









# INTERNATIONAL SEDIMENT INITIATIVE NEWSLETTER

Reporting ISI news to you quarterly

No. 18 September 26, 2010

### **ORGANISATION: UNESCO**

Jos é Alberto Tejada-Guibert UNESCO, Paris Jayakumar, Ramsamy UNESCO, Beijing Mishra, Anil UNESCO, Paris

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

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- 7th International SedNet conference (Venice, 6-9 April 2011)
- 34th IAHR Biennial Congress (Australia, 26 June-1 July 2011)
- 12th International Symposium on the Interactions between Sediments and Water (England, 19-23 June 2011)
- 5th International Conference on Flood Management (Japan, Sept.27-29, 2011)
- ♦ Coastal Sediments'11 (USA, May 2-6, 2011)
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### **NEWS**

### Vice Minister Jiao Yong of Water Resources met with officials of UNECO



On 10 September, 2010, Mr. Jiaoyong, Vice Minister of Water Resources, met with Ms. Gretchen Kalonji, Assistant Director-General for the Natural Sciences, UNECO. The two parties exchanged views on further cooperation in water resources.

Other participates include the representatives from Department of International Cooperation, Science and Technology and Bureau of Hydrology of the Ministry of Water Resources, as well as experts from China Institute of Water Resources and Hydropower Research. (Sources: MWR, http://www.mwr.gov.cn)

Ms. G. Kalonji, ADG of natural sciences of UNESCO visited IRTCES

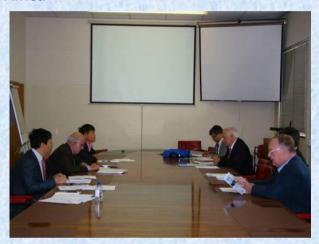


On 10 September, 2010, Ms. Gretchen Kalonji, Assistant Director-General for the Natural Sciences, UNECO visited the International Research and Training Center on Erosion and Sedimentation (IRTCES) together with officials from UNESCO Office Beijing. Prof. GAO Zhanyi, Deputy Director of the IRTCES welcomed and hosted the UNESCO delegation with the attendance of all IRTCES staff.

Prof. Gao made a presentation on the activities and achievements of the IRTCES in the past 26 years since 1984 when IRTCES was established. Prof. Gao highlighted that all the achievement is gained by the support from UNESCO and Chinese Government, and hope UNESCO to continue its support to IRTCES with the aim to promote international research and training, and technical cooperation.

Ms. Kalonji congratulated on the achievements made by IRTCES and highly appraised IRTCES's great roles in research, training and international cooperation. With interests she discussed sediment related issues required further study, and expressed UNESCO further support to IRTCES and willingness to help IRTCES to make further progress. (Gao Zhanyi, IRTCES)

# UNESCO-ISI organized meetings in the 11th International Symposium on River Sedimentation at the Stellenbosch, South Africa



The UNESCO-ISI organized a meeting of its steering committee members who participated in the 11th International Symposium on River Sedimentation (11th ISRS) held at Stellenbosch, South Africa on September 9, 2010. Recent developments related to ISI activities and the ISI Secretariat were reported, the ISI Case Studies and the associated synthesis report, the ISI status report and the ISI information system were discussed, and future activities and networking, especially cooperation with WASER, were also discussed. The participants were: Dr. Anil Mishra, Programme Specialist of the Division of Water Sciences UNESCO; Prof. HU Chunhong, Secretary-General of IRTCES; Prof. Manfred Spreafico, Chairman of the ISI Steering Committee; and Prof. Des Walling; Prof. G. Di Silvio, Prof. WANG Zhao-Yin, Prof. G. Basson and Prof. LIU Cheng, members of the ISI Steering Committee.

On September 7, a meeting among representatives from UNESCO, ISI, IRTCES, WASER and Kyoto University was held for discussing the ISI involvement in the 12th ISRS to be held at Kyoto University in 2013. (by LIU Cheng)

# The 19th session of the IHP Intergovernmental Council Held at UNESCO Headquarters, Paris

The Intergovernmental Council of the International Hydrological Programme (IHP) of UNESCO held its 19th session from 5 to 9 July 2010 at UNESCO Headquarters, Paris.

The IHP Council has overall governing responsibility for planning, defining priorities and supervising the execution of the IHP. The Council is composed of 36 Member States of UNESCO elected by the General Conference of UNESCO at its ordinary sessions held every two years.

During this session, the Council, which is composed of 36 Member States elected by UNESCO's General Conference, examined the relevant outcomes of the 35th session of the General Conference, including the Organization's Programme and Budget for 2010-2011 (35 C/5), particularly as these relate to the implementation of the Seventh Phase of IHP (IHP-VII, 2008-2013). The Council also looked into recent institutional developments in IHP, reviewed progress on the implementation of the resolutions and other recommendations adopted by the 18th session of the IHP Council (Paris, June 2008). examined the status of UNESCO's water-related category 1 institute and category 2 centres under its auspices, and report on the formulation of the Eighth Phase of IHP (IHP-VIII, 2014 - 2019, including the endorsement of the related concept paper.

A three-hour scientific session was organized in the framework of the 19th session of the IHP Council, under the theme "Hydrological Sciences for Policy Responses to Uncertain Global Change Futures". A number of speakers, including the award winner of the 2010 International Hydrology Prize delivered the keynote address, were invited to deliver scientific presentations. This scientific session served as an outreach activity addressing both the IHP scientific community and policy makers from UNESCO Member States. (Source:



# Director-General of UNESCO on the occasion of the Closure of 19th Session of IHP's Intergovernmental Council

On the occasion of the closure of the 19th session of the Intergovernmental Council of the International Hydrological Programme, the Director-General of UNESCO, Ms. Irina Bokova addressed Council. She started by highlighting many of the important initiatives that UNESCO is carrying out through its unique mandate to take on the water challenge from a holistic perspective, which addresses the topic through an interdisciplinary approach. Ms. Bokova emphasized the crosscutting nature of water, and its critical importance in achieving each of the eight MDGs, whether it's the battle against poverty or hunger, or ensuring universal education and gender equality.

Referring to the various crises currently affecting the globe and the powerful drivers behind them (demographics, land use, urbanization, climate change and variability), the Director-General stressed the need to both strengthen international cooperation and multilateralism, and promote education and science.

The Director-General encouraged the IHP to continue its pioneering work on the prevention and resolution of conflicts related to water through its programme 'From Potential Conflict to Cooperation Potential' (PCCP). Ms Bokova also encouraged the formulation of approaches aimed at effectively managing transboundary rivers and aquifers. She made reference to the adoption by the UN General Assembly of the Law of Transboundary Aquifers for which IHP's advisory role was officially acknowledged. The Director-General also recalled IHP's efforts on water and cultural diversity, notably its attempt to link this theme with Integrated Water Resource Management (IWRM) and the project to publish a history of water and civilizations.

Ms Bokova also highlighted UNESCO's role as a knowledge builder, stressing the valued resources and technical assistance provided by the UNESCO-IHE Institute for Water Education, the World Water Assessment Programme (WWAP), and the 13 water-related centres under the auspices of UNESCO. She welcomed IHP's ongoing collaboration on a variety of themes with other UNESCO programmes and sectors and called for IHP to actively participate in the house-wide initiative on climate change. (Source: http://www.unesco.org/water/news/)

IRTCES Participates in the 19th session of the IHP Intergovernmental Council at UNESCO Headquarters, Paris



The 19th session of the Intergovernmental Council of the International Hydrological Programme (IHP) was held at UNESCO Headquarters in Paris from July 5 to 9, 2010. Prof. Hu Chunhong, Secretary-General and Deputy Director, and Prof. Liu Cheng, Deputy Division Chief, of the International Research and Training Center on Erosion and Sedimentation (IRTCES) participated in the session.

During this session, the Council examined the relevant outcomes of the 35th session of the General Conference, including the Organization's Programme and Budget for 2010-2011, particularly as these relate to the implementation of the Seventh Phase of IHP. The Council also looked into recent institutional developments in IHP, reviewed progress on the implementation of the resolutions and other recommendations adopted by the 18th session of the IHP Council, examined the status of UNESCO's water-related category 1 institute and category 2 centres under its auspices, and report on the formulation

of the Eighth Phase of IHP, including the endorsement of the related concept paper. The representatives of IRTCES made speeches on related topics that reported IRTCES' achievements as the first established category 2 center, and appealed to continue paying close attention to the sediment problem in the Eighth Phase of IHP considering Erosion and sedimentation processes have significant socio-economic and environmental impacts in river basin management.

A Meeting of UNESCO water-related centres was held on July 6. Prof. Hu Chunhong and Prof. Liu Cheng of IRTCES attended the meeting and made proposals on strengthen cooperation of category 2 centers. They also have a meeting with Dr. Anil Mishra and Dr. R. Jayakumar of UNESCO and Prof. Manfred Spreafico the Chairman of ISI Steering Committee to discuss future ISI activities. (by Liu Cheng)

Prof. Chih Ted Yang and Prof. Albert Rooseboom Receive International Qian Ning Prize for Erosion and Sedimentation





The award ceremony of the 2nd International Qian Ning Prize for Erosion and Sedimentation Technology was held at Stellenbosch University, South Africa, on Sept 7, 2010. The award ceremony was chaired by Prof. G. Di Silvio, the president of WASER.

Prof. Chunhong Hu, Secretary General and Deputy Director of IRTCES, declared the list of winners of the International Qian Ning Prize and expressed his congratulations to the winners. Prof. Des Walling and Prof. Guangqian Wang presented the awards to the two winners, Prof. Chih Ted Yang and Prof. Albert Rooseboom. Prof. Chih Ted Yang, as a representative of winners, made a speech. He expressed his adoration to Prof. Qian Ning. He said that it is very honorable to receive the award and he will continue to make great

efforts for the advancement of the state-of-the art in sediment research.

Mr. Chih Ted Yang, a professor of Colorado State University, former Vice President of World Association for Sedimentation and Erosion Research (WASER), a world-wide renowned expert in the field of sediment research, especially on sediment transport processes. Mr. Albert Rooseboom, an Emeritus Professor of University of Stellenbosch, South Africa. ICOLD Reservoir Sedimentation Committee Chairman. He made great contributions to the advancement of sediment research, especially on sediment yield and reservoir sedimentation.

The late Prof. Qian Ning has passed away for 24 years. Professor Qian obtained the PhD degree under the supervision of Hans Albert Einstein in 1951. He was a professor of hydraulic engineering at Tsinghua University and Academician of the Chinese Academy of Sciences. He was also a Vice Chairman of the Advisory Council of the IRTCES. The significance of Prof. Qian was his contribution to the hyperconcentrated flow, bed load and suspended load transportation, the management strategies of the Yellow River sedimentation, the promotion of physical model application for hydraulic engineering. His monograph "Mechanics of Sediment Transport" was translated into English and published by ASCE Press in 1998. The publication was highly spoken by many engineers and prominent scientists and regarded as a great contribution to the science of sediment transportation. Prof. Qian Ning is a man of great influence on the science of sediment not only at home but also abroad. To commemorate Professor Qian's outstanding contribution to research on erosion and sedimentation, foster further advancement of the state-of-the art and recognize current leadership and major contributions in the field of erosion and sedimentation research, the WASER and the Chinese Qian Ning Prize Foundation Committee jointly established the International Qian Ning Prize for Erosion and Sedimentation Technology in 2007. The first two Qian Ning Prize winners were awarded in the 10th International Symposium on River Sedimentation in Moscow, and the International Qian Ning Prize Foundation Committee was set up in 2007. The Foundation office in the IRTCES manages the routine work of the Foundation, including fund raising, receiving donations, and fund management, as well as receiving and undertaking preliminary screening of nominations, coordinating the selection process, and announcing the results. The International Qian Ning Prize shall be awarded once every 3 years. (by ZHANG Yanjing, IRTCES)

### More News in ISI Website

- Urbanization Increases Sediment Transport in Johnson County Streams(USA)
- First step in removal of Elwha River dams begins (USA)
- Vice Minister Jiao Yong of Water Resources met with officials of UNECO
- Ms. G. Kalonji, ADG of natural sciences of UNESCO visited IRTCES
- UNESCO-ISI organized meetings in the 11th International Symposium on River Sedimentation at the Stellenbosch, South Africa
- The 11th International Symposium on River Sedimentation held on Stellenbosch University, South Africa on Sep. 6 – 9, 2010
- > Fresh water changes are signs of climate

- change:WWF report
- Floods, landslides leave 3,185 dead in China this year: MCA
- 24 killed in Yunnan landslide (China)
- Factors that affect erosion
- Flood erosion worries riverbank residents in Mekong Delta (Vietnam)
- China's Recent Floods and Debris Flow Destruction (China radio international)
- Chenghi erosion threatens Hawkers' village (Bangladesh)
- Erosion grave threat to Khumtai-Kamargaon area (India)
- > New coastal erosion guidelines (Australia)
- Matilija Dam removal hits a major block: the sediment behind it (USA)
- China mulls law amendment to better prevent soil, water loss
- > Floods hit NE China border city, 64,000 evacuated
- Yunnan landslide, 4 dead, 88 missing (China)
- > Mudslide in SW China's Wenchuan kills 15 people
- Muddy China facing more landslides (Nature-blog)
- River erosion renders 12000 families homeless in Kurigram (Bangladesh)
- [PIC]Mudslides hit SW China's Yunnan, at least 67 people missing
- > EPA sets limits for bay sediment pollution (USA)
- Remote-sensing images of landslides-hit Zhouqu County (China)
- Satellite photos of major floods in 2010
- Pakistan flood victims may outnumber those of tsunami, Haiti quake: UN
- > Tackling the growing problem of sedimentation
- Sediment control education needed (Trinidad)
- At least 127 dead, nearly 2,000 missing in raintriggered landslides in NW China's Gansu Province

- [PIC] Tenth-round silt-washing operation to clear up the sediment-laden Yellow River at the section of the Xiaolangdi Reservoir (China)
- China's Three Gorges reservoir faces test as water level breaks records
- IRTCES Participates in the 19th session of the IHP Intergovernmental Council at UNESCO Headquarters, Paris
- Director-General of UNESCO on the occasion of the Closure of 19th Session of IHP's Intergovernmental Council
- > The 19th session of the IHP Intergovernmental Council Held at UNESCO Headquarters, Paris

More .....

(http://www.irtces.org/isi/)

### 5 CONFERENCE REPORT

The 11th International Symposium on River Sedimentation held on Stellenbosch University, South Africa on Sep. 6 – 9, 2010



The 11th International Symposium on River Sedimentation (11th ISRS) was held on Stellenbosch University, South Africa on Sep. 6 – 9, 2010, more than 160 registered participants from over 30 countries and regions attended the Symposium. The Symposium was organized by the Stellenbosch University, sponsored by the International Research and Training Center on Erosion and Sedimentation (IRTCES) and World Association of Sedimentation and Erosion Research (WASER), and co-sponsored by UNESCO, ICOLD, IAHR, IAHS and South Africa Water Research Commission. The main theme is 'Sedimentation and Sustainable Use of River Systems' with following topics:

- Hydraulics and environmental aspects of river sediment transport processes (fundamental & modelling)
- Fluvial morphological and environmental impacts of hydraulic structures on the downstream river and possible mitigation measures
- > Impacts of river sedimentation on hydraulic structures (diversion, abstraction works, bridges, etc.)
- Reservoir/lake sedimentation modelling and management
- Sediment yield, soil erosion determination, modelling and management
- River mouths/estuary sediment dynamics and coastal erosion
- Sediment data collection in rivers, reservoirs and lakes
- > Dam break analysis and sediment transport
- Reservoir sedimentation & Management such as flushing or dredging
- Sustainable Tailings Dams
- Sediment quality and management
- Stormwater erosion prevention & litter management
- Sewer sediment transport
- Unlined dam spillway scour
- Climate change impacts on sediment yields, river and estuary morphology
- Bushfire impacts on soil erosion

The opening ceremony was held in the Endler Hall of the Conservatorium on September 6. Chaired by Prof. Gerrit Basson, Prof Arnold van Zyl, Vice Rector of the University of Stellenbosch, Mr. Wandile Nomquphu, South Africa Water Research Commission, and Prof. Des Walling, President WASER, made welcome speeches. Prof. HU Chunhong, Secretary-General of IRTCES, and Mr. Peter van Niekerk, Department of Water Affairs South Africa, made keynote presentations.

Five Keynote presentations and over 120 technical presentations were delivered in the plenary and parallel sessions, respectively, with 7 topics of Fundamental aspects of sediment transport, Sediment yield, Hydraulic structure downstream impacts, Hydraulic structures, River sedimentation, and Reservoir Sedimentation. Keynote presentations are:

- Dr Kim Wium Olesen: Mega deltas and the climate change challenges
- Prof Manfred Spreafico: Sediment data collection in rivers, reservoirs and lakes
- Prof. Weiming Wu: An introduction to latest developments in soil erosion and sediment transport modeling
- MJM Römkens: Current Erosion and Sediment Research Concerns in Agricultural Watersheds in the USA
- Prof. Zhaoyin Wang: New researches in erosion and fluvial processes

A technical tour were arranged on September 8 for visiting Berg River Dam and Supplement Scheme, Rockfall Hazard Assessment and Mitigation at Chapmans Peak, and the Cape Peninsula.

A Symposium Proceedings were published by Sun Media(Pty) containing 5 keynote and 129 technical papers, with abstract version in publication and full paper version in CD-Rom.

The 11th ISRS closing ceremony were organized in the afternoon of September 9. Chaired by the newly announced WASER Vice President Prof. Zanke, the newly announced WASER President Prof. Di Silvio made a speech on brief overview and recommendation of the 11th ISRS, and Local organizer Prof. Basson made a closing remarks. Then Prof Basson representing the 11th ISRS LOC handed over the symposium banner to Prof. HU Chunhong, the representative of the permanent ISRS Secretariat. Prof Hu thanks the 11th ISRS LOC for their great contributions and announces the next venue of the 12th ISRS will be held in Kyoto, Japan in 2013. Prof. H. Nakagawa, representative of the LOC for the 12th ISRS, took the symposium banner from Prof. Hu and made a speech welcoming all participants meeting again in Kyoto in 2013.

The International Symposia on River Sedimentation (ISRS) initiated in 1980 have been successfully organized in USA, Germany, India, Egypt, Russia, and in the cities of Beijing, Nanjing, Hong Kong and Yichang in China. The total participants are up to 2500. With the support from the UNESCO and the related international associations, and with the participation of the experts and scholars worldwide, the Symposia has drawn wide attention and become one of the attractive technical events in the world. The permanent ISRS Secretariat is provided by the IRTCES, and the Symposia served as the official symposia of WASER from 2004. The IRTCES is the first established Category II Center under the auspices of UNESCO. Since its establishment in 1984, IRTCES has conducted over 100 research projects and consulting programs, organized over 40 international and domestic training courses, and sponsored and co-sponsored over 100 conferences and workshops. IRTCES serves as the Technical Secretariat of UNESCO International Sediment Initiative and Secretariat of WASER. The quarterly published International Journal of Sediment Research and the annually published China Gazette of River Sediment are edited and compiled by the IRTCES, and it also manages Qian Ning Memorial Prize for Erosion and Sedimentation. (by LIU Cheng)

Special report: http://www.irtces.org/zt/11isrs/



Prof Arnold van Zyl, Vice Rector of the University of Stellenbosch, makes welcome speech at the Opening Ceremony



Prof. Des Walling, President WASER, made welcome speech at the Opening Ceremony



Prof. HU Chunhong, Secretary-General of IRTCES, makes keynote presentation at the Opening Ceremony



Keynote presentation by Dr Kim Wium Olesen: Mega deltas and the climate change challenges



Keynote presentation by Prof Manfred Spreafico: Sediment data collection in rivers, reservoirs and lakes



Keynote presentation by Prof. Zhaoyin Wang: New researches in erosion and fluvial processes



The ISRS banner is handed over to the Kyoto University, Japan

## The Third WASER Council Meeting and General Assembly Held in September, 2010, at Stellenbosch, South Africa

The Third Council Meeting of the World Association for Sedimentation and Erosion Research was held in the afternoon of September 5 in Stellenbosch, South Africa. President of the Second Council, Prof. Des Walling, Vice President of the Second Council, Prof. Chih Ted Yang, President of the Third Council, Prof. G. Di Silvio, Vice Presidents of the Third Council, Prof. Zhaoyin Wang, Prof. Gerrit Basson, and Prof. Ulrich Zanke, Secretary General Third Council, Prof. Chunhong Hu, members of the Third Council, Prof. Hajime Nakagawa, Prof. Jim Bogen and Prof. M.J. M. Romkens, Prof. Xiaoying Liu, Treasurer and some other staff of the secretariat and some observers attended the meeting.

The first part of the meeting was presided over by Prof. Des Walling. He presented the President's report and the treasurer, Prof. Xiaoving Liu reported the financial situation of the association. The meeting reviewed the minutes of the Second Council Meeting and the revised statutes. The Council approved the nominations for Honorary Members and the nominations for the third WASER best paper award for papers published in the International Journal of Sediment Research; and also received and approved the nominations for the second International Qian Ning Prize for Sedimentation and Erosion Technology, Prof. Des Walling subsequently announced the outcome of the election of the Officers and Medmbers of the Third Council Members voted by all members of WASER. Prof. G. Di Silvio was elected as President of the Third Council, and Prof. Zhaoyin Wang, Prof. Gerrit Basson and Prof. Ulrich Zanke were elected as Vice Presidents. In accordance with the Statutes of the Association, Prof. Chunhong Hu, Secretary General, nominated by the IRTCES, was formally co-opted as Secretary General of the Association and Prof. Xiaoying Liu was appointed to continue as Treasurer, Prof. Des Walling, President of the Second Council, and Prof. Chih Ted Yang, Vice President of the Second Council were confirmed as co-opted members of the Third Council.

The meeting was subsequently, presided over by the new president of WASER, Prof. G. Di Silvio. Prof.Chunhong Hu, the New Secretary General of WASER, outlined the draft work plan for 2010 to 2013. and Council Member, Prof. Hajme Nakagawa reported the sponsors, organizer and theme of the 12th International Symposium on ?River Sedimentation to be held in Japan in 2013. The council meeting discussed and adopted in principle the above two reports and confirmed that the fourth Council Meeting and General Assembly will be held in Japan in 2013.

On September 7, 2010, the General Assembly of WASER was held during the 11th International Symposium on River Sedimentation. Members and participants from over 30 countries attended the Assembly. The President of the Second WASER Council, Prof. Des Walling opened the meeting, gave his general report of the Second Council, and announced the result of the election of the Officers and Members of the Third Council. Prof. G. Di Silvio then presided over the meeting, providing a review of the draft workplan from 2010 to 2013 and other key points related to the Association. He appealed for all scientists and engineers involved in the field of erosion and sedimentation to support and join the Association in order to promote its growth and development and encourage the future development of the field of erosion and sedimentation.

A number of Association Awards were also presented during the General Assembly. Prof. Gerrit Basson, Vice President of the Association, announced the recipients of Honorary Membership. These included Prof. S.Y.Wang Sam from the USA, Prof. R S. Chalov from Russia and Prof. DingZhong Dai from China. Plaques celebrating the award of Honorary Membership were presented to Prof Sam S. Y. Wang and representatives of the other two recipients. Prof. Zhaoyin Wang, Vice President of the Association announced the list of winners of the 3rd WASER best paper prize for the International Journal of Sediment Research. The four papers are:

- Thomas LUCKNER and Ulrich ZANKE, An analytical solution for calculating the initiation of sediment motion, 22(2), pp. 87-102
- Xinhua DUAN, Zhaoyin WANG, Mengzhen XU, Kang ZHANG, Effect of streambed sediment on benthic ecology, 24(3), pp. 325-338
   R. A. KUHNLE, D. G. WREN, and J. P. CHAMBERS,
- R. A. KUHNLE, D. G. WREN, and J. P. CHAMBERS, Prediction of the grain size of suspended sediment: Implications for calculating suspended sediment concentrations using single frequency acoustic backscatter, 22(1), pp. 1-15
- Hongwu Tang, Bing Ding, Yee-Meng Chiew, and Shilong Fang, Protection of bridge piers against scouring with tetrahedral frames, 24(4), pp. 385-399 (by Xiaoying Liu, IRTCES)



Prof. Des Walling and Prof. G. Di Silvio



Group photo of the participants for the Third Council Meeting



WASER General Assembly

### **PUBLICATION**

### Papers Published in Issue 3 Volume 25, 2010, International Journal of Sediment Research



Volume 25, Number 3

September 2010

### **Technical Papers**

Effects of Vegetation on Flow Conveyance and Sediment Transport Capacity Weiming WU and Zhiguo HE

Effect of Incoming Sediment on the Transport Rate of Bed Load in Mountain Streams

Guo-An YU, Zhao-Yin WANG, Kang ZHANG, Tung-Chiung CHANG, and Huaixiang LIU

Evaluation of Total Load Sediment Transport Formulas Using ANN

Chih Ted YANG, Reza MARSOOLI, and Mohammad TAGHI AALAMI

Numerical Simulation of Tidal Current and Erosion and Sedimentation in the Yangshan Deep-Water Harbor of Shanghai

ZUO Shu-Hua, ZHANG Ning-Chuan, LI Bei, ZHANG Zheng, and ZHU Zhi-Xia

Coastal Morphological Modeling to Assess the Dynamics of Arklow Bank, Ireland

J. K. PANIGRAHI, P. N. ANANTH, AND P. A. UMESH

Suspended Load in Flows on Erodible Bed

Sujit K. BOSE and Subhasish DEY

Effect of Streambed Sediment on Benthic Ecology Xuehua DUAN, Zhaoyin WANG, Mengzhen XU, and Kang ZHANG

Numerical Simulation of Sedimentation Processes in Reservoirs as a Function of Outlet Location Horacio TONIOLO

Effects of Precipitation and Landuse on Runoff During the Past 50 Years in a Typical Watershed in Loess Plateau, China

Huaxing BI, Bin LIU, Jie WU, Lei YUN, Zhihan CHEN and Zhewei CUI

List of Reviewers from 2007 to 2008

Cover Photo: Grain Erosion Damages Forest in the Jiuzhai Basin, Southwestern China

### **Publications in ISI Information System**

- Effects of Urbanization, Construction Activity, Management Practices, and Impoundments on Suspended-Sediment Transport in...
- Storminess and Environmental Changes in the Mediterranean Central Area (Diodato & Bellocchi)
- International Sediment Initiative (ISI) Case Study Report: Volga River
- Climate Change and Adaptation for Water Resources in Yellow River Basin, China (UNESCO)
- Integrated Urban Water Management: Humid Tropics (Parkinson et al.)
- Soil, Groundwater and Sediment Quality Criteria in Ontario (B. Edwards)
- Erosion, Transport and Deposition of Sediment -Case Study Rhine (Spreafico & Lehmann)
- Towards Risk-Based Management of European River Basins (Brils & Harris eds.)
- Water and Climate Change: An Overview from the UN World Water Development Report
- UNESCO-IHP in East Asia (Jayakumar et al.)
- Water-related publications (UNESCO Office Beijing)

More .....

(http://www.irtces.org/isi/info.asp)

### COMING EVENTS

### International Conference on the Status and Future of the World's Large Rivers (Vienna. 11-14 April 2011)

Date: 11-14 April 2011

Venue: University of Natural Resources and Applied Life

Sciences, Vienna

Summary: The pressures and impacts on the World's Large Rivers have increased greatly in recent years, as a consequence of their exploitation to meet human needs. Large rivers are particularly exposed to problems of multiple uses, often with conflicting aims. At the global scale, there is no overview assessment of the current status of the World's Large Rivers, the conflicting demands on such rivers, and likely future anthropogenic impacts, as well as the potential for restoration and the associated problems. The International Conference on "The Status and Future of the World's Large Rivers" 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. A statement, agreed by the participants, will be produced to assess the existing and future needs of large rivers in order to better integrate their use, protection and restoration and to devise an action plan.

The conference is sponsored by: UNESCO, IAHR, IAHS and WASER

The conference is organised by BOKU - University of Natural Resources and Applied Life Sciences, Vienna. Take the opportunity to participate in the conference on the World's Large Rivers, to be held from 11 - 14 April 2011, and visit the beautiful city of Vienna. We look forward to welcoming you to Vienna!

URL: http://worldslargerivers.boku.ac.at/wlr/ Contacts: worldslargerivers@boku.ac.at

### 7th International SedNet conference (Venice, 6-9 April 2011)

Date: 6-9 April 2011 Venue: Venice. Italy

Background

Sediment is an integral part of the ecosystem and directly affects biodiversity through hydromorphology, habitat formation and associated pollutants. Framework Directive definitions, it can be said that sediment affects good ecological and chemical status of water bodies: impacts can be both positive and negative. These impacts are particularly evident in shallow water bodies such as rivers, lagoons and coastal areas. Sediment Management is therefore much more than dealing with more or less contaminated sediment that needs to be dredged for navigation or construction but is more a way of working with nature, finding self-sustaining solutions for the evolution of water bodies in a highly dynamic environment.

The integration of sediment management into river basin management plans. thus supporting the ioint implementation of the Water Framework Directive and Floods Directive, is a perfect context to put this holistic approach into practice.

The Mediterranean Sea and its coastal areas present unique challenges for sediment management as compared with other EU ecoregions; this is coupled with the need for a whole-basin view, involving both the EU countries and the non-EU neighbours of the southern and eastern coastline.

In most cases the targets for sediment management are strongly connected with different uses of water bodies and with interventions to promote socio-economic development and competitiveness, such as port dredging and beach nourishment. In such contexts, the need for good science to inform decisions and policy is crucial in order to promote sustainable, cost-effective and environmentally sound solutions.

Against this background SedNet is organising an event on 6-9 April 2011 in Venice, which represents a paradigm for all Mediterranean coastal areas due to its cultural heritage, its precious lagoon and its challenges toward climate change adaptation.

#### **Call for Abstracts**

SedNet would be pleased to receive abstracts for platform presentations and posters for the Open Conference. Abstracts related to the main issues of the Conference with a special focus on the Mediterranean area will be particularly welcomed.

Issues to be addressed are:

- Biodiversity and sediment management (sediments, hydromorphology, habitats)
- Sediment management measures and cost-benefit
- Climate change and sediment: effects on bioavailability and contaminant biogeochemical cycles
- Sediment in coastal zone management and Marine Strategy Framework Directive (e.g. sediment reuse for coastal protection and restoration)
- Sediment Environmental Quality Standards and monitoring
- \* Sediment and contaminant transport modelling
- \* Ecological risk assessment of contaminated sediment
- \* Mine tailings (historical contamination, soil erosion)

### Submission of abstracts

Abstracts can be sent to the SedNet Secretariat: marjan.euser@deltares.nl.

Deadline for abstract submission: 1 September 2010. URL: http://www.sednet.org/conference2011.htm

### 34th IAHR Biennial Congress (Australia, 26 June-1 July 2011)

Date: 26 June-1 July 2011

Venue: Brisbane, Australia at the Brisbane Convention and

**Exhibition Centre** 

Summary: The 34th Biennial Congress of the International Association of Hydraulic Engineering and Research (IAHR) will be held in Brisbane, Australia at the Brisbane Convention and Exhibition Centre on 26 June-1 July 2011. Engineers Australia and its National Committee on Water Engineering (NCWE) are collaborating with IAHR to organize the 34th IAHR Biennial Congress together with the 33rd National Hydrology and Water Resources Symposium and the 10th National Conference on Hydraulics in Water Engineering.

The Congress theme "Balance and Uncertainty: Hydraulic Engineering in a Changing World" focuses on the central roles of hydraulic engineering, hydrology, and water resources for our changing world, and how these roles link to the broader issues A balance is continually being sought between competing values in water engineering, including the environment, the economy, tourism, social and indigenous values, health aspects, aesthetics, and the needs of current and future generations. Careful management and innovative solutions are required to balance these competing values, and these solutions must

be able to deal with the uncertainty in the natural world as well as the changing human world.

By 2011, it will have been 26 years since an IAHR Biennial Congress was held in Australia. The last time was Melbourne in 1985.

URL: http://www.iahr2011.org/ Contacts: info@iahr2011.org

#### 12th International Symposium on the Interactions between Sediments and Water (Dartington, England, 19-23 June 2011)

Date: 19-23 June 2011

Venue: Dartington, Devon, England

Summary: 12th International Symposium on the Sediments and Interactions between Water. Dartington, Devon, England. Organised by the International Association for Sediment Water Science (IASWS)

URL: http://www.IASWS.org

and www.geog.plymouth.ac.uk/IASWS2011

#### 5th International Conference Flood Management (Japan, Sept.27-29, 2011)

Date: 27-29 September 2011 Venue: . Tsukuba, Japan

Summary: International Conference on Flood Management (ICFM) is the only recurring international conference wholly focused on flood related issues. It is designed to bring together practitioners and researchers alike, including engineers, planners, health specialists, disaster managers, decision makers, and policy makers engaged in various aspects of floodplain management. It provides a unique opportunity for these various specialists to come together to exchange ideas and experiences.

The 5th International Conference on Flood Management (ICFM5) marks the continued advancement of flood management practices and policies around the world. The name change from "Defence" as used in the previous four events to "Management" is reflective of the more integrative approaches to flood management that nations are increasingly employing. The first International Symposium on Flood Defence, held in Kassel, Germany in 2000, emphasized flood defence measures with each successive event (Beijing 2002, Nijmegen 2005 and Toronto 2008) evolving towards more integrative approaches, including risk, vulnerability and capacity building.

The ICFM5 theme is "Floods: From Risk to Opportunity", reflective of the continued trend towards a broader understanding of how we collectively make use of the opportunities provided by floods and flooding, cope with risks posed by them and plan for and respond to flood

Organizer: International Centre for Water Hazard and Risk Management (ICHARM)

**URL:** http://www.ifi-home.info/icfm-icharm/icfm5.html

Contacts:

PWRI/ICHARM, 1-6 Minamihara, Tsukuba, Ibaraki, 305-

8516 Japan

Tel: +81 29 879 6809 Fax: +81 29 879 6709 E-mail: info(at)ifi-home.info

Date: May 2-6, 2011 Venue: Miami, Florida, USA

Summary: The conference Organizing Committee welcomes you to the Seventh International Symposium on Coastal Engineering and Science of Coastal Sediment

Processes—Coastal Sediments '11!

The Coastal Sediments'11 conference is the seventh in the series following the inaugural conference in 1977. The Coastal Sediments technical specialty conferences provide an international forum for exchange of information among coastal engineers, geologists, marine scientists, shallowwater oceanographers, and others interested in the physical processes of coastal sediment transport and morphology change.

Coastal Sediments 11 will continue to maintain the high quality of presentations and Proceedings which has made the event a valuable professional learning experience with a legacy of a frequently consulted Proceedings volume.

URL: http://coastalsediments.cas.usf.edu/

Contacts:

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### Symposium on Two-phase Modelling for Sediment Dynamics in Geophysical Flows (France, April 26-28, 2011)

Date: April 26-28, 2011

Venue : Electricité De France Research & Development,

Paris, France

Summary: Sediment transport is key to many geophysical applications: sediment deposition and resuspension processes in rivers and estuaries, morphological evolution of waterways and coastal zones, formation and displacement of turbidity maxima in estuaries, impacts of sediment drainage, breaching process in dyke- and dambreak flows, etc. In this research field, two-phase approaches have been more and more developed since they describe the physical processes responsible for sediment transport more realistically than a single-phase approach.

The THESIS-2011 (Symposium on Two-phase Modelling for Sediment Dynamics in Geophysical Flows) has the following objectives:

- 1. To establish a forum for discussing and exchanging experience and knowledge within the international research community for developing two-phase approaches applicable to sediment dynamics in geophysical flows;
- 2. To review the state-of-the-art of the two-phase approach for sediment dynamics;
- 3. To promote international cooperation and promote development of a research agenda for this research domain. **URL:** <a href="http://www.shf.asso.fr/upload/manifestation\_program">http://www.shf.asso.fr/upload/manifestation\_program</a> me112.pdf

Contacts: SOCIETE HYDROTECHNIQUE DE FRANCE

25 rue des Favorites - F- 75015 PARIS

Tél. 33 (0)1.42.50.91.03 - Fax 33 (0)1.42.50.59.83

Mail: shf@shf.asso.fr

### IX Brazilian National Meeting on Sediment Engineering (Brasília,Oct. 25-29, 2010)

Date: Oct. 25-29, 2010 Venue: Brasilia, Brazil.

Summary: The Commission on Sediment Engineering of the Brazilian Association of Water Resources (ABRH), is organizing the IX National Meeting on Sediment Engineering to be held in Brasília between October 25th and 29th,2010. The meeting theme is "Searching for solutions in erosion and sedimentation". Papers may be submitted in English, Spanish, and Portuguese. Deadlines: 1) Submission of full papers: August.20th,2010; 2) Notification of paper acceptance: September.10th,2010; 3) Discount registration: September.24th,2010Organizer: Brazilian Association of Water Resources (ABRH).

URL: http://ixenes.cpac.embrapa.br/ (in Portuguese)

Contacts:

Newton O. Carvalho newtonoc@openlink.com.br

### More Coming Events in ISI Website

- 5th International Conference on Flood Management (Japan, Sept.27-29, 2011)
- 34th IAHR Biennial Congress (Australia, 26 June-1 July 2011)
- 12th International Symposium on the Interactions between Sediments and Water (Dartington, England, 19-23 June 2011)
- Coastal Sediments'11 (USA, May 2-6, 2011)
- Symposium on Two-phase Modelling for Sediment Dynamics in Geophysical Flows (France, April 26-28, 2011)
- International Conference on the Status and Future of the World's Large Rivers(Vienna, 11-14 April 2011)
- 7th International SedNet conference (Venice, 6-9 April 2011)
- The 4 th International Symposium Water Resources and Sustainable Development (Algeria, Feb., 2011)
- ISARM2010 International Conference: "Transboundary Aquifers: Challenges and new directions" (Paris, 6-8 December 2010)

- 2nd International Conference on Coastal Zones and Management (Sultanate of Oman, Nov. 1-3, 2010)
- IX Brazilian National Meeting on Sediment Engineering (Brasília, Oct. 25-29, 2010)

More .....

(http://www.irtces.org/isi/)

### **Newsletter Lavout and Production:**

ISI Technical Secretariat

The ISI Newsletter is sent quarterly to ISI-Steering Committee members and interested experts. Please send your contributions to the Chairman of ISI SC at <a href="mailto:mailto



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