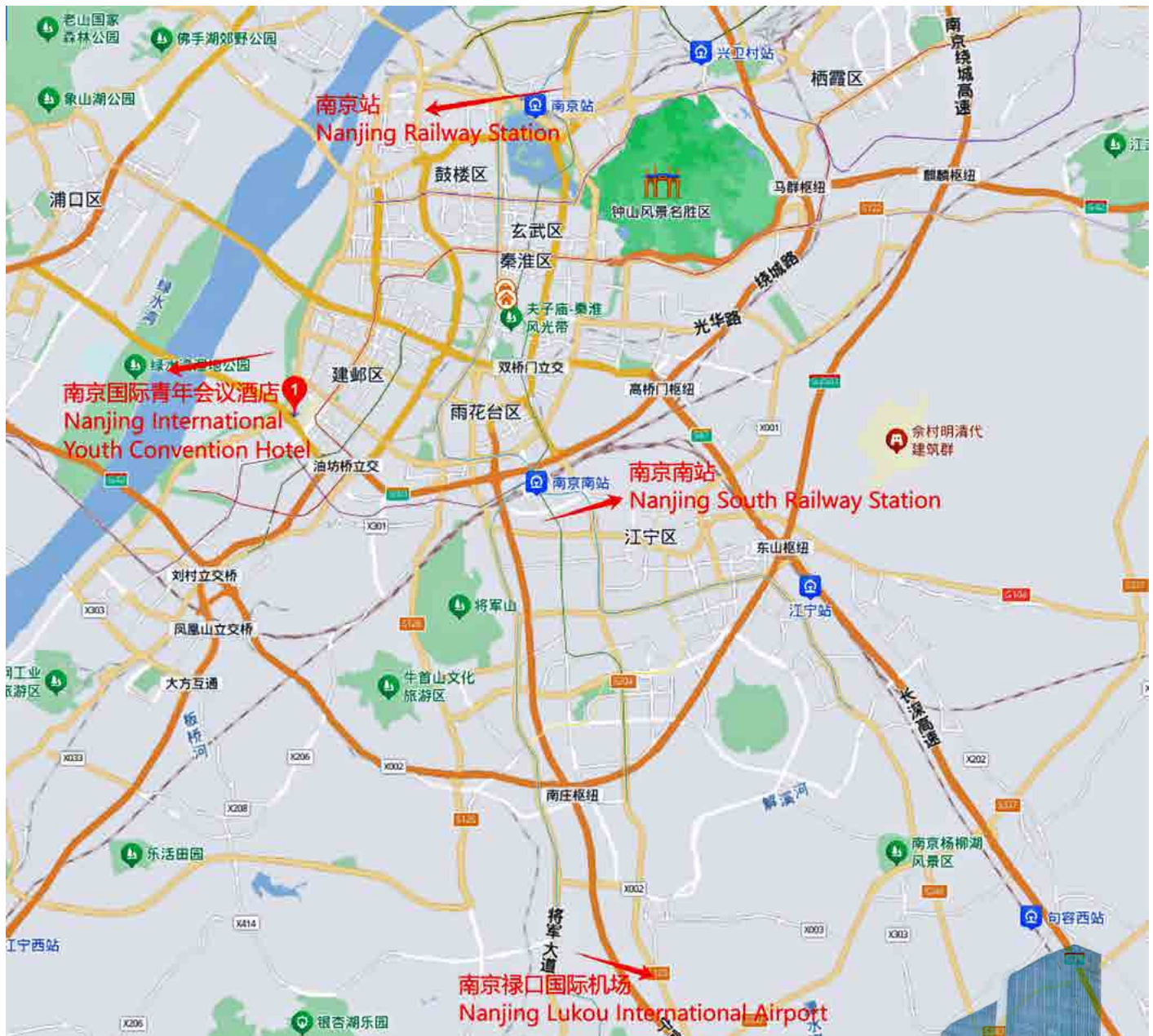
Floor plans

The **Plenary Sessions** and **Parallel Sessions 1** and **2** will take place in the **Nanjing hall A/B** situated in **building F** on the **5th floor**.



Parallel Sessions 3, 4, 5, and 6 will take place on the **7th floor** of **Building F**.





The symposium will be held at the **Nanjing International Youth Center**, which also houses the **International Youth Convention Hotels Nanjing**.

The address is:

No. 8 Ye Cheng Road, Nanjing (Jiangsu),
China
Telephone: +86 25 8653 8888

Free transportation from the airport to the hotel/conference center is available, provided you have completed the [online form](#). If you haven't done so yet, please fill out the form as soon as possible.



Wikipedia/ 西安兵马俑

How to get to Nanjing International Youth Convention Hotels

From **Nanjing Railway Station**:

Taxi: about 19 km, 34 mins drive

Metro:

- Take **Line 1** (direction of China Pharmaceutical University) from **Nanjing Railway Station** and get off at **ANDEMEN Station** after 9 stops,
- then transfer to **Line 10** (direction of YUSHANLU Station) and get off at **YUANTONG Station** after 3 stops, Exit 1.
- You can walk 1.5 km to the hotel, or take a taxi to the hotel.

From **Nanjing South (Nanjingnan) Railway Station**:

Taxi: about 12 km, 20 mins drive

Metro:

- Take **Line 1** (direction of MAIGAOQIAO Station) from **Nanjing South Railway Station** and get off at **ANDEMEN Station** after 4 stops,
- then transfer to **Line 10** (direction of YUSHANLU Station) and get off at **YUANTONG Station** after 3 stops, Exit 1.
- You can walk 1.5 km to the hotel, or take a taxi to the hotel.

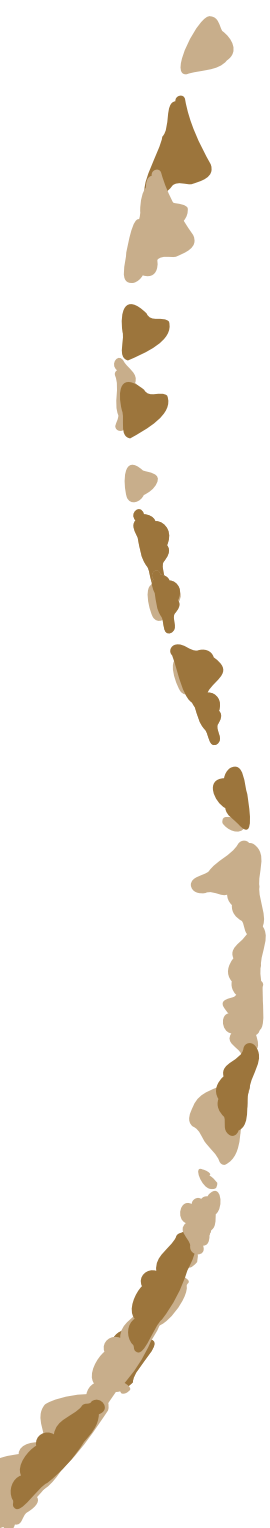
From **Nanjing Lukou Airport**:

Taxi: about 40 km, 47 mins drive.

Metro:

- Take **Airport Line S1** (direction of Nanjing South Railway Station) and get off at **Nanjing South Railway Station** after 7 stops,
- transfer to **Line 1** (direction of MAIGAOQIAO Station) and get off at **ANDEMEN Station** after 4 stops,
- transfer to **Line 10** (direction of YUSHANLU Station) and get off at **YUANTONG Station** after 3 stops, Exit 1.
- You can walk 1.5 km to the hotel, or take a taxi to the hotel.





Rome, Italy



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