



IUSS



International Union of Soil Sciences®

Bulletin

143

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International Union of Soil Sciences (IUSS)

President	Edoardo A. C. Costantini	eac.costantini@gmail.com
President Elect	Victor Okechukwu Chude	vchude@yahoo.co.uk
Past President	Laura Bertha Reyes Sánchez	lbrs@unam.mx
Vice President Congress	Jiabao Zhang	jbzhang@issas.ac.cn
Head of Secretariat	Giuseppe Corti, Filiberto Altobelli	iuss.secretariat@crea.gov.it
Treasurer	Andreas Baumgarten	andreas.baumgarten@ages.at
Secretary	Irene Fabbri	iuss.secretariat@crea.gov.it
Division 1	Richard Heck	rheck@uoguelph.ca
Division 2	Giuseppe Corti	g.corti@staff.univpm.it
Division 3	Renfang Shen	rfshen@issas.ac.cn
Division 4	Claudio Zaccone	claudio.zaccone@univr.it
Budgets & Finance	Kye-Hoon ‘John’ Kim	johnkim@uos.ac.kr
Prices & Awards	Cristine Morgan	cmorgan@soilhealthinstitute.org
Statutes & Structure	Flavio Camargo	fcamargo@ufrgs.br
Presidential elections	Rainer Horn	rhorn@soils.uni-kiel.de

Contact Information Filiberto Altobelli, Irene Fabbri (IUSS Secretariat)
Via della Navicella, 2/4 - 00184 Rome (Italy)
T: +39 06 478361
<http://www.iuss.org/>
iuss.secretariat@crea.gov.it

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Editors in Chief: Filiberto Altobelli, Giuseppe Corti;
Editorial Assistant: Maria Grazia Piazza;
Editorial Board: Filiberto Altobelli, Giuseppe Corti, Micaela Conterio, Petra Engel, Irene Fabbri, Claudia Fontana, Cristina Giannetti, Alexia Giovannetti, Andrea Martelli, Maria Grazia Piazza, Monica Ranuzzi, Silvia Socciarelli, Giulio Viggiani
Editing: Francesco Ambrosini

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Free download on the IUSS website.*



IUSS Reports



Activities of the IUSS President

During the second half of 2023, the President of the IUSS has been full-time engaged in activities implementing the objectives of the IUSS Strategic plan 2021-2030, namely:

1. Improving the organizational capacity and management of the IUSS;
2. Strengthening the linkages with the Full Members and the Scientific organisms of the IUSS;
3. Empowering the outreach and promotion of the IUSS and its members;
4. Coordinating the organization of the Centennial of the IUSS.

Improving the organizational capacity and management of the IUSS:

- a. Strengthening the Secretariat through introducing and continuously supporting the new full-time secretary in the activities of the IUSS;
- b. Organizing, with the Secretariat, meetings of the President's and Executive Committees and of the Council;
- c. Providing inputs and ideas to the Committee for Awards and medals;
- d. Co-chairing the Organizing Committee of the Inter-Congress meeting that will be held in Nanjing, China in October 2024;
- e. Setting up of Task Forces:
 - i. Establishment of and participation in a Task Force to drive the shaping of the new **website** of the IUSS;

- ii. Setting up of two IUSS Task Forces for the evaluation of the **stimulus** and **project funds**;
- iii. Establishment of and participation in a Task Force to support the **Committee on Statutes and Bye-laws** for the proposed amendments;
- iv. Establishment of and participation in a Task Force to develop guidelines for the selection and celebration of the **World Soil of the Year**.

Strengthening the linkages with the Full Members and the Scientific organisms of the IUSS:

- a. Coordination of the request to appoint a reference person of National Societies for international affairs, to facilitate communication with the Secretariat and the Executive Committee;
- b. Ealization of one-to-one video meetings with representatives of National Soil Science Societies;
- c. Organization of a second Forum with Full and Individual Members (28th of November) to prepare the online Council of December and introduce the proposed amendments to the Statutes and Bye-laws;
- d. Representation of the IUSS by Full members and IUSS scientific organisms:
 - i. Representing online the IUSS and delivering a keynote at the 2nd International Conference on Sustainable Tropical Land Management (ICSTLM), August 21-22, 2023, organized by the Soil Science Society of **Indonesia** and the Ministry of

Agriculture the Republic of Indonesia

- ii. In-person participation in the 12th Conference on Soil of Urban, Industrial, Traffic, Mining and Military Areas (SUITMA) Commission, in Santiago de Compostela, Spain, on September 4-7, reporting on the auspices and providing information and updates of the IUSS.
- iii. In-person participation, as Member of the Honorary Committee, at the 31st Congress of the Polish Society for Soil Science in Poznan, Poland, September 11-17, reporting on the auspices of the IUSS and delivering a keynote lecture;
- iv. Reporting on the auspices of the IUSS and delivering a keynote lecture at the annual Congress of the Japanese Society for Soil Science and Plan Nutrition on September 13 in Ehime, Japan (online);
- v. Online participation in the IUSS Commissions 1.6 Paleopedology and 1.2 Soil Geography, along with the INQUA Paleopedology Working Group, in the XIV International Symposium on Paleopedology, "Soils as Memory of Contemporary and Paleo Environments" 7-9 October 2023, in Las Cruces, USA, giving an introductory message and convening a round table on "Paleosols and paleolandscapes as cultural heritage".

Empowering the outreach and promotion of the IUSS and its members:

- a. Written contributions to the IUSS Bulletin, alert, social, and the book on the Genealogy of the IUSS;
- b. Online soil lecture and introduction of the IUSS at the Pro Agro Lectorium for Africa:

<https://lectorium.phosagro.com/lectures/soil-health-and-fertility/policies-for-the-conservation-of-the-cultural-and-natural-heritage-of-soil/>;

- c. Facilitating the nomination of IUSS Experts to participate in the ISC selections, in in particular, for the appointment of ISC Asia-Pacific Advisory Council and the ISC fellowship;
- d. Promoting the selection of IUSS member Prof. Eleonora Bonifacio in the ISC Distinguished Lecture Series Webinar with the title "Linking Mechanisms to Soil Functions to Achieve the Sustainable Development Goals";
- e. Recipient of the Italian Knowledge Leaders Award, Rome, December 5, 2023;
- f. Representation of the IUSS in other scientific organizations:
 - i. Representing the positions of the IUSS in online meetings of the Coalition of Action for Soil Health (**CA4SH**);
 - ii. Representing the IUSS in online meetings and activities of the Disaster Risk Reduction group of the **Geounions**;
 - iii. Representing the positions of the IUSS in online meetings of the International Science Council (**ISC**);
 - iv. Representing the IUSS in the Panel "Nature Mother or Stepmother?" at the meeting "Soil and water health", of the European Society for Soil Conservation, Imola, 4 July 2023;
 - v. Online introduction of the IUSS in the 5th International Conference of the European Society for Soil Conservation (**ESSC**) "Sustainable Natural Resource Management under Global Climate Change" under the patronage of the **Soil Conservation Society of India** at New Delhi, November 7, 2023;
 - vi. Introducing the IUSS Centennial Congress at the webinar "Health of salt-affected soils" organized by the **FAO-International Network of Salt-Affected Soils**, 21 November 2023;

- vii. Introducing the IUSS at the Seventh online meeting of the Global Soil Laboratory Network (**GLOSOLAN**) of the FAO, 22 November 2023;
- viii. In-person keynote speaker at the World Soil Day Celebration at the **Accademia dei Georgofili**, Florence, Italy, 5th of December 2023;
- ix. Representing the IUSS and giving a keynote online lecture at the World Soil Day 2023 – “Soil and water, a source of life” organized by FAO’s Moscow Office, jointly with the **Russian Academy of Sciences**, 8 December 2023;
- x. Representing the IUSS in the Panel “Climate Proofing Our Future – The Role of Soil” at the **COP28** <https://consciousplanet.org/en/save-soil/cop28>, 9 December 2023;

Organization of the Centennial of the IUSS:

- a. Promoting the organization of several meetings of the Organizing and Scientific Committees;
- b. In collaboration with the Organizing and Scientific Committees, facilitating the nominations of the keynote speakers and release of guidelines for conveners;
- c. Promoting the delivery of IUSS grants for the participation of young researchers and facilitating the evaluation of applications by the Scientific Committee;
- d. Liaison and collaboration with the local agency in Florence for the professional Conference organization;
- e. Soliciting and obtaining auspices from Institutions and videos from testimonials representing different stakeholders;
- f. Promoting contacts with companies for sponsorships;
- g. Promotion of the Centennial among different stakeholders;

- h. Contribution to the production of the Centennial Celebration video and shooting on November 17, 2023;
- i. Coediting and co-authoring of a book on the history of Soil Science in Italy.

Welcome addresses at Congresses

IUSS President Edoardo Costantini welcomed in-person the attendees of the **31st Congress of the Polish Society for Soil Science** held in Poznan on September 12th, and, via remote link, those of the **annual Congress of the Japanese Society for Soil Science and Plan Nutrition** on September 13th in Ehime, Japan. He also participated in the **12th Conference on Soil of Urban, Industrial, Traffic, Mining and Military Areas, SUITMA Commission**, in Santiago de Compostela, Spain, on 4–7 September.

IUSS Commissions 1.6 Paleopedology and 1.2 Soil Geography, along with the INQUA Paleopedology Working Group, organized the **XIV International Symposium and Field Workshop on Paleopedology, “Soils as Memory of Contemporary and Paleo Environments”** held 7–15 October at the New Mexico State University, Las Cruces, New Mexico, USA. The IUSS President had the pleasure to welcome the participants and to host the round table “Paleosols and paleolandscapes as cultural heritage” which took place on October 9.

The European Law on Soil Monitoring

Edoardo A.C. Costantini

President of the International Union of Soil Sciences

On July 5, 2023, the European Commission published the Proposal for a Directive of the European Parliament and of the European Council on soil monitoring and resilience (Soil Monitoring Law) COM (2023) 416 final 2023/0232 (COD). Background: In April 2002, the Commission announced its intention to develop a Soil Protection Strategy and prepare the ground for a European

soil legislation proposal. Subsequently, in 2006, the Commission adopted an initial proposal, but heated political debates took place in the EU Council under different presidencies.

Ultimately, an agreement was not reached due to a minority of five Member States. As a result, the Commission withdrew its proposal in 2014. Meanwhile, soil degradation in Europe has worsened. Currently, 4.2% of the territory has been urbanized, mainly at the expense of agricultural land. Furthermore, soil degradation is compromising the long-term fertility of agricultural land. It is estimated that between 61% and 73% of agricultural land in the EU is affected by erosion, organic carbon loss, nutrient excesses (primarily nitrogen and phosphorus), compaction, or secondary salinization (or a combination of these threats). All of this causes serious environmental and economic damage.

The Commission estimates that soil compaction alone can reduce crop yields by 2.5% to 15%. Additionally, more than one billion tons of soil are lost annually due to erosion. Without sustainable soil management and actions to regenerate soils, it is feared that compromised soil health will become a central factor in future food security crises. Contaminated soils also affect food security. For example, around 21% of agricultural soils in the EU contain concentrations of cadmium in the topsoil that exceed the established limit for groundwater.

The European Commission believes that collective action is necessary, also because soil degradation costs the EU a total of around 74 billion euros per year. The Directive falls within the framework of the European Green Deal and contributes to achieving the

ambitions set by the EU Soil Strategy for 2030. The EU Soil Strategy is a key outcome of the EU Biodiversity Strategy for 2030 and establishes a framework and concrete measures to protect and restore soils and ensure their sustainable use. It also sets a vision and objectives to achieve healthy soils by 2050, with concrete actions by 2030.

The aim of the proposed Directive is to contribute to addressing major social challenges, such as:

- Achieving climate neutrality and becoming resilient to climate change;
- Reversing biodiversity loss and fulfilling international commitments on biodiversity;
- Reducing pollution to levels no longer considered harmful to human health and the environment;
- Fulfilling international commitments on neutrality in soil degradation.

Specifically, the implementation of the proposal should ensure that soils throughout the EU are healthy by 2050 and managed sustainably to avoid further deterioration. The objective of this Directive proposal is to stop soil degradation, thereby ensuring that soils can provide multiple ecosystem services to meet environmental, social, and economic needs, while reducing soil pollution to levels no longer considered harmful to human health and the environment.

The operational objectives, on the other hand, are to establish measures to stop soil degradation and regenerate soil health, provide an effective framework for ensuring the implementation of the Directive, particularly through the obligation for Member States to assess soil health.

The directive establishes measures related to soil monitoring and evaluation; sustainable soil management; inventory and remediation of contaminated sites.

It is useful to remember that the Directive defines ‘soil’ as the top layer of the Earth’s crust situated between the bedrock and the land surface, which is composed of mineral particles, organic matter,

water, air and living organisms; while ‘soil health’ means the physical, chemical and biological condition of the soil determining its capacity to function as a vital living system and to provide ecosystem services.

The main activities that Member States will have to carry out are as follows:

1. Defining soil health and establishing territorial soil districts, delineated based on soil type, climatic conditions, environmental zone, land use or land cover.
2. Soil health monitoring: Member States will have to establish a monitoring framework based on soil districts. The monitoring framework will be based on soil health descriptors and criteria. A soil is considered healthy when the values of all soil descriptors meet the established criteria.
3. Sustainable soil management: Member States will need to define sustainable soil management practices to be gradually implemented on all soils, as well as the practices that negatively impact soil health, which have to be avoided. Based on the outcome of soil health assessments, they will also need to establish regeneration practices to be gradually implemented on unhealthy soils. Member States should establish mechanisms to recognize the efforts of landowners and soil managers in maintaining soil in healthy conditions, including soil health certification.

Regarding the reduction of soil consumption, Member States must avoid or minimize the loss of soil’s capacity to provide ecosystem services, including food production, by reducing the area affected by urbanization, selecting areas where the loss of ecosystem services can be minimized, and implementing urban-

ization in a way that minimizes negative impacts on the soil. Member States must also compensate as much as possible for the loss of soil’s capacity to provide ecosystem services caused by urbanization through appropriate interventions.

4. Identification, registration, investigation, and assessment of contaminated sites.
5. Restoration (regeneration) of soil health and remediation of contaminated sites.

The selected soil descriptors for assessing soil health play a crucial role in the implementation of the directive. Each descriptor has a threshold indicating the soil’s health status. The descriptors common across the EU are salinization, erosion, organic carbon, and subsoil compaction. At the Member State level, the descriptors are nutrient content, contamination, and water retention capacity. Other descriptors without threshold criteria are acidification, surface soil compaction, biodiversity, and urbanization.

The water retention capacity descriptor is particularly interesting and innovative. The estimated value for the total water retention capacity of a soil district should exceed a minimum threshold per hydrographic basin or sub-basin. The minimum threshold will be determined by the Member State at the soil district and hydrographic basin or sub-basin level to mitigate the impacts of periods of drought and of flooding due to heavy rainfall. Actually, healthy soils can retain up to 25% of their mass in water, contributing to the prevention of disaster risks and acting as long-term reservoirs for recharging groundwater. The natural water storage capacity of resilient soils, wetlands, and forests exceeds what could be achieved through costly new artificial reservoirs.

The criteria used to assess soil health are also interesting, although they may not fit well with Mediterranean conditions. The carbon/clay ratio

> 1/13 is too high for Mediterranean soils, which are often clay-rich. However, in this case, Member States can adjust the threshold based on their conditions. Adjustment is not provided, though, for soil erosion, where the threshold between healthy and unhealthy soils is set at >2 tons/ha/year. This means that most Mediterranean soils cultivated even on gentle slopes are considered unhealthy. However, the criterion does not consider soil erosion caused by land leveling, slope modeling, and earth movements, which are activities responsible for significant soil losses, especially prior to planting tree crops.

The Commission expects that the proposed Directive will bring significant environmental benefits and improve soil health, with positive effects on water and air quality, biodiversity, climate, and food benefits.

It is also expected that the implementation of the proposal will create numerous opportunities for SMEs in terms of growth (e.g., investigation and remediation of contaminated sites, soil health consulting services, soil analysis laboratories) and innovation in designing and implementing sustainable soil management and restoration measures. Furthermore, the implementation of soil monitoring should create opportunities for research and development in companies providing soil surveys.

The Directive includes some indicators to monitor its implementation:

- Number of soil health monitoring points;
- Proportion of EU territory where soils are in good health;
- Measures of sustainable soil management adopted;
- Measures of regeneration implemented;

- Number of potentially contaminated sites registered in dedicated national registers;
- Number of potentially contaminated sites investigated;
- Number of contaminated sites remediated or properly managed;

The proposed Directive will enter into force after its adoption, allowing for a 2-year transition period for Member States to adopt and notify the laws, regulations, and administrative provisions necessary to comply with this directive. After the end of the transition period, Member States must establish adequate governance and a soil monitoring framework, including the determination of sampling points and the adoption of methodologies to establish soil districts and establish a register of potentially contaminated sites. It is also expected that coordinated action at the EU level will address potential distortions in the internal market and unfair competition among businesses, as some Member States have less stringent environmental requirements.

However, the Directive allows Member States considerable flexibility to identify the most appropriate measures and adapt the approach to local conditions. This is considered crucial to ensure that regional and local specificities in terms of soil variability, land use, climatic conditions, and socio-economic aspects can be adequately considered.

The estimated private costs of implementing sustainable management and restoration of agricultural and forest soil range from 28 to 38 billion euros per year. It is also estimated that 29 billion euros (distributed over 15 years) will be required for identifying and investigating contaminated sites, and 24.9 billion euros (distributed over 25 years) for remediation of contaminated sites.

Overall, the annual benefit derived from the costs avoided due to soil degradation is estimated at 550 billion euros, excluding contamination, which has an estimated benefit of 220 billion euros per year. During the evaluation period until 2060, the Commission calculates a public and private benefits-to-cost ratio of 1.7 for the implementation of the directive.

Beyond these positive and significant economic estimates, the Directive has the indisputable merit of drawing the attention of policymakers and public administrators to soil health, upon which the health of European citizens also depends. It represents a historical step forward in achieving public awareness of soil health, and it is certainly hoped that it will be approved by the European Parliament.

The soil science community is immensely grateful to all those who have worked tirelessly for many years to achieve this significant outcome. We also acknowledge the contributions of soil scientists from all over the world, who have helped establish the knowledge foundation for this Directive.

The directive remains open to adjustments, which can be based on the results of its application. Therefore, a further significant contribution from soil scientists will be needed in the coming years.

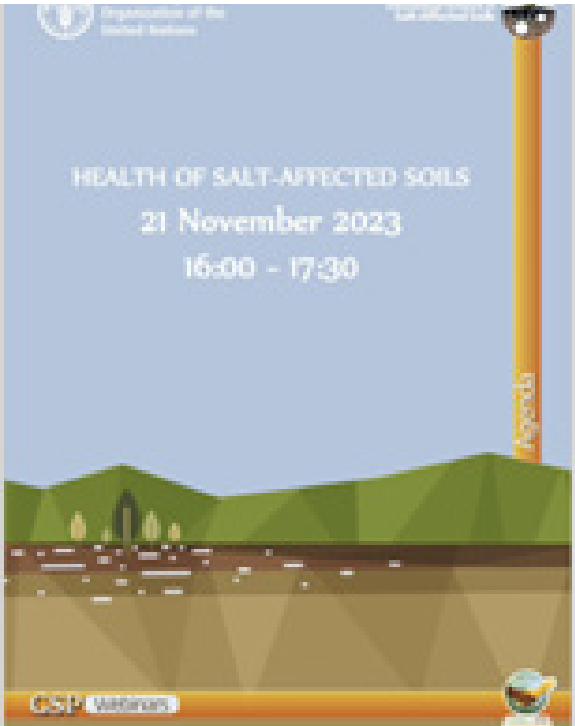
Lecture given by the IUSS President: “Policies for the conservation of the cultural and natural heritage of soil”



Online lecture given by IUSS President Edoardo Costantini on the PhosAgro Pro Agro Lectorium educational platform. The lecture covered a presentation of the International Union of Soil Sciences, the IUSS 2021-2030 Strategic Plan, Improvement of soil awareness, and Policies for the conservation of the cultural and natural heritage of soil. Read more: <https://lectorium.phosagro.com/lectures/soil-health-and-fertility/policies-for-the-conservation-of-the-cultural-and-natural-heritage-of-soil/>

International Network of Salt-affected Soils, 21 November 2023

The IUSS President, Prof. Edoardo Costantini, participated in the International Network of Salt-Affected Soils.



IUSS President Edoardo Costantini among the Italian Knowledge Leaders 2023



During the event, which took place in the evocative Sala della Protomoteca in Campidoglio, numerous leaders were awarded who have distinguished themselves in their sector by reaching the presidency of relevant International Associations: exceptional professionals who represent the best of Italy in the field of knowledge and re-search and to whom is given due recognition for their dedication and commitment.



In the wonderful setting of the Campidoglio, in Rome, IUSS President Prof. Edoardo Costantini, was awarded as one of the 2023 Italian Knowledge Leaders.

Photos are Intellectual property of the IUSS Secretariat

New Chairman of Division 3

IUSS is pleased to announce that Professor Renfang Shen has been appointed as Chairman of Division 3 and congratulates him on this prestigious achievement. It is with the warmest welcome that IUSS wishes him well for the success of his work.

International Conference “Sustainable Natural Resource Management under Global Climate Change”, New Delhi, 7-10 November, 2023

IUSS President, Prof. Edoardo Costantini

It has indeed been a matter of great pride for me to jointly organize the International Conference “Sustainable Natural Resource Management under Global Climate Change”, with and under the patronage of the Soil Conservation Society of India. The modern world is recognizing the importance of conserving natural resources. Farmers are practicing climate-smart agriculture and industries are realizing as to how much they can save through energy efficiency. Smart agriculture through advanced technologies like Internet of Things, location systems, robotics, and artificial intelligence can improve the quality and quantity of crops while optimizing the human resources on farms. There is a need to reach out further and communicate globally to increase multi-sectoral policy prioritization, interdisciplinary engagement, and public-private investment on the emerging issues.

I was confident that this International Conference would deliberate on the advancements in sustainable conservation of natural resources under global climate change to ensure sustainable development of this planet and would come-up with some recommendations to face the challenges ahead.

Read more: <https://www.scsi.org.in/pdf/Brochure-5-9-2023.pdf>

COP28: Panel “Climate Proofing our Future-the Role of Soil”, December 9, 2023

Prof. Edoardo Costantini discussed with Panel participants the critical importance of soils from a scientific point of view. He highlighted the global imbalance in fertile land distribution, leading to cultivation challenges. He expressed concern about soil not being included in planetary boundaries and emphasized unsustainable trends in soil management, leading to degradation.

Prof. Costantini mentioned global efforts to recognize soil ecosystem services, citing European Directive. He invited participation in the centennial celebration of the International Union of Soil Scientists, stressing the need for increased awareness and action on global soil health challenges.

IUSS Past President

Tenth Regional Plenary Assembly of the Soil Alliance of Latin America and the Caribbean (ASLAC), Mexico City, 19 to 22 June 2023

IUSS Past President Laura Bertha Reyes-Sánchez participated as invited speaker in the Plenary Assembly of the Soil Alliance of Latin America and the Caribbean, which was carried out with the presence of all the Focal Points of Latin America and the representation of FAO Rome, FAO Latin America and FAO Mexico. Details and the Agenda are available here: https://www.fao.org/fileadmin/user_upload/GSP/LAC_Webinar/Agenda_ASAC_June_2023_en-V4.pdf



Participants of the 10th Regional ASLAC Plenary – Intellectual property of FAO

Practical workshop on educational innovation regarding forest fires

From 12 to 14 July 2023, Laura Bertha Reyes-Sánchez was invited as main speaker in the Practical Workshop on “Education to live with fire” of the Erasmus project FACING FIRE in Santiago de Compostela, Spain.



A frame of the workshop. Intellectual property of Facing Fire

The event was attended by several groups of scientists and NGOs from Italy, Greece, Spain and Portugal which are developing activities and research around the forest fires that plague large parts of Europe and America, and the Past President joined the working groups whose objective was to propose educational and innovative activities for different population groups with the aim of informing them and raising awareness about the serious and great environmental, social, and cultural losses that forest fires entail.



A frame of the workshop. Intellectual property of Facing Fire

2023 Global Forum on Soil Health,
Yangling, Shaanxi, China, September 19, 2023

Under the theme “Soil Health and Food Security” Laura Bertha Reyes-Sánchez was invited by the Ministry of Agriculture and Rural Affairs (MARA) and the Chinese Academy of Sciences of the People’s Republic of China to offer the Opening Speech during the Opening Ceremony of the 2023 “Global Forum on Soil Health and Food Security”.

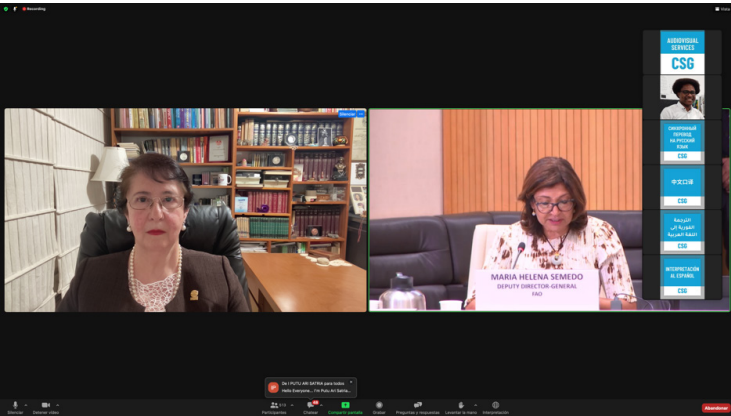
More information on the Congress is available here: http://english.moa.gov.cn/news_522/202309/t20230922_301254.html



Intellectual property of MARA, People's Republic of China.

FAO Global Symposium on Soils and Water,
Rome, Italy, October 2, 2023

In response to the invitation of the Global Soil Partnership of FAO, Laura Bertha Reyes Sánchez participated as high-level speaker in the Global Symposium on Soil and Water Soil.



Intellectual property of FAO

For more information on GSOWA2023 please click here: https://www.fao.org/fileadmin/user_upload/GSP/GSOWA23/Agenda_GSOWA23.pdf



31st Congress of the Polish Soil Science Society,
Poznań, September 12, 2023

Laura Bertha Reyes-Sánchez was invited to attend the 31st Congress of the Polish Soil Science Society. In a session held during the Gala Dinner Prof. Dr. Zbigniew Zagorski, President of the Polish Soil Science Society, awarded her with the Diploma granting recognition as **Honorary Member of the Soil Science Society of Poland**.



Laura Bertha Reyes-Sánchez becomes Honorary Member of the Soil Science Society of Poland

The IUSS Past President was also invited by the President of the Congress, Dr. Bartłomiej Glina, to award the winners of the Best Oral and Poster’s presentation and address a short speech to the IUSS Young and Early Career Scientist Working Group.



Intellectual property of the Soil Science Society of Poland

More information about the Congress, Agenda and Book of Abstracts can be found here: <https://soilcongress2023.up.poznan.pl/en/node/45>

International Round Table for Young and Early Career Scientists

Mexico, October 18, 2023

Within the framework of the 47th Mexican Congress of Soil Science Laura Bertha Reyes-Sánchez organized and led, together with President and Vice President of the IUSS Young and Early Career Scientists Working Group (YECS) Bartłomiej Glina and Axel Cerón as well as with the Mexican responsible of the table for young soil scientists Daniela Bobadilla Ballesteros, the **International Round Table for Young and Early Career Scientists**, which was carried out in hybrid format on October 18th, 2023, at the Universidad Nacional Autónoma de México (UNAM), with the participation of 135 young people from 23 countries.



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2nd Inter American Congress on Water, Soil and Agrobiodiversity

Ciudad Obregón Sonora, Mexico, October 11, 2023

Laura Bertha Reyes-Sánchez was invited by the Secretary of Agriculture and Rural Development of Mexico (SADER) to give the opening lecture of the 2nd Inter American Congress on Water, Soil and Agrobiodiversity (<https://congresosuelo.inifap.gob.mx/>).



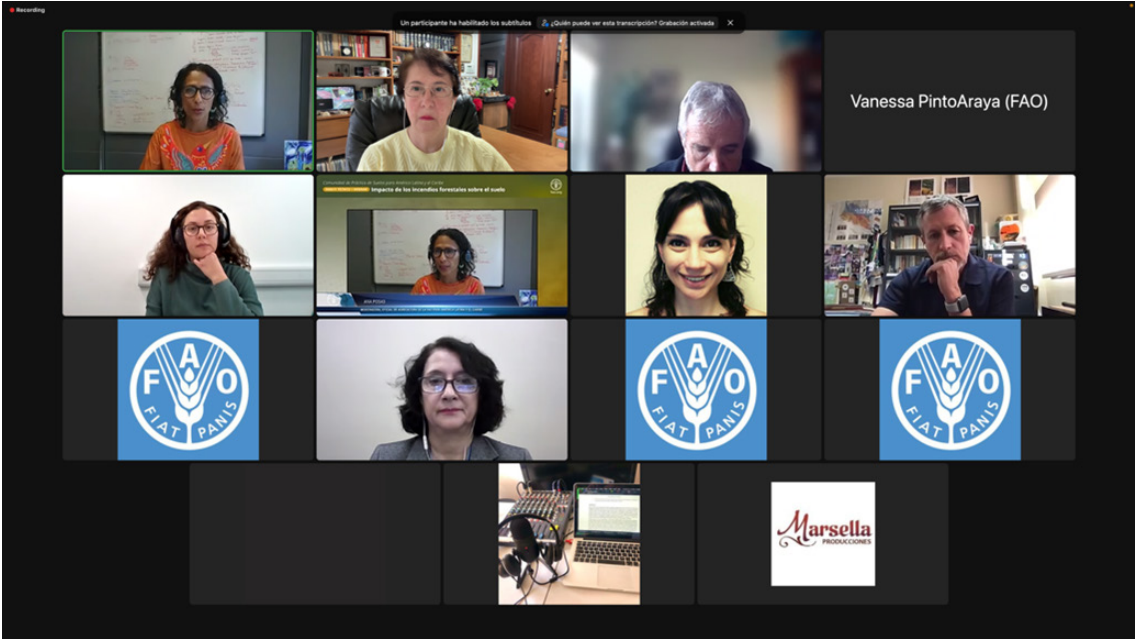
Intellectual property of SADER

FAO-ASLAC: Technical Debate on the Impact of forest fires on the soil, ù

October 26, 2023

Laura Bertha Reyes-Sánchez participated online as speaker during the Technical Debate on the Impact of forest fires on the soil organized by the Latin American and Caribbean Community of Practice of the Latin America and the Caribbean Soil Partnership (ASLAC).

<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1654584/>



Laura Bertha Reyes-Sánchez becomes Honorary Member of the Soil Science Society of Poland

XXIII Venezuelan Congress of Soil Science

14 to 17 November 2023

IUSS Past President Laura Bertha Reyes-Sánchez was invited to give the Opening lecture of the Venezuelan Congress of Soil Science

PROGRAMA GENERAL		
Día	Hora	Actividad
Martes 14 de noviembre de 2023	8:00 – 9:00 am	Formalización de inscripción
	9:00 – 10:00 am	Acto Inaugural. Palabras de Autoridad Regional. Palabras de la Decana de la Facultad de Agronomía, Prof ^a Aida Ortiz. Palabras del Presidente de la SVCS, Prof. Jesús Viloria.
	10:00 – 11:00 am	Conferencia Inaugural “El suelo en un mundo cambiante”, Laura Bertha Reyes Sánchez (IUSS Past President 2023-2024 y Universidad Nacional Autónoma de México)
	11:00 am – 12:00 m	Conferencia “Hidrología y Ciencia del Suelo: relaciones con la producción de alimentos, protección ambiental, prevención de desastres bajo cambios climáticos”, Idelfonso Pla. Sentís (Universidad de Lleida, España y Universidad Central de Venezuela)
	12:00 m – 2:00 pm	Receso
	2:00 – 4:00 pm	Presentación de trabajos de los Participantes

International Scientific Council (ISC)

December 18, 2023

Laura Bertha Reyes-Sánchez, in her capacity as ISC LAC focal point for the International Union of Soil Scienc-es, participated in the preparatory meeting for the ISC LAC Global Knowledge Dialogue that will take place in 2024.

See here more information and the recording of the meeting: <https://council.science/events/regional-meeting-lac-isc-members/>



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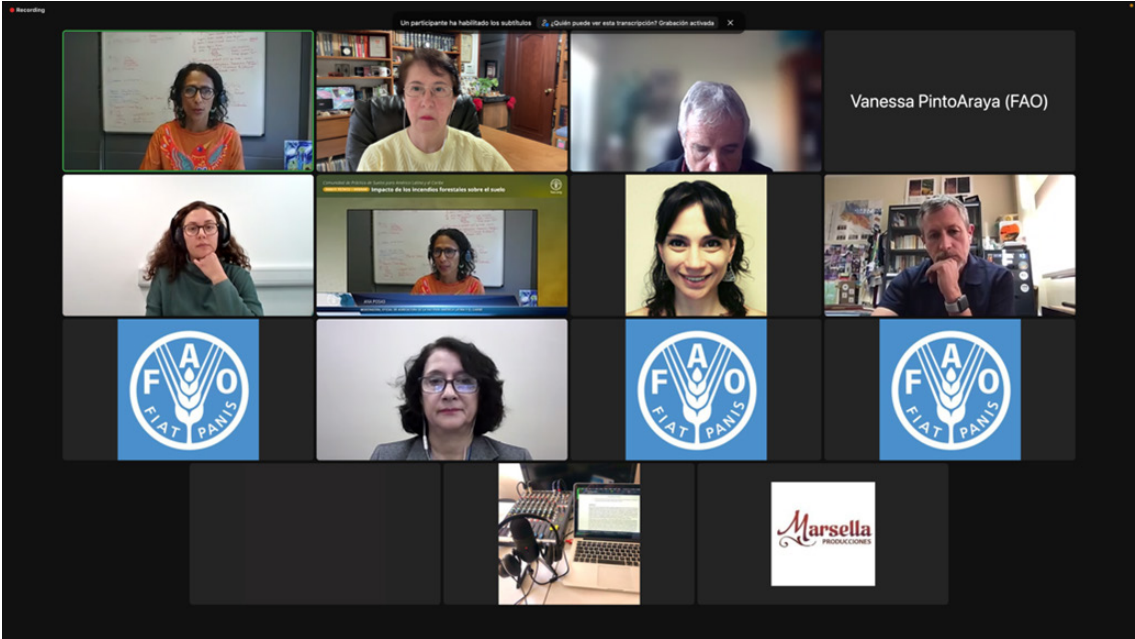
Intellectual property of SADER

FAO-ASLAC: Technical Debate on the Impact of forest fires on the soil

October 26, 2023

Laura Bertha Reyes-Sánchez participated online as speaker during the Technical Debate on the Impact of forest fires on the soil organized by the Latin American and Caribbean Community of Practice of the Latin America and the Caribbean Soil Partnership (ASLAC).

<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1654584/>



Laura Bertha Reyes-Sánchez becomes Honorary Member of the Soil Science Society of Poland

XXIII Venezuelan Congress of Soil Science

14 to 17 November 2023

IUSS Past President Laura Bertha Reyes-Sánchez was invited to give the Opening lecture of the Venezuelan Congress of Soil Science



SOCIEDAD VENEZOLANA DE LA CIENCIA DEL SUELO
Rif. J-30334728-2
Correo electrónico: svcs.org@gmail.com
XXIII Congreso Venezolano de la Ciencia del Suelo



PROGRAMA GENERAL

Día	Hora	Actividad
Martes 14 de noviembre de 2023	8:00 – 9:00 am	Formalización de inscripción
	9:00 – 10:00 am	Acto Inaugural. Palabras de Autoridad Regional. Palabras de la Decana de la Facultad de Agronomía, Profª Aida Ortiz. Palabras del Presidente de la SVCS, Prof. Jesús Viloria.
	10:00 – 11:00 am	Conferencia Inaugural “El suelo en un mundo cambiante”, Laura Bertha Reyes Sánchez (IUSS Past President 2023-2024 y Universidad Nacional Autónoma de México)
	11:00 am – 12:00 m	Conferencia “Hidrología y Ciencia del Suelo: relaciones con la producción de alimentos, protección ambiental, prevención de desastres bajo cambios climáticos”, Idelfonso Pla. Sentís (Universidad de Lleida, España y Universidad Central de Venezuela)
	12:00 m – 2:00 pm	Receso
	2:00 – 4:00 pm	Presentación de trabajos de los Participantes

Publications

- Reyes-Sánchez, L. B and Brevik, E. C. (2023). Soil Science Education, Awareness and Outreach in the Modern World. Encyclopedia of soils in the environment, second edition. Elsevier. <https://doi.org/10.1016/B978-0-12-822974-3.00091-4>
- Ortiz, S. et al. (2023). National Soil Strategy for Sustainable Agriculture (ENASAS): a new systemic approach in Mexico. European Journal of Soil Science. <https://doi.org/10.1111/ejss.13395>
- Reyes-Sánchez Laura Bertha. (2023). PERFILITO, ein sehr glücklicher Junge. IUSS GOES TO SCHOOL Book. Second edition. ISBN: 979-8-9895344-1-8 German translation.
- Reyes-Sánchez Laura Bertha. (2023). PERFILITO, um garoto com muita sorte. IUSS GOES TO SCHOOL Book. Second edition. ISBN: 979-8-9895344-0-1 Portuguese translation.
- FAO and IUSS. (2023). Soils: where food begins: a collection of 10 children’s stories from around the world. Rome. FAO and IUSS. ISBN 978-92-5-138028-4. <https://doi.org/10.4060/cc7127en>
- Brevik, Eric C., Damien Field, Jacqueline Hannam, Maja Krzic, Rainer Horn, Cristine Muggler, Jude Odhiambo, Yoshitaka Uchida, Danny Itkin, Hong-sheng Wu, Liana Pozza, Laura Bertha Reyes-Sánchez, and Thomas Scholten. (2023). Degrees pursued by students in different countries to train for careers in soil science. In: Nikola Patzel, Sabine Grunwald, Eric C. Brevik, and Christian Feller (Eds), Cultural Understanding of Soil. Springer, Cham. https://doi.org/10.1007/978-3-031-13169-1_24 eBook ISBN 978-3-031-13169-1 and Print ISBN 978-3-031-13168-4

Report from the IUSS Secretariat

IUSS Social Media

Communication is an especially important for science, as it helps to disseminate its findings reaching as many people as possible, even in remote areas of the world. Being connected has never been more important, and the Secretariat is committed to communicating science through the IUSS social media.

So far, Facebook, in terms of followers, is leading the pole position, with 14.884 followers, few more hundreds compared to the beginning of last year. X -formerly known as Twitter- since last year has gained 1.084 followers, for a grand total of 4.384 and numbers are growing day by day. LinkedIn, our “youngest” social network, has increased its followers to 298, an exceptionally good result if we consider that just few months ago this number was barely close to 30.

Over the last 30 days, the first access has increased by 37.9%. The IUSS channel on YouTube has 230 subscribers and 50 videos, and the numbers are expected to increase during the Centennial Celebration in Florence with more videos on the event.

Facebook: <https://www.facebook.com/un-ionsoilsciences>
X: @IUSS_ORG
LinkedIn: IUSS-International Union of Soil Sciences @LinkedIn.com
YouTube @iusschannel822

IUSS New Website

Since the handover of the Secretariat, we have been working tirelessly on the setting up of the new IUSS website. With the new millennium in full bloom, and the exciting challenge of the Centennial celebration, the IUSS website needed a well-deserved make-over.

The new website (which will be probably aired while you are reading these words) will be so much more interactive compared to the previous one and, moreover, quite easy to scroll though, with interesting new features, like the “search by topic” and “search by word” option. It will be possible, as well, to subscribe to the Alert and the Bulletin on-line, by compiling a remarkably simple form.

The biggest news on this new feature concerns a “back office” area, where the IUSS Executive Committee, the Divisions, Commissions and Working Groups will have exclusive access to share, in real time, information, ideas, scientific data and much more. The same will be possible for the Full Members which will be able to update themselves on everything they wish to share with the IUSS Planet, another new option of the website: a world map where each Soil Science Societies within the IUSS family will be pinpointed.

Last, but not least, on the website it will be possible for members to freely download our books.

IUSS Council Meeting

The IUSS Council Meeting was held, for the first time online, on December 14-15. It has been a good challenge for the Secretariat, with the setting-up a voting poll for the members to vote on the topics presented during the meeting.

Primarily, these covered the amendments to the Statute and the Bye-Laws, an exceedingly long review process, led by the President, which has engaged many different contributors from the Committee on Statutes and Structure, Division 1, and the Secretary. Other topics on the agenda were: the 2023-2024 budget approval, the upgrade of the SUITMA Working Group to Commission status, the approval of both the new Anna Marie Tauber Award and the minutes of the Glasgow Council Meeting.

The voting poll, open for three days, accounted for 31 votes as follows:

- Statute and Bye-Laws amendments: 31 out of 31 in favour;
- 2023-2024 Budget: 29 in favour, 2 against;
- Upgrade to Commission of WG SUITMA: 31 out of 31 in favour;
- Anna Marie Tauber Award: 30 in favour, 1 against;
- Minutes of Glasgow Council Meeting: 31 out of 31 in favour.

Many other topics were discussed as well, like the new initiative of the World Soil of the Year, which will be fully unveiled during the Centennial celebrations. The Forum preceded the Council meeting, being another particularly important moment for the IUSS members, a non-voting event where all members can gather and share .

SUITMA

In the late summer of 2023, the Working Group (WK) SUITMA (soils of urban, industrial, traffic, mining and military areas), established in 1998 during the 16th WCSS held in Montpellier, thanks to profs. W. Burghardt and J. L. Morel, has applied to become a Commission.

This WK has a long and successful history having organized 12 conferences in 11 different countries, 7 symposia during different WCSS, and published a book in 2017, “Soils within cities – Global approaches to their sustainable management”; and several special issues of Journal of Soils and Sediments.

The application was successfully approved by the Executive Committee and by the Council as well.

IUSS Secretariat Scientific Activity

GSP July 12th, 2023

The IUSS Secretariat participated in the General Assembly of the Global Soil Partnership (GSP) at FAO, Rome. Among the topics treated, we highlight the presentation of the Soil Atlas of Asia, the efforts made all around the world to improve soil health, and the activity of the Intergovernmental Technical Panel of Soils (ITPS).

In addition, FAO has established a permanent exposition dedicated to David Lubin, with a David Lubin portrait, bust and original working table. There is also a library dedicated to Lubin, founder of the International Institute of Agriculture, predecessor of today’s FAO.

In 2024, the first day of the IUSS Centennial Congress will be spent at Villa Lubin, whose name was given in recognizing the David’s efforts to improve knowledge on soil and agriculture.



Heads of the Secretariat at GSP-FAO. Intellectual property of the IUSS Secretariat

FAO

October 2nd, 2023

IUSS Secretariat @FAO Soil and Water Symposium sharing knowledge and experiences #water #soil #onesoiloneplanet #waterhumanright



IUSS Secretary Irene Fabbri and Head of IUSS Secretariat Filiberto Altobelli at the FAO Soil and Water Symposium Intellectual property of the IUSS Secretariat

Meeting of a Delegation of the Gyeongnamdo Agricultural Research Services and CREA

October 24th

The IUSS Secretariat welcomed the Korean Delegation of the Gyeongnamdo Agricultural Research Services- Provincial Government. A great occasion to talk about science and share knowledge.



Group picture of Delegation. Intellectual property of the IUSS Secretariat

Meeting IUSS Secretariat-ISA Colombia

On Friday, October 27th, 2023, CREA and the IUSS Secretariat, represented by Filiberto Altobelli and Maria Grazia Piazza, hosted Dr. Maria Fernanda Mideros Bastidas, Director of the Agri-food Systems Research Center and Vice-President for Research and Creation of the Universidad de los Andes (ISA), Colombia. The meeting was an opportunity to establish initial contacts aimed at international cooperation with ISA and to develop possible scientific collaborations.

The Agri-food Systems Research Center (ISA) is one of Colombia’s leading universities promoting actions and programs to contribute significantly to the transformation of agri-food systems toward healthy, resilient, equitable, and sustainable agriculture. During the meeting, the opportunity was raised to conclude an international collaboration agreement between ISA and CREA.



The Secretariat and Maria Fernanda Mideros Bastidas. Intellectual property of the IUSS Secretariat

Meeting IUSS Secretariat- ISCAD Uzbekistan

On November 22nd, 2023, the IUSS Secretariat met the International Strategic Center for Agri-Food Development, ISCAD delegation at CREA, led by Counsellor Nuriddin Kushnazarov, Deputy Permanent Representative to the FAO, IFAD and WFP, during a visit to the Council for Research in Agriculture and Economics (CREA) in Rome.



Giuseppe Corti, Head of the IUSS Secretariat, Nuriddin Kushnazarov, Deputy Permanent Representative of Uzbekistan to the United Nations Offices in Rome, Paola Fiore, Head of CREA International Cooperation Office, Filiberto Altobelli, Head of the IUSS Secretariat, during a ceremony receiving beautiful traditional gifts from Uzbekistan. Intellectual property of the IUSS Secretariat

Stimulus Fund 2023

For the year 2023, the Stimulus Fund has been incredibly successful with many applicants and a wide array of interesting projects. For this reason, for the year 2024, the Stimulus Fund Call has been brought forward to January 15, the call will last two months and the budget for each call has been increased to 10.000\$, for a yearly total of 20.000\$.

The winners for the year 2023 are:

1. Głina Bartłomiej

Department of Soil Science and Land Protection, Poznań University of Life Sciences (Poland)

Young Scientists Meeting in Poland. Funding of 5 grants for low income and early career scientists. The 5th International Conference of Young Scientists – Soil in the Environment (SITE 2024), will be held in Warsaw, University of Life Sciences and European Centre for Geological Education and Korzecko (Poland), on 16/19.06.2024

**5th International Conference of Young Scientists – Soil in the Environment
Project Summary**

The proposed project regards the organization of the 5th International Conference of Young Scientists – Soil in the Environment (SITE 2024), which will be held at Warsaw University of Life Sciences and European Centre for Geological Education and Korzecko (Poland) on 16–19 June 2024.

Life Sciences and European Centre for Geological Education and Korzecko (Poland) on 16–19 June 2024. Detailed information are available in the conference website: <https://site-warsaw2024-sggw.hub.arcgis.com>.

The SITE conference is addressed to Young Scientists involved in widely understood Soil Science (conference themes include: soil degradation; soil remediation; soil fertility and soil contaminants; new techniques in soil analysis; soil morphology, classification and genesis; soil carbon and climate change; soils and infrastructure development; soil water management; SUTMA). The short history of SITE conferences began in 2014 (1st edition took place in Wrocław, Poland) as an idea of young soil scientists from Wrocław, Poznań and Toruń to allow meeting and idea transfer between young scientists dealing with soil science from different countries.

The success of the first edition of SITE (more than 50 participants from Poland, Lithuania and Hungary) showed that such events are of high importance for the development of modern soil science and the promotion of soil knowledge. The following two editions (held in 2016 in Poznań and in 2018 in Kraków) gathered more than 90 participants from Germany, Hungary, Lithuania, Poland and Russia. The most recent edition, held in Toruń (SITE 2022), gathered 35 participants from 12 countries. One of the significant effects of the SITE 2022 was the establishment of the Young

scientists from nearly 300 countries.

The high number of participants and the growing prestige of the Conference require much bigger commitment from the organizers and financial outlays. It is worth to note that the conference fee is still relatively low since the first edition of SITE, to allow Young Scientists participation in it. Co-funding with the IUSS Stimulus Fund will allow to cover participation costs for Young Scientists (students or post-doctoral students) from low-income and lower-middle-income economies (selected countries from Africa and Asia), who will give oral presentations during the conference.

2. Natalie Coles

British Society of Soil Science

Natalie has created soil science activity boxes to be used at outreach events and to be offered on loan to both members and non-members to support their outreach delivery. These boxes contain the resources needed to carry out a number of fun educational soil-related activities suitable for both children and adults. Aligned to our Soil Explorers resources, they have provided soil texture kits, a hand lens, jam jars and soil samples, activity leaflets, stickers, guidance notes, colouring sheets and word searches, and a number of wooden artefacts representing what comes from our soil.

**IUSS Stimulus Fund – Activity Report
Overview**

The British Society of Soil Science (BSSS) is the UK's leading body in the area of Soil Science with a global reach. We strive to secure the future of soils by promoting an enhanced understanding of the

critical importance of soils in delivering the U.N. Sustainable Development Goals and supplying knowledge, through our science, to support efforts to halt and repair soil degradation. We aim to make a positive difference in the sustainable management and long-term security of soils that is critical to solving the environmental and societal challenges we face today.

Soils are under threat globally, especially due to climate change variables, and therefore securing future interest, engagement and the next generation of researchers and professionals is key. There is a lack of mainstream education in soil science and the national curricula does not cover the topic directly, limiting public recognition of the importance of soils. Through our research, member-conversations, and Outreach Committee, we have seen a demonstrated appetite for educational materials relating to soil science from educators and related organisations.

Previously BSSS has designed and delivered engagement events for families and is seeking to expand on the achieved success. As a result, we are launching our Soil Science Loan Boxes project to further educate young people, families, and the general public on the importance of soils and to encourage further learning and engagement.

Breakdown of Costs

We will be creating soil science activity boxes to use at outreach events and to be offered on loan to both members and non-members to support their outreach delivery. These boxes will contain the resources needed to carry out a number of fun educational soil-related activities suitable for both children and adults. Aligned to our Soil Explorers resources, we will provide soil texture kits, a hand lens, jam jars and soil samples, activity leaflets, stickers, guidance notes, colouring sheets and word searches, and a number

of wooden artefacts representing what comes from our soil.

The Breakdown of Costs document that supports this activity report details all of the items that will need to be purchased to create four Soil Science Loan Boxes. This includes the boxes, lining, materials and educational resources. Alongside this, the funding will also support the creation of an online order form to ensure the process is simple and easy for users. To extend our educational resource offerings, the funding will be used for the design of new leaflets, along with printing our two Plant A Story books and stickers.



Prototype of the loan box

Launch of the Project

The prototype box was used by our Northern Soil Network Chair at [Open Farm Sunday](#) in June, and then by Professor Lorna Dawson who [engaged with farmers](#) on the importance of soils at an event in Scotland. The box was also showcased on the BSSS exhibition stand at Groundswell, where we received a lot of interest in the project and future use of the boxes.

Through the online order form, we will be able to record who is using the box, in what location, at what type of event, and to how many it is reaching. This will allow us to determine the impact of the project, the

difference that it is making, and continue to develop and expand the boxes for the future.

Impact

Through the creation of our loan boxes, we will ensure that a wider range of the public, particularly in areas where the lack of resources limit opportunities, has the ability to engage with soil science outside of formal educational settings. This will give people the confidence they require in understanding and best utilising soils within their own landscape and to make informed choices when purchasing products or services that are dependent on soils. Ultimately this will result in an improvement in biodiversity and encourage the younger generation to understand the importance of soil in responding to the climate emergency.

To measure the impact of the loan boxes, we will be recording who the boxes are loaned to, their audience, how many people have been reached and the feedback from each event. We will also be sending out a feedback survey after each loan box has been returned so that we can continue to develop and improve the project.

The Soil Science Loan Boxes will be highlighted and communicated via our different communication and social media channels, where we can measure impressions, website visits and the number of post shares. We will encourage users of the box to tweet us with pictures from their event using #soilscienceloanbox.

To expand the project further, we will be reaching out to our Corporate Partners and key organisations to encourage them to host a box on an annual basis to use for their own outreach purposes.

3. Mathilde Haghens

Wageningen University and Research, Netherlands

Support to the participation of several early-career scientists from low- and middle-income countries in the Wageningen Soil Conference 2023. (Unfortunately, it has not been possible, for time scheduling reasons, to re-lease those funds that are now frozen and will be refunded for the next conference in 2024).

4. Remigio Paradelo Núñez

Universidade de Santiago de Compostela

Support for the organization of field excursion during the 12th Conference of the IUSS Working Group on Soils of Urban, Industrial, Traffic, Mining and Military Areas, SUITMA 12. This edition has celebrated the 25th anniversary of the creation of the Working Group in 1998; the Conference showed the current state of research on the classification, properties, functions and sustainable management of anthropogenic soils (the Working Group has now been upgraded to Commission status).

12th international conference of the IUSS Working Group on Soils of Urban, Industrial, Traffic, Mining and Military Areas (SUITMA12)

From September 4 to 7, the 12th edition of the conference of the SUITMA Working Group of the IUSS took place in Santiago de Compostela (Spain). This edition has celebrated the 25th anniversary of the creation of the Working Group in 1998 by professors Wolfgang Burghardt and Jean-Louis Morel.

Human activities have altered the properties and functionality of many soils, especially in the last century, to the point that a specific approach to their study is needed. The study of urban, mining and other soils strongly affected by human activities is the main task of this working group, one of the most active of the IUSS, currently led by Kye-Hoon John Kim, from the University of Seoul, and Przemyslaw Charzynski, from the Nicolaus Copernicus University of Torun.

The Conference served to share the current state of research on the classification, properties, functions and sustainable management of anthropogenic soils. During two days of scientific sessions, nearly one hundred scientists from more than 20 countries have discussed issues such as the future challenges of research in anthropogenic soils, the mapping of urban soils, use of wastes for soil reconstruction, urban agriculture, contamination and restoration of degraded soils, and the physical properties, fertility and biology of anthropogenic soils.

In addition, four days of field trips have been organized, providing attendees with a broad perspective of the problems of anthropogenic soils in the region of Galicia (NW Spain). In the first day, a tour through the urban soils of the green areas of Santiago de Compostela was made, discussing in depth the different soil types, their specific formation factors and classification issues. On the second day, the SOGAMA urban waste treatment plant was visited and the results of the restoration of the waste dumps of Meirama lignite mine (Cerceda, A Coruña) were observed. The last two days were dedicated to the large-scale impacts of mining, with visits to the Roman gold mine of Las Médulas (León) and the world's largest slate quarrying region of Valdeorras (Ourense).

The conference, organized by the Soil Quality Assessment group of the University of Santiago de Compostela, counted with the collaboration of the City Council of Santiago de Compostela, the Galician Environmental Society (SOGAMA), the Official Mining Chamber of Galicia, and the companies Naturgy and Lignitos de Meirama.

Support from the IUSS. The President of the IUSS, Edoardo Costantini, attended the conference, participating actively in it in support for the work of the SUTMA working group.



Official poster and group photo at the Cathedral (Santiago de Compostela)



Traditional Galician music and dance and gala dinner in the Convent of San Francisco (Santiago de Compostela).



The president of the IUSS, Prof. Edoardo Costantini, at the opening ceremony of SUTMA12 and discussing one of the urban soil profiles.

Support of the IUSS Stimulus Fund: Post-conference tour

As part of SUTMA12, a post-conference tour was organized to visit the nearby regions of Valdeorras and El Bierzo, each located on one side of the border between Galicia and Castilla-León, to visit the Roman goldmine and UNESCO World Heritage Site “Las Médulas”, and the world’s largest roofing slate quarrying area.



Left: view of Las Médulas World Heritage Site. Right: landscape with slate dumps in Valdeorras.



Left: authorities at the opening of SUTMA12 (from left to right: Edoardo Costantini, President of the IUSS; Jesús López Romalde, Dean of the Faculty of Biology; Pilar Murias, Vicechancellor for Students and Culture; Goretti Sanmartín, Major of the city of Santiago de Compostela; Encarnación Rivas, Director for Land Planning and Urbanism at the regional government Xunta de Galicia; and Remigio Paradelo Núñez, chair of the organizing committee). Right: intervention of Wolfgang Burghardt and Jean-Louis Morel, founders of the working group SUTMA.

The first day of the tour was dedicated to Roman gold mining in the river Sil valley. A stop was made at the village of Montefurado (meaning “drilled hill” in Galician), whose name comes from a tunnel made in the 2nd century to change the course of the river and thus extract the gold left in the desiccated meander. Then the Archaeological Zone of Las Médulas was visited: a Roman gold mining area covering over 2000 ha, inscribed on the UNESCO World Heritage List in 1997. Nearly 15% of all Roman gold exploitation took place at this site, considered the largest Roman mine in the world. The site comprises the mines themselves as well as large areas covered by the tailings resulting from the exploitation process, a technique based on hydraulic power known as ruina montium. After two centuries of working the deposits, the Romans withdrew, leaving a devastated land-scape. Since there was no subsequent industrial activity on the site, the large-scale traces of this activity are still visible today.



Discussion on a soil profile developed on Miocene deposits and group photo in Las Médulas

The second day was dedicated to the roofing slate quarrying area of Valdeorras (Ourense). High production of wastes, either in the open-cast exploitations or in the processing plants where slate blocks are reduced to usable thin sheets, is the most important environmental impact of the industry. These wastes are accumulated every-where in the area in increasingly large deposits, often inhospitable to plant growth because of the lack of fine materials, poor water-holding capacity and limited capability to supply plant nutrients. Dr. Víctor Cárdenes, ge-ologist at the University of Oviedo and world leading expert in roofing slates, co-guided the visit, which included an active quarry, several slate dumps, and a soil profile in a restored dump.



Group photo of the participants at a roofing slate quarry in Casaio (left) and in a restored slate dump in O Barco (right)

5. Elisangela Benedet Da Silva

Empresa de Pesquisa Agropecuária e Extensão Rural de Santa Catarina – EPAGRI, Brazil

Funds to support the 1st Latin American Soil Judging Contest to be held in association with the SOLOS FLORIPA 2023



The Contest was held on July 26th, 27th and 28th, 2023 in São Joaquim, Santa Catarina (SC), Brazil. Accommodation and meals: Epagri training center (CETREJO) in São Joaquim, SC, Brazil. Soil Judging Contest: Epagri Experimental Station in São Joaquim (EESSJ), SC, Brazil.



1. Overall budget of 1st Latin American Soil Judging Contest.

Preparation trips for the 1st Latin American Soil Judging Contest	Period	Value US\$	Paid by
Staff Accommodation, Food and Fuel	18 – 20/05/2022	109.82	IUSS FUND 2023 refund
	6 – 8/07/2022	270.98	IUSS FUND 2023 refund
	8 – 10/03/2023	800.12	IUSS FUND 2023 refund
	1 – 02/06/2023	207.88	IUSS FUND 2023 refund
	18 – 25/07/2023	113.90	IUSS FUND 2023 refund
Speakers Accommodation and Food (Florianópolis)	25–26/07/2023	102.72	IUSS FUND 2023 refund
Backhoe Service	21/07/2023	300.00	IUSS FUND 2023 refund
Augers	15/06/2023	570.59	IUSS FUND 2023 refund
Sub-total		2,476.02	IUSS FUND 2023 refund
CETREJO Room Rental	26 – 28/07/2023	66.00	SOLOS FLORIPA 2023
6 Trophies (awards)	-	180.00	SOLOS FLORIPA 2023
Transport – bus (Florianópolis – São Joaquim – Florianópolis)	26–29/07/2023	1,000.00	SOLOS FLORIPA 2023
Staff Accommodation and Food – CETREJO	26–29/07/2023	673.20	SOLOS FLORIPA 2023
Materials	31/05/2023	59.40	SOLOS FLORIPA 2023
Sub-total		1,978.60	SOLOS FLORIPA 2023

Preparation trips for the 1st Latin American Soil Judging Contest	Period	Value US\$	Paid by
Teams Accommodation and Food - CETREJO	CE-26-29/07/2023	374.00	1 NRS-SBCS
Accommodation and Food - CETREJO	CE-26-29/07/2023	374.00	2 NRS-SBCS
Accommodation and Food - CETREJO	CE-26-29/07/2023	374.00	NEPR-SBCS
Accommodation and Food - CETREJO	CE-26-29/07/2023	374.00	Spain
Sub-total		1,496.00	Teams
Total		5,950,62	

2. Staff of 1st Latin American Soil Judging Contest.

Country	Staff	Function	Institution
Brasil	Elisângela Benedet da Silva	President of SOLOS FLORIPA 2023	Epagri
Brasil	Arcangelo Loss	Coordinator	Federal University of Santa Catarina
Brasil	Fabício de Araújo Pedron	Coordinator	Federal University of Santa Maria
Brasil	Lúcia Helena Cunha dos Anjos	Speaker and judge	Federal Rural University of Rio de Janeiro
Espanha	Rosa Maria Poch Claret	Speaker and judge	University of Lleida
Brasil	Érico Albuquerque dos Santos	Speaker and monitor	Federal University of Santa Catarina
Espanha	Alan C. Bastistão	Monitor	Federal University of Santa Catarina
Brasil	Alessandro Samuel Rosa	Monitor	Federal Technological University of Paraná

3. Teams of 1st Latin American Soil Judging Contest.

Teams	Country	Coach	Students	University
1 NRS-SBCS	Brazil	Pablo Miguel	José Vitor Peroba Rocha	Federal University of Pelotas (UFPel)
1 NRS-SBCS	Brazil		Larissa Werle	Federal University of Santa Maria (UFSM)
1 NRS-SBCS	Brazil		Agnes Estela Fontana	Federal University of Santa Maria (UFSM)
1 NRS-SBCS	Brazil		Gabriel Phelipe Nascimento Rosolem	Federal University of Santa Catariana (UFSC)
2 NRS-SBCS	Brazil	Pablo Miguel	Adão Pagani Junior	Federal University of Pelotas (UFPel)
2 NRS-SBCS	Brazil		Estefany Pawlowski	Federal University of Santa Maria (UFSM)
2 NRS-SBCS	Brazil		Alice Prates Bisso Dambroz	Federal University of Santa Maria (UFSM)
2 NRS-SBCS	Brazil		Vanessa dos Santos Dornelles	Federal University of Fronteira Sul (UFFS)
NEPR-SBCS	Brazil	Taciara Zborowski Horst	Fernanda Jutkoski	Federal Technological University of Paraná (UTFPR)
NEPR-SBCS	Brazil		Ana Caroline Pretto	Federal Technological University of Paraná (UTFPR)
NEPR-SBCS	Brazil		Vitor Peruzzi de Almeida	Federal Technological University of Paraná (UTFPR)
NEPR-SBCS	Brazil	Jorge Mataix Solera	Débora Liriel	Federal Technological University of Paraná (UTFPR)
	Spain		Kerber Kempner	Miguel Hernandez University of Elche
	Spain		Jose Carlos Leal	Polytechnic University of Madrid
	Spain		Andoni Alfaro Leránoz	University of Zaragoza
	Spain		Ana Paula Conte Domínguez	University of Lleida

4. Programming of 1st Latin American Soil Judging Contest.

1st Latin American Soil Judging Contest São Joaquim, SC, Brazil	Place
26/07/2023 Trip Florianópolis – São Joaquim (bus and support car) Arrival in São Joaquim, SC Reception and Lunch Theoretical training Lecture: Criteria, Hierarchical Levels and Soil Classes in Soil Taxonomy with Dr. Lúcia Helena Cunha dos Anjos Lecture: Geology, Geomorphology and Pedology of the Municipality of São Joaquim, State of Santa Catarina with Dr. Arcangelo Loss and Érico Albuquerque dos Santos Lecture: Criteria and Groups of Reference Soils in the WRB with Dr. Rosa Maria Poch Claret Dinner Overnight stay	Florianópolis CETREJO CETREJO CETREJO CETREJO CETREJO CETREJO CETREJO
27/07/2023 Breakfast Trip (bus and support car) Field Training Lunch Field Training Dinner	CETREJO D'alture Winery CETREJO Villaggio Bassetti Winery CETREJO
28/07/2023 Breakfast Trip (bus and support car) Soil Judging Contest Lunch Soil Judging Contest Fellowship Dinner and Announcement of Award Winners	CETREJO EESSJ EESSJ CETREJO EESSJ CETREJO
29/07/2023 Trip São Joaquim – Florianópolis (bus and support car)	São Joaquim
08/02/2023 Winners’ Awards Announcement	Social Dinner of the SOLOS FLORIPA 2023

Overall category results:

- 1st placeTeam 2 – Spain (Coach Jorge Mataix Solera)
- 2nd placeTeam 3 – Brazil (Coach Taciara Zborowski Horst)
- 3rd placeTeam 4 – Brazil (Coach Pablo Miguel)

Category teams results:

- 1st placeTeam 1 – Brazil: Adão Pagani Junior/UFPel, Estefany Pawlowski /UFSM, Alice Dambroz/UFSM e Vanessa Dornelles/UFFS. Coach = Pablo Miguel
- 2nd placeTeam 2 – Spain: Andoni Lejano, José Carlos Alcubilla, Ana Paula Domínguez e Javier Fuentes. Coach = Jorge Mataix Solera
- 3rd placeTeam 3 – Brazil (UFTPR): Fernanda Jutkoski, Ana Caroline Pretto, Vitor Peruzzi e Debora Kempner. Coach = Taciara Zborowski Horst
- 4rd placeTeam 4 – Brazil: Gabriel Rosolem/UFSC, Larissa Werle/UFSM, Agnes Fontana/UFSM e José Vitor Peroba/UFPel. Coach = Pablo Miguel

Individual category results:

- 1st placeJavier Nadal Fuentes – Universidad Miguel Hernández, Spain.
- 2nd placeFernanda Jutkoski – Universidade Tecnológica Federal do Paraná, Brazil.
- 3rd placeJosé Vitor Peroba – Universidade Federal de Pelotas, Brazil.

Photographic Report



Team at the Epagri Training Center in São Joaquim, SC, Brazil



Training in the field in the D'alture Winery in São Joaquim, SC, Brazil



1st Soil Judging Contest Day at Epagri Experimental Station and Epagri Training Center in São Joaquim (EESJ and CE-TREJO), SC, Brazil

SOLOS FLORIPA 2023 website and social media

Site: <https://solosfloripa2023.com.br/>

Linktree: https://linktr.ee/solosfloripa?utm_source=linktree_profile_share

Social Media: <https://www.instagram.com/solosfloripa2023/> <https://www.facebook.com/clacs.cbcs2023/>

News published in local media

<https://www.epagri.sc.gov.br/index.php/2023/07/24/solos-floripa-sao-joaquim-sedia-a-i-competicao-latino-americana-de-solos-de-26-a-28-de-julho/>

<https://comunicacion.umh.es/2023/06/27/la-sociedad-espanola-de-la-ciencia-del-suelo-selecciona-a-un-estudiante-de-la-umh-para-la-i-competicion-de-suelos-de-america-latina/>

<https://sbcs-nepar.org.br/noticias/nepar-comemora-resultados-de-equipe-paranaense-em-competicao-latino-americana-de-solos/>

Photographic Credits:

- Activities at Costão do Santinho Resort: Sandra Puente and Nilva Damian (Equipe Dois Cks Fotografias).
- 1st Latin American Soil Judging Contest: photographs provided by participants.



Individual and team awards of the 1st Latin American Soil Judging Contest in SOLOS FLORIPA 2023, Florianópolis, SC, Brazil

3rd EJICS – Young Meeting Soil Science Researchers, Coyhaique, Western Patagonia. (postponed to April 2024).
To develop a propitious environment for the new generation of soil scientist researchers and the consolidated generation of soil scientists to allow create new linkages between them and strengthen the existing ones.

3rd EJICS – Young Meeting Soil Science Researchers

EJICS is an acronym that means opportunities, for what?
To develop a propitious environment for the new generation of soil scientist researchers and the consolidated generation of soil scientists to allow create new linkages between them and strengthen the existing. EJICS started in 2016 at Universidad Austral de Chile; the second version was developed at Universidad de Concepción in 2020.
The 3rd version of EJICS will be realized in Coyhaique, Western Patagonia from 17 to 19 of January 2024 in a commonwealth effort between Universidad Austral de Chile and Universidad de Aysén.
Web page of the EJICS 2024 link: <https://ejics.cl/>

The focus of this version of EJICS aims to highlight the local relevance of soil problematics e.g., land use change from natural or agricultural ecosystems to subdivisions for building houses in not adequate areas. Also, it is considered for this version the invitation to relevant local agents from the government institutions as well as representatives of

peasant family farming of the Aysén region.
The focus of this version of EJICS aims to highlight the local relevance of soil problematics e.g., land use change from natural or agricultural ecosystems to subdivisions for building houses in not adequate areas. Also, it is considered for this version the invitation to relevant local agents from the government institutions as well as representatives of peasant family farming of the Aysén region.

A successful activity requires an adequate dissemination program that considers building a webpage and maintaining its domain, audio-visual records of the field trip and the conference, and diffusion of the activity in regional and national mass media (i.e., radio, social media, newspapers), creation of event posters interviews of the participants and key speakers among others. All the products generated by dissemination activities will carry the IUSS logo.

It is expected that the participation among students, researchers, public and private sector, and farmers could be close to 100 people. The dissemination expenses related to activities of the conference are US\$ 2,500 which is the maximum budget that IUSS Stimulus Fund offer. A detail of the budget could be found in the follow pages. The dissemination quote was calculated in Chilean pesos (CLP) and will vary according to the dollar value.

Kind regards and awaiting your decision.

Training Workshops on Soil Science for Students and Farmers in Fako Division, Cameroon, covering soil fertility, soil conservation, and sustainable agriculture. The overarching purpose of this project was to address the pressing need for increased knowledge and awareness of soil science among the agricultural community in Fako Division, Cameroon. By empowering both students and farmers with the tools and knowledge required for sustainable soil management, we aimed to enhance agricultural productivity, food security, and environmental sustainability in the region. The project had specific focus on soil fertility, soil conservation, and sustainable agriculture.

Activity Report

Introduction: This grant report provides a comprehensive overview of the Training Workshops on Soil Science for Students and Farmers project conducted in Fako Division, Cameroon, focusing on soil fertility, soil conservation, and sustainable agriculture.

The project aimed at raising awareness, build capacity, and promoting sustainable soil management practices among students and farmers in Fako Division, Cameroon.

This report outlines the project's purpose, scope, methods, activities, outcomes and appendix list. Purpose: The overarching purpose of this project was to address the pressing need for increased knowledge and awareness of soil science among the agricultural community in Fako Division, Cameroon.

By empowering both students and farmers with the tools and knowledge required for sustainable soil management, we aimed to enhance agricultural productivity, food security, and environmental sustainability in the region.

The project had specific focus on soil fertility, soil conservation, and sustainable agriculture. Scope: The project's scope encompassed a range of activities designed to educate and empower participants.

Workshop Report Buea, Cameroon October 10, 2023

- *Introduction to Soil Science:* The workshops provided a comprehensive understanding of soil science, covering topics such as soil composition, structure, and nutrient dynamics.
- *Soil Fertility and Plant Nutrition:* Participants learned about soil fertility assessment techniques and strategies for improving soil fertility through appropriate nutrient management.
- *Plant Response to Soil Nutrients Deficiencies:* Symptoms, Identification and Sustainable remedies.
- *Soil Conservation Techniques:* Demonstrations and discussions focused on erosion control, soil erosion prevention, and other soil conservation practices.
- *Sustainable Agriculture:* The workshops explored sustainable farming methods that optimize crop yields while minimizing environmental impact, including organic farming and agroecological approaches.
- *Methods:* Our approach combined various methods to ensure effective knowledge transfer:
- *Expert-led Workshops:* Expert trainers facilitated theoretical sessions and practical demonstrations.
- *Group Discussions:* Participants engaged in group discussions to share experiences and

best practices.

- *Field Visits:* A field visit to a demonstration farm practicing sustainable agriculture allowed participants to witness real-world applications.

Activities:

1. *Participant Selection:* A total of 150 participants were carefully selected, comprising 75 students and 75 farmers. Selection criteria of first come first serve were established in collaboration with the Faculty of Agriculture and Veterinary Medicine Association (FAVEMSA) and the Ministry of Agriculture and Rural Development (MINADER).
2. *Training Workshops:* Three-day training workshops were conducted, offering a comprehensive curriculum on soil science, soil fertility, soil conservation, and sustainable agriculture.
3. *Field Visit:* Participants visited a local farm where they observed sustainable soil management practices in action, reinforcing their learning.

Outcomes of the Workshop: The workshop achieved several significant outcomes:

1. *Increased Awareness:* Participants developed a heightened awareness of the critical role of soil management in agriculture.
2. *Enhanced Knowledge:* Both students and farmers gained a deeper understanding of soil science concepts and practical applications.
3. *Practical Skills:* Farmers acquired hands-on skills for sustainable soil management, which they are actively implementing on their farms.

4. *Positive Feedback:* Participant feedback was overwhelmingly positive, emphasizing the workshop's effectiveness and relevance.
5. *Creation of WhatsApp group:* Due to exciting, effectiveness and relevance of the training workshops, participants requested the creation of a WhatsApp group such that experts can keep track of their activities as well as participants falling back on the experts if they face any challenge while also highlighting the need for such trainings to be organized frequently.

Appendix/List:

1. Workshop Agenda and Schedule
2. Workshop Materials (Some Presentation Slides, T-shirts, Badges, Pictures)
3. Some certificates produced
4. Financial Expenditure Report. This report highlights our commitment to advancing sustainable agriculture and soil management in Fako Division, Cameroon. We extend our sincere appreciation to the International Union of Soil Science for their generous support in making this project possible.

News from national and regional Soil Science Societies

News from the German Soil Science Society (DBG)

Biannual Conference held in Halle/Saale, 2-8 September, 2023

On November 22nd, 2023, the IUSS Secretariat met the International Strategic Center for Agri-Food Development, ISCAD delegation at CREA, led by Counsellor Nuriddin Kushnazarov, Deputy Permanent Representative to the FAO, IFAD and WFP, during a visit to the Council for Research in Agriculture and Economics (CREA) in Rome.



The "Heide Campus" in Halle was the perfect venue.



Excursion to soils formed from limestone and gypsum in the Kyffhäuser Mts.

Our biannual conference, which traditionally has the character of a "family reunion", had an outstanding turnout with nearly 750 participants this September. The conference started during the weekend with exciting excursions offered to the near and far surroundings of the city of Halle, which is situated in Central Germany. As in previous years, participation offered the opportunity to not only get to know various natural and cultivated landscapes from a pedological perspective, but also provided a great opportunity for networking.

On Monday, presentations focused on pressing topics such as plastics in soils, soil sensors, soil biodiversity and many other aspects. Particularly unique was Monday morning's session on "Soil Art Today", which featured a panel discussion and was accompanied by an art exhibition that was opened the same evening. Throughout the conference, the goal was to facilitate a dialogue between art(ists) and soil scientists.



tunities to participate in peer reviewing.

Another event titled "Meet the Professionals" offered opportunities to get to know areas and representatives from various professional fields, including spatial and environmental planning, groundwater protection, hazardous waste and contaminated site management, and basic and applied science.

During Tuesday's plenary session, all members listened to two exciting invited presentations. The first speaker was Prof. Cees Veerman, the former Dutch Minister of Agriculture and current Chairman of the EU Mission Board "Soil health and Food". He informed about current developments and challenges at European level in his keynote lecture on "For the health of the soil - and how soil science should get involved". This presentation was followed by a keynote speech given by Dr. Christoph Schulte, head of the "Water and Soil" department at the German Federal Environment Agency (UBA).

Poster sessions took place on Monday and Wednesday. One session was held outside on the campus, where attendees enjoyed the pleasant evening sun. It was the first "outdoor poster session" to be held at a DBG conference. A total of 8 poster prizes were awarded to young scientists this year.

Thursday marked the last day of the conference and was filled with a wide variety of session topics. The engaging talks and symposia continued until late into the afternoon with intensive discussions about topics including soil organisms and global change in regard to land use changes and land use intensity.



During the opening of the art exhibition – The invited artists Veronika Pfaffinger (center) and Betty Beier (right) together with Prof. Alex Toland (Bauhaus University Weimar) in front of the installation "Wiesenstücke" by V. Pfaffinger. © K.H. Feger

The programme designed for and by young soil scientists was also very diverse. There were several opportunities during the lunch breaks, such as the "Meet the Editors" event, where exclusive insights into the publication process were provided in an open discussion with editors of internationally renowned journals covering soil science, but also neighbouring disciplines. Main topics were the role of impact factors, the responsibility of reviewers and editors, expectations for submissions and opportunities to participate in peer reviewing.

Over 300 talks were presented during this year's DBG conference that dealt with various aspects of soil science. The sessions were well attended and the scientific programme was very diverse. Additionally, the side programme was met with great interest.

In addition to numerous international participants, we had the honour to host Ukrainian and Russian scientists who fled to other European countries for well-known reasons. We are very grateful for the interesting, open exchange of thoughts and ideas with them during this year's conference! The DBG considers itself as closely connected with scientists from all nationalities, religions and disciplines. Thus, the conference offered an excellent opportunity to strengthen the soil community, now and in the future.

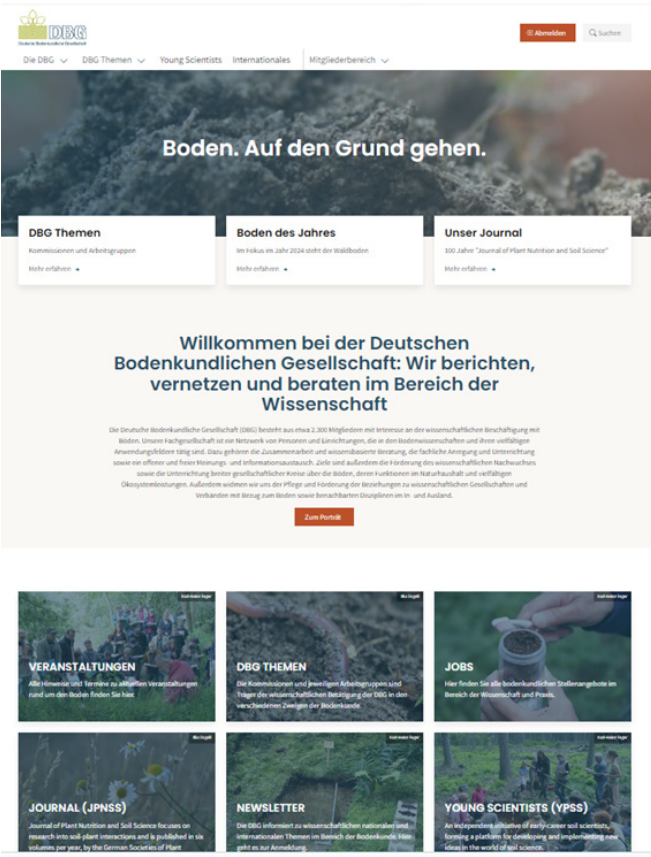
The next DBG conference will take place in Tübingen (SW Germany) from September 13th – 18th, 2025. We expect a large number of participants, also from our neighbouring countries Austria and Switzerland. Therefore, we are looking forward to seeing all of you again soon!

Launch of our new website

We are happy to inform you that we will launch our new website in January 2024. If you have any events, interesting for our members, please do not hesitate to contact us.



The audience of the well-attended festive event and member assembly. © DBG/S. Reichhold



Italian Society of Soil Science

Congress “Synergies in the soil-plant system for environmental protection and food safety”

From 12th to 15th September 2023, the 3rd Joint Soil, Plant, Environment Congress “Synergies in the soil-plant system for environmental protection and food safety”, took place in the Aula Magna “Gian Pietro Ballatore” of the Department of Agricultural, Food and Forestry Sciences of the University of Palermo. The Congress was jointly organized by the Italian Society of Agricultural Chemistry (SICA), the Italian Society of Soil Science (SISS) and the Italian Society of Pedology (SIPE).



Aula Magna “Gian Pietro Ballatore” of the Department of Agricultural, Food and Forestry Sciences of the University of Palermo venue of the 3rd Joint Soil, Plant, Environment Congress “Synergies in the soil-plant system for environmental protection and food safety”.

The Congress attracted more than 160 scholars, more than half of which are young researchers including PhD students, research fellows and scholarship holders, confirming the interest in the topics covered, and the dynamism and continuous updating of the three Scientific Societies.

The overall theme of the congress was the multifunctional centrality of soils for the global environmental sustainability. In particular, 5 sessions were held: 1. Plant systems for sustainable development, 2. Environmental protection for the ecological transition, 3. Soil interactions for the multifunctionality of agricultural and forestry systems, 4. The contribution of the soil for ecosystem protection and food security and 5. Soil, climate change and sustainable development.

The invited introductory talks to the five sessions were given, respectively, by Prof. Gian Attilio Sacchi (“Plant systems for sustainable development”), Dr. Pandi Zdruli (“Environmental protection for ecological transition: what role could soils play?”), Prof. Paolo Nannipieri (“Can the plant persistently modify the biochemical activities of the soil?”), Prof. Gloria Falsone (“The contribution of the soil to the protection of ecosystems and food security”) and Prof. Michele Freppaz (“Soil, climate change and sustainable development”).

Oral presentations within these sessions fostered engaging debates and information exchanges, highlighting the pivotal role of the soil-plant system for the environmental sustainability. Furthermore, during each session several posters were presented (over 80 posters in total) to testify the intense scientific activity carried out by the members of the three Scientific Societies.

The congress concluded at the hosting Department with awards for the best oral presentations and posters within each session. The winners for the best oral presentations were Dr. Stefano Ambrosini with the report entitled “Study of the mechanisms of action of a protein hydrolyzate deriving from collagen through an innovative integrated physiological-bioinformatic approach” during Session 1, Dr. Leilei Zhang with the report entitled “Investigation of the effect of Plant Growth Promoting Rhizobacterium and Mycorrhiza Arbuscola in the modulation of stress triggered by Zinc and Cadmium in tomatoes through the use of omics techniques” during Session 4, Dr. Alice Boarino with the report entitled “Controlled release lignin-phosphate nano-fertilizers” during Session 2, Dr. Mauro De Feudis with the report entitled “Response of plant and soil to different pruning intensities” in Session 3 and Dr. Elettra Longobardi with the report “Modelling the distribution of soil organic carbon stock according to different uses in the central Apennines (Molise Region)” given in Session 5.

Scientific and cultural excursions organized on the last day of the congress aimed at providing participants with insights into various cultural landscapes of the southern part of Sicily.

The first part of the day was dedicated to an excursion concerning “Anthropogenic soils in high-income viticulture: physical, microbiological, taxonomic, economic and ecosystem characteristics” and took place at the Azienda Agricola F.lli Di Salvo, a leading company in intensive and high-income viticulture for the production of table grapes, in the countryside of Palma di Montechiaro (Agrigento province). Following intensive exploitation, soils here have undergone a profound transformation by man. The intense anthropic activity on the soil was highlighted by comparing an undisturbed soil (Chromic Vertisol) and the one resulting from its “anthropic” transformation (Pantoterric Anthrosol). Colleagues from the sectors of agricultural microbiology (Prof. Luca Settanni), horticulture (Prof. Antonino Pisciotta) and agricultural economics (Prof. Antonino Galati) also participated in the description of the pedotechniques used, which contributed to the transformation of the pedo-landscape.



Participants of the 3rd Joint Soil, Plant, Environment Congress gathering at the Valley of the Temples in Sicily.

The excursion ended with a guided visit to the Archaeological Park of the Valley of the Temples. This vast 1,300-hectare park safeguards an extraordinary monumental and landscape heritage, including the remnants of the ancient city of Akragas and the surrounding territory stretching to the sea.

Brazilian Soil Science Society (SBES) XI Brazilian Symposium on Soil Education (XI SBES)

December 4–8, 2023

The Brazilian Soil Education Symposium (XI SBES) was promoted by the SBCS Midwest Regional Centre and held by the Palmeiras de Goiás Unit of the State University of Goiás (UEG), in partnership with the Federal University of Grande Dourados (UFGD) and other institutions.

It was held at the State University of Goiás – University Unit of Palmeira de Goiás, in Palmeiras de Goiás – GO under the chairmanship of Professors Adriana Ribon (UEG) and Paula Pinheiro (UFGD).

The Symposium’s central theme was “Soil education and its multiple horizons”, addressing the multidisciplinary present in the most diverse areas, such as: basic and higher education, agriculture, rural extension, urban soils, inclusion and gender equality through the construction of the concept of soils in the form of art with paints, poetry, theatre, characters, reading stories and other playful activities, with the aim of broadening the public’s view of the most diverse horizons that Soil Education contemplates. According to the organisers, the purpose was to unite those who care for soils with their different perspectives, in order to integrate the multidisciplinary approach underlining that Soil Education is a necessary present and future aspiration for all generations. XISBES also celebrated World Soil Day and the 75th anniversary of the Brazilian Soil Science Society.

British Society of Soil Science Iale UK workshop: Introduction to using meteorological and hydrological data for ecologists

4 December 2023

Location: Brian Hoskins Building, University of Reading

This workshop, organised by the International Association for Landscape Ecology and supported by Scenario DTP, aimed to provide an introduction for those from non-meteorological/hydrology backgrounds to obtaining, downloading and processing large met/hydrology files.

The morning presentations gave introductory explanations, including on the basics of common file formats used for climate data, available products from organisations such as the Met Office and ECMWF, and on how to use these products in R. The support team from JASMIN (supercomputing facility for NERC-funded researchers) was present to explain how to use the platform to process large datasets and run models in R. The after-noon help-desk style workshop provided a chance for participants to ask experienced demonstrators for advice on any climate and hydrological data problems.

The workshop was open to all researchers, including PhD students just starting out to established researchers who want to know how to improve the efficiency of how they work with large met/hydrology datasets.

News from the Divisions

Report from Division 1 – Soil in Space and Time

Division 1 deals with the soil body in the landscape context. The Commissions and Working Groups coordinate and harmonize research activities on observation, genesis, classification and mapping of the soil body and landscapes and communicate results to the soil science community, soil users and the general public.

Structure and officers:

Chair: Richard J. Heck/Canada

Past Chair: Erika Micheli/Hungary

Vice Chair IUSS Centennial: Stefania Cocco/Italy

1st Vice Chair 23rd WCSS: Ganlin Zhang/China

2nd Vice Chair 23rd WCSS: Ying Zhang/China

Commissions and Working Groups:

Commission 1.1 – Soil Morphology and Micromorphology

Commission 1.2 – Soil Geography

Commission 1.3 – Soil Genesis

Commission 1.4 – Soil Classification

Commission 1.5 – Pedometrics

Commission 1.6 – Paleopedology

Working Group – Cryosols

Working Group – Digital Soil Mapping

Working Group – Global Soil Map

Working Group – International Soil Judging Contest

Working Group – Proximal Soil Sensing

Working Group – Soil Information Standards

Working Group – Universal Soil Classification

Working Group – World Reference Base

Recent and Scheduled Upcoming Activities

Commission 1.1 – Soil Morphology and Micromorphology (Chair: Fabio Terribile/Italy; Vice Chair: Adam Csorba/Hungary):

- Reading the Soil in Archaeology: Field Practice and Interdisciplinary Perspectives. 2023 Archeosol Meeting, Tours, France; 29 November to 01 December 2023;
- Newsletter 03/23;
- Archaeological Soil Micromorphology short course. London, UK, 10 to 17 February 2024;
- International Conference on Soil Micromorphology (ICoSM). Puno, Peru; 02 to 10 December 2024.

Commission 1.2 – Soil Geography (Chair: Sergey V. Goryachkin/Russia; Vice Chair: Eduardo Guimarães Cou-to/Brazil):

- International Conference on Cryopedology–Permafrost–Affected Soils in the Anthropocene. Sal-ekhard/Labytnangi, Yamal-Nenets Autonomous District, Russia, 20 to 26 August 2023;
- XIV International Symposium and Field Workshop on Paleopedology–Soils as Memory of Contemporary and Paleo–Environments. Las Cruces/NM, USA, 07 to 15 October 2023 (with Commission 1.6).

Commission 1.3 – Soil Genesis (Chair: Endre Dobos/Hungary; Vice Chair: Yuji Maejima/Japan):

- International Soil Day Celebration “Soil of Hungary 2023”
- 7th International Soil Classification Congress. Hokkaido, Japan, 3 to 9 June 2024 (with Commission 1.4)



A frame of the event

Commission 1.4 – Soil Classification (Chair: Cornelius van Huyssteen/South Africa; Vice Chair: David Badía-Villas/Spain):

- World Reference Base for Soil Resources Field Workshop. Catalonia, Spain; 17 to 24 September 2023 (with World Reference Base Working Group)
- 7th International Soil Classification Congress. Hokkaido, Japan, 3 to 9 June 2024 (with Commission 1.3)

Commission 1.5 – Pedometrics (Chair: Alexandre Wadoux/France; Vice Chair: Simone Priori/Italy):

- Pedometrics 2024: Addressing the 10 Challenges. Las Cruces/NM, USA; 5 to 9 February 2024



Commission 1.6 – Paleopedology (Chair: Maria Bronnikova Russia; Vice Chair: Elizabeth Sollei-ro-Rebolledo/Mexico):

- XIV International Symposium and Field Workshop on Paleopedology-Soils as Memory of Contemporary and Paleo-Environments. Las Cruces/NM, USA, 7 to 15 October 2023 (with Commission 1.2)



A frame of the event

Cryosols Working Group (Chair: Alexei Lupachev/Russia; Vice Chair: Adrian Unc/Canada):

- International Conference on Cryopedology-Permafrost-Affected Soils in the Anthropocene. Sal-ekhard/Labytnangi, Yamal-Nenets Autonomous District, Russia, 20 to 26 August 2023 (with Commission 1.2)
- International Conference on Permafrost (ICOP). Whitehorse/YK, Canada, 15 to 21 June 2024;



A frame of the event

Digital Soil Mapping Working Group (Chair: Laura Poggio/Netherlands; Vice Chair: Alessandro Samuel Ro-sa/Brazil):

- Pedometrics 2024: Addressing the 10 Challenges. Las Cruces/NM, USA, 5 to 9 February 2024 (with Commission 1.5)

International Soil Judging Contest Working Group (Chair: Erika Micheli/Hungary; Vice Chairs: Brian Needel-man/USA& John Galbraith/USA):

- 1st Working Group Meeting. Virtual, 4 December 2023

World Reference Base Working Group (Chair: Cezary Kabala/Poland; Vice Chair: Stephan Mantel/Netherlands):

- World Reference Base for Soil Resources Field Workshop. Catalonia, Spain, 17 to 24 September 2023 (with Commission 1.4)
- 7th International Soil Classification Congress. Hokkaido, Japan, 3 to 9 June 2024 (with Commissions 1.3 & 1.4)

World Soil of the Year Task Force (Chair: Richard J. Heck/Canada):

- Organizational Meeting. Virtual, 25 October 2023



A frame of the event

Report of Division 3 – Soil Use and Management

Division 3 focuses on how we use the soil and how it links to the knowledge base of Divisions 1 and 2 to ensure that soils are used and managed in a sustainable manner.

The Division is concerned with both soil use and management in terms of agricultural production, forestry, grazing lands, and the broader environmental context. Activities to remediate degraded soils arising from agricultural misuse or contaminations resulting from agricultural or non-agricultural activities are part of the scientific area of this Division.

The aim is to ensure maintenance and improvement of soils and soil quality through our knowledge and understanding of soil properties and processes and the distribution of soils within the landscape

Structure and officers:

Chair: Renfang Shen, China

Vice-chair: Fusuo Zhang, China

Vice-chair Centennial: Giuseppe Lo Papa, Italy

Commission 3.1 – Soil evaluation and land use planning

Commission 3.2 – Soil and water conservation

Commission 3.3 – Soil fertility and plant nutrition

Commission 3.4 – Soil engineering and technology

Commission 3.5 – Soil degradation control, remediation, and reclamation

Commission 3.6 – Salt-affected soils

Working Group – Acid sulphate soils

Working Group – Forest soils

Working Group – Paddy soils

Working Group – Soils of urban, industrial, traffic, mining and military areas (SUITMA)

Division Chair Report

Prof. Renfang Shen took over the position of Division Chair from Dr. Abbey Wick in September 2023. He joined the IUSS Executive Committee meetings on September 27, October 6 and October 27. Also, after collecting the mailing list of Division officers, Prof. Shen contacted them with greetings and organized a divisional meeting on November 16 during which SUITMA proposals, the Division budget, sessions in the IUSS Centennial and the Inter-Congress and other issues were discussed.

The finalized draft minutes were sent for revision to all Division members.

- The 11th International Symposium on Plant-Soil Interactions at Low pH (11th PSILPH) was successfully held on October 16–20 in Nanjing, China. The Symposium with the theme “Sustainable utilization of Acid Soils”, attracted 260 representatives from ten countries. Prof. Renfang Shen served as Chair of the Organizing Committee of PSILPH.
- Prof. Renfang Shen was re-elected as the Vice President of the Chinese Association of Agricultural Science Societies (CAASS) in December 2023.

Commission 3.1 – Soil evaluation and land use planning

Chair: Jagdish Prasad, India

Vice-chair: Morihiro Maeda, Japan

Events:

- Dr. Jagdish Prasad chaired the Technical Session “Soil Morphology/Soil Geography, Soil Genesis, Soil Evaluation and Land Use Planning” during the 87th Annual Convention of the Indian Society of Soil Science held at ICAR-Indian Institute of Soil Science, Nabibagh, Bhopal, (October 03–06, 2023) and presented the report in the concluding session.

- Keynote speech by Morihiro Maeda entitled “Wise use of organic waste for environmentally positive agriculture” during the Ruhuna International Conference on Innovation and Technology–2023 (RICIT 2023) held on 24 November in Sri Lanka.
- Summer school lectures by Morihiro Maeda at Nong Lam University, Vietnam on 29 September.
- Keynote speech by Morihiro Maeda “Collaboration research project between Vietnam Kaken Team and HUIB: Proposal of regionally available biomass waste compost with useful functions and less environmental impacts based on scientific evaluation of local and indigenous knowledge in Vietnam” during an International Seminar at Institute of Biotechnology, Hue University, Vietnam, 22 December.

Awards and honors:

- Dr. Jagdish Prasad has been nominated as Chief Editor of “Agropedology”, a Journal published by the Indian Society of Soil Survey and Land Use Planning, Nagpur, India.
- Dr. Jagdish Prasad has been nominated as Associated Chief Editor of “Agricultural Reviews”, a Journal published by the Agricultural Research Communication Centre, Karnal, India.

Funds and projects:

- Morihiro Maeda, Proposal of sustainable composting methods based on the reevaluation of Vi-etnamese indigenous compost from viewpoints of its functions and environmental loadings (JSPS Fostering Joint International Research, 2020–2023)

- Morihiro Maeda, Development of sediment microbial fuel cells for water quality improvement in shrimp ponds and small-scale energy power generation in Central Vietnam (JSPS Bilateral Joint Research Projects, 2021–2023)

Commission 3.2 – Soil and water conservation

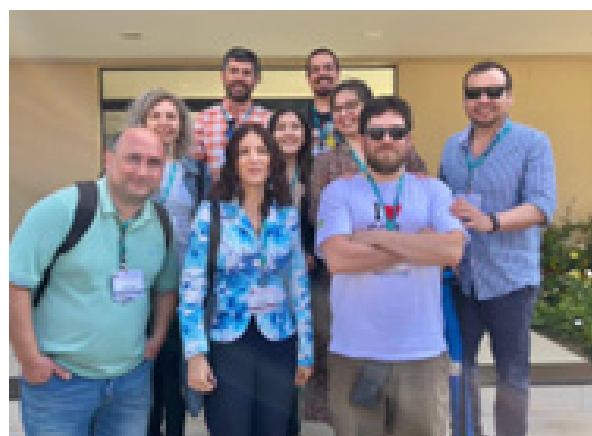
Chair: Lillian Øygarden, Norway

Vice-chair: Dorota Agnieszka Dec, Chile

Events:

- Dorota Dec: The XXIII Latin American Congress of Soil Science (CLACS) and the XXXVIII Brazilian Congress of Soil Science (CBCS), in the framework of the CBCS VIII Latin American Symposium on Educational Innovations in Teaching Soil Science held from July 30th to August 4th, 2023 in Florianópolis, SC. The topic of the Congress covered: Soil in today’s society, its impacts on agriculture, biomes (natural disasters), climate change, global warming, water and food security, rural and urban planning. The environmental importance of the natural resource soil and its role in economic and development of Brazil, Latin America and the Caribbean. Dorota Dec presented one work as main author and participated in two other contributions (poster and guest talk) as a co-author.
- Dorota Dec: The 1st International Scientific Conference, Agricultural Challenges to Climate Change washeld from 19–22 September 2023 in Osijek, Croatia. Congress purpose: present the contribution of the science, in providing any of mitigation and adaptation measures to stay on track to be more resilient and better able to adapt to the negative effects of CC. Dorota Dec participated as a co-author in two presented works (poster and guest talk).

- World Association of Soil and Water Conservation (WASWAC) Conference “Adaptation strategies for soil and water conservation in a changing world” held on 19–23 June 2023 at Palacký University, Olomouc, Czech Republic, organised by WASWAC in cooperation with IUSS and ESSC (European Society of Soil Conservation). One of the purposes of the Conference was to analyze the present and future situation of soil and water conservation on a worldwide scale while taking local specifics into consideration. Lillian Øygarden, member of Scientific Committee and representing IUSS, joined in the session “Analysis of soil and water protection on a global and local scale” giving a presentation on “Understanding and mitigating extreme diffuse pollution from Norwegian agricultural watersheds. Remegio Confesor, Lillian Øygarden, Marianne Bechmann, all from NIBIO”. The presentation highlighted how extreme events resulted in losses of soil (erosion) and nutrients from different agricultural catchments related to soil, climate and agricultural management practices. Results document the need of different adaptation strategies for the different catchments.



Delegation of the Faculty of Agricultural and Food Sciences of the Austral University of Chile

Division Chair Report

Prof. Renfang Shen took over the position of Division Chair from Dr. Abbey Wick in September 2023. He joined the IUSS Executive Committee meetings on September 27, October 6 and October 27. Also, after collecting the mailing list of Division officers, Prof. Shen contacted them with greetings and organized a divisional meeting on November 16 during which SUITMA proposals, the Division budget, sessions in the IUSS Centennial and the Inter-Congress and other issues were discussed.

The finalized draft minutes were sent for revision to all Division members.

- The 11th International Symposium on Plant-Soil Interactions at Low pH (11th PSILPH) was successfully held on October 16–20 in Nanjing, China. The Symposium with the theme “Sustainable utilization of Acid Soils”, attracted 260 representatives from ten countries. Prof. Renfang Shen served as Chair of the Organizing Committee of PSILPH.
- Prof. Renfang Shen was re-elected as the Vice President of the Chinese Association of Agricultural Science Societies (CAASS) in December 2023.

Commission 3.1 – Soil evaluation and land use planning

Chair: Jagdish Prasad, India

Vice-chair: Morihiro Maeda, Japan

Events:

- Dr. Jagdish Prasad chaired the Technical Session “Soil Morphology/Soil Geography, Soil Genesis, Soil Evaluation and Land Use Planning” during the 87th Annual Convention of the Indian Society of Soil Science held at ICAR-Indian Institute of Soil Science, Nabibagh, Bhopal, (October 03–06, 2023) and presented the report in the concluding session.

- Keynote speech by Morihiro Maeda entitled “Wise use of organic waste for environmentally positive agriculture” during the Ruhuna International Conference on Innovation and Technology–2023 (RICIT 2023) held on 24 November in Sri Lanka.
- Summer school lectures by Morihiro Maeda at Nong Lam University, Vietnam on 29 September.
- Keynote speech by Morihiro Maeda “Collaboration research project between Vietnam Kaken Team and HUIB: Proposal of regionally available biomass waste compost with useful functions and less environmental impacts based on scientific evaluation of local and indigenous knowledge in Vietnam” during an International Seminar at Institute of Biotechnology, Hue University, Vietnam, 22 December.

Awards and honors:

- Dr. Jagdish Prasad has been nominated as Chief Editor of “Agropedology”, a Journal published by the Indian Society of Soil Survey and Land Use Planning, Nagpur, India.
- Dr. Jagdish Prasad has been nominated as Associated Chief Editor of “Agricultural Reviews”, a Journal published by the Agricultural Research Communication Centre, Karnal, India.

Funds and projects:

- Morihiro Maeda, Proposal of sustainable composting methods based on the reevaluation of Vi-etnamese indigenous compost from viewpoints of its functions and environmental loadings (JSPS Fostering Joint International Research, 2020–2023)

- Morihiro Maeda, Development of sediment microbial fuel cells for water quality improvement in shrimp ponds and small-scale energy power generation in Central Vietnam (JSPS Bilateral Joint Research Projects, 2021–2023)

Commission 3.2 – Soil and water conservation

Chair: Lillian Øygarden, Norway

Vice-chair: Dorota Agnieszka Dec, Chile

Events:

- Dorota Dec: The XXIII Latin American Congress of Soil Science (CLACS) and the XXXVIII Brazilian Congress of Soil Science (CBCS), in the framework of the CBCS VIII Latin American Symposium on Educational Innovations in Teaching Soil Science held from July 30th to August 4th, 2023 in Florianópolis, SC. The topic of the Congress covered: Soil in today’s society, its impacts on agriculture, biomes (natural disasters), climate change, global warming, water and food security, rural and urban planning. The environmental importance of the natural resource soil and its role in economic and development of Brazil, Latin America and the Caribbean. Dorota Dec presented one work as main author and participated in two other contributions (poster and guest talk) as a co-author.
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Recent activities:

- Dorota Dec: within the framework of her FONDECYT REGULAR 1231934 project, participated in a pioneering study on sustainable management of drainage and grazing in Patagonian vegas (plains). A soil sampling activity that considered 9 Vega with different

hydraulic management took place in Fire Land and Chilean Patagonia between 18 and 28 October, 2023. Information about this sampling is published in the portal “Science in Chile”.

- Dorota Dec was part of the Committee for the preparation of the World Soil Day 2023 celebrated on 5 December. The purpose was to show the importance of soils and their ecosystem functions. Activities dedicated to the general public took place in the Cientific Innovation Center in Mafil and in Valdivia specifically for students of the Master in Soil Sciences of the Faculty of Agricultural and Food Sciences/UACH, Chile.



Excursion at WASWAC conference in Olomouc, Czech Republic (Photo by Lillian Øygarden)

- Contribution to a book chapter for celebrating the IUSS Centennial in 2024: Contribution of the Norwegian Soil Science Society to the Celebration of the IUSS. Bal Ram Singh, Lillian Øygarden, Olav Prestvik, Erik Joner.

Planned future activities:

- Lillian Øygarden and Dorota Dec: Planning and Convenors of the proposed session “Water-drainage and irrigation strategies: from securing production to protecting environment” in the context of the IUSS Centennial Celebrations (May 2024). This session will document the historic trends in research and development on drainage and irrigation strategies and explore the visions for future soil and water conservation related to drainage and irrigation systems and adaptation in different global regions. Session 133567.

Funds and projects:

- Dorota Dec: FONDECYT REGULAR 1231934 (2023–2026). Assessing the soil physical quality and soil water availability of a vega meadow under different drainage systems and stocking rates in Chilean Patagonia. Responsible researcher.



Soil sampling of the Patagonian vegas, with Dorota Dec as principal investigator. (Photo by Ivan Ordoñez)

Commission 3.3 – Soil fertility and plant Nutrition

Chair: Fernando O. Garcia, Argentina

Vice-chair: Luciano Colpo Gatiboni, Brazil

Events:

- August 1, 2023: Special meeting of Commission 3.3 at the Latin American Soil Science Congress and Brazilian Soil Science Congress held in Florianopolis, Brazil from 30 July to 4 August 2023. This meeting was open to all Congress participants to inform on IUSS activities in general and possible Commission 3.3 activities for the 2024–2027 period. It gathered approximately 15 participants.
- Contacts for the organization of session 125012–“Matching Food Security and Environmental goals: Phosphorus, a Key Global Element” of IUSS Centennial Congress.

Recent activities:

- Presentation of Session “Matching Food Security and Environmental goals: Phosphorus, a Key Global Element” for the IUSS Centennial Congress. This Session was proposed to the organizers of the Centennial Congress in May 2023 and was approved in September 2023 (Session 125012). Co-conveners of the Session will be Drs. Garcia and Gatiboni (Commission 3.3) and Dr. Joann Whalen (Global Phosphorus Institute).
- Presentation at several scientific meetings dedicated to IUSS activities in general, possible Commission 3.3 activities for the 2024–2027 period, and contacts for the organization of Session 125012 “Matching Food Security and Environmental goals: Phosphorus, a Key Global Element” during the IUSS Centennial Congress.

- Participation at the International Network on Soil Fertility and Fertilizers (INSOILFER) – FAO. INSOILFER was launched on 17 July 2023 through a virtual event, and Working group meetings were carried out on 27–29 November 2023. The objective was to interact with this FAO project as it is closely related to the work of Commission 3.3.

Planned future activities:

A preliminary program of 2024 webinars would be as follows:

- March 2024: Overview of the status of soil fertility and plant nutrition in different world regions. Advances in the last 10 years.
- June 2024: Nutrient management recommendations in different world regions.
- September 2024: Nutrient management in low-input systems (or familiar agriculture).
- December 2024: Nutrient use efficiency: Improvements from digital ag technologies. Sensors, mapping, data management, new indicators, others.
- Other possible topics: Nutrients from biofertilizers, recycling, enhanced fertilizers, biostimulants for agriculture (interaction with other commissions).

Commission 3.4 – Soil engineering and Technology

Chair: Yuanfang Huang, China

Vice-chair: Taku Nishimura, Japan

Events:

- Commission 3.4 co-organized, together with the Key Laboratory of Soil Environment and Pollution

Remediation of the Chinese Academy of Sciences and the Beijing Soil Science Society, the “3rd National Symposium on Soil Engineering of the Soil Science Society of China” held from 23rd to 25th June 2023 in Beijing, China. Commission Chairman Prof. Yuanfang Huang acted as keynote speaker and was responsible for the organization of a seminar focusing on “High-standard farmland construction”. Additionally, he introduced the IUSS Centennial and encouraged the participants to submit high-quality abstracts.

- During the “65th Annual Meeting of the Japanese Society of Soil Physics” which took place on 21 Oct, 2023, Commission 3.4 vice Chairman Prof. Taku Nishimura introduced the IUSS Centennial at Meiji University, Tokyo, Japan.
- Participation in the IUSS Division 3 Commission Chairs online meetings on April 26, June 14 and November 16: Commission 3.4 drafted and provided potential Session topics for the Centennial Celebration and IUSS Congress focusing on the “engineering perspective”, as follows:
 - a. Engineered resolutions for sustainable soil remediation,
 - b. Recent advanced tools, technologies and methods for qualifying the soil obstacle factors,
 - c. Soil science in transition: from theoretical investigation to engineered practical application,
 - d. Soil amendments for carbon removal – potential and possible side-effects.

Recent activities:

- Commission 3.4, together with the Beijing Soil Science Society, the China Agricultural University and the State University of Land Use Planning of Russia hold a bilateral meeting (China-Russia) on 1–2 December 2023 in Beijing, China. During the meeting, the two parties discussed the role of land management and technology application in the protection of black soils in the world.
- Commission 3.4 Chair organized an online meeting with Commission members to discuss the responsibility for the organization of international activities, negotiations of potentially key note speakers for the IUSS Inter-congress 2024, presentation of issues and control over implementation, as well as the development of new directions of work.
- Commission 3.4 co-organized, together with the Beijing Soil Science Society, the Shanxi Soil and Fertilizer Society, and the College of Resources and Environment, Shanxi Agricultural University, an academic meeting of “Soil health and ecological restoration” which took place from 15 to 17 Dec 2023 in Taiyuan, China. Topic of the meeting “Accelerating the protection of soil health and the ecological restoration of degraded soil” is of great significance to the long-term planning and in-depth expansion of the mission of soil science and technology, as well as to food security, rural revitalization and ecological civilization construction. In the context of serious challenges to the global ecological environment, how to achieve healthy soil development and sustainable utilization through

ecological restoration is a hot issue of general concern in multidisciplinary fields and industry management departments.” At this meeting, Commission Chairman Prof. Yuanfang Huang gave a talk about the perspectives of “soil engineering and technology”, during the Centennial celebrations and IUSS Congress in 2024.

Planned future activities:

- Commission 3.4, together with the China Agricultural University and the University of Tokyo will organize a bilateral meeting (China-Japan) or international conference to be held in Tokyo, Japan in 2024 or 2025.

Commission 3.5 – Soil degradation control, remediation, and reclamation

Chair: Stefan Norra, Germany

Vice-chair: Anna Karczewska, Poland

Events:

- Organization by Commission 3.5, in cooperation with Potsdam University, of a Workshop on Soil degradation control, remediation and reclamation, held on 27th – 29th September 2023 at the Wrocław University of Environmental and Life Sciences, Wrocław, Poland.



Group photo of the workshop

Recent activities:

Accepted session on the centennial meeting of IUSS in 2024:

- Soil Governance to Prevent Loss of Fertile Lands: Soil Remediation and Photovoltaics
- Soil degradation control, remediation and reclamation
- Revitalization of mining residue deposits

Planned future activities:

Sessions for the IUSS Centennial Celebration (Florence, Italy 2024):

- Soil Governance to Prevent Loss of Fertile Lands: Soil Remediation and Photovoltaics
- Soil degradation control, remediation and reclamation
- Revitalization of mining residue deposits

Funds and projects:

- WaMiNa – Sustainable and climate adapted Water Management in Mining of Namibia and neighbouring countries, funded by the German Ministry of Education and Research, 1.12.2021 – 31.5.2023: Revitalization of tailing soils using mine waste water. (Stefan Norra)
- BioWaWi – Biodiversity and water management, funded by the German Ministry of Education and Research, 1.11.2021 – 31.10.2024: Management of soil moisture in water protection areas as basis for biodiversity and ecosystem services. (Stefan Norra)
- CLaWir-BB – Carbon stocks of agricultural soils in Brandenburg, Germany. Funded by the State Agency for Mining, Geology and Raw Materials in Brandenburg, Germany, since Nov. 2022 (Stefan Norra)

Commission 3.6 – Salt-affected Soils

Chair: Jorge Batlle Sales, Spain

Vice-chair: Sanjay Arora, India

Events:

- “International Conference on Sustainable Natural Resource Management under global climate change”, November 7–10, 2023 at New Delhi, India.
- INSAS webinar “The health of Salt-Affected Soils” on 21 November 2023.

Recent activities:

- Representation of FAO-INSAS and IUSS Commission 3.6 in the VII Congreso de la Red Argentina de Salinidad and II Simposio Latinoamericano de Salinidad “Mitigar la problemática de salinidad para conservar los ambientes y la producción”. 19–22 September, 2023, Santa Rosa, La Pampa. Argentina.
- Participation in the IV Simposio Internacional por el Día Mundial del Suelo. “El suelo y el agua, fuente de vida” 2023. Universidad Central del Ecuador. “Salt-Affected Soils, a challenge to sustainability”, 27–29 November 2023.

Planned future activities:

- Webinar on “Restoring Saline and Sodic Soils to Achieve Sustainable Development Goals” to be held on June 5, 2024 (Celebrating World Environment Day).
- International Symposium on “Management of Salt Affected Soils for Agricultural and Ecological Sustainability” at Lucknow (India), September 2024.
- Workshop on the Governance of Salt-Affected Soils. Jointly organized IUSS Commission 3.6 with EU-COST Action “SUSTAIN”. May 13–16, 2024.
- To be confirmed: Symposium on “Sustainable management of Salt-Affected Soils”. Turkish Society of Soil Science. Capadocia. Turkey.

Awards and honors:

- Chair of the FAO-GSP International Network on Salt-Affected Soils (INSAS). (Jorge Batlle Sales)
- Key of the City of Mazatlán. Mexico. (Jorge Batlle Sales)
- Chief Editor, Journal of Soil and Water Conservation, India. (Sanjay Arora)
- Distinguished Research Award conferred by World Association of Soil and Water Conservation (WASWAC), Beijing. (Sanjay Arora)

Working Group – Acid sulphate soils

Chair: Anton Boman, Finland

Vice-chair: Vanessa Wong, Australia

Objectives:

Acid sulfate soils are those soils and sediments which contain metal sulfides and are found around the world in both coastal and freshwater environments. They are considered the nastiest soils in the world due to their release of acidity and potentially toxic metals into the environment when metal sulfides within these soils are exposed to oxygen. The acidic and metal-rich leachate from acid sulfate soils causes detrimental impacts to agricultural land, natural and managed ecosystems, watercourses, and infrastructure in urban environments. Through the organization of conferences and meetings and collaboration with scientific journals, the working group provides a forum for researchers whose work focuses on methods for mapping and characterization of acid sulfate soils and whose work includes identifying solutions for management and remediation of these harmful soils. Active working group members 2023: 63, of 15 nationalities.

Recent activities:

Fees for the website domain name (www.iasswg.com) need to be paid in December 2023. The Chair (Anton Boman) of the Working Group will pay the fee and apply for reimbursement from the Division 3 Chair.

Planned activities for 2024

- A special issue entitled “New Horizons for Acid Sulfate Soils Research” will be published in the European Journal of Soil Science. Members of the Working Group are taking part in the editorial tasks.
- Planning of the 10th International Acid Sulfate Soils Conference in September 2025 in Luleå (Sweden) continues.
- The “Communication Committee” will continue working on the Working Group website, which will be made public during 2024.
- The work on harmonizing acid sulfate soil classification will proceed through the “Classification Committee”

Awards and honors:

- Since 2016, the Acid Sulfate Soils Working Group (3.1) have been awarding the “Pons Medal” (after Leendert Japhet Pons; “the Father of the International Acid Sulfate Soils Symposia/Conferences”). So far two Pons Medals have been awarded in conjunction with the International Acid Sulfate Soil Conferences (arranged about every 4th year; excluding 2020 due to the Covid pandemic).
- Pons Medal 2016, at the 8th International Acid Sulfate Soils Conference (Maryland, USA): Emeritus Professor Delvin Fanning.
- Pons Medal 2023, at the 9th International Acid Sulfate Soils Conference (Adelaide, Australia): Professor Robert Fitzpatrick.
- Work is also being done on establishing a “J.K. Taylor Award” for young scientists. The “Pons Medal Committee” will be in charge of the new award when/if it is established.



Professor Robert Fitzpatrick (left) was awarded with the Pons Medal by Dr Vanessa Wong (in the middle). Dr Anton Boman, is on the right

Working Group – Forest soils

Chair: Zhihong Xu, Australia

Vice-chair: Chris Johnson, USA

Objectives:

The IUSS WG 3.2 Forest Soils is a WG of IUSS since 1990, and is dedicated to all research activities of global forest soils. The Forest Soils WG has been involved in studying soil biological, chemical and physical processes, focusing on biogeochemical cycles of carbon and nutrients as well as hydrological cycle at scale in forest ecosystems from local, regional and global levels. The WG has also actively engaged in the development and application of advanced technologies and methods for investigating the important processes and functions in forest soils in response to global climate change and local management, underpinning both productivity and sustainability of forest ecosystems.

Recent activities:

The Forest Soils Working Group is working closely with Professor Scott Chang of the University of Alberta and Zhejiang Agricultural and Forestry University, Hangzhou, China, to hold the 10th International Symposium on Forest Soils, Hangzhou, China, which had been postponed to 15–19 October 2024 (<https://isfs2024.casconf.cn/>).

Planned future activities:

- 2024: Forest Soils Working Group continue close collaboration with Professor Scott Chang of the University of Alberta and Zhejiang Agricultural and Forestry University, Hangzhou, China, in the organization of the 10th International Symposium on Forest Soils on 15–19 October 2024, Hangzhou, China.
- 2026: Forest Soils Working Group will work closely with the 23rd World Congress of Soil Science, 7–12 June 2026, Nanjing, China, to host 1–2 Forest Soils Oral and Poster Sessions like those held in the previous IUSS WCSS.

Working Group – Paddy soils

Chair: Mizuhiko Nishida, Japan

Vice-chair: Bentlo Heru Purwanto, Indonesia

Objectives:

Creating opportunities for sharing and discussing the latest research findings related to paddy soils.

Recent activities:

Paddy Soils Working Group co-organized “4th International Conference Organic Rice Farming and Production Systems” held in Sendai, Japan, 4–7 September 2023. The PSWG Chair joined the Scientific Committee of this conference.

The conference aimed to (i) exchange the latest knowledge on organic rice production systems including paddy soil management, (ii) identify innovations and impediment factors on organic rice farming, (iii) assess quality, health and environmental impacts of organic rice farming, (iv) establish an international innovation network for organic rice production, and (v) contribute to scaling up organic farming. A total of 250 participants (in person and online) joined the Conference. Five oral sessions, a poster session, a workshop and a field tour were held. 29 oral presentations and 19 poster presentations were delivered. Fruitful discussions were made during the conference.



Conference room and field tour of 4th International Conference Organic Rice Farming and Production Systems

Planned future activities:

The working group is planning to give scientific support to the 16th International Conference of the East and Southeast Asia Federation of Soil Science Societies held in Thai Nguyen, Vietnam, 26–29 March, 2024.

Working Group – Soils of urban, industrial, traffic, mining and military areas (SUITMA)

Chair: Kye-Hoon John Kim, Korea

Vice-chair: Przemysław Charzyński, Poland

Objectives:

1. Alignment with the IUSS Strategic Plan 2021–2030 objective: The IUSS promotes knowledge of the soil resource in its relationship with the ecosystems that sustain it.
2. Secure information flow to national societies about IUSS urban and anthropogenic soil information especially associated with all aspects’ description, essential science, sustainable management, reclamation and related aspects of culture and human landscape.
3. Creation of a framework to facilitate communication and collaboration between interdisciplinary scientists involved in description and management of urban and anthropogenic landscapes
4. Development of a standard methodology of description and analyses of urban and anthropogenic landscapes by 2024.
5. Oversight and on-site assistance with the implementation of technical meetings and field trips for interdisciplinary worldwide collaboration of urban and anthropogenic soils and landscapes.
6. Fostering diversity, equity, and inclusivity during technical meetings, field trips and expenditures of funds.

Recent activities:

12th international conference of the IUSS Working Group on Soils of Urban, Industrial, Traffic, Mining and Military Areas (SUITMA12).

From September 4 to 7, the 12th edition of the conference of the SUITMA (Soils of Urban, Industrial, Traffic, Mining and Military Areas) working group of the IUSS took place in Santiago de Compostela (Spain). This edition has celebrated the 25th anniversary of the creation of the working group in 1998 by professors Wolfgang Burghardt and Jean-Louis Morel. Human activities have altered the properties and functionality of many soils, especially in the last century, to the point that a specific approach to their study is needed. The study of urban, mining and other soils strongly affected by human activities is the main task of this working group, one of the most active of the IUSS, currently led by Kye-Hoon John Kim, from the University of Seoul, and Przemyslaw Charzynski, from the Nicolaus Copernicus University of Torun.



Discussion on urban soils profiles during one of the field excursions.



Official poster and group photo at the Cathedral (Santiago de Compostela)



The President of the IUSS, Prof. Edoardo Costantini, at the opening ceremony of SUITMA12 and discussing one of the urban soil profiles.



Traditional Galician music and dance and gala dinner in the Convent of San Francisco (Santiago de Compostela).



Left: authorities at the opening of SUITMA12 (from left to right: Edoardo Costantini, President of the IUSS; Jesús López Romalde, Dean of the Faculty of Biology; Pilar Murias, Vicechancellor for Students and Culture; Goretti Sanmartín, Mayor of the city of Santiago de Compostela; Encarnación Rivas, Director for Land Planning and Urbanism at the regional government Xunta de Galicia; and Remigio Paradelo Núñez, chair of the organizing committee). Right: intervention of Wolfgang Burghardt and Jean-Louis Morel, founders of the SUITMA Working Group.

Planned future activities:

The 13th SUITMA conference will be held in Pisa, Italy on 6–8 October, 2025.

Funds and projects:

Support of the IUSS Stimulus Fund: Post-conference tour of SUITMA 12.

Report from Division 4 – The Role of Soils in Sustaining Society and the Environment

Division 4 is responsible for making the connections, transfer and outreach of our soil knowledge to society where soil and soil science needs to be understood and appreciated. It takes the information generated in the other three Divisions and the developing new scientific information, addressing the public literacy in soil science, its education, international conventions, consequences of human activities on soil ecosystem services, policy issues, food security, and history of the discipline.

As the “capstone” Division it integrates science, scientists, policy makers, and the wider community to become more aware of soil as an essential natural resource.

Structure and officers:

Chair: Prof. Claudio Zaccane, Italy
1st Vice Chair: Yongguan Zhu, China
2nd Vice Chair: Xin Song, China

Chair and Vice Chairs are responsible mostly for the organization of the Centennial Celebration and Congress of the IUSS (May 19–21, 2024; Florence, Italy), as well as for the organization of the IUSS Inter-congress (October 20–24, 2024; Nanjing, China). The Chair is responsible for communication with the Commissions, Working Groups and Vice Chairs.



The last Soil System Sciences (SSS) division meeting was chaired by Claudio Zaccane as President (European Geosciences Union General Assembly 2023) (photo credits: Claudio Zaccane).

IUSS Division 4. Commissions and Working Groups:

- *Commission 4.1 – Soils and the Environment*
- *Commission 4.2 – Soils, Food Security, and Human Health*
- *Commission 4.3 – Soils and Land Use Change*
- *Commission 4.4 – Soil Education and Public Awareness*
- *Commission 4.5 – History, Philosophy, and Sociology of Soil Science*
- *Working Group – Cultural Patterns of Understanding*
- *Working Group – Young and Early Career Scientists*

Division Chair Report

Chair: Claudio Zaccane, Italy

All Division, Commission and Working Group (WG) Chairs and members are actively contributing to the organization of the Centennial Celebration and Congress of the IUSS (May 19–21, 2024, Florence, Italy) (<https://centennialiuuss2024.org/>). This activity resulted in the submission of several scientific sessions and workshops (15, just considering those submitted by Commission/WG Chairs and Vice Chairs). Division 4 members also contributed to the co-organization of sessions (EGU-IUSS) at the European Geosciences Union General Assembly 2023 (April 23–28, 2023, Vienna, Austria; <https://www.egu23.eu/>) and 2024 (April 14–19, 2024, Vienna, Austria; <https://www.egu24.eu/>).

Events

- A session titled “Join Session DCE Eu-ChemS – DCE IUPAC: Humic substances (HS) and natural organic matter (NOM) dynamics and environmental impact” has been co-convened and co-chaired by Division 4 Chair Claudio Zaccane at the 18th International Conference on Chemistry and the Environment (ICCE2023), June 11–15, 2023 (Venice, Italy).
- Five scientific sessions were submitted for the Centennial Celebration and Congress of the IUSS (May 19–21, 2024, Florence, Italy) (<https://centennialiuuss2024.org/>) by Division 4 Chair Claudio Zaccane:
 - o Session 131145 “Dynamics and functions of soil organic matter under new and traditional amendments” | Conveners: César Plaza, Beatrice Giannetta, Claudio Zaccane
 - o Session 133539 “Development of efficient soil education scheme for tomorrow” | Conveners: T. Kosaki, K. Mori, Claudio Zaccane, T. Sanden
 - o Session 131303 “Soil organic matter transformation, stabilization and storage” | Conveners: Claudio Zaccane, César Plaza, Boris Jansen
 - o Session 133570 “Digging deeper: advances in subsoil science” | Conveners: Daniel Evans, Claudio Zaccane
 - o Session 133822 “Peatlands in a changing world” | Conveners: Claudio Zaccane, Kunshan Bao, Lulie Melling
- Three sessions co-sponsored by the IUSS were submitted by Division 4 Chair Claudio Zaccane for the General Assembly of the European Geoscience Union 2024 (Vienna, Austria & Online | 14–19 April; www.egu24.eu/):

- o SSS9.4/BG3 “Dynamics and functions of SOM pools under new and traditional soil amendments” | Conveners: Claudio Zaccane, Beatrice Giannetta, Anna Gunina, César Plaza
- o SSS8.6/BG3 “Climate change impacts on coupled redox cycles of critical elements and organic matter in soil and sediments” | Conveners: Beatrice Giannetta, Marco Keilweit, Claudio Zaccane, Roland Bol
- o SSS5.9 “Effect of agricultural management on soil quality” | Conveners: Laura Gismero Rodríguez, Heike Knicker, Claudio Zaccane
- Division 4 Chair Claudio Zaccane was invited as a speaker during several events organized to celebrate the World Soil Day on December 5th (e.g. University of Ferrara, University of Verona).

Recent activities

- Member of the Organising and Scientific Committees of the Centennial Celebration and Congress of the IUSS (May 19–21, 2024, Florence, Italy) (<https://centennialiuuss2024.org/>).
- Member of the website task force, for the realization of the new IUSS website.
- Member of the Organising and Scientific Committees of the 22nd Meeting of the International Humic Substances Society “The role of NOM and HS in achieving Sustainable Development Goals” (August 26–30, 2024, Rimini, Italy) (<https://ihss2024.azuleon.org/welcome>).

Planned future activities

- Contribution to the organization, definition and success of the Centennial Celebration and Congress of the IUSS (May 19–21, 2024, Florence, Italy) (<https://centennialiuuss2024.org/>), as well as of the IUSS Inter-congress (October 20–24, 2024; Nanjing, China) (<https://iussic2024.aconf.org/>);

- Support the IUSS Centennial meeting both in terms of abstract submissions and sponsoring the registration fees for 1 invited speaker for each commission/WG (7 in total). A similar approach will be used also for the IUSS Inter-congress;
- Restyling of Division 4 structure and update the description of Commissions and WGs;
- Sponsor some open access publications (e.g., review, position paper, letter) on broad topics in order to involve all Commission/WG Chairs/Vice Chairs (e.g. The Role of Soils in Sustaining Society and the Environment).

Commission 4.1 – Soils and the Environment

Chair: Miriam Muñoz Rojas, Spain

Vice Chair: Nobuhide Fujitake, Japan

This Commission looks at the soil as part of the ecosystem. Human activities have a strong impact on ecosystems and the soil and environment interactions in relation to humans are particularly important. Soils – a major component of the biosphere at the interface between the lithosphere, atmosphere, and biosphere – are investigated through several international programs such as the International Geosphere-Biosphere Programme (IGBP); in the same way the soil plays a considerable role in carbon sequestration (UN Convention on Climate Change) and is the habitat for a number of species covered by the Convention on Biological Diversity (CBD).

Recent activities

- Participation of members of Commission 4.1 in the Annual Reunion of the Spanish Soil Sciences Society in Pamplona (September 2023) (<https://www.unavarra.es/reunion-nacional-suelos-2023>);

- During the Spanish Association for Terrestrial Ecology (AEET) Conference in October 2023 (<https://congreso2023.aeet.org/Index/12/Sesiones-cientificas>), a seminar was given by Miriam Muñoz-Rojas on “The role of soil microbes in reestablishing ecosystem function and biodiversity and promoting restoration success”.

Events/Planned activities

- Two sessions co-sponsored by the IUSS were submitted for the General Assembly of the European Geoscience Union 2024 (Vienna, Austria & Online | 14–19 April; <https://www.egu24.eu>):
 - o SSS7.1/BG8 “Restoration, rehabilitation and management of degraded soils and ecosystems” | Conveners: Miriam Muñoz, Thomas Baumgartl
 - o BG3.11 “Biological Soil Crusts (biocrusts): The living skin of the Earth” | Conveners: Steffen Seitz, Miriam Muñoz-Rojas, Vincent Felde
- A scientific session was submitted for the Centennial Celebration and Congress of the IUSS (May 19–21, 2024, Florence, Italy) (<https://centennialiuiss2024.org/>):
 - o Session 133611 “Soils and the Environment” | Conveners: Miriam Muñoz-Rojas, Paulo Pereira, Manuel Esteban Lucas-Borja. This session invites contributions that focus on the relationships and/or interactions between soils and the environment. Topics of interest are (although not limited to): 1) Environmental factors controlling soil processes, 2) Global change pressures (including climate change and fire) affecting soil functions and services, and 3) Environmental conservation and restoration actions for maintaining eco-system services (including research, management, education and policy).

Commission 4.2 – Soils, Food Security, and Human Health

Chair: Taru Sandén, Austria

Vice Chair: Takuro Shinano, Japan

In most countries soils are essential for food production. Considering that one third of the land area is currently used for agriculture and world population is increasing, creating additional pressures on agricultural land, the provision of enough safe and nutritious food will be an ongoing challenge.

Awards

- The SoilPlastic App, developed in the course of the MINAGRIS project and led by Commission 4.2 Chair Taru Sandén, gave 3 awards to Austrian school classes based on their active engagement in the Austrian Citizen Science Award (Soil-plastic – AGES).
- The Soil Science and Plant Nutrition (SSPN) Award 2023 for the best paper published was given to “Relationship between soil phosphorus dynamics and low-phosphorus responses at specific root locations of white lupine” by Kan, A., Maruyama, H., Aoyama, N., Wasaki, J., Tateishi, Y., Watanabe, T., Shinano, T. (2022) Soil Science and Plant Nutrition, 68: 526–535.

Events

- Agroecology Forum Hungary (November 2023); Session 8 “Long-Term Research for Agroecology” | Convenor: Taru Sandén (Commission 4.2. Chair).

Recent activities

- The SoilPlastic App participated in the Austrian Citizen Science Award between 01 Apr 2023 – 31 Jul 2023, engaging schools, individual citizens and families

in observing plastic in the environments (Citizen Science Award 2023 | Young Science). So far, over 20.000 citizen observations have been collected with the SoilPlastic App and the App is available in nine languages (MINAGRIS – Soil-Plastic App).

- Takuro Shinano (Commission 4.2. Vice Chair) was selected as Cooperating member of the Science Council of Japan (October 2023–September 2029).

Planned activities

- Two scientific sessions were submitted for the Centennial Celebration and Congress of the IUSS (May 19–21, 2024, Florence, Italy) (<https://centennialiuiss2024.org/>):
 - o Session 133439 “Soil Health implications of adapting to the planetary health diet at the IUSS Centennial” | Conveners: Taru Sandén, Takuro Shinano, Yong-Guan Zhu
 - o Session 133539 “Development of efficient soil education scheme for tomorrow” | Conveners: T. Kosaki, K. Mori, C. Zacccone, Taru Sandén
- Two sessions were submitted for the General Assembly of the European Geoscience Union 2024 (Vienna, Austria & Online | 14–19 April; <https://www.egu24.eu>):
 - o Session ITS3.12/SSSo.1.6 “Participatory Citizen Science as a new era of environmental observation for society” | Convener: Taru Sandén
 - o Session EOS3.2 “Strategies to promote positive workplace climate: identifying and responding to microaggressions” | Co-convener: Taru Sandén
- The Japanese Society of Soil Science and Plant Nutrition (JSSPN) is planning to hold a “Soil Health 2024 Japan Workshop” on 30 and 31 January 2024 (online).

Commission 4.3 – Soils and Land Use Change

Chair: Gary Feng, USA

Vice Chair: Felipe Andrés Zúñiga Ugalde, Chile

Soils play a large role as source and sinks of greenhouse gases. In a context of global sustainability. This Commission will investigate how the source/sink functions of the soils can be managed and controlled to mitigate the impact of climate change. Of interest to all are significant changes in land use, including the effect of urbanisation, forest conversion and productive land being allocated to other uses. Such changes fall under the auspices of this Commission.

Events

- The 3rd International Forum on Black Soil Conservation and Utilization was held in Changchun city from 21st to 23rd July 2023. Prof. Michael Thompson, President of the Soil Society of America, attended the opening ceremony of the conference and delivered a keynote speech. The theme of this forum was farmland security and grain production capacity improvement, with the purpose of promoting the protection and utilization of black soil in Northeast China

Recent activities

- Participation of members of Commission 4.1 in the Annual Reunion of the Spanish Soil Sciences Society in Pamplona (September 2023) (<https://www.unavarra.es/reunion-nacional-suelos-2023>).
- The 2023 Academic Annual Meeting of the Soil Physics Professional Committee of the Soil Science Society of China and the “Soil Physics and Healthy Arable Land Cultivation” Seminar was held in Hangzhou city from 4th to 6th August 2023.

The conference included topics such as “Soil Hydrological Processes and Nutrient Loss”, “Soil Solute Migration and Transformation and Environmental Effects”, “Cultivated Land Protection and Green Agriculture”, “Physics, Chemistry, Biological Interactions and Soil Health”, “Soil Improvement and Land Fertility Improvement”, demonstrating the latest research progress and application results in the field of soil physics.

- The 2023 Academic Annual Meeting of the Soil Erosion and Soil and Water Conservation Professional Committee of the Soil Science Society of China was held in Xichang City, Sichuan Province from 20th to 25th August 2023. The main content of the conference was the cutting-edge trends and research results of soil erosion and soil and water conservation.
- The 2023 Academic Seminar of the Soil Chemistry Professional Committee of the Soil Science Society of China was held in Ningbo city from 23rd to 25th September 2023. The theme of the conference was “Soil Chemistry and Environmental Health”, which included the latest progress and results in the intersection of soil chemistry and environmental health.
- The 8th National Soil Ecology and Healthy Agriculture Academic Symposium was held in Hangzhou city from October 20th to October 22nd, 2023. The meeting focused on exchanges and discussions on the latest research results on soil microbial ecology, soil animal ecology, soil rhizosphere ecology, soil pollution ecology, soil ecology and crop health, soil ecology and global change, soil health and rural revitalization.
- The 2nd Soil Science Society of China Carbon Neutrality and Global Change Forum was held from October 24th to October 27th in Nanjing, Jiangsu Province. The theme of the forum was “Soil Carbon Neutralization and Response to Global Change”, which attracted >300 experts, scholars and graduate students from all over

- The 3rd National Soil Remediation Conference was held in Nanjing, Jiangsu, from November 5–8, 2023. The theme of the conference was “Green low-carbon restoration, pure land, clean food and safe living”. The meeting focused on systematic exchange of new progress in the field of soil environment and pollution remediation research in China.
- The “China-US Soil Society Webinar – Soil Health” theme forum, jointly sponsored by the Soil Science Society of China and Soil Science Society of America, was held on December 15th, 2023, in the form of a combination of online meetings and live broadcasts. A total of >3,800 people participated in this meeting. Academician Zhang Jiabao, Chairman of the Soil Science Society of China, and Prof. Michael Thompson, President-elect of the Soil Science Society of America, delivered speeches on behalf of the Soil Science Society of China and the US, respectively. This webinar provided new ideas and insights for solving global soil health issues and was of great significance to further promoting international cooperation and scientific research exchanges.
- The board meeting of the Soil Science Society of China and the academic seminar on “Soil Protection and Utilization and High-Quality Development” were held in Nanjing from December 17th to December 19th, 2023. The meeting focused on soil resources and management technology, soil fertility and regulation mechanism, soil environment and ecological protection, including special invitation reports titled “Trichoderma Agriculture”, “Research Focus of Plant Nutrition in the New Stage”, “High-Quality Promotion of the Third National Soil Census” and “Regional Differences in Nitrogen Use Efficiency and Regulatory Approaches”.

- China’s 3rd Nationwide Soil Census. This is a new round of soil census launched in China after 40 years. The census aims to find out soil types and distribution around the country, as well as current status and changing trends of soil resources, while acquiring basic data such as soil quality, properties and utilization status, in order to improve protection and utilization of soil resources. The census will target soil of arable land, garden plot, forest land, grassland and other agricultural lands around the country including some unused land, the circular noted. It added that the census on saline-alkali soil will be completed in 2022, and from 2023 to 2024, field survey sampling and interior testing are expected to be concluded. In the first half of 2025, the census data will be sorted and reviewed, and in the second half, a report on national arable land quality and an evaluation report on national soil utilization suitability will be prepared, according to the circular.



The last Soil System Sciences (SSS) division meeting was chaired by Claudio Zaccane as President (European Geosciences Union General Assembly 2023) (photo credits: Claudio Zaccane).



Soil survey training and soil sampling: A) soil survey training; B) cultivated soil sampling; C) tea garden soil sampling; D) forest soil sampling.
(photo credits: Office of the Leading Group of the Third National Land Survey of Anhui Province, and Office of the Leading Group of the Third National Land Survey of Xuining County, Huangshan City, Anhui Province).

Recent activities

- The Commission 4.3 Chair Gary Feng was invited to have a presentation entitled “An on-farm circular water use approach for reducing soil, water and nutrient loss and sustainable soybean production in an integrated cover crop and poultry litter cropping system” at the international symposium “Advancements in Water Management and Irrigation Strategies for Sustainable Crop Production and Ecosystem Resilience” at the ASA–SSSA–CSSA Annual Meeting, St. Louis, MO, on October 30th, 2023.

Planned future activities

- Two scientific sessions have been submitted for the Centennial Celebration and Congress of the IUSS (May 19–21, 2024, Florence, Italy) (<https://centennialiuiss2024.org/>):
 - Session 133547 “Landuse change impact on soil health” | Conveners: Gary Feng, Ting-ting Chang, Yujie Zhang
 - Session 133583 “Soil carbon sequestration and land use change” | Conveners: Gary Feng, Felipe A. Zuñiga
 - Session 133591 “Impact of global trade of food, feed and fiber (3Fs) on soil C and N dy-namics, GHG emissions under changes in land use” | Conveners: Deli Chen, Iain Young, Manfred Lenzen, Gary Feng, Shu Kee Lam



Commission 4.3 Chair Gary Feng having an invited presentation at ASA–SSSA–CSSA Annual Meeting, St. Louis, MO (photo credits: Haoyang Lyu).

- Commission 4.3 Chair Gary Feng along with other Kirkham Conference Committee members are planning the 2025 Kirkham Conference in Fukushima, Japan. The theme is designed to reflect the soil physics view on remediating contaminated lands by radiocesium fallout in Fukushima and the expected endeavours of scientists and engineers to accomplish recovery tasks in the fu-ture. The preliminary plan is 2 days for scientific programs and 2 days for field trips. Student travel awards and Kirkham Medal will be provided.

Commission 4.4 – Soil Education and Public Awareness

Chair: Martha M. Bolanos Benavides, Colombia

Vice Chair: Juan C. Rey, Venezuela

Awards

- The project AHoRa – Application for family producers of musaceae, carried out by the Colombian Agricultural Research Corporation (AGROSAVIA) and led by Commission 4.4 Chair Martha M. Bolaños Benavides, received the Fontagro 2023 Scientific Excellence Award during the XVIII Annual Technical Follow-up Workshop for projects of the Regional Agricultural Technology Fund – FONTAGRO, on June 5, 6 and 7, 2023, in Madrid, España.

Events

- XXIII Latin American Congress of Soil Science (CLACS) & XXXVIII Brazilian Congress of Soil Science (CBCS). July 30 to August 4, 2023, in Florianópolis, Santa Catarina, Brazil. Organizers: Southern Regional Center of the Brazilian Society of Soil Science (SBCS).
- 3rd Latin American Congress of Microbial Ecology. August 7 to 10, 2023, Buenos Aires, Argentina. Organizer: National University of Quilmes, Bernal Buenos Aires, Argentina.
- IV Paraguayan Congress of Soil Science and the VII Paraguayan Symposium on Soil Management and Conservation. September 7 to 8, 2023, in UNA, San Lorenzo, Paraguay. Organizer: Paraguayan Society of Soil Science.
- VII Congress of the Argentine network of salinity and II Latin American Salinity Symposium “Mitigate the salinity problem to conserve environments and production”. September 19 to 22, 2023, Santa Rosa, La Pampa, Argentina.

- Seminar “Effects of Climate Change on Soil and Water Quality”. October 5, 2023, in La Paz, Bolivia. Organizer: Bolivian Society of Soil Science.
- 47th National Congress of Soil Science. October 16 to 20, 2023 in UNAM, Mexico City, Mexico. Organizers: Mexican Society of Soil Science and UNAM.
- 4th International Congress on Environmental Research and Innovation CNIIA 2023. October 23 to 25, 2023 in Bogotá, Colombia. Organized by the Regional Autonomous Corporation of Cundinamarca.
- XXV Network of environmental funds of Latin America and the Caribbean (RedLAC) Congress. October 23 to 26, 2023 in Cusco, Peru.
- V International Congress of Environmental and Agricultural Sciences: Biodiversity and rurality for social innovation CICAA 2023. November 7 to 9, 2023, in Bogotá, Colombia. Organizer: Universidad Nacional Abierta y a Distancia UNAD, Faculty of agricultural, livestock and environmental sciences.
- XVII International Symposium on Sustainable Agriculture. XII National Agriculture Congress Sustainable. Somas. November 13 to 17, 2023. Organizer: Mexican Society of Sustainable Agriculture and Montecillo Campus Postgraduate College. Montecillo, Texcoco, Mexico.
- XXIII Venezuelan Congress of Soil Science. November 14 to 17, 2023, in Central University of Venezuela (UCV), Maracay, Aragua, Venezuela. Organizers: Venezuelan Society of Soil Science and UCV.
- Seminar “Public Policies and Agro-Environmental Sustainability of Soils”. November 16, 2023. Organizers: Agricultural and Livestock Service, SAG, and the Inter-American Institute for Co-operation on Agriculture (IICA).

- IV International Seminar CATATUMBARI. November 22–24, 2023, in Ocaña, Norte de Santander, Colombia. Organizers: Universidad Francisco de Paula Santander Ocaña, Faculty of Agricultural and Environmental Sciences.
- V Western Amazon Soil Science Symposium. November 27 to December 1, 2023, in Itacoatiara, Amazon, Brasil. Organizers: Western Amazon Regional Center.
- XI Brazilian Symposium on Soil Education (XI SBES). December 4 to 8, 2023, in The State University of Goiás, Anápolis, Goiás, Brazil. Organizers: Western Amazon Regional Center.
- International Soil Convention 2023: New Fertilization and Bioremediation Strategies. December 4 to 6, 2023, in National Agrarian University – La Molina, Lima, Perú. Organizers: INIA.

Recent activities

- **Celebration of World Soil Day 2023.** As part of the celebration of World Soil Day 2023, whose slogan this year was “Soil and Water: Source of Life”, the Colombian Agricultural Research Corporation (AGROSAVIA) carried out various activities throughout November and early December in its different Research Centers (C.I.). These initiatives worked with children and adolescents in the C.I. Tibaitatá, La Libertad, El Nus, La Selva, El Mira, La Suiza, Motilonia, Nataima, Obonuco and Palmira. In the Turipaná C.I., located in the department of Córdoba, an event was held as part of the Launching of the Center’s Declaration as a Soil Conservation District, and in the Caribia C.I., in the department of Magdalena, during the technological updating day on agro-nomic management of vegetables.

The activities carried out were of various nature and included soil exploration in test pits, construction of soil profiles with edible materials, creative drawings using soil paints, observation of the action of water on different types of soils, identification of their fauna, and planting of seedlings and trees, among others. These educational activities sought to promote environmental awareness and highlight the importance of the relationship between soil and water in order to achieve sustainable and resilient agri-food systems. In total, around 380 young people and >140 adults participated. With these events, AGROSAVIA has planted the seed of environmental awareness in future generations, guiding them towards understanding and appreciating the vital relationship between soil and water, fundamental resources for both human sustenance and the balance of planetary ecosystems. Under the inspiring slogan “Soil and water: source of life”, each activity was transformed into a joyful expression of learning, highlighting the importance of soil as the basis of ecosystems and its crucial role in the protection of water. In the case of Venezuela, the Celebration of World Soil Day was carried out by holding 20 events: 1 webinar organized by FAO, under the slogan soil and water: source of life; where the launch of the Global Soil Doctors Program took place; 1 seminar organized by the Venezuelan Society of Soil Science on the use of Vetiber in soil and water conservation; and 18 events carried out by the National Institute of Rural Development, where training workshops, discussions, recreational and cultural activities that involved children from 8 states of the country stood out. Finally, it is reported that >200 celebration events were held in Latin America and the Caribbean, while >5,000 were held worldwide.

- **Seminar “Soil Fertility and its contribution to Regenerative Agriculture”.** This seminar was held within the framework of the celebration of World Soil Day. It was organized by the Colombian Society of Soil Science (SCCS) and was held in the Geographic Institute Agustín Co-dazzi – IGAC (Bogotá, Colombia) from November 16th to 17th, 2023. This event was made up of a panel of experts from SCCS, the Colombian Agricultural Research Corporation (AGROSA-VIA), IGAC and the GeoAgroEnvironmental Sciences and Resources Research Center Foundation. This scientific meeting highlighted the conferences held in which valuable conceptual and practical perspectives were provided for the transition towards regenerative agri-food systems. Likewise, the importance of healthy soils as a fundamental resource in regenerative agriculture was highlighted, contributing not only to increased productivity, but also to obtaining more sustainable and resilient agroecosystems.

Planned future activities

- In 2024, we expect to continue preparing bibliographic material to train teachers on soils so that they can educate children between 8 and 17 years of age. The material will have standard information for all countries and, in cooperation with soil science societies, will be complemented with local information.
- Wu, C., Hong, L., Wang, L., [...], Zhang, W. (2023) Prediction of wall deflection induced by braced excavation in spatially variable soils via convolutional neural network. *Gondwana Research*, 123: 184–197.
- Xia, L., Cao, L., Yang, Y., [...], Yan, X. (2023) Integrated biochar solutions can achieve carbon-neutral staple crop production. *Nature Food*, 4: 236–246.

- Yang, Y., Dou, Y., Wang, B., [...], Chang, S.X. (2023) Deciphering factors driving soil microbial life-history strategies in restored grasslands. *iMeta*, 2: e66.

Commission 4.5 – History, Philosophy, and Sociology of Soil Science

Chair: Alexandra Toland, Germany

Vice Chair: Anna Krzywoszynska, Finland

This Commission deals with our past. It links the study of what happened in history and how soils can be used to help explain the past changes. This Commission is not just a record of history but the use and understanding of soil information and its relationship to human development and history.

Events/Recent activities

- Soil Futures Cultural programme: artist residency exchange, an online school, a podcast series, and a season of distributed local gatherings hosted by the following institutions: Arts Catalyst (Sheffield, UK); RIWAQ (al Bireh, Palestine); Sakiya – Art/Science/Agriculture (Ein Qiniya, Palestine); Struggles for Sovereignty (Yogyakarta, Indonesia); and Vessel Art Project (Puglia, Italy) (<https://artscatalyst.org/whats-on/soil-futures/>).
- Conference Session *Soil Repair: Recuperating Human-Soil Relationships*. 6th Nordic STS Conference, June 7 – 9, 2023, University of Oslo. Conference Session Chairs: Daniel Münster, Susanne Bauer, Nora S. Vaage, Marianne E. Lien (<https://www.sv.uio.no/tik/english/research/news-and-events/events/conferences/2023/nordic-sts/panels/soil-repair-recuperating-human-soil-relationships-.html>).
- Conference *Fertile Furrows: Ruling and (Re-) Working Soil in Early Modern Period*. June 27–28, 2023. Warburg Institute, School of Advanced Study University of London. Chair: Anca-Delia Moldovan (<https://warburg.sas.ac.uk/events/CFP-fertile-furrows-2023>).

- Conference Session From soil to soiling: exploring the agency of soils across research fields: Conference on Transdisciplinarity in the Environmental Humanities, September 6 – 7, 2023 University of Oslo. Conference Session Chairs: Anna Krzywoszynska and Alexandra Toland (<https://www.hf.uio.no/english/research/strategic-research-areas/oseh/news-and-events/events/workshops/2023/transdisciplinary-in-the-environmental-humanities/keynotes-and-panels/from-soil-to-soiling-exploring-the-agency-of-soils.html>).
- Conference Sessions at DBG 2023 Germany. Böden – “divers & multifunctional” in Halle, September 2–8, 2023:
 - o K-8.1 Boden Kunst heute; Chair: Gwendolin Kremer
 - o K-8.6 Böden in der Stadtentwicklung; Chair: Nikola Patzel
 - o K-8.4 Boden und agrarpolitische Grundlagen; Chair: Nikola Patzel
 - o K-8.5 Geschuchte der Bodenkunde. Chair: Karl Stahr

Planned future activities

- Support for the following sessions submitted to the Centennial Celebration and Congress of the IUSS (May 19–21, 2024, Florence, Italy) (<https://centennial-iuss2024.org/>):
- “Moving Towards Diversity, Equity, and Inclusivity in Soil Science Societies” | Conveners: L.B. Reyes-Sánchez, S. Daroub, R.M. Pooch, S. Chapman, S. Grunwald, T. Carter
- “The Development of Soil Science in the IUSS Countries: 100 Years of History” | Conveners: C. Dazzi, E. Costantini, K.H. Feger, T. Kosaki
- “Soil Health from Multiple Perspectives” | Conveners: R. Janke, D. Pinnel, J. Ibbini, P. Watts

- “Soil Sciences Entering into Transdisciplinary Research” | Conveners: M. Kaiser, M. Paradiso
- “Soil and Literature” | Conveners: R.M. Poch, E.A.C. Costantini
- “Soil Science and Geoethics: Contributing to Create a More Sustainable Society” | Conveners: S. Peppoloni, A. Krzywoszynska, G. Di Capua
- “Soil, Soul and Society: Transformative Pathways in Soil Care Practices” | Conveners: A. L’Astorina, L. Colucci-Gray, C. Colella
- “Soils in Archaeology” | Conveners: C. Nicosia, F. Polisca, D. Sauer
- “Histories of Internationalization of Soil Science” | Conveners: N. Ujházy, L.M. Chabala, R.M. Lark, M. Heffernan, A. Krzywoszynska
- “Epistemologies and Ontologies of Soil: Towards New Politics of Soil Knowledge” | Conveners: C. Boyer, T. Law
- “Soil as a Cultural Heritage: The Soil Knowledge as a Heritage for the Future Generations” | Conveners: M. Fantappiè, R. Barbetti, D. Sauer, R. Poch, S. Mantel
- Data Quilting Exhibition on occasion of IUSS Centennial Sessions (planned in collaboration with Ecoartspace and Convent).
- Contribution to Soil Stories Programme at Anthropocene Campus, Rio de Janeiro, Brazil.
- An award for Critical Soil Studies and Public Engagement is currently being planned.

Working Group Cultural Patterns of Soil Understanding

Chair: Nikola Patzel, Austria

Vice Chair: Eric Brevik, USA

The major accomplishment for the Cultural Patterns Working Group in 2023 was the completion and publication of our book project “Cultural Understanding of Soils: The Importance of Cultural Diversity and of the Inner World”. The book was edited by Nikola Patzel, Sabine Grunwald, Eric Brevik, and Christian Feller and published by Springer publishers.

The book is made up of 26 chapters, including an introduction chapter and summary and large conclusions chapter, each written by the editors. In between there are chapters that address views on soil from different cultures around the world, politics and soil, famous individual scientists, soil relations and care, and soil education and cultural language. The authors of these chapters are from 18 different countries (Australia, Brazil, Canada, China, Finland, France, Germany, Iran, Israel, Japan, Luxembourg, Mexico, Republic of Korea, Russia, South Africa, Switzerland, United Kingdom, and USA) representing 6 continents (Africa, Asia, Australia, Europe, North America, and South America). The authors also represent a variety of academic fields relative to the topic, including agronomy, anthropology, geography, history, psychology, and soil science.

It is our hope that this project will serve as an important reference for the links between soil and culture and may encourage effective supporters of sustainable developments in the human-nature relationships with knowledge, questions, and possibilities for orientation.

Working Group Young and Early Career Scientists

Chair: Bartłomiej Glina, Poland
Vice Chair: Axel Cerón González, Mexico

Events

- Our YECS Members conducted a “Free Workshop on Soil Science for Students and Farmers” in Fako, Cameroon, September 6–8, 2023.
- The YECS Working Group organized a contest for the best oral and poster presentations of Young Scientists, during the 31st Congress of the Soil Science Society

of Poland, September 11–14, 2023, Poznań, Poland.



The organizing staff members (top); on the right, the attendees of the workshop (bottom) (photo credits: David Aghor)



Leaders of the award ceremony (Laura Bertha Reyes Sanchez – Past president of the IUSS – and Bartłomiej Glina – chair of the IUSS YECS Working Group) and awarded people (on the left, Mateusz Stolarczyk – best oral presentation; on the right, Magdalena Gus-Stolarczyk – best poster presentation) (photo credits: Bartłomiej Glina).

- The YECS Working Group celebrated the first hybrid International Round Table for Young Scientists on October 18, 2023, during the 47 Mexican Congress of Soil Science in Mexico City. For the occasion, a series of multilingual posters was developed by Monserrat Barragán Maravilla (College of Graduate Studies, Mexico), the collection included ten languages and comprised the participation of YECS Members in translating the posters into their native languages (e.g., Turkish, Polish, Arabic, Bengali, Portuguese).



The organizers of the round table (Laura Bertha Reyes Sanchez – Past President of the IUSS –, Martha Bobadilla Ballesteros – Commissioner of the Youth within Mexican Soil Science Society –, Axel Cerón González – Vice Chair of YECS WG) (top). The presentation by Bartłomiej Glina – Chair of the YECS WG (bottom) (photo credits: Axel Cerón González).



Some examples of posters developed as invitation to the round table (photo credits: Monserrat Barragán).

- The YECS Members Kamila Kluczek (Poland), Arabela Vega (Costa Rica), and Alma Barajas (Mexico) participated in the Global Soil Partnership – International Union of Soil Sciences Children’s booklet contest 2023 – with “The story of Blocky & Dropy”
- Members of the working group were engaged in several actions related to celebrating World Soil Day and promoting soil science (scientific conferences, meetings in primary schools, and kindergartens).
- The Faculty of Agronomy at the Autonomous University of Nuevo León (Mexico), in collaboration with CEMEX (a major Mexican multinational building materials company), conducted the Soil Texture Workshop: First Engagement with Soil Science on December 8th, 2023, in the framework of the World Soil Day. The workshop took place in the CEMEX Headquarters in Monterrey and involved 25 young students from local middle schools. The main objective was to raise awareness among young people about the significance of soils and their physical properties such as soil texture and consistency.



Title page of “The Story of Blocky & Dropy” (photo credits: Kamila Kluczek)

Planned future activities

- Global Women's Breakfast - Catalyzing Diversity in Science, February 27th, 2024. The YECS WG is organizing an online meeting with guest outstanding global female professors in soil science.
- The 2024 International Workshop on Archaeological Soil Micromorphology, May 6-8, 2024, Brussels, Belgium. Members of the YECS WG organize this event in collaboration with Brussels Capital Region (Urban.Brussels) and the Vrije Universiteit Brussel.
- Centennial Celebration and Congress of the International Union of Soil Sciences, May 19-21, 2024, Florence, Italy. The YECS WG will promote two activities: "Youth digging" - a session dedicated to presenting academic initiatives and results of young scientists; and "Mentor and Mentee" - a workshop to create bridges between young and senior soil scientists, a friendly atmosphere to build new academic networks.
- In collaboration with the IUSS Commission 1.6 on Paleopedology, Axel Cerón from YECS WG managed to secure funding from the International Union of Quaternary Research to carry out the project titled "The Mystery of Ancient Soils! Children's booklet to understand the soils of the past: A multi-lingual and joint INQUA-IUSS initiative". The project will be presented during the IUSS Centennial Celebration in 11 languages, to continue promoting multilingual education in soil science.
- Polish members of the YECS WG will organize the 5th edition of the International Conference of Young Scientists - Soil in the Environment, June 16-19, 2024, Warsaw-Korzecko, Poland.

- In the 2024 the YECS WG will promote the annual celebrations of World Soil Day from the youth spheres all around the globe, and motivate YECS allies to perform discussion forums during soil events such as workshops and congresses.



World Soil Day celebration with middle school students carried out by Vicente Encinia, Maria Fernanda Montemayor, and Martin Cisneros (photo credits: Vicente Encinia).



World Soil Day celebration by primary school students (photo credits: Polish Soil Science Society).

Other News from the IUSS

IUSS member receives 2023 Conservation Research Award

Dr. Girish Kumar Panicker, a longtime member of the IUSS and of the American Society of Agronomy (ASA) has received the 2023 Conservation Research Award from the Soil and Water Conservation Society (SWCS) of America. Dr. Panicker is the director of the USDA Conservation Research Program and a tenured Professor at Alcorn State University, Mississippi. The SWCS is a leading nonprofit, scientific, and educational organization advocating for conservation professionals and science-based practices, programs, and policies.

"This is a great recognition for my contributions in the field of soil and water conservation in Asia, Africa, and North America," said Panicker. Dr. Panicker has been a CPAg and CCA for several years. As the director of the Conservation Research Center at Alcorn, established by the USDA/NRCS and USDA/ARS in 1988, Panicker has curated the largest global C-factor (Cover and Management) databank on horticultural crops. With over 140,000 readings on 45 crops and an investment of over \$6.5 million, this information is utilized worldwide for erosion prediction, nutrient management, conservation planning, and combating soil erosion and climate change.

His groundbreaking research on C-factor technology including his 42-page technology

transfer bulletin is available on the websites of prominent land grant universities and the Library of Congress in Washington, D.C <https://www.worldcat.org/title/c-factor-research-on-horticultural-crops-for-erosion-prediction-philosophy-and-methodology-of-data-collection/oclc/51530885>.

Graduate students as well as conservationists, rely on this resource to prevent soil erosion and address climate change challenges. His quest for knowledge led him to pursue his Ph.D. in horticulture at Mississippi State University.

He has received numerous accolades throughout his career, including the Pride of India Award and the 2020 Organic Achievement Award from the American Society of Agronomy, among a host of others. Panicker's depth of research and knowledge in the field has led him to become a highly respected scholar and sought-after presenter at conferences around the world.



ISC Distinguished Lecture, September 19 2023

Although not always explicitly cited, soil and its functions are essential in achieving most of the Sustainable Development Goals (SDGs). The achievement of the “Zero Hunger” and the “Life on Land” goals strongly depends on soil capacity to provide a medium for plant growth, while the “Climate Action” goal is closely related to the carbon storage of soils. These are only examples, as soil provides many other ecosystem services, thanks to the functions that it is able to carry out. However, the functioning of soil is related to its properties and that is where basic disciplines and soil science meet and provide knowledge to reach these ambitious objectives.

In this lecture, Prof. Eleonora Bonifacio provided an overview of the mechanisms that lie behind the carbon storage and stabilization capacity of the soil, the relationships between soil characteristics and the invasiveness of alien tree species, which threaten biodiversity, and the mechanisms allowing plant survival in harsh, low-fertility situations.

Read more: <https://euro4.safelinks.protection.outlook.com/?url=https%3A%2F%2F council.science%2Fevents%2Flink-ing-mech-anisms-to-soil-functions%2F&data=05%7C02%7Ciuss.secretariat%40crea.gov.it%7C9482odd8c47e41adae8108dbf95e-7ca8%7Cd59c04b9bde247f7b1b8obe26a568618%7C0%7C0%7C638377956435982006%-7CUnknown%7CTWFpbGZsb3d8ey-JWIjo iMC4wLjAwMDAiLCJQIjoiV-2luMzIiLCJBTiI6IkhWwiLCJXVC I-6Mno%3D%7C3000%7C%7C%7C&sda-ta=piCf8gksyPdiaq3hLLHXJMyQ6CBv-vO%2FFvW%2BY28OnBNQ%3D&reserved=0>

Report on the Global Knowledge Dialogue (GKD) for Asia and the Pacific, October 5-6, Kuala Lumpur, Malaysia

By Takashi Kosaki and Xin Song

1. Pre-events on October 5, 2023

Takashi Kosaki, Institute of International Affairs, Aichi University, Nagoya, Japan

• ISC Young Academies and Associations Round Table

In 2022, the ISC invited Young Academies and Associations to apply for an Affiliate Membership (Category 3) in order to promote the participation of Early Career Researchers (ECR) in its activities and governance and to enlarge opportunities for ECR to be represented in international science. As a consequence, seventeen new Members joined the ISC in 2023 and seven of them sent their representatives to this event (Early- and Mid-Career Researcher Forum Australia, National Young Academy of Bangladesh, Indian National Young Academy of Sciences, Indonesian Young Academy of Science, National Academy of Young Scientists Pakistan, Turkish Young Academy and International Association of Physics Students).

On the agenda of the Round Table were: 1) Ignite Talks – Elevating the Voice of ECR in International Science, 2) Impact Case-Studies – Showcasing ECR Participation in Global Science and 3) Fireside Chat – ISC Membership of Young Academies and Associations.

All participants actively joined the discussions and under the third agenda point, in particular, we exchanged information around the needs that ECR have and the challenges they face and summarized that we need to promote and enhance 1) the development of efficient and official mentoring system, 2) the establishment of funding resources, possibly by ISC, etc., and 3) support for active open access based publishing system, etc..

Although most of the current young and/or early- and mid-career organizations are working within national bodies, an exception is the International Association of Physics Students (IAPS). The IAPS has been working since 1987 and represents more than 90,000 students through 32 National Committees and 14 Local Committees. IAPS closely collaborates with international bodies such as the International Union of Pure and Applied Physics (IUPAP) and runs annual International Conference for Physics Students, an annual physics competition, and other events for students, young scientists and researchers. Based on its long history and high activity it seems reasonable and understandable to join as an affiliate member of ISC. Not all international unions are able to or need to follow IAPS, however, it could help making the union more visible within ISC communities as well as letting the young fellows show up and more directly collaborate with other unions and ISC. Since the IUSS is keen to enhance and assist the activities by young and early career soil scientists, it may be worthwhile considering the possibility to organize such a body in the IUSS. If the young fellows are not yet enough in number and/or in power, it could also be an option to jointly organize the young academy with those in other closely working unions such as nine member unions under the umbrella of the GeoUnions (IUG, IUGS, INQUA, etc.).

• Freedoms and Responsibilities in Science – Round Table

Xin Song, Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China

The Round Table event was chaired by Paul Atkins (CEO, the Royal Society Te

Aparangi of New Zealand) and Vivi from the Committee for freedom and responsibility in science (CFRS). The event included 4 presentations, followed by round-table discussions and concluded with a summary of each group.

The key issues that were raised included:

1. Science in times of crisis: barriers to international collaborations are rising;
2. There is resistance to science, a lack of trust in science. Therefore, a call for engagements across all disciplines + different knowledge systems to conduct new modes of research “for the common good”;
3. How to conduct effective science communication, with political elites, with regional and local stakeholders, and with the public?

In the round-table discussions, a few suggestions were made for the ISC and CFRS:

1. Equality and trust in science should be the primary concern;
2. Social media can be used to promote the effective communication of natural and social sciences to the public;
3. The soft power of ISC should be utilized to prevent education system from collapsing (such as that of Myanmar);
4. Create opportunities for knowledge sharing, set up regional and local standards for effective communication in science.

Global Knowledge Dialogue - strengthening the voice of science in the Asia and Pacific region, October 6

The Global Knowledge Dialogue (GKD) for Asia and the Pacific was held during the International Greentech & Eco Products Exhibition & Conference (IGEM) on 6 October 2023, in Kuala Lumpur. It was hosted by the ISC Regional Focal Point for Asia and the Pacific through the Australian Academy of Science, and the Academy of Sciences Malaysia, and attended by more than 140 member representatives

from 30 countries. Seventeen International Unions (Category 1) sent delegations to the event, beside IUSS (Table 1).

Table 1 Programming of 1st Latin American Soil Judging Contest.

1	International Union of Radio Science (URSI)
2	International Council for Industrial and Applied Mathematics (ICIAM)
3	International Commission on Illumination (CIE)
4	International Union of Toxicology (IUTOX)
5	World Anthropology Union (WAU)
6	International Commission on Illumination (CIE)
7	International Union of Psychological Science (IUPsyS)
8	International Union of Pure and Applied Physics (IUPAP)
9	International Geographical Union (IGU)
10	International Union of Nutritional Sciences (IUNS)
11	International Union for Biochemistry and Molecular Biology (IUBMB)
12	International Union of Forest Research Organizations (IUFRO)
13	International Association of Legal Science (IALS)
14	International Union for Physical and Engineering Sciences in Medicine (IUPESM)
15	International Union of Physiological Sciences (IUPS)
16	International Astronomical Union (IAU)
17	International Peace Research Association (IPRA)

The GKD was kicked off with the opening remarks given by the Presidents of the host academies and a ministerial address by the Deputy Minister of Science, Technology and Innovation, Malaysia (Figure 1). The press release can be found here: <https://council.science/current/news/global-knowledge-dialogue-strengthening-the-voice-of-science-in-the-asia-and-pacific-region/>. All GKD presentation slides will be made available on the GKD program website (<https://council.science/programme/>) during the coming days (some are uploaded already). Below is a brief summary of the events of the day.



GKD Opening Ceremony

The GKD consisted of four parts, specifically:

- I. ISC Advancing Planetary Health in the Multilateral Space,
- II. Opportunities and Challenges for the 2030 Agenda through scientific diplomacy, scientific advice and new technologies,
- III. The ISC in a regional context: A dialogue looking at key priorities areas for strengthening science systems and the role of an ISC regional focal point,
- IV. Next steps for the Regional Focal Point of Asia and the Pacific – turning dialogue into action.

In each part two to four keynotes/lectures/ case studies were presented and followed by discussion/dialogue talks. The topics were quite diverse, including nitrogen cycling, bigdata handling, ecotourism for regional development, etc. Various issues were raised such as how academia can serve local society, how indigenous knowledge can be transparently shared, what are the challenges in controlling and using data at global and local levels, etc. in the context of Asia and the Pacific Regions.

At the end of the event, the new Regional Focal Points for Asia and the Pacific (RFP-AP) were introduced as follows:

- Chennupati Jagadish* | Co-chair (Australia)
- Karina Batthyany* | Co-chair (Uruguay)
- Pal Ahluwalia* | Oceania Region: Academy of Social Sciences in Australia
- Felix Bast* | South Region: Young Academy of India, Marine Biology,
- Gisela Concepcion* | Southeast Region: Nationals Research Council of the Philippines
- Jia Gensuo* | East Region: Chinese Academy of Sciences, Atmospheric Physics
- Yukio Himiyama* | East Region: International Geographical Union
- Kathryn Robinson* | Oceania Region: Academy of Social Sciences in Australia

World Soil of the Year

The IUSS has launched an initiative for the annual celebration of a “World Soil of the Year” (WSY). We are currently witnessing remarkable success with activities centred around the celebration of the Soil of the Year at national level in several countries. Building on this momentum, the IUSS envisages the potential to elevate this initiative to a global scale. This would entail the annual selection and celebration of a soil, proposed by a IUSS member and endorsed by a national Soil Society. The celebration of the WSY is an element of implementation of the IUSS Strategic Plan. There is the suggestion that the IUSS could consider the possibility of granting a monetary award to accompany this recognition. A dedicated task force has been set up to facilitate the start of the process, which foresees the participation of IUSS members, working mainly as officers of Commissions and Working Groups of Division 1. This task force, open to other possible interested colleagues of all Divisions, is responsible for refining the procedure and initiating the process, as well as the possible creation of a dedicated Working Group.

We firmly believe that this endeavour has the potential to enhance soil literacy across numerous countries and on a global scale. It also lays the groundwork for compiling a registry of soil heritage, recognizing the inherent natural and cultural values of soils. Furthermore, this initiative could represent a pivotal initial step, opening doors for soil science to integrate with environmental protection activities and projects.

The idea is to annually celebrate a specific soil to increase collective responsibility for soil resources and soil functions, and to increase actions on public soil awareness.

The first WSY has been already selected and will be celebrated during the Centennial Congress in Florence, Italy, next May.

We will keep you updated!

Edoardo A.C. Costantini and Richard Heck
IUSS President and Chair of Division 1

International Decade of Soils (2015–2024)



World Soil Day

The World Soil Day, initiated by the IUSS and celebrated in many countries around the world each 5th December since 2002, is a recurrent highlight on the Global Agenda of the United Nations since 2014. The date 5th December, birthday of H.M. Bhumibol Adulyadej, former King of Thailand, was chosen as a tribute to recognize his essential role in the activities promoting the establishment of the WSD.

The WSD aims to raise awareness about the nature of soils, their functions and importance for humans and ecosystems and the threats they are exposed to, locally, regionally and globally. The overall objective of the WSD is to stimulate sustainable safeguard of the soils of the world.

Official celebrations of the WSD take traditionally place at the UN Headquarters in New York and at FAO in Rome, whose Global Soil Partnership has been recognized as the specialized instrument to lead and streamline initiatives promoting awareness about soils, each year under a new motto centering around a specific feature of soils and society.

Among the recurrent initiatives that are part of the WSD celebrations are Awards ceremonies for outstanding representatives of the global soil community as well as a series of contests specifically addressing the young generation.

Numerous events organized at national levels further complement the rich global programmes of each years’ 5th December. Below a short recap of past WSDs before the report on this year’s celebration, contests and Awards.



December 5th 2014 the first-ever official World Soil Day celebration took place



Wsd 2015: Healthy soils for a healthy life



Wsd 2016: Soils and pulses, a symbiosis for life



Wsd 2017: Caring for the soils starts from the ground



Wsd 2018: Be the Solution to Soil Pollution

STOP SOIL EROSION SAVE OUR FUTURE
World Soil Day



5 DECEMBER 2019

Wsd 2019: Stop soil erosion, Save our future



Wsd 2020: Keep soil alive, protect soil biodiversity

5 DECEMBER 2021
World Soil Day
Halt soil salinization, boost soil productivity



Wsd 2021: Halt soil salinization, boost soil productivity



Wsd 2022: Soil, where food begins

World Soil Day 2023

The 2023 edition of the Word Soil Day focused on the links between Soil and another most threatened natural resources of the world: Water.

As soil, water is essential for life on Earth, and their functions to ecosystems are often inter-dependent and fundamental, also for achieving sustainable and resilient agricultural systems under the pressure of climate change and human activities around the globe.

More than 95 percent of our food is produced on land beginning with soil and water. Water is crucial for nutrient absorption by plants. Soil degradation puts increasing pressure on water resources, and soil ero-sion and com-paction reduce water infiltration and reten-tion, leading to decreased water availability for plants and organisms. Sustainable soil management practices, such as minimum or zero tillage, crop rota-tion, organic mat-ter addition, and cover cropping, reduce soil degradation, enhance water retention, in-crease carbon sequestration, preserve soil biodiversity, improve soil health and fertili-ty, and make soil a valuable ally for food and water security and for climate mitigation and adaptation.

“Soil and water are the sources of life. It is imperative that we ensure their sustainable management for the benefit of our children, guaranteeing access to the ecosystem ser-vices they provide, including healthy food. Today, over 5 000 events took place world-wide to celebrate World Soil Day, highlight-ing the growing awareness of the pivotal role of soil and water in our daily lives and show-casing the success of the worldwide cam-paign.” (Mr. Lifeng Li, Director of the Land and Water Division, FAO, World Soil Day | 5 December 2023).

The official WSD ceremony, introduced and mod-erated by Ms Maria Helena Semedo, FAO Depu-ty Director General, was attended by over 1,000 people from around the world, gathering either at FAO Headquarters in Rome or by video link.



Dr. QU Dongyu, FAO Director-General, delivered the opening address, setting the tone for a signif-icant and memorable celebration. The stage came alive with dynamic perspectives as the esteemed speakers took the floor.

H.E. Olga María Pérez Tuna, the Ambassador and Permanent Representative of the Republic of Gua-temala to FAO, shared her insights, setting the tone for a compelling discourse.

H.E. Rodney M. Hunter, Chargé d'affaires of the United States Mission to the United Nations Agen-cies in Rome, not only delivered impactful open-ing remarks but also made a groundbreaking announcement. He revealed that the successful SoilFER project, initially launched in Guatemala, Honduras, and Zam-bia, is now set to expand to Ghana and Kenya with a substantial boost of USD 10 million.

Annette Schneegans, Deputy Permanent Repre-sentative of the European Union to the UN Or-ganiza-tions, and Dr. Mary Mwale, Head of Food Security and Nutrition at the Ministry of Agri-culture, Republic of Kenya, brought attention to a crucial theme – the nexus of healthy soils and water for a flourishing planet.



View of the dais (source: FAO)

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WSD 2023 Keynote speakers (Source: FAO)

A special moment was created during an Artistic performance “Soil and Water, a source of life”, performed by the talented duo of illustrator Cecilia Valagussa and musician Marta Del Grandi (watch here the video: <https://www.youtube.com/watch?v=BqLU7OMosfo>).

[World Soil Day, 5 December](#) | [Food and Agriculture Organization of the United Nations \(fao.org\)](#)



Marta Del Grandi during the performance (Source: FAO)

KEY MESSAGES of WSD 2023:

- 1. Soil and water are essential resources for sustaining life on Earth.**
 - Soil and water provide the foundation for food production, ecosystems, and human well-being. Recognizing their invaluable roles, we can take proactive measures to safeguard these resources for future generations.
 - Soil erosion and compaction disrupt the capacity of soil to store, drain and filter water, and exacerbates the risk of flood, landslides and sand/dust storms.
 - Soil and water are the medium in which plants grow and obtain essential nutrients.
 - Healthy soil plays a crucial role as a natural filter, purifying and storing water as it infiltrates into the ground.
 - Rainfed agriculture systems withdraw 70% of the world’s freshwater and account for 80 per-cent of croplands (contributing to 60 percent of the global food production). These systems rely heavily on effective soil moisture management practices.
- 2. Soil and water are interconnected resources that need integrated management.**
 - The health of the soil and the quality and availability of water are interconnected.
 - Implementing sustainable soil management practices enhances water availability for agricul-ture.
 - Healthy soils, enriched with organic matter, play a crucial role in regulating water retention and availability.
 - Efficient use of quality water, promoting the sustainable use of fertilizers and pesticides, employing appropriate irrigation methods, improving drainage systems, controlling pump-ing, and monitoring soil and groundwater salinity levels are essential to maintaining sustain-able agricultural practices.
 - Sustainable soil management is key to improve water productivity in irrigated systems.
- 3. Improper soil and water management practices affect soil erosion, soil biodiversity, soil fertil-ity, and water quality and quantity.**
 - Water scarcity leads to the loss of soil biodiversity, while leaching and eutrophication from agriculture practices lead to the loss of biodiversity in water bodies.
 - The mismanagement of pesticides and fertilizers not only threatens soil and water quality but also poses significant risks to human health and ecosystems.
 - Poor irrigation and drainage practices are some of the main drivers of soil salinization.
 - Rising sea levels contribute to land loss, increasing the risk of soil salinization and sodifica-tion, which can negatively impact agricultural productivity.
- 4. Soil and water conservation contribute to climate change mitigation and adaptation.**
 - Improved soil and water management improves the land’s capacity to withstand extreme cli-mate events such as droughts, floods and sand/dust storms.
 - Integrated soil and water management practices provide essential ecosystem services, sup-porting life on earth and enhancing ecosystem resilience.
 - Healthy soils act as a carbon sink, by sequestering carbon from the atmosphere, thus contrib-uting to both climate change adaptation and mitigation efforts



King Bhumibol World Soil Day Award

The King Bhumibol World Soil Day Award (WSDA) is conferred annually during the WSD celebrations to those (individuals, institutions, non-governmental organizations, academia, colleges and universities, or any other entities) that have made an extraordinary effort to organize successful and im-

pactful celebrations in the framework of the World Soil Day campaign under the motto of the previous year.

Initiated by H.M. King Bhumibol Adulyadej in 2014, it is since 2018 that the Global Soil Partnership (GSP), together with the Kingdom of Thailand, are giving recognition to organizers of WSD events at all levels to facilitate challenging and outstanding soil-related celebrations around the globe.

The contest is open to all who address the present and/or future soil community in awareness raising on soil functions and safeguard by organizing virtual or practical soil-related seminars, conferences, laboratory guides, exhibitions, artistic, social media and other events of extraordinary commitment to promoting soil safeguard and science on the local, national and/or global scenario.



H.M. King Bhumibol Adulyadej (1927–2016), founder of the World Soil Day Award

Previous King Bhumibol World Soil Day Award winners:

- 2022 – Institute of Geology, National Autonomous University of Mexico (IGI-UNAM), for raising awareness of the importance of healthy soils, with specific attention to soil salinization (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1621993/>);
- 2021 – Nigerian Institute of Soil Science (NISS) for its commitment to raising awareness of the importance of healthy soils and soil biodiversity (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1458253/>);
- 2020 – Indian Council of Agricultural Research (ICAR) for its commitment to raising awareness of the importance of healthy soils (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1334384/>);
- 2019 – Asociación Costarricense de la Ciencia del Suelo (ACCS), for its initiative Manos al suelo/Hands on Soil promoting a massive application of compost, soil conservation practices (<https://www.fao.org/world-soil-day/wsd-award/en/>);
- 2018 – Practical Action Bangladesh, for organizing colorful rallies, jointly with the Soil Resource Development Institute of Bangladesh (<https://www.fao.org/world-soil-day/wsd-award/first-wsda/en/>)



Members of the Soil and Fertilizer Society of Thailand (SFST) cheering on receiving the 2023 King Bhumibol World Soil Day Award. (Source: FAO)

The World Soil Day Award (WSDA) consists of a medal, a USD 15,000 cheque and a travel to Thailand.

During WDS 2023, the Award was conferred to the Soil and Fertilizer Society of Thailand (SFST) from H.E. Kundhinee Aksornwong, Chargé d'Affaires ad interim of the Kingdom of Thailand, for its exceptional dedication to engaging a wide audience on the importance of soils.



Konstantin Glinka (1867-1927), Russian soil scientist with merits in studies on geology, mineralogy and soil degradation

Glinka Prize

The Glinka Prize is another flagship recognition established under the World Soil Day celebrations, destined to outstanding scientific contributions focusing on knowledge on soil safeguard and sustainable use.

Inspired by Russian soil scientist Konstantin Dmitrievich Glinka (1867-1927), the Prize is destined to members of the global soil science family who in a timely manner raise awareness amongst policy makers and the general public about possible solutions to tackle acute national and local problems of soil degradation. It further encourages all stakeholders and soil practitioners to engage in field-oriented work, with direct contributions to the preservation

of the environment, food security and poverty alleviation, as specified in the Revised World Soil Charter endorsed by FAO Member States during the 39th Session of the FAO Conference in 2015 (<https://www.fao.org/documents/card/en/c/e60df30b-0269-4247-a15f-db564161feeo/>).

Since 2016, the Glinka Prize is awarded by the Russian Government upon proposal made to FAO's Global Soil Partnership, specifically considering those who have made outstanding achievements in contributing to one of the five pillars of the GSP: Soil management; Awareness raising; Research; Information & Data; Harmonization of methods (a proven impact at field level will be an added value). The Award consists in a USD 15,000 check and a gold-plated medal.

During WDS 2023, the Award was conferred to **Professor Ravi Naidu** from by Dr QU Dongyu, Director-General, FAO and by H.E. Igor L. Golubovskiy, Ambassador, Permanent Representative of the Russian Federation to FAO, for his significant contributions in soil science and management, particularly in the areas of nutrient cycling, soil formation, and soils-to-crop and soils-to-groundwater as exposure pathways for contaminants.



Professor Ravi Naidu during the awarding ceremony (source: FAO)

Previous Glinka Prize Winners:

- 2022 - Dr Ashok Kumar Patra from ICAR-Indian Institute of Soil Science (IISS), for his 33-year dedicated career in Soil Science Research and Education (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1621992/>);
- 2021 - Ms Lydie-Stella Koutika, The Republic of the Congo, for over 30 years of experience in applied research on agroecosystems focusing on soil health and degradation processes to fight food insecurity and foster climate change mitigation and adaptation (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1458252/>);
- 2020 - Luca Montanarella, European Commission, for his long and distinguished career in soil science and active promoter of soil awareness in Europe and worldwide covering food security, climate change mitigation and adaptation, and human well-being (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1334382/>);
- 2019 - Dr Xu Minggang, China, for his research results on soil organic matter (<https://www.youtube.com/watch?v=O-8JuJODNOM>);
- 2018 - Professor Rattan Lal, 2017-2018 President of the IUSS, for his outstanding work on sustainable soil management and his career spanning over 50 years and across six continents (<https://www.fao.org/world-soil-day/glinka-world-soil-prize/glinka-2018/en/>);
- 2017 - No Till Farmers Association (Aapresid), Argentina, for conducting research on soil biodiversity indicators at the farm level and providing certification protocols to ensure sustainable agricultural practices are adopted through partnerships around the globe (<https://www.youtube.com/watch?v=F-c-04nPhyM>);
- 2016 - Instituto Geografico Augustin Codazzi (IGAC) of Colombia, for its long-standing tradition in promoting sustainable soil management and capacity building of Latin American scientists and field practitioners (<https://www.youtube.com/watch?v=s8qooTtLfBk>).

WSD contests

As part of the World Soil Day Awareness raising campaign, the FAO Global Soil Partnership launched three creativity contests challenging talented passionates of all ages from all around the world in spotlighting soil-related features under the WSD motto of the year. In line with the 2023 WSD motto, this year’s contests were all about the topic “Soil and water: a source of life”.



Photo contest

This challenge addressed professional or hobby photographers, inviting them to feature in photographic artistic expression any of the soil/water relation aspects, such as: environmental awareness; education; sustainable management practices, and inspiring action.

The winners received a certificate of recognition, soil related gadgets, FAO publications, and will have their entries exposed on UN/FAO websites and social media channels, and a special article will feature the win-ner(s) of the contest. The winners were announced by Ms Isabelle Verbeke, Land and Water Officer, FAO

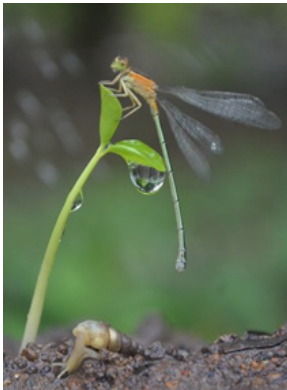
See here the 3 winning photos of the 2023 edition:

1: Juan Miguel Torrese Cabrera, Spain



Source: FAO

2: Mark Lester Bagay, Philippines



Source: FAO

3: Raphael Belmin, Senegal



Source: FAO

Previous Glinka Prize Winners:

- 2022 – Dr Ashok Kumar Patra from ICAR-Indian Institute of Soil Science (IISS), for his 33-year dedicated career in Soil Science Research and Education (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1621992/>);
- 2021 – Ms Lydie-Stella Koutika, The Republic of the Congo, for over 30 years of experience in applied research on agroecosystems focusing on soil health and degradation processes to fight food insecurity and foster climate change mitigation and adaptation (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1458252/>);
- 2020 – Luca Montanarella, European Commission, for his long and distinguished career in soil science and active promoter of soil awareness in Europe and worldwide covering food security, climate change mitigation and adaptation, and human well-being (<https://www.fao.org/global-soil-partnership/resources/highlights/detail/en/c/1334382/>);
- 2019 – Dr Xu Minggang, China, for his research results on soil organic matter (<https://www.youtube.com/watch?v=O-8JuJODNOM>);
- 2018 – Professor Rattan Lal, 2017–2018 President of the IUSS, for his outstanding work on sustainable soil management and his career spanning over 50 years and across six continents (<https://www.fao.org/world-soil-day/glinka-world-soil-prize/glinka-2018/en/>);
- 2017 – No Till Farmers Association (Aapresid), Argentine, for conducting research on soil biodiversity indicators at the farm level and providing certification protocols to ensure sustainable agricultural practices are adopted through partnerships around the globe (<https://www.youtube.com/watch?v=F-c-o4nPhyM>);
- 2016 – Instituto Geografico Augustin Codazzi (IGAC) of Colombia, for its long-standing tradition in promoting sustainable soil management and capacity building of Latin American scientists and field practitioners (<https://www.youtube.com/watch?v=s8qooTtLfBk>).



Photo contest

In this contest, children and teens between 5 and 14 years were invited to create posters, from children for children, reflecting in colourful artworks their associations on the role of healthy soils and clean water in sustainable and resilient agrifood systems around the world, thus raising awareness on the trust of the youngest in sustainable soil management for healthy lives. The overall aim is to raise awareness of the threat posed by soil nutrients loss, pollution of water resources, the impossibility of ensuring the sustainability of agrifood systems and achieving food security with soils and water in harmony.

The contest is open to either individual inspired children or schools and colleges around the world and is divided in two age categories, 5-10 years and 10–14 years. The finalists will be chosen based on creativity and originality, quality of the content, technical and scientific proficiency, and artistic/visual impact of the poster. The creative young winners will be promoted on FAO social media and by FAO offices around the world, further to receiving a Certificate of Recognition and a surprise gift bag.

The winning posters were announced by Ms Isabelle Verbeke, Land and Water Officer, FAO.

Winners of Category A (5 to 10 years old):

“Ladybugs” preschool class, 6 years old
Serbia



Source: FAO

Advik, 7 years old
India



Source: FAO

Sára
7 years old, Slovakia



Source: FAO

Winners of Category B (10 to 14 years old):

Jui-Yi Hsui, 10 years old, China



Ariane, 13 years old, Philippines



Saanvi, 10 years old, India



Book contest

With the aim of raising literacy and awareness among children and young people about why soils are fundamental for life, the FAO Global Soil Partnership and the educational project “THE IUSS GOES TO SCHOOL” launched once again their Children’s Booklet Contest with the motto “Soil and Water, Source of Life”.

Soil scientists, educators and designers were invited to conjunct their professionalism and imagination into “freestyle book” proposals on “Soil and water: a source of life”, destined to children between 6 and 11 years of age. Contributions consisting of short scientific texts, facts and images/designed illustrations/hand drawings illustrating scientific knowledge on the importance and relationship between soil and water in achieving sustainable and resilient agrifood systems, specifically tailored to a young audience. In response, the Soil Science community participated with 48 incredible Booklets from around the world. Big congratulations to all contestants!

The IUSS and FAO’s GSP Selection Committee has evaluated all book submissions, and the winner was announced by Ms Laura Bertha Reyes Sanchez, Past-President of the IUSS and liaison officer to FAO: 1st prize to Hasfa Mago from Uganda, 2nd prize to Marco Macopia from Philippines and 3rd prize to Juan Camilo Fontalvo Buelvas from Mexico.



The finalists were chosen based on creativity and originality, quality of the informational content, technical and scientific proficiency, and artistic/visual impact of the book. The winner will receive a cash prize of 1 000 USD, second and third classified will receive a cash prize of 500 USD and 250 USD, respectively, from IUSS and FAO’s GSP.

The winners of the 2023 children’s book contest on Soil and Water a source of life are:

1: Juan Miguel Torrese Cabrera, Spain



Download [here](#)

2: Marco Macopia, Philippines



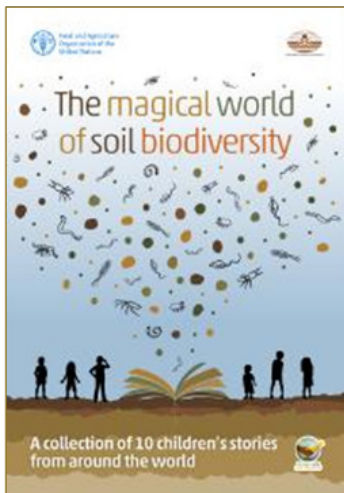
Download [here](#)

2: Marco Macopia, Philippines

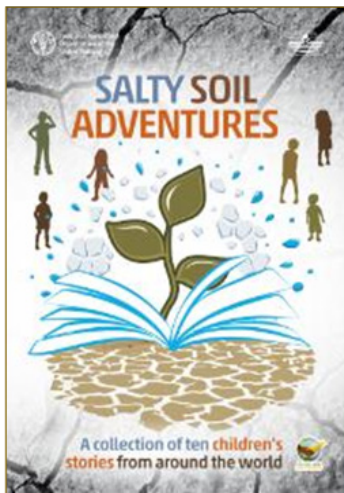


Download [here](#)

Please see also the awarded books of the 2021 and 2022 contests, featuring soil biodiversity and soil salinity:



2021: Soil biodiversity <https://www.fao.org/documents/card/en/c/cb4185en>



2022: Salty soils <https://www.fao.org/documents/card/en/c/cc0530en>

World Soil Day 2023 | KEY HIGHLIGHTS:

- + 10 000 events published on the WSD interactive map;
- An extraordinary collection of more than + 100 communication materials actively shared valuable insights and messages on the importance of soil and water, essential elements for our life;
- Social media resonated with 405 million voices advocating for healthy soils;
- + 800 lively photos received capturing the joy from soil enthusiasts in celebrating World Soil Day;
- + 1 billion people reached through 600 news article;
- Inclusive campaign involved children, citizens and professionals through contests & online engagement/voting:
 - ~ + 200 posters showcasing kids’ artworks;
 - ~ + 500 impactful photos on soil and water;
 - ~ 49 educational booklets by designers, educators and soil scientists;
- Social media resonated with 405 million voices advocating for healthy soils!

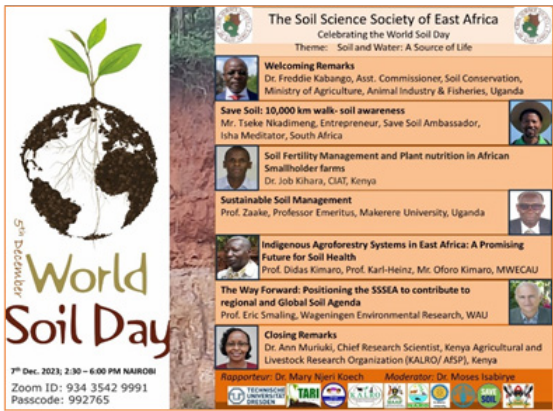
WSD in the world



Soil Science Society of East Africa

A virtual celebration of the WSD 2023 was marked with a renewed commitment of the Soil Science Society of East Africa (SSSEA) members to revamp their role to spearhead the initiatives to save soils in the Eastern Region through all the pillars that ensure sustainability. The meeting was kickstarted by

Mr. Tseko’s 10,000 km save soil awareness walk presentation that emphasized the need to keep soils alive by raising the soil organic carbon to a level of 3 – 6 %. The role of public involvement is key in driving various stakeholders including governments to renew and consolidate their commitments in ensuring sustainable management of soil resources.



Dr. Job Kihara’s presentation on soil health management emphasized the need to tailor solutions to the type of soil, seasonal weather, advisories, and varieties of delivery channels. Public involvement is echoed in

the need for coordinated engagement across multiple partners to deliver the needed gains for farmers. According to Prof. Kimaro, indigenous agroforestry systems provide a solution of covering the soil as well as increasing the soil organic matter to levels that are advocated to have a living soil in place. Indigenous agroforestry systems are multifunctional and can support livelihoods by providing vital ecosystem services of food, fodder and firewood to smallholder farmers.

The systems can also store substantial amounts of carbon in the soil, contributing to the global consensus that the approach is an important strategy for climate change mitigation and adaptation. However, in the region, there is inadequate knowledge of indigenous agroforestry systems on their coverage and on the tree layer in particular native tree species which have a multifunctional role in the provisioning of ecosystem services. Policies to increase resilience and restoration of indigenous agroforestry systems which are undergoing rapid transformation can only be successful if based on knowledge of their tree species, traits and ecosystem services potential. There should be also a balance between conservation and livelihood dictated by the farmers’ tastes and preferences as well as specific challenges.

Prof. Zaake observed that the key barrier to effective soil management is to improve communication with the farmers who have not been in a position to access technologies including the SSSEA publications.

Prof. Smaling gave recommendations on ways of positioning SSSEA nationally and internationally which included:

- Review of major science papers from within the three East African countries
- Review of past and present ISFM relevant policies and degree of implementation
- Take stock of current and potential financiers of ISFM projects
- Implement joint projects
- Set a joint fertilizer, manure and ISFM soil health agenda and relate it to the food system and climate agenda.

Closing remarks by Dr Muriuki emphasized the need to celebrate WSD throughout the year by creating soil health awareness among the public.

GERMANY

World Soil Day and Proclamation of the »Soil of the Year 2024«

On December 5, the World Soil Day, a ceremony and symposium took place on the premises of the Fed-eral Ministry of Food and Agriculture (BMEL) at Berlin. On this occasion the »Soil of the Year 2024« was introduced to the general public. The event was jointly organized by the Thünen Institute of Forest Ecosystems and the »Soil of the Year« Board consisting of the German Soil Science Society (DBG) and associated institutions related to soil protection and sustainable land management. For 2024, the »Soil of the Year« is the Forest soil. Federal Minister Cem Özdemir, who has taken the patronage, gave the welcome address.

Forests cover 11.4 million hectares in Germany, which equates to one third of its national ter-ritory. They are close-to-nature ecosystems, carbon sinks and recreation areas but at the same time also important suppliers of raw materials. Forest management in Germany is based on a tried-and-tested, integrative concept that aims to ensure a sustainable, multi-functional forestry sector.



Federal Minister Cem Özdemir received a set of postage stamps designed for the »Soil of the Year 2024« campaign. To his right: Nicole Wellbrock, coordinator from Thünen Institute; left: Gerhard Milbert, spokesman of the Board. © Thünen

In his keynote Karl-Heinz Feger, President of DBG, explained: “The forest soil doesn’t actually exist as a specific individual type. The soil in our forests is made up of a wide variety of different soil types. They are crucial for biodiversity and a series of other ecosystem services, in particular when it comes to drinking water provision or flood retention by forested landscapes”. This puts emphasis on a proper knowledge of soils and its spatial distribution, but also the interrelation between long-term soil for-mation and short-term dynamics affected by air pollution, acid rain, nitrogen deposition, or climate change.



Soils under forest are highly variable in terms of properties defining site potential, but also vulnerability. ©Thünen

A few short presentations highlighted the roles of forest floor dynamics (Friederike Lang, Freiburg University), of long-term monitoring (Nadine Eickenscheidt, LANUV Nord-rhein-Westfalen), and of soil-based, climate-smart silviculture (Ernst Leitgeb, BFW, Vien-na/Austria). This set the floor for a panel discussion with contributions from various sectors. Topics addressed were carbon sequestration potential, nutrient management and soil compaction by heavy machinery used in forest management.



Panel discussion moderated by Hanna Gersmann (left) with stakeholders from private forestry, state forestry administration, nature conservation as well as applied and basic research. © DBG

Since 2005 the action »Soil of the Year« has been lobbying for soil as a natural resource. Supported by the German Environment Agency (Umweltbundesamt – UBA), the action intends to raise awareness of soils and their ecological functions. The overall aim is to capture the interest of as many people as possible in order to foster the responsible handling, and thereby the protection, of this vital resource.

The Berlin event generated a broad media response. It marks the start of an intensified public debate on the value, conservation and sustainable use of soils under forest. During 2024 the campaign will materialize in numerous events (excursions, seminars, workshops) organized on the local and regional level.

More information:

<https://boden-des-jahres.de/short-profiles-soils-of-the-year-2005-2023/>
<https://www.umweltbundesamt.de/themen/boden-flaeche/kleine-bodenkunde/boden-des-jahres#Waldboden%20-%20Boden%20des%20Jahres%202024>
<https://www.thuenen.de/de/fachinstitute/waldoekosysteme/boden-des-jahres-2024>

ITALY

University of Ferrara: Workshop “Suolo e acqua: fonti di vita”



Watch the video of the event here: <https://www.youtube.com/watch?v=OeosEY5pe94>

On the occasion of the World Soil Day, the Departments of Environmental and Prevention Sciences and Chemical, Pharmaceutical and Agricultural Sciences organized the workshop “Soil and water: sources of life”, with the aim to draw attention to the importance of soil, a non-renewable resource on which the main human and environmental activities are based, and to the close relationship between soil and water, under-lining the need to create sustainable and resilient agri-food systems. The sustainable management of soil and water in the soil is an essential condition for agriculture capable of satisfying global food demand in the current context marked by climate change.

The workshop was organized by Prof. Silvia Rita Stazi and Dr. Enrica Allevato under the patronage of the Order of Doctors of Agronomists and Forestry Doctors of Ferrara, of the Italian Society of Agricultural Chemistry (SICA) and of the Italian Soil Science Society (SISS).

University of Viterbo: Webinar “Cartografia e monitoraggio dei suoli tramite sensori prossimi-
li” (Soil mapping and monitoring using proximal sensors)



Why is it important to know the spatial variability of soils in all its details? Which tools are available? The webinar is aimed at students, doctoral students and researchers. It is part of the initiatives of the World Soil Day 2023 and of the Department of Excellence project “D.I.Ver.So,” of the DAFNE department, University of Tuscia.

Video Youtube: <https://www.youtube.com/watch?v=dKoIs-CAEAo>

University of Viterbo: “Il suolo nella crisi climatica” (Soil in climate crisis)

Perspectives on soil protection: from the European Union to territorial entities. Opportunities for new professionals?

All citizens interested in the topic are invited to participate: professionals in the agri-food, environmental and forestry sectors, urban planners, university students and those oriented towards university education.

Round table discussion with the participation of the Latium Regional Agricultural Service (ARSIAL), the President of the Order of Agronomists and Forestry Doctors, the Municipal Administration of Viterbo and other territorial entities.



University of Molise (UniMol), Campobasso “Il suolo tra informazione e fake news” (Soils between information and fake news)



UniMol, like every year, joined the WSD initiative by deploying its skills and knowledge on the subject, analyses, studies and research activities carried out, involving the academic community and the local context on a wide scale.

This year’s edition focused on information and fake news. In fact, offered an in-depth analysis of the situation of abandonment or recovery of land which allows us to distinguish false news from correct information, based on scientific bases.

The objective of the day was to understand and select the correct sources of information on the state of the soil, in the vast scenario and in the continuous flow of news released by the media and, above all, from the web.

According to the Ispra report on land consumption, in Italy, in about 50 years, almost 30% of agricultural land has been lost, in particular in regions such as Molise with high hydrogeological risk and characterized by landslides and

floods also due to the effect of ongoing climate change.

For this reason, it is necessary to defend the soil with adequate social, cultural and economic recognition by supporting the role of agriculture in internal areas. The abandonment of agriculture and the loss of fertile soil weighs not only on the environment, but also on the country’s food supply at a time when uncertainty and war are causing difficulties in trade and encouraging speculation.

It is necessary to understand and recognize the importance of soil, its relevance on economic and social dynamics, to promote public awareness of the phenomena that can trigger desertification, pollution or soil loss.

Accademia dei Georgofili, Florence, “Salute del suolo - Il ruolo degli inoculi microbici” (Soil health - The role of microorganisms) - 5 December 2023

The event centererd on the following topics:

- Microbial communities have a fundamental role in soil regeneration and consequently in the well-being of plants, terrestrial animals and humans.
- They regulate the bioavailability of nutrients, hydrological processes, gas exchange and carbon se-questration.
- They favor the control of pathogens and the maintenance of soil structure.
- Microbial inoculants help restore this richness of function in agricultural soils.



Les Sols et l'Eau: sources de vie. Workshop “Parliamo di suolo e acqua” (Let’s talk about soil and water)

Aosta Valley, Aosta 5 December 2023

The Workshop, organized by the regional “Assessorato Opere pubbliche, Territorio e Ambiente – Dipartimento programmazione, risorse idriche e territorio – Osservatorio regionale sul consumo di suolo”, brought together different stakeholders with the aim to increase public knowledge on the importance of soils for human life.

The hybrid event presented information and films on soils in changing climate deriving from the Spazio Alpino project “Links4Soils”, followed by expert interventions who analyzed the topics introduced by the videos, including reflections on the importance of considering ecosystem services connected to the natural resource soil.





On the occasion of the centenary of the Italian forestry law, the National Academy of Agriculture and the Carabinieri Forestry-Environment-Agri-Food Unit Command dedicated a one-day seminar to study the regulatory and political activity of Arrigo Serpieri, a talented economist and agrarian reformist.

Today more than ever, Serpieri's thoughts are relevant in underlining the necessity to launch regulatory measures in favor of mountain areas and the adoption of a strategy for internal areas to "rediscover the mountains", valorizing the territories affected by depopulation which require widespread political and cultural recognition and concrete aid to strengthen employment growth and sustainable and long-lasting development of mountain areas.

UKRAINE

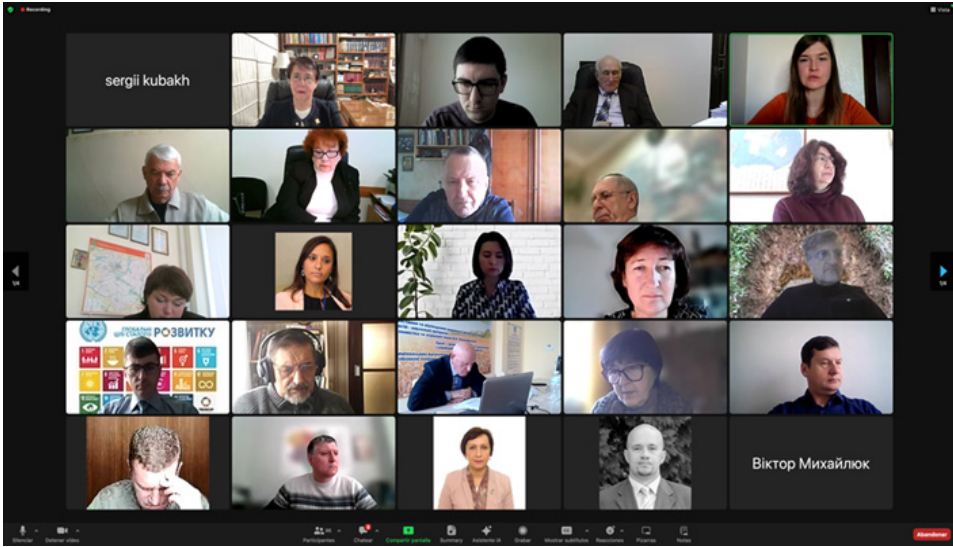
Ukraine celebrated WSD with an International scientific and practical Conference entitled "Soil cover of Ukraine in the conditions of hostilities: state, challenges, activities for soil restoration" held in Kyiv on 5 December 2023.

The event was jointly organized by the National Academy of Agrarian Sciences of Ukraine, the Ukrainian Ministries of Agrarian Policy and Food and of Environmental Protection and Natural Resources, the National Scientific Center "Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky" and the Public organization "Ukrainian Society of Soil Scientists and Agrochemists".

Topics covered and discussed during the Conference were: Impact of armed aggression and military actions on land and soil resources of Ukraine; Assessment of state, damage and losses; Activities to restore soil health; New challenges. Assessment of the consequences of the undermining of the Kakhovska HPP dam for the soil cover and ways to overcome them.

The Ukrainian Society of Soil Scientists and Agrochemists invited Laura Bertha Reyes-Sánchez to join in the welcoming words opening this World Soil Day event.

Website of the event: <https://issar.com.ua/en/international-scientific-and-practical-conference-soil-cover-ukraine-conditions-hostilities-state/>



REPUBLIC OF UZBEKISTAN

Organized by the FAO Representative Office in Uzbekistan, the Uzbek Ministry of Agriculture and the Institute of Soil Science and Agrochemical Research of the Republic of Uzbekistan, a scientific and practical workshop on "Innovative technologies for preventing soil degradation" was held at Tashkent on the occasion of the World Soil Day.

Attendees comprised politicians and representatives of national and international science giving contributions related to sustainable management of natural resources and modern tools for monitoring soil erosion and land degradation.

Laura Bertha Reyes-Sánchez was invited by the Minister of Agriculture of the Republic of Uzbekistan to give the Opening speech to the event.

IUSS Centennial 2024

Centennial Celebration and Congress of the
International Union of Soil Sciences
May 19–21, 2024
Florence, Italy



<https://centennialiuiss2024.org/>



100 years of soil science
past achievements
and future challenges

The call for abstracts at <https://centennialiuiss2024.org/call-for-abstracts/> will be open until January, 31 2024)



Centennial of the IUSS

Florence - Italy
May 19 - 21, 2024

Abstracts submission open
Technical excursions booking available
DEADLINE POSTPONED: 31 January 2024
Submit your Abstract now!
Visit www.centennialiuiss2024.org

NEXT STEPS 2024:

- 26 Feb. Abstract Submission: notification of acceptance/rejection to authors
- 11 Mar. Letter of schedule
- 25 Mar. Deadline for early registration
- 13 May Deadline for late registration – Online registration closing
- 19–21 May Centennial Celebration and Congress of the International Union of Soil Sciences

General Themes:

1. Soil health in achieving the Sustainable Development Goals

Soil health is defined as “the ability to sustain productivity, diversity and environmental services of terrestrial ecosystems”, extending the significance of soil health far beyond the historically concepts of soil fertility and soil quality, including human health and sustainability goals for planetary health. Thus, it will significantly contribute to reaching the targets of SDG 2 (zero hunger); SDG 3 (Health); SDG 6 (clean water and sanitation); SDG 12 (sustainable consumption and production); SDG 13 (climate action) and SDG 15 (life on land).

2. Soil governance

Soil is a non-renewable resource. Its use requires policies, strategies, and processes of decision-making at the local, national and supra-national level. Governing the soil requires international and national collaboration between governments, local authorities, industries, research institutions and citizens to ensure implementation of coherent policies that encourage practices and methodologies that regulate the soil’s use to avoid conflict between users to promote and ensure soil security and sustainable land management. Coherent soil governance is the foundation for promoting sustainable agriculture and ensuring food security in addition to all essential ecosystem services.

3. Soil in the circular economy

Circular economy is an economic system focused on maximizing the reuse of natural resources and products, minimizing their depreciation. We consider the soil a natural resource as the water. Soil plays an important role in the circular economy as, for instance, the provider of space for societal activities to take place. It stores the stock of mineral resources and offers possibilities for producing biobased resources to replace the use of mineral resources.

4. Soil sciences impact on basic knowledge

Interdisciplinary knowledge of chemistry, physics, atmospheric science, soil science, biology, natural history, and ecology is needed to recognize the role of soil in regulating greenhouse gases, reducing nutrient export from agricultural land, controlling pests, and supporting biodiversity that provides many ecosystem services to society.

5. Soil in the digital era

Under this theme, different sessions could address issues like: Digital Soil Mapping, Pedometrics, Geo-statistics, Soil Spatial Variability, Soil Information Systems, Soil Spatial Infrastructures, Decision Support Systems, Soil Modeling, Environmental Modeling and risk assessment, Soil Proximal Sensing, Soil Remote Sensing, Soil Management in Smart Farming, Mapping and Modeling of Soil Ecosystem Services, Mapping and Modeling of Soil Threats, Soil use and climate change modelling...

6. Soil and humanity

Soils underpin, directly or indirectly, most of the ecosystem services defined as the benefits humanity obtains from ecosystems. Soil scientists have the responsibility to make clear to civil society, policy makers, scientists and experts in other disciplines the overwhelming importance of soil in their lives. Under this theme, different sessions could address issues like: soil and humanistic disciplines – history, philosophy, sociology, art, religion; soil and human health, soil and sustainable and liveable cities, soil security and land grabbing, soil education and promotion, soil and human rights...

7. Equity, diversity, and inclusivity in soil sciences

Globally, women play a substantial role in agriculture and strong linkages between sustainable soil management (SSM) and gender equality have been demonstrated. However, a number of cultural and social constraints exist which hinder a full recognition of women’s role in SSM. An insufficient soil education is one of them. Besides, local soil knowledge, often women driven, is nowadays considered a tool for a sustainable soil management. Despite some encouraging signals, women are still underrepresented in soil science, and in particular in leadership positions and in awards rates. Under this theme, different sessions could address issues like: Women in soil science, Underrepresented minorities in soil sciences and soil-related scientific societies, Local knowledge and SSM, Soil education tailored on women and on local/indigenous communities, Ethnopedology...

Call for grants

Early-career scientists who submitted a scientific abstract by 15 January 2024, as presenting author, for Centennialius2024 in Florence, Italy, will be eligible for a grant. Support is only for early-career scientists who are high-quality Master or PhD students or who have completed a Master or PhD degree less than 3 years ago.

Support will be maximum 1,000 € per applicant participating in person and will only be paid as a reimbursement of travel costs and/or registration fee to the Centennialius2024 incurred. Applicants who are selected to obtain the requested financial support will be notified directly by the IUSS after the deadline (<https://centennialius2024.org/call-for-grants/>).



Congress Location: Palazzo dei Congressi



Draft programme

May 19, 2024	May 20, 2024	May 21, 2024
Opening and Welcome 12:00–14:30 Registration 14:30– 15:30 Opening Session 15:30–16:00 Plenary Session: The History of the IUSS 16:00–16:30 Plenary Session: Soils in Space and Time 16:30–17:00 Coffee break 17:00–17:30 Plenary Session: Soil properties and processes 17:30–18:00 Plenary Session: Soil Use and Management 18:00–18:30 Plenary Session: The Role of Soils in Sustaining Society and the Environment 18:30 Celebration Video 19:00 Welcome Reception 21:00 Cultural/social event	08:30–09:00 Plenary Session: The role of soil in the global policies 09:00–09:30 Plenary Session: Development of soil policies in Europe 09:30–10:30 Parallel sessions 10:30–11:00 Coffee Break 11:00–13:00 Parallel sessions 13:00–14:30 Lunch 14:30–16:30 Parallel sessions 16:30–17:00 Coffee Break 17:00–18:00 Parallel sessions 10:30–11:00 Coffee Break 11:00–13:00 Parallel sessions 13:00–14:30 Lunch 14:30–16:30 Parallel sessions 16:30–17:00 Coffee Break 17:00–18:00 Parallel sessions	08:30–09:00 Plenary Session: Future goals of soil sciences 09:00–09:30 Plenary Session: The future of the IUSS: the vi- sion of an early career scientists 09:30–10:30 Parallel sessions 10:30–11:00 Coffee Break 11:00–13:00 Parallel sessions 13:00–14:30 Lunch 14:30–16:30 Parallel sessions 16:30–17:00 Coffee Break 17:00–18:00 Parallel sessions 18:00–19:00 Celebration of the World Soil of the Year and Clo- sure of the Congress.

Activities and Tours

Technical Excursions booking deadline: 15 January 2024



PRE-CONFERENCE ACTIVITIES

- May 18, 2024 - Soils treasures of the Ancient Rome & Visit to Villa Lubin, Rome <https://centennialiuuss2024.org/soils-treasures-of-the-ancient-rome/>
- 14-18 May, 2024 - Soils, Landscapes and Cultural Heritage of Sicily <https://centennialiuuss2024.org/soils-landscapes-and-cultural-heritage-of-sicily/>
- 15-18 May, 2024 - Pedology and paleoenvironmental sciences: Late Quaternary paleosols of NW Sardinia <https://centennialiuuss2024.org/pedology-and-paleoenvironmental-sciences-late-quaternary-paleosols-of-nw-sardinia-italy/>

POST-CONFERENCE ACTIVITIES

- 22-25 May, 2024 - From Alpine Soils to Rice Paddies: an outlook into the soils and the services they provide <https://centennialiuuss2024.org/understanding-alpine-soils-from-glaciers-to-rice-paddies/>
- 22-24 May, 2024 - High mountain soils as global warming indicators <https://centennialiuuss2024.org/high-mountain-soils-as-global-warming-indicators/>
- 25-26 May, 2024 - Coastal soils: when soil meets water <https://centennialiuuss2024.org/coastal-soils-when-soil-meets-water/>
- 22 May, 2024 - Soil and art: a scientific trip in Palazzo Vecchio (Firenze) <https://centennialiuuss2024.org/soil-and-art-a-scientific-trip-in-palazzo-vecchio-firenze/>
- 22-25 May, 2024 - Soils and viticultural terroir of Central Italy <https://centennialiuuss2024.org/soils-and-viticultural-terroir-of-central-italy/>
- 22-23 May, 2024. Possibile second round on 24-25 May, 2024 - Paleosols in the Vulsini Volcanic District, Central Italy: pedological evidences of climatic and geomorphological evolution in the middle Pleistocene <https://centennialiuuss2024.org/paleosols-in-the-vulsini-volcanic-district/>

IUSS Book

Zoom User manual

Since 2023, the Chair of the Divisions have a Zoom account, set up by the Secretariat, with which they can manage meetings and other activities such. The Secretariat has provided them with a User Manual to ease the process of learning how to use and implement this important tool.



IUSS goes to school

VIII Latin American Symposium on Educational Innovations in the Teaching of Soil Science

Within the framework of the educative project “THE IUSS GOES TO SCHOOL” the IUSS Past President Laura Bertha Reyes-Sánchez organized and led the VIII Latin American Symposium on Educational Innovations in the Teaching of Soil Science under the Latin American education project “Thus are the Soil of my Nation”, with the participation of 285 children from Argentina, Colombia, Ecuador, Spain, and Brazil.



Frames of the event

Intellectual property of Brazilian Soil Science Society

During the event the children presented the results of their experimental research work, cultural expressions, and stands. The children enjoyed the puppet theatre presentation of the book “The House of Life” by Dr. Julia Franco Stuchi. All children were gifted by FAO and EMBRAPA with the books “The Magical World of Soil Biodiversity” and “The House of Life respectively”.

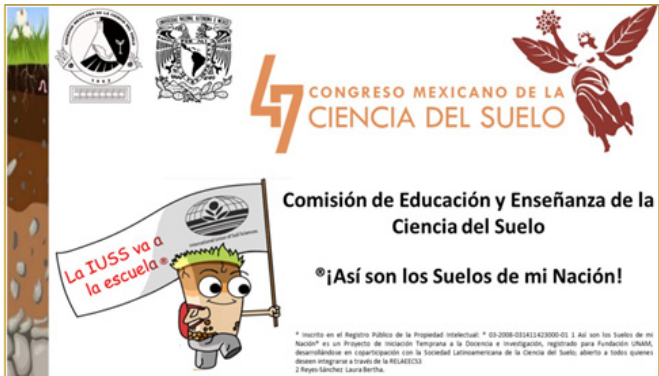
Children expressed their commitment with soil sustainability by signing their fingerprint filled with soil paint of different colours. Finally, they were invited to lunch.



XVII Symposium on Educational Innovations in the Teaching of Soil Science

During the 47th Mexican Congress of Soil Science the IUSS Past President Laura Bertha Reyes–Sánchez was co-organizer of the XVII Symposium on Educational Innovations in the Teaching of Soil Science which is part of the Latin American educative project “Thus are the soils of my Nation” currently being developed jointly with “THE IUSS GOES TO SCHOOL”. The Symposium was developed together with 250 children from Mexico City and from the Mazahua indigenous region and their teachers attending the event on October 17th, 2023.

Children presented the results of their experimental research works, and they enjoyed and actively participating in different soil science topics that were prepared for them by many scientists.



Conference and Meeting Reports 2023



International Union of Soil Sciences®

Conference and Meeting Reports 2023

The International Scientific Conference “XXVI Dokuchaev Conference for Young Scientists” «Soil science matrix» took place at the Saint Petersburg State University and the Dokuchaev Central Soil Science Museum on March 1–3, 2023 in St. Petersburg. The Conference was dedicated to the 140th anniversary of soil science.

This year the topic of the Conference was dedicated to the “soil science matrix”, which is the framework on which all our knowledge is attached, linking soil science with related sciences (biology, ecology, geography, geology, mineralogy, geodesy, physics, chemistry, computer science, etc.). The matrix is a structure of interconnection between the elements of science and society, which includes two aspects: fundamental and applied. Just as transformations within science occur due to social events, so social transformations are carried out largely due to the development of science.

The Organizing Committee of the Conference was represented by students, post-graduate students and young scientists of St. Petersburg State University, the Dokuchaev Central Soil Science Museum and Perm State Agro-Technological University. About 108 Conference applications were received from students, postgraduate students, young scientists, as well as 14 applications from schoolchildren.

Applications were sent from different regions of Russia (Moscow, Pushchino, St. Petersburg, Rostov-on-Don, Volgograd, Apatity, Perm, Irkutsk, Nalchik, Kazan, Astrakhan, Krasnoyarsk, Petrozavodsk, Mytishchi, Tomsk, Tula, Belgorod, Suzdal, etc.), as well as from other countries, including Turkey and Uzbekistan.

All submitted abstracts were subject to preliminary review by members of the Editorial Board – Lecturers of the St. Petersburg State University. The abstracts were finalized by the authors in accordance with the comments of the reviewers, after which they were accepted for publication.

By the beginning of the XXVI Dokuchaev Conference, Russian and English versions of the program, as well as a collection of Conference materials, were posted on the Conference website (<http://www.dokuchaevskie.ru/>). A set of printed versions of the program, proceedings, consumables (pens, notepads, badges, booklets) were distributed to Conference participants.

The Opening and the Plenary Sessions of the Conference took place in-person on March 1, 2023 at the Saint Petersburg State University. The video conference was organized with language interpretation and with live stream on Zoom.

The Conference was opened by Dr. B.F. Aparin, Chair of the Organizing Committee, Professor at the Department of Soil Science & Soil Ecology of the St. Petersburg State University, scientific adviser of the Dokuchaev Central Soil Science Museum, Vice-President of the Dokuchaev Soil Scientists Society (Russia).

The following people addressed the conference participants with welcoming words: Dr. K.V. Chistyakov, Vice-President of the Russian Geographical Society, Director of the Institute of Earth Sciences of the St. Petersburg State University, Professor; Dr. P.V. Krasilnikov, President of the Dokuchaev Soil Scientists Society (Russia), Dean of the Faculty of Soil Science of the Moscow State University, Corresponding Member of the Russian Academy of Sciences (RAS); Dr. N.B. Khitrov, Head of the Department of genesis and amelioration of saline and solonetz soils of the V.V. Dokuchaev Soil Science Institute; Dr. V.A. Androkhonov, Director of the Institute of Soil Science and Agrochemistry, Siberian Branch of the Russian Academy of Sciences.

Information about the Conference was presented by the Executive Secretary of the Conference, Senior Researcher of the Dokuchaev Central Soil Science Museum E.V. Mingareeva and Secretary of the Conference, Researcher of the Dokuchaev Central Soil Science Museum M.A. Lazareva.



*The Opening and the Plenary Session of the conference.
President of the Dokuchaev Soil Scientists Society (Russia), Dr. Krasilnikov P.V.*

The Plenary session was conducted by Dr. S.N. Chukov, Professor of the Department of Soil Science & Soil Ecology of the St. Petersburg State University. An important feature of this year's Conference was that the Plenary session was dedicated to a particularly significant date for us – the 100th anniversary of the Department of Soil Science & Soil Ecology of the St. Petersburg State University.

The Department was founded in 1922 at the Department of Agronomy and is a part of the Dokuchaev's scientific and pedagogical school of fundamental Soil Science. Today it is equipped with modern instruments and equipment and trains soil scientists at three educational levels: Bachelor, Master, and Post-graduate programs. There are 5 doctors and 1 PhD in the Department.

Off-line Plenary reports were made by the leading scientists of Russia:

- Dr. B.F. Aparin, Professor of the Department of Soil Science & Soil Ecology, St. Petersburg University, Scientific adviser of the Dokuchaev Central Soil Science Museum, «Pages of history of the department of soil science»
- Dr. A.V. Rusakov, Professor, Head of the Department of Soil Science & Soil Ecology, St. Petersburg University, «Modern directions of scientific research at the Department of Soil Science & Soil Ecology, St. Petersburg University»



*The Opening and the Plenary Session of the conference.
Participants of the Plenary Session (The owner of the photo is Lazareva M.A.)*

- Dr. P.V. Krasilnikov, Corresponding Member of the Russian Academy of Sciences, Dean of the Faculty of Soil Science, Lomonosov Moscow State University, Head of the Department of General Soil Science, «Soil science of the Russian North: history and new challenges»
- Dr. N.B. Khitrov, Head of Department of Genesis and Amelioration of Saline and Solonetz Soils of the V.V. Dokuchaev Soil Science Institute, «Vertisols of Russia»
- Dr. S.N. Chukov, Professor of the Department of Soil Science & Soil Ecology, St. Petersburg Uni-versity, «The concept of evolutionary humification»
- Dr. S.N. Lesovaya, Professor of the Department of Physical Geography & Landscape Design, St. Petersburg University, «Domestic school of soil mineralogy: history, main direction of research, current state, prospects»
- PhD E.Yu. Chebykina, Associate Professor of the Department of Applied Ecology, St. Petersburg University, «The foundation laid during the study at the Department of Soil Science of St. Petersburg University is the basis of a successful career»

An important event for the Conference participants was a visit to the Smolensk cemetery and laying flowers on the graves of the founder of soil science V.V. Dokuchaev, his wife A.E. Dokuchaeva and her mother A.I. Sinkler. A visit to the Smolensk cemetery took place on March 1 at 14:00. The attention of the Chair of the Organizing Committee of the Conference B.F.

Aparin was drawn to the fact that in 2021 on the initiative of the Autonomous Non-Commercial Organiza-tion «Soil – Life», an all-Russian action was held to raise funds for the repair work of graves.

At the expense of voluntarily collected funds among soil scientists, members of the Dokuchaev Soil Scientists Society, cosmetic repairs were carried out to the burial place of V.V. Dokuchaev's wife and her mother, a project was completed to restore the burial place of a scientist, which is an object of cultural heritage of federal significance.

Then the floor was given to the participants of the conference. They expressed their attitude to the Dokuchaev heritage, called on their young colleagues to study the history of their science and make every effort for its further development. Laying flowers on the grave of the founder of soil science was an act of remembrance and admiration for the outstanding scientist.

A master class on working with literary sources and the Zotero software was in the Dokuchaev Central Soil Science Museum after visiting the graves. A master class was a live stream on Zoom (Coordinator: S.M. Gorokhova, Senior Lecturer of the Department of Soil Science, Member of the Board of the Council of Young Scientists of Perm State Agro-Technological University).

Target audience – students, postgraduate students, young scientists under 35 years old, researchers and everyone who publishes scientific texts. Zotero is a free and open source software that helps to organize bibliographic descriptions of texts and, if desired, their full versions. In addition, with Zotero, you can spend less time formatting references and bibliography to the right standards.

A meeting of the school session «Young researcher. Start in science» traditionally was in the Dokuchaev Central Soil Science Museum on the first day of the conference. The meeting of the conference was on-line-off-line. 13 reports out of 14 announced by participants from St. Petersburg, Volgograd, Tutaev, and Voronezh region were heard. 7 reports were made on-line.

The age of participants ranged from 7 to 17 years. The influence of current modern trends in science was also reflected in the work of schoolchildren. 5 reports were devoted to the study of the microbial community. Other works were devoted to the study of the physicochemical properties of soils and the effectiveness of the use of various types of fertilizers. All speakers received diplomas. An exhibition «Arseniy Arsenievich Yarilov (to the 155th anniversary)» took place at the Dokuchaev Central Soil Science Museum in the evening. The exhibition was made on the basis of archival materials of the Dokuchaev Central Soil Science Museum and the family archive of the family, provided by E.I. Lytkina (the great-granddaughter of A.A. Yarilov).

The exhibition contains original documents, copies of photographs, lifetime scientific works of A.A. Yarilov and family memories. The scientific concept, the selection of mate-rial, and the artistic design of the exhibition were made by E.A. Rusakova (senior researcher, chief curator of the Dokuchaev Central Soil Science Museum).

Off-line-on-line meetings of student sessions took place on March 2–3, 2023 at the St. Petersburg State University and the Dokuchaev Central Soil Science Museum:



Meeting of 'Soil physics and chemistry' session (left). A participant of the Session on 'Anthropogenic soils' (right).
The owners of the photos are Yu.R. Morgach and S.M. Gorokhova

1. Anthropogenic soils. 22 reports out of 24 announced were heard and 9 reports were made on-line.
2. Soil physics and chemistry. 16 reports out of 25 announced were heard. 7 reports were made on-line.
3. Bioinert interactions. 14 reports out of 22 announced were heard and 5 reports were made on-line.
4. Traditions and innovations of soil science. 13 reports out of 17 announced were heard and 3 reports were made on-line.
5. Soil geography. 11 reports out of 14 announced were heard and 5 reports were made on-line.
4. Traditions and innovations of soil science. 13 reports out of 17 announced were heard and 3 reports were made on-line.
5. Soil geography. 11 reports out of 14 announced were heard and 3 reports were made on-line.
6. Poster session. 3 reports out of 6 announced were heard.

Issues of studies of the composition, chemical, physical, biological properties and processes of modern and buried, urban and initial soils, their ecological-geochemical, ecological, agroecological assessment; study and application of modern web services, smartphones, geoinformation methods in soil research, transformation of soil compounds in the course of model experiments; assessment of the geographical knowledge and dis-tribution of anthropogenically modified soils, fallow lands of different natural zones; diagnostics, classifica-tion and restoration of disturbed soils; soil pollution with heavy metals, radioactive, rare earth elements, hydrocarbons, their detoxification; technogenic salinization; soil phytotoxicity; biological, micro-biological, enzymatic activity of anthropogenically modified soils under various vegetation were dis-cussed in student sessions.

81 student's reports were heard at the conference. Most of the conference participants were from Moscow – 33 people (Lomonosov Moscow State University, V.V. Dokuchaev Soil Science Institute, Russian State Agrarian University – Moscow Timiryazev Agricultural Academy, Peoples' Friendship University of Russia, Institute of Geography Russian Academy of Sciences (RAS)). 19 people were from Saint-Petersburg (St. Petersburg State University, Dokuchaev Central Soil Science Museum, St. Petersburg State Forest Technical University named after S.M. Kirov, Russian State Hydrometeorological University, Children and Youth Creative Center «Vasilyevsky Island»).

From Rostov-on-Don – 8 people (Southern Federal University). From Perm – 7 people (Perm State Agro-Technological University, Perm State University). From Pushchino, Moscow region – 3 people (Institute of Physicochemical and Biological Problems of Soil Science of RAS). From Tyumen – 2 people (University of Tyumen). From Apatity – 2 people (Institute of Problems of Industrial Ecology of the North of the Karelian Scientific Center of RAS; Polar Alpine Botanical Garden-Institute of the Karelian Scientific Center of RAS). Astrakhan – 2 people (Astrakhan Tatishchev State University).

Also among the young scientists were speakers from:

- Tomsk State University, Tomsk;
- Irkutsk State University, Irkutsk;
- Institute of Ecology of Mountain Territories named after A.K. Tembotov of RAS, Nalchik;
- Institute of Biophysics. Siberian Branch of RAS, Krasnoyarsk;
- Igdir University, Igdir, Turkey.

Chair and secretaries of the student sessions were Bachelor's students Karabach E.A., Tikhomirova V.A., Leont'ev A.A., Pampour D.; Master's students Lebedinsky M.I., Kuzmina A.A., postgraduate students Zharkih I.A., Kholostov G.D., Fedorova M.E. at the Department of Soil Science & Soil Ecology of the St. Petersburg State University; postgraduate students Ivanov E.D. at the Department of Applied Ecology of the St. Petersburg University; researchers Morgach Yu.R., Lazareva M.A. at the Dokuchaev Central Soil Science Museum; Senior Lecturer of the Department of Soil Science, Member of the Board of the Council of Young Scientists of the Perm State Agro-Technological University Gorokhova S.M.

The jury members that evaluated the performances of the participants were Dr., S.N. Chukov, Professor; PhD A.A. Sheshukova, Senior Lecturer; Yu.V. Simonova, Assistant at the Department of Soil Science & Soil Ecology of the St. Petersburg State University; PhD K.L. Yakkonen, Associate Professor at the Department of Agrochemistry of the St. Petersburg State University; PhD G.A. Kasatkina, Leading researcher, PhD E.V. Pyatina, Leading researcher of the Dokuchaev Central Soil Science Museum, and also chair and secretaries of the student sessions.

The reports of the conference participants were assessed by the jury on the basis of the criteria developed by the organizing committee: the originality, the novelty, the topicality of research, the consistency, the completeness and the specificity of presented data, the justification of the application of used methods, the saturation of the actual material and its statistical processing, the quality of presented material, the richness of presentation and its technical quality, the knowledge of material and the literacy of presentation, the conformation to speaking time and answers on questions.

After each presentation, the jury members asked the speakers questions, discussed and gave a general assessment of the reports. In some sessions, the reports were so large-scale and varied in subject matter, saturated with material and so strong that the jury members found it difficult to choose the best of them. The participants of the conference were not just passive speakers and members of the audience. During the meetings, thanks to the participants themselves, active discussions and heated debates developed. The selection of works by the jury members this year was more serious, because the best of the reports will be published in a special issue of the journal "Soil Science".

Round table discussion «Educational program in soil science at the St. Petersburg State University» took place at the Dokuchaev Central Soil Science Museum on March 3, 2023. (Coordinator: Dr., A.V. Rusakov, Professor, Head of the Department of Soil Science & Soil Ecology, St. Petersburg University; Chair: A.A. Averyanov, postgraduate student at the Department of Soil Science & Soil Ecology of the St. Petersburg State University).

The Closing of the Conference took place at the Dokuchaev Central Soil Science Museum on March 3. With an introductory speech made by Dr. E.Yu. Sukhacheva, Director of the Dokuchaev Central Soil Science Museum.

Thanks to the participants was expressed by Dr. A.V. Rusakov, Professor, Head of the Department of Soil Science & Soil Ecology at the St. Petersburg University. The meeting was continued by the Secretary of the Conference M.A. Lazareva and Chair of the sessions, who summarized the results.

The high methodological level of participants' research and the topicality of topics were noted. Then the floor was given to the participants of the conference.

They noted the importance of a wide approbation of the results of their scientific research, the acquisition of scientific communication skills and the exchange of experience, noted the excellent organization of the conference and recognized the importance of the regularity of such events.

Based on the results of the sessions, the best reports were awarded places and diplomas of I, II, and III degrees, and reports were also announced for publication in a special issue of the journal "Eurasian Soil Science".

All speakers were awarded certificates of the Dokuchaev Conference for Young Scientists' participants, and school session's participants – diplomas, the design of which was specially developed by researcher of the Dokuchaev Central Soil Science Museum M.K. Zakharova.



*Participants of the XXVI Dokuchaev Conference for Young Scientists "Soil science matrix" at the Closing of the Conference
(The owner of the photo is Zakharova M.K.)*

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Also, at the suggestion of the Organizing Committee, the participants unanimously decided:

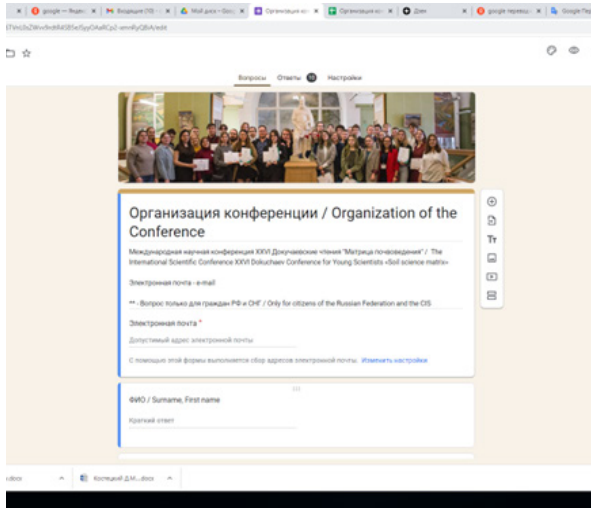
1. To thank:
 - The staff of the public relations department of the St. Petersburg State University for the organization and the technical support of the conference and the Plenary session;
 - The leading scientists – participants of the Plenary session;
 - The members of the conference organizing committee, jury members for the organizing of the XXVI Dokuchaev Conference for Young Scientists
2. To continue a tradition of the annual “Dokuchaev Conference for Young Scientists” organizing and to hold the next XXVII Anniversary Dokuchaev Conference for Young Scientists in 2024.
3. To post information about the XXVI Dokuchaev Conference for Young Scientists on the websites:
 - Dokuchaev Conference for Young Scientists (<http://www.dokuchaevskie.ru/?lang=en>).
 - Institute of Earth Sciences of the St. Petersburg State University (<http://earth.spbu.ru/en/>).
 - Dokuchaev Central Soil Science Museum (<http://soil-museum.ru/en/>).

For the first time, an Internet survey of the participants of the XXVI Dokuchaev Conference for Young Scientists “Soil science matrix” was made on its organization.

120 conference participants were interviewed. Evaluation indicators were a mark system, the highest mark of which is 5 (excellent), the lowest is 2 (unsatisfactory). The participants evaluated a level of organization of the conference as 5 (excellent) and 4 (good). The relevance of the conference topics, the meeting of participants (registration, opening of the conference), the organization of the Plenary session (conducting, selection and relevance of topics), the Conference program (Speaking time), the evaluation of reports, the organization of a visit to the Smolensk cemetery, the organization of a master class on working with references and the Zotero software, the organization of the Closing of the Conference (the procedure) was evaluated by the participants as 5 (excellent). The information support on the websites and the social networks, the time limits and information exhaustiveness about dates and the Program of the Conference, the organization of the Round table discussion «Educational program in soil science at the St. Petersburg State University», the organization of breaks, and technical support the participants evaluated as 4 (good).

Some comments by conference participants:
«I liked the scale of the conference (involving cities and universities), which allowed me to take a broad look at the work in my session and contributed to the acquisition of many interesting professional contacts. I thank the organizers for the worthy holding of the conference and the participants for the good reports» (Anonym)

«I liked the unique atmosphere of the youth scientific conference and meeting new people» (Chaplygin V.A., Southern Federal University, Rostov-on-Don)



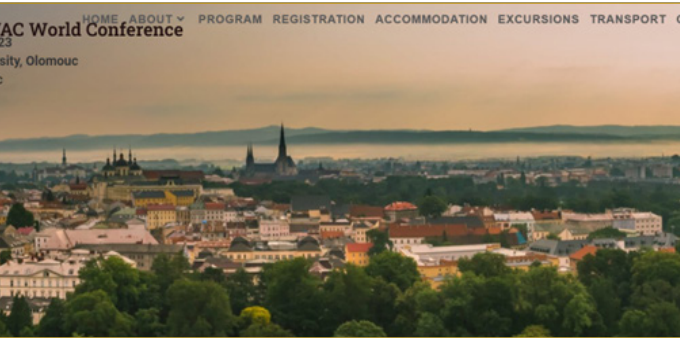
Picture 4. An Internet survey of the participants of the XXVI Dokuchaev Conference for Young Scientists “Soil science matrix” (Owner of a photo is Lazareva M.A.)

Chair of the Organizing Committee:
Dr. B.F. Aparin
Professor at the Department of Soil Science & Soil Ecology
of the St. Petersburg State University,
scientific adviser of the Dokuchaev Central Soil Science Museum,
Vice-President of the Dokuchaev Soil Scientists Society (Russia),

Executive Secretary:
E.V. Mingareeva
Senior Researcher of the Dokuchaev Central Soil Science Museum

Secretary:
M.A. Lazareva
Researcher of the Dokuchaev Central Soil Science Museum

The 5th WASWAC World Conference
June 19th– 23rd, 2023, Palacky University, Olomouc, Czech Republic



The 5th WASWAC World Conference “Adaptation Strategies for Soil and Water Conservation in a Changing World” was held under the auspices of the IUSS. As a consequence of intensive agricultural and forestry activities, climate change and other influencing factors, soil and water in the landscape are under increasing pressure and ecosystem services are disrupted. It is therefore necessary to seek and implement measures which will mitigate the negative impact on the components of the environment, especially on soil and water, and will lead to sustainable agricultural and forestry production while also ensuring non-productive functions, in accordance with a number of international and national documents, e.g., the EU Soil Strategy until 2030.

The conference aims were:

- To analyze the present and future situation of soil and water conservation on a worldwide scale while taking into consideration local specifics;
- To analyze the effects of population growth, human activity and climate change on soil and water in the context of the demands of sustainable farming, water, and food supply;
- To promote and increase collaboration between scientific organizations, policymakers, the public and practitioners;
- To determine goals, strategies, and directions for the conservation of soil and water as basic non-renewable natural resources for current exploitation and the needs of future generations;

The following lecture sections were based on these aims:

- Analysis of soil and water protection on a global and local scale;
- Research on the impact of anthropogenic and natural influences on soil and water from production and non-production points of view;
- Examples of cooperation between scientific organizations, policymakers and practitioners in soil and water conservation, including the possibility of public involvement;
- National and international goals, strategies and directions for soil and water conservation from the point of view of present and future generations;

Read more: [5th WASWAC world conference \(upol.cz\)](https://www.waswac.org/)

4th Global Soil Security Conference (GSS2023) – Global Soil Security: Beyond the Soil

June 26th– 29th, 2023, Seoul, Korea



The 4th Global Soil Security Conference 2023 was held in Seoul, Korea, hosted by the Korean Society of Soil Science and Fertilizer (KSSSF).

The theme of GSS 2023 was “Global Soil Security: Beyond the Soil (BTS)”. Soil security has become the central dogma of the sustainable soil management that should integrate the roles of soil functions for soil health, ecosystem services, climate change and human health.

Topics of the Conference were:

- Soil Security Dimensions: 5C (Capability, Condition, Capital, Connectivity and Codification);
- Soil Security and Climate Change;
- Soil Security and Human Health;
- Soil Security and Water Security;
- Soil Security and Food Security;
- Soil Security and Ecosystem Services;
- Soil Security and Biodiversity;
- Soil Security and Policy; Others.

Read more: <https://www.gss2023.org/>

Soil and Water Health/ La Salute del Suolo e delle Acque

July 4th – 6th, 2023, Imola, Italy



The Scientific and Cultural Days took place at Palazzo Sersanti in Imola (Italy). Reaping the benefits of healthy soils and water for people, food, nature, and climate. The EU strategies on biodiversity and adaptation to climate change impose a new vision on soil and water management so that by 2050 all Community ecosystems are healthy and more resilient.

This is the vision of the European strategy for soil. Among the objectives to be achieved already by 2030 are the restoration of degraded surfaces rich in organic carbon, the increase of CO₂ absorption by plants and the reduction of emissions from the soil through careful land use management, the reduction of nutrients loss and the decrease in the use of pesticides and chemical fertilizers, the improvement of the ecological and chemical conditions of both surface and deep waters.

In this sense, the Conference addressed the protection of soil and water, their sustainable use and methods of restoring contaminated environments will be addressed, with a view to reversing the degradation and loss of biodiversity, aiming at safeguarding of anthropic and natural eco-systems.

Read more: [News Archivi – Geol@b APS \(geolab-aps.it\)](https://www.geolab-aps.it/)

28th IUGG General Assembly

July 11th– 20th, 2023, Berlin, Germany



The International Union of Geodesy and Geophysics (IUGG) is an international, non-governmental, non-profit scientific organization, established in Brussels on 28 July 1919. IUGG is one of about 40 scientific Unions and Associations presently grouped within the International Science Council (ISC). This General Assembly was a special opportunity for participants from around the world to come together and discuss the full range of geodetic and geophysical themes, and further enhance the important interdisciplinary collaboration for a better understanding of our Earth System.

IUGG2023 provided a platform for personal meetings, exchange of ideas and developing new concepts for international science collaboration, all of which have suffered a setback during this pandemic crisis. IUGG2023 created a new spirit to address pressing large societal challenges such as global environmental change and natural hazards and to stimulate novel geoscience research.

The Berlin-Brandenburg region has one of the largest geoscientific clusters in the world. Participants had a unique opportunity to meet their scientific partners from many projects in person, here in Berlin, or to combine this with a visit to the research organizations GFZ, AWI or DLR. Excursions were made a program for young scientists to provide them with opportunities for exchange, presentation, and discussion beyond the sessions.

For its 28th General Assembly 2023 IUGG has launched a new session format called “Big Themes”. The relevant topics identified addressed in a condensed and novel format, with some quick introductions, a moderated panel discussion and an extended exchange with the plenary.

The “Big Themes” were the following:

BT#1 | Open Science, changing practices in science?

IUGG is committed to promoting digital science by supporting openly accessible and FAIR data, open software, and thus open science. As a member organization of the ISC, were automatically signatories to the relevant declarations as well as supporters of the corresponding UN/UNESCO recommendation. The session showed the added value and perspectives for (Open) Science by means of selected examples.

BT#2 | Reflection of the International Year of Basic Sciences for Sustainable Development (IYBSSD)

The International Year of Basic Sciences for Sustainable Development 2022 was a key moment of mobilization to convince business and political leaders, as well as citizens, of the importance of

supporting, considering, and mastering basic sciences to ensure a balanced, sustainable and inclusive development of the planet. IUGG is proud to support this global initiative proposed by the Republic of Honduras and proclaimed by the UN General Assembly.

BT#3 | Contribution to International Frameworks – Are we effective?

IUGG, its Associations and Union Commissions have successfully and sustainably contributed to many frameworks in the course of its hundred-year history, either directly or through scientific contributions. The Big Theme Session aims to address the importance of solution-oriented science.

This is a joint activity with the Global Geoscience Societies' Task Team on "Advocate for the ESS in Global and Domestic Policies."

BT#4 | Early Career Scientists – Needs, Wishes and Demands!

Early Career Scientists (ECS) are the promising minds in academic science and will occupy the established research and teaching positions in the future, regardless of the discipline and association they belong to within IUGG. Each Association takes different approaches to bringing young scientists into leadership positions and promoting their work. This Big Theme aims to bring together ECS (and people with influence on ECS) from across IUGG to discuss how it can best support them and the feedback from the ECS social event.

BT#5 | Where do we stand on EDI = Equality, Diversity, Inclusion?

IUGG fully recognizes the principles of EDI! However, as an international union based on country memberships, we face practical limits in implementation. Experiences and best practices were shared, and future strategies discussed.

This is a joint activity with the Global Geoscience Societies Task Team on Inclusion and Representation in Geoscience.

BT#6 | Strengthening the North-South Dialogue! What are the Needs and Challenges?

IUGG and its associations are active worldwide, in line with the reach of geodetic and geo-physical phenomena. Nevertheless, the participation of scientists, technicians and other stakeholders in the Global South is expandable. With the support of our partner institution, the ICTP, we wanted to focus more on this aspect in the future and support new initiatives.

Read more: <https://www.iugg2023berlin.org/>

Eleventh Plenary Assembly of the Global Soil Partnership (GSP)

July 12th– 14th, 2023, Italy, Rome (hybrid modality)



Three days that shaped the soil agenda critical to protect soil resources for future generations. This year, all GSP partners were invited to participate in a unique event: a Soil Partners' Day, an excellent opportunity to share their efforts, expertise, experiences, and innovative ideas related to the conservation, restoration, and protection of soils and its sustainable management. Working languages were Arabic, Chinese, English, French, Russian, and Spanish.

The Global Soil Partnership Plenary Assembly (PA) constitutes the main venue where all GSP partners come together to make important decisions about the global soil agenda.

Presentations of the Eleventh GSP Plenary Assembly:

1. Opening of the session and launch of the "Soil Atlas of Asia"

Opening remarks by Dr. QU Dongyu, Director-General, FAO (video-message)

Remarks by Ms Julie Emond, Chairperson, Committee on Agriculture

Remarks by the Honourable Senator Robert Black, Chair, Standing Senate Committee on Agriculture and Forestry

Remarks by H.E. Mario Arvelo, Ambassador of the Dominican Republic to FAO

Remarks by H.E. Lee Seong-ho, Ambassador Permanent Representative of the Republic of Korea to FAO

Remarks by H.E. Renate Hahlen, Minister Counsellor, Permanent Representation to FAO Delegation of the European Union to the Holy See, Order of Malta, UN Agencies in Rome and to the Republic of San Marino

Video on the Soil Atlas of Asia

Remarks by Mr Rapibhat Chandarasrivongs, Director-General of the Department of Agriculture (DoA) of the Ministry of Agriculture and Cooperatives of Thailand and President of the Soil and Fertilizer Society of Thailand

Video on Healthy Soils, Healthy Food

Keynote presentation on "Healthy soils for healthy people" by Laureate Professor Ravi Naidu, CEO & Managing Director, Cooperative Research Centre for Contamination Assessment and Remediation of the Environment

Keynote presentation on "SoilCARE: sustainable soil management in the Caribbean Island States" by Mr Calvin James, Coordinator, Partnership Initiative for Sustainable Land Management

Introduction to the Plenary Assembly by Mr Lifeng Li, Director of the Land and Water Division

2. Status on the Implementation of the Global Soil Partnership (GSP) Action Framework (including the monitoring and soil health index) – Mr Yusuf Yigini, FAO

3. Implications of the establishment of a Sub-committee on soils under FAO's Committee on Agriculture (COAG) and maintaining the GSP in its current structure: for decision – Mr Ronald Vargas, Secretary of the Global Soil Partnership, Land and Water Officer

4. Work of the Intergovernmental Technical Panel on Soils (ITPS): for information and decision – Ms Rosa Porch, FAO

4.1 Report by the chairperson on main activities and outcomes of the work programme 2022–2023

4.2 ITPS work programme 2023–2024

4.3 Preparation of the Second edition of the Status of the World's Soil Resources

5. Report on the financial status of the GSP: for information (GSPPA: XI/2023/5) VANJA

6. Report on normative tools and actions on sustainable soil management: for information and decision – Ms Carolina Olivera Sanchez

6.1 Compliance to the Voluntary Guidelines for Sustainable Soil Management (SSM) including the SSM Protocol

6.2 Response to the Fertilizer Crisis via the International Code of Conduct for the Sustainable Use and Management of Fertilizers

6.3 RECSOIL: recarbonization of global soils

6.4 Soil Doctors

7. Status on the organization of Global Symposia: for information and decision – Ms Natalia Rodriguez Eugenio

7.1 Report on the Global Symposium on Soils for Nutrition 2022

7.2 Preparations for the Global Symposium on Soils and Water 2023

7.3 Preparations for the Global Symposium on Soil Data and Information 2024
7.4 Preparations for the Global Symposium on Soil Sealing and Urban Soils 2025

8. Report on Regional Soil Partnerships: for information and decision

8.1 Survey on the status and future of Regional Soil Partnerships – Mr Yuxin Tong, FAO

8.2 African Soil Partnership – Ms Anne Muriuki, AfSP Chair

8.3 Asian Soil Partnership – Ms Gina Nilo, ASP Chair

8.4 Near East and North Africa Soil Partnership – Mr Radik Moussadek, NENA Chairs

8.5 European Soil Partnership – Mr Rainer Baritz, ESP Chair

8.6 Latin America and the Caribbean Soil Partnership – Ms Sol Ortiz, ASLAC Chair

8.7 North American Soil Partnership – Chairs

8.8 Pacific Soil Partnership – Mr Peter Wilson, PaSP Chairs

9. Progress of the GSP Technical Networks: for information and decision

9.1 International Network of Soil Information institutions (INSII) – Mr Yusuf Yigini, FAO

9.2 Global Soil Laboratory Network (GLOSOLAN) and its initiative on soil spectroscopy (GLOSOLAN-Spec) – Ms Miriam Ostinelli, GLOSOLAN Chair

9.3 International Network of Black Soils (INBS) – Mr Miguel Angel Taboada, INBS Chair

9.4 International Network of Salt Affected Soils (INSAS) – Mr Jorge Battle, INSAS Chair

9.5 International Network on Fertilizer Analysis (INFA) – Mr Wesley Feldmann INFA chair

9.6 International Network on Soil Biodiversity (NETSOB) – Mr Peter de Ruiter NETSOB chair

9.7 International Network on Soil Pollution (INSOP) – Mr Ravi Naidu INSOP chair

10. World Soil Day report 2022, preparations for 2023 and theme for 2024, awareness raising on soils and prizes: for information and decision (GSPPA: XI/2023/10) – Ms Isabelle Verbeke, FAO.

Further information and material is available here: [https://www.fao.org/global-soil-partnership/about/plenary-assembly/eleventh-session-2023/en/#:~:text=The%20Eleventh%20Plenary%20Assembly%20of,zoom%20for%20those%20connecting%20remotely\).&text=The%20Soil%20Partners%20Day%20will,number%20of%20selected%20side%20events](https://www.fao.org/global-soil-partnership/about/plenary-assembly/eleventh-session-2023/en/#:~:text=The%20Eleventh%20Plenary%20Assembly%20of,zoom%20for%20those%20connecting%20remotely).&text=The%20Soil%20Partners%20Day%20will,number%20of%20selected%20side%20events)

Italian Soil Partnership and Italian Soil Science Society – SISS

The Focal Point of the Italian Soil Partnership, Filiberto Altobelli, and the SISS President, Giuseppe Corti, participated, together with other SISS Members, in the General Assembly of the Global Soil Partnership at FAO. Among the topics covered, sustainable soil management, the next presentation of the Asian Soil Atlas, the report on the activities of the GSP secretariat and the new challenges planned at a global level on the major soil issues.



The heads of the Secretariat and SISS President, G. Corti, at GSP-FAO

Among the relevant themes that emerged during the assembly was also that relating to natural saline ecosystems, precious environments that support life in extreme conditions and contain a genomic richness that is still unknown. Secondary salinization of soils and groundwater is a growing problem worldwide, aggravated by global warming and in particular climate change scenarios.

Modern approaches and tools enable better management of saline soils and analysis of associated environmental impacts. Saline agriculture offers an option for producing food and biomass in soils affected by salinity. Interesting in this context are the initiatives of the International Network of Saline Soils, the FAO-GSP Technical Network and members of the IUSS, who intend to concentrate efforts on this topic, considered among the priority threats to the health of soils and irrigation waters for the future.

Read More:

<https://www.fao.org/global-soil-partnership/about/plenary-assembly/eleventh-session-2023/en/>

XXIII Latin-American Congress of Soil Sciences (XXIII CLACS)

July 30th- August 4th, 2023, Florianópolis, Brazil



The event brought together two conferences: The XXIII Latin American Congress of Soil Science (CLACS) and the XXXVIII Brazilian Congress of Soil Science (CBCS).

As part of the event, the VIII Latin American Symposium on Educational Innovations in Soil Science Teaching were held with the participation of children and young people aged 10 to 18 from different countries that make up the Latin American Society of Soil Science (SLCS).

In conjunction with research partner Nemabio, we were a poster presentation entitled “Nutrição Boratada no Cultivo de Soja no Estado do Mato Grosso” (Borate Nutrition in Soybean Cultivation in the State of Mato Grosso).

Read more: <https://www.sbcs.org.br/en/event/xxxviii-congresso-brasileiro-de-ciencia-do-solo-e-o-xxiii-congresso-latino-america-no-de-ciencia-do-solo/>

Wageningen Soil Conference 2023 – working together on solutions for a sustainable world

August 28th- 1st September 2023, Wageningen University & Research and ISRIC



World Soil Information welcomed participants to the fifth edition of the Wageningen Soil Conference.

The conference had an interactive character with conference sessions as well as workshops on divergent soil-related topics. The focus of the conference was on working together on solutions for a sustainable world.

Conference topics: Soils for Society; Advances in Measuring and Modelling Soil Processes; Mapping and Evaluating Soil Functions across Scales; Soils for Nature-Based Solutions.

The 2023 program consisted of keynote presentations and parallel sessions in the mornings, masterclasses in the afternoons, fantastic side events, and much more.

Read more: <https://wageningensoilconference.eu/2023/>

SUITMA 12 Conference

September 4th– 7th, 2023, Santiago de Compostela, Spain



The 12th edition of the SUITMA Conference celebrated the 25 years of the creation of the SUITMA (Soils of Urban, Industrial, Traffic, Mining and Military Areas) Working Group, one of the most active in the International Union of Soil Sciences.

The SUITMA12 Conference addressed all aspects of research on classification, properties, functioning and sustainable management of anthropogenic soils. A special issue of the Journal of Soils and Sediments (Springer ed.) has been published which includes a selection of the works presented at the SUITMA12 conference, which addressed all aspects of research on properties, classification, functioning, pollution, restoration, and sustainable management of anthropic soils.

31 Congress of the Soil Science Society of Poland – “Soil in a changing World”

September 11th– 16th, 2023, Poznań, Poland – Format: in-person

The 31st Congress of the Soil Science Society of Poland – Soil in the Changing World was held on September 11–16, 2023, in Poznań (campus of the Poznań University of Life Sciences). The aim of the Congress was to present the recent results of research conducted by scientific units in Poland and abroad, related to soil science in a broad context. Scientific issues of the Congress included the following issues: soil genesis and classification, chemical and biological processes in soil, physical and physicochemical processes in soils, soil degradation, reclamation and protection, sustainable use of soil resources, soil transformation and its effects on the environment, monitoring of threats soil environment, soil-forming processes in shaping soil properties, with particular emphasis on changes in the soil environment caused by progressive anthropo-pressure and climate change.

As part of the Congress, there was an opportunity for scientists and practitioners from Poland and abroad to broadly exchange and discuss views.

The exchange of experiences increased awareness of the state of knowledge and scientific research in the field of soil science among scientists from Polish and foreign centers.

The Congress has given an excellent opportunity to present to scientists from around the world the scientific potential and the results of research conducted by Polish researchers.

Read more: [31st Congress of the Soil Science Society of Poland | Soil in the changing World \(up.poznan.pl\)](#)

III SICA-SISS-SIPe Congress 2023

September 12th– 15th, 2023, Palermo, Italy



The Soil, the Plant, the Environment “Synergies in the soil-plant system for environmental protection and food safety”. The Conference highlighted the multifunctional centrality of soil in global environmental sustainability, which is now widely recognized: without the fundamental interaction between soil and plants we would not have food, water, ecosystems, biodiversity.

The soil ecosystem is influenced by multiple human activities. The reduction and control of soil pollution therefore becomes the necessary condition for the soil-plant system to continue to support humanity in the near future.

The themes of the conference were: Plant systems for sustainable development; Environmental protection for the ecological transition; Soil interactions for the multifunctionality of agricultural and forestry systems; The contribution of the soil to the protection of ecosystems and food security; Soil, climate change and sustainable development.

European Healthy Soils Conference Series 1 Edition, Soil Fertility

September 13rd – 15th, 2023, MuttENZ, Switzerland



About 150 soil researchers, policy makers and industrial actors from over 15 countries gathered at the FHNW School of Life Sciences in MuttENZ, near Basel.

During this first edition of the European Healthy Soils Conference, co-organized by the FHNW School of Life Sciences, Agroscope, and the European Federation of Biotechnology, participants had the opportunity to dig into a diversity of perspectives and recommendations.

The urgency to take action, not getting caught in the weeds, bringing in all levels of stakeholders, especially farmers, and moving from theory to practice were the take-home messages.

The research and outcomes of the conference will be published in a special edition of the European Journal of Soil Science on Earth Day, April 22, 2024. This collection of articles can guide policymakers, researchers, industry, and farmers in taking next steps collectively to address soil challenges that lie ahead.

Some highlights include: Insights into the EU mission A Soil Deal for Europe, its Living Labs and Lighthouses initiative, and the work of the Joint Research Council's Soil Observatory, shared by Peter Wehrheim, Luis Sanchez Alvarez, Niels Halberg and Serenella Sala. A look into soil diversity on our planet, from Peter Schad and Sebastian Dötterl. A deeper understanding of soil microbiology including the fascinating powers of fungi, from Katie Field and Matthias Rillig.

The challenges to overcome in the fight against hunger, presented by Natalia Rodriguez Eugenio from the Food and Agriculture Organization of the United Nations (org). Progress and obstacles in the circular economy, including microplastic degradation and the role soils play in mitigating climate change, by Giulia Gregori and Axel Don. Workshops focusing on regenerative agriculture and on indicators of healthy soils, including a lively exchange with the audience who asked difficult and important questions.

The Institute for Chemistry and Bioanalytics and Institute for Ecopreneurship collaborated to host the event at our impressive campus in MuttENZ. The conference was chaired by Sebastian Wendeborn in collaboration with Thomas Gross, Reto Meuli, and Alexander Wissemeier. Pascal Boivin, Bettina Hitzfeld and Natalia Rodriguez Eugenio organized the workshops.

Website: <https://www.efbiotechnology.org/healthysoils>

10th World Sustainability Forum (WSF2023)
September 14th, 2023, Hybrid: Singapore; Basel, CH; Toronto, CA, & virtual, International



The forum was dedicated to cutting-edge mono- and interdisciplinary research on sustainable development, sustainability and the SDGs. WSF2023 is part of a series of global forums on organizational sustainability and supported by MDPI.

Website: [WSF-10 \(sciforum.net\)](https://www.sciforum.net/)

CA20108 – FAIR Network of micrometeorological measurements (FAIRNESS) Conference on micrometeorological measurements Urban microclimate monitoring and agricultural meteorology for climate change

September 19th– 21st, 2023, Rome, Italy, in present.



Conference promoted by CA20108 - FAIR Network of micrometeorological measurements (FAIRNESS) CREA – Research Center for Policy and Bioeconomy and Research Center for Agriculture and Environment and University of Florence – DAGRI Department of Agriculture, Food, Environment and Forestry.

Read more: [FAIRNESS_Conference_Rome_2023.pdf \(fairness-ca20108.eu\)](https://fairness-ca20108.eu/pdf)

Global Symposium on Soils and Water. Soil and water, a source of life

October 2nd– 5th, 2023, FAO, Rome, Hybrid event



As 95 percent of our food is produced on land, with soil and water playing crucial roles, understanding the interconnectedness of the resources and the need for integrated management is of utmost importance.

The GSOWA23 was a science policy symposium that aims to review the relationship between soil and water in achieving sustainable and resilient agrifood systems. The specific objectives of the symposium was to: identify knowledge gaps and management challenges, and research priorities of soil and water resources in a changing environment; share and promote sustainable soil and water management practices in addressing water scarcity and soil degradation challenges; discuss tools and frameworks to guide integrated management and governance of soil and water resources; examine communication and partnership strategies for promoting sustainable soil management, solutions to water scarcity and low quality, reuse of water, and reducing soil pollution.

Format of the Symposium was:

Hybrid format for first and last day (2nd and 5th October 2023 from 10am to 5pm CEST).

Online technical sessions for central days (3rd and 4th October from 12pm to 3pm CEST). With technical sessions, discussions, and interactions taking place virtually.

Integration with “Rome Water Dialogue” – Closing day (October 5): On the closing day of the symposium, October 5, a significant synergy will be achieved through collaboration with the “Rome Water Dialogue.”

The symposium was organized with four themes:

1 Soil and water management in rainfed agriculture. This theme focuses on innovations

for increasing the water-holding capacity of soils and improve green water use efficiency. Analyzes the suitability of using soil organic carbon (SOC) as an indicator for land degradation neutrality and water scarcity, and interactions/trade-offs in soil management practices for water availability and soil recarbonization in rainfed agriculture.

2 Soil and water management in irrigated agriculture. This theme highlights the importance of efficient irrigation systems for preventing soil degradation, circular economy approaches for sustainable water management in fertilization, the value of water quality control to minimize soil salinity in irrigated systems, and the development of innovative irrigation systems for improved nutrient use efficiency.

3 Soil and water management under One Health framework. This theme explores the link between soil health and water quality within the One Health approach. It examines thresholds associated with the use of contaminated water and soil in agriculture, their impact on soil biodiversity, food quality, and safety and presents technical innovations for real-time monitoring of green water and water quality.

4 Integrated soil and water management and effective governance. This theme focuses on policies and governance actions aimed at improving soil and water resources management, leveraging innovative technologies such as precision agriculture, remote sensing, and big data analytics, and considering gender aspects for effective Integrated soil and water management.

The symposium welcomed a wide range of participants, including politicians, food producers, international organizations, scientists and professionals, NGOs, civil society, land users and indigenous peoples, as well as local communities, industry and private sector representatives. Participation in the symposium was free. Website: [Global Symposium on Soils and Water \(fao.org\)](https://www.fao.org/global-symposium-on-soils-and-water/)

XIV International symposium and field workshop on paleopedology

October 7th– 15th , 2023, Las Cruces, New Mexico State University, USA (Hybrid modality)



The symposium was a joint event of IUSS Commissions 1.6 Paleopedology, Commission 1.2 Soil Geography, and INQUA Paleopedology Working Group and New Mexico State University as a host institution. Contributions concerning any problems of soil development in time and space were accepted.

Website: [XIV International Symposium & field workshop on Paleopedology – International Union for Quaternary Research – INQUA](#)

1st International Conference on Soil Sustainability and Innovation. 47th National Congress of Soil Science

October 16th–20th, 2023, Mexico City, Mexico



The Mexican Society of Soil Sciences and Cinvestav Saltillo hold the 1st International Conference on Soil Sustainability and Innovation (ICSSI) on October 19, 2023, as part of the 47th National Congress of Soil Sciences, that took place in the Centro de Exposiciones y Congresos de la UNAM at Mexico City.

The 2023 Mexican Congress of Soil Science also hosted the First Round Table of the IUSS “Young and Early Career Scientists”.

The CNCS 47 Organizing Committee established Working Groups and Symposia in accordance with the Divisions and Commissions of the IUSS within the framework of its Centennial celebrations:

- I. Soils in Space and Time
- II. Soil Properties and Processes
- III. Soil Use and Management
- IV. The Role of Soils in Environmental and Societal Sustainability

Website: [General-Call-47-CNCS-1.pdf \(unam.mx\)](#)

33rd CODATA General Assembly
October 27th– 28th, 2023, Salzburg, Austria



CODATA approved Working Groups during the 33rd General Assembly which was held on 27–28 October 2023 in Salzburg, Austria. The proposals were reviewed by the CODATA Executive Committee and external experts.

The Working Groups are approved by the General Assembly for two years. Existing CODATA Working Groups may apply for renewal and are subject to the same criteria, as described in the Call for Task Groups document.

Working Groups are an important means through which CODATA achieves its mission and strategic agenda. In the 2023 call, groups that contribute to one of the strategic priorities described in the Call for Task Groups were encouraged. The CODATA ExComm and external reviewers of the proposal assessed the relevance and merit of the proposed working group to CODATA priorities.

Strategic Plan 2023–2027 Themes and Priority Activities

As the Committee on Data of the International Science Council (ISC), CODATA helps realise ISC’s vision of advancing science as a global public good. CODATA does this by promoting international collaboration to advance trustworthy, equitable and transparent science and to improve the availability and usability of data for all areas of research. The Strategic Plan 2023–2027 (draft approved by the Executive Committee published in May 2023) describes four priorities through which CODATA takes forward this objective: Making Data Work for Cross-Domain Grand Challenges: a program of activity to help deliver areas of the ISC Action Plan.

Data Policy: promoting principles, policies and practices for FAIR Data and trustworthy, equitable and transparent science.

Data Science and Data Stewardship: advancing the frontiers of the science of data, particularly to enable interoperability and reusability.

Data Skills: building capacity for trustworthy, equitable and transparent science and data stewardship by improving data skills and education.

Proposals should state clearly and specifically how the Task Group will contribute to the realization of one or more of these objectives and the priority activities.

Website: [Call for Task Groups 2023–2025 – CODATA, The Committee on Data for Science and Technology](#)

6th International Conference on Soil Pollution and Remediation (SOILREM 2023)

6–8 November, 2023, Nanjing, China



Soil pollution is an environmental issue over the whole world. Much effort has been made on solutions to sustainable use and management of the polluted soil environment.

The 6th International Conference on Soil Pollution and Remediation (SOILREM 2023) provided an opportunity for industry, regulators, scientists, students, engineers, private and public sectors to present recent research findings and to exchange information on innovative developments relating to sustainable remediation of polluted soils, sediments, groundwater, and industrial sites.

Following the very successful previous conference held in Hangzhou (SOILREM 2000), Nanjing (SOILREM 2004 and 2008), Yantai (SOILREM 2012) and Hangzhou again (SOILREM 2016), SOILREM 2023 was held from 6 to 8 November 2023, in Nanjing, China. Conference topics covered important aspects of risk assessment, and fundamental research and innovative technologies for soil remediation, such as bioremediation, phytoextraction, and phytostabilisation.

Target pollutants include inorganic pollutants, heavy metals, persistent organic pollutants, oils, petroleum hydrocarbons, mechanistic studies, technological development and validation on site scale, to full scale green and sustainable remediation of polluted soil and underground water to improve ecosystem and human health, etc.

Organized by: Institute of Soil Science, Chinese Academy of Sciences (ISSAS); Soil Science Society of China (SSSC); Jiangsu Environmental Protection Group Co., LTD.

Website: [SOILREM2023\(aconf.cn\)](http://SOILREM2023(aconf.cn))

2023 IEEE International Workshop on Metrology for Agriculture and Forestry
November 6th– 8th, 2023, Pisa, Italy



MetroAgriFor wanted to create an active and stimulating forum where academics, researchers, and industry experts in the field of measurement and data processing techniques for Agriculture, Forestry and Food can meet and share new advances and research results.

Thematic Areas:

Metrology, quality assurance and standardization; Sensors and measurement techniques; Data analysis; Applications.

Workshop Topics:

Sensor networking and integration; Approaches and tools for measuring Food

Soil analysis, mapping, and monitoring; Crop analysis, mapping and monitoring; Precision agriculture, forestry and live-stock farming; Measurements for agriculture, forestry and environment; Agroclimatic measurements.

Special Sessions

Special sessions were the main aim of creating a mini-workshop on a specific topic, where researchers working on the same argument can make knowledge, familiarize, exchange ideas, create cooperation.

Special Sessions were developed by designated presidents. Attention was paid, but not limited to, new technologies for agriculture and forestry environment monitoring, food quality monitoring, metrology-assisted production in agriculture, forestry and food industries, sensors and associated signal conditioning for agriculture and forestry, calibration methods for electronic test and measurement for environmental and food applications.

Website: [Index | IEEE MetroAgriFor 2023](http://Index|IEEEMetroAgriFor2023)

International Vermicomposting Symposium

Date: 8–9 November, 2023, with post-Symposium events on 10 November

Location: Florence, Italy and Virtual



Vermicomposting is a method of recycling organic matter using worms. The result is a high-quality, water-soluble organic fertilizer.

Vermicomposting is a method of recycling organic matter using worms. The result is a high-quality, water-soluble organic fertilizer. The goal of the symposium was to bring together academic experts and vermicomposting professionals from around the world to meet, learn from each other, and help build connections within the soil health community.

Read More: www.vermicompostingsymposium.com

5th International Conference on Sustainable Natural Resource Management Under Global Climate Change

7–10 November 2023, NASC Complex, New Delhi, India

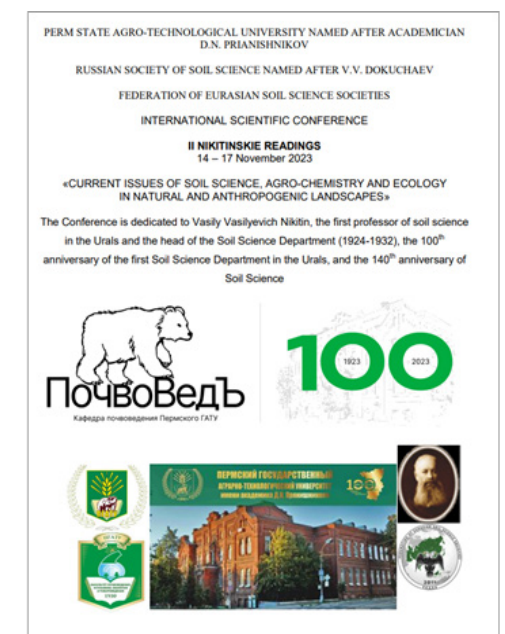


The Conference, organized by the Soil Conservation Society of India, brought together academy, research, students, and other stakeholders from India and abroad in an attempt to deliberate on different aspects of the topic of conservation and optimal utilization of natural resources. The event provided an opportunity to join forces and organize the scientific event in a collaborative way with the support of the International Soil Conservation Organization (ISCO), the World Association for Soil and Water Conservation (WASWAC), Beijing, the International Union of Soil Sciences (IUSS) and other international and national organizations. More than 350 participants from around the world attended the conference and made decisions.

Website: [Soil Conservation Society of India \(scsi.org.in\)](http://SoilConservationSocietyofIndia(scsi.org.in))

The International Scientific Conference II NIKITIN'S READINGS

November 14th– 17th, 2023, Perm, Russia



«Current Issues of Soil Science, Agrochemistry and Ecology in Natural and Anthropogenic Landscapes». The aim of the Conference was to discuss the most pressing problems in soil science, agro-chemistry and agricultural ecology, research on soil and land resources, unification of interdisciplinary scientists for the dissemination of scientific experience and advanced practice and discuss development and cooperation prospects; strengthen regional and international scientific cooperation and prepare the ground for scientists to do so exchange research results, systematize current issues and identify trends in scientific research.

Key topics of the conference were:

1. Genesis, classification, and evolution of soils. Multidisciplinary aspects of soil science;
2. Soil resources and land evaluation (fertility, degradation, conservation, monitoring). Post-agrogenic soil transformation. Land management;
3. Urban and anthropogenic soils, their ecological and geochemical system, formation, classification and Evolution;

4. Geoinformation systems in soil science, agrochemistry and ecology;
5. Mathematical methods in soil science;
6. Soil ecology;
7. Philosophy, history and sociology of soil science, international cooperation.

Conference Organization

The Conference was organized by FSBEI HE «Perm State Agro-Technological University Named after Academician D.N. Prianishnikov», with the Russian Society of Soil Science Named after V.V. Dokuchaev, the Federation of Eurasian Soil Societies and representatives of educational, scientific, industrial and social organizations. Representatives of foreign countries were welcome to take part in the Conference. The Conference was dedicated to Vasily Vasilyevich Nikitin, the first professor of Soil Science in the Urals and the Head of the Soil Science Department (1924–1932), as well as to the 100th anniversary of the first Soil Science Department in the Urals and the 140th anniversary of Soil Science.

Website: [Информационное сообщение \(pgsha.ru\)](https://infoshare.ras.ru)

Third EUSO Stakeholder Forum, Madrid, Spain

November 15th– 17th 2023, EUSO Working Groups Meetings, online

November 21st– 23rd 2023, European Soil Mission Week, physical presence – Soil Mission Week



Currently, more than 60% of the EU's soils are considered to be in an unhealthy state. The newly developed Soil Health Dashboard within the European Union Soil Observatory (EUSO) shows the location and estimates the extent of unhealthy soils in the European Union (EU), as well as the degradation processes behind them.

The EUSO is a stepping-stone in achieving healthy soils ambition by 2050, by identifying the most pressing drivers of soil degradation, but also by helping Member States identifying areas under higher pressure. Aligned with the European Commission's proposal for a Soil Monitoring and Resilience Law, the EUSO's dashboard represents a first step towards the assessment of soil health in the EU, but also the progress of soil-related EU policies.

In this context, the EUSO called its 3rd Stakeholder Forum, an annual event organized by the Joint Research Centre (JRC) whose purpose is to actively engage and exchange with the soil community, from policy makers and scientists to local actors, civil society representatives and citizens. The 3rd Stakeholders Forum was an opportunity for anyone interested in soils to update and exchange on various themes including latest developments in soil policy, state of soil science, new and ongoing soil research projects as well as methods to assess soil health in the EU and beyond.

The 3rd EUSO Stakeholders Forum took place in two parts:

- Technical Working Groups meeting, 15–17 November 2023 (online meeting) to discuss technical advances on the following topics: soil pollution, soil data sharing, soil monitoring, soil erosion, soil carbon and soil biodiversity;
- The European Soil Mission Week, Madrid – Spain, 21–23 November 2023 (in-person meeting). The event was organized by the European Commission's Directorate-General for Agriculture and Rural Development (DG AGRI)

in the context of the Horizon Europe Mission 'A Soil Deal for Europe' (Mission Soil) together with the JRC's EUSO and the EU funded project PREPSOIL, the outcomes of the TWG sessions were presented and discussed.

Website: [Third EUSO Stakeholders Forum – ESDAC – European Commission \(europa.eu\)](https://esdac.jrc.ec.europa.eu/euso)

OPM2023|Organic Phosphorus Workshop 2023

November 27th– December 1st, 2023, Pucón, Chile



The 2023 Organic Phosphorus Workshop was entitled: "Exploring the fate of organic phosphorus in soil and aquatic ecosystems in relation to global societal and environmental challenges".

Humanity faces many urgent challenges, including food security, environmental degradation, and climate change. The maintenance of current global food production, as well as future increases driven by projected population growth, are strongly dependent on continued inputs of phosphorus, mainly in the form of mineral fertilizers derived from phosphate rock.

Global phosphate rock resources are finite, and there is an acknowledged urgent need to improve phosphorus use and efficiency in agroecosystems to meet increasing demand.

Organic forms of phosphorus account for up to half of the total phosphorus present in many agricultural soils.

The nature and dynamics of organic phosphorus in soil play a major role in determining phosphorus bioavailability and plant productivity, and optimization of biological phosphorus cycling has the potential to contribute significantly to improving phosphorus use efficiency. Long-term inputs of phosphorus have resulted in the accumulation of significant quantities of legacy phosphorus in agricultural soils which in turn has contributed to increased diffuse phosphorus transfer and accelerated eutrophication of many water bodies. Biological processes play a vital role in determining the mobility and bioavailability of phosphorus in soils and sediments.

The workshop was held in Pucón, Chile between 27 November and 1 December 2023. This is the fourth iteration of the organic phosphorus workshop series, and previous meetings were held in Switzerland (2003), Panama (2013), and England (2016).

The Journal of Soil Science and Plant Nutrition will publish a Special Issue dedicated to the Organic Phosphorus Workshop 2023. This Special Issue will publish research and review articles originated from work presented at the workshop as oral and poster presentations as well as plenary sessions.

Website: <https://opwinchile2023.cl/>

Learn More: [Abstract book \(opwinchile2023.cl\)](https://opwinchile2023.cl/)

International symposium Reading the soil in archaeology: field practice and interdisciplinary perspectives

November 29th– December 1st, 2023, Tours, France

French national Institute for Preventive Archaeological Research (Inrap), in partnership with the laboratory Archaeology and Territories of UMR 7324 CITERES (CNRS, University of Tours), and in collaboration with the archaeology section of the Office of Heritage and Archaeology of Neuchâtel (Switzerland), organized a three-day international Symposium entitled "Reading the soil in archaeology:

field practice and interdisciplinary perspectives”. The Symposium took place at the University of Tours, in the heart of the city, on the Tanneurs University site.

Soil features have been at the heart of archaeological questioning for several years, stimulated in particular by the work carried out in preventive archaeology. Their identification, particularly in the field, remains a source of new data and new approaches. Their interpretation is becoming an indispensable step in the archaeological research and can, for certain periods, play a central role.

The theme of the Symposium was inspired by the common reflections of a group of archaeologists and specialists in earth sciences, with the aim of highlighting interdisciplinary approaches to the understanding of archaeological deposits and sites. Topics in soil science, stratigraphy, sedimentology, geophysics and other disciplines set the frame for discussions about soil in the archaeological contexts.

Objectives

The Symposium aimed to promote the interdisciplinary reading of the soil component in field archaeology, relying in particular on the contribution of earth sciences in general. This should result in a better organisation of the various research topics such as field recording, sampling, analysis, data correlation and interpretation. The construction of reference systems, good practice guides and awareness of the recognition of pedo-sedimentary features during archaeological fieldwork appear to be essential today. The Symposium encouraged communications and dialogue between archaeology and earth sciences, on common field experiences and assessments, on first syntheses and reference systems. It also addressed the ques-

tion of protocols and optimisation of fieldwork, as well as the decision processes concerning the selection of analyses, including, sometimes, within the restrictions of a developer-funded project.

Website: [International symposium “Reading the soil in archaeology: field practice and interdisciplinary perspectives» \(anthropologie.ch\)](https://anthropologie.ch/en/reading-the-soil-in-archaeology-field-practice-and-interdisciplinary-perspectives)

United Nations Climate Change Conference – Conference of the Parties (COP28)

Date: November 30th – December 12th, 2023, Dubai, United Arab Emirates



The global stocktake is a critical turning point when it comes to efforts to address climate change – it is a moment to take a long, hard look at the state of our planet and chart a better course for the future. COP28 closed with an agreement that signals the “beginning of the end” of the fossil fuel era by laying the ground for a swift, just and equitable transition, underpinned by deep emissions cuts and scaled-up finance.

In a demonstration of global solidarity, negotiators from nearly 200 Parties came together in Dubai with a decision on the world’s first ‘global stocktake’ to ratchet up climate action before the end of the decade – with the overarching aim to keep the global temperature limit of 1.5°C within reach.

“Whilst we didn’t turn the page on the fossil fuel era in Dubai, this outcome is the beginning of the end,” said UN Climate Change Executive Secretary Simon Stiell in his closing speech. “Now all governments and businesses need to turn these pledges into real-economy outcomes, without delay.”

There were at COP28 285 Press conferences; 152 Global Climate Action events; 366 Side events; 195 Ex-hibits.

Read more: [UN Climate Change Conference – United Arab Emirates | UNFCCC](https://unfccc.int/news/un-climate-change-conference-united-arab-emirates)

Soil Science Society of Ireland (SSSI) & British Soil Science Society (BSSS) joint Annual Conference 2023

December 4th– 5th, 2023, Assembly Buildings Conference Centre, Belfast, Northern Ireland



The Conference confirmed the program that included a soil policy session with representatives from the English, Irish, Northern Irish, Scottish and Welsh governments to provide an overview of soil monitoring and management activities being undertaken at a governmental level. Other keynote speakers included Prof. Dr. Rachel Creamer, Chair of the Soil Biology Group at Wageningen University, and Prof. John Gilliland OBE, Special Advisor to the UK’s Agriculture Horticulture Development Board.

Read more: <https://soils.org.uk/annual-conference-programme-2023/>

XI Brazilian Soil Education Symposium (XI SBES)

December 4th– 8th, 2023, fully virtual way



The XI Soil Education Symposium (XI SBES) was promoted by the MidWest Regional Nucleus of SBCS and carried out by the Palmeiras de Goiás Unit of the State University of Goiás (UEG), in partnership with the State University of Grande Dourados (UFGD) and other institutions.

The event was held in a fully virtual way, between 4 and 8 December 2023, and chaired by Professors Adriana Ribon (UEG) and Paula Pinheiro (UFGD).

The central theme of the Symposium was “Education in soils and its multiple horizons”, addressing the multidisciplinary in the most diverse areas, such as basic and higher education, agriculture, rural extension, urban soils, inclusion, and gender equality through the construction of the concept of soils in the form of art with paints, poetry, theatres, characters, reading stories and other recreational activities, in order to broaden the public’s gaze towards the most diverse horizons that Educação em Solos contemplates.

The aim of the Symposium was to unite those who care for the soil with their different perspectives, in order to integrate the multidisciplinary approach and reinforce that Soil Education is a necessary present and future aspiration for all generations.

XI SBES was also celebrate World Soil Day and the 75th anniversary of the Brazilian Soil Science Society.

Website: [XI Brazilian Soil Education Symposium \(XI SBES\)SBCS](#)

Annual Conference and Early Careers' Conference. British Society of Soil Science
December 4th– 5th and 6th– 7th, 2023, Belfast, Ireland



The British Society of Soil Science has organized the 2023 Annual Conference and Early Careers Conference. The conferences took place from 4 to 5 December (Annual Conference) and 6 to 7 December (Early Careers Conference) respectively, both in Belfast. The conference placed immediately after the BSSS Annual Conference and was free of charge for BSSS Early Career members.

The theme of the conference was: Soil Management and Monitoring and there were five topics: Nutrient Management, Soil Carbon, Water Management and Quality, Technology and Innovation, and Soil Health.

Abstracts for oral and poster presentations were received from across academia, research and industry and some of them will be published in BSSS journals.

Website: [British Society of Soil Science – 2023 Early Careers' Conference](#)

Workshop on “Soils protection: the great conundrum under the European Green Deal?”

hosted by the Lisbon Public Law Research Centre at the University of Lisbon, on December 6th.



World Soil Day is rapidly approaching. Do we have causes for celebration? Are we moving forward under the European Green Deal or just keeping step? Will the proposed Directive on Soil Monitoring and Resilience get us there?

With Matteo Fermeglia, University of Amsterdam

International Science Council (ISC) Hybrid Side Event at COP28, Dubai and online



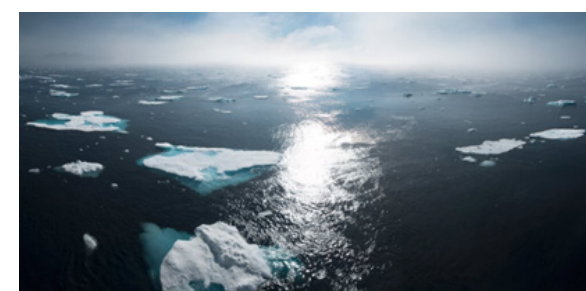
Jointly hosted by the ISC and The Royal Society, the side event “Better understanding economic impacts of climate change and accelerating science-based climate action” included speakers such as Jim Skea (IPCC Chair) as well as ISC Fellows Prof. Zakri Abdul Hamid and Tollu Oni.

Read more: <https://council.science/events/cop-28-science-based-climate-action/>

Two related ISC online events:

Virtual Knowledge Sharing Dialogue on Climate Change

4 December 2023, virtual.



Virtual knowledge-sharing event on climate change featuring representatives of ISC affiliated bodies who shared the latest developments in climate science, presented their flagship activities and highlighted opportunities for collaboration.

Read more: <https://council.science/events/knowledge-sharing-climate-change/>

“Advancing Climate Action and SDGs Synergies – Way Forward”

11 December 2023

POSTPONED to 2024

The Zoom session “Advancing Climate Action and SDGs Synergies – Way Forward” was expected to present key benefits for tackling climate and the SDGs together, and discuss current barriers and drivers enablers for synergistic action, and outline a framework and existing approaches for synergistic action. This joint event organized by the ISC in collaboration with UNDESA, IIASA and Future Africa has been POSTPONED to 2024.

Read more: <https://council.science/events/advancing-climate-action-and-sdgs-synergies/>

#AGU23

December 11th– 15th, 2023, San Francisco, CA & online



Everywhere Theme: Wide open Science.

For more than 100 years the American Geophysical Union (AGU) has been opening science, opening greater awareness to address climate change, opening greater collaborations to lead to solutions and opening the fields and professions of science to a whole new age of justice equity, diversity, inclusion and belonging. This year were convened more 25,000 attendees from over 100 countries in San Francisco for AGU23.

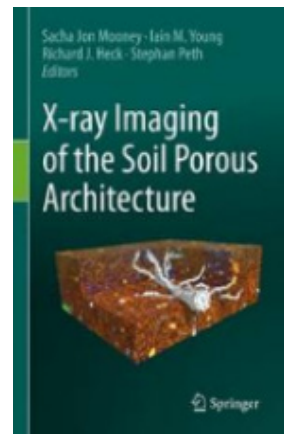
Theme was: Wide. Open. Science. 2023 might be the official year of Open Science as an opportunity to affirm AGU’s overarching values and beliefs, a message to carry to share, inspire, collaborate, engage and most of all rededicate as a united community grounded in wide open science.

Website: AGU Fall Meeting 2023 (<https://members.soils.org.uk/event-5170005>) <https://www.agu.org/Fall-Meeting>

New Publications



New Publications



X-ray Imaging of the Soil Porous Architecture

By Editors *Jon Mooney, Sacha, Young, Iain M., Heck, Richard J., Peth, Stephan, Springer International Publishing, November 2022, ISBNs 978-3-03-112175-3, 978-3-03-112176-0*

The book summarizes almost 40 years of research in the area of X-ray CT imaging of soils. It introduces best practices for both image acquisition and analysis and includes detailed examinations of different software packages for X-ray CT analysis. In December 1973 Godfrey Hounsfield published his seminal paper on transverse axial scanning, describing a methodology that could non-destructively analyse a human head (Hounsfield, 1973). Two years previously, a patient's head had been scanned in what was the first system available to hospitals developed by Hounsfield and his research partners. Thereafter, an explosion in the use of Computed Tomography (CT) systems for medical purposes was observed in most western countries. Now scans are faster, safer and more accurate and the use

of CT has extended far beyond the medical practices; and we now see CT specifically designed and used for mining, electronics, engineering and environmental challenges. This edited collection explores the use and development of CT for soil ecosystems, the most complex biomaterial on the planet, identifying best practice and new approaches to the quantification of pores, roots and organic matter, all non-destructively and all in situ.

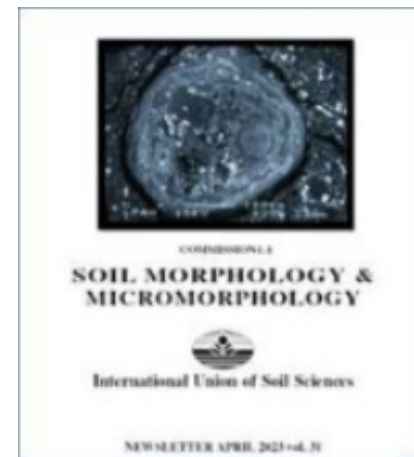
Read more: <https://doi.org/doi.10.1007/978-3-031-12176-0>



ANNUAL REPORT 2022 International Science Council (ISC)

This report is published by The International Science Council, 5 rue Auguste. Vacquerie, Paris, France

The Report is also available as a PDF download. Read more and download: [2023-05-22-Annual-report-web.pdf \(council.science\)](https://council.science/2023-05-22-Annual-report-web.pdf)

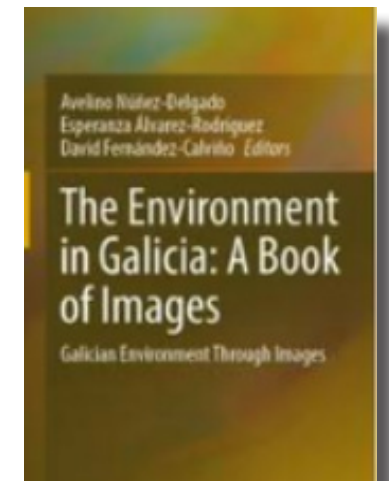


Newsletter IUS Commission 1 Soil Morphology and Micromorphology

Soil Morphology & Micromorphology, Newsletter July 2022 vol. 30, Newsletter prepared by Commission 1.1 Officers 2018-2022, Chair: Fabio Terribile (Italy), Vice-Chair: Richard J. Heck (Canada), pp.1-37

This newsletter reports on the change in Commission officials. Basically Richard Heck (former VP) now presides Division 1 while Fabio Terribile and Adam Szorbawill act as President and Vice President respectively of the Commission for the period 2022-2026.

In this issue they report the minutes of the work meeting they had at the WCSS in Glasgow where they modified the changes to the award evaluation criteria regarding the two awards (Kubiena and MYPA). In this volume: next meetings, next courses and report of previous courses, next international conference on soil micromorphology, new website.



The Environment in Galicia: A Book of Images: Galician Environment Through Images

By *Avelino Núñez-Delgado (Editor), Esperanza Álvarez-Rodríguez (Editor), David Fernández-Calviño (Editor); Springer International Publishing; ISBN-139783031331138; pages 640; publication date: 07/26/2023, https://doi.org/10.1038/s41467-023-38043-1*

This book describes the environment in Galicia (NW Spain), with researchers and professors presenting their own photographs of relevant aspects. This richly illustrated book explains atmospheric, geologic, water, soils, landscapes, and environmental issues and treatments for a broad audience, including students and the general public, to raise awareness and effectively develop strategies to meet the Sustainable Development Goals. (<https://doi.org/10.1038/s41467-023-38043-1>)



WASWAC HOT NEWS ISSUE 04, 2023

By José L. Rubio Deputy president WASWAC, Co-founder and Ex-president of European Society for Soil Conservation, Ex-Director of Desertification Research Centre-CIDE, Valencia, Spain, pp. 2-15, Editor: Pengfei Du Assistant Editors: Li Li, Donghao Huang, Xiaofei Nie, Silian Pan

The advancement of knowledge and the future of scientific soil protection associations. Foreword of the advancement of knowledge and the future of scientific soil protection associations. A Special issue on sustainable development of soil protection science and its associations.

Read more:

<http://www.waswac.org.cn/waswac/Latest-News/webinfo/2023/06/16867>

<http://www.waswac.org.cn/waswac/Latest-News/webinfo/2023/06/1686793539589275.htm>

<https://www.bing.com>

<http://www.waswac.org.cn/waswac/rootfiles/2023/06/07/1686793533065162-1686793533099861.pdf>



European Journal of Soil Science (EJSS)

Volume 74, Issue 4 July–August 2023 Online

Volume 74, Issue 5 September–October 2023

ISSN:1365-2389

Website: <https://bsssjournals.onlinelibrary.wiley.com/journal/13652389>

National Soil Strategy for Sustainable Agriculture (ENASAS): A new systemic approach in Mexico

By Ortiz, S.; Torres-Gómez, M.; Benavides, A.; Anaya, M.; Anglés-Hernández, M.; Cerón, A.; Cotler, H.; Cueto, J.; Etchevers, D.; Fernández, F.; González, J.; Guerrero, A.; Meneses, M.; Miranda, M.; Pérez, M.; Pulido, L.; Reyes-Sánchez, L.; Reynoso, V.; Saynes, V.; Villalobos, V.; Prado, B.; Guevara, M. 2023. National Soil Strategy for Sustainable Agriculture (ENASAS): a new systemic approach in Mexico. *European Journal of Soil Science. European Journal of Soil Science (EJSS)*, Volume 74, Issue 5, September–October 2023, e13395

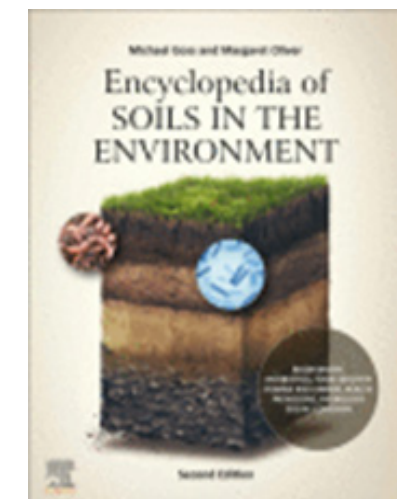
The National Soil Strategy for Sustainable Agriculture (ENASAS) arises in response to the increasing need to organize, coordinate and strengthen the implementation of actions oriented to the sustainable management of Mexico's agricultural soils. ENASAS promotes the generation of tools that provide reliable and updated data regarding Mexico's agricultural soils.

The measures recommended in this paper allow the conservation and maintenance of soils' essential functions for agriculture, food security and population well-being. The health and quality of agricultural soils are under constant pressure from several factors, mainly anthropogenic. One of ENASAS's objectives is to identify and stop the causes involved in land degradation processes using a systemic approach.

From this perspective, the participation of various actors in sustainable soil management allows the integration of different systems, practices, techniques and knowledge that promotes awareness among the entire population about the importance of soil resources, encouraging the development of scientific and technological research and the needs of farmers.

This perspective describes ENASAS as a multi-institutional initiative that will support sustainable soil management practices across the country's agricultural systems of Mexico and contribute to the adaptation and mitigation of global environmental change.

Read more: <https://doi.org/10.1111/ejss.13395>
<https://bsssjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/ejss.13395>



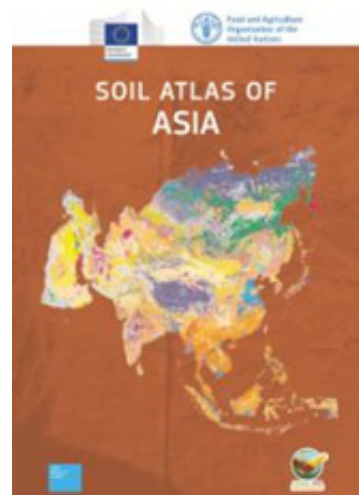
Soil Science Education, Awareness and Outreach publication

By Laura Bertha Reyes-Sánchez, Eric C. Brevik, E. C. 2023. *Soil Science Education, Awareness and Outreach in the Modern World. Encyclopedia of soils in the environment (2nd ed). Volume 3, 2023, Pages 572-579, Elsevier. Hardback ISBN: 9780128229743 e Book ISBN: 9780323951333*

Soil science education takes place in the formal classroom, laboratory, and extension and outreach settings. It can be provided by professionally trained teachers in schools and universities, individual scientists reaching out to the public, or professional societies looking to expand knowledge of the discipline. Regardless of the form, setting, or identity of those delivering this education, it is important to understand that teaching involves more than just the delivery of discipline-specific content. Soils knowledge is used to address a wide range of modern problems.

Inter- and trans-disciplinary thinking, communications, and interpretative skills are also needed to address global challenges.

Read more: <https://doi.org/10.1016/B978-0-12-822974-3.00091-4>
<https://shop.elsevier.com/books/encyclopedia-of-soils-in-the-environment/goss/978-0-12-822974-3>



Soil Atlas of Asia

By Country/Territory: Asia, 2023, Luxembourg; Rome, Italy. Pages: 212 p. Author: EC/JRC, FAO

Publisher: Publications Office of the European Union; FAO. ISBN: 978-92-5-137882-3

The EUSO, in collaboration with the Food and Agriculture Organization of the United Nations, has brought together over 100 soil experts from 45 Asian and European countries to produce the first-ever SOIL ATLAS OF ASIA. The atlas is targeted at the general public, decision-makers, politicians, teachers and even scientists in other disciplines, and aims to raise awareness of the importance of soil to human existence in Asia. The atlas explains, in a simple and clear manner, the reasons for the varying patterns of soil across Asia as well as the need to conserve and manage this increasingly threatened natural resource through sustainable use. At its heart is a series of annotated maps that show, for the very first time, the diversity of soil characteristics across the Asian continent in a manner that is comprehensible to the layperson.

Read more: <https://esdac.jrc.ec.europa.eu/content/soil-atlas-asia>



Continent-wide DNA analysis of soil Eukaryotes

Soil eukaryotes play a crucial role in maintaining ecosystem functions and services, yet the factors driving their diversity and distribution remain poorly understood. Cropla includes 18S raw DNA sequences for 885 samples collected as part of LUCAS 2018 Soil survey for the biodiversity module. The "Sample_data_LUCAS_18S" table includes values for soil properties, climatic data and extracted soil moisture data associated to the 881 sample sites, as well as information on the sampling month. Raw DNA sequences are available in ESDAC.

More information: <https://esdac.jrc.ec.europa.eu/themes/continent-wide-dna-analysis-soil-eukaryotes>

Download: [Soil Biodiversity - DNA Bacteria and Fungi data](#)



Soil Monitoring and Resilience (Soil Monitoring Law)

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

Brussels, 5.7.2023, COM (2023) 416 final 2023/0232 (COD)

{SEC (2023) 416 final} - {SWD (2023) 416 final} - {SWD (2023) 417 final}

{SWD (2023) 418 final} - {SWD (2023) 423 final} pp.1-22

On 5th July 2023, the European Commission proposed a new Soil Monitoring Law to protect and

restore soils and ensure that they are used sustainably. The new law aims to help achieve healthy soils by 2050.

https://environment.ec.europa.eu/publications/proposal-directive-soil-monitoring-and-resilience_en

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52023PC0416>



EUSO Annual Bulletin A review of 2022 activities

By Maréchal, A.; Panagos, P.; Jones, A.; Arias Navarro, C.; Ballabio, C.; Beltrandi, D.; Breure, T.; De Medici, D.; De Rosa, D.; Fendrich, A.; Koeninger, J.; Labouyrie, M.; Liakos, L.; Martin Jimenez, J.; Matthews, F.; Montanarella, L.; Muntwyler, A.; Orgiazzi, A.; Scarpa, S.; Schillaci, C.; Simoes Vieira, D.; Van Eynde, E.; Van Liedekerke, M.; Wojda, P.; Yunta Mezquita, F., JRC133346 EUR 31506 EN PDF ISBN 978-92-68-03434-7 ISSN 1831-9424 doi:10.2760/501153 KJ-NA-31-506-EN-N Luxembourg: Publications Office of the European Union, 2023 © European Union, 2023

This report presents the activities of the EU Soil Observatory (EUSO) that took place during 2022. Through its five main objectives, the EUSO contributes to improving the monitoring of soils, to creating and sharing knowledge and data about EU soils, in par-

ticular producing tailored outputs in support of policy development and to the wider public. These activities feed into the overarching knowledge management objective under which the EUSO provided extensive policy support to a range of policy areas, notably the upcoming Soil Health Law and the Horizon Europe's Soil Mission.

A key element of the EU Soil Observatory are the six EUSO Working Groups (WG) that aim to discuss policy or technical advances on a particular topic. Their activities in 2022 were diverse and ranged from providing policy support (Soil Monitoring, Soil Pollution WGs), technical progress on integration of soil data (Soil Data WG) or advancing scientific knowledge about soils (Soil Erosion WG).

This report also highlights the developments to be expected in 2023. In particular, the EUSO will produce reports on soil pollution, soil organic carbon trends, pesticides in soils, land degradation and a soil fertility index and work on the state of soil health in the EU.

A key development will be the publication of the EUSO soil health dashboard. The EUSO will support dedicated Soil Mission research projects and will continue to provide support for the upcoming Soil Health Law proposal. The EUSO is also planning a 2023 EU Soil Week.

Read more: https://esdac.jrc.ec.europa.eu/public_path/shared_folder/doc_pub/JRC133346.pdf



Soil Use and Management

Edited by: Deyi Hou and Deputy Editors David O'Connor, Adrian Unc and J Webb, Volume 39, Issue 4 October 2023, Published for the British Society of Soil Science, Online ISSN:1475-2743 Print ISSN:0266-0032

Soil Use and Management publishes in soil science, earth and environmental science, agricultural science, and engineering fields. The submitted papers should consider the underlying mechanisms governing the natural and anthropogenic processes which affect soil systems, and should inform policy makers and/or practitioners on the sustainable use and management of soil resources. Interdisciplinary studies, e.g. linking soil with climate change, biodiversity, global health, and the UN's sustainable development goals, with strong novelty, wide implications, and unexpected outcomes are welcomed.

Read more: <https://bsssjournals.onlinelibrary.wiley.com/journal/14752743> <https://doi.org/10.1111/sum.12819>

<https://bsssjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/sum.12819>



Integrated soil-water-crop management in salt-affected areas

By Filiberto Altobelli, Anna Dalla Marta, Anna Benedetti, Maria Konyushkova, Giuseppe Corti, Vol. 18 No. 2 (2023): Special issue on: "Integrated soil-water-crop management in salt-affected areas". Italian Journal of Agronomy, eISSN 2039-6805 - pISSN 1125-4718, <https://doi.org/10.4081/ija.2023.2189>

Salt-affected soils, which include both saline and sodic soils, are found in various regions around the world. They can be found on all continents and are present under a wide range of climatic conditions. [...]

Read more: <https://www.agronomy.it/index.php/agro/article/view/2189>

Pdf: <https://www.agronomy.it/index.php/agro/article/view/2189/1500>



European Journal of Soil Science (EJSS)

Volume 74, Issue 6 November–December 2023 ISSN:1365-2389

Read more: <https://bsssjournals.onlinelibrary.wiley.com/journal/13652389>



Malaysian Society of Soil Science (MSSS)

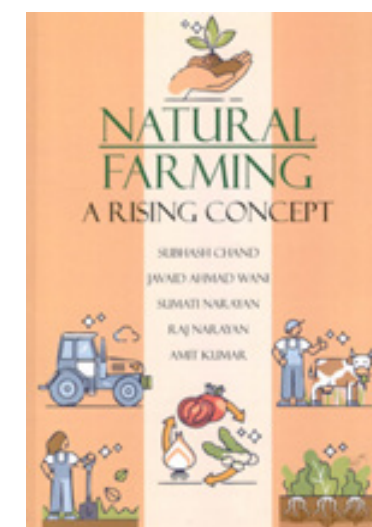
MSSS Newsletter,

By Editorial Board Dr. Khairun Nisa Kamarudin, Mdm. Intan Nadhirah Masri, Malaysian Society of Soil Science (MSSS), Issue 1 – 2023, pages 21

Message From the Editorial Desk “Soil Health”
Soil plays an important role to the environmental health. Soil health is defined as the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans. Healthy soil gives us clean air and water, bountiful crops and forests, productive grazing lands, diverse wildlife, and beautiful landscapes. As world population and food production demands rise, keeping our soil healthy and productive is of paramount importance (USDA, 2023). Therefore, together we keep our soil in healthy condition!

Read more: <https://www.msss.com.my/newsletters.php>

https://www.msss.com.my/2023/newsletters/NWL_Issue1_2023.pdf



Natural Farming: A Rising Concept

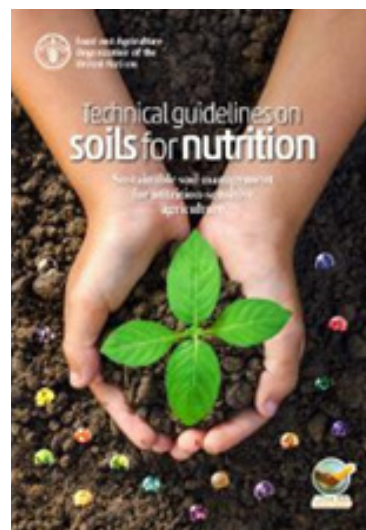
By Subhash Chand, Javaid Ahmad Wani, Sumati Narayan, Raj Narayan, Amit Kumar, 2024, Sathish Serial Publishing House (SSPH), pages 259 ISBN: 9788119105052

Nowadays, if conventional farming continues, the topsoil will vanish in the coming 60 years. This book is an account of introduction, principles, different practices, recent advances related to natural farming.

A comprehensive review on benefits and limitations of natural farming as carried out by various research workers have been discussed in detail. Soil organic matter is an important factor in restoring soil fertility. An increase in soil fertility has a direct relationship with socio-economic conditions of farmers, vegetable growers and orchardists. A healthy soil is always responsible for production of quality grains and fruits, hence there is an urgent need to maintain optimum soil health. Organic produces are healthier and tasty than in-organic foods. However, the decline in yield has been noticed and recorded various research workers.

The book “Natural Farming: A Rising Concept” has been written in concise form. Authors hope that the book shall be extremely useful for the practitioner in agriculture, farmers, growers, orchardist, students, teachers, policymakers, colleagues and Universities.

Read more: satishserial.com/book/9788119105052/natural-farming-a-rising-concept



Technical guidelines on soils for nutrition. Sustainable soil management for nutrition-sensitive agriculture

By FAO, 2023, Rome, Italy, *pages:* 44 p. *Author:* FAO, *Publisher:* FAO

These technical guidelines outline the role that soil health plays in the nutritional quality of food and provide soil management recommendations to increase the supply of micronutrients to the food chain. Micronutrient supply is part of a holistic view of soil health, where healthy soils contribute to a safe and healthy diet. The guidelines provide seven main actions, with concrete tools and instructions, including fertilization practices, the use of adapted varieties, the application of nature-based solutions, the development of policy guidelines and the development of training strategies. This document is addressed to all actors involved in food security and production, from farmers to policymakers, to engage them in sustainable soil management for nutrition-sensitive agriculture. The technical guidelines on soils for nutrition are the result of a review of existing scientific references on the topic and from field trials and demonstration sites developed under the Sustainable Soil Management for Nutrition-Sensitive Agriculture in Sub-Saharan Africa and Southeast Asia project, funded by the German Federal Ministry of Food and Agriculture.

Read more: <https://www.fao.org/3/cc5069en/cc5069en.pdf>
<https://doi.org/10.4060/cc5069en>



Soils, where food begins

By FAO, 2023, *Outcome document of the Global Symposium on Soils for Nutrition, 26–29 July 2022*

Rome, Italy, pages: 44 p. *Author:* FAO, *Publisher:* FAO

The Global Symposium on Soils for Nutrition outcome document highlights the latest research findings and multisectoral insights which evidenced that nutrient imbalance is a global and crosscutting threat with multifactorial drivers and effects on the agrifood systems and even on key planetary processes. The recommendations presented in this document aim to support the implementation of actions and development of policies towards healthy and fertile soils by 2030, allowing the sustainable production of more nutritious and safer food with a climatic and environmentally friendly approach and in the framework of achieving the Sustainable Development Goals.

This document also collates the communication campaign aimed at positioning the soils for nutrition topic in the public eye.

The Global Symposium on Soils for Nutrition was held virtually from 26 to 29 July 2022. It was attended by over 9 500 participants representing more than 180 countries, including representatives of FAO Members, organizing institutions, academia, research institutions, the private sector, civil society, and farmers, as well as land users working on soil fertility, nutrient imbalances and related fields. This document is also based on the booklet “Soils for nutrition: state of the art” and is complemented by a book of proceedings, which presents extended abstracts of the various parallel sessions and posters presented during the symposium.

Read more: Soils, where food begins (fao.org)

<https://doi.org/10.4060/cc4774en>



Soils: where food begins! A collection of 10 children's stories from around the world.

By FAO & IUSS, 2023, Rome, ISBN 978-92-5-138028-4 FAO

Stop Soil Degradation and the IUSS's Educative Project to Achieve It – IUSS-FAO Co Publication
 Within the framework of the collaboration of the educational project “THE IUSS GOES TO SCHOOL” with the FAO, and as a product of the IUSS-FAO Children's booklet contest that were launched to celebrate WSD-2022, has already been published the scientific book for children: “Soils, where food begins: a collection of 10 children's stories from around the world.”

Read more: iuss-goes-to-school.org.mx
<https://www.fao.org/world-soil-day/con-tests/book-contest-2023/en/>

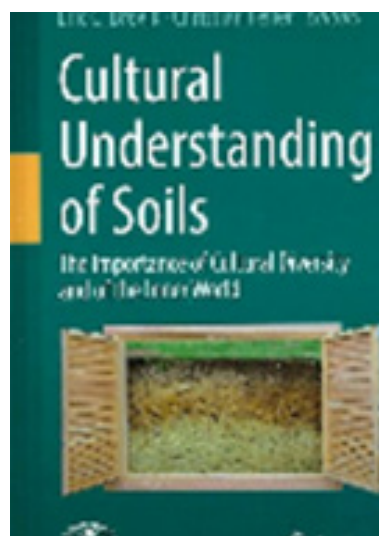
<https://doi.org/10.4060/cc7127en>



The Impact of Disasters on Agriculture and Food Security 2023. Avoiding and reducing losses through investment in resilience

By FAO, 2023, pages #168, Rome, Italy, ISBN: 978-92-5-138194-6

Read more: [The Impact of Disasters on Agriculture and Food Security 2023 \(fao.org\)](https://www.fao.org/publications/collection/en/collection/the-impact-of-disasters-on-agriculture-and-food-security-2023)



Cultural Understanding of Soils

By Nikola Patzel, Sabine Grunwald, Eric C. Brevik, Christian Feller, Editors. Springer Publ. 2023

A print version, e-book, and individual chapter files can be purchased online.

The main assumption underlying this book is that soil is inescapably perceived in a cultural context by any human. Cultural framing of soils is common worldwide and is highly consequential. Cultural understandings of soil are diverse and often ambiguous. The implications of what place the earth has in people's world view and everyday life can be in line with or in conflict with natural conditions, scientific views, or agricultural practices.

Different paradigms and guiding images give emergence to different significant webs of meaning. They are influenced by religious, spiritual, or secular myths, and by a wide range of beliefs, values and ideas that people hold in all societies.

These patterns and their dynamics inform the human-soil relationship and how soils are cared for, protected, or degraded. Therefore, there is need to deal inter-culturally with different sources and types of knowledge and experience regarding soil; a need to cultivate soil awareness and situationally appropriate care through inter- and intra-cultural dialogues and learning. This publication focuses on the human and intangible dimensions of soil.

To serve this aim, the IUSS founded a working group on Cultural Patterns of Soil Understanding that has resulted in this book.

It presents studies from almost all continents, written by soil scientists and experts from other disciplines. A major objective of this project is to promote intercultural literacy that gives readers the opportunity to appreciate soil across disciplinary and cultural boundaries in an increasingly globalized world.

Read more: <https://link.springer.com/book/10.1007/978-3-031-13169-1>

Degrees Pursued by Students in Different Countries to Train for Careers in Soil Science

By Eric C. Brevik, Damien Field, Jacqueline Hannam, Maja Krzic, Rainer Horn, Cristine Muggler, Jude Odhiambo, Yoshitaka Uchida, Danny Itkin, Hong-sheng Wu, Liana Pozza, Laura Bertha Reyes-Sánchez & Thomas Scholten. Editors: Nikola Patzel, Sabine Grunwald, Eric C. Brevik, and Christian Feller, *Cultural Understanding of Soil*, pp 483–507 Springer, Cham, 2023.

Soil science is an extremely interdisciplinary field, which means it does not necessarily have an obvious academic home and multiple academic departments have been documented to offer soil science coursework and curricula. This chapter investigated how different academic cultures in 11 countries around the world (Australia, Brazil, Canada, China, Germany, Israel, Japan, Mexico, South Africa, the United Kingdom, and the United States) view soils based on the placement of soils within their undergraduate academic degree programs. Soil science training was scattered among a wide range of academic subject areas, with agronomic, environment, or geosciences being the most common.

Several countries had some academic programs that offered soil science as a stand-alone program, but except for China, stand-alone soil science programs were not the most common way to offer undergraduate soil science degrees in the countries investigated. Many of the countries investigated reported a shift in the academic placement of soil science training away from the agronomic sciences toward an environmental or geosciences focus in recent decades.

The study concluded that each country's unique culture played a part in determining where academic soil training is found.

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In memoriam



Phil Brookes

It is with great sadness that we have learnt of the death of Phil Brookes. Phil joined the Chem-istry Dept at Rothamsted in the mid-1970s and in the subsequent years built up an international reputation for his work on the microbial biomass. He supervised very many overseas PhD stu-dents and in the 2000s took up research posts in China. He retired a few years ago to Ireland where he died last week.

We have little further information at this time but a full appreciation of Phil's work will ap-pear in due course.

Paul Poulton & David Powlson

