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NEWSLETTER

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UNESCO"国际泥沙计划"简报

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NEWS

Launch of UN World Water Development Report 2021

Launch of UN World Water Development Report 2021: determining the true value of the “blue gold” we need to protect

The United Nations World Water Development Report (WWDR) 2021, published by UNESCO on behalf of UN-Water, shows that the inability to recognize the value of water is the main cause of water waste and misuse. Despite the difficulty of attributing an objective and indisputable value to a resource which is fundamental to life, it seems necessary to examine water’s various dimensions in order to understand the various aspects of its “value”. This is especially true in times of growing scarcity and against the backdrop of population growth and climate change.

Download the report:
http://www.unesco.org/reports/wwdr/2021/en

Water is our most precious resource, a ‘blue gold’ to which more than 2 billion people do not have direct access. It is not only essential for survival, but also plays a sanitary, social and cultural role at the heart of human societies.
——**Audrey Azoulay, UNESCO Director-General**

This year’s WWDR addresses the question of the value of water. It shows that waste and careless use stems from the fact we all too often think of water exclusively in terms of its cost price, without realizing its tremendous value, which is impossible to price.

The devastating effects of the COVID-19 pandemic remind us of the importance of having access to water, sanitation and hygiene facilities, and highlight that far too many people are still without them. Many of our problems arise because we do not value water highly enough; all too often water is not valued at all.
—— **Gilbert Houngbo, Chair of UN-Water, President of the International Fund for Agricultural Development**

The value of water is certainly incalculable and limitless, since life cannot exist without it and it has no replacement. This is perhaps best illustrated by the widespread enthusiasm for the idea that traces of water can be found on Mars, or the fact that we think of water and life as interchangeable when studying other planets.

The report emphasizes the great need to broaden the notion of the “value” of water stressing that we cannot confuse the concepts of “price”, “cost” and “value”.

Although price and cost are potentially quantifiable, the concept of “value” is much wider and includes social and cultural dimensions.

Indeed, water is not like other raw materials which can be treated as commodities and openly traded through stock markets. The challenge is to determine a value for a resource whose importance varies in different areas of economic activity, at different times, without forgetting to take into account its social, environmental and cultural dimensions.

Tools and methodologies for valuing water are both imperfect and misapplied

The tools we have today tend to reduce the value of water to its economic aspect.

The economic value of water cannot be denied considering its myriad uses in food, electricity and industrial production, to name just a few.

While monetary valuation has the advantage of convenience and easy legibility in agriculture and industry, it presents the disadvantage of underestimating, even excluding, other aspects which are more difficult to monetize. How do we quantify the meaning of the 443 million schooldays missed annually due to water-related diseases?

Furthermore, some societies reject the idea of viewing nature and its benefits from an economic perspective, putting the rights of “Mother Earth” to the fore, thus rendering such economic readings of the value of water woefully inadequate.

In India, for example, the Ganges is revered by Hindus as a living entity with the same rights as human beings. Similarly, in New Zealand, the Te Awa Tupua Act of 2017 recognizes the Whanganui River as “an indivisible and living whole from the mountains to the sea” and guarantees the river's protection by the local Maori population.

The fate of humans and water is inextricably linked. In the words of the Whanganui River Tribe's proverb, Ko au te awa, ko te awa ko au, I am the river, the river is me.

——Audrey Azoulay, UNESCO Director-General

Faced with these views and those of investors, who consider that resources such as water can have an economic value put on them, it becomes difficult to develop a standard system to measure the value of water in all its aspects. Nevertheless, it is possible to develop an integrated approach that allows the different dimensions of water to be considered together, so as to identify appropriate policy choices. A key element of such an approach is to ensure that all stakeholders, regardless of background or gender, are involved in evaluations and decision-making. If we want to enrich our approach to water and stop reducing the resource to its mere monetary value, we must be enriched by the views held by all, especially the people directly concerned. Overcoming differences of opinion and reaching the necessary compromises is one of the great challenges of water management.

The time has come for stakeholders to identify, articulate and share perspectives of the values of water.

—— Gilbert F. Houngbo, Chair of UN-Water and President of IFAD

This implies developing mechanisms that allow stakeholders not only to express themselves but also to be heard.

When major infrastructure projects are studied, for example, it is essential to consider all these different dimensions, to ensure that their social, cultural and environmental consequences are not underestimated. A cost-benefit approach therefore requires considering the different “values” of water.

Similarly, we know that providing universal access to safe drinking water and sanitation in 140 low- and middle-income countries would cost $114 billion per year, whereas the multiple social and economic benefits of safe water are difficult to evaluate.

These issues are at the heart of this year's edition of the United Nations World Water Development Report (WWDR), UN-Water’s flagship publication on water and sanitation issues, which focuses on a different theme every year.

Launched in conjunction with World Water Day, the report provides decision-makers with knowledge and tools to formulate and implement sustainable water policies. It also offers best practice examples and in-depth analyses to stimulate ideas and actions for better stewardship in the water sector and beyond.

United Nations World Water Development Report (WWDR) 2021, Valuing Water

(Full report and related materials)

http://www.unesco.org/reports/wwdr/2021/en

(Source: UNESCO)

New books on water education to inspire youth in BRI countries

BEIJING, Mar. 23 (China Daily) -- A research institute within China's Ministry of Water Resources unveiled a series of books in English on water education in Beijing on March 23, the 29th World Water Day.

With support of UNESCO, the books are expected to be introduced to countries involved in the Belt and Road Initiative, inspiring young people there to value and conserve water resources.

Compiled by the China Institute of Water Resources and Hydropower Research (IWHR), the popular science books were first published in Chinese in 2010, thanks to the six-year efforts of a team headed by Wang Hao, a water resources expert with the institute and a member of Chinese Academy of Engineering, according to a media release from the institute.

Aside from water-related knowledge and historical stories, the books illustrated by cartoon figures also include many experiments that could be carried out in the classroom and suggestions for field research.

The Beijing-headquartered institute begun to work on the English version after reaching a consensus for the translation in early 2020 with the United Nations Educational, Scientific, and Cultural Organization's Regional Office for Eastern Africa.

Aiming to enrich water knowledge and promoting water conservation, the English

versions of the books will be first introduced in Africa, especially in primary and secondary schools in nations in eastern Africa, the Monday release said.

With support from UNESCO, the books will subsequently be introduced to more nations involved in the Belt and Road Initiative in Africa, Asia, and Central and Eastern Europe, it added.

Tian Xuebin, Vice-Minister of Water Resources, said the launch of the English books has fully reflected the shared aspiration of the Chinese government and UNESCO to proactively contribute to promoting water science and education.

These three volumes which will be used by teachers as a teaching material for extracurricular activities to adapt, develop and extend the knowledge into the daily teaching, is fundamental for children across Africa, said Shamila Nair-Bedouelle, UNESCO's Assistant Director-General for Natural Sciences, addressing the launch ceremony in Beijing via a video link.

"It will inspire teachers to develop new ideas, it will inspire children to value water," she said. "This series will foster curiosity, foster awareness, and encourage a positive action to help us to solve some of the pressing issues of water."

Shamila Nair-Bedouelle, Assistant Director General for Natural Sciences of UNESCO addresses at the book launching ceremony. Photo: Courtesy of IWHR

Launching ceremony of the English version of the book Water Education for kids Photo: Courtesy of IWHR

(Source: China Daily, http://chinadaily.com.cn/)

The ICEC 2021 is now open for abstract submission

The 7th International Conference on Estuaries and Coasts (ICEC 2021) is 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.

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.

Abstract submission for the ICEC 2021 is open at: http://icec2021.ecnu.edu.cn/.

Efforts to halt Mississippi River erosion expected to yield promising results over next four years

If Louisiana did nothing to try to restore the coast, it would lose the areas in red on this map to erosion over the next 50 years. (Sydney McGovern/LSU Manship School News Service)

(Sydney McGovern / Louisiana State University Manship School News Service) Thousands of years ago, the Mississippi River Delta was formed from sediment deposited by the river. Layer upon layer of sand, silt and clay make up the land that millions of people live and work on today.

But in the past 100 years, Louisiana has lost over 2,000 square miles of land. That's about the size of Delaware, or the total combined landmass of St. Charles, St. John, St. James, Ascension, East Baton Rouge and East Feliciana parishes.

Man-made levees protect South Louisiana from devastating flooding, but they also prevent the river from depositing sediment to maintain the marshes. Without major action, Louisiana would lose 4,200 square miles of land over the next 50 years, endangering communities and increasing storm surges.

But efforts to halt the erosion are entering a promising new phase over the next four years—one in which the state expects, for the first time since the losses began in the 1930s, to see more land created than it loses. That will come as the Coastal Protection and Restoration Authority (CPRA) shifts from planning massive new dredging and sediment-diversion projects to executing them.

"This is the moment in time in the coastal program that we have been waiting on," said Chip Kline, the authority's chairman. "We actually have the political will and the funding necessary to implement these projects that we've envisioned for years."

The biggest is the Mid-Barataria Sediment Diversion project, which will help re-create marshes that will provide storm protection to Plaquemines, Jefferson, Orleans and Lafourche parishes.

The project will replace portions of the Mississippi River levee on the West Bank with large concrete gates that can be opened to allow sediment to flow from the river into depleting wetlands, creating tens of thousands of acres of new land.

The sediment from the river will also sustain land that the CPRA is creating through dredging projects and extend the benefit from the dredging for 60 to 70 years.

"The Mid-Barataria Sediment Diversion Project is the cornerstone project within the coastal master plan on the restoration side," Kline said. "It gives us a fighting chance to win this battle. It puts us in the ball game to save the Barataria Basin and portions of Southeast Louisiana because that project is designed to mimic the natural process that built this state to begin with."

The project will eventually cost $1.4 billion, and much of it will be paid for from money provided by the BP oil company to cover damages from its oil spill in 2010.

Even though the project will harm some areas for harvesting oysters and brown shrimp, it could also provide a model for future sediment diversions along the Atchafalaya River and other parts of the Mississippi.

Since the CPRA was formed in 2007 to centralize the state's coastal environment efforts, it has secured over $21.4 billion for protection and restoration projects in 20 parishes. It has built or improved over 300 miles of levees and 60 miles of barrier islands and dredged over 150 million cubic yards of material, creating nearly 50,000 acres of new land.

Each year, the authority presents a plan to the Legislature outlining project timelines, anticipated costs and funding sources. The fiscal year 2022 plan includes 110 active projects, including nine in Southwest Louisiana, 35 in South Central Louisiana, and 66 in Southeast Louisiana. The authority anticipates over $887 million in investments in the coming year, with 90% of total expenditures going toward project construction and maintenance.

These projects fall into two basic groups—hurricane protection or risk reduction projects and restoration projects. On the restoration side, the overwhelming majority are dredging projects in which material is taken from the Mississippi River or the continental shelf and pumped into depleted marshes. The authority anticipates that these projects will create about 15,000 acres of new land.

Other projects include flood gates, surge protection, pump stations and barrier island restoration.

Although the Mid-Barataria Sediment Diversion Project is yet to be constructed, the key to years of careful planning and development is housed in Louisiana State University's Center for River Studies.

The Center uses its 10,000-square-foot model of the Lower Mississippi River to perform experiments that recreate the river flow, water levels and sediment transport at a rate of one year of real-life movement for every hour.

Director Clint Willson said that the work conducted at the center provides data that are crucial for the operations of CPRA and the Army Corps of Engineers.

“With the model, we’re trying to help the state understand how the sand moves down the river year to year, decade to decade,” said Willson. “Then the state can think about how much sand is going to be available that they can either dredge and pump for marsh creation projects or how much sand will be available when they open the river sediment diversion gates.”

Kline said the model was “a game changer for us” in designing the Mid-Barataria Sediment Diversion Project.

“It’s an impressive structure, and its value cannot be put into words,” Kline said.

“Going into the future,” he added, “we plan on using that model to help inform the operations of that structure—when do we need to turn that structure on to capture the most sediment? What kind of flow do we need to operate the diversion?”

The work at the Center for River Studies and the hundreds of coastal protection and restoration projects employed by the state all share a common goal—protect Louisiana residents, conserve the state’s coast and preserve Southern Louisiana’s cultural heritage.

As the marshland sinks, scientists project that sea levels will rise as a result of climate change, further complicating the task of saving the state’s coastline.

“I’m never going to say, ‘I’m just going to walk away because this is a losing battle,’” Kline said. “This is a battle that has got to be fought, now and into the future, to make sure that we continue to live and work in the place that is so unique known as South Louisiana.”

The Coastal Authority’s annual plan awaits approval from the House and Senate Natural Resources committees and the House and Senate Transportation, Highways and Public Works committees before a vote by the full House and Senate. (Source: https://www.brproud.com/)

China boosts ecological protection through Yellow River diversions

BEIJING, Jan. 20 (Xinhua) -- China will divert water from the Yellow River to more regions this year to boost ecological protection, the Yellow River Conservancy Commission of the Ministry of Water Resources said on Wednesday.

Water diversion projects will focus on emergency water supplies for major wetlands and lakes along the river, as well as ecological restoration in northern Chinese regions with groundwater shortages, according to a plan released by the commission.

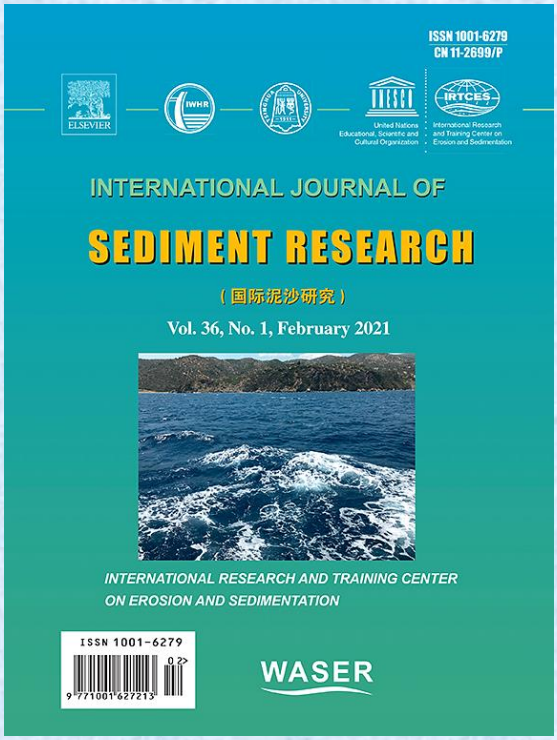
Such projects aim to sustain all the ecosystems in the Yellow River basin, including mountains, rivers, lakes, forests, farmland and grassland, the Commission said, adding that they will also provide ecology-oriented support for major national strategies, such as the development of the Xiong'an New Area.

The commission urged related authorities to strengthen water condition forecasting and analysis, and called for targeted use of key reservoirs to ensure the projects progress smoothly.

(Source: Xinhua News Agency)

PUBLICATIONS

Papers Published in the International Journal of Sediment Research Volume 36, No. 1, 2021



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Full papers are available at ScienceDirect:

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

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

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

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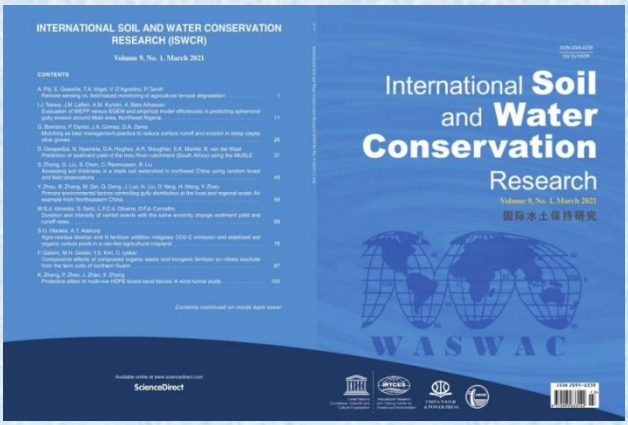

Free full papers and open access are available at ScienceDirect : https://www.sciencedirect.com/journal/international-soil-and-water-conservation-research.

COMING EVENTS

ISI – Training Workshop on 'River Basin Sediment Monitoring and Management' (Online, postponed from 2020)

Date: September 2021
Venue: Online conference
Organizer: International Centre for Water Resources and Global Change under the auspices of UNESCO, German Federal Institute of Hydrology
Co-sponsors: UNESCO's Intergovernmental Hydrological Programme, International Research and Training Center on Erosion and Sediment Research (IRTCES)
Summary: The online workshop on River Basin Sediment Monitoring and Management will focus on:

i) Capacity building in sediment monitoring, data analysis and data management,
ii) Connecting with international contact persons in (local) governments, water services/boards, environmental agencies and other relevant stakeholders,
iii) Improving the collaboration with IRTCES and the ISI expert group on global sediment databases, and

Major questions of the WS will be: What are main technical issues in sediment monitoring programs and how to cope with them? How simple/complex do we need to measure (e.g. simple flux measure to complex sediment budget) to provide empirical evidences for the specific management solution?
The workshop aims to provide knowledge on sediment measurement and monitoring, how to transfer measurement and monitoring results to management solution, how to improve current sediment management strategies to find sustainable solution and how to evolve from local river management to integrated landscape management. Although we will focus on inland waters, we also want to highlight possible impacts on downstream areas, including estuaries and coastal zones.
This workshop will target professionals who deal with sediment-related issues and sediment management.
Organization & Contact:
Thomas Hoffmann (Thomas.Hoffmann@bafg.de), Stephan Dietrich (Dietrich@bafg.de) and Renee van Dongen (vanDongen@bafg.de)
Originally, the workshop was scheduled in a physical form for September 2020, but due to the Covid-19 pandemic and its uncertain future development, the meeting was converted to online.

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, UNESCO-IHP, and other organizations 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).
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: http://icec2021.ecnu.edu.cn/
Contacts:
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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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Climate-Resilient Water Management Approaches: Adaptation in an Age of Uncertainty (Monthly webinar series)

Date: January 2021 (please follow the website for updates on the exact date and time)
Venue: Online via Zoom
Organizer: UNESCO's Division of Water Sciences, the Alliance for Global Water Adaptation (AGWA) and the International Center for Integrated Water Resources Management (ICIWaRM)
Summary: Over the past ten-plus years, various organizations have developed a set of complementary resilient water management tools and approaches that work to address climate risks and other uncertainties in a manner that can be integrated within existing planning, design, and operational decision processes. These "bottom-up approaches" differ from the dominant paradigm guiding water management for the past half-century — namely the assumption that we can use past hydrological and climatic data to confidently predict (and plan for) the future. The webinars, intended for technical water management professionals as well as individuals working in climate / water policy and planning, introduce the technical and practical components of bottom-up approaches, spanning a range of topics and underscored by examples of real-world applications.
URL: https://en.unesco.org/news/adaptation-age-uncertainty-tools-climate-resilient-water-management-approaches
Contact: a.mishra@unesco.org

United Nations Educational, Scientific and Cultural Organization · Intergovernmental Hydrological Programme

International Sediment Initiative

INTERNATIONAL SEDIMENT INITIATIVE (ISI)

Intergovernmental Hydrological Programme (IHP) UNESCO

ORGANISATION: UNESCO

Mr. Abou Amani	UNESCO, Paris
Philippe Pypaert	UNESCO, Beijing
Anil Mishra	UNESCO, Paris

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

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Tibetan Kid, Source region of the Yellow River (by Cheng LIU)