

INTERNATIONAL SEDIMENT INITIATIVE

NEWSLETTER

Reporting ISI news to you quarterly

No. 66 April 3, 2023

IN THIS ISSUE

News

- ✧ UN 2023 Water Conference closes with bold action on new agenda 1
- ✧ UN World Water Development Report 2023 2
- ✧ ISI Advisory Group online meeting convened to discuss aligning ISI with the Flagship Initiative framework of IHP-IX 3
- ✧ Chief Editor of the IJSR, Professor Hongwei FANG, honored with 2023 Hans Albert Einstein Award 3
- ✧ Research reveals "negative feedback" loop between warming and net exchange of carbon caused by erosion 4
- ✧ What Electrons Can Tell Us About the Speed of Sand 4
- ✧ Country's water governance proposals at UN event widely praised 5

Publications

- ✧ Papers Published in IJSR, Volume 38, No. 2, 2023 7
- ✧ Contents of ISWCR (Vol. 11, No.1, 2023) 8

Coming Events

- ✧ Global Conference on Sandy Soils - Properties and Management (America, Jun. 4-8, 2023) 10
- ✧ The 5th WASWAC World Conference (Czech Republic, Jun. 19-23, 2023) 10
- ✧ The 40th IAHR World Congress (Austria, Aug. 21-25, 2023) 10
- ✧ World's Large Rivers Conference 2023 (Austria, Aug. 21-25, 2023) 11
- ✧ The 15th International Symposium on River Sedimentation (Florence, Italy, Sept. 5-8, 2023) 11
- ✧ 9th FRIEND-Water Global conference (Senegal, Sept. 25-29, 2023) 11
- ✧ The 13th Symposium on River, Coastal, and Estuarine Morphodynamics (Urbana, USA, Sept. 25-28, 2023) 12
- ✧ The 1st IAHR and 4th CAE International Conference on Global Water Security and Sustainable Development 12

UNESCO “国际泥沙计划” 简报 本期内容

新闻

- ✧ 联合国 2023 年水会议通过水行动议程并圆满闭幕 1
- ✧ 联合国水发展报告发布 2
- ✧ 国际泥沙计划召开顾问委员会讨论理顺 ISI 以适应 IHP 第九阶段旗舰框架 3
- ✧ IJSR 主编方红卫教授荣获 2023 年度小爱因斯坦奖 3
- ✧ 研究揭示气候变暖和侵蚀引起的净碳交换之间的“负反馈”循环 4
- ✧ 一种新的示踪剂——电子可以告诉我们泥沙在河流系统的输移速度 4
- ✧ 我国在联合国水大会上提出的水事倡议广受赞誉 5

出版物

- ✧ 《国际泥沙研究》2023 年第 38 卷第 2 期论文目录 7
- ✧ 《国际水土保持研究》2023 年第 11 卷第 1 期论文目录 8

会议信息

- ✧ 沙质土壤特性与管理全球大会(美国, 2023 年 6 月 4-8 日) 10
- ✧ 第五届世界水土保持大会(捷克, 2023 年 6 月 19-23 日) 10
- ✧ 第四十届 IAHR 大会(奥地利, 2023 年 8 月 21-25 日) 10
- ✧ 世界大河会议 2023(奥地利, 2023 年 8 月 21-25 日) 11
- ✧ 第十五次河流泥沙国际学术讨论会(意大利佛罗伦萨, 2022 年 9 月 6-9 日) 11
- ✧ 第九届 FRIEND 全球水资源讨论会(塞内加尔, 2023 年 6 月 5-10 日) 11
- ✧ 第十三届河流、海岸和河口形态动力学研讨会(美国厄巴纳, 2023 年 9 月 25-28 日) 12
- ✧ 第一届 IAHR 和第四届 CAE 全球水安全与可持续发展国际会议 12

NEWS

UN 2023 Water Conference closes with bold action on new agenda



UN Secretary-General Antonio Guterres speaks in the opening session of the UN 2023 Water Conference at the UN headquarters in New York, on March 22, 2023. (Xinhua/Xie E)

"This conference demonstrated a central truth: as humanity's most precious global common good, water unites us all, and it flows across a number of global challenges," said UN Secretary-General Antonio Guterres.

UNITED NATIONS, March 24 (Xinhua) -- The UN 2023 Water Conference ended on Friday after adopting the Water Action Agenda, an action plan containing almost 700 commitments to protect "humanity's most precious global common good."

From making better food choices to re-evaluating water as an economic driver and cultural treasure, the agenda lays out a series of game-changing commitments.

In his closing remarks at the conference, which ran from Wednesday through Friday, UN Secretary-General Antonio Guterres called it an "ambitious vision."

"Your dedication to action and transformation is propelling us towards a sustainable, equitable and inclusive water-secure future for people and planet alike," he said. "This conference demonstrated a central truth: as humanity's most precious global common good, water unites us all, and it flows across a number of global challenges."

From protecting the spread of disease to fighting poverty, the natural resource also flows through the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) at a time when the world is grappling with climate change, water scarcity, and pollution, said the Secretary-General.

"That's why water needs to be at the center of the global political agenda," he said. "All of humanity's hopes for the future depend, in some

way, on charting a new science-based course to bring the Water Action Agenda to life."

Doing so translates into such forward-looking actions as developing new, alternative food systems to reduce the unsustainable use of water in agriculture, while launching a new global information system to guide plans and priorities to realize the SDGs, said the top UN official.

New considerations include appointing a special envoy for water ahead of the SDG Summit in September, he said.

The secretary-general pledged UN support "every step of the way," as member states take action through the second half of the Water Action Decade.



UN General Assembly President Csaba Korosi speaks in the opening session of the UN 2023 Water Conference at the UN headquarters in New York, on March 22, 2023. (Xinhua/Xie E)

"Without water, there can be no sustainable development," Guterres said, thanking all stakeholders. "As we leave this historic conference, let's re-commit to our common future. Let's take the next steps in our journey to a water-secure future for all."

"I am amazed by the ambition and solidarity you show in devising a water-secure future for all," said UN General Assembly President Csaba Korosi at the closing of the conference.

It is "an agenda for which you have pledged more than 300 billion U.S. dollars at this conference, with the potential of unlocking at least 1 trillion dollars of socioeconomic and ecosystem gains," he said.

"The outcome of this conference is not a legally binding document, but it still turns the page of history," he noted. "You have reconfirmed the promise to implement the human right to water and sanitation for all."

"We will keep our ears and minds open to scientific evidence as we move forward to realize

the transformation discussed," he added.

Civil society and the private sector are at the heart of this transformation and "key to our success" he said, adding that they must be part of more inclusive partnerships and solutions.

"Today, we hold the pieces of a water-secure and more peaceful world in our hands," he said. "Together, we can launch the transformation for a water-secure world, and these gamechangers can take us there."

Lending multiple perspectives and expertise to navigate the challenges ahead, more than 2,000 government representatives, scientists, academics, civil society groups, indigenous peoples, members of the private sector, and youth delegates attended the conference held at the UN headquarters in New York.

The Water Action Agenda commitments cover a broad range of activities, from capacity-building to data collection and monitoring, as well as improving infrastructure resilience, said Under-Secretary-General Li Junhua.



UN Under-Secretary-General for Economic and Social Affairs Li Junhua (at the podium and on screens) speaks in the opening session of the UN 2023 Water Conference at the UN headquarters in New York, on March 22, 2023. (Xinhua/Xie E)

"This is just the beginning," he said. "The online platform hosting the Water Action Agenda will remain open for submissions and available for all to view through the conference website."

Another key outcome of the conference will be a summary by the UN General Assembly President, capturing the many ideas, recommendations, and solutions to protect and support "our world's lifeblood" that emerged during five interactive dialogues, four special events and hundreds of side events, he said.

"At the 2023 UN Water Conference, a determined global community came together to make a difference not only for the future of water but for the future of the world," he said.

(Source: Xinhua)

UN World Water Development Report 2023

UN-Water Publications

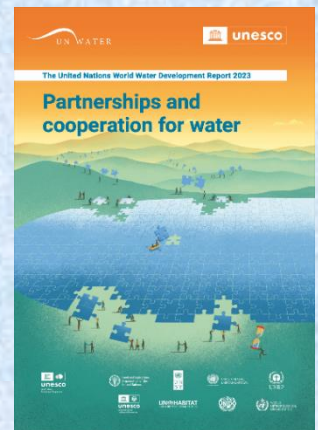
UN-Water's publications can be divided into two main groups: the publications that represent all Members and Partners of UN-Water – the collective products – and the publications that are under the UN-Water umbrella but produced by groups or individual UN-Water Members and/or Partners – the related products.

15 March 2023

UN World Water Development Report

Partnerships and cooperation for water

Safeguarding water, food and energy security through sustainable water management, providing water supply and sanitation services to all, supporting human health and livelihoods, mitigating the impacts of climate change and extreme events, and sustaining and restoring ecosystems and the valuable services they provide, are all pieces of a great and complex puzzle. Only through partnerships and cooperation can the pieces come together. And everyone has a role to play.



Sustainable Development Goal 6 (SDG 6) is to ensure availability and sustainable management of water and sanitation for all by 2030. At current rates, progress towards all the targets of SDG 6 is off-track and in some areas the rate of implementation needs to quadruple, or more.

The inadequate rate of progress on water and sanitation highlights the need to explore opportunities through partnerships and cooperation. The United Nations World Water Development Report 2023: Partnerships and cooperation for water explores this theme, across regions, in relation to agriculture, environment, human settlements, industry, health and climate change.

Aligned with each of the five 'accelerators' of the SDG 6 Global Acceleration Framework (GAF), the report also makes recommendations to policy-makers for how to speed- and scale-up change through capacity development, data and information, innovation, financing, and governance.

The year 2023 marks the first major conference of the United Nations (UN) dedicated to water since 1977. The UN 2023 Water Conference (22-24 March) focuses on progress towards water- and sanitation-related goals, coinciding with the mid-

term comprehensive review of the International Decade for Action, 'Water for Sustainable Development 2018–2028'.

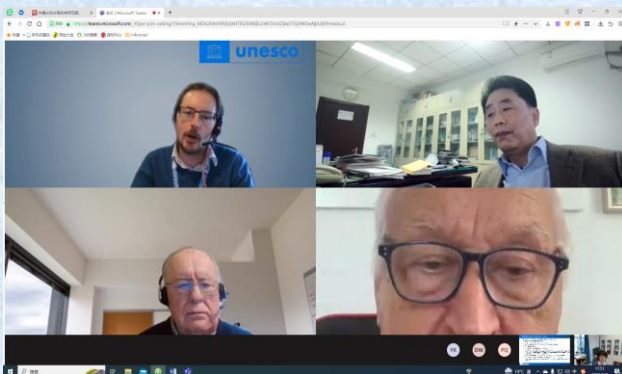
As the UN system's principal authoritative report on water, the United Nations World Water Development Report 2023 directly informs the UN conference discussions, describing how building partnerships and enhancing cooperation across all dimensions of sustainable development are essential to accelerating progress towards the Sustainable Development Goal for water and sanitation (SDG 6) and realizing the human rights to water and sanitation.

- UN World Water Development Report 2023: partnerships and cooperation for water
- Executive Summary
- Facts and Figures

(Source:

<https://www.unwater.org/publications/un-world-water-development-report-2023>)

ISI Advisory Group online meeting convened to discuss aligning ISI with the Flagship Initiative framework of IHP-IX



On March 7, 2023, an ISI Advisory Group online meeting was organized using Microsoft Teams, to discuss aligning the ISI to the Flagship Initiatives framework of IHP-IX. Participants included: Prof. Manfred Spreafico (ISI Advisory Group Chair), Prof. Des. Walling (ISI Advisory Group Member), Prof. Cheng Liu (ISI Advisory Group Member), Prof. Hongling SHI (ISI Technical Secretariat), and Dr. Koen Verbist representing UNESCO-IHP Secretariat. Ms. Paulina Marcela Ramirez Quevedo and Mr. Yuqiao Kang from UNESCO-IHP also participated in the meeting.

First, Prof. Cheng Liu on behalf of ISI Technical Secretariat expressed his appreciation of the meeting and reported the planned main activities of the IRTCES, including establishing the Governing Board of the IRTCES and its first meeting to be organized in Beijing, and two international conferences to be held in the Czech

Republic and Italy. Dr. Koen Verbist gave a brief summary of the outcomes and resolutions of the 25th IHP Council meeting and the new framework for the planning, implementation and monitoring of IHP Flagship Initiatives. He proposed updating the ISI objectives and a draft ISI Strategy for the IHP IX. Further steps of the ISI in aligning with the new Flagship Initiative framework were discussed. These included the governance structure, the implementation planning, the branding and visibility, the monitoring and reporting, the budget, etc. In the discussion, Prof. Manfred Spreafico, Prof. Des. Walling and Prof. Cheng Liu emphasized that a new ISI Advisory Board that would be responsible for aligning ISI with the Flagship guidelines should be established soon as possible.

Chief Editor of the IJSR, Professor Hongwei FANG, honored with the ASCE 2023 Hans Albert Einstein Award



Prof. Hongwei FANG, The Changjiang Chair Professor of the Department of Hydraulic Engineering at Tsinghua University, Beijing has recently been awarded the prestigious 2023 Hans Albert Einstein Award by the American Society of Civil Engineers (ASCE) in recognition of his outstanding contributions to fluvial hydrodynamics.

Citing Prof. Fang's contributions, the Award Committee noted that Prof. Fang has been awarded this recognition for 'for his outstanding experimental and numerical contributions to the role of turbulence on sediment dynamics and his leadership role in development of echo-fluvial dynamics.'

Prof. Fang, who is the Editor in Chief of the International Journal of Sediment Research and an Associate Editor of the Journal of Hydraulic Engineering ASCE, becomes the second person from China to receive this award, after Prof. Zhaoyin WANG. Notably, he has also won the National Award of Science and Technology of China twice (2017, 2020) and has been awarded the Chinese Education Ministry Award of Science

and Technology twice (2001, 2008).

Research reveals "negative feedback" loop between warming and net exchange of carbon caused by erosion

By University of Exeter



Credit: Pixabay/CC0 Public Domain

In the study of human impact on the environment, there are few negative or stabilizing feedbacks associated with climate change.

A team of international scientists, including Professor Tim Quine from the University of Exeter, has studied the effect that temperature has on the amount of carbon gained by and released from soils due to soil erosion. This pioneering new research has revealed a negative feedback loop between warming and the net exchange of carbon with the atmosphere caused by erosion.

As they store more carbon than the atmosphere and vegetation combined, soils offer unique and pivotal potential to mitigate global climate change through sequestration—the removal and storage of carbon. However, change in soils can also pose a threat to global warming as the carbon in these stores can be released back into the atmosphere.

Soil organic carbon (SOC) storage is controlled by the balance of the amount of carbon gained through plants, and lost through natural decomposition. It is known that both of these are affected by erosion and climate, however, the effect on the interaction between climate and erosion on SOC storage has remained unclear.

In the new study, the researchers used existing data from sites across the world, experiencing different climates, to show that rising temperatures promote increased efficiency in replacing eroded carbon but also increasing decomposition of buried carbon. The combined effect of these two opposing trends with increase in temperature is found to be an increase in the erosion-induced carbon sink.

The team estimate a 7% increase in the global carbon sink caused by erosion on croplands, due

to warming by 2100. These results reveal a negative feedback loop between climate change and erosion-induced disturbance to SOC cycling.

The study "Temperature effect on erosion-induced disturbances to soil organic carbon cycling" was published in Nature Climate Change.

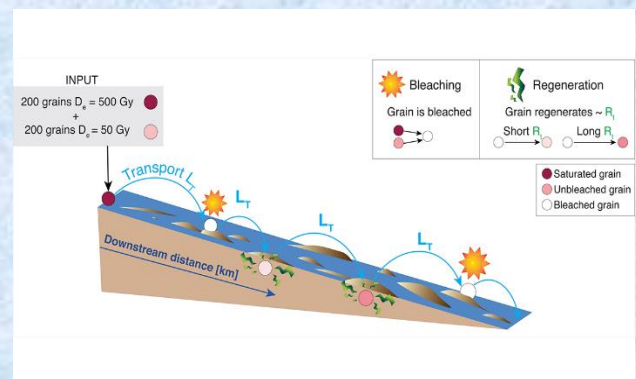
Professor Quine said, "Through international multidisciplinary collaboration, our team have made progress in better understanding of the role of erosion in perturbing soil carbon dynamics and the interaction with warming. Despite the negative feedback, it is imperative that we continue to focus efforts on controlling soil erosion and rehabilitating soils for their many benefits for ecosystem service delivery."

More information: Zhengang Wang et al, Temperature effect on erosion-induced disturbances to soil organic carbon cycling, Nature Climate Change (2023). DOI: 10.1038/s41558-022-01562-8

Journal information: Nature Climate Change

(Source: <https://phys.org/news/2023-02-reveals-negative-feedback-loop-net.html>)

What Electrons Can Tell Us About the Speed of Sand—A new sediment tracer uses the interactions between radiation, charge, and the Sun to uncover the hidden transport histories of sand grains



A schematic representation of Guyez et al.'s model of the luminescence of sand grains traveling through a river system. Grains in transport see sunlight which removes or "bleaches" their luminescence, whereas when a sand grain is buried, luminescence regenerates. This mechanism potentially allows one to quantify the sand grain's rate of transport through the river system. D_e represents the dose, that is, the intensity of the luminescence signal (units are "Grays" – Gy). L_t is the transport length between resting periods (e.g., during a flood), and R_t is the resting time; the longer R_t , the greater the intensity of the luminescence signal. Credit: Guyez et al. [2023].

Source: Journal of Geophysical Research: Earth Surface

The Earth's surface is continually reshaped by the processes that create and move sediment. For surface dwellers, cohabitating with this sprightly

dance of matter is a fact of life that is sometimes fruitful, and sometimes fraught. One may be surprised to learn that despite our experience, the simple question of how fast sediment travels from point A to point B is surprisingly hard to answer.

Over the past century, methods attempting to answer this question have ranged from the classical image of a geologist observing minerals under a microscope, to the more dubious radioactive tagging of sand released into a river. In a new study, Guyez et al. [2023] present an environmentally friendly method towards answering this long-standing question and apply it to the Rakaia and Waimakariri Rivers of New Zealand, a region where ancient climate change led to vast changes in the Earth's surface. Their new method takes the physics behind an established geologic dating method and reimagines it as an innovative sediment tracer.

This new tracer method uses the luminescence of individual sand grains of feldspar. Luminescence is a property of minerals wherein energy absorbed from natural background radiation is stored as charge trapped in defects in the mineral's molecular structure over time. When exposed to sunlight, this trapped charge is free to escape, leading to a dynamic growth and decay of luminescence as sand grains travel through sunlight-variable river systems. Guyez et al. use this framework to quantify the range of sunlight-exposing transport and burial histories of sand grains to answer how fast said grains get from point A to point B.

While further work is needed to refine the details of the method, the use of this method on geologically ubiquitous feldspar sand offers much potential for future studies and offers a new tool towards answering large-scale questions of how Earth's surface continues to change.

Citation: Guyez, A., Bonnet, S., Reimann, T., Carretier, S., & Wallinga, J. (2023). A Novel Approach to Quantify Sediment Transfer and Storage in Rivers – Testing Feldspar Single-Grain pIRIR Analysis and Numerical Simulations. *Journal of Geophysical Research: Earth Surface*, 128, e2022-JF006727. <https://doi.org/10.1029/2022JF006727>

—Harrison Gray, Associate Editor, *JGR: Earth Surface*

(Source: <https://eos.org/editor-highlights/what-electrons-can-tell-us-about-the-speed-of-sand>)

Country's water governance proposals at UN event widely praised

By HOU LIQIANG in Beijing and MINLU ZHANG at the United Nations | CHINA DAILY | Updated: 2023-03-27 07:26



Part of the South-to-North Water Diversion Project runs through Nanyang, Henan province. [Photo/Xinhua]

Experts at home and abroad have lauded the four proposals presented by China during a recent United Nations event, saying that these have not only responded to the common concern of different nations but are also feasible, as they are based on China's own successful practices.

They made the remarks following an address made by Minister of Water Resources Li Guoying at the 2023 UN Water Conference, which was held in New York from Wednesday through Friday.

With 6 percent of the world's freshwater resources, China has provided water for nearly one-fifth of the global population and accounted for over 18 percent of the world's total economic output, Li said.

The minister made four proposals on global water governance at the UN conference.

"First, everyone has the basic right to safe drinking water," he said.

Given that freshwater resources are limited with no substitute, economical and intensive use of these resources is a common obligation and responsibility of each and every resident of the global village, Li said in his second proposal.

His third proposal was to "respect the right of rivers in nature, regard rivers as life forms, construct river ethics, maintain the healthy life of rivers and realize the harmonious coexistence of people and rivers."

Fourth, it is necessary to fully utilize UN agencies and provide a platform for communication and collaboration among governments, international organizations, think tanks, social organizations and other stakeholders to participate in the global response to climate change according to their respective strengths.

Wang Jianhua, vice-president of the China Institute of Water Resources and Hydropower Research, said the proposals have responded to the common concern of different nations around the globe.

The UN World Water Development Report 2023 shows that 26 percent of the world's population, or 2 billion people, don't have access to safe drinking water, Wang said, underscoring the need to provide support and assistance to guarantee everyone's basic right to safe drinking water.

The proposals are based on instructive practices and experiences of China in implementing the UN 2030 Agenda for Sustainable Development, he said.

China has made remarkable achievements with regard to Sustainable Development Goal 6, which is to ensure water and sanitation access for all, Wang said, adding that this was in stark contrast with the world's tardy progress in achieving the goal. "At the current rate, (global) progress toward

all SDG 6 targets is off track," the UN report noted.

Jiang Enhui, deputy head of the Yellow River Institute of Hydraulic Research, said the four proposals have not only incorporated China's wisdom to effectively cope with the global water crisis but have also showed the country's water governance philosophy in the new era, which features harmony between people and nature.

Yao Shiming, vice-president of the Changjiang River Scientific Research Institute, said that aside from sharing China's ideas, wisdom and experiences on water governance with the world, the proposals show the way forward for water resource management in China.

Diani Carlos, head of the international cooperation division of Portugal's Ministry of Environment and Climate Action, said there is "sometimes a sense worldwide that we cannot comply with SDGs because of financing issues, or because we do not have technical resources, or because we lack appropriate infrastructure, but really we have a water governance problem".

"This is a challenge for all countries in the world — at national level, at local level and even at a more global scale," she said, calling Li's message very inspiring.

(source: <http://www.chinadaily.com.cn/>)

PUBLICATIONS

Papers Published in the International Journal of Sediment Research Volume 38, No. 2, 2023



Volume 38, No.2, 2023
Pages 153-301 (April 2023)

1. **Developing a Lagrangian sediment transport model for open channel flows**

Saman Baharvand, Habib Ahmari, Poorya Taghvaei
Pages 153-165

2. **Establishment of a sediment transport capacity equation on loessal slope via experimental investigation**

TianWang, Jingsi Li, Jingming Hou, Peng Lia, Shengdong Cheng, FengWang, WenWang, Zhanbin Li, Reinhard Hinkelmann
Pages 166-174

3. **Forward-modeling of co-evolution of turbidity currents, sediment transport, and cyclic steps in the Rio Muni Basin**

Peng Hu, Yue Li, Chenglin Gong, Wei Li
Pages 175-190

4. **Estimation of maximum scour depth around bridge piers under ice-covered conditions using data-driven methods**

Hosein Nezaratian, Amin Hassanjabbar, Peng Wu
Pages 191-202

5. **Multi-objective and multi-scheme research on water and sediment regulation potential of reservoirs in the upper Yellow River**

Tao Bai, Jia Yu, Wenting Jin, Jiaquan Wan, Shaojie Gou, Xu Ma, Panpan Ma
Pages 203-215

6. **Multi-temporal relations between runoff and sediment load based on variable structure cointegration theory**

Honglin Xiao, Jinping Zhang
Pages 216-227

7. **Unique landslides (loess slide-flows) induced by an extreme rainstorm in 2018 on the Loess Plateau: A new geological hazard and erosion process**

Li Luo, Wen-Zhao Guo, Pei Tian, Yi-li Liu, Shao-KunWang, Jia-Wei Luo
Pages 228-239

8. **Dry-season sources of riverine sediment from the tropical mixed urban-agricultural watershed of the Mun River Basin in northeastern Thailand**

Arika Bridhikitti, Thayukorn Prabamroong, Gaohuan Liu
Pages 240-252

9. **Characteristics of river discharge and its indirect effect on the tidal bore in the Qiantang River, China**

Cunhong Pan, Qiushun Wang, Dongzi Pan, Chengfei Hu
Pages 253-264

10. **Experimental investigation of the effects of shrub filter strips on debris flow trapping and interception**

Songtang He, Wenle Chen, Daojie Wang, Xiaoqing Chen, Yuchao Qi, Peng Zhao, Yong Li, Yongming Lin, Ali Akbar Jamali
Pages 265-278

11. **Geochemical, mineralogical and textural nature of beach placers, north-east Sri Lanka: Implications for provenance and potential resource**

Samikshya Mohanty, Madurya Adikaram, Debashish Sengupta, Nishara Madhubashini, Chelaka Wijesiri, Somnath Adak, Biswajit Bera
Pages 279-293

12. **Effective transport width—A methodology to describe the spatial variability of bedload transport**

Rolf Rindler, Sabrina Schwarz, Marcel Liedermann, Dorian Shire-Peterlechner, Andrea Kreisler, Johann Aigner, Michael Tritthart, Helmut Habersack
Pages 294-301

Full papers are available at ScienceDirect:

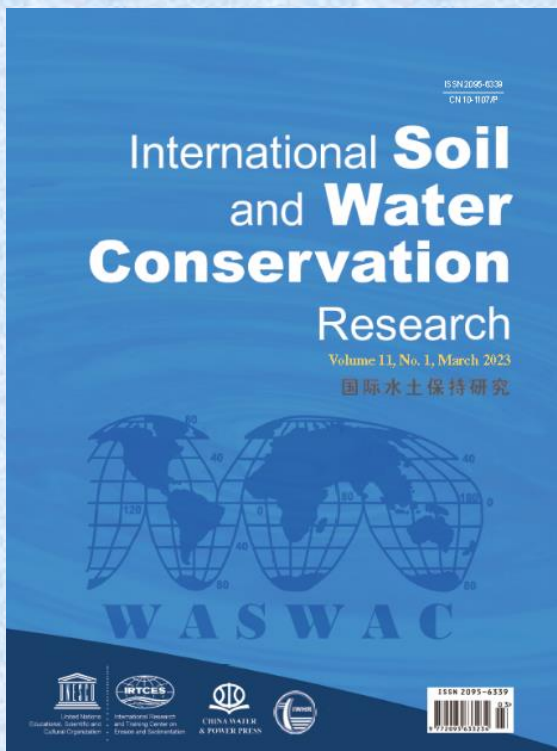
<https://www.sciencedirect.com/journal/international-journal-of-sediment-research> with free access to the paper abstracts.

Contents of ISWCR (Vol. 11, No.2, 2023)

The International Soil and Water Conservation Research (ISWCR), the official journal of the World Association of Soil and Water Conservation (WASWAC), <http://www.waswac.org>, is a multidisciplinary journal for soil and water conservation research, practice, policy, and perspectives. This journal aims to disseminate new knowledge and promote the practice of soil and water conservation.

The journal was indexed by the Science Citation Index Expanded (SCIE) in July 2019. The latest official impact factor, released by Clarivate Analytics in June 2022, is 7.481 and ISWCR is now a Q1 journal in all three categories of Water Resources, Soil Science, and Environmental Sciences. It is ranked as 6 out of 100 in Water Resources, 3 out of 39 in Soil Science, and 46 out of 279 in Environmental Sciences, respectively.

The latest issue of ISWCR (Volume 11, Issue 1) is recently released. The full article is downloadable by clicking the titles.



The USLE soil erodibility nomograph revisited

Eva Corral-Pazos-de-Provens, Ígor Rapp-Arrarás, Juan M. Domingo-Santos
Pages 1-13

Effectiveness of measures aiming to stabilize urban gullies in tropical cities: Results from field surveys across D.R. Congo

Eric Lutete Landu, Guy Ilombe Mawe, Fils Makanzu Imwangana, Charles Bielders, ... Matthias

Vanmaercke
Pages 14-29

Soil splash erosion: An overlooked issue for sustainable rubber plantation in the tropical region of China

Xiai Zhu, Xia Yuan, Enfu Lu, Bin Yang, ... Wenjie Liu
Pages 30-42

A field parcel-oriented approach to evaluate the crop cover-management factor and time-distributed erosion risk in Europe

Francis Matthews, Gert Verstraeten, Pasquale Borrelli, Panos Panagos
Pages 43-59

Decoupling effects of driving factors on sediment yield in the Chinese Loess Plateau

Xiaojing Tian, Guangju Zhao, Xingmin Mu, Pengfei Zhang, ... Peng Tian
Pages 60-74

Effects of sediment characteristics on the sediment transport capacity of overland flow

Chenguang Liu, Suhua Fu, Zhanbin Li, Zeyu Zhang, Jianhui Zeng
Pages 75-85

¹³⁷Cs tracing of the spatial patterns in soil redistribution, organic carbon and total nitrogen in the southeastern Tibetan Plateau

Zhengan Su, Lijuan Wang, Yihan Liu, Bin Fu, ... Junjie Wang
Pages 86-96

Assessment of gully erosion susceptibility using different DEM-derived topographic factors in the black soil region of Northeast China

Donghao Huang, Lin Su, Lili Zhou, Yulu Tian, Haoming Fan
Pages 97-111

Quantification and depth distribution analysis of carbon to nitrogen ratio in forest soils using reflectance spectroscopy

Asa Gholizadeh, Mohammadmehdi Saberioon, Nastaran Pouladi, Eyal Ben-Dor
Pages 112-124

Aeolian sediment transport over sandy gobi: Field studies in the Nanhu gobi along the Hami-Lop Nor Railway

Tao Wang, Jianjun Qu, Lihai Tan
Pages 125-134

Comparison of the influences of vegetation stem parameters on hydraulic variables and sediment transport capacity

Hongli Mu, Suhua Fu
Pages 135-144

Role of alternate and fixed partial root-zone drying on water use efficiency and growth of maize (*Zea mays* L.) in gypsiferous soils

Abdulwahab Abdulrazak Al-Kayssi

Pages 145-158

Modelling the role of ground-true riparian vegetation for providing regulating services in a Mediterranean watershed

Bruno A. Aparício, João Pedro Nunes, Léonard Bernard-Jannin, Luís Filipe Dias, ... Teresa Ferreira

Pages 159-168

Exploring the factors influencing the hydrological response of soil after low and high-severity fires with post-fire mulching in Mediterranean forests

Manuel Esteban Lucas-Borja, Pedro Antonio Plaza-Alvarez, Xiangzhou Xu, Bruno Gianmarco Carra, Demetrio Antonio Zema

Pages 169-182

Influence of vegetation type and topographic position on volumetric soil water content dynamics and similarity among surface and deep soil layers

Muxing Liu, Qiuyue Wang, Jun Yi, Hailin Zhang, ... Wei Hu

Pages 183-196

Numerical modeling of nutrient transport to assess the agricultural impact on the trophic state of reservoirs

Franklin Torres-Bejarano, Jesús García-Gallego, Javier Salcedo-Salgado

Pages 197-212

Inhibition of native arbuscular mycorrhizal fungi induced increases in cadmium loss via surface runoff and interflow from farmland

Fangdong Zhan, Wenzeng Zeng, Bo Li, Zuran Li, ... Yuan Li

Pages 213-223

Corrigendum to “Critical review of the impact of cover crops on soil properties” [Int. Soil Water Conserv. Res. 10 (2022) 343–354]

Komlan Koudahe, Samuel C. Allen, Koffi Djaman

Page 224

More about ISWCR at ScienceDirect :

<https://www.sciencedirect.com/journal/international-soil-and-water-conservation-research>.

COMING EVENTS

Global Conference on Sandy Soils—Properties and Management (America, Jun. 4-8, 2023)

Date: June 4-8, 2023

Venue: University of Wisconsin – Madison, Wisconsin, U.S.A.

Invitation: Sandy soils cover approximately 900 million ha worldwide, particularly in arid or semi-arid regions. There are extensive areas of sandy soils under cultivation, but the soil fertility is often low. Sandy soils – as a group of soils – have received limited research attention. With increasing global pressure on land resources, marginal soils such as sandy soils are taken into production or cultivated more intensely. There is a need to quantify and understand the properties of sandy soils. This conference will bring together experts on sandy soils from across the world.

Abstract submission deadline: March 15, 2023.

Submit your abstract:

<https://sandysoils.org/submitting-an-abstract/>

The deadline for registration is April 15, 2023.

Registration is now open via

<https://uwmadison.eventsair.com/sandysoils23/register/Site/Register>

The papers from the conference will be published in the Progress of Soil Science Series (Springer).

The conference will be held at the University of Wisconsin – Madison. Madison is the capital of the U.S. state of Wisconsin.

The 5th WASWAC World Conference (Olomouc, Czech Republic, June 19-23, 2023)

Date: June 19-23, 2023

Venue: Palacky University, Olomouc, Czech Republic

Topic: Adaptation Strategies for Soil and Water Conservation in a Changing World

The conference aims are: To analyse the present and future situation of soil and water conservation on a worldwide scale while taking local specifics into consideration.

To analyse the effects of population growth, human activity and climate change on soil and water in the context of the demands of sustainable farming, water and food supply.

To promote and increase collaboration between scientific organisations, policymakers, the general public and practitioners.

To design goals, strategies and directions for conservation of soil and water as basic irreplaceable natural resources for current exploitation and the needs of future generations.

Contacts:

Prof. Borivoj Sarapatka, Palacky University Olomouc, e-mail: borivoj.sarapatka@upol.cz

Dr. Jana Konecna, Research Institute for Soil and Water Conservation, Prague,
e-mail: konecna.jana@vumop.cz

Dr. Pengfei DU, the Secretariat of WASWAC

E-mail: waswac@foxmail.com

Website:

<http://www.waswac.org.cn/waswac/LatestNews/webinfo/2023/02/1676141370590982.htm>

The 40th IAHR World Congress (Austria, Aug. 21-25, 2023)

Date: August 21-25, 2023

Venue: Vienna, Austria

Invitation from Prof. Joseph Hun-wei Lee, IAHR President: On behalf of the International Association for Hydro-environment Engineering and Research (IAHR), I am delighted to invite you to participate in the 40th IAHR World Congress to be held in Vienna, Austria, from August 21st to 25th, 2023. For more than seventy-five years, the biennial IAHR World Congresses have brought together leading experts to help address the world's pressing water environment engineering challenges. The event has traditionally provided researchers and decision makers the opportunity to share recent advances and experiences, identify emerging technology trends, and engage in lively debates that have positively impacted our world. Following the last IAHR Congress held in 2021 in Granada, Spain under the theme "From Snow to Sea", the main theme of the 40th IAHR World Congress will be "Rivers – Connecting Mountains and Coasts" focusing attention on the importance of considering the integral water cycle to address present and future challenges.

Since its creation in 1935, IAHR is known as a leading international organization of engineers and professionals in fields related to the water environment. IAHR stimulates and promotes research and its application – by sharing new research paradigms and networks, setting industry standards, informing best water management practices, and nurturing young professionals. Through its powerful knowledge products and networks, IAHR makes important contributions to sustainable development in many ways.

At the upcoming Congress, IAHR will unleash its new Strategic Plan and present exciting knowledge platforms and prominent speakers on global water environment issues including climate-induced changes to water resources, adaptive management, artificial intelligence (AI) and smart water management, Eco hydraulics, and policy forums. I, therefore, welcome you to join us and share with us your work. I look forward to welcoming you to Vienna in August 2023!

URL: <https://rivers.boku.ac.at/iahr/>
Vienna Water Conferences 2023:
<https://rivers.boku.ac.at>

World's Large Rivers Conference 2023 (Austria, Aug. 21-25, 2023)

Date: August 21-25, 2023

Venue: Vienna, Austria

Invitation: This conference aims to provide a global forum for a wide-ranging discussion of key issues related to research on large rivers and their effective and sustainable management, involving both scientists and decision-makers. We kindly ask all interested authors to submit their work on the topics of Hydrology, Hydraulics & Hydroclimatic Impacts Sediment Transport & River Morphology River Pollution, Ecology & Restoration Integrated River Management. This time, a special focus will be on Rivers in a Changing World. The goal is to establish a scientific knowledge base and develop scientific reports on the status of large rivers for a better understanding of developments, synergies, and challenges in large river basins. So far, three status reports on large rivers have been developed (Danube, Mekong, and Niger) and up to 300 rivers should follow. Furthermore, the structure of the World's Large Rivers Initiative will be discussed at the World's Large Rivers conference in Vienna 2023.

Special information: In honor and celebration of the 5th anniversary of the World's Large Rivers Conference, the 40th anniversary of the IAHR World Congress and the 30th anniversary of the Danube Conference, all three conferences will be held simultaneously in Vienna under the motto "Vienna Water Conferences 2023"! You can purchase a special combined ticket to attend all three outstanding events!

URL: <https://worldslargerivers.boku.ac.at>

Vienna Water Conferences 2023:

<https://rivers.boku.ac.at>

The 15th International Symposium on River Sedimentation (Florence, Italy, Sept. 5-8, 2023)

Date: September 5-8, 2023

Venue: Florence, Italy

Organizer: University of Florence and University of Padua

Sponsors: International Research and Training Center on Erosion and Sedimentation (IRTCES); World Association for Erosion and Sediment Research (WASER)

Co-sponsors: International Association for Hydro-Environment Engineering and Research (IAHR).

Secretariat: University of Florence, Italy

Permanent Secretariat: IRTCES

Summary: The triennial International Symposium on River Sedimentation (ISRS) was initiated in 1980.

Since its foundation, IRTCES has served as the permanent secretariat of ISRS. WASER was inaugurated at the 9th ISRS in 2004, and the ISRS has since become the official Symposium of WASER. The objective of the ISRS is to provide a forum for scientists, engineers, researchers and decision makers to exchange ideas, research results and technical advances, and to share experience and information relating to the study of sediment and its management.

Symposium Theme and Topics:

The theme of the symposium is

Sustainable Sediment Management in a changing Environment

The symposium topics include:

1. Sediment and pollutant transport
2. Morphodynamics
3. Ecohydraulics
4. Sediment related disaster and climate change
5. Reservoir sedimentation, Interactions between sediment and hydraulic structures
6. Sustainable Sediment Management at the river-costal basin scale
7. Social, economic & political issues related to sediment and water management

URL: <https://www.isrs2022.it/>

Organization & Contacts:

Organized by Department of Civil and Environmental Engineering, University of Florence, Italy
 Luca Solari, Chair, Department of Civil and Environmental Engineering, University of Florence

Organizing Committee Co-Chairs:

Stefano Lanzoni, Co-Chairs, Department of Civil, Environmental and Architectural Engineering, University of Padova

Contacts:

Costanza Carbonari, Department of Civil and Environmental Engineering, University of Florence,
info@isrs2022.it

9th FRIEND-Water Global conference (Senegal, Sept. 25-29, 2023)

Date: September 25-29, 2023

Venue: Cheikh Anta Diop University, Dakar, Senegal

Background: FRIEND-Water (Flow Regime from International Experimental and Network Data) is an international collaborative network of experts of the UNESCO Intergovernmental Hydrological Programme (IHP). Established in 1985, it aims to generate new understanding about regional hydrology and multi-scale water cycle processes. FRIEND-Water is investigating long-term variations and changes in hydrological regimes to better understand the climate and river basin controls, as well as influence of humans on the spatial and temporal distribution of water. As a flagship initiative of IHP IX (2022-2029) FRIEND-Water aims to put science to action for a Water Secure World.

FRIEND-Water research is critical for: water resources management, socio-economic development, secure livelihoods, safeguard the environment, and assessing the impact of global change. The FRIEND-Water initiative is currently structured in 8 regional groups: West and Central Africa, Europe, Mediterranean, Latin America and Caribbean, Southern Africa, Asia Pacific, Nile, Congo. The FRIEND-Water programme complements and interacts with many national and international projects and initiatives: Ecohydrology-IHP, International Sediment Initiative (ISI), the International Drought Initiative (IDI), the International Floods Initiative (IFI), the Global Network on Water and Development Information for Arid Lands (GWADI), the WMO/GWP Integrated Drought Management Programme (IDMP), World's Large Rivers Initiative (WLRI), among others. The Global FRIEND conference takes place every 4 years with previous editions in Norway, Germany, Slovenia, South Africa, Cuba, Morocco, France and China.

Abstract submission form:

<https://forms.gle/oDZHMYguZjWVAbVM6>

Contacts:

ORGANIZING COMMITTEE

friendwater2023@gmail.com

WEBSITE

<https://en.unesco-montpellier.org/friend-water-program>

The 13th Symposium on River, Coastal, and Estuarine Morphodynamics (Urbana, USA, September 25-28, 2023)

Date: September 25-28, 2023

Venue: Urbana-Champaign, USA

Summary: The first RCEM Symposium was held in Genova, Italy, in 1999. Since then, the RCEM community has come together every two years to mark the progress in the field of morphodynamics. After going virtual in 2021, RCEM2023 will be the second time the Symposium is held in USA.

RCEM 2023 will be held at the University of Illinois at Urbana-Champaign. UIUC is the flagship campus of the University of Illinois System.

UIUC counts with 15 Colleges and Instructional Units. It hosts an Undergraduate student population of near 34K domestic students and, 5k international students, with a Graduate student population of near 16K students.

RCEM at UIUC will count with the support of faculty and students from multiple departments, from Civil & Environmental Engineering, Geography & Geographic Information Science, Geology, Atmospheric Sciences, Mechanical Science & Engineering and partner institutions located in Urbana-Champaign.

The Conference will take place at the Illini Union, our iconic I-shaped building which has been a

resource to the entire campus community since its opening in 1941.

Deadline for abstract submission is extended to April 15th, 2023.

Abstracts should be a single page.

URL: <https://rcem.cee.illinois.edu/>

Contacts:E-mail: tinoco@illinois.edu

The 1st IAHR and 4th CAE International Conference on Global Water Security and Sustainable Development

Date: October 30-November 3, 2023

Venue: Nanjing, China

Summary: The 1st IAHR and 4th CAE International Conference on Global Water Security and Sustainable Development will be held by the Yangtze Institute for Conservation and Development, Hohai University and Nanjing Hydraulic Research Institute in Nanjing (China) from October 30th to November 3rd, 2023. The successful development of global water security faces significant challenges. These challenges require close cooperation between scientists, engineers, water resources managers and policy makers. In this regard, the conference will provide a forum bringing together participants from academia, consulting firms, local, provincial and national government agencies, and offering them an opportunity to interact in an informal and relaxed environment. The conference will also provide students with an opportunity to discuss their interests with renowned and well-established researchers and professionals in this field.

Themes:

1. Hydro-environmental Modelling and Assessment:
2. Hydro-biological Processes:
3. Hydro-morphological Processes:
4. Groundwater Transport Processes:
5. Groundwater Transport Processes:
6. Nature-Based Solutions:
7. Disaster Risk Reduction and Resilience:
8. Climate Change and Population Growth Impacts:
9. Digital Water Transformation:
10. Data Technologies:
11. Design of Storage Facilities, Coastal Basins and Desalination Plants:
12. Agricultural and Aquaculture Developments:
13. Water-Food-Energy Nexus:
14. Water Transfer and Governance:
15. Externalities of Engineering:

URL:

<https://icgws2023.iahr.org/en/web/index/266>

Organization & Contacts:

Yangtze Institute for Conservation and Development
Hohai University

Nanjing Hydraulic Research Institute

Contacts

Email: gws2023@yicode.org



INTERNATIONAL SEDIMENT INITIATIVE (ISI)

Intergovernmental Hydrological Programme
(IHP)
UNESCO

ORGANISATION: UNESCO

Abou Amani	UNESCO, Paris
(to be confirmed)	UNESCO, Beijing
Koen Verbist	UNESCO, Paris

ISI URL: <http://www.irtces.org/isi/>

ISI GOVERNANCE

Advisory Group

Manfred Spreafico (Chairperson)	Switzerland
Cheng Liu	China
Koen Verbist	UNESCO
Desmond E. Walling	UK

Expert Group

Abdalla Abdelsalam Ahmed	Sudan
Farhad Yazdandoost	Iran
Gerrit Basson	South Africa
Giampaolo Di Silvio	Italy
Gil Mahé	France
Helmut Habersack	Austria
Johannes Cullman	WMO
Rollin H. Hotchkiss	USA
Valentin Golosov	Russia
Zhao-Yin Wang	China
José Alberto Zúñiga	Costa Rica
Thomas Hoffmann	Germany

ISI TECHNICAL SECRETARIAT

International Research and Training Center on
Erosion and Sedimentation (IRTCES)
under the auspices of UNESCO
P.O. Box 366, 20 Chegongzhuang West Rd.
Beijing, 100048, China
Fax: +86-10-68411174
<http://www.irtces.org/>

Secretary-General:

Liu, Cheng China

Contact

Shi, Hongling China
Zhao, Ying China

Newsletter Layout and Production:

ISI Technical Secretariat
The ISI Newsletter is sent quarterly to ISI
Governance members and interested experts.
Please send your contributions to the ISI
Chairperson at manfred.spreafico@gmail.com or ISI
technical Secretariat at shihl@iwhr.com

Editor: Prof. Shi Hongling

P.O. Box 366, 20 Chegongzhuang West Rd.
Beijing, 100048, China
Fax: +86-10-68411174
E-mail: shihl@iwhr.com

Advisor: Prof. Des. E. Walling

