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80 years

IUSS – ISSS (1924 – 2004)

In June 1923, a meeting was held where the decision was taken to establish the International Society of Soil Science (ISSS) at a meeting in Rome in 1924. The preparatory work for the Rome meeting was the task of the International Committee of Pedology. The Fourth International Conference on Pedology lasted from 12 to 19 May 1924 and was held under the auspices of the International Institute of Agriculture. The conference in Rome recommended more uniform methods of soil analysis, a definite nomenclature for soil classification, the preparation of agro-geological maps of Europe at a scale of 1:0.5M and 1:2.5M, the organization of soil investigations in countries where these had not yet started, and an introduction to the study of soils into the curricula of intermediary and higher schools. The newly established ISSS decided to encourage soil research world-wide as its primary goal.

80 years later the ISSS has been transformed into the IUSS and it is the global union of soil scientists. The goals have not changed much and the objectives of the IUSS are to foster all branches of the soil sciences and their applications, and to give support to soil scientists in the pursuit of their activities!

Contents

Editorial

As we compile our third issue of the Bulletin since the transfer from the Editorship of Winfried Blum, it now all seems to be familiar territory! We still seem to be experiencing delivery problems however. The problem is of course that we cannot ask you the question 'If you do not receive this Bulletin, please let us know?'. We dispatched Bulletins to all our current addressees including National Societies and other National Member Bodies, Officers, Honorary Members, Life Members, Subscribing Members and Libraries. The list of Library subscriptions is particularly difficult to keep track of. If you know of a Library which has received the Bulletin in the past but no longer appears to do so, please let me know and we shall check through our records whether they previously subscribed and have not been invoiced. Fortunately the vast majority of the Membership access the Bulletin via the web pages (www.iuss.org) and we are pleased that the use of this website continues to increase. We welcome contributions to the WebPages (and the Bulletin of course!) from National Bodies, Commission, Working Groups and individuals. The immediacy offered by the website in some respect makes the production of a paper version of the Bulletin somewhat redundant, but we realise that some of our membership still prefer the traditional paper version to the electronic version with all the possible problems of 'logging on', etc.

In the last issue we outlined the broad outcomes of the meeting of Council held in Philadelphia and provided a full copy of the Minutes. I have received a number of positive responses to the inclusion of the full Minutes (including some corrections to my spelling!), and we shall continue to include this sort of information to keep the membership involved.

I continue to receive many invitations to attend meetings of National Soil Science Societies, Regional Groups, specialist groups and many organisations who have strong ties with Soil Science and Soil Scientists. I regret that frequently I have to decline these invitations, sometimes as a result of other commitments, at other times because of there being too short a planning time. In the last few months however I have attended three substantial gatherings of soil scientists. In August I attended the meetings of the Dockuchaev Soil Science Society in Novosibirsk in Siberia. This was a first for me both in Siberia and Russia. The meeting was attended by over 500 soil scientists and involved a most lively programme of both plenary and concurrent sessions in which current research activity and future directions were discussed. I was pleased to be able to represent IUSS at the Opening and Closing Ceremonies, at the Welcoming Reception and at the Conference Dinner. In addition to the pleasure of attending this meeting it was also with considerable joy that I was able to celebrate the 70th birthday of ISSS and IUSS stalwart, Victor Targulian (see elsewhere in this issue). My final few days in Siberia were spent in the field observing a range of Chernozems and related landscapes. We stayed at a field station and were most generously entertained including the refreshing experience of a sauna after a days fieldwork (for those who have not experienced this I found it most invigorating and I recommend it to you!). I returned from Novosibirsk with many new friends and some wonderful memories, and it was particularly pleasing to find that Soil Science is still thriving in Russia.

In early September IUSS hosted a reception for National Presidents at the quadrennial meeting of the European Soil Science Societies at Eurosoil 2004 in Freiburg. This was an exceptionally successful meeting with over 1500 soil scientists attending. There was a full programme of paper sessions over the five days, and an outstanding set of excellent posters covering the full range of topics, including some interesting posters on outreach to schools and the non-scientific community. The posters occupied a number of large rooms. The Conference also provided a wide range of field excursions, before during and after the Meeting. In addition to science delegates were able to enjoy the wonderful city of Freiburg, particularly so as the Conference Registration included free travel on city trams and buses and regional railways. This was the second Eurosoil Conference and from the relatively humble beginnings of Eurosoil 1 in Reading in 2004, these meetings are now an important part of the European Soil Science Agenda. The next meeting is planned for Vienna in 2008 organised by the Austrian Soil Science Society and other National Bodies in

the region. Given the increased co-operation amongst European Soil Science Societies it was decided during the Freiburg Meeting to establish a European Confederation of Soil Science Societies to promote pan-European co-operation. It is envisaged that the National Social Science Societies will continue to be the key constituent bodies for promoting Soil Science, but that by coming together within the Confederation soil scientists will be able to work together to promote the subject across a number of European fora.

Late in September I attended the Latin American Congress of Soil Science in Cartagena in Colombia. Latterly Latin American Soil Science has had a relatively low profile within IUSS, but I am pleased to report that this Congress, attended by over 500 soil scientists from the region and beyond, was a major success. The Congress had both plenary and concurrent sessions covering the full range of soil science topics, together with field excursions in the middle day of the Congress. I am pleased to report that Soil Science is well and thriving in Latin America and I hope that the links I have established will result in much closer involvement of Latin American soil scientists in IUSS.

After these travels I have now returned to the somewhat more mundane, but nevertheless important, matters related to the day to day organisation of IUSS. Two topics of particular importance concern the Elections for new Officers and our proposals for IUSS prizes. These are covered in detail elsewhere in the Bulletin but I briefly summarise the situation below.

Following the adoption of the new IUSS Statutes and Bye-Laws at the InterCongress Meeting in Philadelphia during April 2004, we are now proceeding with organising the elections for Division and Commission positions. The new arrangements are a major change from the previous arrangements, as Officers of the Divisions and Commission will be elected before the next Congress, by the full membership rather than as in the past by the relatively small proportion of the membership who attended the Congress and participated in the elections. We hope this new arrangement will encourage many more members to become more actively involved in the activities of the Union.

Under the new Statutes and Bye-Laws the elections should normally take place before the InterCongress Meeting. This would enable the new Officers to 'shadow' the current office holders for two years prior to taking over the management of the organisation of the Division or Commission after the Congress. Given that the Statutes and Bye-Laws were only finally approved in April 2004 at the InterCongress Meeting we have had to adopt an interim arrangement during the transition period, and in this way we are seeking to complete the elections during the next year, so that Office holders are able to take over after the next Congress. As a first step Divisional and Commission Chairs have been asked to draw together a list of possible candidates for all posts within their Division and forward these names to their Divisional Nominating Committees. We do of course welcome nominations from any member for any of the Divisional and Commission positions. Anyone wishing to make a nomination should contact me directly. Following this nominating process, details of the candidates will be mailed to National Bodies by the late summer of 2005, who should then organise a ballot on a national basis. We are seeking the situation where there will be at least two candidates for every position. Voting will take place nationally and be managed by National Member Bodies, who will forward results of the national vote to the Secretary General and Election Committee for scrutiny and compilation of the final results. It is anticipated these will be announced in the Spring of 2006.

As a new initiative IUSS has introduced two awards which will be bestowed on outstanding scientists in the field of basic and applied soil sciences for the first time at the 18th World Congress of Soil Science in Philadelphia, USA in 2006. Full details of the prizes and the nomination and evaluation procedures are to be published in IUSS Bulletin 105 (November 2004) and on the Unions website www.iuss.org

The are are two awards: ***IUSS-Dokuchaev Award*** for basic research in soil sciences, and the ***IUSS-Liebig Award*** for applied research in soil sciences

These two awards are differentiated by the type of contribution rendered, not by professional membership grouping. Eligible are members of the International Union of Soil Sciences. Only one award can be given to one person or group of persons during one year.

IUSS-Dokuchaev Award
This award will be made for major research accomplishments, resulting from basic researches in soil sciences. The award may be made for outstanding research results in the field of basic soil science.

IUSS-Liebig Award
This award recognizes outstanding contributions in applied soil science research, contributing to new discoveries, techniques, inventions or materials that increase food security, improve environmental quality or conservation, land and water development and other areas covered by the divisional structure of IUSS.

Each award consists of an engraved medal, a certificate, a US$ 1000 honorarium, and financial support to attend the presentation at the WCSS.
Finally, as you will most probably receive this towards the end of 2004, may I take this opportunity to wish you a successful 2005.

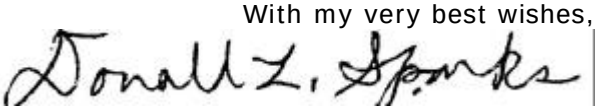
Reading, November 2004
Stephen Nortcliff
Secretary General IUSS
E-mail iuss@rdg.ac.uk

Message from the IUSS president

I am excited about the attention and importance that soil science is receiving throughout the world. While we have much work to do, I am optimistic that the future of our discipline is bright. Several recent events cause me to express these opinions. I had the pleasure of attending the Eurosoil 2004 meeting (September 4-12) in Freiburg, Germany. Freiburg is a spectacular city, and the weather for the meeting could not have been more pleasant. Eurosoil 2004 was an outstanding meeting, attended by over 1200 soil scientists. The organizers are congratulated on a truly wonderful conference. I was particularly pleased to see so many young scientists attending the meeting, and to meet the Presidents of Soil Science Societies from over 20 European Countries. I represented IUSS and J. Thomas Sims, President of the Soil Science Society of America, also attended the meeting.
I want to specifically mention two major outcomes of Eurosoil 2004. At a meeting of the Presidents of European Soil Science Societies it was unanimously agreed to form a European Confederation of Soil Science Societies (ECSSS). This is an exciting development as ECSSS will serve to strengthen the visibility and importance of soil science in Europe, enhance collaborations among scientists, and provide a more effective means to influence policy decisions and research priorities and funding. At the Opening Ceremony of Eurosoil 2004, representatives of the European Commission and the Ministry of the Environment and Traffic spoke. It was gratifying to learn that soil science research and issues are very much on the “radar screen” in Europe.
In the United States, programs within the Division of Earth Science of the National Science Foundation (NSF) have been reorganized and two programs, Geobiology and Environmental Chemistry and Geomorphology and Land Use Dynamics, provide excellent opportunities for soil scientists to secure funding. Additionally, NSF has a major program that funds the establishment of interdisciplinary Environmental Molecular Science Institutes (EMSI) that focus on environmental research and outreach. A number of soil scientists receive funding through this program.
I will be attending SuperSoil 2004 in Sydney, Australia, December 5-9, 2004. This is a joint meeting between the Australian and New Zealand Societies of Soil Science. The title of the conference has significance as it indicates the critical importance of soil to our existence and that its value should be stressed to laypersons and policymakers. I will

present a plenary lecture in the opening session, entitled, “Global Challenges and Opportunities in Soil Science”.
In summary, it is an exciting time to be a soil scientist. Opportunities abound not only in research, but also in educating students, the public, and policymakers about the importance of soil science.

With my very best wishes,



Donald L. Sparks
IUSS President
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Program Planning
18th World Congress of Soil Science

Venue
Known as the cradle of democracy, Philadelphia served as the U.S. capital from 1790-1800. The Declaration of Independence was adopted in Philadelphia, and the U.S. Constitution was written here. Philadelphia is home to Independence Hall, the Liberty Bell, and many other historical attractions. In addition to being one of America’s most historic and beautiful cities, it is rich in the arts and sciences, being home to the world-renowned Philadelphia Museum of Art, the Rodin Museum, and the Pennsylvania Academy of the Fine Arts, the Franklin Institute Science Museum and The Academy of Natural Sciences.
Plans for the Congress include an opening reception and closing banquet as well as special events at scenic, historical, and cultural venues within the city that will give you the flavor of Philadelphia and interwoven cultures across the United States. You will all have opportunities to take advantage of the memorable music, art and history facilities within close proximity to the Convention Center and hotels.

Program
The technical program will consist of symposia, and poster sessions organized within the framework of the IUSS scientific structure by Division, Commission, and Working Group officers. At the Inter-Congress meeting in April, the IUSS officers selected 81 symposia to be presented at the 18th World Congress.

- Symposia sessions (invited and voluntary papers)
- Poster sessions (voluntary papers)

Since the theme of the Congress is “Frontiers of Soil Science: Technology and the Information Age”, the program will focus on recent advances in soil science with an emphasis on topics such as remote sensing, geographic information systems, landscape analysis, state-of-the-art molecular scale analytical techniques, environmental soil biology, plant/soil interface processes, computer and computational modeling of soil processes and reactions, precision agriculture, and other applications of information science and technology.
Divisional symposia to be presented as cross-cutting topics include the following:

Division 1 Soils in Space and Time

- New Frontiers in Soil Resource Assessment
- Soil Change in Anthropocence
- Multiscale Mapping of Soil Properties for Environmental Studies, Agriculture, and Decision-Making
- Synthesis, Modeling, and Applications of Disciplinary Soil Science Knowledge for Soil-Water-Plant-Environment Systems
- Soil Geochemical Patterns at Regional, National, and International Scales

Division 2 Soil Properties and Processes

- Synchrotron Spectromicroscopy of Particulate Matter Affecting Air, Water & Soil Quality
- Innovative Technologies in Rhizosphere Research
- Measurement, Occurrence, and Transport of Radionuclides in Soils and Sediments, and their Transfer to Biota
- Emerging Methods to Examine Metal Speciation and Bioavailability in Soils

Division 3 Soil Use and Management

- Long-term Agronomic Experiments: Their Importance for Science and Society
- Wetlands: Science and Management
- Sustainable Soils and Life on Land

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

- Bridging Soil Science and Environmental Policy Targeting Science While Better Communicating Scientific Findings
- Soil Related Discords and Conflicts
- Soils and Human Health

Sixty six symposia will also be presented by the IUSS Commissions and Working Groups to complement the overarching thematic approach of the Division sessions.

Scientific and Cultural Attractions

Stimulating scientific and cultural tours within Philadelphia, the surrounding communities, Washington, D.C., Baltimore, New York, and across selected regions of the North America will be offered.

- Pre- and post-Congress tours within North America will provide opportunities to examine soils of the Coastal Soils, Piedmont, Ridge & Valley, and other geologic provinces, to explore U.S. national parks, and to visit historic sites, such as Thomas Jefferson's home in Virginia, or Kitty Hawk, North Carolina, where the Wright Brothers first took flight. Final plans are being completed for 16 pre- or post-Congress tours.
- Mid-Congress tours and special activities for spouses, companions, and guests in and around Philadelphia will include renowned museums and historical attractions, Civil War battlefields and Amish agriculture. About 12 mid-Congress tours are planning for Wednesday, July 12, 2006.

Opportunities to register for the 18th WCSS will be presented in the 2nd Announcement which will be available about January 1, 2005. This publication will contain more detailed information on the overall 18th WCSS program, pre-, mid- and post-congress tours, and other scientific and cultural attractions.

Additional information about the 2006 World Congress of Soil Science is available at www.18wcss.org. If you have questions please contact either Larry Wilding (wilding@tamu.edu) or Lee Sommers (Lee.Sommers@colostate.edu). Please stop and visit the booth in the exhibit area.

The following is a complete listing of the symposia and the convenors and co-convenors involved in their development.

Symposia Developed for the 18th World Congress of Soil Science

Division 1 Soils in Space and Time

Oral Symposia

1.0A New Frontiers in Soil Resource Assessment

New technologies used in acquiring soil resource information will be explored in this symposium. Use layers of information and data to enhance our ability to predict and perfect soil-landscape paradigms as a foundation for accurate soil surveys, using expert

systems to help capture soil scientists' knowledge of an area, and geophysical tools to accurately assess soil mapping
delineations will be Included.
Convenor: Jay Bell (USA) email: bellx007@umn.edu
Co-convenor: Michael Golden (USA) email: Micheal.golden@usda.gov

1.0B Soil Change in Anthropocence
In the last 300 years, referred to as the Anthropocene, human impact on land has affected the course of soil formation and changed soil properties and landscape conditions. Symposium will evaluate quantification of such human-induced changes to
improve our identification, classification, use and management of soils.
Convenor: Victor Targulian (Russia) email: targul@centro.ru
Co-convenor: Hari Eswaran (USA) email: hari.eswaran@usda.gov

1.0WA Soil Geochemical Patterns at Regional, National, and International Scales
Symposium will focus on soil science and geoscience disciplines conducting regional-, national-, and international-scale soil geochemical surveys. Both case studies and process-oriented presentations are anticipated from the risk assessment, public health, and environmental regulatory communities. Symposium should promote communication among the geoscience
communities.
Convenor: David Smith (USA) email: dsmith@usgs.gov
Co-convenor: Martin Goldhaber (USA) email: mgold@usgs.gov
Co-convenor: Wendell Norvell (USA) email: wan1@cornell.edu

1.0WB Wetlands: Science and Management
Increasing population and population density intensifies land use and management of wetlands. Sustaining the quality of wetlands requires development of new methods and instrumentation to evaluate anthropogenic impacts on wetland biogeochemistry, properties and function. Symposium will present emerging basic and applied research issues related to wetland identification, management, preservation, engineering and technology, degradation control, and remediation, reclamation, and reconstruction.
Convenor: R. K. Reddy (USA) email: krr@ufl.edu
Co-convenor: Michael Vepraskas (USA) email: michael_vepraskas@ncsu.edu

Poster Symposia

1.0PA Multiscale Mapping of Soil Properties for Environmental Studies, Agriculture, and Decision-Making
Symposium will focus on cutting-edge tools and techniques used in research and development on multiscale mapping of soil properties and processes, such as kriging, hierarchy and fractal scaling, non-linear dynamics, and self-organization. Both theoretical and applied aspects of these mathematical tools will be emphasized.
Convenor: Ana Tarquis (Spain) email: atarquis@mat.etsia.upm.es
Co-convenor: Claudia Oleshko (Mexico) email: olechko@servidor.unam.mx
Co-convenor: Kevin McInnes (USA) email: k-mcinnes@tamu.edu

1.0PW Synthesis, Modeling, and Applications of Disciplinary Soil Science Knowledge for Soil-Water-Plant-Environment Systems
Symposium will emphasize application of integrated soil-water-plant-environment models to field research and as decision support tools for precision management and planning. This includes quantifying management effects on soil properties and processes, including soil health and biodiversity, and modeling soil-water-plant-environment interactions under different climatic
and management conditions.
Convenor: Laj Ahuja (USA) email: laj.ahuja@ars.usda.gov
Co-convenor: Peter Carberry (Australia) email: peter.carberry@csiro.au
Co-convenor: Gerrit Hoogeboom (USA) email: gerrit@griffin.uga.edu

Co-convenor: Liwang Ma (USA) email: Liwang.Ma@ars.usda.gov

Commission 1.1 Soil Morphology

Oral Symposia

1.1A Hydropedology: Fundamental Issues and Practical Applications

Symposium will address spatial-temporal patterns of soil and water properties and processes from pedon to landscape and from annual to geological time scales, integrated studies of the vadose zone/groundwater systems in understanding the role of hydrology in soils, state-of-the-art techniques in studying landscape-soil-water systems, quantitative scaling relationships, and
fundamental mechanisms and practical enhancements of pedotransfer functions and how they can improve the value of soil survey databases.

Convenor: Henry Lin (USA) email: henrylin@psu.edu
Co-convenor: Johan Bouma (The Netherlands) email: johan.bouma@planet.nl

1.1B Site Disturbance: The Role of Soil Morphology in its Assessment

The potential of morphology, including micromorphology, to assess and differentiate natural pedogenic processes from anthropogenic site disturbance is not well appreciated. This symposium will emphasize morphological markers of changes induced by soil disturbance and consequences on soil use, management, and behavior.

Convenor: Geoff Humphreys (Australia) email: ghumphre@els.mq.edu.au
Co-convenor: Brenda Buck (USA) email: buckb@unlv.nevada.edu

1.1C Soil Micromorphology, Archaeometry, and Archaeology

Micromorphological concepts and approaches for the interpretation of soil, sediment and landscape evolution have been widely used by disciplines in earth sciences and engineering. There is a need to link conventional archaeological information obtained from field and excavation with microscopic interpretations to document paleo/archaeo environmental conditions and ancient and indigenous land and raw material use.

Convenor: Selim Kapur (Turkey) email: kapur@cu.edu.tr
Co-convenor: Alexander Tstskin (Israel) email: tsatskin@research.haifa.ac.il

Poster Symposia

1.1P Soil Geomorphology: Concept Theory and Practices

Symposium will address: theoretical and technical issues of soil geomorphology; soil geomorphological classification and regolith taxonomy; measurements and assessment soil geomorphic processes and the regolith; concepts and issues concerning soil stratigraphy and soil layering processes; development of analytical (pedometric) tools including digital terrain analysis and soil-landscape models; relationships between terrain analysis and soil geomorphological landscape analysis; and geomorphology in soil and land resource survey.

Convenor: Robin Thwaites (Australia) email: R.Thwaites@qut.edu.au
Co-convenor: Brian Slater (USA) email: slater.39@osu.edu

Commission 1.2 Soil Geography

Oral Symposia

1.2A Spatial, Societal and Environmental Aspects of Pedodiversity

A movement for the preservation and conservation management of rare and unique kinds of soils is needed, not only because of purely scientific and environmental reasons, but for preservation and discovery of new antibiotic materials and compounds. Currently less than half of the land area is being used for growing food, feed, and fiber. The pedodiversity of

the remaining forests, savannas, and unused open areas are equally valuable,and their soils need to be better recorded and preserved.
Convenor: Robin Thwaites (Australia) email: R.Thwaites@qut.edu.au
Co-convenor: Jonathan Phillips (USA) email: jdp@pop.uky.edu

1.2B Soil System Behavior in Time
Engineering and agricultural uses of soils have existed for nearly 10,000 years and further anthropogenic demands on soils continue to expand. Yet we have relatively little quantitative understanding about the impact of management decisions on soil function,quality,and resilience over time. This symposium will consider the science of soil change and its status as a function of chronology under anthropogenic management impacts.
Convenor: Peter Shaad (Germany) email: schad@wzw.tum.de
Co-convenor: Oliver Chadwick (USA) email: oac@geog.ucsb.edu

Poster Symposia

1.2P Interdependency of Soils and Soil Scapes
Symposium will emphasize soil interdependences caused by fluxes of gases, water, solutes, and solids in different landscapes and scales. The value of identification, mapping and classification of soil associations will be related to developing soil transfer functions for soil protection, land use planning and soil management.
Convenor: Reinhold Jahn (Germany) email: jahn@landw.uni-halle.de
Co-convenor: Jaime Bech (Spain) email: jabechbo@porthos.bio.ub.es

Commission 1.3 Soil Genesis

Oral Symposia

1.3A New Frontiers in Soil Genesis
Modern concepts of soil genesis and major advances in soil classification have come about in the last half of the 20th century. This symposium will include new biochemical studies being conducted to quantify pedogenic changes as a function of chronology and the application of such knowledge to predict and manage soil and ecosystem changes for a growing global populous.
Convenor: Ahmet R. Mermut (Canada) email: mermut@pedology.net
Co-convenor: Janis Boettinger (USA) email: jlboett@cc.usu.edu

1.3B Essence Diagnostic and Time-Scales of Natural and Human-Induced Pedogenic Processes
Symposium will encompass the different aspects of pedogenesis as a global process involving complex combinations of individual pedogenic processes. Detailed knowledge is needed on pedogenic processes to define their diagnostics, rates, time-scales, and reversibility-irreversibility so as to understand soil formation, evolution and/or degradation and predict possible soil changes in the foreseeable future under the different natural and anthropogenic impacts.
Convenor: Ganlin Zhang (P. R. China) email: gizhang@issas.ac.cn
Co-convenor: Angel Faz Cano (Spain) email: angel.fazcano@upct.es
Co-convenor: J. Gelberaight (USA) email: ttcf@vt.edu

Poster Symposia

1.3PA Andisols and Related Soils
This symposium is intended to address the latest information on Andisol genesis, processes, interactions between organic matter and short range order minerals, analytical problems, regional distribution and landscape relations.It will include influences of human activity, and consequences for soil protection, land use planning and management.

Convenor: Olafur Arnalds (Iceland) email: ola@rala.is
Co-convenor: Reinhold Jahn (Germany) email: jahn@landw.uni-halle.de
Co-convenor: Peter Buurman (Netherlands) email: Peter.Buurman@wur.nl

1.3PB Arid Soils: Genesis, Geomorphology, and Geoarchaeology
Symposium addresses the genesis, geomorphology, and geoarchaeology of arid soils. These soils occupy about one-third of the Earth's land surface, are sources and sinks of atmospheric CO2 and global dust, support ecosystems with high biodiversity of plants and animals and are also expanding in aerial extent due to anthropogenic land practices.
Convenor: Sa'eb Khresat (Jordan) email: skhresat@just.edu.jo
Co-convenor: Patrick Drohan (USA) email: patrick.drohan@ccmail.nevada.edu

1.3PC Pedogenesis and Weathering in Humid Tropics
Soils of humid tropics and subtropics occupy a total area about 2500 millions ha or 25% of the land surfaces. The symposium will focus on understanding the ancient and current pedogenic processes in the humid tropics from a geology, petrology, and clay mineralogy perspective.
Convenor: M. Rosas Ribeiro (Brazil) email: rosas@truenet.com.br
Co-convenor: Carmen Masutti (Brazil) email: csm508@mail.usask.ca

1.3PD Soils on Limestones: Their Properties, Genesis, and Role in Human Societies
Soils on limestones are globally widespread. They are soils of many early civilizations, and are important agricultural resources. This symposium will address different aspects of soils on limestones including morphological, mineralogical, physical, chemical, and biological properties, and pedogenesis.
Convenor: Zbigniew Zagorsky (Poland) email: zagorski@delta.sggw.waw.pl
Co-convenor: Sergey Goryachkin (Russia) email: sergey.gor@mail.ru
Co-convenor: Mike Singer (USA) email: mjsinger@ucdavis.edu

Commission 1.4 Soil Classification

Oral Symposia

1.4A Impact of National Soil Classification on Soil Science and Society
Symposium will emphasize the impacts of soil classification on soil science and society. Soil classification systems are critical to technology transfer and an important correlation tool. While soil classification has been a research focus in pedology fostering many cooperative endeavors, it has been argued that research efforts in soil classification are too heavily emphasized at the expense of other research endeavors in pedology. This symposium will provide a forum for such debate and illustrate
constructive attributes of soil classification to science and society.
Convenor: Mabel Susana Pazos (Argentina) email: spazos@faa.unicen.edu.ar
Co-convenor: Robert Ahrens (USA) email: Bob.ahrens@nssc.nrcs.usda.gov
Co-convenor: Craig Ditzler (USA) email: craig.ditzler@nssc.nrcs.usda.gov

1.4B Indigenous Soil Classification Systems
Symposium will examine how native cultures construct soil classification systems effective for indigenous uses. The distinctions are tied closely to cultural and use bias of the soil, but often reflect important components common to many cultures. However, criteria for differentiae utilized in indigenous classification systems may be overlooked in many other taxonomies.
Convenor: P. V. Krasilnikov (Russia) email: kras@bioc.karelia.ru
Co-convenor: Elissa Levine (USA) email: elissa.r.levine@nasa.gov

Commission 1.5 Pedometrics

Oral Symposia

1.5A Diffuse Reflectance Spectroscopy, Soil Sensing, Remote Sensing and Image Analysis

The symposium covers emerging soil sensing techniques to characterize and map soils and soil properties. Potential topics include Diffuse Reflectance Spectroscopy (DRS), ground-based soil sensors such as electromagnetic induction, and remote sensing applications in the visible, near-, mid- and thermal infrared regions of the spectrum. Different quantitative techniques of
data processing and analysis, assessment of prediction uncertainties, and integrative data analysis using combinations of field data and datasets derived from remote soil sensing applications will be the focal of this symposium.

Convenor: Endre Dobos (Hungary) email: ecodobos@uni-miskolc.hu
Co-convenor: Sabine Grunwald (USA) email: SGrunwald@mail.ifas.ufl.edu

1.5B Soil Sampling in Space and Time

Symposium will address problems associated with soil sampling in the joint space-time domain. There is a need for extending the vast body of theory, methods, and applications for designing and optimizing soil sampling schemes in space to the joint space-time domain because soil variation over time is entirely different from soil variation over space; problems occur at spatial and temporal scales, ranging from centimeters to kilometers and from hours to decades.

Convenor: Gerard Heuvelink (Netherlands) email: gerard.heuvelink@wur.nl
Co-convenor: Jan M. H. Hendrickx (USA) email: hendrick@nmt.edu

Commission 1.6 Paleopedology

Oral Symposia

1.6A Imprint of Environmental Change on Paleosols

Symposium will focus on current issues in paleopedological studies such as paleosols and environmental changes, Pedostratigraphy and soil mapping, rates of soil forming processes, chronological dating, paleosols as part of our cultural heritage, and paleosols and archeology. Paleopedology is a multidisciplary and interdisciplinarity science that bridges many different disciplines.

Convenor: Edoardo A. C. Costantini (Italy) email: costantini@issds.it
Co-convenor: Alexander O. Makeev (Russia) email: makeev@fadr.msu.ru
Co-convenor: Francesco Malucelli (Italy)

1.6B Amozonian Dark Earth Soils (Terra Preta and Terra Preta Nova): A Tribute to Wim Sombroek

Wim Sombroek in his monumental Soils of the Amazon (1966) not only provided the baseline for the soils of this enormously significant region, but also brought the anthropogenic terra preta (black earth) and terra mulata (brown earth) soils to the attention of the outside world. The symposium will focus around the following themes: Amazonian dark earth soils and global
climate; implications for soil fertility and land use; and understanding how these soils form and persist in the landscape.

Convenor: A. M. G. A. WinklerPrins (USA) email: antoinet@msu.edu
Co-convenor: W. I. Woods (USA) email: wwoods@siue.edu

Division 2 Soil Properties and Processes

Oral Symposia

2.0A Synchrotron Spectromicroscopy of Particulate Matter Affecting Air, Water & Soil Quality

Synchrotron-based spectromicroscopy is an emerging research technique suited to chemical investigation of particulate matter affecting air, water and soil quality permitting detailed chemical characterization at micron and submicron spatial resolution. This symposium will evaluate particulate matter research by synchrotron-based spectromicroscopy, the role of particulates in surface and subsurface water quality, and soil micro-environments in contact with plants and micro-organisms.

Convenor: Will Bleam (USA) email: wfbleam@wisc.edu
Co-convenor: Paul Bertsch (USA) email: bertsch@srel.edu

2.0B Innovative Technologies in Rhizosphere Research

This symposium will examine innovative technologies for agriculture and environmental management that arise from or pertain to the study of physical, chemical, and biological processes in the rhizosphere, i.e. the volume of soil around living roots that is influenced by root activity. It will also address novel experimental approaches for studying the rhizosphere to foster new interdisciplinary collaborations among scientists who are working on various aspects of this research topic.

Convenor: Philippe Hinsinger (France) email: philippe.hinsinger@ensam.inra.fr
Co-convenor: David Crowley (USA) email: crowley@mail.ucr.edu

2.0W Emerging Methods to Examine Metal Speciation and Bioavailability in Soils

This symposium will focus on new techniques, broadly classified as biological, geochemical, and modeling, to determine the speciation and bioavailability of metals in soils. Examples of specific methods under these three classifications could include: Lux-based bioassays, hyphenated analytical speciation techniques (e.g., FFF-ICP-MS), spectroscopic techniques (e.g., XAS), mineralogical residence-phase determinations, and terrestrial applications of the biotic ligand model.

Convenor: LaDonna Choate (USA) email: lchoate@usgs.gov
Co-convenor: James Ranville (USA) email: jranvill@mines.edu
Co-convenor: Kathleen Smith (USA) email: ksmith@usgs.gov

Poster Symposia

2.0P Measurement, Occurrence, and Transport of Radionuclides in Soils and Sediments, and their Transfer

Soil remediation at sites with low-levels of radionuclide contamination is a major cost to society today. In the symposium, we will discuss the behavior of radionuclides in surficial terrestrial environments, including the physical, chemical and mineralogic speciation of radioactive contaminants, radionuclide-analog studies, natural attenuation processes and in-situ remediation methods, and bioremediation to reduce soil contamination.

Convenor: Edward Landa (USA) email: erlanda@usgs.gov
Co-convenor: Shigeo Uchida (Japan) email: s_uchida@nirs.go.jp

Commission 2.1 Soil Physics

Oral Symposia

2.1A Soil Structuring as a Dynamic Process and Particles Transfer

Symposium focuses on the quantification of soil structure and changes following the agricultural activity and seasonal dynamics, with the goal of proposing indicators of soil structure quality and quantifying soil degradation(loss of structure stability, compaction, crusting, salinization, etc.). The development of modeling approaches and databases will be emphasized to predict changes in physical soil properties (soil structure quality) due to agricultural activities.

Convenor: Marcello Pagliai (Italy) email: pagliai@issds.it
Co-convenor: Thomas Baumgartl (Australia) email: t.baumgartl@earth.uq.edu.au

2.1B Soil Hydrology, Structure, and Micromorphic Propoerties (Soil Porous System)

Symposium focuses on interactive research among soil hydrology, soil structure and soil micromorphology. The presentations will elucidate a better understanding of the relationships between aggregation, n-modal porosity, configuration of pores and soil hydraulic properties. The quantification of the size, continuity, connectivity, orientation and irregularity of pores allows a more precise modeling of soil water movement and solute transport as applied to soil hydraulic functions and preferential flow.

Convenor: Miroslav Kutilek (Czech Republic) email: kutilek@ecn.cz
Co-convenor: Fabio Terribile (Italy) email: terribil@unina.it

Commission 2.2 Soil Chemistry

Oral Symposia

2.2A Soil Organic Matter: Stabilization and Carbon Sequestration

Symposium will provide a forum to present:the most recent advancements on carbon sequestration; review and summarize methods of evaluating carbon sequestration in soils at different spatial and temporal scales; stimulate new and advanced biological and chemical technologies for enhancing organic carbon levels in soils and; develop new methods for proper
extrapolation (upscaling) of point/field-results on carbon sequestation to landscapes, biomes and pedosphere, inferences.

Convenor: Alessandro Piccolo (Italy) email: alpiccol@unina.it
Co-convenor: Alvin Smucker (USA) email: smucker@msu.edu
Co-convenor: Ingrid Kögel-Knabner (Germany) email: koegel@wzw.tum.de

2.2B Adsorption Processes in Soils - Basis for Ecological Soil Functions

Symposium will provide a forum where the most recent achievements are presented for methodological approaches and experimental findings of the adsorption properties of soils. Emphasis will be placed on promising techniques such as computational chemistry and in-situ analytical methods in adsorption research. It will include the impact of soil use and management on adsorption properties and linkage to ecological soil functions.

Convenor: Martin H. Gerzabek (Austria) email: martin.gerzabek@boku.ac.at
Co-convenor: Joe Pignatello (USA) email: joseph.pignatello@po.state.ct.us

Commission 2.3 Soil Biology

Oral Symposia

2.3A Microbial Habitat: Evolution, Structure and Distribution in Soils
Soil structure and microbial habitat are central to functioning of soils. Because of the high microbial diversity, complex spatial arrangement of biota and solid phases, it has been difficult to understand the nature and dynamics of microbial habitats. Soil physical techniques and new molecular biology techniques are rapidly evolving disciplines that hold promise to provide new insights into the complex interplay of microorganisms and soil structure.
Convenor: Richard P. Dick (USA) email: Richard.Dick@oregonstate.edu
Co-convenor: Donald Gabriels (Belgium) email: Donald.Gabriels@rug.ac.be
Co-convenor: Gupta Vadakattu (Australia) email: Gupta.Vadakattu@csiro.au

2.3B Molecular Approaches to Microbial Ecology in Soils
Advances in microbial ecology will be presented based on information from use of modern molecular and biochemical techniques. Specific objectives are to summarize molecular biology applications to microbial ecology in soils and to improve the interface among researchers working in various fields of soil biology to understand the utility of modern techniques in
elucidating biodiversity and ecosystem functions.
Convenor: James Tiedje (USA) email: tiedjej@pilot.msu.edu
Co-convenor: V.V.S.R Gupta (Australia) email: gupta.vadakattu@csiro.au

Poster Symposia

2.3P New Strategies for Management of Plant Pathogenic Soil Microorganisms - Natural Soil Suppression or Genetically Modified Plants
Development of natural disease suppression and genetic engineering of plants with biocidal metabolites are being promoted as alternatives to traditional chemical control of soil borne plant pathogens. Objectives are to disseminate knowledge about soil borne plant diseases, consider plant health management practices and their impact on soil microbial health and functioning, and foster cross-discipline collaborations integrating plant pathologists, microbial ecologists and soil scientists.
Convenor: Stephen Neate (USA) email: stephen.neate@ndsu.nodak.edu
Co-convenor: K. Inubushi (Japan) email: inubushi@midori.h.chiba-u.ac.jp
Co-convenor: B. McSpadden Gardner (USA) email: mcspadden-garden.1@osu.edu

Commission 2.4 Soil Mineralogy

Oral Symposia

2.4A Poorly Ordered Nanoparticulate materials (PONM) in Soils
“Poorly ordered nanoparticulate materials (PONM) in soils” are naturally or artificially occurring, finely particulate minerals, which may form at low (weathering) and high temperatures (burning). The forms, amounts and functions of PONM in soils are very poorly understood, partly because conventional analytical techniques are insensitive for these materials. Symposium will focus on how PONM phenomena may control soil properties and processes such as crystallization reactions or magnetic properties.
Convenor: Jerry Bigham (USA) email: bigham.1@osu.edu
Co-convenor: Balwant Singh (Australia) email: B.Singh@acss.usyd.edu.au

2.4B Soil Mineralogy and Geophysics: Environmental and Soils Management and Mineral Exploration
Symposium will draw together leading experts in soil mineralogy and geophysics /remote sensing to demonstrate how these two divergent fields can be usefully combined to enhance the efficiency of geophysics and remote sensing for mineral exploration. This will lead to improved environmental management and risk assessment. Two leading-edge technologies, namely soil nanoparticulate mineralogy and specific ground/airborne geophysics, will be emphasized.
Convenor: Rob Fitzpatrick (Australia) email: rob.fitzpatrick@csiro.au
Co-convenor: Carolyn Olson (USA) email: carolyn.olson@nsscnt.nssc.nrcs.usda.gov

Commission 2.5 Soil Interfacial Reactions

Oral Symposia

2.5A Soil Physicochemical-Biological Interfacial Interactions: Impacts on Transformations and Bioavailability of Metals and Metalloids
Physicochemical and biological processes are not independent processes but rather interactive processes in soil environments. This symposium will: address the impact of soil physicochemical-biological interfacial interactions on transformation mechanisms, dynamics, and bioavailability of metals and metalloids; development of innovative remediation management strategies, and provide a forum leading to better understanding of the fate of metals and metalloids in the environment.
Convenor: A. Violante (Italy) email: violante@unina.it
Co-convenor: P. M. Huang (Canada) email: huangp@sask.usask.ca

2.5B Interactions between Clays and Organic Matter and Their Impact on Sorption and Availability of Organic Compounds in Soil Environments.
Clays and organic matter are ubiquitous in our environments (soil, sediment, water, and air). Symposium will elucidate interactive mechanisms between clay minerals and organic matter, determine the effects of organic matter coating on the sorption of organic compounds, evaluate structural and conformational changes of organic matter and, examine the chemistry
and sorptive behavior of humin, a naturally occurring organic-clay complex.
Convenor: Baoshan Xing (USA) email: bx@pssci.umass.edu
Co-convenor: Paul Schwab (USA) email: pschwab@purdue.edu

Division 3 Soil Use and Management

Oral Symposia

3.0A Long-term Agronomic Experiments: Their Importance for Science and Society
Long-term agronomic experiments are crucially important to further understanding of soil-plant-environment interactions. This symposium will compare data on factors related to soil fertility, for example soil organic matter and nutrient status, from long-term experiments in different agro-ecological zones to improve scientific understanding of how husbandry systems and their management, soil and climate affect soil fertility and hence sustainability of agricultural food production.
Convenor: A. E. Johnston (United Kingdom) email: johnny.johnston@bbsrc.ac.uk
Co-convenor: Steve Kaffka (USA) email: srkaffka@ucdavis.edu

3.0B Emerging Topics in Soil Use and Management
Increasing population and population density intensifies land use and management. Sustaining the quality of our soil resource requires development of new methods and

instrumentation to evaluate soil use and management impacts on soil properties. The symposium will present emerging basic and applied research issues related soil evaluation and management, soil and water conservation, soil fertility and nutrition, soil engineering and technology, and soil degradation control, remediation and reclamation.
Convenor: Wolfgang Burghardt (Germany) email: wolfgang.burghardt@uni-essen.de
Co-convenor: John Havlin (USA) email: havlin@ncsu.edu

3.0W Sustainable Soils and Life on Land
The issue of soil sustainability provides an excellent opportunity for a broad community of scientists to engage in a dialog on sustainability and renewable and nonrenewable resource management. While this wide array of disciplines including physical, biological and social sciences have not always worked together, there are many issues where they can and should join forces. Such opportunities include landslides and slope stability; soil erosion and surface runoff; soil quality and land use; chemical, biological, and physical soil processes; carbon sequestration; resource assessment; and expected demand to gain an understanding of sustainable development for current and future generations.
Convenor: P. Patrick Leahy (USA) email: pleahy@usgs.gov
Co-convenor: Eldridge Moores (USA) email: moores@geology.ucdavis.edu

Commission 3.1 Soil Evaluation and Land Use Planning

Oral Symposia

3.1A Land Use Planning: Environmental, Economic and Social Trade-offs
The objective of this symposium is to identify various world experiences about the evolution of the criteria for Land Use Planning: types of studies (new concepts), results, examples of successful and failed cases, reasons of the evolution. These experiences can improve local concepts and can redirect soil science researches according to each area. The main interest of
this symposium is to identify interactions between soil technical data and environmental, social and economical aspects.
Convenor: Ricardo Ralisch (Brazil) email: ralisch@uel.br
Co-convenor: Alain Ruellan (France) email: ruellan@agropolis.fr
Co-convenor: Lamourdia Thiombiano (Burkina Faso) email: lamourdth@yahoo.fr

3.1B Translating Soil Science into Agricultural & Environmental Policy
Scientific communities in different regions of the world tend to take significantly different approaches and emphasize different aspects of soil quality such as North America(soil organic matter), Europe (toxic substances), and Africa (nutrients). Work on the soil quality concept is moving from analysis of indicators to development of improved management practices. The questions are what is currently being done around the world to protect soils, what are the benefits to society from policy changes regarding soil quality, how to identify appropriate outcomes for soil quality policies for different regions, and what are the
linkages among soil, water and other environmental protection efforts.
Convenor: Mateugue Diack (Senegal, West Africa) email: mtdiack@yahoo.com
Co-convenor: Paul Vlek (Germany) email: p.vlek@uni-bonn.de
Co-convenor: Doug Karlen (USA) email: karlen@nstl.gov

Commission 3.2 Soil and Water Conservation

Oral Symposia

3.2A Environmental Impacts of Soil Erosion - Measuring and Modelling On- and Off-Site Damages of Soil

Soil erosion not only causes major on-site damages but also is the dominant source of non-source pollution of surface water bodies. Measurement techniques and modeling exercises tackling this problem from plot to landscape scale are the focus of this session. Management strategies and sustainable land use concepts to avoid the environmental impact of soil erosion are also to be covered.
Convenor: Nicola Fohrer (Germany) email: nfohrer@hydrology.uni-kiel.de
Co-convenor: Diane Stott (USA) email: destott@purdue.edu
Co-convenor: Sonia Dechen (Brazil) email: dechen@cec.iac.br

3.2B Dryland Conservation Technologies: Innovations for Enhancing Productivity and Sustainability
Symposium will present an historical perspective of advances in dryland agriculture production and address new and emerging technologies focusing on water conservation and use efficiency, managing alkaline soils, crops and cropping systems, nutrient use efficiency, soil and organic matter conservation, and environmental quality. Topics will be addressed at a range of scales to represent diverse regions and approaches for improvement in dryland agricultural systems.
Convenor: Alan Schlegel (USA) email: aschlege@ksu.edu
Co-convenor: John Havlin (USA) email: havlin@ncsu.edu
Co-convenor: Cindy Grant (Canada) email: cgrant@agr.gc.ca

3.2C Water Use Challenges for the Future
Symposium will consider the major impact that irrigation, drainage and water extraction exerts on natural resources, especially its effect on soil and water resources, in terms of quantity and quality. Factors to be considered include the impact of irrigation on nutrient leaching, soil salinity, discharge of toxic elements (heavy metals and oxyanions), changes in water quality, soil physical properties such as compaction, soil erosion and greenhouse gas emissions.
Convenor: Don Suarez (USA) email: dsuarez@ussl.ars.usda.gov
Co-convenor: Gerd Wessolek (Germany) email: gerd.wessolek@tu-berlin.de

Commission 3.3 Soil Fertility and Plant Nutrition

Oral Symposia

3.3A Future Challenges in P Fertilization and the Environment
Symposium will address future challenges and directions in soil, plant, and fertilizer phosphorus (P) research, such as enhancing the availability of soil P though chemical and microbiological processes; agronomic and economic effectiveness of different P fertilizer materials for lesser-developed countries; environmental issues (e.g., eutrophication of surface waters and the impact of contaminants, such as cadmium and radioactive elements) associated with the use of P fertilizers and animal manures; and plant biotechnology developments producing new crop varieties which may have differing P requirements.
Convenor: J. Keith Syers (Thailand) email: keiths@mfu.ac.th
Co-convenor: Andrew Sharpley (USA) email: ans3@psu.edu
Co-convenor: Lawrence Hammond (USA) email: Lhammond@ifdc.org

3.3B Nutrient Use Efficiency and Global Agriculture
Symposium will review key issues of soil and nutrient management in intensive agricultural systems worldwide. Global and regional trends in productivity, soil fertility and nutrient use efficiency will be analyzed. Specific case studies will focus on innovative management practices for an ecological intensification of some of the world's most important food baskets, with special emphasis given to new concepts and tools for nutrient management.
Convenor: Fernando Garcia (Argentina) email: fgarcia@ppi-ppic.org
Co-convenor: Achim Dobermann (USA) email: adobermann2@unl.edu
Co-convenor: Paul Fixen (USA) email: pfixen@ppi-far.org

3.3C Improved Management of Alkaline Soils for Dryland Agriculture

Alkaline and saline soils are widespread in dryland farming regions of Africa, West Asia, South Asia, Australia and North America. Crops grown on these soils are often limited by subsoil salinity, sodicity and high concentrations of boron and aluminum. The severity of the soil problems is often overlooked because low productivity is considered to be due to low rainfall. Managing these soils presents some of the least tractable problems of large-scale soil and crop management because of the large number of co-limiting factors.

Convenor: J. F. Angus (Australia) email: john.angus@csiro.au
Co-convenor: D. G. Westfall (USA) email: dwayne.westfall@colostate.edu
Co-convenor: John Ryan (Syria) email: j.ryan@cgiar.org

Poster Symposia

3.3P Plant Responses and Adapration to Ionic Stresses

Approximately 70% of arable land in the world is estimated to contain soils with excessive levels of acidity, alkalinity, salt, trace elements, or heavy metals. This symposium will stress approaches for amelioration of soil problems to improve the crop production and studies conducted to understand plant response to various chemical stresses.

Convenor: Hideaki Matsumoto (Japan) email: hmatsumo@rib.okayama-u.ac.jp
Co-convenor: Leon Kochian (USA) email: lvk1@cornell.edu
Co-convenor: Yoko Yamamoto (Japan) email: yoko@rib.okayama-u.ac.jp

Commission 3.4 Soil Engineering and Technology

Commission 3.5 Soil Degradation Control, Remediation & Reclamation

(Note: Commissions 3.4 and 3.5 developed a combined program)

Oral Symposia

3.4A Combating Global Soil & Land Degradation I. Agroecosystems: Processes & Assessment

Land degradation is defined as any form of deterioration of the natural potential of land that affects ecosystem integrity either in terms of reducing its sustainable ecological productivity or in terms of its native biological richness and maintenance of resilience. This global problem affects 74% of agricultural land in Central America, 65% in Africa, 45% in South America, and
35% in Asia. This symposia will examine approaches, methods and indicators of land degradation in humid and sub-humid agroeecososystems of the world at several scales of resolution: plot, farm, watershed, and region.

Convenor: Matilde Somarriba-Chang (Nicaragua) email: matilde.somarriba@una.edu.ni
Co-convenor: Miguel Ayarza (Hounduras) email: ciathill@cablecolor.hn

3.4B Combating Global Soil & Land Degradation II. Agroecosystems: Reclamation Strategies

Presentations on the physical, chemical and biological degradation of soils, and the management options for sustainable use of degraded soils will be an integral part of the symposium. Specific questions related to degraded environments, such as the possibility to predict and quantify both the economic and ecologic impact of altering these processes will be included. The symposium focuses on case studies and theoretical or practical approaches on reclamation strategies to reverse soil
degradation.

Convenor: Rainer Horn (Germany) email: rhorn@soils.uni-kiel.de
Co-convenor: Alvin Smucker (USA) email: smucker@msu.edu

Oral Symposia

3.5C Combating Global Soil & Land Degradation III. Industrial & Urban Site Remediation, Planning &

Symposium will advance the assessment, management and remediation of contaminated environments (land, water, and air).
The collective focus is minimizing disposal and impacts of industrial contaminated soil and wastes, land remediation and
restoration of heavily contaminated/disturbed environments. The symposium will provide a summary of the present activities,
problems and solutions in addition to identifying critical areas for future research.
Convenor: Ravi Naidu (Australia) email: Ravi.Naidu@unisa.edu.au
Co-convenor: Yongguan Zhu (P R China) email: ygzhu@mail.rcees.ac.cn

3.5D Combating Global Soil & Land Degradation IV. Salinization, Sodification and Other Forms of Degradation in Agricultural and Native Ecosystems

The symposium covers processes and evaluation of soil and environmental degradation, degraded soil management and remediation, strategies for minimizing soil and environmental degradation, and linking research outcomes to policy with special emphasis on salt-affected agricultural and native ecosystems. Presentations on the physical, chemical and biological degradation of soils, and the management options for sustainable use of degraded soils and their reclamation will be integral part of the symposium. Specific questions related to degraded environments such as the effect of land uses on natural
resources off-site and fertility management will be included.
Convenor: Tibor Toth (Hungary) email: tibor@rissac.hu
Co-convenor: H. J. Di (New Zealand) email: Dih@lincoln.ac.nz
Co-convenor: J. D. Oster (USA) email: james.oster@ucr.edu

Poster Symposia

3.4P Evaluation of Anthropogenic Sealing Systems Impact on the Environment

Symposium deals with the physical, chemical, and biological processes in waste deposit sealing of soil systems, It deals with the long-term impermeability of water,gas, and leachate transport in soil. Case studies and theoretical and/or practical approaches to minimize soil, air, and groundwater contamination, and to restore the internal mechanical strength and functionality of capillary barrier systems will be stressed. Symposium will include strategies for minimizing environmental degradation and the linkage of research outcomes to policy.
Convenor: Heiner Fleige (Germany) email: h.fleige@soils.uni-kiel.de
Co-convenor: Wolfgang Burghardt (Germany) email: wolfgang.burghardt@uni-essen.de

3.5P New Methods for Large-Area Assessment of Soil Degradation

This symposium will highlight combined application of new technology and analytical methods for assessing impacts of land use and management on soil quality over large areas from small watersheds to national or regional levels. Applications will demonstrate advances in how impacts of land use change, such as forest, grassland and wetland conversions, on soil quality
can be reliably assessed over large areas. Applications will demonstrate combined use of technologies, such as spectroscopy, remote sensing, stable isotopes, radioisotope methods for soil erosion assessment, artificial intelligence.
Convenor: Keith Shepherd (Kenya) email: k.shepherd@cgiar.org
Co-convenor: Markus G. Walsh () email:

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

Oral Symposia

4.0A Bridging Soil Science, Environmental Policy and Communications
While the relevance of soil science to emerging environmental debates may appear self-evident to the soil scientist, the marriage of science and policy can be difficult to forge. Developing environmental policy that is informed by soil science requires commitment, skill and effort on the part of scientists and policy makers whose goals, methods and perspectives often clash. This symposium examines means to improve the role of soil scientists in environmental policy development through insight gained from working with policy makers.
Convenor: Peter Kleinman (USA) email: pjk9@psu.edu
Co-convenor: J. Thomas Sims (USA) email: jtsims@udel.edu
Co-convenor: Charles Rice (USA) email: cwrice@ksu.edu

4.0B Soil Related Discords and Conflicts
Symposium will discuss discords and conflicts related to soils. Such conflicts can, for example, be related to the appropriation of the ' best' soils, to the misuse of soils, to an exclusive soil use, and to land use changes. The symposium will present examples to clarify kinds of discord and the cultural, social, economic and political driving forces and their impacts on the
society, on the soil resources and on the environment. The identification and an understanding of past and present problems are important if we are to better ascertain, anticipate and solve future conflicts.
Convenor: Mireille Dosso (France) email: dosso@cnearc.fr
Co-convenor: Kevin McSweeney (USA) email: kmcsweeney@cals.wisc.edu

4.0W Soils and Human Health
Symposium will show the importance of soils and soil properties for human health. Relevant topics include influence of soil and climatic factors on the content of essential nutrients or naturally occurring toxic substances in plant products, impacts of soil pollution on human health, and spreading of infectious diseases via atmospheric transport of soil dust. This symposium is a contribution to the ICSU initiative on "Science for Health and Well-being".
Convenor: Eiliv Steinnes (Norway) email: Eiliv.Steinnes@chem.ntnu.no
Co-convenor: Charles Rice (USA) email: cwrice@ksu.edu
Co-convenor: Joseph Bunnell (USA) email: jbunnell@usgs.gov

Commission 4.1 Soils and the Environment

Oral Symposia

4.1A Organic Farming – Advantages and Disadvantages for Soils, Water Quality and Sustainability
Symposium focuses on possible benefits and problems related to surface and ground water quality; supply and use-efficiency of plant nutrients; and long-term sustainability when changing agricultural practices to organic farming. The subject of organic agriculture is relevant both for developed countries, where the trend is trying to limit the “industrialization” of agriculture, and for developing countries, where farmers are often forced to practice organic farming due to economic constraints.

Convenor: Holger Kirchmann (Sweden) email: holger.kirchmann@mv.slu.se
Co-convenor: Laurie Drinkwater (USA) email: led24@cornell.edu

4.1B Role of Organic Matter for Soil Properties and Consequences for Environmental Functions

Symposium will describe the role of organic matter(SOM) in soil properties and environmental functions including the different strategies used to manage SOM. The symposia will highlight specific aspects concerning the relationships between SOM and biodiversity; the role of SOM on physical properties (aggregation and erosion prevention); and aspects of the carbon cycle.

Information will be presented on the role of SOM fractions, threshold values for the role of SOM and economic value of SOM.

Convenor: Michel Robert †(France) email: michel.robert107@wanadoo.fr
Co-convenor: Charles Rice (USA) email: cwrice@ksu.edu
Co-convenor: Claire Chenu (France) email: chenu@grignon.inra.fr
Co-convenor: Stephen Nortcliff (England) email: s.nortcliff@reading.ac.uk

Poster Symposia

4.1PA Soils and Natural Hazards (Knowledge, Assessment and Mitigation)

Landslides and debris flows cause enormous loss of life worldwide, and can also result in huge losses of property, yet the role of soils in these hazards is barely known or understood. The knowledge and mitigation of these natural hazards could be greatly improved with new insights from soil science and enhanced interdisciplinary research. The objective of the symposium is to evaluate the contribution of soil science to the alleviation of the problems associated with natural hazards related to
landslides and debris flows.

Convenor: Pascal Boivin (Switzerland) email: pascal.boivin@epfl.ch
Co-convenor: John Menzies (Canada) email: jmenzies@brocku.ca

4.1PB Soil, Wine and Other Quality Crops

Symposium considers soil conditions that have an apparent effect on the performance of high quality crops, such as wine grapes, by controlling the hormonal equilibrium of each variety and then the regulation of genotype expression. The symposium will present results related to classifying land for wine grapes and other quality crops. Research related to edaphic and
functional factors for yield and crop quality, viticultural and enological performance of different soils, and precision management of vineyards, will be included.

Convenor: Edoardo A. C. Costantini (Italy) email: costantini@issds.it
Co-convenor: Jessica Davis (USA) email: jessica.davis@colostate.edu

Commission 4.2 Soils, Food Security and Human Health

Oral Symposia

4.2A Soil Care and Quality Soil Management

Soil care has been defined as selecting and implementing systems of soil, land use, and management that will maintain or improve the usefulness of soil and land for the widest possible range of purposes. This is not only for agriculture but, equally, an entity of the total environment. This symposium will bring together soil scientists and soil professionals to discuss the concept and practice of soil care with appropriate examples.

Convenor: David Dent (Netherlands) email: david.dent@wur.nl
Co-convenor: Mike Singer (USA) email: mjsinger@ucdavis.edu

4.2B Biologically Intensive Agriculture: an Approach to Combating Hunger for the Poor

Symposium will consider potential for biologically intensive agriculture to meet the food

and environmental needs of the urban and rural poor in both developing and developed countries. It will include the role of biologically intensive agriculture internationally. Selected case studies illustrating the utility of bio-intensive agriculture in urban and rural settings and potential applications in other countries will be presented.
Convenor: John Ryan (Syria) email: j.ryan@cgiar.org
Co-convenor: John Doran (USA) email: jdoran1@unl.edu
Co-convenor: Cheryl Palm (Kenya) email: cpalm@cgiar.org

4.2C Soil Quality as it Affects Nutrients in Food Crops and Human Health
Symposium will address future challenges in soil fertility as it affects the quality of crops and human health. The production aspect of crops has been researched extensively, but information on the quality of crops and their effects on human health is wanting. In many regions of the world where optimum crop yields are being obtained, deficiencies of required minerals may exist, resulting in crops lacking minerals essential to human or animal health.
Convenor: Umesh C. Gupta (Canada) email: guptau@agr.gc.ca
Co-convenor: John J. Mortvedt (USA) email: John.Mortvedt@ColoState.EDU

Commission 4.3 Soils and Land Use Change

Oral Symposia

4.3A Land Use Modeling as a Tool to Combat Soil Degradation
Symposium will bring together stakeholders concerned with land degradation and rehabilitation (soil scientists, agronomists, foresters, land use planners, sociologists, geographers and economists) to evaluate whether land use modeling approaches can be used to combat soil degradation. The ability of land use models to describe the present state of land degradation at the sub-regional level and to understand the feedback mechanisms between the human sphere and land degradation/rehabilitation will be discussed.
Convenor: R Schulin (Switzerland) email: schulin@ito.umnw.ethz.ch
Co-convenor: Timothy Green (USA) email: tim.green@ars.usda.gov

4.3B The Amazon: Land Use Changes and the Environment
Symposium will present case studies of how land use changes have positively and negatively impacted the environment. Presentations will cover mitigating the negative effects and enhancing the positive ones. Environmental issues to be addressed include gaseous losses of carbon and nitrogen, conversion of forests via clear cutting and pastures to agricultural land,
modeling under present conditions and future scenarios of land use and climate change, erosion and sedimentation effects and biodiversity of terrestrial and aquatic ecosystems.
Convenor: Carlos Clemente Cerri (Brazil) email: cerri@cena.usp.br
Co-convenor: Martial Bernoux (France) email: mbernoux@cena.usp.br
Co-convenor: Carlos Eduardo P. Cerri (Brazil) email: cepcerri@cena.usp.br

Poster Symposia

4.3P Intensification of Agricultural Production Systems and the Environment
Symposium will address environmental issues in intensified agricultural practices including relative and specific impacts on agricultural, rural, and urban settings and watersheds; surface and ground water impacts; temporal and spatial impacts of changes in soil physical, chemical and biological properties; role of confined animal feeding operations on soil nutrient inputs; selection and targeting of appropriate best management practices to affect a change in soil properties that mitigate negative environmental quality impacts;

and the effects of intensifying agricultural production by integrating animal and crop production on soil fertility.
Convenor: Andrew Sharpley (USA) email: ans3@psu.edu
Co-convenor: George Vance (USA) email: gfv@uwyo.edu

Commission 4.4 Soil Education and Public Awareness

Oral Symposia

4.4A Case Histories of the Relationships Among Soils and Societies
Symposium will consider close relationships among societies and their soils and why this linkage is commonly overlooked or insufficiently expressed. A large collection of case examples (positive and negative) will illustrate the dependency between human kind and soil. Symposium will present strong evidence from past and present cultures of interactions among not only soil scientists or agronomists but also farmers, geographers, historians, ecologists, archaeologists, civil engineers, politicians, economists, decision-makers, and development project managers.
Convenor: Pamela Hazelton (Australia) email: pamH@eng.uts.edu.au
Co-convenor: To Be Announced

Poster Symposia

4.4P Soil Science and International Organizations
Symposium will enhance interactions among IUSS members, other biogeoscientists, and administrators in international organizations working with soil and water issues. Symposium will familiarize IUSS members and relevant international organizations about the mandate, objectives, and procedures of the respective institutions. It will seek areas of overlap for possible joint linkage and synergy to present new frontiers of needed research to IUSS members.
Convenor: Salah Tahoun (Egypt) email: stahoun@mailer.eun.eg
Co-convenor: Sam Feagley (USA) email: s-feagley@tamu.edu

Commission 4.5 History, Philosophy, and Sociology of Soil Science

Oral Symposia

4.5A History of Soil Science in Developing Countries
Most of the history of soil science is known from reports and descriptions of developments in Russia, America and Europe, with little known from developing countries (e.g. Mexico, Ghana, Kenya, Malaysia, Fiji), many of which were formerly colonies. This symposium seeks to explore the history of soil science in these and other countries. Among questions to be discussed, with respect to developing countries or specific regions, are: how soil survey was initiated, how local soil experimentation developed, to what extent was local ethnopedological knowledge incorporated? Experience of the past, both achievements and failures, will enrich our understanding of current requirements from soil science in the developing world.
Convenor: Eric Brevik (USA) email: ecbrevik@valdosta.edu
Co-convenor: Dan Yaalon (Israel) email: yaalon@vms.huji.ac.il
Co-convenor: Anthony Young (United Kingdom) email: anthony.young@land-resources.com

Poster Symposia

4.5P The History of Soil Sciences: Past Accomplishments to Future Perspectives
Understanding and appreciating the historical foundations of a particular field of soil

science and welcoming the new challenges of the future permit a bridging of generations to advance science. An enlightening series of papers will present informative views on the development of essential fields of soil science. Examples of key historical achievements that propelled a particular field of soil science through today's cutting edge research and future outlook are welcomed.
Convenor: Kirk Scheckel (USA) email: scheckel.kirk@epa.gov
Co-convenor: Benno Warkentin (USA) email: benno.warkentin@oregonstate.edu

Working Group AS Acid Sulfate Soils

Oral Symposia

AS Acid Sulfate Soils: Technological Advances Enabling Better Management
Techniques for the analysis of acid sulfate soils, our understanding of their behavior, and the risk that these soils pose to the environment have proceeded rapidly of late. In addition many new techniques designed to manage these soils and limit their off-site impacts have been developed in the past decade. These endeavors continue. The focus of this symposium is on the innovative techniques that have been recently developed to allow us to manage acid sulfate soil environments without degradation.
Convenor: Leigh Sullivan (Australia) email: lsulliva@scu.edu.au
Co-convenor: Rob Fitzpatrick (Australia) email: rob.fitzpatrick@csiro.au
Co-convenor: Del Fanning (USA) email: df3@umail.umd.edu

Working Group CR Cryosols

Oral Symposia

CR Soils of Northern, Southern Polar Region and Soils of High Elevations and Their Relationship to Global Climate Change
Crysols cover approximately 13 % of the earth's land surface. Cryosols are of global concern since it is predicted that Polar Regions will experience a significant increase in average temperature with climatic change scenarios. Symposium will present state-of-knowledge in Polar Regions regarding soil formation, classification, chemistry, biology, and mineralogy.
Convenor: Sergey Goryachkin (Russia) email: sergey.gor@mail.ru
Co-convenor: John Kimble (USA) email: John.Kimble@usda.gov
Co-convenor: C. L. Ping (USA) email: pfclp@UAA.alaska.edu
Co-convenor: J. Bockheim (USA) email: bockheim@facstaff.wisc.edu

Working Group LD Land Degradation & Desertification

Oral Symposia

LD Soil Degradation: Processes, Control, and Politics
Soil degradation is a serious global issue in terms of sustainability of ecosystem productivity and economic and social aspects, leading to a decline in soil quality and net primary productivity, pollution and eutrophication of natural waters, and emission of greenhouse gases into the atmosphere. The symposium will focus on land use and management options to restore degraded soils, improve water quality and sequester carbon to mitigate the greenhouse effect. Speific topics discussed will include physical and chemical degradation through soil erosion, depletion of soil organic matter and plant nutrients in relation to land use
and management systems. Both ecological and human dimension issues will be included.
Convenor: Bal Ram Singh (Norway) email: balram.singh@ipm.nlh.no

Co-convenor: Rattan Lal (USA) email: lal.1@osu.edu
Co-convenor: Hari Eswaran (USA) email: hari.eswaran@usda.gov

Working Group RB World Reference Base for Soil Resources

Oral Symposia

RB Developments in the World Reference Base (WRB), Soil Taxonomy (ST) and Other National Soil Classification Systems for Soil Resources
World Reference Base (WRB) and Soil Taxonomy (ST), are the most widely used soil classification systems in the world. Symposium will provide a forum for representatives of WRB and ST to present their principles, new developments, and to propose creative ways to better link the systems. Global case studies illustrating applications and benefits of both systems will
be presented.
Convenor: Erika Micheli (Hungary) email: micheli@spike.fa.gau.hu
Co-convenor: Robert Ahrens (USA) email: Bob.ahrens@nssc.nrcs.usda.gov

Working Group SCE Forest Soils

Oral Symposia

SCE Evaluating Management Impacts on Forest Soils
Symposium will consider recent advances in the development and application of innovative technologies (e.g. stable isotopes, bio-molecular, NMR, GIS, NIRS and ecosystem modeling) for assessing the management impacts on forest soil processes and properties, particularly in relation to carbon and nutrient cycling in the context of global climate change. Symposium will include successes and limitations of both conventional and advanced technologies in evaluating the management impacts on forest soils.
Convenor: Zhihong Xu (Australia) email: zhihong.xu@griffith.edu.au
Co-convenor: Chris Johnson (USA) email: cejohns@mailbox.syr.edu

Working Group SU Urban Soils

Oral Symposia

SU Soils in Urban Ecosystems: Characteristics and Functioning
Symposium considers soils developed in urban environments which are characterized by nontraditional substrates with unique properties (e.g., chemicals, soil compaction, dust release, elevated temperatures, vegetative cover, hydrological function), occurrence, and distribution. Processes of soil formation will be both inhibited and elevated due to urban maintenance and disturbance. Evaluating current soil conditions as a way to predict future urban soils strongly justify the making of soil inventories, and quantification of soil characteristics and properties in urban areas.
Convenor: Jean Louis Morel (France) email: Jean-Louis.Morel@ensaia.inpl-nancy.fr
Co-convenor: Ganlin Zhang (P. R. China) email: gizhang@issas.ac.cn
Co-convenor: Joyce Scheyer (USA) email: joyce.scheyer@nssc.nrcs.usda.gov

IUSS Division 2
Report 2004

1. Outputs of the InterCongress Meetings held in Philadelphia in April 2004 and Preparations for the 18th World Congress of Soil Science, Philadelphia 2006

During the InterCongress Meetings held in Philadelphia in April 2004, several activities involving Division 2 have been proposed, discussed, and approved both during the general meetings and in the Division 2 meetings. Of these, the most important were:

1.1. The status of some SubCommissions and Working Groups was changed. Among these, of interest to Division 2, is the change of the former WG MO in a new Commission in Division 2, Commission 2.5. "Soil Interfacial Reactions". This Commission will be chaired, until the elections to be held in 2006, by the main proposer and supporter of it, Prof. P.M. Huang, former Chair of the former Working Group MO.

1.2. The number and topics of Symposia to be organized for the 18th WCSS to be held in Philadelphia in July 2006 were planned and preliminary defined. After further contacts and refining with the proposed Symposia Conveners and CoConveners, the final list of Symposia of Division 2 has been finally defined. This consists of n.4 Divisional Symposia, n.2 for Commission 2.1., n.2 for Commission 2.2., n. 3 (n.2 Oral and n.1 Poster) for Commission 2.1., n.2 for Commission 2.4, and n.2 for Commission 2.5., for a total of n.15 Symposia.

1.3. Changes of IUSS Statutes and Bylaws were discussed, and several approved.

1.4. Professor Roger Swift was proposed, and unanimously accepted, as the President of the 19th WCSS to be held in Queensland, Australia, in 2010.

1.5. A new Treasurer of IUSS was recommended and appointed unanimously in the person of Dr. Jim Gauld, UK.

1.6. Accounts for 2003 and the Budgets for 2004 and 2005 were proposed, discussed, and accepted unanimously.

2. Activities performed in 2004

2.1. The possible realization of a IUSS BOOK Series on Trends/Advances in Soil Physics, Chemistry, Biology, Mineralogy is still at the preliminary stage.

2.2. Progress is in action by Commission 2.2 for constructing a Commission Award for innovative research in Soil Chemistry.

2.3. The new Commission 2.5., former WG MO, has organized a well-attended Conference, the fourth of the Series, ISMOM 2004, in Wuhan, China, in September 2004. The Division Chair and the Commission 2.5. Chair, and several international members of Division 2 have attended the Conference by presenting plenary and keynote lectures and charing sessions. The Division Chair has also presented an official IUSS Address at the Conference on behalf the IUSS President who could not attend.

2.4. The IUSS has sponsored officially the XII International Meeting of the International Humic Substances Society (IHSS), also by organizing joint sessions, which was held in Sao Pedro, Sao Paulo State, Brazil, in July 2004. The Chair and several international members of Division 2 have actively participated in the Conference by presenting invited and oral papers and chairing Sessions.

2.5. Several, mostly European, members of Division 2, including the Division Chair and two Commission Chairs have actively participated at the Conference EUROSOIL 2004, held in Freiburg, Germany, in September 2004. The Commission 2.2. Chair has successfully organized and chaired one of the most attended Symposia of the Conference.

2.6. A number of European members of Division 2, including the Division Chair, have attended the Conference Rhizosphere 2004, held in Munchen, Germany, in September 2004.

2.7. IUSS has been represented by Commission 2.1. at the International Conference "Agroenviron 2004: Role of multi-purpose agriculture in global environment for sustainability", which was held in Udine, Italy, in October 2004, with a session on Soil Physics entitled "Soil physical aspects related to sustainable land management" organized by the Chair of Commission 2.1.
2.8. The collaboration of Commission 2.1. continues actively with Commission 1.1 on the topic "Soil micromorphology and soil hydraulics", and with Commissions 3.4 and 3.5 on the topic "Soil physical aspects of land degradation following human activities".

3. Activities planned for 2005

3.1. A numerous and active participation of Divisional members at various levels, as Symposia Conveners and/or CoConveners, lecturers, and poster presenters, is expected at the 2005 European Geoscience Union Congress to be held in Vienna, Austria, on April 24-29. The EGU Division "Soil System Sciences (SSS)"will organize n.12 Symposia, of which several are directly related to IUSS-Division 2 activities. In particular, the Chairman of Commission 2.2. is the Convener of one of the Symposia, and the Division Chair, who is the Chair of a Section of EGU-SSS, is invited lecturer in another Symposium.
3.2. An IUSS-sponsored Symposium "Advances of molecular modeling-Perspectives for soil research" will be held in Vienna, Austria, on October 21-22. Numerous members of the Division are expected to attend, and the Division Chair is a member of the Scientific Committee.
3.3. Several other activities of the Division and its Commissions are in progress/development for the year 2005.

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Report of Division 3
Report 2004

The report concerns the activities of the division and commission chairs and of upcoming events.
Of major importance for soil science was the progress of development of soil policy by the European Union. The European Commission has established for that purpose a 'Soil Thematic Strategy' with a stake holder forum and 5 working groups. The former secretary general of IUSS Winfried Blum took a foremost roll in this process.
Within the working group research of the 'Soil Thematic Strategy' the chair of division 3 took the chair of task group ' Sealing, Soils of Urban Areas, Land Use and Land Use Planning' and did contribute to the task group 'Soil and Data Property, Soil Legislative Framework, Soil Conservation Service' the chapter on Soil Conservation Service (see Soil CIRCA e-library: http://forum.europa.eu.int/Public/irc/env/Home/main, go on with soil policy, bibliothek, final reports of the working groups, research, Volume II-sealing and land use. And Volume III – Cross- cutting issues ,Soil Conservation Service').
For the 18th World Congress of Soil Science in Philadelphia, USA, in 2006 together with commission chairs and the US organisation committee oral and poster symposiums were co-ordinated. 22 symposia themes were proposed and evaluated.
Several meetings related to targets of division 3 – soil use and management were attended, so
- 8th IMSMTC –International Meeting on Soils with Mediterranean Type of Climate in Marrakech, Morroco, 8 – 10. 2.2004,
- IUSS – Inter Congress meeting in Philadelphia, USA, 24 – 29 April, 2004,
- Symposium of IUSS subdivision forest soils on 'Restoration of forest soils in polluted areas', Prag, 25 – 29 May 2004- 32nd International Geological Congress, Florence, 20 – 28.

8. 2004, symposia 'G03.01 Function of soils for human societies and the environment'with an oral contribution titled: soil sealing and sealing related soil properties,
- 2nd Eurosoil in Freiburg, 4 – 12. 9. 2004, organization and chairing of a symposia on urban soils and land resources,
- 4th International Conference on Land Degradation with Working Group Land Degradation, Cartagena, Spain, 12 – 17 September 2004,
- Symposium of IUSS subdivision forest soils on 'Forest soils under global and local changes', Bordeaux, France, 15-18 September, 2004.

Meetings in 2005 will be participated or organized together with division 3 and its commissions and working groups
- Soil, Water and Environmental Quality, Dehli, India, 28 January-1 February, 2005,
- 9th international symposium on soil and plant analysis, Cancun, Mexico, 30 January – 4 February, 2005,
- International Salinity Forum 'Managing saline soils and water: science, technology and social issues', Riverside, USA, 25 – 28 April, 2005,
- International symposium on land degradation and desertification, Uberlândia, Brazil, 16 – 22 May 2005,
- IUSS Commission 3.4, International workshop on 'Oxygenology in natural and anthropogenic altered soils' Kiel, Germany, 1-3. September 2005
- Human impacts on soil quality attributes in semi – arid and semi-arid regions, Isfahan, Iran, 12 – 16 September 2005,
- IUSS Commission 3.5, 'Conference on salinization', Budapest, Hungary, 19-21 September 2005,
- IUSS working group urban soils, 3rd international conference on ' soils of urban, industrial, traffic, mining and military areas (SUITMA)', Cairo, Egypt, 17 – 25 November 2005.

All commission chairs, vice chairs and secretary had much work with the preparation of the symposia programme of the 18th World Congress of Soil Science in Philadelphia, USA, 2006. Beside this they did concentrate their work for soil science on the following:
Commission 3.1 - Soil evaluation and land use planning acted in this period aiming to increase our representation with the scientific and technician ways and, also, with the farmers. The main focus was the tropical regions, in search of the real sustainability of the agricultural activities. The adopted mechanism was to intensify the participation of the representatives in the events and to foment the discussions with the scientists. For that we are proposing and participating in several research projects. With the technician and farmers, the option was to participate and to promote speaks and demonstrations to the interested public, acting together the representations of farmers and technician.
In this direction we participated like following:

- 4 scientific events, to follow the scientific activities in our interested subjects;
- 3 speaks about soil managements, for technicians, farmers and researches;
- 3 demonstrations on field about crop systems effects, for technicians and farmers.

We will continue by working to develop the concepts that consider the environment in full, with the mainly natural resources. For that we need to enlarge the information and, more important, to involve all the people. The first subject is to preserve the water, because to preserve it, we need to utilize very well the soil, mainly in tropical regions.
Actions will be:

- During 2004 and 2005 we are proposing a specific scientific event about new criteria for the soil use planning to obtain an efficient soil and water conservation. The idea is to intensify the concept that "to preserve the water we need to conserve the soil".
- We are proposing and looking for some sponsors to organize a public exposition about "Human environment and the air, water and soil resources" to promote a responsible users of natural resources.
- Until 2006 discuss with the Brazilian Scientific Societies a possibility of propose Brazil for the 2014 World Congress of Soil Science.

Commission 3.2 – Soil and water conservation did focus its work on preparation of an international salinity forum in April 2005 (see above) which brings together a broad range of aspects from soil science and other fields connected with the problem of soil salinity.
Commission 3.3 – soil fertility and plant nutrition was engaged in the preparation of the 8th IMSMTC –International Meeting on Soils with Mediterranean Type of Climate in Marrakech, Morroco, 8 – 10. 2.2004 and the upcoming meeting 9th international symposium on soil and plant analysis, Cancun, Mexico, 30 January – 4 February, 2005.
Commission 3.4 – soil engineering and technology was engaged with a symposium about soil deformation on the 2nd Eurosoil and is preparing an international workshop on 'Oxygenology in natural and anthropogenic altered soils' (see above).
Commission 3.5 - Soil degradation control, remediation and reclamation
has organized in November 2003: Beijing, China: Contaminants and the Soil Environment in the Australasia Region. This meeting was organized jointly with the Soil Contaminants Research Australasia pacific Network. It attracted scientists from North America, Europe, Asia and the Tasman.
2004: September 2004: Contaminated Site remediation Conference was held in Adelaide. the conference attracted scientists, contaminated site managers and regulators from 18 different countries. Commission 3.5 Vice Chair and secretary joined hands with the Chair to organize this meeting and also to help raise funds for participants from a number of developing countries.
2004, December- the contaminated site remediation conference will be organized in Hyderabad in collaboration with the Indian Chapter of Soil Contaminants Research network. This conference will include both industrial as well as geogenic contaminants. Sodic soil is also part of this meeting.
2005: an international conference in Hungary will be organized. The theme for this meeting is degraded soils (see above announcement).

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IUSS Division 4
Report for 2003-2004

On the 28th of October 2004, while taking part in a European Workshop on soil protection in Vienna, Michel Robert secretary of the commission 4.1 passed away. Besides his research, Michel Robert worked a lot in his last years to improve the relationships between soil science and politics at the French and European levels. This is why we particularly welcomed his participation in division 4. The division 4 presents its sincere condolences to his family and his friends.

1. Activities since summer 2003

1.1 Interdisciplinary meetings

Division 4 of IUSS and Divisions S-11 and S-5 of SSSA co-sponsored in November 2003 a symposium at the American Society of Agronomy meeting in Denver entitled "Carbon Sequestration by Soils: A Global Perspective on the Underlying Science and Emerging National Policies". Invited speakers in the symposium included: Christian Feller IRD, CIRAD; David Powlson, IACR-Rothamsted; Keith Paustian, Colorado State University; and Carlos Monreal, Agriculture and Agri-Food Canada. A volunteer poster session on carbon sequestration followed the symposium. The oral session attracted more than 200 participants! The overheads presented by the invited speakers can be downloaded from the web site of the IUSS (http://www.iuss.org/division4/publications.htm)

During the last week of April 2004 members of most commissions of division 4 met at the intercongress meeting in Philadelphia to prepare the contributions of division 4 for the next world congress of soil science.
Commissions 4.4 and 4.5 contributed to the organization of the symposium "Soil Education and Public Awareness" at the 2004 EUROSOIL in Freiburg, Germany on the 12th of September 2004. The 11 oral presentations of this symposium were well attended. Outstanding posters were presented at this symposium. The poster entitled “soil science meets school” authored by Maria Dell Abate and Gilmo Vianello received the award of the best poster of the meeting! A lot of interesting papers on soil history and soil protection were also given in the symposium “Soil and Society” of this meeting.
The late Michel Robert and Emmanuel Frossard participated during the period covered by this report to the meetings of the European Union Soil Thematic Strategy for Soil Protection. Both of them were asked to contribute with an invited lecture in the meeting “Towards a harmonized management of European soil resources research agenda for soil protection” that took place in Vienna on the 28th and 29th of October 2004. Stephen Nortcliff gave the presentation that Michel Robert should have been given. This was a very moving moment.

1.2 Commission meetings/activity

Commission 4.4 published its first newsletter to be downloaded from the web site of the IUSS (http://www.iuss.org/division4/publications.htm)
Commission 4.5 has contributed to the organization of a technical session on the history of soil science with the SSSA Council on History, Philosophy and Sociology of Soil Science at the ASA meeting in Denver in November 2003 that was well attended. The presentations on soil classification history drew over 50 people. The joint SSSA/IUSS History of Soil Science Book “Down to earth: a soil science history” remained a major activity of this commission during the past year. Most of the chapters are in the final revision stages. The outline of the book is given in the annex of this report. Commission 4.5 published its annual newsletter to be downloaded from the web site of the IUSS (http://www.iuss.org/division4/publications.htm). The cooperation between C 5.4 and the Division of History of Science of the International Union of the History and Philosophy of Science is going forward by preparing bibliographies of science in different fields.

1.3 Contributions to congresses beyond soil science

Winfried Blum and Emmanuel Frossard chaired a half day symposium entitled “Function of soils for human societies and the environment” during the 32nd International Geological Congress that took place in Florence (Italy) from the 20th to the 28th of August 2004. More information on this symposium is given in the section “reports of meetings” of this bulletin.

2. Coming Activities

2.1. Interdisciplinary meetings
From the 13th to the 18th of March 2005 an international workshop entitled “Element balances as a tool for sustainable land management” will be organized in Tirana Albania. The aim of this meeting is to bring together stakeholders concerned with sustainable land use (soil scientists, agronomists, foresters, decision makers) in order to evaluate whether and how mass balance approaches can be used for early recognition of environmental problems and for developing solutions to these problems. The meeting will focus on the southern and eastern countries of Europe who were subject of dramatic changes during the last 15 years and are facing land management problems in their transition to free-market economies. Further information can be found at http://www.elementbalances05.org/index.html

2.2 Commission meetings / activity

Commission 4.2
Chuck Rice co-organizes a symposium on "Field-to-Region Links of Soil Carbon Dynamics, Greenhouse Gas Fluxes, and Agricultural Mitigation Practices" to be held at the joint meeting of the Soil Science Society of America and the Canadian Society of Soil Science to be held in Seattle Washington November 1-4 2004. Approximately 40 posters have been submitted and six oral presentations have been scheduled with representatives from Argentina, Brazil, Canada, Mexico, New Zealand/Australia, and the U.S.

Chuck Rice also is responsible for organizing a symposium on "Greenhouse Gases and Carbon Sequestration in Agriculture and Forestry." The Symposium involves a comprehensive examination of the latest research on sources and sinks of the three primary greenhouse gases (carbon dioxide, nitrous oxide, and methane) related to cropland, forests, rangeland, and wetlands. Scientists from around the world are invited to submit papers for oral or poster presentations. The symposium will be held March 21-24, 2005 in Baltimore, Maryland, USA. For further information see: http://soilcarboncenter.k-state.edu/conference.

Commission 4.4
Commission 4.4 and Division 4 support an international workshop organized by TORBA soil and society entitled "Soil Related Discords and Conflicts: Identification and understanding of human discords and conflicts related to soil use; their prevention, mitigation and management" that will take place in 2004. More information at: www.torba-soil-society.org

Commission 4.5
The commission 4.5 and the division 4 have given their support to the workshop entitled "History and Agronomy: between ruptures and duration" that will take place from the 20th to the 22nd of October in Montpellier, France. More information on this meeting can be found at: http://www.histagro.agropolis.fr/index.htm
The SSSA Council on History, Philosophy and Sociology of Soil Science" and C4.5 are again cooperating on soil history sessions for the coming ASA meetings in Seattle. One session, on the Lewis and Clark Trail, has 7 papers. It is the 200th anniversary. It is a surprise to some people that their journals contained observations on soils. Another session on a range of history papers has 19 contributions.

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Chair of Division 4
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Table of Contents

Down to Earth: A Soil Science History

B.P. Warkentin and D.H. Yaalon, eds.

Chapters

Why should national societies subscribe to IUSS?

Annual subscriptions from National Soil Science Societies, either directly or indirectly via National Academies, are essential for maintaining a strong presence of the IUSS for effective promotion of soil science as a discipline to professionals, policymakers, and the general public. This is critical to keep our science strong and viable and to enhance its visibility throughout the world. In particular, the active participation of National Societies as a member of the Council of IUSS at the 18th World Congress of Soil Science in Philadelphia in 2006 will greatly help strengthen the breadth and depth of this global showcase of Soil Sciences as a natural science and the critical role that Soil Sciences play in sustainable agricultural production, natural resource conservation and environmental protection. Support from premier National Soil Science Societies is critical to the functional existence of IUSS and the success of these endeavors.

In addition to the fact that National Society members become part of the international community of Soil Scientists and the Society is qualified to send a representative to IUSS council meetings, IUSS Executive Committee members play key leadership roles in promoting the shared missions of the IUSS and National Soil Science Societies. For example, the Deputy Secretary General (Alfred Hartemink) maintains a comprehensive and continuously updated IUSS web page with information and links supporting Soil Science, and together with the Secretary General (Stephen Nortcliff) publishes the IUSS bulletin twice per year. The Secretary General plays a vital ambassador role in promoting IUSS/National Soil Science Societies interests, at the global level linking northern well established Soil Science societies with burgeoning southern hemisphere counterparts; within a European context by spearheading development of the Thematic Strategy for Soil Protection (providing two of the 12 co-chairs, Stephen Nortcliff and Winfried Blum); and by representing IUSS's membership in ICSU, links with UNESCO and other agencies to influence priorities in policies and draw attention to the potential for Soil Science and Soil Scientists to address many of the current problems facing the earth and its inhabitants. IUSS's leadership promotion of Soil Science on a global scale is also evidenced by moves to have IUSS as an active participant (with IUGS, IUGG and IGU) in the UN sponsored International Year of Planet Earth (likely to be in 2006/2007); and in the same context, IUSS is actively seeking to establish a World Soil Day (December 5) to be launched during the Year of Plant Earth. Moreover, IUSS is the umbrella organisation for 6 important regional societies, one in Asia (the "East and South East Asian Confederation of Soil Science Societies"), three in Africa (the "African Soil Science Society", the "East African Soil Science Society", and the "West and Central African Soil Science Society"), one in Latin America (the "Latin American Society of Soil Science Societies"), and one in Europe (the "European Confederation of Soil Science Societies"). All these regional organisation act under the umbrella of IUSS and have very specific tasks for promoting soil science and its application in the respective regions.

Distinguished Soil Scientists are recognized internationally by election as IUSS Honorary members at each Intercongress meeting of the World Congress of Soil Science, and by presentation at each WCSS of monetary awards: the IUSS-Dokuchaev for outstanding basic research in Soil Science, and the IUSS-Liebig for outstanding contributions in applied Soil Science such as new discoveries and techniques that improve agronomic production and environmental quality. And last but not least, the diversely represented IUSS Divisions (Div. 1, Soil in Space and Time; Div. 2, Soil Properties and Processes; Div. 3, Soil Use and Management; and Div. 4, Role of Soils in Sustaining Society and the Environment), Commissions and Working Groups, continuously address frontier Soil Science issues, challenges and opportunities by planning and executing scientific and educational programs that benefit professionals and assist in educating the general public and policymakers about the importance of soil science to the global society.

Call for nominations
Dokuchaev award – Liebig award

The Dokuchaev Award and the Liebig Award will be bestowed on outstanding scientists in the fields of basic and applied soil science for the first time at the XVII WCSS in Philadelphia, USA, in 2006. Please submit your nominations to

Prof.Stephen Nortcliff
Secretary-Genral of IUSS, Department of Soil Science, The University of Reading, PO Box 233, Whiteknights, Reading RG6 6DW, United Kingdom, Phone: 44 (0) 118378 6559; iuss@reading.ac.uk

Two awards are presented by IUSS at each World Congress of Soil Science (WCSS) to recognize outstanding contributions in two specific areas:
- IUSS-Dokuchaev Award for basic research in soil sciences
- IUSS-Liebig Award for applied research in soil sciences

These two awards are differentiated by the type of contribution rendered, not by professional membership grouping. Eligible are members of the International Union of Soil Sciences. Only one award can be given to one person or group of persons during one year.

Criteria

IUSS-Dokuchaev Award

This award will be made for major research accomplishments, resulting from basic researches in soil sciences. The award may be made for outstanding research results in the field of basic soil science. The award consists of an engraved medal, a certificate, a US$ 1000 honorarium, and financial support to attend the presentation at the WCSS.

IUSS-Liebig Award

This award recognizes outstanding contributions in applied soil science research, contributing to new discoveries, techniques, inventions or materials that increase food security, improve environmental quality or conservation, land and water development and other areas covered by the divisional structure of IUSS. The award consists of an engraved medal, a certificate, a US$ 1000 honorarium, and financial support to attend the presentation at the WCSS.

Eligibility of nominators and nominees

Nominations for both awards are accepted only from members of the Union. Members of the awards committees are ineligible to make nominations. Nominees for the awards must be living at the time their nominations are submitted. No age limit is specified for the awards. Members of the awards committee are ineligible to be nominated.

Nomination procedures

Preparation: Preparation of the best nomination possible for a distinguished colleague is a compliment to both the nominee and the nominator, and it provides maximum assurance that the nominee will be selected to receive the award. Obtaining the assistance of the nominee in supplying information is permissible and may improve the accuracy and completeness of the documentation. Clearly identifying and evaluating the nominees contribution is the most important part of the nomination, because nominations are ranked primarily on this basis.

Format: Each nomination must contain the nomination proper and one copy of each supporting letter (not more than three letters). A cover letter from the nominator is not necessary; if the nominator includes a cover letter, it will be considered as one of the three (maximum) supporting letters. The total nomination package must not exceed 10 pages. This translates to 7 pages maximum for the body of the nomination, plus the three one-page letters of support.

NOTE: It is imperative that nominations do not exceed the length specified in these instructions. Nominations that exceed the specified length will not be considered. All nomination materials must be submitted to the Chair of the Committee on Prizes and Awards (CPA). This can be done by E-mail as well as by regular mail.
Deadline date: The deadline date for receipt of the nominations is 12 months before the beginning of the next WCSS at which the prizes are to be bestowed.

Processing of nominations
The Committee on Prizes and Awards (CPA) evaluates the nominations. This can be done by correspondence and need not involve a meeting of the Committee itself. The Committee sends its recommendation to the President of the Union, with a copy to the Secretary-General. Persons selected to receive the Award are informed promptly by the Secretary-General after a decision has been taken by the CPA.
If a nomination is not successful, it can be re-submitted after four years.

Nomination format
The nomination documents must contain the following information: Title of the award, with the name of the nominee and the name of the appropriate award.
Nominee and nominator: Include the name, mail address (with zip code), telephone number and E-mail address.

Qualifications of the nominee
1. degrees received (with field, date and institution for each degree);
2. membership in honorary academic societies;
3. honours and awards received;
4. professional positions held (with years, organisations and locations);
5. professional publications, giving the total number (not the titles) of professional publications in each of the following categories:
    a. books written
    b. books or other publications edited
    c. chapters of books written
    d. technical papers, refereed
    e. technical papers non-refereed
    f. non-technical papers
    g. patents
    h. invited lectures, seminars or symposia presentations
    i. other related oral, written or visual presentations or products

In addition, list only the ten (10) most significant publications, patents, presentations or products in literature citation form.
Professional contributions, other than publications (not more than 3 pages). Identify and briefly list in this section the contributions, other than publications, on which the nomination is based.
Organization(s) of which the nominee is a member.
Evaluation (not more than three pages):
A concise summary and evaluation of the nominee's significant contributions; explain why the nominee is especially well qualified to receive the award.

Supporting letters
Not more than three supporting letters are to be included, each one page in length. Supporting letters are solicited by and addressed to the nominator. Members of the Awards Committee are not eligible to write supporting letters.
If there is no acceptable candidate, the award will not be given.

Foundation of the European Confederation of Soil Science Societies (ECSSS)

During the EUROSOIL Conference 2004 in Freiburg, Germany, a European Confederation of Soil Science Societies (ECSSS) was founded by 20 Presidents of European Soil Science Societies, by unanimous vote. The foundation of this Confederation has been prepared during the past two years by Prof. Winfried E.H. Blum, Department of Forest and Soil Sciences, Institute of Soil Research, at the University of Natural Resources and Applied Life Sciences (BOKU), who had been Secretary-General of the International Union of Soil Sciences from 1990-2002.

The presidents or representatives of the presidents of the following European countries took part in the foundation of this Confederation: Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Italy, Latvia, Lithuania, Poland, Rumania, Russia, Slovak Republic, Switzerland, United Kingdom and Ukraine. Moreover, the President of IUSS, Prof. Don Sparks, the President of the European Society of Soil Conservation (ESSC), Dr. José Luis Rubio, the President of the Soil Science Society of America (SSSA), Prof. Thomas Sims and other representatives of societies and organisations related to soil issues took part. The foundation of this Confederation was very timely, due to new initiatives for soil protection in Europe by the European Commission, in 2002, (European Soil Thematic Strategy). - Moreover, scientific research and scientific co-operation across Europe are increasingly determined by the European Union. This means that the soil science societies of Europe now have a new platform for co-operating with important Directorates-General of the European Commission in Brussels.

The new Confederation is a regional member of the International Union of Soil Sciences, with the goal to foster all branches of soil science and their application, as well as to support soil scientists in their professional activities. Moreover, the Confederation will facilitate information for politics and decision making and for the broad public, especially in view of a future sustainable use of natural resources, in particular soil and land. - Specific activities of the Confederation will be the organisation of meetings, conferences and congresses and the publication of scientific and other material, as well as the co-operation with other scientific organisations. Most important is the organisation of the EUROSOIL Conference, an event which is well known also outside Europe, and which is organised every four years in another European country.

Prof. Winfried E.H. Blum and Prof. Martin H. Gerzabek, President of the Austrian Soil Science Society (OEBG) were unanimously elected President and Vice-President, respectively, of this new Confederation. The foundation of this organisation has caused widespread repercussion in Europe, including the European Commission. The Soil Science Society of America has already proposed to sign a Memorandum of Understanding for the intensification of future co-operation between the SSSA and the ECSSS. Moreover, different European organisations dealing with soil and land issues have shown their interest in co-operating with this new organisation.

The next EUROSOIL Conference, at which about 1500 scientists are expected, will take place in Vienna, in 2008, and will be organised by the Austrian Soil Science Society, in close co-operation with the soil science societies of the neighbouring countries Czech Republic, Slovak Republic, Hungary, Croatia, Slovenia and Switzerland.

The office of the European Confederation of Soil Science Societies is at the Institute of Soil Research of the Department of Forest and Soil Sciences, at the University of Natural Resources and Applied Life Sciences (BOKU), in Vienna, Austria.

Address of the ECSSS:
Prof.Dr. Winfried E.H. Blum
President, ECSSS
University of Natural Resources and Applied Life Sciences (BOKU), Peter Jordan Str. 82,
1190 Vienna, Austria, Tel.: (+43-1)47654-3101; Fax: (+43-1)47654-3130
winfried.blum@boku.ac.at

Your input on the new SSSA Strategic Plan for 2005-2010

The SSSA Executive Committee, with input from the SSSA Board of Directors and SSSA Headquarters staff, has developed a Strategic Action Plan for SSSA, for 2005-2010. This plan was developed in response to the many significant changes that have occurred since the adoption of our 1994 strategic plan. Our sciences are advancing at an increasingly rapid pace and the institutions and industries at which our members reside are also changing rapidly. How we adapt to these changes will define our future. We need to recognize the broadening interests of our members, and those who could be our members, who now regularly work and interact with colleagues in the molecular, environmental, ecological, and earth sciences, in addition to collaborations with those in agronomy and crop science. We need to build stronger working relationships with our practitioners, the professionals who apply science to the solution of problems of direct and immediate importance to society. We especially need to reach out to the students and early career members who represent our future and to expand our efforts to be a globally focused discipline.

We believe that change brings opportunity and feel that we have developed a forward-looking strategic plan that will allow us to seize opportunities which will benefit our membership. The SSSA Board of Directors will be discussing the new strategic plan at our annual board meetings in Seattle next month. We all welcome your input on the plan, which can be viewed at www.soils.org/strategic_plan/ Please send your comments directly to me. I will ensure that they are considered and discussed by the SSSA Board of Directors as we finalize the plan and begin its implementation 2005. Thank you for your willingness to assist us in our efforts to build a stronger SSSA for the future!

Dr. Tom Sims
University of Delaware, Newark, DE
email: jtsims@udel.edu

The next Green Revolution, by Pedro Sanchez
(published in the NY Times, 6th October 2004)

Africa is hungry and Americans would like to help. But we've been helping the wrong way - by providing emergency food aid rather than enabling African farmers to produce more food. Last year the United States generously gave $500 million of emergency food aid to Ethiopia to help people survive the drought year. And how much did we provide to African farmers to help them be more productive over the long run? A small fraction of that amount - $4 million.

As a result of the Green Revolution in the 1960's, 70's and 80's, crop yields soared in India, China and Latin America, enabling them to break free of extreme hunger and recurrent famine. Indeed, these agricultural changes allowed countries like China and India to become the emerging markets they are today.

Tropical Africa - which stretches from the southern edge of the Sahara to the Limpopo River on the border of South Africa - is finally ready for its own Green Revolution. Crop yields there are miniscule, an average of 1,500 pounds of cereals per acre compared with 2,300 pounds in India and 4,900 pounds in China.

For better harvests, Africa's farmers need four things: nutrients for the soil, which can be provided by both mineral and organic fertilizers; small-scale irrigation and technologies for collecting rainwater; sturdier, higher-yield seeds; and a corps of master farmers, trained in up-to-date agricultural techniques, who could be posted in villages and would be able to provide advice. By introducing these measures, Africans could triple food production by 2015.

Unlike the Green Revolution of the 60's, an African Green Revolution doesn't have to be based on technologies and practices that hurt the environment. Land can be reclaimed not only through appropriate fertilization but through more environmentally sensitive techniques. For starters, there's agro-forestry, which involves planting trees that replenish the soil with nutrients like nitrogen. Farmers could also learn low-till or no-till farming techniques and be encouraged to plant pest-tolerant crops, which would cut down on insecticide and pesticide use.

What's more, small-scale irrigation projects like ones under way in northern Ethiopia can bring water to parched areas more effectively and economically than the large, expensive dam projects of old. Finally, after soil and water are taken care of, biotechnology can help, by fortifying African food crops against droughts and pests, and by increasing the nutritional content of staple foods.

A rise in crop yields would do more than end hunger. Raising the productivity of Africa's villages would also raise the status of the women on the continent. Women do much of the farming in Africa today, growing 80 percent of the food there - and they work mostly without tools or modern technologies. If farming was easier, women would be freer to find work off the farm, more girls would be able to stay in school and children would have better food to eat. History has shown that women's empowerment in turn leads to lower population growth and to advances in children's health and education. In addition, using locally grown foods in feeding programs for infants and children will generate additional demand, helping African agriculture to strengthen itself.

Given the possible rewards of African renewal, the price tag is small. Key investments on the order of $50 per person per year in tropical African villages would put the continent on the path to long-term sustainable development. Additional annual aid from the developed world might therefore be around $25 billion, a small fraction of what we spend over the long run on emergency food aid, disease epidemics and fighting terrorism and violence in failed states.

If we take these simple steps - and promote good governance in African countries - the continent has the potential to go from basket case to trading partner. A sign I saw at a Florida bait shop says it all: "Give people a fish and they will eat for a day; teach people how to fish and they will eat for their lifetime and ...they will buy fishing equipment."

Pedro Sanchez
Tropical Agriculture Program of the Earth Institute at Columbia University.
Email sanchez@iri.columbia.edu

2006 Kubiena Medal
Soil Morphology and Micromorphology

The Kubiëna Medal was introduced by Subcommission B - Soil Micromorphology of the ISSS to commemorate the memory of Walter L Kubiëna for his distinguished contribution to soil micromorphology. It is the only medal awarded by the IUSS and is given for outstanding and sustained contribution in the discipline of soil micromorphology and to date there have been six awards H.J Altemüller, E. Yarilova, R. Brewer, G. Stoops, E.A FitzPatrick and L. Wilding. It is made every four years and was presented at International Working Meeting on Soil Micromorphology.

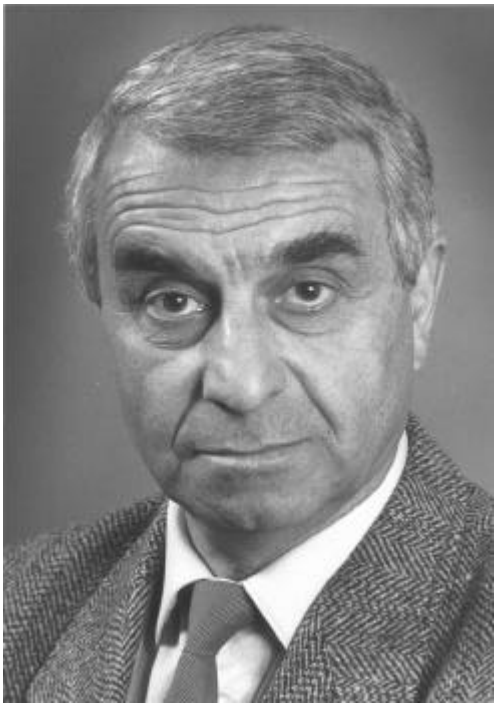
The selection committee for the year 2004 Kubiëna Medal award is composed by G. Stoops (Belgium), E.A. FitzPatrick (UK) and L. Wilding (USA) (award holders), F. Terribile (Italy) (Chairman of the Selection Committee 2001) and G. Humphreys (AUS) (Chairman of Commission 1.1 - Morphology and Micromorphology- of the IUSS). Members of the committee are not eligible to make nominations or second nominations. The Committee was supposed to discuss the nomination during the International Meeting on Micromorphology in Adana, September 2004, but the Committee, with the agreement of

the General Assembly of micromorphologists held in Adana, has agreed to postpone the deadlines because of lack in the formality of the received proposals.
The Committee now makes a new call for proposals from any member of the IUSS for the next award to be presented at the next International Soils Congress of Soil Science of the IUSS, to take place in Philadelphia (USA), 2006. All areas of micromorphological endeavour including research, teaching and application of results to environmental, agricultural, archaeological and industrial problems are considered relevant.
Nominations with supporting information (see below) should be sent to Georges Stoops, by January 31th, 2005 at the following e-mail address: Georges.Stoops@Ugent.be

Guidelines
1. Statement of key achievements and career highlights of the nominee (1 page)
2. Curriculum vitae detailing career history and publication record of the nominee
3. Name of proposer and seconder for the nominee
4. Any other relevant information in support of the nominee
5. Full address and contact details for the nominee

Professor Victor Targulian is 70!

Prof. Dr. Victor O. Targulian, the Chairman of Commission on Soil Genesis at Division I of the IUSS and the Vice-President of the Russian Dokuchaev Soil Science Society, celebrated his birthday on August 10, 2004.



Victor O. Targulian was born in Moscow. He was very talented, however, the way to a university was closed for him, as his father was prosecuted for his political activities by Stalin's regime. Nevertheless, he graduated from Timiryazev Agricultural Academy as a specialist in agricultural soil science, and regardless of all obstacles devoted his life and activities to the basic sciences pedology, geography, mineralogy and geochemistry.
All his life, expeditions, field trips and scientific excursions have been his passion. Already when he was a student, V.O.Targulian has been in the field in the remotest areas of East Siberia, and then, as a member of the staff of the Dokuchaev Soil Science Institute, he worked in Kamchatka, in the Arctic, and in mountainous regions of Siberia and the Far East.

In 1967 he received the degree of a Doctor of Sciences, Geography, for his distinguished work "Pedogenesis and weathering in cold humid areas" (published in Russian in 1971). This study revolutionized the understanding of soil genesis and geography in the cold climates of Russia. The name "podboor" for well-drained tundra soils had been in the Russian classification system and on the national maps since that time.

His studies of northern soils were highly valued not only in Russia but also by many specialists in arctic soils of North America (J.Tedrow, F.Ugolini). However, Prof. V.O.Targulian gained worldwide recognition several years later, in 1974, during the 10th International Congress of Soil Science in Moscow. He organized and carried out the most detailed study of soil genesis ever undertaken worldwide, and prepared the brilliant field excursion. Two books 'Arrangement, composition and genesis of sod-pale-podzolic soil derived from mantle loams' (separate morphological and analytical studies) published in both English and Russian gained him a reputation as a thorough and skillful specialist in soil genesis.

In 1976 he took part in a long-term expedition to the tropical islands of the Pacific Ocean on board of a scientific vessel. After this experience and some following overseas trips Victor Targulian joined the club of "global pedologists". He attended many international conferences and congresses, his fresh ideas, vivid lectures and discussions in good English attracted many well-known soil scientists, and in 1989-90 he managed to organize a team and to prepare together with R.Arnold, I.Szabolc, R.Dudal, D.Yaalon and many other prominent specialists the book "Global Soil Change" (1990), which reflected the response of the world soil community to global challenges.

Victor Targulian is also widely known for his theoretical papers on pedogenesis on a global scale, soil system behavior in time, soil as a memory, characteristic time scales in pedogenesis and many other important issues. In 1990 Prof. Victor Targulian was elected Vice-Chairman and in 1994 Chairman of Commission V of the IUSS, and in 2002, after the reorganization of our Union, he was elected Chairman of the Commission on Soil Genesis. As an IUSS officer he was and still is very active, organizing international meetings, expeditions and publications.

In spite of his time-consuming international activities, Prof. Dr. Victor Targulian manages to carry on not only his scientific career but also pedagogical and editing activities and work in the national Soil Science Society. His latest papers and books on the development of soils in time, on the pedosphere as a reactor, regulator and memory of biosphere interactions, and at the same time very detailed and deep investigations of soil matter, together with his students, make him one of the most readable pedologists.

V.O.Targulian is both one of the leaders among pedologists and at the same time an 'ambassador', enriching world science by 'diamonds' from the Dokuchaev School of Soil Science and enriching national science by up-to-date world experience.

The world community of soil scientists wishes Prof. Victor Targulian many more years of healthy and productive life.

Sergey Goryachkin
Moscow/Russia

Winfried E.H. Blum
Vienna/Austria

IRRI Confers Best Article Award upon Dr. A. Rashid

As a part of the International Year of Rice 2004 celebrations, the International Rice Research Institute (IRRI) has conferred IRRN Best Article Award in Soil, Nutrient, and Water Management category upon Dr. Abdul Rashid, Chief Soil Scientist at National Agricultural Research Center (NARC), Islamabad. His article "Boron deficiency in calcareous soils reduces rice yield and impairs grain quality" reports preliminary research results in the traditional rice growing areas of Punjab province, Pakistan, using two most popular Basmati rice cultivars, i.e., Basmati-385 and Super Basmati. The article has been published in June 2004 issue of *International Rice Research Notes (IRRN)* and is coauthored by Dr. M Yasin, Principal Soil

Scientist at NARC; Dr. M Ashraf, an accomplished Rice Plant Physiologist and current Director General of NARC; and Dr. Riaz A Mann, Agronomist & Coordinator, Rice-based Cropping Systems Project in Pakistan. Dr. Rashid has more than 200 publications, including the only *Soil Science* book in Pakistan and Editorial Board Member of *European Journal of Agronomy.* He is recipient of several coveted awards and honors and his expertise in the field of micronutrient nutrition of crops has been well recognized internationally.

Recent research of Dr. Rashid has helped in identifying and establishing widespread boron (B) deficiency in many other field crops, and has led to B fertilizer use in cotton. As rice soils in Pakistan are calcareous and low in organic matter, B deficiency was suspected to be a cause of low rice yields on more than 2 million hectares in the country. To the authors' amazement, however, rice grown in low B calcareous soils not only suffers with severe yield losses but grain quality is also impaired; and B use improves yield, cooking quality as well as farmer income. Thus, in B-deficient situations, rice growers are encouraged to include B in their fertilizer use program.

Professor Dr. Clément E. Mathieu

Professor Dr. Clément E. Mathieu retired from Higher Agricultural Education received in October 2004 the Gold Medal of the Academy of Agriculture of France for his work on the understanding of soil resources in mediterranean, tropical and temperate environments and his soil science books.

What's on a man's mind

Dokuchaev: portrait of a landscape, by Günther Umbreit (2002)
The picture is made using a German soil map of the lower saxony. From the 2004 *Art and Soil* calendar of Gerd Wessolek.

Reports of Meetings

Global Workshop on Digital Soil Mapping
14-17 September 2004, Montpellier (F)

One of the hottest topics in soil science today is so-called “digital” or “predictive” soil mapping (abbreviation DSM). The idea is to use as much secondary digital data as possible (digital elevation models, remote sensing images, existing soil surveys and point observations) to optimise soil survey: sampling plans, further fieldwork, map and database production, with the aim of producing a digital product which can be directly used in a GIS and interpeted on-demand, replacing the traditional static soil map. The excitement comes from the convergence of three trends: (1) the ever-increasing free or cheap digital data at increasingly-finer resolutions (e.g. SRTM elevation data), (2) increasingly-sophisticated analytical techniques (much of which is the subject of the Pedometrics IUSS Comission 1.5) and related software, and (3) successful applications in diverse environments.
To capture this excitement and keep the revolution on-track, an ad-hoc group headed by Philippe Lagacherie and Marc Voltz (INRA Montpellier) and Alex. McBratney (University of Sydney) decided it was high time for a workshop “to review, discuss and help develop new, rapid and economic methods for digitally mapping soil classes and attributes (and their uncertainties) principally at resolutions of 20 metres to 500 metres and extents from 5 km² to 50 000 km².” The workshop was sponsored by the IUSS, the French Soil Science Society, and hosted by LISAH (Laboratoire d'étude des Interactions Sol - Agrosystème - Hydrosystème) at INRA (l'Institut national de la recherche agronomique), Montpellier. The organisers designed a format with targeted keynote addresses by leading practicioners (9) and very brief presentations by active workers (52) organised into themes, each with extensive but structured discussion led by a discussant and summarized by a reporter. This correspondent has never been to any scientific event where more of the time was used productively, where more of the focus was on making progress and identifying the way forward rather than on posturing and preening. This was due to the ideal size (81), to the format, to the excellent hospitality (including lunches in the INRA cafeteria which outdid many a conference dinner), and above all to the cooperative spirit of almost all the participants.

Digital soil mappers on the road!

Themes included (1) progress, examples and economics, (2) sampling methods, (3) representation and visualisation, (4) quality assessment, (5) new covariates, especially from continuous-field near and remote sensors, and (6) quantitative modelling to predict

soil classes and attributes. Operational examples of general-purpose maps came from Australia and France, with pilot projects in the USA, Finland, England & Wales among others. Other work was aimed at specific applications (e.g. organic C stocks, desertification risks, ecological functions). New sensors which have proven successful in defined circumstances include gamma-ray spectrometry, electromagnetic induction, and hyperspectral imaging along with old favourites such as aerial photography and digital elevation models.

A running debate was between those who use "data mining" techniques to search for predictors and those who look first for understanding of the soil-landscape relations either to select predictors or to model these relations explicitly. The first group point to the huge supporting datasets and practical results, while the second group point to the classical success of Jenny-like conceptual models in understanding soilscapes. McBratney, Mendoça and Minasny (Geoderma 117:3) have tried to bridge the gap with the so-called 'scorpan' approach; this neologism was used freely in the workshop and provided a useful framework for discussion. This empirical approach is implicitly based on pedogenic knowledge. In addition to the well-known cl, o, r, p, t (renamed c, o, r, p, a = 'age') this include s = known properties of the 'soil' at a point to be predicted and n = spatial position ('neighbourhood').

The proceedings of the workshop, including keynote talks, other talks and results of the discussion sessions will be published as a book in the Elsevier Developments in Soil Science Series (editors : Lagacherie, McBratney and Voltz). Each contribution will have two referees' reports, continuing the interactive spirit of the workshop. This book should provide plenty of good ideas to anyone considering research in this area. Already there is a second workshop being organised by Maria de Lourdes ('Lou') Mendonça at Embrapa Solos in Rio de Janeiro for 02-04 July 2006, where emphasis will be on application of these techniques to large areas of the world without proper soil maps, as well as on increasingly-sophisticated approaches (especially knowledge-based) and full exploitation of new sensors and data sources

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12th International Meeting on Soil Micromorphology

Following the last meeting from the 19th till 13th of July/2001 at the International Training Centre for Post Graduate Soil Scientists of the Gent University, Belgium in 2001, the 12th international meeting was organized in Adana Turkey, between 20 and 26 of September 2004. Total 50 micromorphologists from about 20 countries have participated in this meeting to present and discuss about the current state of knowledge of micromorphology. The number of participants and country represented in Adana, showed that Micromorphological studies are moving ahead and young soil scientists are dedicated to keep the science alive and use their own studies both in fundamental and applied research. Room presentations and discussions were of highest interest, including the discussions on future of soil micromorphology.

Three countries namely Brazil, China, and Poland were interested to organize the next international meeting in 2008 also affirms that micromorphology will continue to serve the development of Soil Science in the future. The topics that were discussed included:

1. Soil quality and soil management for sustainable soil management,
2. Soil genesis and weathering of soil minerals,
3. Paleopedology indicators,
4. Micromorphology of soils in arid regions,
5. The use of micromorphology in soil classification, living organisms, and organo-mineral complexes,
6. The role of soil micromorphology in related sciences, such as archaeology, archaeometry, pollution by heavy metals, ceramics, environmental toxicology, engineering geology, microstructure of Portland cement.

Participants of the meeting at the Karatepe Hitite Archaeological sites, near Adana, Turkey.

Dr. E. A. FiztPatrick convening discussions on the development of calcretes – the reshaped human landscapes (anthroscapes).

It was once again recognized that microscopy and submicroscopy have great value for soil science. In addition to submicroscopy and ability to analyze of particles in clay size, yet development in computer science made it possible to quantify pedological features in great accuracy.

The oral and poster presentations are published as extended abstract book and as CR Rom and it was published by European Commissions Directorate General of the Joint Research Centre. Copies can be obtained from the centre (EUR 21275 EN/1 Excursion book, EUR 21275 EN/2). The field trip around Adana and South-east Turkey provided excellent

opportunities for the examination of soils with various types of caliche and paleosols. Participants have enjoyed the excursions very much and the discussions in the field. Half day visit to Karatepe, the Open Air Archaeological Museum and National Park, provided an opportunity to learn more about the pre and post Hittite history in Turkey. This site was chosen to have exciting discussions on archaeology and micromorphology. A lot of information was provided about the culture and civilization of Hittites who lived in present Turkey more than four thousand year ago and Mesopotamian who were the initiators of the western civilizations and their history goes back to 11 thousand years BP.

The participants were happy to hear that most of colleagues have changed their mind on the soil development of ancient soils (older than Late Holocene). They presently integrate the erosional and sedimentary processes in the soil genesis. However further progress have to be made in this direction, especially in reconstruction of paleo-landscapes based on the soil covers of the past.

The two conference dinners, one in Adana and the other in Sanliurfa, were just excellent. It did offer the participants many talks, drinks, and a very typical gourmet Turkish dinner. During the business meeting the participants have decided that the next meeting will be in China in the years of 2008. It was announced that the Committee decided to postpone Kubiena award winner to the next year, as the announcement and award ceremony will take place during the IUSS congress in Philadelphia in 2006.

The following individuals should receive special thanks for the excellent work and dedication for making the meeting a great success: Luca Montanarella from the EU Soil Bureau Joint Research Centre in Italy, Hari Eswaran from the NRCS-USDA, Washington D.C. and Mike Wilson from the NSSC of the NRCS in Lincoln Nebraska, E. A. FitzPatrick from the University of Aberdeen. Dr. Erhan Akça from the University of Çukurova along with the graduate students of Çukurova University, Departments of Soil Science and Archaeometry: M. Serdem, B. Kapur, A. Ozturk, G. Buyuk, F.S. Ustundag and T. Tamagnini.

S. Kapur, G. Stoops, and A. R. Mermut

32nd International Geological Congress in Florence (Italy)

Winfried Blum (Austria), Emmanuel Frossard (Switzerland), Benno Warkentin (USA) and Ugo Wolf (Italy) organized a session at the 32nd IGC that was entitled "Function of soils for human societies and the environment" on the 21st of august 2004. The session chaired by W Blum and E Frossard had 8 oral presentations and 10 posters. About 60 people visited the oral session. All the papers were presented and briefly discussed. The presentations gave a broad overview on soil genesis, soil mapping and on the services soils perform for the environment and the human societies including the conservation of archaeological assets. A special emphasis was made on the relationships between soil science and geology. Finally the European framework for soil protection was presented. At the end a general discussion was held on the definition of soils, and on how soil science and geology could develop more intense collaborations. The posters all of high quality dealt with extremely different topics such as mapping, biodiversity, soil pollution and soil degradation... This session contributed to address one of the objectives of the conference that was increasing collaboration between earth disciplines. The overheads of most oral contributions as well as some posters will be soon available of the web site of the IUSS (http://www.iuss.org/division4/publications.htm)

The geological society has accepted to publish a book entitled "Function of soils for human societies and the environment" (Eds E Frossard, W Blum, B Warkentin and U Wolf) that will contain most of the presentations made in this session.

Workshop on Clay Mineralogy and Geophysics for Environmental Management and Mineral Exploration
27th and 28th September 2004 CSIRO Land and Water, South Australia.

The workshop brought together researchers, industry professionals and students with interests in clay mineralogy, geophysics, soil science, environmental science and mineral exploration. Technical lectures (Day 1) by leaders in clay mineralogy and geophysics demonstrated how these two exciting divergent fields can be usefully combined to enhance the efficiency of geophysics and remote sensing for mineral exploration, and to improve environmental management and risk assessment.
We held a "field practical" in the Mt Lofty Ranges (Day 2), included a Pb-Zn mineralised zone, degraded wetlands (acid sulfate soils), soils (saline and eroded) and streams (polluted). Participants were shown how to link pedological, geophysical and mineralogical data to deduce sub-surface geochemical processes and understand how specific properties of clay minerals (layer silicates, oxyhydroxides, sulfides, etc) impact on results and interpretations. Hands-on training was conducted in the use of
field-portable geophysical and mineralogical equipment instruments will be provided.
This workshop was organised by the Australian Clay Minerals Society (19th Biennial Conference) and CRC for Landscape, Environments and Mineral Exploration (CRC LEME) - in association with the "Soil Mineralogy Commission" of the International Union of Soil Sciences (IUSS - as a mid-conference meeting); The Australian Society of Exploration Geophysics (ASEG) and the Australian Society of Soil Science, Incorporated (ASSSInc - South Australian Branch).
Conference: Clay Mineralogy and Geophysics for Environmental Management and Mineral Exploration ClayGEMME 2004): 29th September to 1st October 2004
The Conference, included a one day field trip and several papers were presented on the following topics: 1. Poorly Ordered Nanoparticulate Minerals (PONM) in Soils or Sediments; 2. Clay mineralogy and geophysics incorporating remote sensing, mineral exploration and environmental management; 3. New techniques; 4. Applications of clays in industry and technology; 5. General papers in clay science.
This workshop and meeting has now given us some very "good leads and ideas " for the two IUSS symposia in 2006.

Dr Rob Fitzpatrick
CSIRO Land & Water, Australia
E-mail rob.fitzpatrick@csiro.au

International conference "Soil Classification 2004"

International conference "Soil Classification 2004" was held in Petrozavodsk, Russia, 3-8 of August, 2004 under auspices of IUSS and Dokuchaev's (Russian) Society of Soil Sciences. The event continued the discussion started at the international soil classification conferences in Alma-Ata (1988) and Velence, Hungary (2001). The conference collected 93 participants from 28 countries (Russia, Great Britain, France, the Netherlands, Belgium, Spain, Germany, Austria, Italy, Norway, Poland, Czechia, Slovakia, Hungary, Estonia, Latvia, China, India, Taiwan, Bhutan, Australia, South Africa, Burkina Faso, Iran, Canada, the United States, Cuba and Mexico).
The IUSS was represented by the Chairman of the Division I "Soils in time and space" Prof. Ahmet Mermut, the Chairman of the commission "Soil Genesis" Prof. Viktor Targulian and Vice-chairman of the same commission Prof. Zhang Ganlin, Vice-chairman of the commission "Soil Classification" Prof. Josef Deckers. The most active nucleus of the conference was represented by the WRB Working group (Prof. Erika Micheli – Chairperson, Dr. Peter Schad – Vice-chair, Dr. Otto Spaargaren – Secretary). FAO was represented by Dr. Freddy Nachtergaele (also one of the most active members of the WRB standing

committee). The honorary guests of the meeting were Profs. Rudi Dudal, Winfred Blum, Hans-Peter Blume, Richard Arnold, and Arnt Brongher.

The conference had 5 main sessions: “Development of WRB”, “Development of national soil classifications”, “Anthropogenic soils classifications”, “Numerical and computer-based classifications”, and “Indigenous soil classifications”. The program included both plenary lectures, oral presentations, and poster sessions, as well as other activities, such as joint business meeting of the Commissions “Soil Genesis”, “Soil Classification”, and WRB working groups. The conference also included a field workshop aimed to the discussion of some problematic soils groups (shallow Podzols, weakly developed soils with an increase of clay content in B horizon, urban soils, Albeluvisols, and soils developed on carbon-containing shales). Though the discussion was interesting and productive, the participants noted poor organization of the field workshop: the field guide was lacking morphological descriptions of the pits, some analytical data were absent, and some were considered to be incorrect.

Generally, the conference showed an increased interest of the soil science community to classification problems. It was noted an urgent need for the development of national soil classifications and soil surveys, and of global WRB-based correlation system.

Prof . Winfried Blum
Austria
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Third pedological days in Slovakia

Slovakian soil scientists organized THIRD PEDOLOGICAL DAYS IN SLOVAKIA (June 22-24th, 2004). This short tradition was reflected in participation head pedological experts of Central European countries (Bohemia, Hungary, Poland, Austria, Slovakia) and representatives of Spain. The meeting scene was historical Westslovakian location - castle of Mojmírovce. Societas pedologica slovaca and Agricultural University Nitra, Department of Soil Science and Pedology were main organizers.

More than 100 participants concentrated their activities to the topics:

- Soil degradation and its development in new socio-economic conditions
- Soil erosion and other soil physical degradation processes
- Contamination, acidification and other features of soil chemical degradation
- Degradated soil identification, mapping and possibilities of recultivation and remediation measures.

In field excursion were the participants confronted with soils of Hilly Land of Nitra – main soil types - Orthic Luvisols on loess and their eroded subtypes as well as Phaeosols intensively cultivated on alluvium of Žitava river. The meeting of soil science experts brought many new findings, scientific confrontation and will help further help in soil science development in Slovakia and neighbouring countries.

Pavel Jambor, PhD.
Societas pedologica slovaca, President
Gagarinova 10, 827 13 Bratislava, Slovakia

Workshop of the Western Enviro-Agricultural Laboratory Association, Edmonton, Canada

Fifty three people attended the 15th Annual Workshop of the Western Enviro-Agricultural Laboratory Association (WEALA) held at the Alberta Research Council, Edmonton, Alberta, Canada on April 15, 2004. The theme of the workshop was "Regulatory Aspects of By-Product Management and Testing". James LeBlanc, President, welcomed the participants on behalf of WEALA and chaired the workshop sessions. The workshop included following presentations: (1) Salt-contaminated wastes and soils (Gordon Dinwoodie, Alberta Environment) (2) Challenges for laboratories from new G-50 guidelines (John Ashworth, EnviroTest Labs) (3) Effective soil sampling protocols (Doug Penney, Alberta Agriculture) (4) Field studies of soil-test phosphorus and its relationship to P in run-off (Sheilah Nolan, Alberta Agriculture) (5) Land application of municipal and industrial by-products (Doug Keyes, Norwest Labs) (6) By-products from intensive livestock operations (Jim McKinley, Natural Resource Conservation Board) and (7) Soil criteria for barium and barite (Chris Meloche, Chevron). There was a very stimulating panel discussion at the end of the presentations. The program committee included John Ashworth, Brenda Chomin, Joel Crumbaugh, and Doug Keyes. The 16th workshop will be held in early 2005. The laboratory community has used these workshop opportunities to encourage laboratory clients/consultants to attend and enable healthy discussions on topics of current interests and/or provide an educational opportunity on these topics. The association held its Annual Business Meeting following the workshop. The results of a recently-conducted round robin study were discussed. A committee was formed to conduct next round robin study. James LeBlanc (President), Curtis Olive (Vice President), and Joel Crumbaugh (Secretary/Treasurer) completed their terms on the 2003-2004 Executive. Curtis Olive

moved to the President's position. Joel Crumbaugh was re-elected as Secretary/Treasurer. The Executive for 2004-2005 consists of Curtis Olive (President), Doug Keyes (Vice President), and Joel Crumbaugh (Secretary/Treasurer). The Western Enviro-Agricultural Laboratory Association is a non-profit association consisting mainly of analytical laboratories with common interests in promoting and improving the analytical chemistry industry. For further information, visit us online at www.weala.com.

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Cooperating Journals

The IUSS has 10 cooperating journals. These journals are available for individual IUSS members at reduced subscription rates. Some general information on these journals is given below. Should you be interested to subscribe to one of these journals please contact the IUSS Treasurer: Dr. J H Gauld, The Macaulay Institute, Craigiebuckler, Aberdeen AB15 8QH , UK
Tel (44)01224 498200 ext 2002, Fax (44) 01224 208065, j.gauld@macaulay.ac.uk

1. ARID LAND RESEARCH AND MANAGEMENT

Size: Four issues per year in one volume of ca. 400 pages. Publisher: Taylor & Francis New York - Editor-in-chief: Prof.Dr. J. Skujins, Utah State University, USA. Personal subscription rate for IUSS members (1998): US$ 105.00.

2. BIOLOGY & FERTILITY OF SOILS

Size: Eight issues per year, in two volumes of about 750 pages. Publisher: Springer Verlag, Berlin-Heidelberg-New-York-Tokyo. - Editor-in-Chief: Prof.Dr. J.C.G. Ottow, Giessen, Germany. Full subscription rate for the two volumes, excluding surface mailing: 488.80 EUR . Personal subscription price for IUSS members for the two volumes, excluding postage and handling 305.55 EUR.

3. CATENA

an interdisciplinary journal of Soil Science-Hydrology- Geomorphology, focusing on Geoecology and Landscape Evolution. - Publisher: Elsevier Science, Amsterdam, the Netherlands - Joint Editors: J.A. Catt, Harpenden, J. Poesen, Leuven, Belgium, M. Singer, Davis, CA, USA, O. Slaymaker, Vancouver, Canada, M.F. Thomas, Stirling, UK, S.W. Trimble, Los Angeles, USA. Webpage: http://www.elsevier.com/locate/catena Personal subscription rate for 2003 (volumes 54-58 - 15 issues) for IUSS members 187 EURO (including postage/handling).

4. GEODERMA

an International Journal of Soil Science. - Publisher: Elsevier Science Publishers, Amsterdam, the Netherlands. - Editors-in-Chief: J.C. Bell, MN, USA, H. Insam, Innsbruck, Austria, A.B. McBratney, Sydney, Australia, and Prof. D.L. Sparks, Newark, USA - Webpage: http://www.elsevier.com/locate/geoderma Personal subscription rate for 2003 (volumes 117-122 - 24 issues) for IUSS members: 218 EURO (including postage/handling).

5. JOURNAL OF PLANT NUTRITION & SOIL SCIENCE/ZEITSCHRIFT FÜR PFLANZENERNÄHRUNG UND BODENKUNDE

international journal covering all aspects of plant nutrition and soil science with a special focus on soil-plant interactions Size: 6 issues per year. Publisher: Wiley-VCH, Weinheim, Germany. Webpage: http://www.wiley-vch.de/publish/en/journals/alphabeticIndex/2045/
Editors-in-chief: Prof. Dr. K.H. Feger, Dresden/Tharandt, Germany; Prof. Dr. F. Wiesler,

Speyer, Germany. Personal subscription rate for IUSS members: 58.80 EUR, including postage.

6. PEDOBIOLOGIA

international journal, focusing on soil biology, especially on soil zoology and microbiology. - Publisher: Urban & Fischer, Jena. - Editors-in-chief: Prof. S. Scheu, Darmstadt, Prof. J. Lussenhop, Chicago, Dr. J. Schauermann, Göttingen. Personal subscription rate for IUSS members (2001): 50.11 EUR, plus postage

7. SOIL AND TILLAGE RESEARCH

incorporating SOIL TECHNOLOGY, journal concerned with applied research and field applications on soil physics, soil mechanics, soil erosion and conservation, soil pollution, soil restoration, drainage, irrigation and land evaluation. - Size: 5 volumes (10 issues) per year. - Publisher: Elsevier Science, Amsterdam, The Netherlands - Editors-in-Chief: Prof. R Lal (USA); Prof. Dr. M. Kutilek (Czech Republic); Dr. A.J. Franzluebbers (USA). - Webpage: http://www.elsevier.com/locate/still. Personal subscription rate for 2003 (volumes 75-79 - 10 issues) for IUSS members 104 EURO (including postage/handling)

8. SOIL BIOLOGY & BIOCHEMISTRY

Size: 12 issues per year, in one volume. - Publisher: Elsevier Science, Amsterdam, the Netherlands - Editor-in-Chief: Prof.Dr. J.S. Waid, Buderim, Australia. Webpage: <http://www.elsevier.com/locate/soilbio>. Personal subscription rate for 2003 (volume 36 - 12 issues) for IUSS members: 166 EURO (including postage/handling).

9. JOURNAL OF SOILS AND SEDIMENTS - Protection, Risk Assessment and Remediation

an international journal devoted to contaminated but also to intact and disturbed soils and sediments. Editors-in-Chief: Deckere, Eric de, Belgium; Knacker, Thomas, Germany; Koerdel, Werner, Germany; Peijnenburg, Willie, The Netherlands; Co-editors: Blum, Winfried, Austria, Guerin, Turlough, Australia, Matschullat, Joerg, Germany. Appearance: 4 issues per year (6 issues in 2004) Publisher: Ecomed publishers, Landsberg, Germany; website: www.scientificjournals.com Subscription rate for IUSS members: USD 71.74 (printed version, plus postage); USD 78.92 (printed and online version, plus postage); USD 57.39 (online version); USD 93.26 (IP-Access including the printed version, plus postage).

10. AUSTRALIAN JOURNAL OF SOIL RESEARCH

an international journal for the publication of soil research relating to primary production, land and water management, environmental pollution, and site remediation. Publisher: CSIRO Publishing, Melbourne, Australia. Chair of Editorial Advisory Committee: B Clothier (New Zealand). Editors: J Fegent and S Banerjee. Web page: http://www.publish.csiro.au/journals/ajsr/ Personal subscription rate for IUSS members for 2003 (Volume 41, 8 issues, c. 1500 pages): US$105.00 (print and online--includes postage and handling), US$80.00 (online only).

New Journal

Applied Ecology and Environmental Research. International Scientific Journal. Two issues per year. Editor-in-Chief: Dr. Levente Hufnagel. ISSN 1589-1623 (print) and 1785-0037 (online). This new journal, the first issue of which appeared in 2003, publishes research papers, review articles, short communications, book reviews, forum articles and announcements or letters in applied ecological, environmental, biomathematical and

informatical or multidisciplinary agricultural research. It contains theoretical papers as well as application-oriented contributions and practical case studies. There is no bias with regard to taxon or geographical area. The first issue is available on the website mentioned below.
For more information contact: Dr. L. Hufnagel, Kass u. 118, H-1185 Budapest, Hungary. E-mail: aeer@ecology.kee.hu. Website: www.ecology.kee.hu.

Upcoming Meetings

For a more complete list see: http://www.iuss.org/pages/meetings.htm

9th International Symposium on Soil and Plant Analysis

Cancun, Mexico, 10 January – 4 February
Information: Palm International Conferences, Turnstrasse 11, 67706 Krickenbach, Germany, tel + 49 6307 401103, palmmail@convservices.de

International conferece on soil, water and environmental quality

New Delhi, India, 28 January – 1 February, Information: R.K. Rattan, IARI, New Delhi 110 012, tel 0091 11 25841991, isss@vsnl.com

International Conference on "Sustainable Crop Production in Stress Environments: Management and Genetic Options"

Jabalpur, India, February 9-12, 2005. For further information, please contact Dr. V.S. Tomar, Director of Research Services, Jawaharlal Nehru Krishi Vishwa Vidyalay, Adhartal, Jabalpur 482 004 (M.P.) India; Phone 91 761 2481074; Fax 91 761 2481074; Email:tomarvs@mailcity.com

Element balances as a tool for sustainable land management.

Tirana, Albania, March 13-18, 2005. For further information, **contact:** Paolo Demaria, Institute of Plant Sciences, Eschikon Research Stationm Eschikon 33 - P.O. Box 185,
CH-8315 Lindau

Global Soil Change: Time-Scales and Rates of Pedogenic Processes

Montecillo, Mexico, 29 March – 6 April
Information: Dr. Elizabeth Solleiro-Rebolledo, Instituto de Geología, UNAM. Circuito de la Investigación Científica, Ciudad Universitaria, C.P. 04510, Mexico City. E-mail: solleiro@geologia.unam.mx, Fax +52-56-22-43-17. Tel. +5255-56-22-42-86 ext. 142 Fax +52-56-22-43-17,

8th International conference on the chemistry of trace elements

Adelaide, Australia, 3-7 April
Information: 8th ICOBTE Conference Secretariat, ATTN: Sandra Wildman
CSIRO Land & Water Private Bag No. 2, Glen Osmond 5064, South Australia, Fax: +61-8-8303-8572, Email: 8thICOBTE@csiro.au

International symposium on land degradation and desertification

Uberlandia, Brazil. 16-22 May 2005. For further information: Silvio Carlos Rodrigues, Convenor, COMLAND - International Symposium on Land Degradation and Desertification nstituto de Geografia, Universidade Federal de Uberlândia v. João Naves de Ávila, 2160 - Campus Santa Mônica berlândia - MG – Brasil EP 38400-000 Email: comland2005@ig.com.br

Cryosols: genesis, ecology and management

Arkhangelsk , Russia , August 1-8, 2005. Conference Secretariat Institute of Geography, Russian Academy of Sciences, Staromonetny, 29, Moscow, 109017, Russia. tel. +7-095-230-80-46; fax +7-095-959-00-33 e-mail: pedology@igras.geonet.ru http://igras.geonet.ru/cwg/

IUFRO World Congress 2005

Brisbane, Australia, August 8-13
Information: Russell J. Haines, Queensland Forestry Research Institute (QFRI), Australia, Tel.: +61-7-389-69-714; Fax: +61-7-389-69-628; E-mail: hainesr@gfri1.se2.dpi.gld.gov.au

19th International Congress on Irrigation and Drainage (ICID)

Beijing, China, September 10-18
nformation: Chinese National Committee on Irrigation and Drainage, No. 20 West Chegongzhuang Road, Beijing 100044, China; Tel.:+86-10-6841-5522/6841-6506; E-mail: cncid@iwhr.com

Pedometrics 2005

Florida, USA. 12-14 September 2005. Contact: Dr. Sabine Grunwald, Faculty Organizer, Vice-Chair, Commission 1.5 Pedometrics, Div. 1 of IUSS University of Florida/IFAS Soil and Water Science Department 2169 McCarty Hall, P.O. Box 110290 Gainesville, FL USA PHONE: 352-392-1951 ext. 204 FAX: 352-392-3902 EMAIL: SGrunwald@ifas.ufl.edu

IUSS Conference on Salinization - Socio-economic shifts in a world facing global changes: soil salinity/sodicity/alkalinity in new perspectives

Budapest, Hungary. 19th-21st September (22th field trip) 2005. send email to tibor@rissac.hu call Tibor Tóth at ++36 (Hungary) (Budapest)-2243 616 fax to ++36 (Hungary)-3564682

Advances of molecular modeling - perspectives for soil research

Vienna, Austria, October 21-22, 2005. For more information. Prof Martin Gerzabek. Forschungsservice Vizerektor für Forschung Peter Jordanstr. 82 1190, Vienna, Austria. martin.gerzabek@boku.ac.at tel. 1 47654 3102

N management in agro-ecosystems

Maastricht, The Netherlands. 24-26 October, 2005. Contact: Ms Anja Ronken, Conference and Events Office, Maastricht University, Phone:++ 31 (0)43 38 82 941 Fax:++ 31 (0)43 38 84 909 E-mail:mailto:anja.ronken@fd.unimaas.nl

Soils of urban, industrial, traffic, mining and military areas

Cairo, Egypt, 17-25 November
Information: Scientific contact: suitma@mailer.eun.eg Administrative contact: Professor Salah A. Tahoun Tel: 202 260 1742, 202 401 0930, Mobile: 2010 526 4844 Fax: 2055 288 7567 Email: stahoun@mailer.eun.eg Mailing address: P. O. Box 2893 Heliopolis El-Horria Cairo 11361, Egypt

ivth International symposium on deteriorated volcanic soils

Morelia, Mexico, 1-7 July
Information: Dr. Miguel Bravo, Centro Nacional para Produccion Sostenible (CENAPROS), Morelia, Mexico, bravo_miguel@infolsel.net.mx, Tel.:++52-443 325-3173 or --3178, FAX: ++52-435-352-3172

18th World Congress of Soil Science

Philadelphia, USA , July 9-15

Information: Lee E. Sommers, Colorado State University; Fort Collins, Colorado, E-mail: Lee.Sommers@ColoState.Edu http://iuss.colostate.edu/18wcss/

New Publications[1]

Cryosols. Permafrost-Affected Soils. J.M. Kimble, editor. Springer-Verlag, Berlin, Heidelberg, 2004, xviii + 726 p. ISBN 3-540-20751-1. Hardbound.

Cryosols or Gelisols are soils of the permafrost regions of the world. These regions are at high latitudes and also at high elevations. They cover about 25% of the world's surface and, in countries such as Canada, include up to 40% of the soils. Permafrost creates such unique conditions that the permafrost-affected soils have different physical, biological and chemical properties than other soils. In the last couple of decades, development in regions of permafrost has increased and so has interest in these regions' soils. Also, these areas are projected to undergo the greatest impact from global warming, which may have a major effect on soil-forming processes and on how the soils are used and managed. Thus there is an even greater need to better understand the distribution, soil-forming processes, ecological processes, classification, use, and management of permafrost-affected soils. In the late 1980s, the International Permafrost Association and the International Union of Soil Sciences formed the Cryosol Working Group, which began efforts to improve the classification of these soils. Out of this effort came the Gelisols classification of Soil Taxonomy and the Cryosols classification of the World Reference Base for Soil Resources (WRB). Another major accomplishment included a Northern Circumpolar Soils Map and database. Under the leadership of Dr. Charles Tarnocai, the group decided to produce the present book. The idea behind the book was to compile as much knowledge as possible about permafrost-affected soils. Numerous papers on these soils and specific permafrost topics have been published in many journals, proceedings and conference publications, and much of that has been published in Russian, as the largest extent of these soils is in Russia, but no single book has been dedicated to the soils of cold regions. Therefore, much of the information in this book is being presented to a wide audience for the first time. The book is divided into six sections. The first section is a history of research of polar regions. The second section covers the geographic distribution of Cryosols in all regions where the soils occur. The third section deals with the soils' properties and processes. The fourth section covers ecological processes of Cryosols. The fifth section deals with their classification, and the last section covers the management and use of such soils. All sections start with a short introduction to the specific topic. The book is well-illustrated with photographs, figures and maps. It forms an excellent contribution to the literature about permafrost-affected soils!

Price: EUR 149.95 plus VAT when applicable; SFR 254.00; GBP 115.50; USD 219.00.

Orders to: Springer-Verlag, Tiergartenstrasse 17, D-69121 Heidelberg, Germany. Fax: +49-6221-345229. Email: orders@springer.de. In North America: Springer-Verlag, 175 Fifth Avenue, New York, NY 10010, USA. Fax: +1-201-384-4505. Email: service@springer-ny.com. Internet: www.springeronline.com

Amazonian Dark Earths: Explorations in Space and Time. B. Glaser and W.I. Woods, editors. Springer-Verlag, Berlin, Heidelberg, 2004, xiv + 216 p. ISBN 3-540-00754-7. Hardbound.

The idea for this volume first came about through a conversation the editors had at the Sustainable Management of Soil Organic Matter Conference in Edinburgh in 1999. It developed with two symposia in 2001 and culminated at the First International Workshop

[1] The New Publication section is prepared by Hans van Baren (hans.vanbaren@wur.nl); should you have a publication that you would like to have included in the next IUSS Bulletin, ask your publisher to send a review copy to: ISRIC-IUSS, PO Box 353, 6700 AJ Wageningen, The Netherlands.

on Terra Preta Soils in Manaus and Santarém, Brazil in 2002. As a comprehensive treatment of these distinctive anthropogenic soils has never been published, the editors decided to select papers from these symposia and develop an edited volume. The result contains the efforts of an international group of scholars from the disciplines of anthropology, archaeology, biology, geography and soil science. The issues posed by the dark earth soils from the past potentially provide a rich resource for the future of Amazonia and, indeed, the world. The 15 chapters of this book provide an array of interesting and complementary interpretative stances developed from a diverse body of investigative methodologies. Recently, a number of books and articles have appeared about different aspects of Dark Earths, giving many observations and data, but also posing many questions which are still unanswered about the origin, distribution and properties of these intriguing soils. The editors have dedicated this book to Dr Wim Sombroek, friend, scholar, and the godfather of the Amazonian Dark Earths.
Price: EUR 106.95, plus VAT when applicable; USD 139.00.
Orders to: Springer-Verlag, Tiergartenstrasse 17, D-69121 Heidelberg, Germany. Fax: +49-6221-345229. Email: orders@springer.de. In North America: Springer-Verlag, 175 Fifth Avenue, New York, NY 10010, USA. Fax: +1-201-384-4505. Email: service@springer-ny.com. Internet: www.springeronline.com

Below-ground Interactions in Tropical Agroecosystems. Concepts and Models with Multiple Plant Components. M. van Noordwijk , G. Cadisch and C.K. Ong, editors. CABI Publishing, Wallingford, 2004, xxi + 440 p. ISBN 0-85199-673-6. Hardbound.
Below-ground interactions are often seen as the 'dark side' of agroecosystems, especially when more than one crop is grown on the same piece of land at the same time. This book aims to review the amount of light the past decade of research has shed on this topic. It also aims to review how far we have come in unravelling the positive and negative aspects of these interactions and how, in dialogue with farmers, we can use the generic principles that are now emerging to look for site-specific solutions. The material selected for this book is intended to complement existing textbooks on intercropping, agroforestry, and biological nitrogen fixation. T this end, this volume provides a synthesis of plant-soil-plant interactions in agroforestry, mixed pastures and intercropping systems – with a focus on processes that are relevant to many types of multispecies agroecosystems. Although the principle of interaction between plants is not unique to tropical systems, the editors have chosen to concentrate on tropical agroecosystems as they have remained more complex than their temperate counterparts, resisting the onslaught of 'modernisation'. Each of the 20 chapters provides an overview of key results and progress made with regard to research methods. This leads to an operational description of specific concepts in the form of simulation models. Within each chapter the main challenges that remain are discussed. The book begins with an overview of the simple methods used to diagnose the net effect of below-ground interactions on overall plant (tree, crop, grass) performance. Ch. 2 introduces the methods researchers use to explore farmers' knowledge of soil fertility and below-ground effects. The next three chapters focus on the root systems of trees and crops as key to our understanding of below-ground interactions. Ch. 7-10 look at root functioning in more detail. Ch. 11 and 13-16 go beyond plant-mineral-soil-plant interactions, and considers interactions via soil organic matter, Nitrogen-fixing symbionts, mycorrhizal partners, nematodes and other 'plant disease' organisms, and the below-ground foodweb as a whole. In Ch. 17 the authors evaluate how the process-level understanding of below-ground interactions discussed in the previous chapters can contribute to farmers' management of real-world agroecosystems, by interventions at the plot or farm scale. Ch. 18 and Ch. 12 explore interactions at the farm-to-landscape scale, via flows of water and the emission and/or absorption of greenhouse gases. Ch. 3 considers simulation models, including the issue of 'for whom are they built'. Ch. 20, the synthesis, returns to the issues of 'where' and 'how' our attempts to open the 'black box' of below-ground interactions can be of direct use in managing natural resources.
Price: GBP 75.00; USD 140.00.

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Environmental Geochemistry in Tropical and Subtropical Environments. L.D. de Lacerda, R.E. Santelli, E.K. Duursma and J.J. Abrão, editors. Springer-Verlag, Berlin, Heidelberg, 2004, xx + 384 p. ISBN 3-540-42540-3. Hardbound.
Three symposia on environmental geochemistry in tropical regions, held between 1993 and 1999 made it very clear that tropical geochemistry is of world standard and fast increasing in multi-disciplinarily and impact on important geochemical paradigms. It has additionally strong links with the economy of tropical countries, such as mining and industrialisation and is in full development for treating environmental problems caused by human activities of urban and industrial origin. The result of the three symposia clearly showed that time was ripe to produce a first synthesis of the knowledge accumulated during the last decade. This book contains twenty six contributions on diverse aspects of the environmental geochemistry in tropical and subtropical environments. They summarize original research not readily available elsewhere in the literature. Most of the chapters include extensive original data that will be very useful to researchers interested in the (sub)tropics. The book is well-illustrated with many tables and figures. A group of papers on methods and their applications is aimed directly at scientists involved in environmental research in the tropics. There are also some interesting intercontinental comparisons drawn on paleoclimatology, environmental impacts of mining and geochemistry of continental shelf sediments.
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Applied Bioremediation and Phytoremediation. Soil Biology series, volume 1. A. Singh and O.P. Ward, editors. Springer-Verlag, Berlin, Heidelberg, 2004, xix + 281 p. ISBN 3-540-21020-2. ISSN 1613-3382. Hardbound.
This new series will deal with the study of the nature, types and functioning of soil and the inhabitating macro- and microorganisms. The series editor is A. Varma.
The huge expansion of the chemical and petroleum industries in the 20th century has resulted in the production of a vast array of chemical compounds and materials that have transformed our lives. The associated large-scale manufacturing, processing and handling activities have caused a serious deterioration in environmental quality and created threats to human health. These negative impacts have led to responses and regulations requiring remedial action in support of environmental sustainability. The application of biotechnological methods through bioremediation has gained prominence as an option for soil remediation methods. It is a multidisciplinary approach where biologists, chemists, soil scientists and engineers work a team to develop and implement remediation processes. It is a rapidly advancing field and new bio-based remedial technologies are continuing to emerge. This volume addresses a wide range of topics related to applied aspects of microbial and plant-based technologies for treatment of environmental contaminants. Topics include bioremediation of petroleum hydrocarbons, explosives, pesticides and metallic pollutants, bioremediation in extreme environments, natural attenuation and phytoremediation of persistent organic contaminants and metals. Chapters dealing with innovative methods address current bioremediation technologies, biofiltration and risk-based soil remediation approaches. The book is illustrated with 19 figures and 27 tables.
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Biodegradation and Bioremediation. Soil Biology volume 2. A. Singh and O.P. Ward, editors. Springer-Verlag, Berlin, Heidelberg, 2004, xvii + 309 p. ISBN 3-540-21101-2. Hardbound.
This second volume in a series of seven discusses the diverse metabolic capabilities of microorganisms and their interactions with hazardous organic and inorganic compounds. Microbial processes are environmentally compatible and can be integrated with non-biological processes to detoxify, degrade, and immobilize environmental contaminants. Bioremediation, the application of biological methods, has been used successfully for soil remediation. Chapters dealing with microbiological, biochemical and molecular aspects of biodegradation and bioremediation cover numerous topics, including: bioavailability, biodegradation of various pollutants, microbial community dynamics, properties and engineering of important biocatalysts, and methods for monitoring bioremediation processes. As volume 1, also this volume is well-illustrated and contains 40 figures.
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Genetics and Regulation of Nitrogen Fixation in Free-Living Bacteria. Nitrogen Fixation: Origins, Applications, and Research Progress Volume 2. W. Klipp, B. Masepohl, J.R. Gallon and W.E. Newton, editors. Kluwer Academic Publishers, Dordrecht, Boston, 2004, xix + 300 p. ISBN 1-4020-2178-X (hardback); 1-4020-2179-1 (e-book).
This book is the second volume of a seven-volume series, which covers all fields of research related to nitrogen fixation – from basic studies through applied aspects to environmental impacts. It provides a comprehensive and detailed source of information concerning the genetics and regulation of biological nitrogen fixation in free-living prokaryotes. The book contains, in addition to individual chapters representing an organism-based view of selected, well-characterized diazotrophic proteobacteria, cyanobacteria, Gram-positive clostridia, and Archaea, the more general cross-organismic themes dealing with different regulatory aspects, electron transport to nitrogenase, and molybdenum metabolism. In all the chapters, wherever appropriate, historical aspects have been included to give the reader a sense of where things started and how much have been achieved, especially in the last 25 years or so. Also, agricultural and ecological impacts have been taken into consideration. Each chapter has an extensive list of references. This book, like the other 6 six volumes in the series, is intended as a comprehensive reference work for all scientists working in this and closely related fields, and to assist students to enter this challenging area of research.
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Managing Nutrient Cycles to Sustain Soil Fertility in Sub-Saharan Africa. A. Bationo, editor. Academy Science Publishers (ASP), in association with the Tropical Soil Biology and Fertility Institute (TSBF) of CIAT, Nairobi, xx + 608 p. ISBN 9966-24-075-6. Hardbound.
Soil fertility depletion has been described as the major biophysical cause of declining per capita food available in small-holder farms in Sub-Saharan Africa (SSA). This has necessitated changes in research approaches. The need has been recognized for an integration of socio-economic and policy research besides technical research. Soil fertility can no longer be regarded as a simple item solved by the issues of organic and inorganic sources of plant nutrients. Integrated soil fertility management embraces responses to the full range of driving factors and consequences, namely biological, physical, chemical, social, economic and political aspects. The holistic approach encompasses nutrient

deficiencies, inappropriate germplast and cropping system design, pest, disease interaction with soil fertility, linkage between land degradation, poverty and global policies, incentives as well as institutional failure considerations. Such long term and holistic soil fertility management strategies require an evolutionary and knowledge intensive process, participatory research and development focus rather than a purely technical focus. This book espouses such an approach. The book is written by members of the African Network for Soil Biology and Fertility (AfNet), and dedicated to Professor Mike Swift for his many years of dedicated service to the TSBF Institute. The first part of this book deals with the issue of integrated soil fertility management. The second part discusses below-ground biodiversity, the last part is on participatory and scaling up of soil fertility restoration technologies.
Orders to: Academy Science Publishers, P.O. Box 24916, Nairobi, Kenya. Email: asp@africaonline.co.ke. Internet: www.aasciences.org.

Bibiography of Soil Science Research at NARC. A. Rashid and N. Bughio. Pakistan Agricultural Research Council, Islamabad, 2004, vii + 107 p. Softcover.
This bibliography enlists 638 publications reporting results of laboratory, greenhouse and field research conducted all over Pakistan on almost all predominant soil types in the disciplines of soil fertility, plant nutrition, soil chemistry, biology and physics, soil salinity, soil environment, land use planning, soil testing and plant analysis.
This practical publication has a subject index as well as an author index.
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Controlling Nitrogen Flows and Losses. D.J. Hatch, D.R. Chadwick, S.C. Jarvis and J.A. Roker, editors. Wageningen Academic Publishers, Wageningen, 2004, 624 p., ISBN 90-769983-4. Hardbound.
This book is a synthesis of contributions drawn from the 12th Nitrogen Workshop. It provides a valuable compilation of current research, aimed a reconciling the environmental and economic components of N cycling within the context of a productive agricultural industry. The book is divided into seven sections, which examines the nature of the problems associated with losses of N and a range of possible solutions. Section 1 (18 papers), 'Drivers towards sustainability-why change?' identifies the need to adopt new strategies to avoid losses to the environment. Section 2 (51 papers) considers the options for 'Matching supply with demand', followed by the reasons for, and means of 'Controlling losses to air' and to 'water' in section 3 (42 papers) and section 4 (24 papers). Section 5 (32 papers) describes the challenges of 'Reconciling productivity with environmental considerations'. Section 6 (7 papers) 'Models and decision support systems' considers some mathematical models to assist the researcher. In section 7 (7 papers) some important topical questions are debated, e.g. about organic matter; the integration of fertilizers use and manure use; controlling gaseous N emissions; missing N; pollution problems; system studies or desktop studies; and the level of confidence and applicability of model answers. In all, this book will be of value to researchers, policy makers and all those wishing to promote a more efficient use of nitrogen.
Price: EUR 85.40, plus VAT when applicable; USD 98.00.
Orders to: Wageningen Academic Publishers, P.O. Box 220, 6700 AE Wageningen, The Netherlands. Fax: +31-317-453417. Email: info@wageningenacademic.com. Internet: www.wageningenacademic.com.

Medical Geology. Effects of Geological Environments on Human Health. Developments in Earth and Environmental Sciences, volume 2. M.M. Komatina. Elsevier, Amsterdam, Boston, 2004, xii + 488 p. ISBN 0-444-51615-8. Hardbound. Translation from Medicinska Geologija, Tellur, Beograd, 2001.
Public health depends in great measure on environmental condition. The father of modern medicine, Hippocrates (460-377 BC), wrote: "Disease does not come to us from out of the clear blue sky, but rather develops from everyday small sins against nature." Mankind

faces great difficulties in studying nature and seeking to establish the true causes if disease or the positive influence of natural factors on health. The current level of development of biology, medicine, physics, chemistry, geography, geology, soil science, etc. makes it possible to uncover not only basic regularities governing the distribution of disease in concrete territories, but also the factors that determine the level of public health. All that is needed in greater cooperation and coordination of multidisciplinary research efforts. In Chapter 1, the author gives an overview of the development of the disciplines of Medical Geography and Medical Geography, including methodologies and procedures used in research and the goal, task and significance of medical geology. Following chapters deal with: Ch. 2 Geological factors; Ch. 3 Other natural factors; Ch. 4 Anthropogenic factors; Ch. 5 Socio-economic factors and their influence on human health and health protection; Ch. 6 The geography of disease; Ch. 7 Subject and tasks of geological and medical disciplines in defining quality of the environment and its influence on human health; Ch. 8 Methods of medical geology; Ch. 9 Regional medical geology; Ch. 10 Applied medical geology, and Ch. 11 Use of applied medical geology results in economy and health care. The main objective of this book is to show how the geological environment affects human health and to explore preventative methods for improvement. In this, there is a clear link with the subjects dealt with in the IUSS Working Group Soils and Geomedicine, and a greater involvement of soil scientists in interdisciplinary studies should be rewarding for improving the quality and protection of human and animal health.
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Principles of Soil Physics. Books in Soils, Plants, and the Environment. R. Lal and M.K. Shukla. Marcel Dekker, New York and Basel, 2004, viii + 716 p. ISBN 0-8247-5324-0. Hardbound.
This book addresses the topic of soil's physical properties and processes with particular reference to agricultural, hydrological and environmental applications. The book is written to enable undergraduate and graduate students to understand soil's physical, mechanical, and hydrological properties, and develop theoretical and practical skills to address issues related to sustainable management of soil and water resources. The sustainable use of these resources cannot be achieved unless soil's physical conditions or quality is maintained at a satisfactory level. The assessment of physical properties and processes of soil is not commonly done as that of chemical and nutritional properties, and their importance receives insufficient attention. Sustainability is jeopardized when soil's physical quality is degraded. The process of decline is set in motion by a deterioration of soil structure: e.g. an increase in bulk density, decline in strength and percentage of aggregates, decrease in porosity, formation of a surface seal or crust. The emphasis in this textbook is placed on understanding the impact of the physical properties and processes of soil on agricultural and forestry production, sustainable use of soil and water resources for a range of functions of interest to humans, and the environment with special attention to water quality and the greenhouse effect. The sustainable use of natural resources is the basic, underlying theme throughout this book. The book is divided into 5 parts with 20 chapters. Part I is an introduction to soil physics; Part II deals with soil mechanics; Part III discusses soil hydrology; Part IV informs the reader about soil temperature and aeration; Part V deals with two miscellaneous topics physical properties of gravely soils, and water movement in frozen, saline and water-repellent soils. The senior author is well-known for his well-written soil science textbooks and as an editor of many more prominent books in our science. The present textbook is no exception: clearly written, well-illustrated with photographs, figures and tables. The chapters have some case studies, questions and answers, and a listing of problems. All chapters also have an extensive list of references.
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Stream Hydrology. An Introduction for Ecologists. Second edition. N.D. Gordon, Th.A. McMahon, B.L. Finlayson, Chr.J. Gippel and R.J. Nathan. John Wiley & Sons, 2004, xiv + 429 p. ISBN (paperback) 0-470-84358-6; (hardback) 0-470-84357-8.
Water plays an important role in today's environmental concerns. Since the publication of the first edition there have been rapid developments in the application of hydrology, geomorphology and ecology to stream management. In particular, growth has occurred in the areas of stream rehabilitation and the evaluation of environmental flow needs. The concept of stream health has been adopted as a way of assessing stream resources and setting management goals. This textbook documents recent research and practice in these areas. Chapters provide information on sampling, field techniques, stream analysis, the hydraulics of moving water, channel form, sediment transport and commonly used statistical methods such as flow duration and flood frequency analysis. Methods are presented from engineering hydrology, fluvial geomorphology and hydraulics with examples of their biological implications. The book demonstrates how these fields are linked and utilized in modern, scientific river management. Compared to the first edition, it is updated to include new sections on environmental flows, rehabilitation, measuring stream health and stream classification. The relevant software package, AQUAPAK has been completely updated. It is tailor made for the readers of this book and can be downloaded from the internet
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Contaminated Soils: From Soil-Chemical Interactions to Ecosystem Management. R.P. Lanno, editor. Society of Environmental Toxicology and Chemistry (SETAC), Pensacola, 2003, xviii + 427 p. ISBN 1-880611-31-7. Hardbound.
A multidisciplinary effort is required not only to understand and integrate the complexities of soil-chemical interactions with biological systems, but also to summarize the information in a way that regulators and risk assessors can use. SETAC convened a workshop that combined these efforts and resulted in ideas that extended beyond the participants' specific areas of expertise and collectively advanced the concepts in ecological risk assessment (ERA) of soils. The publication objective was to integrate the information from relevant sub-disciplines into a unified reference framework containing all the steps that are needed to conduct a complete risk assessment and management of contaminated soils. This product adds to the standard ERA paradigm with focus areas addressing soil management, fate and transport of contaminants, and measures of bioavailability. Using a broad definition of soils because most contaminated sites are not natural soils and have been subjected to anthropogenic modifications, this book focuses on assessing risks to biological receptors from the presence of chemicals in soils.
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L'Analyse du Sol mineralogique, organique et minerale. M. Pansu et J. Gautheyrou. Springer-Verlag, Berlin, Heidelberg, 2003, xix + 993 p. ISBN 2-287-59774-3. Broché.
Rédigé en conformité avec les normes analytiques, partie intégrante de la démarche qualité, cet ouvrage est un guide de référence pour les choix méthodologiques puis pour la mise en oeuvre des nombreuses méthodes, normalisées ou non, de l'analyse du sol. Il synthétise une multitude d'informations techniques dans des protocoles, tableaux,

formules, modèles de spectres, chromatogrammes et autres diagrammes analytiques. Les modes opératoires sont diversifiés, depuis les tests les plus simples jusqu'aux determinations les plus complexes – physico-chimie structurale des edifices minéralogiques et organiques, elements échangeables, potentiellement disponibles et totaux, pesticides et polluants, elements traces et isotopes.
Outil de base, il sera particulièrement utile aux chercheurs, ingénieurs, techniciens, professeurs et étudiants specialisés en pédologie, agronomie, sciences de la terre et de l'environnement, ainsi qu'aux disciplines connexes telles que physico-chimie analytique, géologie, hydrologie, écologie, climatologie, génie civil et industries associées aux sols.
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Guidelines for Analysis and Description of Soil and Regolith Thin Sections. G. Stoops. Soil Science Society of America, Madison, 2003, 184 p. ISBN 0-89118-842-8. Hardback.
Micromorphology is an indispensable method for the study of undisturbed soil and regolith samples using a microscope. The present book is a new version of a guide published under the auspices of the IUSS in 1985, which is out of print for a long time. The applications of micromorphology have expanded since the original publication and the tools for viewing and interpreting thin sections have evolved and improved since the earlier publication. This book provides a system of analysis and description of soil and regolith materials as seen in thin sections and will be useful to scientists and students from a wide array of disciplines, from archaeology to pedology. The book organizes and reviews the language so that communication among scientists using the technique will be facilitated. All the chapters introduce definitions of micromorphology and review the history of the techniques through to the detailed keys. The definitions and examples are well illustrated with drawings and an accompanying CD with hundreds of thin section images. Suggestions for further reading are mentioned in each chapter. This well-produced full colour book is a very useful and informative lexicon!
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Papua New Guinea Agricultural Literature Database. T. Harwood and V. Vlassak, editors. Land Management Group, The Australian National University, Canberra, 2004. CD-ROM with guidelines book.
The publication PNG Agriculture Literature Database (PNGAgBib) is a database of bibliographic material related to Papua New Guinea agriculture. It contains more than 13,600 references and is 6.2 MB in size. The primary objective for this database is agriculture, but related topics are also included, in particular human nutrition, climate and the environment. There is also a small amount of literature on anthropology, mining, fisheries, politics, governance, law and order, education and tourism. The data is stored in electronic form. It is accessible using EndNote, software designed for accessing outputting and managing bibliographic information. EndNote has powerful search functions. The database exists in the form of an EndNote Library, but does not include the EndNote software. Users will need to obtain EndNote in order to be able to read the bibliographic file, called PNGAgBib.enl (.enl = EndNote library). The manual with the guidelines accompanying the CD gives the user all the information needed to take full benefits from the database contents. The CD itself also contains the manual in PDF format.
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Wind Erosion and Dust Dynamics: Observations, Simulations, Modelling. D. Goossens and M. Riksen, editors. Erosion and Soil and Water Conservation Group, Wageningen University and Research Centre, 2004,197 p. ISBN 90-6754-813-8. Softcover.
The erosion, transportation and subsequent deposition of particles by wind have been recognized as a major environmental problem worldwide. Particle transport by wind is a rapid process, able to affect areas several hundreds of kilometres distant within only a few hours. The finest particles can even travel around the world in just a few days. Considerable progress has been made during the last decade in understanding the physical, environmental, social and economic consequences of aeolian processes. This book deals with several aspects of wind erosion and aeolian soil dust dynamics. Much of the information presented was collected or developed as part of the European wind erosion projects WELSONS (Wind Erosion and Loss of Soil Nutrients in Semi-arid Spain) and WEELS (Wind Erosion on European Light Soils). Additional information was collected from several other national and wind erosion projects. The book contains articles based on various methodological approaches: observations (in the field and in wind tunnels), simulations (process simulations in wind tunnels, scenario simulations) and modelling (of the physical processes and of erosion risk predictions). It also discusses social and economic aspects of wind erosion.
Price: EUR 20.00, 1 copy free on individual request.
Requests to: Department of Environmental Sciences, Erosion and Soil and Water Conservation Group, Wageningen University and Research Centre, Nieuwe Kanaal 11, 6709 PA Wageningen, The Netherlands. Fax: +31-317-486103. Email: jolanda.hendriks@wur.nl Internet: www.dow.wau.nl/eswc/

Modelling Nutrient Losses by Wind and Water Erosion in northern Burkina Faso. Tropical Resource Management Papers 53. S.M. Visser, Department of Environmental Sciences, Erosion and Soil and Water Conservation Group, Wageningen University and Research Centre, 2004, 169 p. ISBN 90-6754-785-9. ISSN 0926-9495. Softcover. Also published as Ph.D. thesis.
In the semi-arid environment of northern Burkina Faso the processes of wind and water erosion occur almost simultaneously and may cause severe soil degradation. Especially in the early rainy season when soils are bare and unprotected, violent winds preceding intense rainfall events result in intense sediment transport by both wind and water. This Ph.D. project aimed at quantifying and modelling wind and water erosion processes, their interaction and related nutrient flows in a Sahelian environment. The source codes of EUROSEM and the stand-alone erosion sub-model of WEPS are translated to the dynamic modelling language PCRaster, further adapted to be applicable to the Sahelian situation and extended with nutrient components. From field measurement and modelling results it is concluded that for water erosion rain splash is the most important detaching agent at the scale of the field and that despite the large volumes of overland flow, erosion is transport capacity limited due to the general low slopes. The material detached by water is available for wind-blown transport. Due to the absence of non-eroding boundaries, intense mass transport under influence of violent winds does not always result in erosion. Depending on wind direction, cover and crust type, net deposition may occur. Further, due to the large spatial variation in wind erosion controlling parameters, areas with erosion and deposition can be identified within a field. Based on model results it is concluded that wind erosion is responsible that wind erosion is responsible for the loss of deposition of large amounts of fine sediment and the nutrients attached to these sediments. Though compared to wind erosion, the nutrient losses under influence of water erosion are small, these losses should not be underestimated; these nutrients flow to the nearest stream and are forever lost for the catchment. Due to the interaction between wind and water,

nutrient and soil erosion at field scale may be large, but are limited at village scale. Provided a good management of natural resources as tree and shrub cover and a good insight in the distribution of cultivated and fallow fields around the village, long-term productivity is not at risk in the southern Sahelian zone.
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Requests to: Department of Environmental Sciences, Erosion and Soil and Water Conservation Group, Wageningen University and Research Centre, Nieuwe Kanaal 11, 6709 PA Wageningen, The Netherlands. Fax: +31-317-484759. Email: jolanda.hendriks@wur.nl. Internet: www.dow.wau.nl/eswc

Soil Macrofauna Community Structure along a Gradient of Land Use Intensification in the Humid Forest Zone of Southern Cameroon. Tropical Resource Management Papers 56. Madong à Birang. Department of Soil Quality, Wageningen University and Research Centre, 2004, 194 p. ISBN 90-6754-783-2. ISSN 0926-9495. Softcover. Also published as Ph.D. thesis.
In this thesis the impact of land use systems and land use intensity on earthworm, termite and ant community structures are described as well as their relationships with the vegetation and soil parameters in the humid forest zone of southern Cameroon. 36 Earthworm species were found, of which 1 new genus and 17 undescribed species, belonging to 3 families. 223 Termite species were recorded of which 43% were undescribed and 6% were soil inhabiting species and 13% were potential pests to agricultural crops. 80 Ant species were found belonging to 7 subfamilies. Soil macrofaunal species richness and diversity were more responsive to soil and vegetation parameters than macrofaunal abundances. There is a positive relation between the structure of vegetation and soil macrofaunal community in terms of species richness and diversity. The knowledge gathered on the present state of earthworm, termite and ant communities and the effects of land use change on these macrofauna in southern Cameroon constitutes the baseline information necessary for the design and/or implementation of measures of conservation in which farmers should play a pivotal role. The author can be reached at: mbirang@cgiar.org
Price: EUR 20.00.
Orders to: Department of Soil Quality, Wageningen University and Research Centre, Dreijenplein 10, 6703 HB Wageningen, The Netherlands. Fax: +31-317-483766. Email: office.bodemkwaliteit@wur.nl. Internet: www.dow.wau.nl/soil_quality

Dams and Environment: Effects on Soils. V. Starodubtsev, O. Fedorenko and L. Petrenko. Nora-Print, Kyiv, 2004, 84 p. ISBN 966-7837-74-2. Softcover.
Dams and reservoirs cause large scale environmental changes, not only near the constructed objects, but in the river basis as a whole. These changes include flooding of large areas of soils, but may usually also include waterlogging, salinization, formation of swamps, aridization in the lower reaches and delta of the river, water quality deterioration, etc. As an outcome of all these changes the construction of dams and reservoirs in the last decades has resulted in a powerful resistance of environmental experts and in some cases with that of the local affected population. The authors have collected many relevant data on the impact of large dams on the environment, including the effect on soils, in the territory of the New Independent States (NIS) or former Soviet Union. This publication includes an introduction, a short review of dam construction history, economic and social importance of dams and reservoirs, relation of reservoirs and the environment, and changes of soils on reservoir margins on the NIS territory. The results of investigations in the Ukraine and Central Asia are also given.
Requests to: Prof. V. Starodubtsev, P.O.-127, Box 64, Kiev 03127, Ukraine. Email: research@i.com.ua.

Australian Soils and Landscapes. An Illustrated compendium. N. McKenzie, D. Jacquier, R. Isbell and K. Brown. CSIRO Publishing, Collingwood, 2004, xv + 416 p. ISBN 0-643-06958-5. Hardback.

This is a marvellous introduction to the soils and landscapes of Australia! The continent is well-known from other books about the large diversity of soils and landscapes, but I regard the present full colour book at about A4-size as a milestone. It can be regarded as an excellent book for IUSS members attending the IUSS World Congress of Soil Science in 2010. Using photographs of characteristic landscapes, the book begins by describing the basic properties of soils and how Australia's distinctive soils and landscapes have co-evolved. The reader gains a greater understanding of why particular soils occur at certain locations and how soil variation can influence landscape processes, agricultural productivity and ecosystem function. The book explains the impact of various forms of land use and the changes they can bring about in soil. More than half of the compendium is devoted to the description of 111 soil profiles, which span the wide variation found in Australia. Most of the profiles were selected by the late Ray Isbell, who also developed the Australian Soil Classification. The soils in this part of the book are grouped by soil order. Each order is introduced with a discussion of defining features, general occurrence, environment and land use. Generalized maps at the order level are provided. The information presented for each of the soils can be viewed at several levels. The profile and landscape images provide a quickly accessed gallery that conveys a great deal about the diversity and nature of Australian soils. The descriptions of distribution, land use, landform, parent material and vegetation give an indication of soil and landscape relationships. At the next level, the graphs of key soil properties, e.g. pH, EC, Exchangeable cations, Particle size distribution, and volumes of solids, water and air, provide a means for appreciating the physical and chemical character of each profile. The section on land qualities is a summary of soil properties affecting land use. Finally, tables of soil morphological, chemical and physical data are provided. Luckily, the soil profiles carry also the name in the World Reference Base for Soil Resources (WRB), increasing the usefulness of the compendium in countries outside Australia.
Price: AUD 110.00.
Orders to: In Europe: Eurospan, 3 Henrietta Street, Covent Garden, London WC2E 8LU, UK. Fax: +44-20-7379-0609. Email: orders@edspubs.co.uk. Internet: www.eurospan.co.uk. Elsewhere: CSIRO Publishing, P.O.Box 1139, Collingwood Vic 3066, Australia. Fax: +61-3-9662-7555. Email: publishing.sales@csiro.au. Internet: www.publish.csiro.au.

Concise Encyclopedia of Bioresource Technology. A. Pandey, editor. Food Products Press, The Haworth Reference Press, New York, London, 2004, liii + 735 p. ISBN 1-56022-980-2. Hardback.
Biotechnology deals with living systems, including plants, animals, and microbes. It derives its strength by harnessing biological processes that sustain life. Biotechnology incorporates any technique that uses living organisms, parts of organisms, enzymes, proteins, etc., which are either naturally occurring or are derived from such living systems. Such techniques can be used to create or modify products, improve plant or animal productivity, or develop microorganisms for special use. Emerging biotechnology uses recombinant DNA, cell fusion, embryo manipulation, etc. Biotechnology has the potential to transform people's lives through its impact on agriculture, animal husbandry, health, environmental protection, material transformation, and other areas. In the agricultural sector, new biotechnology promises to find a solution to the problem of producing more from less, e.g., more food from less arable land, less water per capita, and less polluting energy sources. This could be attained by creating high-yield, disease- and drought-resistant crops. In the context of overall importance of biotechnology, this encyclopedia provides the state of research findings on biotechnological innovations and their potential for commercial exploitation. Forty-four chapters are arranged into three parts. Part I, Environmental Biotechnology, has 11 chapters with 19 articles. Part II, Food Biotechnology, includes 14 chapters. Part II, Industrial Biotechnology, contains 19 chapters incorporating 22 articles. All articles have a few recent references for further reading. This collection of short reviews of topics relevant to the broad field of biotechnology is an attractive source of information for many researchers, teachers and students, who would like to get acquainted with this discipline.
Price: USD 119.96, plus tax when applicable.

Orders to: see below.

Biodiversity and Pest Management in Agroecosystems. Second edition. M.A. Altieri and C.I. Nicholls. Food Products Press, The Haworth Press, New York, London, 2004, xii + 236 p. ISBN 1-56022-923-3 (softcover); ISBN 1-56022-922-5 (hardcover).
This book analyses the ecological basis for the maintenance of biodiversity in agriculture and the role it can play in restoring the ecological balance of agroecosystems so that sustainable production may be achieved. Biodiversity performs a variety of renewal processes and ecological services in agroecosystems; when they are lost, the costs can be significant. The book focuses particularly on the ways in which biodiversity can contribute to the design of pest-stable agroecosystems. The effects of intercropping, cover cropping, weed management, and crop-field border vegetation manipulation are discussed. A considerable amount of attention is paid to understanding the effects of these vegetationally diverse systems on pest population density and the mechanisms underlying pest reduction in polycultures. This is essential if vegetation management is to be used effectively as the basis of ecologically based pest management tactics in sustainable agriculture.
Price: USD 49.95, softcover; USD 79.95, hardcover.
Orders to: The Haworth Press, 10 Alice Street, Binghamton, NY 13904-1580, USA. Fax: +1-607-771-0012. Email: orders@HaworthPress.com. Internet: www.haworthpress.com.

Petit Lexique de Pédologie. D. Baize. INRA Editions, Paris, 2004, 271 p. ISBN 2-7380-111-4. ISSN 1159-5663. INRA Réf. 01503. Broché.
Ce lexique définit plus de 1000 termes specifiques et donne leur equivalent en anglais. De nombreux encadrés et quelques annexes apportent des compléments ou des développements. N'ont été retenus que les mots vraiment utiles du vocabulaire pédologique francophone et relevant des deux systèmes typologique contemporains (Référentiel Pédologique et World Reference Base for Soil Resources-WRB). En outré, un certain nombre de mots relatifs à la contamination des sols ont été ajoutés. Ce lexique n'a pas la 'neutralité' des dictionnaires habituels: pour certaines rubriques clés, l'auteur precise et développe sa conception d'une pédologie moderne, donnant ainsi matière à débattre. Ce lexique donnera au lecteur – spécialiste ou non des sols – le gout d'approfondir ses connaissances en pédologie et surtout de les appliquer à des problèmes concrets. Vivant et attractif pour un public d'étudiants ou d'enseignants, il intéressera plus particulièrement les agro-pédologues, agronomes, forestiers, géologues, géographes, spécialistes de l'aménagement du territoire, etc.
This practical lexicon includes more than 1000 terms, with descriptions, in French, with translations of the term into English. Furthermore, it contains a number of full descriptions of important terms used in pedology. This book is especially relevant for persons who are acquainted with, or interested in, the French Référentiel Pédologique and the World Reference Base for Soil Resources-WRB. It should be part of one's personal or institutional library!
Prix/Price: EUR 35.00.
Commandes à/ Orders to: INRA Editions, RD 10, F-78026 Versailles Cedex, France. Fax: +33-1-30-83-34.49. Email: INRA-Editions@versailles.inra.fr. Internet: www.inra.fr/editions.

Evolution of Tropical Soil Science: Past and Future. G. Stoops, guest editor. Académie Royale des Sciences d'Outre-Mer, Bruxelles, 2003, 149 p. ISBN 90-75652-29-1. Softcover.
This publication contains the papers presented at a workshop, held Brussels in 2002. The workshop was attended by many experts in the field of tropical soil science, and the papers reflect the deep personal knowledge of their authors. To name a few of the speakers at this meeting: Dudal, Ruellan, Deckers, Pinto Ricardo, Guerra Reffega, D'Hoore, Van Ranst, Sys, Nachtergaele, Spaargaren. Their presentations are included in this book. The papers present an interesting account of the development of tropical soil science,

especially in Africa, from the early years until now. Some of the remaining problems are briefly mentioned and these indicate the huge amount of work awaiting the attention of tropical soil scientists!
Price: EUR 16.50.
Orders to: Académie Royale des Sciences d'Outre-Mer, Rue Defacqz 1, boîte 3, B-1000 Bruxelles, Belgique. Fax: +32-2-539-23-53. Email: kaowarsom@skynet.be. Internet: http://users.skynet.be/kaowarsom.

Understanding Environmental Policy Processes. Cases from Africa. J. Keeley and I. Scoones. Earthscan, London and Sterling, 2003, xvi + 224 p. ISBN 1-85383-975-2 (softback); ISBN 1-85383-980-9 (hardback).
This book focuses on policy processes: how are policies made and how do they change. While there has been lots of work on the technical details of environmental policies and the pros and cons of different options, there has, surprisingly, been less reflection on the nature of the process by which policies arise and how they do – or often don't – change. This book asks why do particular perspectives on environmental change become so entrenched in policy? Which actors are involved? Whose interests are served? Whose knowledge is included and whose excluded? The focus of the authors is, therefore, on the intersections and negotiations of knowledge, power and politics. The chapters of this book discuss a number of case studies, explored in detailed research over a number of years, in Ethiopia, Mali and Zimbabwe, as well as 'international' contexts associated with the land management/soils debate in Africa. Ch. 1 introduces the main themes of the book and offers an overview of some of the key features of the case study countries. Ch. 2 provides a conceptual route map to the approach adopted in the book. Ch. 3 takes the international Soil Fertility Initiative (SFI) for Africa as a case study, and examines how this was framed, tracing the links between the global and the local. Ch. 4 to 6 comprise the three case studies. Ch. 7 is the concluding chapter, which draws the themes of the book together and asks what prospects there are for a more inclusive and participatory form of policy process.
Price: GBP 17.95; USD 29.95.
Orders to: Earthscan, 120 Pentonville Road, London N1 9BR, UK. Fax: +44-20-7278-1142. Email: earthinfo@earthscan.co.uk. In USA: Stylus Publishing, P.O. Box 605, Herndon, VA 20172-0605, USA. Fax: +1-703-661-1501. Email: stylusmail@presswarehouse.com. Internet: www.earthscan.co.uk.

Volcanic Soil Resources in Europe. Rala Report no. 214. H. Oskarsson and O. Arnals, editors. M. Jónsdottir, managing editor. Agricultural Research Institute, Reykjavik, 2004, 128 p. ISSN 1010-0121. Softcover.
A group of European soil scientists has over the past six years participated in a European COST action, entitled Soil Resources of European Volcanic Systems (COST-622). The most common soils of volcanic regions are Andosols, but the Action had a broad agenda dealing with all soils that form in volcanic regions regardless of age of the parent material. During the action, workshops and smaller meetings were held in various locations, based on the activity of 5 working groups.
This publication contains abstracts of the last workshop, held on Iceland in 2004. There are 60 abstracts, dealing with mineralogy, chemistry, physics, organic matter, soil genesis and land use. It also includes contributions from Canada, the United States and Japan. A unique aspect of this project was a joint sampling of soil pedons, after which the samples were distributed to the participating laboratories for various analyses. These pedons are therefore among the best studied soils in the world.
Orders to: Agricultural Research Institute (RALA), Kelnaholti, IS-112, Reykjavik, Iceland.

The Biogeochemistry of Submerged Soils. G. Kirk. John Wiley & Sons, xi + 291 p. ISBN 0-470-86301-3. Hardcover.
Submerged soils and the wetlands they support are of huge practical importance: in global element cycles, as centres of biodiversity, in global food production. They are uniquely interesting scientifically because of their peculiar biogeochemistry and the adaptations of plants and microbes to it. Submerged soils cover a huge area of the Earth's land, from 5 to

7 per cent. They are undoubtedly of great practical importance: in local, regional and global element cycles, as habitats for plants and wildlife, and in food and fibre production. The submerged soils in ricefields, for example, produce the basic food of more than 2 billion people, one third of the world population. But submerged soils are also inherently interesting scientifically, and that is the main theme of the book. It describes the physical, chemical and biological processes operating in submerged soils and governing their properties. It describes the transport processes controlling the fluxes of gases and solutes through the soil; the interchange of solids between solid, liquid and gas phases; reduction and oxidation processes; biological processes in the soil and overlying water; and processes in the roots and rhizospheres of wetland plants. The dynamics of nutrients, toxins, pollutants and trace gases are then discussed in terms of these processes and in relation to wetland productivity and global element cycles. The book has many, figures and tables, 23 pages with references, and an index. This work will be invaluable to earth, environmental and agricultural scientists concerned with natural and man-made wetlands, and to advanced undergraduate and graduate students of these topics.
Price: GBP 95.00: USD 168.00.
Orders to: John Wiley & Sons, Customer Services Department, 1 Oldlands Way, Bognor Regis, West Sussex PO22 9SA, UK. Fax: +44-1243-843303. Email: cs-books@wiley.co.uk. Or: John Wiley & Sons, Customer Care Center, 10475 Crosspoint Blvd., Indianapolis, IN 46256, USA. Email: consumers@wiley.com. Internet: www.wileyeurope.com or www.wiley.com.

Soldidac. Comprendre le sol, son histoire et ses potentialités. A. Ruellan et M. Dosso. Educagri Editions, Dijon, et Agence Universitaire de la Francophonie, Paris, 2003. CD-ROM et notice explicative. ISBN 2-84444-294-3 et 2-923210-00-X.
Très riche en illustrations et photographies, ce cédérom d'autoinformation a pour objectif de favoriser l'apprentissage des sols, de leurs fonctions, de leur histoire et de leurs potentialités, par le biais principal de l'observation. Il regroupe dix modules: la couverture pédologique, un milieu structuré at dynamique; les couleurs des sols; les agrégats des sols; les vides des sols; les traits pédologiques; les solidités des structures; la formation des horizons pédologiques; les principaux types d'horizons pédologiques et de superpositions d'horizons; les distributions géographiques des sols; et la démarche de découverte des structures de la couverture pédologique. Chaque module est composé d'un cours et de plusieurs exercises permettant l'évaluation des connaissances acquises. Enfin, un outil de suivi permet aux formateurs de visualiser a posteriori le travail des apprenants. Réalisé par les mêmes auteurs que ceux du livre Regards sur le sol (Editions Foucher-AUF) et du cédérom Solimage (Educagri-AUF), Soldidac et reprend de nombreuses illustrations, permettant ainsi aux formateurs d'associer les trois outils et d'illustrer leurs propres sequences de formation pour une meilleure organisation des apprentissages.
Prix Nord: EUR 45.00; prix Sud: EUR 20.00.
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