

## World Association for Sedimentation & Erosion Research – WASER

# NEWSLETTER

*Reporting WASER news to you regularly*

**2020 No. 4**

(Dec. 23, 2020)

### IN THIS ISSUE

#### President's Message

1

#### News

- ✧ Water info-sharing platform launched for Mekong nations 3
- ✧ Increasing the height of the Levane Dam to reduce the hydraulic risk in the Arno valley and in Florence: Laboratory experiments on a physical model 3
- ✧ Experimenting with underwater sediment slides 4
- ✧ Successful soil and water conservation measures to restore the coal mined areas 5
- ✧ River sediment evidence suggests it was climate change, not Mongol invasion, that doomed Transoxania 7

#### Publications

- ✧ Papers Published in IJSR, Volume 35, No. 8, 2020 8
- ✧ Contents of ISWCR (Vol. 8, No.4, 2020) 9

#### Coming Events

- ✧ 3rd International Youth Forum on Soil and Water Conservation (Iran, May 16-21, 2021) 10
- ✧ World's Large Rivers Conference 2021 (Russia, August 2-6, 2021) 10
- ✧ The 7th International Conference on Estuaries and Coasts (Shanghai, China, October 18-21, 2021) 10
- ✧ 15th International Symposium on River Sedimentation (Florence, Italy, September, 2022) 11

WASER membership application/renewal form 13

#### 世界泥沙研究学会简报

#### 本期内容

#### 主席致辞

1

#### 新闻

- ✧ 澜湄水资源合作信息共享平台网站开通 3
- ✧ 增加 Levane 坝坝高以降低 Arno 河谷和佛罗伦萨水力风险的模型试验 3
- ✧ 水下泥沙滑坡试验研究 4
- ✧ (中国) 煤矿区水土保持的成功实践 5
- ✧ 河流沉积物历史表明是气候变化而非蒙古人入侵导致河中文明消失 7

#### 出版物

- ✧ 《国际泥沙研究》期刊 2020 年第 35 卷第 6 期论文目录 8
- ✧ 《国际水土保持研究》期刊 2020 年第 8 卷第 4 期论文目录 9

#### 会议信息

- ✧ 第三届水土保持青年论坛(伊朗, 2021 年 5 月 16-21 日) 10
- ✧ 世界大河学术讨论会(俄罗斯, 2021 年 8 月 2-6 日) 10
- ✧ 第七届河口海岸国际研讨会(上海, 2021 年 10 月 18-21 日) 10
- ✧ 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) 11

WASER 会员申请/续新表 13

## President's Message

As 2020 comes to an end, the Officers and Council Members of WASER would like to take this opportunity to thank you for your continuing support for the Association and wish all members a happy and prosperous New Year for 2021.

In 2020 we faced many challenges, as we adapted to new work environments, altered our home lives, found new ways to engage with one another and worked to support the Association through the COVID-19 pandemic. Activities and achievements of the Association during the past year include the following:



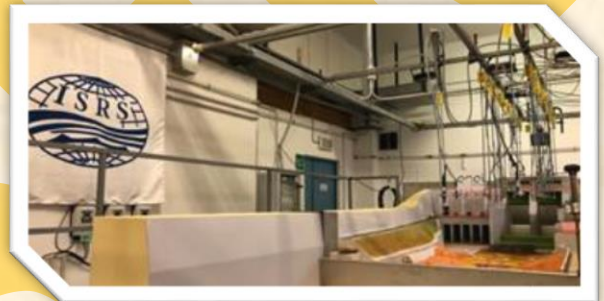
### (1) Preparation of the 7th International Conference on Estuaries and Coasts

The 7th International Conference on Estuaries and Coasts (ICEC 2021) will be organized by the State Key Laboratory of Estuarine and Coastal Research, East China Normal University, Shanghai, China and will take place in Shanghai from October 18-21, 2021. The ICEC 2021 is sponsored by IRTCES and WASER. Abstract submission will start soon.



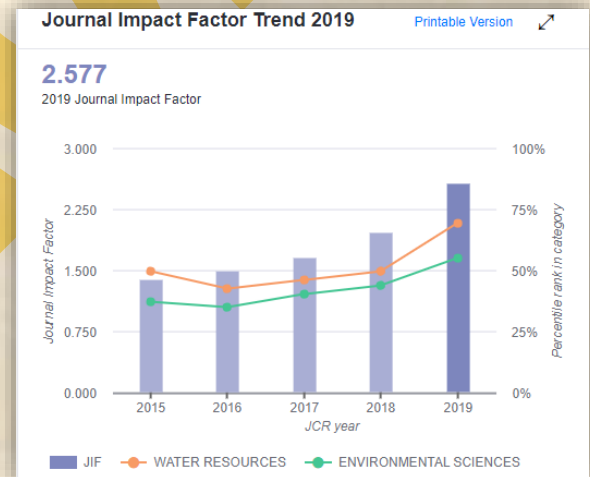
### (2) Preparation of the 15th International Symposium on River Sedimentation

The 15th International Symposium on River Sedimentation (15<sup>th</sup> ISRS) will be organized by the University of Florence and the University of Padua in Florence, Italy in September 2022. The 15<sup>th</sup> ISRS is sponsored by IRTCES and WASER.



### (3) Journal Impact Factor of the *International Journal of Sediment Research* Increases to 2.577

The Journal Impact Factor of the *International Journal of Sediment Research*, the official journal of WASER, increased to 2.577 for 2019, according to the 2019 Journal Citation Reports (JCR) released by Clarivate Analytics in June 2020. Within all the journals in the category Water Resources and Environmental Science, IJSR was ranked Q2. The efforts of our Editor Prof. Hongwei Fang and his team in achieving this important increase are greatly valued.



### (4) Interviews with the first and current Presidents for WASER are published in the *China Water Resources News*

Interviews with Prof. Des. E. Walling and Prof. Zhaoyin Wang, the first and current Presidents of WASER were published in the *China Water Resources News* on November 5, 2020. Prof. Walling highlighted the impact of sediment problems in dealing with global water resource issues and therefore the importance of establishing the Association, and the important roles of WASER in global water resource management. Prof. Wang introduced the main recent activities of the Association in promoting international academic communication and interchange, and the important new challenges facing sediment studies in the contemporary world.

世界泥沙研究学会

## 在新形势下推动泥沙治理实践发展



**王浩** (世界泥沙研究学会主席)

第六届国际泥沙学术讨论会，在法国召开。大会吸引了来自全球各地的泥沙专家、学者和研究人员。会议期间，与会代表就泥沙治理的理论与实践进行了广泛交流。王浩主席在会中强调了泥沙治理对于生态文明建设的重要性，并提出了“一带一路”泥沙治理合作倡议。此外，会议还探讨了泥沙治理与乡村振兴、生态文明建设相结合的路径，为全球泥沙治理事业贡献了中国智慧和力量。

### 借鉴中国经验 解决世界难题



**Des Walling** (国际泥沙研究学会前任主席)

国际泥沙研究学会在推动全球泥沙治理实践中发挥了重要作用。通过举办国际学术讨论会、发布研究报告等方式，促进了泥沙治理领域的国际交流与合作。特别是在“一带一路”倡议推动下，泥沙治理合作已成为全球关注的热点。中国在这一领域的丰富经验和先进技术，为解决世界各国的泥沙治理难题提供了重要借鉴。未来，国际泥沙研究学会将继续发挥桥梁纽带作用，推动全球泥沙治理事业取得更大成就。

Looking forwards to 2021, WASER is sponsoring/co-sponsoring two major international conferences, and WASER members will enjoy discounted registration fees for participation in both these conferences. They include:

- The 7th International Conference on Estuaries and Coasts (Shanghai, China, October 18-21, 2021); and
- The World's Large Rivers Conference 2021 (Russia, August 2-6, 2021).

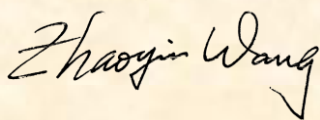
The *International Journal of Sediment Research* is an international, peer reviewed journal, focusing on publication of original contributions related to theoretical advances, numerical modelling, field observational and laboratory studies and reviews dealing with processes, products and techniques in 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.

All WASER members are encouraged and welcomed 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>.

I would personally like to take this opportunity to extend my thanks to all the Officers and Members of the WASER Council for their help and support. Special thanks are due to Professor Des. Walling who continues to give valuable support to the Association, as well as this Newsletter. I also would like to thank Prof. Guangquan Liu for his excellent work as Secretary General and to Prof. Cheng Liu for his hard work as Executive Secretary General in dealing with the operational activities of the Secretariat.

The Officers and Council members of WASER would also like to take this opportunity to express their sincere thanks to IRTCES for its very important support in hosting and sustaining the Secretariat of our Association over the past year.

Finally, I wish all of you and your families a happy and prosperous New Year 2021. I hope everyone is keeping well and will stay safe and healthy in this challenging time!



Zhaoyin Wang  
President of WASER

## NEWS

### Water info-sharing platform launched for Mekong nations



China Daily, 2020-12-01: China launched an online information-sharing platform on water resources in Beijing on December 1<sup>st</sup> 2020 as part of its efforts to help Mekong River countries address the challenges of climate change.

The launching of the website comes as the Lancang-Mekong River Basin faces escalating problems from flooding and drought. Both are becoming more frequent and intense because of climate change, E Jinping, Minister of Water Resources, said in an address at the opening ceremony.

The Mekong River, known as the Lancang River in China, is a vital waterway for cross-border shipping for China, Laos, Myanmar, Thailand, Cambodia and Vietnam.

"Drinking the water from the same river, the Lancang-Mekong countries are as close as one family living in a community with a shared future," he said. "As the most upstream country, China has always given full consideration to the concerns of the downstream countries, and has made important contributions through practical actions to flood control, disaster mitigation and the water security of downstream countries."

On November 1<sup>st</sup> 2020, China extended its sharing of hydrological data for the river with other Mekong countries from the flood season alone to the whole year. This important step demonstrates China's goodwill and sincerity as a responsible upstream neighbour, he said.

The online platform is expected to make the information sharing more comprehensive and quicker, to the benefit of the peoples of all countries in the river basin, he said.

"By sharing its own relevant information, China hopes to provide a model and reference for the six member countries to jointly build the information-sharing platform. Meanwhile, the

beneficial results of Lancang-Mekong water resources cooperation will also be systematically showcased as evidence that we, the six member countries, are capable of doing a good job in water resources cooperation."

Myo Thant Pe, Myanmar's ambassador to China, said that since the inception of the Lancang-Mekong Cooperation Framework in 2016, water resources has been a prime area of cooperation among the Lancang-Mekong countries, citing the establishment of a Lancang-Mekong Water Resources Cooperation Center in Beijing in March 2017 as an example.

"As the cooperation mechanisms on water resources have been brought onto the fast track, we need to establish an information-sharing platform, which will help us better tackle climate change and natural disasters," he said. "I believe that the informative website will play a role to support not only the six Mekong-Lancang countries, but also the related agencies and the world to learn how our six countries are working in sharing the hydrological information on the Mekong-Lancang River through this new platform."

### Data helps relieve droughts

Tian Fuqiang, a professor at Tsinghua University's Department of Hydrological Engineering, said that the extension of China's hydrological information sharing will be a great help to the efforts of the Mekong countries' in dealing with the increasingly frequent and severe droughts caused by climate change.

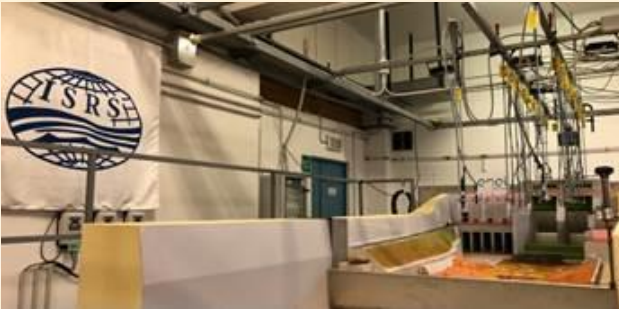
"Two of the worst droughts in the past century occurred in the basin within the past five years, causing heavy damage to economies and the ecosystem along the river. The recent droughts have made it especially urgent for Mekong countries to get hydrological data about the Lancang River in the dry season," he said.

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

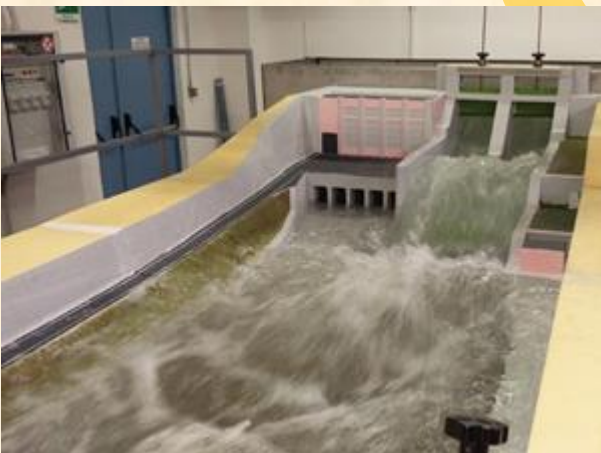
### Increasing the height of the Levane Dam to reduce hydraulic risk in the Arno valley and in Florence: Laboratory experiments on a physical model

The Levane Dam was built in 1955 on the Arno River (Italy) for the purpose of power generation. With the aim of reducing the downstream hydraulic risk in the Arno valley, including the city of Florence, in 2000 the Water Authority proposed raising the

height of the dam to increase its flood storage capacity. In 2015, the Electricity Company ENEL designed the height increase based on experiments with physical models. The University of Florence was charged with designing the laboratory hydraulic model and carrying out the experimental tests aimed at verifying the discharge capability and the length of the existing stilling basin for energy dissipation. Tests were conducted on a 1:60 scale hydraulic model reproducing the dam structure and the surrounding topography, including 150 meters of the downstream reach of the Arno River. The results obtained were in very close agreement with the full scale data available for present conditions and provided a sound verification of the proposed design for increasing the height of the dam.



Levane Dam Hydraulic Model in the Hydraulics Laboratory of the University of Florence (ISRS Banner is shown in the laboratory- the 15<sup>th</sup> ISRS will be organized by the University of Florence)



Levane Dam Hydraulic Model during testing



Levane Dam during the flood event of October 1992

## Experimenting with underwater sediment slides

*Sediment-laden currents caused by breaching flow slides are hazardous to flood defenses and seabed infrastructure. New research shows that these phenomena must be accounted for in erosion simulations.* Underwater flow slides, which occur when submerged sediments destabilize and accelerate down a slope, can damage or undermine crucial seafloor and hydraulic structures. Flow slides caused by breaching are especially concerning to engineers because they trigger destructive, sediment-laden turbidity currents capable of destroying telecommunications cables as well as pipelines, wellheads, and other offshore drilling infrastructure.

Because of their unpredictability and broad areal extent, turbidity currents generated by breaching have rarely been studied, even in the laboratory. Researchers now report results from a series of unique, large-scale experiments on breaching flow slides that may have implications for protecting seafloor structures.

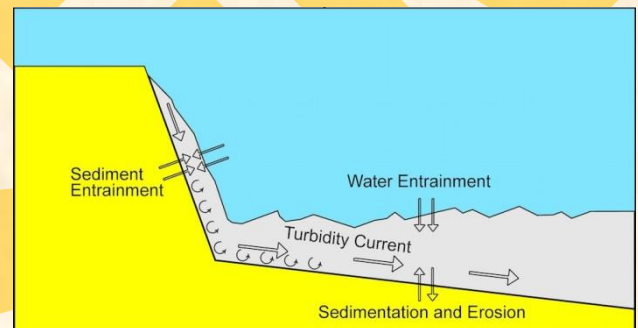


Diagram of processes that occur during breaching-generated flow slides

Alhaddad et al. developed their experimental setup in a 2-meter-tall tank in which they created oversteepened, and thus unstable, slopes of sand at angles of between 50° and 80°. After removing a temporary confining wall to trigger a shower of sand that entrains surrounding water, the researchers used state-of-the-art instrumentation, including video cameras, ultrasonic velocity profilers, and conductivity meters, to document each resulting turbidity current.

The data they collected indicated that breaching-generated turbidity currents are self-accelerating, with their entrainment of sediment and acceleration connected in a positive feedback loop. The results also showed that the lower portion of each breach face erodes faster than the upper part, leading to an oversteepening of the slope. This oversteepening in turn creates an overhang that eventually fails, generating a surface slide that temporarily increases the rate of erosion, as well as the suspended-sediment concentration. Ultimately, these changes make turbidity currents denser and faster, although the

degree to which these effects influence real-world turbidity currents remains uncertain.

This is the most comprehensive experimental study to date on breaching-generated turbidity currents. The study's findings apply to submerged portions of riverbanks as well as to steep areas of the seafloor, the authors noted, indicating that these phenomena must be incorporated into future erosion models to predict accurately how they could affect submerged infrastructure. (*Journal of Geophysical Research: Earth Surface*, <https://doi.org/10.1029/2020JF005582>, 2020)

—Terri Cook, Science Writer

Citation: Cook, T. (2020), Experimenting with underwater sediment slides, *Eos*, 101, <https://doi.org/10.1029/2020EO150194>. Published on 08 October 2020. (Source: <https://eos.org/>)

### Successful soil and water conservation measures to restore the coal mined areas



China Daily, 2020-11-25: Coal extraction is being undertaken in tandem with measures to restore the mined areas and greatly improve the local environment and ecosystems.

Hou Liqiang reports from Yulin, Shaanxi.

Dozens of heavy-duty trucks were at work, busily transporting soil and rocks from an enormous pit. Just a few hundred meters away, where the debris had once lain, the land had not only been leveled, but crops had been planted, including oilseed rape and wheat.

Without prior knowledge, visitors would hardly know they were standing in a coal mine. No heaps of coal are visible, and the familiar black color can only be glimpsed occasionally at the pit's bottom because a large swath of the land is covered by crops.

Welcome to the Xiwan open pit coal mine, 60 kilometers from the Yellow River as it flows through Shaanxi province.

As China ramps up measures to harness the world's most heavily sediment-laden waterway, the mine, in Shenmu County, Yulin City, is just one

example of efforts being made to improve soil and water conservation in the river basin.

A 250-hectare section that has been leveled and planted with crops accommodates surface soil removed to aid construction of the coal mine, which started in 2015.

"Covered by sand and dotted with a few patches of grass, the area was so barren it could hardly support any crops," said Lei Zhiyong, Chief Engineer of Shaanxi Shenyang Coal, the mine's operator.

Yulin is located in the area bordering the Mu Us Desert—one of China's four major deserts—and the Loess Plateau, which is blanketed by deep, fine, wind-blown soil. The Yellow River gets its name because of the amber water that appears as it picks up the sediment during its passage across the Loess Plateau.

In the river's lower reaches, sedimentary deposits have caused the riverbed to rise above the surrounding plain, making the section "a river above the ground".

Soil remediation measures—designed to cleanse and revitalize the land—were rolled out soon after construction of the mine started.

While leveling the area, Shaanxi Shenyang Coal invited experts from Northwest A&F University in Xianyang, Shaanxi, and the China University of Geosciences in Wuhan, capital of Hubei province, to analyze the soil's composition, Lei said.

Based on the analysis, crops were chosen for experimental cultivation, he added, pointing to a plot of oilseed rape. The plants are thinly scattered and mostly short, though some have blossomed, and Lei said efforts will be made to improve the soil and grow trees and crops.

Though the mine only went into production in July last year, remediation efforts have also been made across another 50-hectare site. So far, total investment in water and soil conservation at the mine has reached 170 million yuan (\$26 million), he said.

Lei noted that soil and rocks dug out of the pit are used to fill mined areas, thus ensuring that the pit's size remains relatively unchanged.

Similar planting projects will be carried out in the newly filled band as operations continue in the 50-square-kilometer mine.

To promote sustainable use, the company has also changed the way it obtains land use rights.

Instead of buying the rights from farmers—a common practice nationwide—the company rents the land, paying 22,500 yuan per hectare annually.

"When all of the land has been leveled and the soil improved, we will return it to the farmers," Lei said.

"Through consistent efforts, we expect to transform the rough, sandy area into quality farmland that will support large-scale agricultural operations and guarantee handsome incomes for the farmers," he said.

He noted that a forest belt will be planted to anchor the sand and prevent the wind from eroding the soil, and added that all the wastewater generated in the mine is collected for concentrated processing before being reused.

### **Worst hit area**

The water and soil conservation work at the mine is a microcosm of the efforts made by the industry in the resource-rich area that straddles the provinces of Shanxi, Shaanxi and the Inner Mongolia autonomous region, which is a major contributor to the river's high concentration of sediment.

Resource exploitation means the area is the place worst hit by water and soil loss in the river basin, according to the local soil and water conservation supervision bureau.

Established in 1992 to tackle the problem, the bureau is the country's only soil and water conservation governmental body overseeing an area that falls under the jurisdiction of different provincial-level governments.

"About 70 percent of the major zones that contribute coarse sediment to the river in the basin are located in the area," according to the bureau, an affiliate of the Yellow River Conservancy Commission.

Analysis of monitoring data shows that 120 million metric tons of soil and solid waste were discarded by local coal mines from 1986 to 1994, which raised the sediment density in rivers by almost 27 percent.

With four major coalfields, the area boasts proven reserves of 280 billion tons, the bureau said. Meanwhile, local authorities have said there are currently more than 200 coal mines in Yulin alone.

All new major construction projects in the area have to roll out water and soil conservation measures, said Yu Quangang, the bureau's head. He added that in recent years all conservation plans for new projects have been inspected and approved by the body.

Yu said satellite remote sensing can help monitor any work, operations or activity that result in disturbance of the earth in an area as small as 0.1 hectare—about the size of two basketball courts.

This has saved bureau officials from visiting mines frequently to supervise work, he said.

In addition to traditional approaches to soil conservation, such as tree planting, authorities have also worked to transform traditional mining operations to prevent water and soil loss.

### **Experiments**

At the Xiaobaodang underground coal mine, also in Shenmu, experiments have been carried out since August last year to identify an operating norm that would prevent leaks of shallow groundwater.

The efforts have borne fruit. Based on close monitoring of the leaks and underground fissures that can occur under a range of extraction methods, experts have formulated a preliminary operating norm. It provides specific suggestions about approaches under different conditions, including various thicknesses of impermeable layers of earth and rock that prevent water from penetrating the mining seams.

Xie Yongli, chief engineer of Xiaobaodang Coal, said the company drilled 23 observation wells to assist the monitoring work prompted by experiments.

As far as he is aware, prior to the experiments, there was no similar monitoring of the disturbance mining causes to underground water sources in China.

He said the company plans to apply the preliminary norm to new seams while carrying out more experiments and monitoring to further improve the system.

The company has also taken other measures to prevent soil erosion in the 220-sq-km mine.

For example, it has planted over 11,100 trees and invested 112.7 million yuan in water and soil conservation, a huge increase on the 32.2 million yuan cited in its initial plan.

### **Benefits to society**

As the Xiaobaodang experiments continue, a series of trials have lasted for decades at the Xindianguou field research station in Yulin's Suide county.

Established in 1952, the station is dedicated to exploring potential solutions for water and soil conservation in the Loess Plateau.

While conducting experiments on construction work, such as silt arrestors—small dam-like structures that can help separate solids and suspended sediment and stop them from being carried by the runoff—it also operates experimental plantations to test the abilities of different plants to aid water and soil conservation

across an area of 1.44 sq km.

As a result of the efforts, the vegetation coverage has risen from 3.5 percent in 1953 to about 75 percent today, while soil loss has been reduced by 80 percent, said Cui Le, the station's deputy head.

The lessons learned from the research have been promoted in other areas. For example, about 59,000 silt arrestors have been built across the Loess Plateau.

Thanks to the efforts of different regions and sectors, half of the area affected by water and soil loss in the plateau has been preliminarily treated. Meanwhile, various measures have resulted in the average annual volume of sediment entering the river from the plateau being reduced by 435 million tons in recent years, according to the Ministry of Water Resources.

As work continues at Xindiangou, researchers plan to introduce more water and soil conservation measures that will generate economic benefits.

"We have managed to transform barren slopes into lush mountains with lucid water (in the valleys). In the next step, we are going to make the lush mountains and lucid water into valuable assets," Cui said.

The concept of lucid waters and lush mountains as invaluable assets was introduced by President Xi Jinping during a 2005 visit to Anji, Zhejiang province, when he was provincial Party secretary.

"We plan to introduce more agricultural measures in the research field to seek potent solutions that will control water and soil loss while generating financial benefits for local people," Cui said. (Source: <http://www.chinadaily.com.cn/>)

### **River sediment evidence suggests it was climate change, not Mongol invasion, that doomed Transoxania**

An international team of researchers has found evidence in ancient river sediments that suggest climate change, not a Mongol invasion, ultimately doomed the ancient Transoxania civilization. In their paper published in Proceedings of the National Academy of Sciences, the team describes how they analyzed sediment samples from rivers and abandoned canals in the area and what they learned by doing so.

Transoxiana is the ancient name of a civilization that once occupied what is now part of Kyrgyzstan, Uzbekistan and Tajikistan—it was situated around the Otrar oasis in Central Asia. Prior research has suggested that the civilization was never able to recover from Mongol invasions

in the early part of the 13th century. In this new effort, the researchers suggest the fall of the Transoxania civilization was much more complicated than that, and that there were likely a variety of factors involved.

Suspecting that climate change may have played a role, the researchers collected sediment samples from dry canals that had been used by the people of Transoxania. The canals had been built to corral floodwater from the Amu Darya and the Syr Darya rivers and to use it for irrigation. The researchers tested the samples using optically stimulated luminescence and radiometric dating to determine the time period during which the canals had been abandoned. They then conducted the same kinds of tests on river sediments in the area which gave them a history of river flow.

The researchers were able to see that changing river flows exerted a negative impact on irrigation efforts, which would have made it difficult for the Transoxania people to feed themselves. Sadly, the drought came before and during the time when the Mongols arrived, making it almost impossible for the people in the area to defend themselves and survive—at least in the near term. The researchers found that after the Mongols had moved on, the rains returned for a period of time. The researchers believe that the people who lived there before the invasion recovered to some extent. But another drought ultimately led to migration to more hospitable locations.

More information: A hydromorphic reevaluation of the forgotten river civilizations of Central Asia, Proceedings of the National Academy of Sciences (2020). [www.pnas.org/cgi/doi/10.1073/pnas.2009553117](http://www.pnas.org/cgi/doi/10.1073/pnas.2009553117)

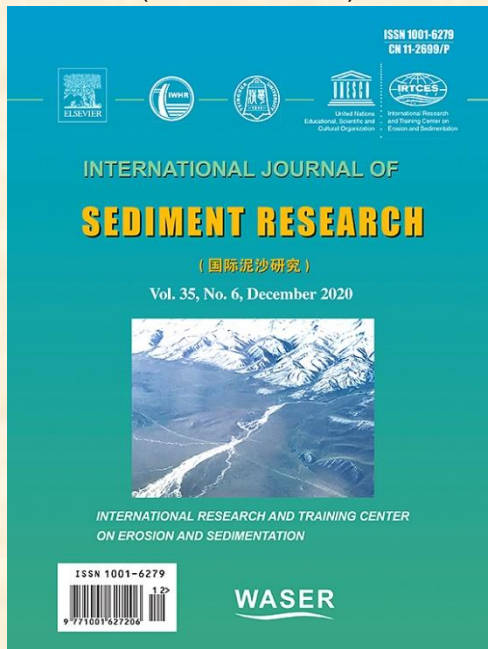
(Source: <https://phys.org/>)



# PUBLICATIONS

## Papers Published in the International Journal of Sediment Research Volume 35, No. 6, 2020

Pages 563-678 (December 2020)



Erosion rate of sand and mud mixtures  
Chamil Perera, Jarrell Smith, Weiming Wu, David Perkey, Anthony Priestas  
Pages 563-575

Large-eddy simulation of flash flood propagation and sediment transport in a dry-bed desert stream  
Ali Khosronejad, Kevin Flora, Zexia Zhang, Seokkoo Kang  
Pages 576-586

Numerical modeling of the propagation and morphological changes of turbidity currents using a cost-saving strategy of solution updating  
Peng Hu, Yue Li  
Pages 587-599

Influence of diversion angle on water and sediment flow into diversion channel  
Nashwan Kamaldeen Alomari, Badronnisa Yusuf, Thamer Ahmad Mohammad, Abdul Halim Ghazali  
Pages 600-608

Mass flows and river response in rapid uplifting regions – A case of lower Yarlung Tsangpo basin, southeast Tibet, China  
Guo-An Yu, Jianyin Lu, Liqun Lyu, Lujie Han, Zhaoyin Wang  
Pages 609-620

Post-analysis simulation of the collapse of an open sabo dam of steel pipes subjected to boulder laden debris flow  
Toshiyuki Horiguchi, Vincent Richefeu  
Pages 621-635

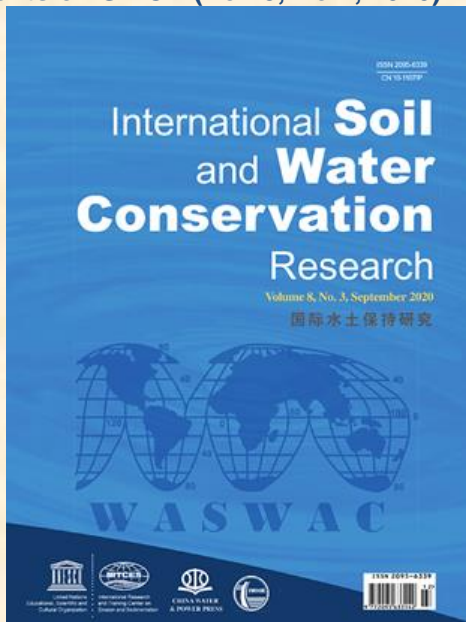
Circulation cells topology and their effect on migration pattern of different multi-bend meandering rivers  
Fariba Sadat Esfahani, Alireza Keshavarzi  
Pages 636-650

Comprehensive evaluation method for sediment allocation effects in the Yellow River  
Xujian Chen, Chunhong Hu, Yuqi An, Zhihao Zhang  
Pages 651-658

Quasi-stationary flow structure in turbidity currents  
Shun Nomura, Giovanni De Cesare, Mikito Furuichi, Yasushi Takeda, Hide Sakaguchi  
Pages 659-665  
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Influence of surface roughness of dune bedforms on flow and turbulence characteristics  
Veysel Sadan Ozgur Kirca, Seyed Mahdi Saghebian, Kiyoumars Roushangar, Oral Yagci  
Pages 666-678

Full papers are available at ScienceDirect:  
<https://www.sciencedirect.com/journal/international-journal-of-sediment-research> with free access to the paper abstracts.



Soil erosion assessment tools and data; creation, consolidation, and harmonization – A special issue from the Global Symposium on Soil Erosion 2019 (Rome, FAO HQ).

Edited by Richard Cruse, Costanza Calzolari, Lucia Anjos, Nigussie Haregeweyn, Clara Lefèvre

Volume 8, Issue 4,  
Pages 333-452 (December 2020)

Guest editorial – soil erosion assessment, tools and data: A special issue from the Global Symposium on soil Erosion 2019

Clara Lefèvre, Richard M. Cruse, Lucia Helena Cunha dos Anjos, Costanza Calzolari, Nigussie Haregeweyn  
Pages 333-336

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  
Pages 337-353

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

Carmen Maria Roskopf, Erika Di Iorio, Luana Circelli, Claudio Colombo, Pietro P.C. Aucelli  
Pages 354-362

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

Chunmei Wang, Linxin Shan, Xin Liu, Qinke Yang, ... Guowei Pang  
Pages 363-372

Effect of time resolution of rainfall measurements on the erosivity factor in the USLE in China  
Tianyu Yue, Yun Xie, Shuiqing Yin, Bofu Yu, ... Wenting Wang  
Pages 373-382

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  
Pages 383-392

Assessment of deforestation impact on soil erosion in loess formation using <sup>137</sup>Cs method (case study: Golestan Province, Iran)  
Mohammadreza Gharibreza, Mohammad Zaman, Paolo Porto, Emil Fulajtar, ... Hossein Eisaei  
Pages 393-405

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  
Pages 406-409

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

Pages 410-417

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

Petr Tsymbarovich, German Kust, Mikhail Kumani, Valentin Golosov, Olga Andreeva  
Pages 418-429

The assessment of soil loss by water erosion in China

Baoyuan Liu, Yun Xie, Zhiguang Li, Yin Liang, ... Qiankun Guo  
Pages 430-439

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

Qinke Yang, Mengyang Zhu, Chunmei Wang, Xiaoping Zhang, ... Lihua Yang  
Pages 440-451

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## 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](http://www.IYFSWC.modares.ac.ir)

**Contacts:** [IYFSWC@modares.ac.ir](mailto: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 (IRTCES); 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 (IRTCES). 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:** <https://icec.ecnu.einsh.com/>

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## 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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# World Association for Sedimentation & Erosion Research

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**WORLD ASSOCIATION FOR  
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