

WASWAC

HOT NEWS

ISSUE II, 2020



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Chinese Version “Living in the soil” Available Online

Galician Culture Council published, in the Galician language, the comic “Vivir no solo” with the aim of raising awareness amongst young people the importance of soil and the need to protect it.

To commemorate the International Year of Soil Science (2015), the comic was adapted and published in Spanish “Vivir en el Suelo” and English “Living in the Soil” to increase its dissemination internationally.

This volume “Living in the soil” is to celebrate the International Soil Decade (2015-2024) of the International Union of Soil Science (IUSS) and represents the adaptation and translation to Chinese of the English edition carried out in collaboration with the Spanish Society of Soil Science (SECS, Delegation of Galicia), the Institute of Agrobiological Research of Galicia of the Spanish National Research Council (IIAG-CSIC), World Association of Soil and Water Conservation (WASWAC) and the Chinese Soil and Water Conservation Society (CSWCS).



The related information is as follows:

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Download the Chinese Version here:

<https://www.secs.com.es/wp-content/uploads/2020/12/Chinese-comic-2020.pdf>

Or you can find all available versions here:

<https://www.secs.com.es/publicaciones/>



Updated address of WASWAC official website

The WASWAC official website has been changed to www.waswac.org.cn after updating, which persisted for 5 months from the beginning of June to the end of October. We are sorry for the inconvenience during the process of updating. Welcome to visit the website and find what you are interested in, and also welcome to provide us with news on soil and water conservation, development of researches, and any reports on related activities.

WASWAC
WORLD ASSOCIATION OF SOIL AND WATER CONSERVATION (WASWAC)

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INTERNATIONAL JOURNAL OF SEDIMENT RESEARCH
(国际泥沙研究)
International Journal of Sediment Research IF-2.577

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- 2020-07-01 International Journal of Sediment Research IF 2.577
- 2020-06-30 International Soil and Water Conservation Research IF 3.770
- 2020-06-08 A universe within a universe, World Day to Combat Desertification
- 2020-05-28 Updated CiteScore of ISWCR in April 2020

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- WASWAC Hot News 2006-2, 67pp.
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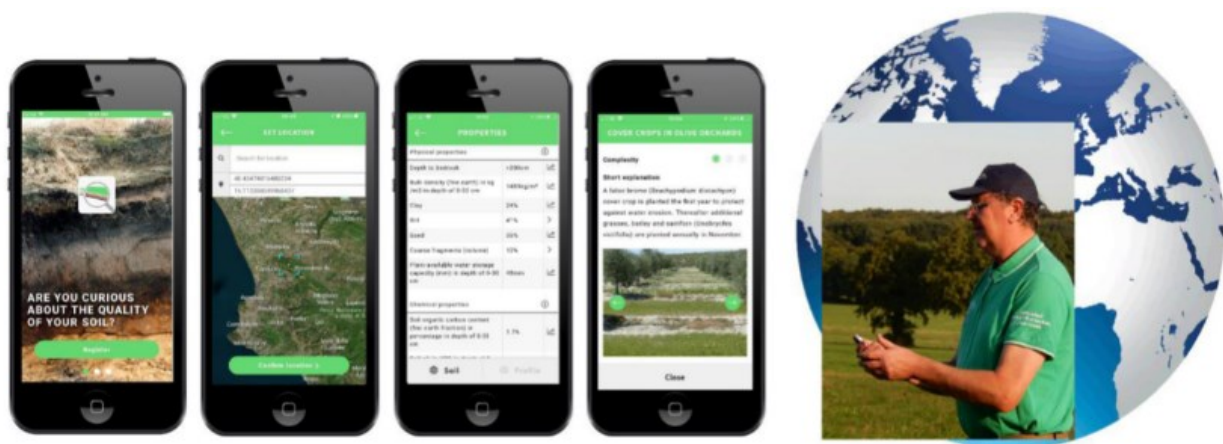
Memberships

- Memberships

SQAPP: the soil quality app official launch announcement

Good soil quality is of fundamental importance to local and global food production and to ecosystem resilience. Agricultural soils world-wide are subject to threats and pressures including increasing demand for food and biofuels, climate change impacts, land degradation and associated productivity decline.


To manage agricultural soils well, decision-makers need science-based, easy to apply and cost-effective tools to assess soil quality and function. Reliable knowledge and data help land users assess the quality and make well-informed decisions about the use of their soils.



In response to this issue, the Horizon 2020 EU-funded project iSQAPER has created SQAPP, an innovative soil quality app for mobile devices developed, tested, evaluated and improved by farmers, agricultural service providers, scientists, and policy makers.

SQAPP

- Gives users free global access to soil maps and contextual soil quality information (showing how their soil scores relative to others of the same type in similar climatic conditions).
- Assesses the most probable threats to soil quality with explicit links between soil quality status and agricultural management.
- Provides targeted advice on how to improve soil quality status with different agricultural management practices.
- Has the capacity for users to interact with the databases, uploading local data to refine the soil quality analysis and recommendations.



Full details of all scientific results can be found on www.isqaper-is.eu



iSQAPER has received funding from



European Union's Horizon 2020 Research and Innovation Programme under grant agreement no. 653750



Ministry of Science and Technology under grant no. 2016YFE011270
Chinese Academy of Sciences under grant no. 16146KYSB20150001



Swiss Secretariat for Education, Research and Innovation under contract no. 15.0170-1

For (much) more information visit <http://ow.ly/1DwK50CDw92>
Contact: sqapp-info@wur.nl

Keep soil alive, protect soil biodiversity

Plants nurture a whole world of creatures in the soil, that in return feed and protect the plants. This diverse community of living organisms keeps the soil healthy and fertile. This vast world constitutes soil biodiversity and determines the main biogeochemical processes that make life possible on Earth.

This year, by addressing the increasing challenges of soil management, the Food and Agriculture Organization (FAO) campaign "**Keep soil alive, protect soil biodiversity**" aims to raise awareness of the importance of sustaining healthy ecosystems and human well-being. By encouraging people around the world to engage in proactively improving soil health, the campaign also aims to fight soil biodiversity loss. If we do not act soon, the fertility of soil will continue to be adversely affected at an alarming rate, threatening global food supplies and food safety.

Background

World Soil Day (WSD) is held annually on 5 December as a means to focus attention on the importance of healthy soil and to advocate for the sustainable management of soil resources.

An international day to celebrate Soil was recommended by the International Union of Soil Sciences (IUSS) in 2002. Under the leadership of the Kingdom of Thailand and within the framework of the Global Soil Partnership, FAO has supported the formal establishment of WSD as a global awareness raising platform. The FAO Conference unanimously endorsed World Soil Day in June 2013 and requested its official adoption at the 68th UN General Assembly. In December 2013, the UN General Assembly responded by designating 5 December 2014 as the first official World Soil Day.



Sources: <http://www.fao.org/world-soil-day/en/>

How can farmers grow crops in more coarse soils?

Particles of sandy soils generally have a mean diameter between 0.05mm and 2mm. They are the largest of soil particle types – the smaller particles are called silt and clay. A soil that is good for farming consists of a mixture of these particles, allowing for healthy crops. Loam is a particularly good type of soil for farms. However, sometimes you must grow food with any soils that are available. That's the case where I'm doing my research in Germany.



A farmer's field in lower Saxony Germany. Onions have shallow, fibrous root systems that allow them to grow in even stony soils. Farmers often adapt their crops to the soil they have in place; amending with compost can increase the types of crops they grow. Credit: Uniyal

There are even types of soils that are coarser. These “stony soils” contain particles with diameters larger than 2 mm. The particles are actually fragments of rock that haven't yet gone through the soil formation process. In

some cases, this type of soil can comprise 5-50% of soil in a farm.



Winter rapeseed fields nearby the onion farm (above). This can be an alternative crop under water-stressed conditions like stony soils. Credit: Uniyal

An important aspect of farming in stony soils versus loamy soils is how water moves through soil. As you could imagine, with larger particle soils, water moves more quickly through the soil. That means it isn't available to plants easily. Loamy soils can hold water better, giving a fairly predictable supply of water to the crops.

Stony soils also don't hold on to nutrients in the same way as loamy soils. The clay particles in loam – often lack in stony soils – hold and release nutrients and organic matter to plants. Additionally, the fragments in stony soils can result in faster wear and tear of agri-

cultural equipment.

How can farmers adapt to growing in stony soils?

Farmers study their farms soils before growing a specific type of crop. They determine nutrient content and irrigation scheduling based on their inspections. After getting a rough idea of soil types and conditions, they think about the crop which is generally best suited to their soil. This can even change from season to season – we are seeing this with a warming climate and changes in weather patterns.

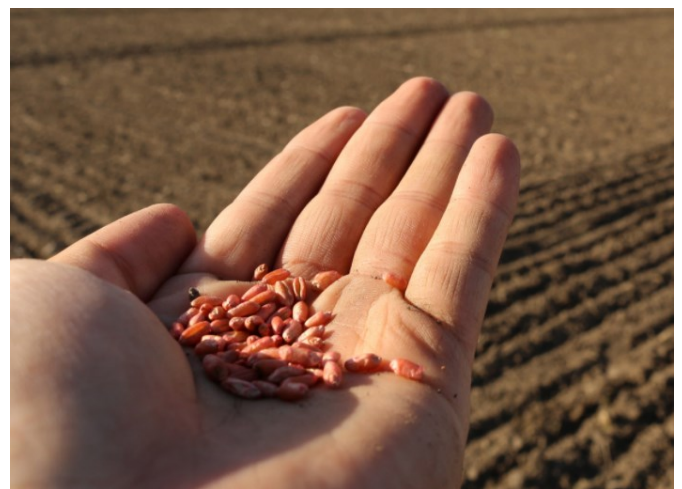
To help stony soils be productive, farmers can amend their farm soil with organic matter. Partly decomposed garden compost or straw manure helps hold soil moisture and nutrients during the growing season. Additionally, this organic matter helps to maintain healthy populations of soil microbes, worms and other living creatures in the soil.

In some areas of Germany, farmers have been successful growing winter wheat in stony soils. This is because winter wheat is tolerant to drought and it has a low nutritional requirement. Farmers can rotate this crop with crops that have short root systems– like onions, or parsley.

Adapting what crops they plant, farmers can

continue to provide food, while farming in a sustainable way. Even stony soils have hope to feed healthy and tasty plants – like onion, which is the number one consumed vegetable in the world!

Answered by Deep Chandra Joshi, Technical University Braunschweig, Germany



Sources:

<https://soilsmatter.wordpress.com/2020/12/01/how-can-farmers-grow-crops-in-more-coarse-soils/>

Special Issue on New Sciences and Technologies in Soil Conservation and Eco-Sustainability

Soil plays a crucial role in the earth system, so conservation of soil is a critical step towards achieving a sustainable world. To obtain credible data in soil studies, applicable and precise methods are vital. This special issue focuses on new technologies linked to soil conservation and eco-sustainability.

Topics Covered:

- Theory and practice of soil conservation experiments
- Measurement technologies and instruments for soil loss
- Modelling and decision-support tools for watershed regulation
- Hazardous substances and detection techniques
- Validations and applications of remote sensing to eroded areas
- Applications of the Telecoupling Framework in soil conservation and environmental sustainability

Important Deadlines:

Submission deadline: 30 April 2021.

Submission Instructions:

Please read the [Guide for Authors](#) before submitting. All articles should be [submitted online](#); select the option **New Sciences and Technologies in Soil Conservation and Eco-Sustainability**.

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- Dr. Manuel Esteban Lucas-Borja, Castilla La Mancha University, Spain. Email: manuelesteban.lucas@uclm.es
- Dr. Guoqiang Yu, China Geological Survey, China. Email: 29093057@qq.com

New editorial board member of ISWCR

Recently, ISWCR have one new associate editor and two new members joint our team in the editorial board. Welcome!

X.C. John Zhang

Associate Editor

John.Zhang@usda.gov

USDA-ARS Grazinglands Research Laboratory

Expertise

- Soil erosion processes
- Sediment source fingerprinting and Sediment budget
- Soil erosion models, USLE modeling, precipitation modeling
- Soil erosion control, soil, and water conservation practice
- The use of fallout radionuclides to document soil erosion and soil redistribution rates
- Water resource assessment and management, hydrological processes



Paolo Tarolli

Board Member

paolo.tarolli@unipd.it

Dept. Land, Environment, Agriculture, and Forestry; University of Padova (Italy)

Expertise

- Land degradation vs sustainable soil/land management
- Soil erosion processes
- Gully erosion, photogrammetry
- Soil erosion models, USLE modeling, precipitation modeling
- Soil erosion control, soil, and water conservation practice
- Watershed management
- Water resource assessment and management, hydrological processes
- Anthropogenic factors of erosion



New editorial board member of ISWCR

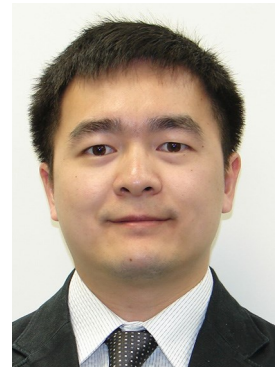
QiuHong Tang

Board Member

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Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences Expertise

- Soil erosion models, USLE modeling, precipitation modeling
- Watershed management
- Water resource assessment and management, hydrological processes
- SWAT modeling and application
- Irrigation efficiency
- Ecosystem modeling
- Anthropogenic factors of erosion



Welcome all New Members

We encourage our associate editors make all new members involved in reviewing of related papers.



Contents of Issue 4, 2020 for ISWCR

Evaluation of soil erosion risk and identification of soil cover and management factor (C) for RUSLE in European vineyards with different soil management

M. Biddoccu, G. Guzmán, G. Capello, T. Thielke, ... J.A. Gómez

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<https://www.sciencedirect.com/science/article/pii/S2095633920300484>

Assessing spatial variability and erosion susceptibility of soils in hilly agricultural areas in Southern Italy

Carmen Maria Rosskopf, Erika Di Iorio, Luana Circelli, Claudio Colombo, Pietro P.C. Aucelli

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Impacts of horizontal resolution and downscaling on the USLE LS factor for different terrains

Chunmei Wang, Linxin Shan, Xin Liu, Qinke Yang, ... Guowei Pang

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Effect of time resolution of rainfall measurements on the erosivity factor in the USLE in China

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The use of remote sensing to detect the consequences of erosion in gypsiferous soils

Maria Jose Marques, Ana Alvarez, Pilar Carral, Blanca Sastre, Ramón Bienes

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Assessment of deforestation impact on soil erosion in loess formation using ¹³⁷Cs method (case study: Golestan Province, Iran)

Mohammadreza Gharibreza, Mohammad Zaman, Paolo Porto, Emil Fulajtar, ... Hossein Eisaei

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<https://www.sciencedirect.com/science/article/pii/S2095633920300514>

Integrated nuclear techniques for sedimentation assessment in Latin American region

José Luis Peralta Vital, Reinaldo Honorio Gil Castillo, Yanna Llerena Padrón, Yusleidy Milagro Cordovi Miranda, ... Leroy Alonso Pino

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<https://www.sciencedirect.com/science/article/pii/S2095633920300411>

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Use of geochemical fingerprints to trace sediment sources in an agricultural catchment of Argentina

Romina Torres Astorga, Yanina Garcias, Gisela Borgatello, Hugo Velasco, ... Lionel Mabit
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<https://www.sciencedirect.com/science/article/pii/S2095633920300812>

Soil erosion: An important indicator for the assessment of land degradation neutrality in Russia

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<https://www.sciencedirect.com/science/article/pii/S209563392030040X>

The assessment of soil loss by water erosion in China

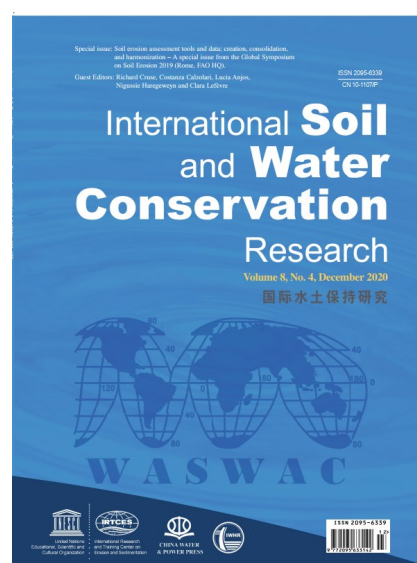
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Study on a soil erosion sampling survey in the Pan-Third Pole region based on higher-resolution images

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Vertical concentration profile of nonuniform sediment

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Valorization of harbor dredged sediment activated with blast furnace slag in road layers

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Design of sediment detention basins: Scaled model experiments and application

Anita Moldenhauer-Roth, Guillaume Piton, Sebastian Schwindt, Mona Jafarnejad, Anton J. Schleiss
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A 2D well-balanced, coupled model of water flow, sediment transport, and bed evolution based on unstructured grids with efficient variable storage strategy

Zhiyuan Yue, Qingquan Liu, Wei Huang, Peng Hu, Zhixian Cao
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Full papers are available at ScienceDirect:

<https://www.sciencedirect.com/journal/international-journal-of-sediment-research> with free access to the paper abstracts.





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