The Soil Erosion Risk Map of the Sicilian Region (1:250,000 Scale)

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Assessing the risk areas of soil erosion by water at the regional level is relevant for current and future land planning of environmental actions to combat land degradation. The gravity of the risk is not only depending on the rate of soil erosion by water, but also on other factors, primarily soil depth and rock weatherability. The map of the soil erosion risk in the Sicilian region, expressed in terms of years to a complete loss of the fertile soil cover, is here presented as a methodological model. The degree of risk was not only estimated in function of the rate of soil erosion by water, but also of the depth of the fertile part of the profile, and of the weatherability degree of the underlying bedrock.

\textbf{Keywords} : Risk assessment, soil thematic strategy, geomorphology, geology, soil formation rate, Sicily
In Commemoration of the
90th Anniversary of the IUSS

20th World Congress of Soil Science

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Oral Session

- Congress Symposium
  - June 9 (Mon)
  - June 10 (Tue)
  - June 12 (Thu)
  - June 13 (Fri)

- For your reference, abstracts of oral sessions are shown as group per symposium, but those of poster presentations are listed individually.

- Those who wish to cite abstracts in the proceedings of 20WCSS may refer as below since the abstract online access system does not specify the page.
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June 12 (THU)

057-3 14:30 Comparing Different Approaches - Data Mining, Geostatistic, and Deterministic Pedology - to Assess the Frequency of WRB Reference Soil Groups in the Italian Soil Regions
Romina Lorenzetti1, Roberto Barbetti, Maria Fantappie, Giovanni Labate and Edoardo A.C. Costantini
Consiglio per la ricerca e la sperimentazione in agricoltura, Italy

057-4 14:50 Towards a New International Typological Data Base - Data Integration and Validation
Rainer Bartl1, Josef Kozak2, Michael Bock3, Ulrich Schuler4 and Ulrico Pickert1
1Federal Institute for Geosciences and Natural Resources (BGR), Germany; 2Czech Republic; 3Scitands GmbH, Germany; 4Ifu Institute for Environmental Observation, Germany; 5Saxonian Agency for Environment, Agriculture and Geology (LIULG), Germany

057-5 15:10 Spatial Variability of Electrical Conductivity of Salt-Affected Soils in Northeast Thailand
Porntip Phontusang1, Roengsak Kawatavin2, Krik Pannang-petch1, Sununtha Kingpaiboon1 and Rattana Lerdswansri1
1Khun Kaen University, Thailand; 2Groundwater Research Center, Khon Kaen University, Thailand; 3Thammasat University, Thailand

057-6 (Not Presented) Hydrophysical Database for Brazilian Soils: Challenges and Perspectives
Marta Ottoni1, Maria Leonor Lopes Assad2 and Otto Correa Rotunno Filho3
1Department of Hydrology, Geological Survey of Brazil, Brazil; 2Federal University of Sao Carlos, Brazil; 3Federal University of Rio de Janeiro, Alberto Luiz Coimbra Institute, Brazil

15:30-16:20 Coffee Break & Poster Session 3 (3F, 5F Lobby)

Oral Session No. 59

Oral Session No. 58

June 12 (Thu), 16:20 - 18:10
Convenor: Cornie van Huyssteen (University of the Free State, South Africa)/ Peter Schad (Technische Universität München, Germany)

058-1 16:20 Presenting the 3rd Edition of WRB
Peter Schad1, Cornie Van Huyssteen2 and Erika Micheli3
1Universitaet Muenchen, Germany; 2University of the Free State, South Africa; 3Szent Istvan University, Hungary

058-2 16:40 The Application of Wrb by the European Commission: Experiences and Future Perspectives
Luca Montanarella1 and Arwyn Jones
European Commission, Italy

058-3 16:55 WRB and the Australian Soils Experience
Ben Harms1, David Rees2 and David Morand1
1DSITIA, Australia; 2Agriculture Group, Australia; 3Office of Environment and Heritage, Australia

058-4 17:10 A New Diagnostic Horizon in WRB for Anthropic Topsoils in Amazonian Dark Earths (South America)

O58-5 17:25 Classification of Technogenic Soils in WRB in the Light of Polish Experiences
Przemyslaw Charzyński1, Renata Bednarek1, Andrzej Greinert2, Piotr Hulisz2 and Lukasz Uzarowicz3
1Nicolaus Copernicus University, Poland; 2University of Zielona Gora, Poland; 3Warsaw University of Life Sciences - SGGW, Poland

O58-6 17:40 Conceptual Development of WRB 2014 and Its Impact on the Third Soils Cartography Series in Mexico
Carlos Omar Cruz Gaistardo
Instituto Nacional de Estadistica y Geografia, Mexico

O58-7 17:55 Software Tool for Deriving WRB Soil Names from National Soil Data - Potential for Further Development of WRB
Einar Eberhard1 and Peter Schad2
1Federal Institute for Geosciences and Natural Resources (BGR), Germany; 2Technische Universitaet Muenchen, Germany

[C2.3-2] B: Life in Soils - Distribution and Function of Soil Microorganisms in a Changing Environment
June 12 (Thu), 16:20 - 18:10
Convenor: Ellen Kandeler (University of Hohenheim, Germany)

O59-1 16:20 The Survival Strategy of the Soil Microbial Biomass
Philip Brookes1, Sarah Kemmitt1 and Jianming Xu1
1Zhejiang University, China; 2Rothamsted Research, United Kingdom

O59-2 16:50 Niche Specialisation and Differentiation of Archaeal and Bacterial Ammonia-oxidisers across Agricultural Soils in Southern Hemisphere
Sasha Jenkins, Daniel Murphy, Ian Waite and Anthony O’donnell
The University of Western Australia, Australia

O59-3 17:10 Exoenzyme Activities across the Soil Micro-landscape: Spatial Distribution, Stoichiometry and Ecosystem Function
Haryun Kim1, Naoise Nunan1, Dechesne Arnaud2 and Genevieve Grundmann1
1Pohang University of Science and Technology, Korea; 2CNRS, France; 3Technical University of Denmark, Denmark; 4Univesite Claude Bernard Lyon 1, France

O59-4 17:30 Water Flow Drives Small Scale Biogeography of Substrates and Soil Microorganisms-a Microcosm Study using 2,4-D as a Model Compound
Marc Pinheiro1, Graziska Ditterich1, Helger Page2, Christian Poll1, Patricia Garnier1, Thilo Streck1, Ellen Kandeler2 and Laure Vieuille Gonod1
1INRA-AgroParisTech, France; 2University of Hohenheim, Germany

O59-5 17:50 Are Microbial Habitat Conditions or Microbial Communities the Main Drivers of Soil Organic Matter Decomposition?
O82-9 17:50 Spatial Distribution of Soil Organic Carbon in Southern Greenland Assessed following the Globa- soilmap.net Specifications
Søren Munch Kristiansen,1, Kabindra Adhikari,2, Lis Wol- lesen De Jonge,1 and Mogens Humlekrop Greve1 1Aarhus University, Denmark; 2University of Wisconsin-Madison, USA

O82-10 18:00 Application of Spatial Simulated Annealing Method on a Soil Sampling Scheme in the Road Surrounding Region
Wei Huangwei1 and Zongwei Han College of Resources & Environment, Huazhong Agricultural University, China

Oral Session No. 83 Baekrok B (1F)

WGII] Soil Information Exchange Standards and Systems

June 13 (Fri), 16:20 - 18:10
Convenor: Peter Wilson (CSIRO, Australia)/ Rainer Baritz (Federal Institute for Geosciences and Natural Resources (BGR), Germany)

O83-1 16:20 Developing International Soil Information Exchange Standards
Peter Wilson1* and Rainer Baritz2 1CSIRO, Australia; 2Federal Institute for Geosciences and Natural Resources, BGR, Germany

O83-2 16:50 ISO and Inspire for Digital Soil Data Exchange? Extensions, Improvements and Potential Feedbacks between Similar Standards
Emar Eberhardt1, Simon Templer1 and Tomas Reznik2 1Federal Institute for Geosciences and Natural Resources (BGR), Germany; 2Fraunhofer Institute for Computer Graphics Research IGD, Germany; 3Masaryk University, Czech Republic

O83-3 17:10 European Soil Data Centre: a Spatial Data Infrastructure for Research and Policy Making in Europe
Panos Panagos1*, Marc Van Liedekerke, Arwyn Jones and Luca Montanarella European Commission, Joint Research Centre, Italy

O83-4 17:30 Best Practice Guidelines for Soil Data Harmonization
Rainer Baritz1, Gordon Hudson1 and Borut Vrscaj1 1Federal Institute for Geosciences and Natural Resources (BGR), Germany; 2The James Hutton Institute, United Kingdom; 3Agricultural Institute of Slovenia, Slovenia

O83-5 17:50 Towards an Ontology-based Soil Information System
Yanfeng Shu1*, Ahsan Morshed and Ritaban Dutta CSIRO, Australia

Oral Session No. 84 Yeongju A (1F)

[C3.2-1] B: Soil Erosion and Degradation on Agriculture Land

June 13 (Fri), 16:20 - 18:10
Convenor: Erik Cammeraat (University of Amsterdam, Netherlands)

O84-1 16:20 Soil Erosion at European Level: a Step Forward data Harmonization and Collection with the Contribution of a European Network
Panos Panagos1*, Katrin Meusburger1, Luca Montanarella1 and Marc Van Liedekerke1 1Joint Research Centre, European Commission, Italy; 2University of Basel, Switzerland

O84-2 16:40 Natural Regeneration of Soil Physical Conditions following the Establishment of Permanent Pasture on a Structurally Degraded Soil
Roger McInerney, Brendan Malcolm, Keith Cameron and Hong Di Lincoln University, New Zealand

O84-3 17:55 Impact of Enrichment Planting Activity on Soil Physico-chemical Properties of Degraded Forestland
Daljit Singh Karam Singh1*, Anifin Abdu, Radziah Othman, Shamshuddin Jusop, Nik Muhamad Majid and Hazandy Abdul Hamid, Universiti Putra Malaysia, Malaysia

O84-4 17:10 Application of Soil Survey to Assess Non-point Source of Elements Contamination to Surface Water in Agriculture Watersheds
Moustafa Elrashidi United States Department of Agriculture (USDA), USA

O84-5 17:20 The Soil Erosion Risk Map of the Sicilian Region (1:250,000 Scale)
Maria Fantappie, Simone Priori and Edoardo Costantini1 Consiglio per la Ricerca e la Sperimentazione in Agricultura, Italy

O84-6 17:40 A Sound Measurement of Splash Detachment Rates for Erosion and Eluviation Modelling
Sophie Leguedois1*, Frederic Darboux1, Cedric Legout1, Carine Lucas1, Eric Michel1, Olivier Planchon2 and Yves Les Bissouins1 1INRA, France; 2UJF-Grenoble, France; 3University Orleans, France

Oral Session No. 85 Yeongju B (1F)

[C3.3-4] B: Soil Management Strategy for Enhancing Crop Yields

June 13 (Fri), 16:20 - 18:10
Convenor: Wolfgang Burghardt (University Duisburg-Essen, Germany)/ Chunsheng Hu (Chinese Academy of Sciences, China)

O85-1 16:20 Industrialization Progress and Application of Slow & Controlled Release Fertilizers in China
Min Zhang1*, Yuechao Yang1, Liang Bu2, Chengliang Li1, Hongkun Chen1 and Li Ma1 1Shandong Agricultural University, China; 2Shandong Kingenta Ecological Engineering Co, Ltd, China

O85-2 16:50 Utility of Soil Analysis Database of Routine Laboratory to Monitor and Describe the Evolution of the Fertility of Costa Rican Soils
Florisa Bertsch1* and Juan Carlos Mendez University of Costa Rica, Costa Rica

O85-3 17:10 Changes in Soil Fertility under Slash and Burn Systems with Different Land Use Systems in the Peruvian Amazon
Julio Alegre1*, Ruby Vega1, Eddie Schrevens2 and Felipe De Mendiburu1 1Universidad Nacional Agraria La Molina, Peru; 2University of Leuven, Belgium

O85-4 17:20 Towards an Ontology-based Soil Information System
Yanfeng Shu1*, Ahsan Morshed and Ritaban Dutta CSIRO, Australia