

World Association for Sedimentation & Erosion Research – WASER

NEWSLETTER

Reporting WASER news to you regularly

2020 No. 3

(Sept. 23, 2020)

IN THIS ISSUE

News

- ✧ Journal Impact Factor of the International Journal of Sediment Research Increases to 2.577 1
- ✧ The journal International Soil and Water Conservation Research receives its first Impact Factor of 3.770 1
- ✧ UNESCO and IRTCES Strengthen Partnership 2
- ✧ China ready to share data with Mekong nations 3
- ✧ Climate change and land use are accelerating soil erosion by water 3
- ✧ Tiny particles, costly problem: Too much sediment in the Upper Mississippi River 4
- ✧ 2020-2021 World Large River and Delta Systems Source-to-Sink Online Talk Series 5

Publications

- ✧ Papers Published in IJSR, Volume 35, No. 5, 2020 6
- ✧ Contents of ISWCR (Vol. 8, No.3, 2020) 7

Coming Events

- ✧ 3rd International Youth Forum on Soil and Water Conservation (Iran, May 16-21, 2021) 8
- ✧ World's Large Rivers Conference 2021 (Russia, August 2-6, 2021) 8
- ✧ The 7th International Conference on Estuaries and Coasts (Shanghai, China, October 18-21, 2021) 8
- ✧ 15th International Symposium on River Sedimentation (Florence, Italy, September, 2022) 9

WASER membership application/renewal form 11

Appendix: 2020-2021 World Large River and Delta Systems Source-to-Sink Online Talk Series-Current list of presentations 12

世界泥沙研究学会简报

本期内容

新闻

- ✧ 《国际泥沙研究》期刊影响因子增至 2.577 1
- ✧ 《国际水土保持 研究》发布首个 SCI 影响因子 1
- ✧ 联合国教科文组织与国际泥沙中心深化伙伴关系 2
- ✧ 中国将与湄公河国家分享数据 3
- ✧ 气候变化与土地利用正加速土壤侵蚀 3
- ✧ 小颗粒高费用问题：密西西比河上游泥沙过多 4
- ✧ 世界大河及其三角洲系统源汇线上讲座 5

出版物

- ✧ 《国际泥沙研究》期刊 2020 年第 35 卷第 5 期论文目录 6
- ✧ 《国际水土保持研究》期刊 2020 年第 8 卷第 3 期论文目录 7

会议信息

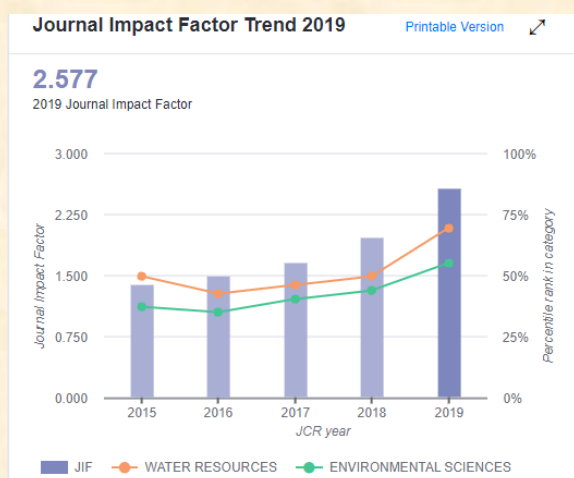
- ✧ 第三届水土保持青年论坛(伊朗, 2021 年 5 月 16-21 日) 8
- ✧ 世界大河学术讨论会(俄罗斯, 2021 年 8 月 2-6 日) 8
- ✧ 第七届河口海岸国际研讨会(上海, 2021 年 10 月 18-21 日) 8
- ✧ 第十五次河流泥沙国际学术讨论会(意大利佛罗伦萨, 2022 年 9 月) 9

WASER 会员申请/续新表 11

附：世界大河及其三角洲系统源汇线上讲座-报告列表 12

NEWS

Journal Impact Factor of the International Journal of Sediment Research Increases to 2.577



The 2019 Journal Citation Reports (JCR) were released by Clarivate Analytics in June 2020. The International Journal of Sediment Research (IJSR) Journal Impact Factor for 2019 is 2.577. Within all the journals in the category of Water Resources and Environmental Science, IJSR was ranked Q2.

In the past three years, the Journal Impact Factor of IJSR has increased year on year. We would like to express our sincere thanks to our Associate Editors, reviewers, authors and readers for their invaluable contributions to this success and their great support.

The IJSR is the official journal of the World Association for Sedimentation and Erosion Research (WASER). The journal is under the administration of the Ministry of Water Resources (MWR), PRC and is co-owned and sponsored by the International Research and Training Center on Erosion and Sedimentation (IRTCES), the China Institute of Water Resources and Hydropower Research (IWHR), and Tsinghua University. It is an international, peer reviewed journal, focusing on publication of original contributions related to theoretical advances, numerical modelling, field observational and laboratory studies and reviews dealing with processes, products and techniques in the field of sedimentation and erosion. Of particular importance are contributions covering topics linked to geography, geomorphology, soil erosion, watershed management, sediment transport, sedimentology, fluvial processes, fluvial geomorphology, reservoir sedimentation, coastal sedimentation and estuarine processes, sediment-related ecological and environmental problems, river management, and the social and economic

effects of sedimentation. Participants in ISI and all researchers in the sediment field are encouraged to submit their important papers to the International Journal of Sediment Research.

The Journal website can be found at: <https://www.journals.elsevier.com/international-journal-of-sediment-research>.



The journal International Soil and Water Conservation Research receives its first Impact Factor of 3.770

The journal International Soil and Water Conservation Research (ISWCR) can be seen as a sister journal to IJSR, since it is also based in IRTCES and focuses on soil erosion and soil conservation. In the 2019 Journal Citation Reports (JCR), released by Clarivate Analytics in June 2020, ISWCR received its first official Impact Factor (IF) of 3.770. Amongst the total of 94 journals in the category of Water Resources, ISWCR was ranked 13 and as a Q1 journal. In the categories of Soil Science and Environmental Science it was ranked as 7th out of 38(Q1) and 76 out of 265(Q2), respectively.

The journal International Soil and Water Conservation Research (ISWCR), which commenced publication in June 2013, is a quarterly academic journal published in English. It is published within the Elsevier Science Direct portfolio with open access globally. The journal is under the administration of the Ministry of Water Resources (MWR), PRC and is co-owned and sponsored by the International Research and Training Center on Erosion and Sedimentation (IRTCES), the China Water & Power Press, and the China Institute of Water Resources and Hydropower Research (IWHR). The aims of ISWCR are to communicate advances in the development of advanced theory, innovative technology, and practical results in soil and water conservation research, to provide and build a platform for academic exchange, and to promote

the development and importance of the soil and water conservation discipline. It publishes both research and review papers in a wide range of topics, including, soil erosion, soil and water conservation, conservation agriculture, soil evaluation and management, soil degradation, watershed management, and sustainable development.

Since its initiation, ISWCR has developed rapidly and has established a strong reputation in both international academia and the publishing industry. It was indexed by the Chinese Science Citation Database (CSCD) in April 2015, covered by SCOPUS in January 2017, indexed by the Emerging Sources Citation Index (ESCI) in October 2017 and indexed by the Science Citation Index Expanded (SCIE) in July 2019. This is the first official impact factor for ISWCR.

Further details of International Soil and Water Conservation Research (ISWCR) can be accessed through the website or the QR code.

<http://www.keaipublishing.com/en/journals/international-soil-and-water-conservation-research/>



UNESCO and IRTCES Deepen Partnership



UNESCO and the Government of the People's Republic of China have recently renewed the Agreement concerning the Establishment of the International Research and Training Center on Erosion and Sedimentation (IRTCES) under the auspices of UNESCO. The Agreement came into effect on August 17, 2020 when both parties completed the necessary legal procedures for the effective implementation of the Agreement.

IRTCES was officially inaugurated on 21 July 1984, after the signing of the first cooperation agreement between UNESCO and the Government of China in 1984. Its status as a

Category 2 Center under the auspices of UNESCO was renewed on 30 November 2005 based on a positive evaluation of its contribution to UNESCO's strategic objectives.

The Second Renewal builds on the 2005 Agreement and aims to promote international cooperation and exchange in the field of erosion and sediment management. This Renewal was signed in Paris on June 16, 2020 by UNESCO's Director-General, Ms. Audrey Azoulay, and in Beijing on June 24, 2020 by the Minister of Water Resources of the People's Republic of China, Mr. E Jingping.

The Ministry of Water Resources (MWR) of the People's Republic of China is the governmental executive agency with responsibility for IRTCES. Since its establishment, IRTCES has been a significant partner within UNESCO's International Hydrological Programme (IHP) and has been involved in a wide range of research and training activities directed to solving scientific and engineering problems related to erosion and sedimentation.

IRTCES has been engaged in:

- promoting scientific research on erosion and sedimentation;
- providing technical advisory services and creating a mechanism for the exchange of scientific and technical information on the results of research among experts in various countries;
- coordinating international cooperative research activities and establishing laboratory and research centers;
- organizing international training courses, symposia or workshops on special subjects, as well as international study tour and lecturing activities;
- publishing the scientific journal International Journal of Sediment Research and other relevant publications;
- acting as the Secretariat for the International Sediment Initiative;
- serving as the permanent Secretariat for the International Symposium on River Sedimentation and for the International Conference on Estuaries and Coasts; and,
- serving as the Secretariat of the World Association for Sedimentation and Erosion Research.

(Source: UNESCO Beijing)

China ready to share data with Mekong nations

China Daily, 2020-08-24: China will share hydrological information on the upper reaches of the Mekong River, known as the Lancang River in China, throughout the year to help countries along

the river better cope with climate change, droughts and floods, Premier Li Keqiang said on Monday.

Speaking via video link at the third Lancang-Mekong Cooperation leaders' meeting, Li said the six countries along the international river are in fact a community with a shared future.

He called upon the six nations to fully respect each other's legitimate rights in exploring water resources and accommodate each other's interests and concerns.

China will do its best to offer help to the other five countries in better using water resources, he said.

Li highlighted the need for sound implementation of programs for dam safety, flood early warning and bolstering the river basin's capacity for comprehensive treatment and water resources management.

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



Climate change and land use are accelerating soil erosion by water

Soil loss due to water could increase greatly around the world over the next 50 years due to climate change and intensive land cultivation. This was the conclusion of an international team of researchers led by the University of Basel, Switzerland, which published the results from its model calculation in the US scientific journal Proceedings of the National Academy of Sciences of the United States of America (PNAS).

Soil erosion has far-reaching consequences. For example, it results in a loss of fertile soil, reduces agricultural productivity and therefore threatens the food supply for the world's population. Based on a global model, the new study now predicts how soil loss from water erosion is likely to change by the year 2070.

Erosion is the process by which soil is carried away by wind and, above all, water. Intensive agricultural land use and agricultural methods that increase erosion, along with deforestation and

overgrazing, are responsible for accelerating this loss of soil. In addition, in some parts of the world climate change is expected to increase the amount of precipitation, further increasing soil erosion.

Three scenarios for the year 2070: The researchers based their predictions on three scenarios that are also used by the Intergovernmental Panel on Climate Change (IPCC). The scenarios reflect potential developments in the 21st century based on several different socio-economic assumptions.

All the scenarios including the effects of climate and land use change predict persistent water erosion, irrespective of the climate conditions, in most of the approximately 200 countries that were included in the study. At the same time, the results indicate that climate change is the primary factor driving increased soil erosion.

Depending on the scenario, the simulations predict that by 2070 soil erosion will increase significantly, by 30% to 66%, compared to the 2015 position. If agricultural practices do not change and measures are not taken to limit global warming, the study predicts that more than 28 billion additional metric tons of soil will be lost annually. This is around two-thirds more than the 43 billion tonnes estimated for 2015.

A call for sustainable land cultivation: The places most vulnerable to a sharp increase in erosion are low- to middle-income tropical and sub-tropical countries. The authors say that it will therefore be critical for countries in the Global South to promote more widespread use of sustainable agricultural practices.

"Soil erosion can be mitigated by sustainable land cultivation and the right policies," says Dr. Pasquale Borrelli, an environmental scientist from the University of Basel. "We hope that our predictions will help to identify the magnitude of the threat from erosion and allow policy-makers to develop effective measures to soften the impact."

Researchers from the University of Basel, Kangwon National University, Republic of Korea, the UK Centre for Ecology & Hydrology, the Joint Research Centre of the European Commission and ETH Zurich all contributed to the study.

Journal Reference: Pasquale Borrelli, David A. Robinson, Panos Panagos, Emanuele Lugato, Jae E. Yang, Christine Alewell, David Wuepper, Luca Montanarella, Cristiano Ballabio. Land use and climate change impacts on global soil erosion by water (2015-2070). Proceedings of the National Academy of Sciences, 2020; 202001403 DOI: 10.1073/pnas.2001403117

(Source: <https://www.sciencedaily.com/>)

Tiny particles, costly problem: Too much sediment in the Upper Mississippi River



The Upper Mississippi River is known for its pristine water quality near its headwaters in north-central Minnesota.

But just downstream, too much sediment — small particles of sand, silt and clay — is a problem for the iconic river.

A new study released this week reports that significant efforts to reduce sediment will be needed for the Mississippi's upper reaches to meet state water quality standards.

The Minnesota Pollution Control Agency (MPCA) issued the draft report, which focuses on roughly 150 miles of the Mississippi, from the point where it is joined by the Swan River near Grand Rapids, to its confluence with the Crow Wing River near Brainerd.

That stretch of the Mississippi, as it meanders through Aitkin and Crow Wing counties, is on the state's list of impaired waters because of the amount of suspended solids, or sediment, in the water.

A major culprit behind the sediment problem: The region around the river's upper reaches is made up of fine soils that erode easily, said Meghan Funke, a water resources engineer with EOR, a consulting firm that helped draft the report.

But there are human-created causes, too. The Upper Mississippi has several dams, which store water in reservoirs and release it throughout the summer to control floods. That means the river tends to have more water flowing between its banks throughout the year, not just during the spring snow melt, Funke said.

"Because the water levels are higher, there is just more chance for bank erosion," she said. As banks erode, more of that soil ends up downstream.

Forests and other deep-rooted plants within the river's buffers help slow runoff and reduce erosion, Funke said. But over time, people have cleared the forests and vegetation for farming and

development, exposing the soil and leaving it less stable.

Historically, landowners also created ditches to drain peat land for farming, which carry water to the river more quickly, said Anna Bosch, watershed project manager with the MPCA.

"All of those ditches really contribute a lot of extra water into the river every time there's a rain event," Bosch said. "That sort of concentrates the flows and increases the amount of sediment that then gets into the system."

Sediment doesn't pose a health threat for people, but it can increase water treatment costs for communities that get their drinking water from the river, Bosch said. Soil particles also can carry other pollutants, such as phosphorus and nitrogen, that can affect the river's health.

And excess sediment can have an impact on the fish and bugs that live in the river, Bosch said. It can bury the riverbeds that fish use for spawning and reduce the amount of light that penetrates the water, depriving aquatic plants of sunlight.

In addition, soil particles absorb warmth from the sun, increasing the water temperature in streams and rivers.

A challenging fix: The draft report is a follow-up to a 2017 MPCA study, which identified excess sediment as a problem in this stretch of the Upper Mississippi.

The reviews are part of the state's efforts to document the health of all 80 major watersheds in the state. The Upper Mississippi was one of the first large rivers in the state to be assessed.

The Federal Clean Water Act requires the state to identify the maximum amount of a pollutant that a lake or river can take on and still meet water quality standards.

The draft report says sediment in the Mississippi needs to be reduced by about 60 percent from the Swan River near Grand Rapids to the Pine River, and by 25 percent from the Pine River to the Crow Wing River near Brainerd.

That's a lofty goal, especially since most of the sources of the sediment aren't regulated by government. Wastewater and stormwater systems — which do require a government permit — contribute only a small fraction of the sediment in the river, Funke said.

It's trickier to get at the major sources of sediment cited in the report, including increased water flow from dams and ditches, livestock trampling the riverbanks and people replacing forests with development or shallow-rooted lawns and crops.

Protecting a buffer of forest and vegetated

land through conservation easements, the report says, is critical to the efforts to improve the river's water quality.

That is already happening, to some degree. In one case, the Mississippi Headwaters Habitat Corridor Project, launched in 2016 by the Mississippi Headwaters Board, has preserved more than 38 miles of shoreline along the Upper Mississippi.

Nonprofit conservation groups are working together to protect the forestland in the region from being converted to farms or development, said Todd Holman, Mississippi Headwaters Program director for the nonprofit Nature Conservancy's Brainerd office.

One of the challenges in trying to reduce erosion is the heavy rainfalls that are occurring more often than in the past, Holman said.

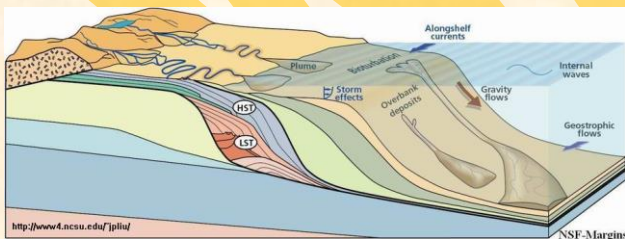
"It's just very difficult, because we can't control the frequency and the volume of those rain events," he said. "But we can work to armor the shore by identifying the most important properties to keep forested, to keep in a natural state."

The MPCA report suggests other strategies for reducing erosion, including working with landowners to plant buffers of trees and vegetation, to keep livestock away from the river banks. The total cost of all these efforts is estimated at more than \$17 million.

Bosch said Minnesotans have a responsibility to take care of the Mississippi headwaters region for the rest of the country that uses it downstream.

"Everything that we can do to protect it benefits ourselves and everyone in the rest of the basin," she said. (Source: <https://www.mprnews.org/>)

2020-2021 World Large River and Delta Systems Source-to-Sink Online Talk Series



This important series of weekly online talks was conceived by Professor Paul Liu of the Department of Marine, Earth and Atmospheric Sciences at North Carolina State University, USA. It started on August 5 2020 and has now been running for nine weeks. In some weeks there have been two talks and the evolving program now extends well into 2021 and includes a total of more

than 50 talks. The talks can be accessed in real-time via Zoom and YouTube and there is also an archive containing recordings of past talks.

Further details can be found by visiting: <http://www.meas.ncsu.edu/sealevel/>

Zoom link: <https://ncsu.zoom.us/j/6167058485>

Zoom ID 616-705-8485

Tencent Meeting(腾讯会议): <https://meeting.tencent.com/s/YN3YFWL9hxlw>

Tencent ID: 747 1357 8392

Time: Wednesdays & Fridays US Eastern 9:00 am; London 2:00 pm; Paris 3:00 pm; Beijing: 9:00 pm; Sydney, Australia 11:00 pm

Each presentation will be real-time streamed on S2S YouTube Channel

S2S YouTube live channel: <https://www.youtube.com/channel/UCPQZBGhL7SNGJ2leVCusT8Q/videos?view=57>

or live stream channel, or: <https://tinyurl.com/S2Stalks>

You are encouraged to watch and participate the live talks via YouTube live channel, because the Zoom meeting could be full quickly

Twitter (@SourceToSink): <https://twitter.com/SourceToSink>

If you think you or your colleagues can also contribute a good S2S-related overview or review presentation to this series, please contact Prof. Paul Liu.

see updated list: https://docs.google.com/spreadsheets/d/15MjYSQDJcF4M25ckG2vrHy_68F3iyL0zqbG0UTLyFhA/edit#gid=0

Previous presentations can be found at:

YouTube: <https://tinyurl.com/source2sink>

Bilibili (国内B站-带英文字幕): <https://space.bilibili.com/441864512>

Contact: Prof. Paul Liu, jpliu@ncsu.edu

(Source: <http://www.meas.ncsu.edu/sealevel/>)

Current list of presentations can be found at the end of the Newsletter

PUBLICATIONS

Papers Published in the International Journal of Sediment Research Volume 35, No. 5, 2020

Pages 431-562 (October 2020)



Experimental study of the woody debris trapping efficiency of a steel pipe, open sabo dam
Ryuhei Tateishi, Toshiyuki Horiguchi, Yoshimi Sonoda, Nobutaka Ishikawa
Pages 431-443

Response of nephelometric turbidity to hydrodynamic particle size of fine suspended sediment
Christina Bright, Sarah Mager, Sophie Horton
Pages 444-454

Stable channel analysis with sediment transport for rivers in Malaysia: A case study of the Muda, Kurau, and Langat rivers
Mohd Afiq Harun, Aminuddin Ab Ghani, Reza Mohammadpour, Ngai Weng Chan
Pages 455-466

Modeling the initiation of sediment motion under a wide range of flow conditions using a Geno-Mamdani Fuzzy Inference System method
Hussein Bizimana, Abdüsselam Altunkaynak
Pages 467-483

A study on textural characteristics, heavy mineral distribution and grain-microtextures of recent sediment in the coastal area between the Sarada and Gosthani rivers, east coast of India
Ali Mohammad, Parvathaneni Bhanu Murthy, Edupuganti Naga Dhanamjaya Rao, Hari Prasad
Pages 484-503

Comparison of different turbulence models in predicting cohesive fluid mud gravity current propagation

Seyed-Mohammad-Kazem Emami, Sayed-Farhad Mousavi, Khosrow Hosseini, Hesam Fouladfar, Majid Mohammadian
Pages 504-515

A review of ecological risk assessment and associated health risks with heavy metals in sediment from India

Vinod Kumar, Anket Sharma, Shevita Pandita, Renu Bhardwaj, ... Artemi Cerda
Pages 516-526

Multicriteria to estimate the environmental risk of sediment from the Obedska Bog (Northern Serbia), a reservation area on UNESCO's list

Dejan Krčmar, Nenad Grba, Marijana Kragulj Isakovski, Nataša Varga, ... Božo Dušan Dalmacija
Pages 527-539

Impact of land use changes on catchment soil erosion and sediment yield in the northeastern China: A panel data model application

Haiyan Fang
Pages 540-549

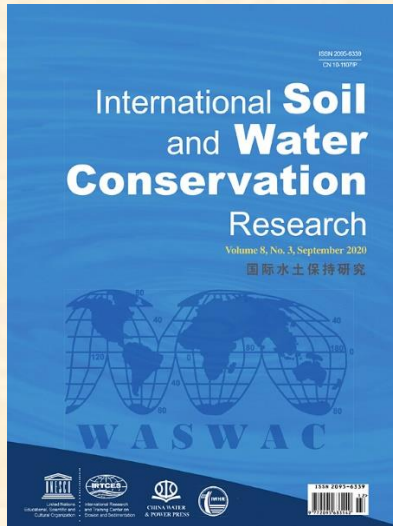
Long term sediment transport simulation of the Danube, Sava, and Tisa rivers

Mirjana Horvat, Zoltan Horvat
Pages 550-561

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. 8, No.3, 2020)



International Soil and Water Conservation Research
Pages 213-332 (September 2020)

Spatiotemporal changes in terrestrial water storage in the Beijing-Tianjin Sandstorm Source Region from GRACE satellites
Yingjun Pang, Bo Wu, Yanping Cao, Xiaohong Jia
Pages 295-307

Fingerprinting sediment sources in a typical karst catchment of southwest China
Zhenwei Li, Xianli Xu, Yaohua Zhang, Kelin Wang
Pages 277-285

Inhibiting soil loss and runoff from small plots induced by an individual freeze-thaw cycle using three rangeland species
Milad Hatefi, Seyed Hamidreza Sadeghi, Reza Erfanzadeh, Morteza Behzadfar
Pages 228-236

Cadmium speciation as influenced by soil water content and zinc and the studies of kinetic modeling in two soils textural classes
Farzad Rassaei, Mehran Hoodaji, Seyed Ali Abtahi
Pages 286-294

Unsupervised learning approach in defining the similarity of catchments: Hydrological response unit based k-means clustering, a demonstration on Western Black Sea Region of Turkey
Ersin Ayta?
Pages 321-331

Free full papers and open access are available at ScienceDirect :

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

COMING EVENTS

3rd International Youth Forum on Soil and Water Conservation (Iran, May 16-21, 2021)

Date: May 16-21, 2021

Venue: Tarbiat Modares University, Noor, Iran

Organizers:

World Association of Soil and Water Conservation (WASWAC)
Faculty of Natural Resources and Marine Sciences, Tarbiat Modares University, Iran

Sponsors:

World Association of Soil and Water Conservation (WASWAC)
Co-sponsors:

Watershed Management Society of Iran

Gorgan University of Agricultural Sciences & Natural Resources

Chinese Society of Soil and Water Conservation

Institute of Soil and Water Conservation, CAS & MWR

Datum Technology

Secretariat:

Faculty of Natural Resources and Marine Sciences, Tarbiat Modares University

Summary: The International Youth Forum on Soil and Water Conservation (IYFSWC) is a triennial event initiated by the World Association of Soil and Water Conservation (WASWAC).

Two such conferences have now been held in Nanchang, China and Moscow, Russia in 2015 and 2018. With support from related international associations, and with the participation of experts and scholars worldwide, the IYFSWC has attracted wide attention and has become an important and popular event. The IYFSWC provides an opportunity for young scientists and early-career researchers to exchange ideas, research results and advanced techniques in soil and water conservation, and develop collaboration and friendships. The 3rd International Youth Forum on Soil and Water Conservation will be held in Tarbiat Modares University, Noor, Iran during May 16-21, 2021.

Overall Theme:

Soil and Water Conservation (SWC) under Changing Environments

Topics of the Conference (tentative):

1. Smart SWC
2. Adaptive SWC
3. Youth Roles in SWC
4. Climate Change and SWC
5. SWC in Developing Countries
6. Performance Evaluation of SWC Projects
7. Impacts and Possible Solutions of COVID-19 Pandemic on SWC Practices

URL: www.IYFSWC.modares.ac.ir

Contacts: IYFSWC@modares.ac.ir

World's Large Rivers Conference 2021 (Russia, August 2-6, 2021)

Date: August 2-6, 2021

Venue: Moscow, Russia

Summary: This WASER- / ISI-co-sponsored conference aims to provide a global forum for a wide-ranging discussion of key issues related to research on large rivers and to their effective and sustainable management, involving both scientists and decision makers. The conference will be organised by MSU - Lomonosov Moscow State University, Russia, and BOKU - University of Natural Resources and Life Sciences, Vienna,

Austria. We kindly ask all interested authors to submit their work within the topics of

- Hydrology, Hydraulics & Hydroclimatic Impacts
- Sediment Transport & River Morphology
- River Pollution, Ecology & Restoration
- Integrated River Management

Special focus will be given this time to **Climate Change** and its impact - not only in general, but also specifically related to **Russian and Arctic Rivers**.

Supported by: WASER World Association for Sedimentation and Erosion Research; UNESCO United Nations Educational, Scientific and Cultural Organization; IAHR International Association of Hydro-Environment Engineering and Research; IAHS International Association of Hydrological Sciences; IAG International Association of Geomorphologists. All WASER- and ISI-members can benefit from a reduction of conference fees of 10%.

URL: <http://worldslargerivers.boku.ac.at/wlr/>

The 7th International Conference on Estuaries and Coasts (Shanghai, China, October 18-21, 2021)

Date: October 18-21, 2021 (Tentative)

Venue: East China Normal University, Shanghai, China

Organizers:

East China Normal University

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

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

Secretariat: East China Normal University

Summary: The International Conference on Estuaries and Coasts (ICEC) is a triennial event initiated by the International Research and Training Center on Erosion and Sedimentation (IRTCS). Six such conferences have now been held in Hangzhou and Guangzhou, China; Sendai, Japan; Hanoi, Vietnam; Muscat, Oman, and Caen, France in 2003, 2006, 2009, 2012, 2015 and 2018. With support from related international associations, and with the participation of experts and scholars worldwide, the ICEC has attracted wide attention and has become an important and popular event. The ICEC provides an opportunity for scientists, engineers, researchers and decision-makers to exchange ideas, research results and advanced techniques, and develop collaboration and friendships. The 7th International Conference on Estuaries and Coasts (ICEC-2021) will be held in the East China Normal University, Shanghai, China during October 18-21, 2021.

Overall Theme:

Anthropocene Coasts

Topics of the Conference (tentative):

1. Hydrodynamics in estuaries and coasts: tides, waves, circulations, and their interactions;
2. Sediment transport dynamics: sand, mud and their mixture;
3. Multi-scale morphodynamics: tidal flats, estuaries, deltas, beaches, dunes, eco-morphodynamics...;
4. Coastal management: flood defense, ecosystem conservation, human-nature interactions...

URL: (to be provided)

Contacts: (to be provided)

15th International Symposium on River Sedimentation (Florence, Italy, September, 2022)

Date: September, 2022 (Three consecutive days at the end of August / beginning of September, 2022)

Venue: Florence, Italy

Organizer: University of Florence and University of Padua

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

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

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 (tentative)

The symposium topics include (tentative):

1. Sediment transport
2. Reservoir sedimentation
3. River morphodynamics
4. Coastal morphodynamics
5. Ecomorphodynamics
6. Sediment related disaster
7. Plastic in river and coastal systems
8. Interaction between sediment dynamics and hydraulic structures
9. Integrated Sediment Management at the River Basin Scale
10. Social, economic & political problems related to sediment and water management

URL: (to be provided)

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Appendix:

2020-2021 World Large River and Delta Systems Source-to-Sink Online Talk Series

Current list of presentations

8/5/2020

Paul Liu (host)

Dept of Marine, Earth, and Atmospheric Sciences,
North Carolina State University

Opening and Introduction: Fluxes and Fates of Global
River's Water and Sediment Discharges to the Sea

8/12/2020

Jim Best

Departments of Geology, Geography and Geographic
Information Science, University of Illinois at Urbana-
Champaign

The nature and pace of anthropogenically-induced
change within the world's large rivers

8/19/2020

Liz Chamberlain

Department of Earth and Environmental Sciences,
Vanderbilt University

Dating deltas: Geochronologic theory and examples
from the Mississippi and Ganges-Brahmaputra

8/26/2020

Hansjörg Seybold

Department of Environmental Systems Science, Swiss
Federal Institute of Technology in Zurich

Controls of channel networks from the source to the
sink

9/2/2020

Irina Overeem

Department of Geological Sciences, INSTAAR
University of Colorado

Greenland's Sediment Flux: filling a white spot on
global sediment flux map

9/9/2020

Jaap Nienhuis

School of Geosciences, Utrecht University

Global view of river delta morphology and its relevance
between sediment source and sink

9/11/2020

Uri Schattner

Department of Marine Geosciences, University of
Haifa, Israel

Hierarchy of source-to-sink systems - example from
the Nile distribution across the eastern Mediterranean.

9/16/2020

Robert Nicholls

Tyndall Centre for Climate Change Research,
University of East Anglia

Deltas in the Anthropocene

9/18/2020

Edgardo Latrubesse

Nanyang Technological University-Singapore

Continental sediment sources, sinks, and the human
factor in large tropical rivers: the case of South America.

9/23/2020

Houjie Wang

Ocean University of China

Flux, fate and transport of Yellow River-derived
sediment in the sea

9/25/2020

Jaia Syvitski

University of Colorado.

The Anthropocene: Source to Sink studies contribute
to Earth System Science

9/30/2020

Edward Tipper

Dept Earth Sciences, University of Cambridge

A reduced silicate weathering feedback determined
from the world's largest rivers

10/2/2020

Edward Anthony

CEREGE, France

River deltas and alongshore sediment fluxes: the
examples of the Amazon, Mekong, Irrawaddy and Niger
deltas

10/7/2020

Albert J. Kettner,

INSTAAR, CSDMS, Univ. of Colorado

Changes in global sediment flux

10/9/2020

Anne Bernhardt

Freie Universität Berlin, Institute of Geological
Sciences, Sedimentology & Tectonics

Land-to-ocean sediment routing along the Chile
margin - Testing the effects of climatic and geomorphic
boundary conditions

10/14/2020

Steve A. Kuehl

Virginia Institute of Marine Science, William and Mary

At the Mouths of Giants: A Synthesis of Processes
Affecting Sediment and Carbon Delivery and Preservation
off the Amazon, Ganges-Brahmaputra and Ayeyarwady-
Thanlwin Rivers

10/16/2020

Rebecca Caldwell

Chevron Energy Technology Company

A global delta dataset and the environmental variables
that predict delta formation on marine coastlines

10/21/2020

Zhisheng AN, Yu LIU,

Institute of Earth Environment, Chinese Academy of Sciences,

Recent anthropogenic curtailing of Yellow River runoff and sediment load is unprecedented over the past 500 yr

10/23/2020

Luca Colombero

School of Earth and Environment, University of Leeds,

Geological significance and source-to-sink controls on deltaic parasequences

10/28/2020

Philip S. J. Minderhoud

Padova University | Dept, of Civil, Environmental and Architectural Engineering; Utrecht University |Physical Geography

Subsidence in deltas, their causes and environmental implications à Subsidence in deltas, its causes and the environmental implications

10/30/2020

Robert Aller

School of Marine and Atmospheric Sciences, Stony Brook University

Tropical deltas as diagenetic systems: C processing, suboxic remineralization, and reverse weathering processes.

11/4/2020

Pete Talling

Departments of Earth Sciences and Geography, University of Durham, U.K.

How do turbidity currents form the largest sediment accumulations on Earth - first detailed direct monitoring at global test sites.

11/6/2020

Dave DeMaster

Dept of Marine, Earth, and Atmospheric Sciences, North Carolina State University

Radiochemistry and flow dynamics in world's large estuaries and deltas.

11/11/2020

Alaa Salem

Geological Sciences Department, Kafrelsheikh University, EGYPT

Human Impacts on Nile River Delta-- Delta subsidence and coastal erosion

11/13/2020

Sam Bentley,

Louisiana State University

Review Mississippi River Source to Sink

11/18/2020

Kevin Xu

Dept of Oceanography & Coastal Sciences, Louisiana State University

Dispersal of Mississippi and Atchafalaya Sediment on the Louisiana Shelf

11/20/2020

Courtney Harris

Virginia Institute of Marine Science, William and Mary

11/25/2020

Frances Dunn, & Stephen E. Darby

Utrecht, University of Southampton

Fluvial sediment supply to the world's river deltas: How it's changing and why it matters

12/2/2020

Steve Goodbred

Earth and Environmental Sciences, Vanderbilt University, steven.goodbred@Vanderbilt.Edu

Ganges-Brahmaputra-Meghna River Delta: 25 Years of Unexpected Results

12/4/2020

Peter Clift

Department of Geology and Geophysics, Louisiana State University

Monsoon influences on erosion and sediment transport in the Indus River catchment, SW Asia

12/9/2020

Mead A. Allison

Dept of River-Coastal Science and Engineering, Tulane University

How much Mississippi River Sand Reaches the Ocean: Insights from Louisiana's Diversion Planning

12/11, Fri/2020

Serge Berné

Université de Perpignan, Cedex France

The Rhone deltaic system: from the shoreline to the deep sea.

12/16/2020

Jingping Xu

Southern University of Science and Technology

Monterey, Gaoping, and SCS Canyons

12/18/2020.

Torbjörn Törnqvist

Department of Earth and Environmental Sciences, Tulane University

Coastal marshes as recorders of delta-top drowning due to accelerated sea-level rise

1/13/2021

Chuck Nittrouer

School of Oceanography, University of Washington

Amazon Sediment Transport and Accumulation along
the Continuum of Mixed Fluvial and Marine Processes

1/20/2021

Shouye Yang

Tongji University

Revisit the sediment routing processes of the
Changjiang River

1/27/2021

Witold Szczuciński

Institute of Geology

Adam Mickiewicz University in Poznan

2/3/2021

Dano Roelvink

IHE Delft

Numerical modeling of decadal, large-scale evolution
of deltas.

2/10/2021

Tom S. Bianchi

Dept. of Geological Sciences

University of Florida

Carbon Remineralization and Burial in the Coastal
Margin: Linkages in the Anthropocene

2/17/2021

Liviu Giosan

Woods Hole Oceanographic Institution

Resilience vs. luck: An environmental history of the
Danube delta

2/24/2021

Xixi Lu

Department of Geography, National University of
Singapore

3/3/2021

David Mohrig

Jackson School of Geosciences, The University of
Texas at Austin

3/10/2021

Hugh Sinclair

The University of Edinburgh

How mountain processes determine downstream
sediment routing in the Himalaya-Ganga system

3/17/2021

Clinton S. Willson

Center for River Studies, Louisiana State University

Movable Bed Physical Modeling for Regional Sand

Management in the Lowermost Mississippi River

3/24/2021

Sagy Cohen

Department of Geography, Surface Dynamics
Modeling Lab, The University of Alabama

3/31/2021

Yoshiki Saito

Estuary Research Center (EsReC), Shimane
University, Japan

Holocene delta evolution in response to sea-level
changes and coastal settings: Lessons from deltas in Asia.

4/7/2021

Andrea Ogston

School of Oceanography, University of Washington

Sediment-transport processes from tidal river to off-
shelf dispersal: examples from source-to-sink studies
around the globe

4/14/2021

Emily Wei, Neal Driscoll

St. Petersburg Coastal and Marine Science Center,
USGS; Scripps Inst of Oceanography

Fly River Derived Sediments in the Gulf of Papua

4/21/2021

Stefano Patruno

University of Nicosia, Cyprus

Clinoforms and clinoform systems: Review and
dynamic classification scheme for shorelines, subaqueous
deltas, shelf edges and continental margins

4/28/2021

Natalia Venturini

Facultad de Ciencias, Universidad de la República
(UdelaR), Montevideo, Uruguay

Organic and inorganic geochemical indicators of
environmental concern along the Río de la Plata Estuary

5/5/2021

Michel Michaelovitch de Mahiques

Oceanographic Institute, University of São Paulo

Nd and Pb isotopes on the Southwestern Atlantic
margin: insights on source rocks and sediment pathways

5/12/2021

Juan D. Restrepo Ángel

Department of Earth Sciences, School of Sciences,
EAFIT University, Colombia

Sediment load from the Northern Andes with focus on
the Magdalena River: Trends and impacts on coastal
ecosystems