

## World Association for Sedimentation & Erosion Research – WASER

# NEWSLETTER

Reporting WASER news to you regularly

2018 No. 2

(Jul. 15, 2018)

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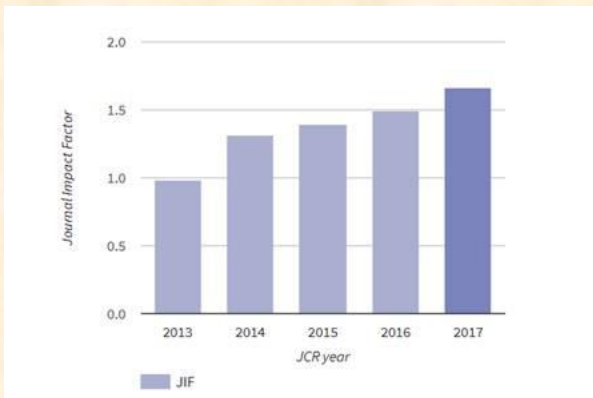
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# NEWS

## Journal Impact Factor of International Journal of Sediment Research Increases to 1.659

The 2018 Journal Citation Reports (JCR) were released by Clarivate Analytics in June. The International Journal of Sediment Research Journal Impact Factor for 2017 is 1.659.

In the past three years, the Journal Impact Factor of IJSR has been increasing year on year: 1.388 in 2015 and 1.494 in 2016. We would like to express our sincere thanks to our Associate Editors, reviewers, authors and readers for their invaluable contribution and great support.



The International Journal of Sediment Research is an international, peer reviewed journal focusing on the publication of original theoretical, numerical modelling, field observational, and laboratory studies and reviews dealing with processes, products and techniques in the field of sedimentation and erosion. Of particular interest are contributions covering 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 social and economic effects of sedimentation. Researchers are encouraged to submit their important papers to the International Journal of Sediment Research.

The journal became the official journal of the World Association for Sedimentation and Erosion Research (WASER) in 2004. The journal has been available to a global audience electronically via the premier online platform ScienceDirect since 2008.

If you have any questions when submitting your paper, please email [sedimentpaper@foxmail.com](mailto:sedimentpaper@foxmail.com)

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



## Special Issue for the 13th International Symposium on River Sedimentation published in the International Journal of Sediment Research

A special issue for the 13th International Symposium on River Sedimentation has recently been published in the International Journal of Sediment Research (Volume 33, Issue 1).

The papers in this issue stem from the 13th International Symposium on River Sedimentation held in September 2016 at the University of Stuttgart, Germany. This symposium series aims to provide a platform for scientists and engineers for fruitful and in-depth knowledge exchange. The 2016 Symposium focused on the development of sustainable restoration and management strategies that address the ongoing negative impacts of anthropogenic activities, whilst improving the ecological status and health of river systems. Fundamental research aimed at understanding the interaction between water and sediments was seen to be as important as the sharing and exchange of knowledge gained from applied projects. The 185 full papers accepted for presentation covered the broad spectrum of river sediment-related issues and these were organized into six topics and five special sessions (Wieprecht et al., 2016).





This special issue includes eight papers selected from the contributions to the symposium. They focus on experimental and measurement/monitoring research and have undergone additional peer-review prior to publication in this issue. Although each of the following eight articles is important in its own right, an attempt has been made to place them in an order that provides a thematic structure and a logical flow.

The special issue begins with two contributions addressing the monitoring of suspended load fluxes. The first paper is entitled "In-situ investigation on real-time suspended sediment measuring techniques: turbidimetry, acoustic attenuation, laser diffraction (LISST) and vibrating tube densimetry" and is authored by Felix et al. (2017). The measured suspended sediment concentrations of the mentioned devices were all tested in the waterway of a hydropower plant in the Swiss Alps and compared to gravimetric analyses as reference. Based on their results, the authors recommend a combination of LISST and vibrating tube densimetry, because the measured suspended sediment concentrations with these devices were not or less biased by variations of the particle size distribution compared to the other tested devices. In this combination, most data are provided by the LISST, and the vibrating tube densimetry serves mainly for the measurement of higher sediment concentrations. Acoustic instruments and/or turbidimeters may be used as less costly alternatives. However, higher uncertainties have to be expected for these instruments in environments where particle properties vary over time.

The second paper related to suspended load measurements is contributed by Haun and Lizano (2017). A combination of two indirect methods to measure suspended sediment concentrations (SSC) is presented. The paper on "Sensitivity analysis of sediment fluxes derived by laser diffraction and acoustic backscatter within a reservoir" combines the acoustic backscatter signal (ABS), data obtained from an ADCP, with data from a LISST-SL. By doing so, the authors show that a high spatial resolution can be achieved for studying sediment fluxes. It is noted that although the approach is an exciting new way to tackle the assessment of sediment fluxes over the depth of a reservoir, for deep reservoirs with large blanking zones, case-by-case evaluations have to be undertaken to ensure accurate results.

In addition to suspended load measurements, the monitoring of bed load transport rates is addressed by two contributions. The paper "Near-bankfull floods in an Alpine stream: Effects on the

sediment mobility and bedload magnitude" is authored by Rainato et al. (2017). These authors monitored the sediment mobility and bedload magnitude of three high-frequency flood events in the Rio Cordon, Italy using a fixed monitoring station (sediment trap) for the determination of bedload and tracers (Passive Integrated Transponders, PIT) to allow for continuous tracing. The authors found a clear difference regarding the number of tracers mobilized and their mean travel distance. The near-bankfull events showed an average travel distance of one order of magnitude higher compared to the below-bankfull event. In addition, the latter was only able to transport sediments with  $d < 128$  mm. Although the two near-bankfull events had a similar peak flow and particle travel distance, the bedload magnitude differed by a factor of 24. Based on these findings, the authors concluded that the results demonstrated that near-bankfull events can mobilize large amounts of material for long distances, and that floods of apparently similar magnitude may lead to different sediment dynamics, depending on the type and amount of sediment supply.

The paper entitled "Application of an impact plate-bedload transport measuring system for high-speed flows", authored by Koshiba et al. (2017), presents a device for the measurement of bedload transport rates in flows with high sediment fluxes. The design of the device is based on both the Swiss plate geophone and the Japanese pipe microphone, and it consists basically of a bottom mounted steel plate to which an acceleration sensor and microphone are attached. These two sensors are used to detect particle impacts on the plate which in turn can be used to determine the bedload transport rates. Besides a detailed description of the device, the paper presents the calibration and results showing the capability of the device to determine impacts of particles with a diameter larger than 2 mm.

The next three contributions investigated sediment erosion processes from different perspectives. The first two papers address the erosion of sediment replenishments employed to compensate for sediment deficits using sandy and gravel material, while the third paper investigates the erosion stability of a widely graded particle size distribution for tidal currents.

Arai et al. (2017) performed an "Experimental investigation on cohesionless sandy bank failure resulting from water level rising". They conducted four bank failure experiments in a soil tank using two types of cohesionless uniform sands and two bank heights. The matric suction and water content as well as the bank geometry and bank failure

velocity were recorded during the experiments. Based on their experiments, the authors concluded that the erosion was caused by the complete loss of apparent cohesion given the pore filling during increasing water levels, which subsequently caused rotational slide and cantilever toppling. In addition, they observed for smaller particles and the same bank height, the formation of more severe overhanging geometries before collapsing and traced this back to the stronger apparent cohesion and tensile strength of the smaller particles. Moreover, their findings demonstrated the need to incorporate a non-linear relation of tensile strength to saturation for stability analysis of cantilever toppling failure.

Sediment replenishment with artificial gravel deposits represents another option to compensate for sediment deficits in rivers. Therefore, the authors Friedl et al. (2017) performed laboratory experiments to study “The erosion pattern of artificial gravel deposits” by varying governing parameters such as deposit geometry, bulk density, grain size distribution and hydraulic load and quantifying their influence on the mean erosion rate. The authors found that the mean erosion rate increases with deposit height and width and decreasing grain size, while the bulk density showed no significant impact on mean erosion rates. Furthermore, the authors developed an excess shear stress relation to describe and predict the temporal evolution of the mean erosion rate using parameters describing the approaching flow, the deposit geometry and the sediment mixture.

Schendel et al. (2017) investigated the “Influence of reversing currents on the erosion stability and bed degradation of widely graded grain material”. They used a recirculating flume with reversing currents to simulate tidal flow conditions. They found a bidirectional displacement of particles, because previously shielded sediment areas become exposed as the flow direction reverses. In addition, the eroded sediment fractions were finer in the initially applied flow direction compared to in the subsequently applied reverse direction, indicating an increase of erosion stability, which was confirmed by comparing the results with the particle size distribution of the bed load under unidirectional flow conditions. The authors concluded that widely graded grain mixtures have a promising potential for bed and scour protection in applications involving estuarine and coastal conditions, but also stated that further tests need to be performed to ensure the repeatability of the results, particularly regarding the inhomogeneous material properties and the bed structure.

The last contribution in this special issue shows the advances made by using new technologies such as Unmanned Aerial Vehicles (UAVs). “On the Way to Airborne Gravelometry based on 3D Spatial Data derived from Images” is a contribution by Detert et al. (2017). With the help of UAV technology it is now possible to survey whole river stretches at the grain-scale, with the paper specifically studying grain size characteristics of gravel bed rivers. A structure from motion (SfM) based approach is introduced for the image processing, and data is compared to laser recordings and manual sampling. This is a new exciting avenue of research, as it allows studying whole reach scale elevation data with low-cost videos.

A full and complete overview of ongoing research in the field of experimental methods related to sediment issues is beyond this special issue. However, we hope that this special issue provides useful insights to further advance our understanding of riverine sedimentary processes.

The editors would like to thank the authors for contributing their papers as well as the reviewers for their commitment and efforts in maintaining the high standard of these publications. Finally, we thank the journal for its willingness to publish the contributions.

You may download papers of this issue freely at the ScienceDirect website:

<https://www.sciencedirect.com/journal/international-journal-of-sediment-research/vol/33/issue/1>

(Revised according to: Noack, M, Fredrich, H. and Aberie J. 2018. Introduction to the special issue of the 13th International Symposium on River Sedimentation, Stuttgart, Germany: Experimental and measuring/monitoring research related to sediment issues. *International Journal of Sediment Research*, Vol. 33, No. 1: pp. 1-2. Note: All the references refer to 2017 are published in the same issue, Vol 33 issue 1, 2018.)

### **WASER co-sponsored ISI International Training Workshop on Integrated Sediment Management in River Basins will be held in Beijing**

The ISI International Training Workshop on Integrated Sediment Management in River Basins will be held in Beijing, China from November 5-10, 2018. This represents a major ISI activity for 2018. It fulfils the objectives of the new strategy of ISI, which in turn contributes towards the 8th phase of IHP (2014-2021) which has the title “Water security:



responses to local, regional and global challenges” by addressing the wide-ranging social, economic and environmental impacts of erosion, sediment transport and sedimentation processes with due consideration of gender perspectives. WASER is one of Co-Sponsors of the training workshop.

The five day training workshop will include lectures, seminars, and a one-day field visit. Topics to be covered include river basin management, soil and water conservation technology, ecology and restoration in integrated river basin management, reservoir sedimentation and sediment management technology. Participants will

contribute to a seminar involving guided discussion of national case study presentations prepared by participants in advance of the Workshop. .

Participants will be nominated by UNESCO field offices in consultation with the IHP Secretariat. Additional participants, including participants from China, will be encouraged to attend the training course without financial support from the organizers.

Updated information about the workshop will be provided on the ISI website at <http://www.irtces.org/isi/> .

## NEWS FROM THE SEDIMENT WORLD

### Launch of United Nations World Water Development Report at 8th World Water Forum

The United Nations World Water Development Report, *Nature-based Solutions for Water*, launched on 19 March, 2018 during the 8th World Water Forum, and in conjunction with World Water Day, demonstrates how nature-based solutions (NBS) offer a vital means of moving beyond business-as-usual to address many of the world’s water challenges while simultaneously delivering additional benefits vital to all aspects of sustainable development.

NBS use or mimic natural processes to enhance water availability (e.g., soil moisture retention, groundwater recharge), improve water quality (e.g., natural and constructed wetlands, riparian buffer strips), and reduce risks associated with water-related disasters and climate change (e.g., floodplain restoration, green roofs).

Currently, water management remains heavily dominated by traditional, human-built (i.e. ‘grey’) infrastructure and the enormous potential for NBS remains under-utilized. NBS include green infrastructure that can substitute, augment or work in parallel with grey infrastructure in a cost-effective manner. The goal is to find the most appropriate blend of green and grey investments to maximize benefits and system efficiency while minimizing costs and trade-offs.

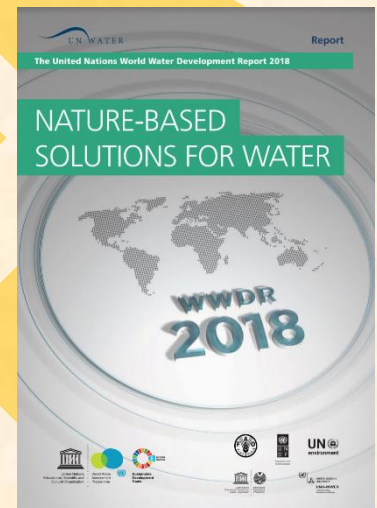
### World Water Development Report 2018: Nature-based Solutions for Water

The global demand for water has been increasing at a rate of about 1% per year over the past decades as a function of population growth, economic development and changing consumption

patterns, among other factors, and it will continue to grow significantly over the foreseeable future. Industrial and domestic demand for water will increase much faster than agricultural demand, although agriculture will remain the largest user overall. The vast majority of the growth in demand for water will occur in countries with developing or emerging economies.

At the same time, the global water cycle is intensifying due to climate change, with wetter regions generally becoming wetter and drier regions becoming even drier. Other global changes (e.g., urbanisation, de-forestation, intensification of agriculture) add to these challenges.

Full report is available at: <http://unesdoc.unesco.org/images/0026/002614/261424e.pdf>



## Dams and Levees Lead to Slow Underwater Landslides

For thousands of years, the mighty Mississippi River carried sediment downstream as it flowed into the Gulf of Mexico, building out the iconic Mississippi River Delta. As humans have built large dams and levees along the river over the past two centuries, sediment flow has been reduced, resulting in the slow recession of the delta since the 1950s.

Now, a recent study led by San Diego State University geologist Jillian Maloney has found that this sediment recession is happening below sea level as well, resulting in a kind of slow underwater landslide that threatens seafloor ecosystems and oil pipelines.

“Sediment deliverance historically has been enough to expand the delta, but due to lots of different factors, we’re seeing a decline in sediment flow and a recession in the delta—even underwater,” Maloney said.

Maloney began working on the project in 2013 while she was a postdoctoral researcher at Louisiana State University. She and colleagues knew the delta was losing land above water—about a football field’s worth of sediment every hour—but nobody knew exactly what was happening in the depths. So they sought historical measurements of the underwater geography from nautical charts and underwater maps dating as far back as 1764, as well as a variety of research papers produced by academics and the oil and gas industry. They then compared these historical data to modern sonar soundings and surveys.

The researchers found the underwater portion of the Mississippi River Delta has indeed receded, though it’s difficult to say just how much has been lost over the years, they reported in the journal *Marine Geology*. The constant sloshing of waves back and forth continuously knocks sediment loose, and floods and hurricanes can also erode sediment below the waterline. As levees and dams have sprung up along the Mississippi River, less sediment flows out to replace this loss, leading to the recession.

Oil pipelines and platforms sit in the sediment, so the delta’s erosion can damage equipment, Maloney explained. Though her team didn’t look specifically at how the delta’s recession impacts ocean life, she said the seafloor habitat patterns are shifting in response.

“We’re definitely seeing a big change to the seafloor ecosystems, but more research will be needed to see what the consequences will be,” Maloney said.

The findings from the study could shed light on what’s happening in other river systems around the world, such as the Sacramento–San Joaquin River Delta.

“Any river systems that have been modified and have less sediment flowing out could also be experiencing this,” she said.

(Source: <http://newscenter.sdsu.edu>)



## PUBLICATIONS



### Papers Published in the International Journal of Sediment Research Volume 33, No. 2, 2018

Pages 93-220 (June 2018)

Variability of the useful life of reservoirs in tropical locations: A case study from the Burdekin Falls Dam Australia  
Pages 93-106  
Michelle Cooper Stephen E. Lewis Thomas C. Stieglitz Scott G. Smithers

Hydraulic model tests for propagation of flow and sediment in floods due to breaking of a natural landslide dam during a mountainous torrent  
Pages 107-116  
Takahiro Itoh Akihiko Ikeda Takahiko Nagayama Takahisa Mizuyama

Evaluation and modeling of runoff and sediment yield for different land covers under simulated rain in a semiarid region of Brazil  
Pages 117-125  
Richarde Marques da Silva Celso Augusto Guimarães Santos José Yure Gomes dos Santos

Bed-load transport rate based on the entrainment probabilities of sediment grains by rolling and lifting  
Pages 126-136  
Jun-De Li Jian Sun Binliang Lin

LES-DEM simulations of sediment transport  
Pages 137-148  
Husam Elghannay Danesh Tafti

Depth to the apparent redox potential discontinuity (aRPD) as a parameter of interest in marine benthic habitat quality models  
Pages 149-156  
Travis G. Gerwing Kieran Cox Alyssa M. Allen Gerwing Charmaine N. Carr-Harris Sarah E. Dudas Francis Juanes

A hybrid machine learning ensemble approach based on a Radial Basis Function neural network and Rotation Forest for landslide susceptibility modeling: A case study in the Himalayan area

India  
Pages 157-170  
Binh Thai Pham Ataollah Shirzadi Dieu Tien Bui Indra Prakash M.B. Dholakia

Analysis of flow-sediment rating curve hysteresis based on flow and sediment travel time estimations  
Pages 171-182  
Chi-Cheng Yang Kwan Tun Lee

Mineralogical signatures and sources of recent sediment in a large tropical lake  
International Journal of Sediment Research  
Pages 183-190  
Jorge Feliciano Ontiveros-Cuadras Ana Carolina Ruiz-Fernández Joan-Albert Sanchez-Cabeza Libia Hascibe Pérez-Bernal Michel Preda Federico Páez-Osuna

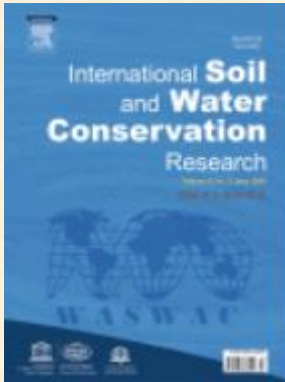
Toxicity studies of elemental sulfur in marine sediments  
Pages 191-197  
Monika Cieszynska-Semenowicz Justyna Rogowska Wojciech Ratajczyk Joanna Ratajczyk Lidia Wolska

Depth of closure: New calculation method based on sediment data  
Pages 198-207  
Luis Aragonés José Ignacio Pagán Isabel López José C. Serra

Non-symmetrical levee breaching processes in a channel bend due to overtopping  
Pages 208-215  
Songbai Wu Minghui Yu Hongyan Wei Yanjie Liang Jing Zeng

Review: The International Sediment Initiative case studies of sediment problems in river basins and their management  
Pages 216-219  
Cheng Liu Desmond E. Walling Yun He

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. 6, No.2, 2018)**

International Soil and Water Conservation Research  
Volume 6, Issue 2,  
Pages 79-202 (June 2018)

Analysis of soil management and water conservation practices adoption among crop and pasture farmers in humid-south of the United States,  
Pages 79-86,  
Naveen Adusumilli, Hua Wang,

Assessing the soil erosion control efficiency of land management practices implemented through free community labor mobilization in Ethiopia,  
Pages 87-98,  
Tibebu Kassawmar, Gizaw Desta Gessesse, Gete Zeleke, Alemtsehay Subhatu,

Integrated universal soil loss equation (USLE) and Geographical Information System (GIS) for soil erosion estimation in A Sap basin: Central Vietnam,  
Pages 99-110,  
Tung Gia Pham, Jan Degener, Martin Kappas,

Estimation of soil erosion in a rain shadow river basin in the southern Western Ghats, India using RUSLE and transport limited sediment delivery function,  
Pages 111-122,  
Jobin Thomas, Sabu Joseph, K.P. Thrivikramji,

The effects of biological soil conservation practices and community perception toward these practices in the Lemo District of Southern Ethiopia,  
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Tamrat Sinore, Endalikachew Kissi, Ababayehu Aticho,

Assessment of the SOILWAT model for predicting soil hydro-physical characteristics in three agro-ecological zones in Nigeria,  
Pages 131-142,  
OrevaOghene Aliku, Suarau O. Oshunsanya,

The mediating role of environmental emotions in transition from knowledge to sustainable use of groundwater resources in Iran's agriculture,

Pages 143-152,  
Aliakbar Raeisi, Masoud Bijani, Mohammad Chizari,

Vegetated treatment area (VTAs) efficiencies for E. coli and nutrient removal on small-scale swine operations,  
Pages 153-164,  
Daren Harmel, Rehanon Pampell, Terry Gentry, Doug R. Smith, Chad Hajda, Kevin Wagner, Patti K. Smith, Rick L. Haney, Kori D. Higgs,

Modelling the impacts of structural conservation measures on sediment and water yield in Thika-Chania catchment, Kenya,  
Pages 165-174,  
John Ng'ang'a Gathagu, Joseph K. Sang, Caroline W. Maina,

Hydro-geomorphological characterization of Dhidhessa River Basin, Ethiopia,  
Pages 175-183,  
Gizachew Kabite, Berhan Gessesse,

Effects of type, level and time of sand and gravel mining on particle size distributions of suspended sediment,  
Pages 184-193,  
Seyed Hamidreza Sadeghi, Sudabeh Gharemahmudli, Hossein Kheirfam, Abdulvahed Khaledi Darvishan, Mahboobeh Kiani Harchegani, Pari Saeidi, Leila Gholami, Mehdi Vafakhah,

Using Vetiver grass technology for mitigating sediment loads in the Talakhaya Watershed areas in Rota, CNMI,  
Pages 194-201,  
Mohammad H. Golabi, Sydonia Manibusan, Timothy Righetti, Dana Okano, Clancy Iyekar,

Free full papers and open access are available at ScienceDirect :

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



## COMING EVENTS

### The 6th International Conference on Estuaries and Coasts (France, August 20-23, 2018)

**Date:** August 20-23, 2018

**Venue:** University of Caen, Caen City, France

**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). Five such conferences have now been held in Hangzhou and Guangzhou, China; Sendai, Japan; Hanoi, Vietnam; and Muscat, Oman in 2003, 2006, 2009, 2012 and 2015. 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 6th International Conference on Estuaries and Coasts (ICEC-2018) will be held in the University of Caen Normandy, France on August 20-23, 2018.

**Organizers:**

- University of Caen Normandie (France) and its laboratory LUSAC
- GIS HEDD (Group of Scientific Interests « Hydraulics for the Environment and for the Sustainable Development »)
- International Research and Training Center on Erosion and Sedimentation (IRTCES)

**Under the patronage of:** the International Association for Hydro-Environment Engineering and Research (IAHR); the French Society of HydroTechnics (SHF), and the World Association for Sedimentation and Erosion Research (WASER).

**Theme of the Conference:**

Estuaries and Coastal Zones in times of Global Change

**Topics of the Conference:**

The conference will be organised around parallel sessions in the following domains:

1. Saline intrusion and sea level rise: measurements, modelling and forecasting their impacts to economic development and human lives;
2. Waves and Tsunami: Measurements, modelling, forecasting and warning system;
3. Estuarine and coastal flows and their evolution by climate change;
4. Sediment transport and morphological change in estuaries and coastal zones
5. Megacities development and coastal floods under the threat of sea level rise and climate change: Observation, modelling, forecasting and early warning systems;
6. Environment and ecosystem change in estuaries and coastal zones in time of global change;
7. Integrated Coastal Zone Management for sustainable developments in global change context;
8. Environment and Marine Renewable Energies.

**Conference website:**

<http://lusac.unicaen.fr/evenements/icec-2018/>

**Contacts:**

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Chairperson:

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### 21st Congress of IAHR-APD (Indonesia, Sept. 3-5, 2018)

**Date:** 03 September 2018 - 05 September 2018

**Venue:** Yogyakarta, Indonesia

**Invitation:** We cordially invite you to join the 21<sup>st</sup> Congress of the Asia Pacific Division of the International Association for Hydro-Environment Engineering and Research (IAHR-APD) to be held in Yogyakarta, Indonesia, on 3<sup>rd</sup> – 5<sup>th</sup> September 2018. The theme of the congress is: "Multi-perspective Water for Sustainable Development", which we believe may inspire us in sharing the Hydro-Environment related knowledge and experiences towards effective and efficient ways to elevate community welfare. Your efforts to disseminate this information to the related networks are highly appreciated. Thank you and looking forward to seeing you in Yogyakarta, Indonesia.

Sincerely yours,

The Local Organizing Committee

Radiana Triatmadja

**Conference website:** <http://iahrapd2018.ugm.ac.id/>

### River Flow 2018 (France, Sept. 3-7, 2018)

**Date:** 03 September 2018 - 07 September 2018

**Venue:** Lyon, France

**About the conference**

River Flow has become since 2002 a major international conference in river engineering and fluvial hydraulics. It is a unique occasion to present and discuss the latest scientific research, and to communicate with scientists, engineers, and researchers involved in areas such as fluvial flow and structure processes or sediment transport. River Flow 2018 will focus on the latest findings in the field of fluvial hydraulics, addressing fundamental issues related to fluid processes of sediments and pollutants in rivers. More practical issues related to river morphodynamics, river restoration, and river interaction with structures will be discussed. Finally, a specific theme on extreme events (flood, drought) is proposed. Several master classes dedicated to graduate students and young researchers will be organized and led by recognized international experts on topics in hydrodynamics, mixing, morphology, flood hazard and sediment transport.

**URL:** <https://riverflow2018.irstea.fr/>

**Contact:** for sponsoring River Flow 2018 conference, proposing exhibition or any information about the conference, please contact [riverflow2018@irstea.fr](mailto:riverflow2018@irstea.fr)

**Language:** English will be the official language for the conference and the master classes.

**Note:** *this conference site will be regularly updated with new information as soon as it is available. Please visit it regularly.*

**Conference dates**

Masterclasses: September 4, 2018 (at Irstea).

Conference : September 5 to 7, 2018 (at Espace Tête d'Or)

Technical visit: September 8, 2018

## 2019 World Hydropower Congress (France, May 14 -16, 2019)

**Date:** 14-16 May 2019

**Venue:** Paris, France

**Summary:** The World Hydropower Congress brings together industry, government, finance, academia and civil society to set priorities for the future direction of the hydropower sector. The seventh Congress, organised by the International Hydropower Association (IHA), is to be hosted in partnership with UNESCO's International Hydrological Programme. With the theme of 'The Power of Water for a Sustainable World', the biennial event in May 2019 will focus on hydropower's role in delivering on the Paris Agreement and the Sustainable Development Goals. Up to 100 countries are expected to be represented at the Congress. Details on registration, the agenda and speakers will be announced in the coming months. Contact us to express your interest in participating in or sponsoring the Congress.

**Conference**

<https://www.hydropower.org/congress/>

**website:**

## 7th International Conference on Debris Flow Hazards Mitigation (USA, June 10 -13, 2019)

**Date:** 10 June 2019 - 13 June 2019

**Venue:** Golden, Colorado USA

**Summary:** We are pleased to announce that the 7th International Conference on Debris-Flow Hazards Mitigation will be held June 10 - 13, 2019 in Golden, Colorado, USA on the campus of Colorado School of Mines. With the beautiful Rocky Mountains covering half the state, Colorado shares the problem of debris-flow hazards with other mountainous areas of the world. Against this backdrop, scientists, engineers, and policy makers from around the world will be able to share new research and ideas in the field of debris flows. This website provides initial details of the conference and venue. Additional information will be added as the conference date approaches.

**Conference website:** <http://dfhm7.csmospace.com/>

## 38th IAHR World Congress (Panama, Sep. 1-6, 2019)

**Date:** 01 September 2019 - 06 September 2019

**Venue:** Panama City, Panama

**Summary:** Global interest in water has increased rapidly in recent years. Many water issues are high on the political agenda, whether it concerns the lack of access to safe water and sanitation or the increase in water-related disasters due to floods and droughts. This challenge must be addressed by management and policy decisions informed by science and engineering knowledge that is relevant, credible, legitimate

and delivered in a timely manner. Therefore the discipline of hydro-environment engineering and research is more important than ever. The 38th IAHR World Congress will bring together the key players in the sector from around the globe in "Water – Connecting the World", from 1-6 September 2019 in Panama. We look forward to meeting you there! (Peter Goodwin, IAHR President)

**Conference website:** <http://iahrworldcongress.org/>

## 14th International Symposium on River Sedimentation (Chengdu, China, Sep. 16-19, 2019)

**Date:** September 16 – 19, 2019

**Venue:** Chengdu, China

**Summary:** China's water-related infrastructure has developed by leaps and bounds leading to further advances in scientific and technical research. Consequently, the role of sediment research is becoming more challenging than ever before. In the midst of these advances, the International Symposium on River Sedimentation (ISRS) will return to China after the successful Yichang Symposium 12 years ago. On behalf of the 14<sup>th</sup> ISRS Organizers, we would like to warmly invite you to join us in Chengdu, China for the 14<sup>th</sup> International Symposium on River Sedimentation (ISRS-2019). The Symposium will be held with the theme of "Integrated Sediment Management in Rivers and Coasts". We look forward to welcoming you to Chengdu in September 2019 and we are confident that this symposium will be one of the most successful in the ISRS series. . (Weilin Xu, Chairperson of the LOC)

**Symposium Theme and Topics:**

The theme of the symposium is:  
Integrated Sediment Management in Rivers and Coasts  
Under this theme, the symposium topics include:

- A. Sediment yield;
- B. Sediment transport in rivers and lakes;
- C. Sedimentation in estuarine and coastal areas;
- D. Reservoir sedimentation;
- E. Erosion processes;
- F. Environmental and ecological sediment;
- G. Sediment related disasters;
- H. Modelling and measurement techniques;
- I. Integrated sediment management.

**Technical Tours:**

- Ancient Dujiangyan irrigation project, one of the oldest water projects in the world (2270 years old), which is still working today for flood control and irrigation, due to its success in dealing with problems caused by sediment deposition and scour.

**Post Symposium Tours:**

Four of post-symposium tours (3-5 days each) will be organized:

- Jiuzhaigou valley (UNESCO world heritage);
- Ruoergai highland wetland;
- Earthquake Museum and Wolong Panda Nature Reserve; and
- Three Gorges Project.

**Organizer:** Sichuan University

**URL:** to be released



# World Association for Sedimentation & Erosion Research

# WASER

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under the auspices of UNESCO

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<http://www.irtces.org/>

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### **Newsletter Layout and Production:**

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**WORLD ASSOCIATION FOR  
SEDIMENTATION AND EROSION  
RESEARCH**

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Name: \_\_\_\_\_ Date of birth \_\_\_\_\_

Position/Affiliation: \_\_\_\_\_

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### Membership dues for 6 years (\$US or Chinese RMB, or equivalent Euros) :

[IJSR Printed copy] Regular (\$480 or RMB3000)  Corporate (\$660 or RMB 5000)

[IJSR E-copy] Regular (\$80 or RMB500)

### Membership dues for 3 years (\$US or Chinese RMB, or equivalent Euros):

[IJSR Printed copy] Regular (\$250 or RMB1600)  Corporate (\$340 or RMB2800)

[IJSR E-copy] Regular (\$40 or RMB250)  Student (\$20 or RMB140)

### Membership dues for 1 year (\$US or Chinese RMB, or equivalent Euros):

[IJSR Printed copy] Regular (\$90 or RMB600)  Corporate (\$120 or RMB1000)

[IJSR E-copy] Regular (\$15 or RMB100)  Student (\$8 or RMB50)

(Note: IJSR – International Journal of Sediment Research. The subscription fee for IJSR is USD 96 or RMB 900 per year.)

### Bank transfer

Beneficiary: World Association for Sedimentation and Erosion Research

Bank: Industrial and Commercial Bank of China, Beijing Municipal Branch, Beijing, PRC

Account No: 0200001409089020987 Swift codes: ICBKCNBJBJM

Message on bank sheet: WASER, Name and Country

### NOTE:

All members will receive newsletters, and enjoy discounted registration for the International Symposia on River Sedimentation and other International Conferences organized by WASER, and will receive IJSR and other publications at a preferential price.

### PLEASE SEND THIS FORM BY MAIL, EMAIL, OR FAX TO:

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+86-10-68411174 Tel: +86 10 68786410

E-mail: chliu@iwhr.com or irtces@gmail.com

WASER website: <http://www.waser.cn>

(For Chinese colleagues, please fill the form in Chinese which can be downloaded at the WASER website.  
中国申请者请填写中文申请表, 中文申请表请在 WASER 网下载。)



## SYMPOSIUM VENUE

The symposium will be held at Wangjiang Hotel, near to Sichuan University and well connected to the other parts of city by public transportation.



## ACCOMMODATION

Wangjiang Hotel is a 5 star hotel (€80), surrounded by a group of hotels. These accommodation options (€30 - €55) will be offered via the on-line registration system allowing delegates to easily make their reservations when they complete their symposium registration.

## CONTACT

Dr. Chao Liu

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## WELCOME TO CHENGDU CITY

Chengdu is the capital city of Sichuan Province, located in the Southwest of China.



Chengdu has a long history (2,300 years) and the city is full of a variety of delicious traditional foods. Most tourists find the leisurely lifestyle of Chengdu refreshing. You can find a lot of beautiful scenic spots and ancient relics in and near the city. Located beside a lake, the Leisure Paradise is a resort with catering, entertainment, culture, leisure, travel and shopping facilities. It provides a variety of business and observation services.

Air transportation to Chengdu from North America, Australia, Europe and Asia takes anywhere from 5-15 hours; and about 3 hours from Beijing, Shanghai, Hong Kong and Taipei.



## 14<sup>th</sup> International Symposium on River Sedimentation

September 16-19, 2019

Wangjiang Hotel, CHENGDU, CHINA

Theme:

Integrated Sediment Management  
in Rivers and Coasts



Organized by Sichuan University





## INVITATION

China's water-related infrastructure has developed by leaps and bounds leading to further advancements in scientific and technical research. Consequently, the role of sediment research is becoming more challenging than ever before. In the midst of these advancements, The International Symposium on River Sedimentation (ISRS) will return to China after a successful Yichang Symposium 12 years ago.

On behalf of the 14<sup>th</sup> ISRS Symposium Organizers, we would like to heartily invite you to join us in Chengdu, China for the 14<sup>th</sup> International Symposium on River Sedimentation (ISRS). The Symposium will be held with the theme of "Integrated Sediment Management in Rivers and Coasts".

We look forward to welcoming you to Chengdu in September 2019 and we are confident that this symposium will be one of the most successful ISRS International Symposiums.

Weilin Xu  
(Chairperson of the Local Organizing Committee)

## SYMPOSIUM THEME & TOPICS

The theme of the symposium is

### **"Integrated Sediment Management in Rivers and Coasts"**

Under this theme, the symposium topics include:

1. Sediment yield;
2. Sediment transport in rivers and lakes;
3. Sedimentation in estuarine and coastal areas;
4. Reservoir sedimentation;
5. Erosion processes;
6. Environmental and ecological sediment;
7. Sediment related disasters;
8. Modeling & measurement techniques;
9. Integrated sediment management.

## KEY DATES

Call for Abstracts	Jan. 1, 2018
Deadline for Abstracts	Sep. 1, 2018
Accepted Abstracts Notification	Oct. 1, 2018
Full Paper Submission Deadline	Jan. 1, 2019
Full Paper Submission Notification	Apr. 1, 2019
Early Registration	May 31, 2019
Symposium	Sep. 16 - 19, 2019

## TECHNICAL & POST-SYMPOSIUM TOURS

The half day technical tour will take you to the ancient Dujiangyan irrigation project, one of the oldest water projects in the world (2270 years old), still working today for flood control and irrigation, due to successfully dealing with sediment deposition and scour.



Four lines of post-symposium tour (3 to 5 days each) will be organized to: Jiuzhaigou valley (UNESCO world heritage), Rouergai highland wetland, the Earthquake Museum and the Wolong Panda Nature Reserve, and the Three Gorges Project.

