

# INTERNATIONAL SEDIMENT INITIATIVE

# NEWSLETTER

*Reporting ISI news to you quarterly*

No. 17 June. 29, 2010

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## NEWS

### Chinese premier meets UNESCO chief



BEIJING, May 18 (Xinhua) -- Chinese Premier Wen Jiabao met here Tuesday with Director-General of the UN Educational, Scientific, and Cultural Organization (UNESCO) Irina Bokova.

China attaches great importance to education, technological progress and conservation of cultural diversity from a strategic perspective, and is engaged in people's all-round development, all-round social progress and harmonious and sustainable development of the world, said Wen. Wen said China is willing to enhance cooperation with the UNESCO to jointly advance the lofty career concerning mankind's future. Bokova described China as an indispensable partner of the UNESCO, saying the UN organization needs China's support and participation. Bokova hoped China could play a bigger role in promoting South-South cooperation, conserving cultural diversity and dealing with the global challenges.

(Source: <http://news.xinhuanet.com>)

### UNESCO Director-General meets Chinese Minister of Water Resources



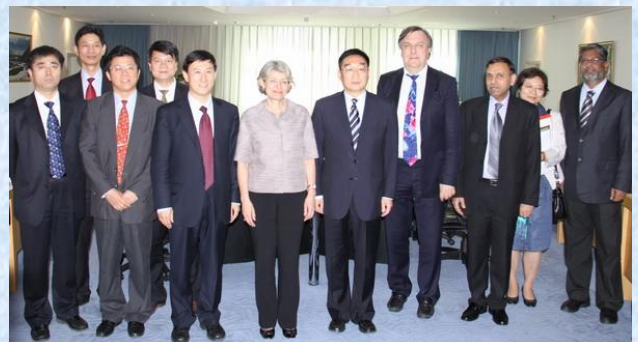
On 19 May 2010, the Director-General of UNESCO, Mrs. Irina Bokova met with the Minister of Water Resources, Government of China, Mr. Chen Lei. During the meeting, the Director-General and the Minister reviewed successful cooperation between UNESCO and Ministry of Water Resources during the past thirty years.



UNESCO Director General Irina Bokova and Minister Chen Lei of Water Resources of China

Mrs. Bokova was glad to see the increasingly important role that China has taken in the Inter-governmental Council of UNESCO-IHP. Moreover, successful cooperation between the two parties have also led to the foundation and remarkable progress of the International Research and Training Centre on Erosion and Sedimentation (IRTCES). In the meantime, there have been hundreds of Chinese hydrologists and engineers receiving trainings organized by UNESCO, and some of them have earned their master's degree from UNESCO-IHE. The Director-General is also happy to note that case study report on the Yellow River was included in the World Water Development Report III, coordinated by UNESCO-WWAP. For future collaboration, the Director-General identified fields such as cooperation over major themes of IHP, continued joint research on impacts of climate change on water resources in sensitive areas, and water education contributing to sustainable development.

Minister Chen expressed his strong commitment supporting cooperation with UNESCO in the field of sustainable water resources management. The Ministry of Water Resources will continue to participate wholeheartedly in major activities organized under UNESCO frameworks. In addition, the Minister is looking forward to sharing experiences, knowledge and technical know-how with developing countries, and UNESCO provides this multilateral forum. Specifically, Mr. Chen emphasized his focus for future cooperation on renewed cooperation on research for climate change and water resources, institutional building of IRTCES, improvement of IHP implementation, support to the compiling of the 4th WWDR, along with enhanced cooperation with UNESCO-IHE.



(Source: UNESCO Water Portal bi-monthly newsletter No. 233; photos from <http://www.mwr.gov.cn>)

## Training Program Launched for Mekong Riparian Countries (China)



The 2010 International Training Program on Management of Flood Control and Disaster Mitigation, sponsored by the Ministry of Water Resources (MWR), organized by China Institute of Water Resources and Hydropower Research (IWHR), and co-organized by the Yellow River Conservancy Commission and MWR's Bureau of Hydrology, opened at the headquarters of IWHR on June 19. Officials from the Ministry of Foreign Affairs and the Ministry of Water Resources were present at the opening ceremony. 17 trainees from five Mekong riparian countries and the MRC Secretariat participate in the 14-day training courses. Entrusted by IWHR President Kuang Shangfu, Dr. Jia Jinsheng, Vice President of IWHR, chaired the opening ceremony.

The program is funded by the Ministry of Foreign Affairs and the Ministry of Finance for promoting cooperation between China and other Asian nations, and is the first time IWHR undertakes this type of project.

(Source: <http://www.iwhr.com>)

## UNESCO's Director-General appoints new Assistant Director-General for Natural Sciences

The new Assistant Director-General in charge of the Natural Sciences Sector will be Gretchen Kalonji of the United States of America. Currently Director of International Systemwide Research Development at the University of California's Office of the President, Ms Kalonji's international career in materials science and educational transformation has taken her to university positions in France, Japan and China. She has also worked with several African universities and is fluent in Kiswahili and Lingala. Ms Kalonji helped to establish a science and health initiative linking partners in East Africa with the University of California. (Source: UNESCOPRESS)

## High-level Roundtable Meeting on Global Climate Change and Water Security in China Convened in Beijing

High-level Roundtable Meeting on Global Climate Change and Water Security in China, sponsored by Global Water Partnership China (GWP China) and Swiss Agency for Development and Cooperation (SDC) was convened in Beijing. Ms. Zhang Meiyong, Vice-chairwoman of the 11th CPPCC National Committee, Mr. Wang Shucheng, Deputy Director of Financial and Economic Affairs Committee of the National People's Congress and Chair of GWP-China, Mr. Chen Lei, Minister of Water Resources of China and other representatives from government departments, China offices of UN agencies, institutions and universities were present at the meeting to discuss the topics including

energy conservation and emission reduction; the impact of climate change on water resources in China; the relationship between the climate change and flood control safety, drinking water safety, food safety and ecological safety; climate change adaptation and integrated water resources management.

In his keynote speech entitled *Actively Adapt to Global Climate Change and Strive to Ensure China's Water Security*, Minister Chen Lei pointed out global climate change is a major challenge faced by all the countries, exerting profound impact on human survival and development while water is the most important area that is most directly affected by the global climate change. Due to this impact, the time and spatial distribution of water resources of China have become more uneven in recent years. Actively adapting to the global climate change and ensuring China's water security is a significant strategic problem requiring utmost efforts for China in the process of modernization. We should strengthen the conservation, protection and management of water resources and improve the emergency management capacity of floods and droughts so that water resources management could be comprehensively enabled to adapt to the global climate change and to fight against floods and droughts, realizing the sustainable utilization of water resources and ensuring the sustainable socio-economic development.



At the invitation of the organizing committee, Mr. Wang Hao, Director of Water Resources Department of IWHR and Mr. Gao Zhanyi, Deputy Director of International Research and Training Center on Erosion and Sedimentation (IRTCS) delivered special reports entitled respectively "Some Consideration on Comprehensive Adaptation to Droughts in China" and "Impact of Climate Change on Underground Water".

Representatives from all walks of life also conducted exchanges on a host of areas, spanning policy, mechanism, economy, technology, education and experience sharing at different levels. (Source: <http://www.iwhr.com/>)

## The course of "Environmental Hydrology for Arid and Semi-Arid Regions" is going to be started in Egypt

The course of "Environmental Hydrology for Arid and Semi-Arid Regions" has been organized since 1978. So far, 29 courses were completed. It is currently organized by the Egyptian Committee for International Hydrological Programme (ECIHP) jointly with the Hydraulics Research Institute (HRI).

The Activities of Course No. 30 are ongoing to start during the Period from 23 May till 1 July, 2010 and it will

be hosted at the premises of the Regional Training Center of the Hydraulics Research Institute, Delta Barrage, Egypt.

The course was designed and oriented to train civil, irrigation, agricultural engineers, hydrologists and hydrogeologists., so it is designed to offer advanced education and training in the principles of the Environmental Hydrology and to equip the trainees with sufficient competence in the collection, analysis and use of meteorological and hydrological data for integrated and national planning of water resources development.

The course syllabus contain many important subjects such as: Surface Water Hydrology, Ground Water Hydrology, Open Channel Flow, Water Resources Engineering (Development+ Management), Water Quality, Environmental Impact Assessment, GIS, Computer Application (S.W & G.W), Special Lectures in different subjects related to the course outlines, Integrated Projects (Surface Hydrology and G.W. Hydrology), Field Work, Technical Visits, Study Tour to North Sinai, and Social Programs, and many others.

The most important feature of this course is that one which assist and strength the existing cooperation among Egypt and not only Nilotic African countries but also Arab States. (by Moattassem El Qotb)

### **ADB official and Manager of APWF's KnowledgeHubs Secretariat visits IRTCES**

Prof. Gao Zhanyi, Deputy Director of IRTCES met with Mr. Ramon Alikpala, Water Knowledge Management Specialist and Manager of the Asian-Pacific Water Forum's KnowledgeHubs Secretariat and official of Regional and Sustainable Development Department of ADB on May 17 at IRTCES. Mr. Gao Zhanyi extended warm welcome to the guest and invited Dr. Liu Cheng, Deputy Chief of Department of Research and Training to give an introduction of the IRTCES. Then a friendly exchange was carried out on topics of mutual interests. Ms. Tong Yuling, Deputy Secretary General was also presented at the meeting.

KnowledgeHubs is the APWF's network of regional water knowledge hubs. Each hub is a center of excellence committed to improving water security in the Asia-Pacific region by promoting knowledge sharing and championing feasible solution for its priority water topic. IRTCES is one of 19 knowledge hubs in the network. As the manager of knowledgeHubs secretariat, Mr. Alikpala visited IRTCES, before joining in GWP steering committee meeting, in order to strength well mutual understanding and have an in-depth discussion concerning development and capacity building of knowledge hubs. Mr. Ramon Alispala listened to the IRTCES' introduction with great interest and briefed also KnowledgeHubs background, value and recent activities. Mr. Ramon Alikpala gave a higher evaluation on IRTCES activities carried out to promote cooperation in the field of erosion and sedimentation since its creation. He also expected the IRTCES to play active role in promotion of collaboration among hubs and make more contribution to be helping in solution of erosion and sedimentation problems occurred in Asian and Pacific region. The potential cooperation was mentioned in discussion, such as joint organization of training course and applying for ADB resources for development of regional activities. (by TONG Yuling, IRTCES)



### **Yangtze River's True Age Revealed**

The Yangtze River in China has done a good job of hiding its real age — it is nearly 40 million years older than previously thought, a new study suggests.

The Yangtze River, the third-longest river in the world at 3,915 miles (6,300 kilometers), was dated to 45 million years old, according to the study, which is detailed in the June 3 edition of the journal *Geology*.

The Yangtze carves through China's Three Gorges region, where previous sediment analysis dated the river to a mere one to two million years old. But these sediments must have been deposited long after the Three Gorges were initially cut, the study suggests.

For the previous sediment analysis to be accurate would mean the river would have been carved into the rocks very quickly, and this would have required extremely high incision rates, said geologist and study co-author Alexander Densmore of Durham University in England.

Prior work on the origin of the Three Gorges has shown that the Yangtze River most likely began as a set of small, non-descript streams that drained both west and east, out of a range of low mountains in central China.

The merger of these streams, most likely at the Three Gorges, possibly gave rise to the progressive development of a much larger, east-flowing river system that became the Yangtze River.

"The fact that erosion had removed all of the evidence of the old, pre-merger river courses made dating the river particularly difficult," Densmore said. "As the Gorges were cut, they acted as a plughole in a giant bathtub, allowing that sediment to be eroded and flushed down into the growing Yangtze River and out into the East China Sea, depositing the sediment in the lowland areas of eastern China."

Samples near the gorges showed that cooling began about 45 million years ago, whereas samples taken farther away from the river show no evidence of that cooling. Thus, the cooling must have been caused by gorge incision, rather than by more regional erosion, the study suggests.

Last year, scientists dated the Amazon River to 11 million years old, the first time its age has been determined. However, neither the Amazon nor the Yangtze are even close to the Earth's oldest river — the Nile in Africa and the New River in North America are thought to be several hundred million years old.

(Source: <http://www.livescience.com/>)

## New 'National Water Museum' opens in Hangzhou, China

Facing the worst and most persistent drought in 50 years or even longer throughout Southwest China, authorities inaugurated the National Water Museum of China, the first of its kind, today (March 22), the 18th World Water Day, and launched the country's 23rd water campaign week to make the public fully aware of this issue.

Inside the museum, an exhibition was unveiled to showcase the history of China's water conservancy, so that thousands of visitors can learn how the nation harnesses its rivers and other water systems for survival, as well as discover the water science and technologies it used in the past and the present, the changing water ecology and the culture the conservation effort has sustained for Chinese civilization.

The 36,500 square meter steel and glass complex, with a 129-m high sightseeing pagoda above, was erected south of the Qiantang River after its approval by the central government five years ago, resources with the Ministry of Water Resources said.

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

### More News in ISI Website

- Training Program Launched for Mekong Riparian Countries (China)
- What does sediment have to do with me?
- Company gives report on sediment behind Ashton Dam (USA)
- Serious erosion affecting 1,300km of coastal areas (Malaysia)
- Silt-washing operation begins to clear up Yellow River (China)
- Sediment caused by wildfire to be dredged from Colorado reservoir (USA)
- China: Government Intends to Dredge 153 Hectares of sea-bed in Hong Kong
- A perfect study opportunity (India)
- USDA: Erosion down, farmland losses up (USA)
- Researcher says Rivers Seeing Increased Sediment (USA)
- Yangtze River's True Age Revealed
- The Netherlands: 34th International Seminar On Dredging And Reclamation Three Weeks Away
- The Netherlands: International 'Environmental Sediment Dredging And Processing' Conference To TakePlace in Rotterdam
- Scientists win review of controversial dam plan on China's largest freshwater lake
- China accelerates south-north water project
- The course of "Environmental Hydrology for Arid and Semi-Arid Regions" is going to be started in Egypt
- Groups want to stop sediment dumping in Lake Erie

- (USA)
- ADB official and Manager of APWF's KnowledgeHubs Secretariat visits IRTCES
- APWF - Water KnowledgeHubs Learning Week
- 'Grim situation' at Three Gorges Dam (China)
- UNESCO Director-General participates in UNESCO Week at Shanghai World Expo 2010
- Minister Chen Lei of Water Resources of China meets with UNESCO Director-General
- UNESCO chief sees China as "extremely important member"
- Chinese State Councilor meets with UNESCO Director General
- Chinese premier meets UNESCO chief
- River course changes of the Indus River, Pakistan
- South Korea's tidal flats shrinking due to reclamation projects claims report
- EPA disputes GE's view of Hudson River dredging (USA)
- Dundee's UNESCO Centre for Water Law, Policy and Sciences kicks off this year's Water Law, Water Leaders Executive Summer Programme
- UNESCO's Director-General appoints new Assistant Director-General for Natural Sciences
- Bangladesh's landmass increased due to sedimentation in rivers
- Sediments slowly reduce storage at Utah reservoirs (USA)
- Erosion 'harms coastal sea life' (New Zealand)
- 3 Gorges partners with WWF in Yangtze ecosystem protection
- Gorge dam needs more sampling, EPA says (USA)
- Editorial: No more dam failures (USA)
- UNESCO-listed lake in Nicaragua polluted: study
- High-level Roundtable Meeting on Global Climate Change and Water Security in China Convened in Beijing
- [Opinion] Dams, dikes and dredging: Can we 'fix' our rivers?
- The Dredge Report-Lake Elkhorn gets first cleanup(USA)
- Two Chinese companies sign contract to build dams complex in eastern Sudan
- IWA lauds China's efforts to manage water
- Southern California beach witnesses worst erosion in decade
- Chinese official addresses on reason of water reduction of Mekong
- China denies dams have worsened drought in Mekong River basin
- New 'National Water Museum' opens in Hangzhou, China
- Yellow River Conservancy Commission awarded Lee Kuan Yew Water Prize

[\(http://www.irtces.org/isi/\)](http://www.irtces.org/isi/)

# CONFERENCE REPORT

## APWF - Water KnowledgeHubs Learning Week

APWF - Water KnowledgeHubs Learning Week was held from April 19 to 23, 2010 in the headquarters of ADB in Manila, Philippines. It was organized by ADB in collaboration with UNESCO-IHE Institute for Water Education, and supported by Asian Pacific Water Forum. 37 attendees came from 19 water hubs and several related sectors of ADB. Ms. Tong Yuling, vice secretary general of IRTCES participated in the learning week as representative of water knowledge hub for erosion and sedimentation in river basin.

For strengthening capacities for knowledge networking in the water sector, the learning objectives were to discuss the essentials and guidelines of running knowledge networks; analyze the factors influencing knowledge networking; demonstrate tools to improve the networking capacity of the Regional Water Knowledge Hubs, formulate 2010 action plans, focusing on communication strategies to connect with clients and partners; and generate a strategic plan for the KnowledgeHubs initiatives. Therefore, various activities were arranged during learning week, which included knowledge sharing exhibit to present a brief introduction, challenges encountered and gains and benefits from knowledge networking, and display of knowledge products of each knowledge hub. Several training sessions were designed to learn lesson and experience of networking, such as knowledge networking tools to be used by each knowledge hubs. The organization and operation of International Center for Integrated Mountain Development (ICIMOD) and Nile Basin Capacity Building Networks (NBCBN) were introduced as successful example for development of networking.

In addition, the highlight of the learning week was to arrange face to face meeting with ADB program specialists, which much welcomed by all knowledge hubs.

This was a win-win activity for both ADB staff and knowledge hubs, resulted in increase of opportunities for mutual understanding and trust in each other for development of cooperation in the future.

The APWF – Water KnowledgeHubs is a good and effective regional platform for exchange and cooperation among all knowledge hubs. Through water knowledge sharing, generation and management the dialogue and communication should be enhanced in the field of integrated water resources management in Asia and Pacific region. IRTCES is willing to continue playing the leading role in the erosion and sedimentation research in the water knowledge hubs network and to provide much more knowledge products and good practices and service to the countries in Asian and Pacific, which suffered from serious erosion and sedimentation problems. (by TONG Yuling, IRTCES)



## PUBLICATION

### Papers Published in Issue 2, Volume 25, 2010, International Journal of Sediment Research

Volume 25, Number 2

March 2010

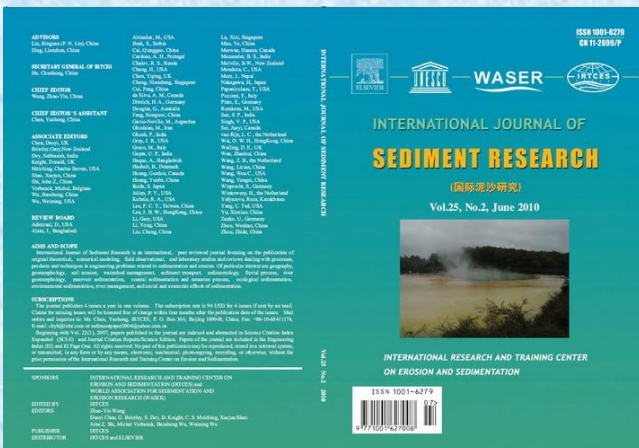
#### Technical Papers

Simulation of erosion-deposition processes at basin scale by a physically-based mathematical model  
 Pedro A. BASILE, Gerardo A. RICCARDI, Erik D. ZIMMERMANN, and Hernán R. STENTA

Effects of vegetation channel banks and gravel size on flow structure  
 Elham Nasiri DEHSORKHI, Hossein AFZALIMEHR, and Jueyi SUI

Sedimentation model and analysis for differential settling of two - particle - size suspensions in the Stokes region  
 P. KRISHNAMOORTHY

Classified real-time flood forecasting by coupling fuzzy clustering and neural network



Minglei REN, Bende WANG, Qiu-hua LIANG, and Guangtao FU

Sediment removal efficiency of siphon dredging with wedge-type suction head and float tank

Su-Chin CHEN, Shun-Chang WANG, and Chun-Hung WU

Estimate of sediment inflow into Vistonis Lake, Greece  
V. HRISSANTHOU, P. DELIMANI, and G. XEIDAKIS

Capacitive sensing technique for silt suspended sediment concentration monitoring

Yin-Sung HSU, Chi-ma WEI, Yuan-Chi TING, Shih-Yi YUAN, Chia-Ling CHANG, and Kao-Chung CHANG

### **Technical Notes**

Variation of specific yield with depth in an alluvial aquifer of the Platte River valley, USA

Jinxi SONG and Xunhong CHEN

Erosion control for mudstone soil with ventilation and watertight resin

Chung-li HSU, Shin-yi DAI, Shiu-wen CHIANG, and Chai-yin CHAN

Cover Photo: Volcanic mud lake in Wai-O-Tapo in New Zealand

## **International Sediment Initiative (ISI) Case Study Report: Volga River**

Introduction

### **SECTION 1 GENERAL CHARACTERISTICS OF THE VOLGA RIVER BASIN**

- 1.1 The Volga River Basin topography and geology
- 1.2 Structure of the Volga River Basin hydrographic network
- 1.3 Geomorphic subdivision of the Volga River Basin into typical sub-basins
- 1.4 Climate of the Volga River Basin
- 1.5 Hydrology of the Volga River Basin
- 1.6 Soil cover of the Volga River Basin
- 1.7 Natural vegetation cover and its anthropogenic transformations in the Volga River Basin
- 1.8 Land use history of the Volga River Basin

### **SECTION 2 SOIL EROSION IN THE VOLGA RIVER BASIN**

- 2.1 General overview of factors and intensity of soil erosion in the Volga River Basin
- 2.2 Historical review of soil erosion rates in the Volga River Basin
- 2.3 Detailed case studies of erosion rates within small catchments

### **SECTION 3 GULLY EROSION IN THE VOLGA RIVER BASIN**

- 3.1 Modern distribution of gully erosion in the Volga River Basin
- 3.2 Variation of gully erosion rates during the period of intensive agriculture
- 3.3 Sediment export from gullies into river valleys of the Volga River Basin
- 3.4 Modern tendencies of gully erosion development in the Volga River Basin

### **SECTION 4 SMALL RIVERS OF THE VOLGA RIVER BASIN**

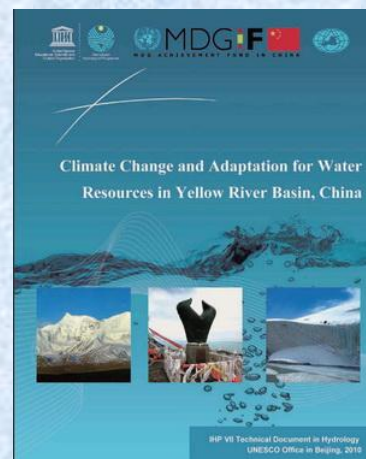
- 4.1 General characteristics of small rivers of the Volga River Basin

- 4.2 Anthropogenic decrease of small river network length in the Volga River Basin
- 4.3 Small river aggradation in the Volga River Basin
- 4.4 Small river floodplains in the Volga River Basin
- 4.5 Case study. Regional-scale evaluation of small river bank erosion rates: the Udmurtiya Republic

### **SECTION 5 SEDIMENT REDISTRIBUTION WITHIN THE VOLGA RIVER BASIN**

- 5.1 General large-scale analysis of recent fluvial sediment redistribution within the Volga River Basin
- 5.2 Case study 1. Evaluating influence of different factors on sediment redistribution within the Oka River Basin
- 5.3 Case study 2. Sediment budget change in the Zusha River basin during the period of intensive agriculture (free download at websites of UNESCO-ISI)

## **Climate Change and Adaptation for Water Resources in Yellow River Basin, China**



IHP VII Technical Document in Hydrology – UNESCO Office in Beijing, 2010

This publication is compilation of research papers on impact of climate change and adaptation for water resources in Yellow River Basin under the MDG Achievement Fund supported UN China initiative of Climate Change Partnership Framework (CCPF). Some of the research papers were presented during the inception workshop and 4th Yellow River Forum. (free download at websites of UNESCO-ISI)

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

- 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)
- NRC CJCE: Special Issue in honour of Professor M.

Selim Yalin (1925–2007)

- The Yangtze River Basin Climate Change Vulnerability and Adaptation Report (WWF)
- Streamflow response to climate variability and human activities in the upper catchment of the Yellow River Basin (Zhao F.F. et al.)

More .....

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

## COMING EVENTS

### 11th International Symposium on River Sedimentation (Stellenbosch, South Africa, 6-9, Sep. 2010)

**Date:** 6-9, September. 2010

**Venue :** Stellenbosch, South Africa

**Summary:** The 11th International Symposium on River Sedimentation (ISRS) will be held in South Africa, at the University of Stellenbosch (near Cape Town), between Monday 6 and Thursday 9 September 2010. The Symposium is held every 3rd year and is coordinated by the World Association of Sedimentation and Erosion Research (WASER). Scientists and engineers are invited to participate in the conference which will include technical presentations, a technical visit, an exhibition, pre- and post-conference tours and a full accompanying person's programme in and around Cape Town.

**Organizer:** University of Stellenbosch

**Sponsors:** International Research and Training Centre on Erosion and Sedimentation (IRTCES), World Association for Sedimentation and Erosion Research (WASER), UNESCO, International Commission on Large Dams (ICOLD), International Association of Hydrological Sciences (IAHS), South African Water Research Commission (WRC)

**Secretariat:** University of Stellenbosch

**Permanent Secretariat:** IRTCES

#### Conference Topics:

Abstract and papers are invited under the following themes:

- 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

**URL:** <http://www.civeng.sun.ac.za/isrs/>

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Other aspects

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### 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](mailto: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. Using Water 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 joint 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.

#### **Submission of abstracts**

Abstracts can be sent to the SedNet Secretariat: [marjan.euser@deltares.nl](mailto:marjan.euser@deltares.nl).

Deadline for abstract submission: **1 September 2010**.

**URL:** <http://www.sednet.org/conference2011.htm>

### **The 2nd Summer School on Land Surface Observing, Modeling and Data Assimilation (China, July 13-16, 2010)**

**Date :** July 13-16, 2010

**Venue :** Beijing Normal University, Beijing, P.R.China

**Summary :** Data assimilation is an advanced methodology which merges various observations into model dynamics. It has many advantages in model state estimation, model calibration, parameter estimation, uncertainty analysis, and data interpolation. Data assimilation has been playing more and more important roles in land surface, hydrology and ecology studies. Lectures will be given in the following four parts:

-Data sources in land data assimilation  
Meteorological observations; remote sensing data products; data processing and synthesis.

-Land surface and distributed hydrological modeling  
Advanced land surface models; distributed hydrological models; terrestrial ecological models; model calibration; uncertainties analysis.

-Theory and algorithms of Data assimilation  
Cost-function based methods including variational methods and direct evaluation methods; Filtering-based methods, including the ensemble Kalman filter (EnKF), the unscented EnKF and the particle filter

-Application of land data assimilation in hydrology,

agriculture and ecology

Various application cases related to water cycle, carbon cycle, crop monitoring and yield estimation.

#### **Sponsors:**

-Beijing Normal University College of Global Change and Earth System Science (GCESS/BNU)\*

-Beijing office, United Nations Educational, Scientific and Cultural Organization (UNESCO)\*

-Monsoon Asia Integrated Research Study (MAIRS)\*

-The Asia-Pacific Network for Global Change Research (APN)\*

-Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences (CAREERI/CAS)\*

-International Hydrology Program, Water and Development Information for Arid Lands-A Global Network (UNESCO IHP G-WADI)

-Institute of Tibetan Plateau Research, Chinese Academy of Sciences (ITPR/CAS)

-Institute of Remote Sensing Applications, Chinese Academy of Science (IRSA/CAS)

(\*Financially Support)

**URL:** <http://www.lsda2010.com/>

**Contacts:** [lsda2010@126.com](mailto:lsda2010@126.com)

### **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](mailto: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 Interactions between Sediments and 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](http://www.geog.plymouth.ac.uk/IASWS2011)

### **Ninth International Conference on Hydro-Science and Engineering (India, Aug. 2-5, 2010)**

**Date:** August 2-5, 2010

**Venue:** Indian Institute of Technology Madras, Chennai, INDIA

**Summary:** The ninth International Conference on Hydro-Science and Engineering (ICHE 2010) is organized by the Department of Ocean Engineering, Indian Institute of Technology Madras, Chennai, with the support of the allied departments of the institute. The Indian Institute of Technology Madras (IITM), during the 50 years of its existence, has consolidated itself as an Institute of excellence in technology and research. The Department of Ocean Engineering has achieved significant success with a very dynamic profile in terms of manpower training at graduate and post graduate levels for careers across the world. The department has an internationally acclaimed rare combination of hydrodynamic test facilities that include a towing tank, a wave basin, wave flumes, harbour modeling basin, supported by state of the art instrumentation as well as the expertise of the faculty team. The faculty from allied departments has rich teaching and research experience in themes of the conference. With this background, the International Conference on Hydro-Science and Engineering-2010 (ICHE 2010) offers an exciting platform for academicians, engineers from industry, policy makers and administrators from all over the globe to deliberate on various conference themes. ICHE 2010 will extend the series of biennial conference started in Washington, D.C. (1993), and further continued in Beijing (1995), Cottbus (1998), Seoul (2000), Warsaw (2002), Brisbane (2004), Philadelphia (2006), and Nagoya (2008). These Conferences have acted as a welcome forum to report and discuss the latest advancements in Hydro-Science and Engineering and as such, have always been highly valued by all participants. Undoubtedly, ICHE 2010 at IIT Madras will provide an opportunity for making numerous personal and professional exchanges in India and overseas. The theme of this conference is "Risk management for Hydro-Science and Engineering: towards sustainable mitigation". This is proposed based on the current needs of hydroscience community.

**URL:** <http://www.iche2010.iitm.ac.in/>

**Contacts:** The Organizing secretary - ICHE 2010  
Department of Ocean Engineering  
Indian Institute of Technology Madras  
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Fax: +91 -44 -22574809 /4802 /0509

e-mail: [iche2010@iitm.ac.in](mailto:iche2010@iitm.ac.in)

### **A conference of the World Organisation of Dredging Associations (Beijing, China, 9–14 Sept. 2010)**

**Date:** 9–14 September 2010

**Venue:** .Beijing, China,

**Summary:** A conference of the World Organisation of Dredging Associations, WODCON XIX, Beijing, China. Organised by EADA in association of its Chinese Chapter, CHIDA

**URL:** A Call for Papers will be issued early 2009. See further <http://www.woda.org/>

### **5th International Conference on 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 events.

**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

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Fax: +81 29 879 6709

E-mail: [info\(at\)ifi-home.info](mailto:info(at)ifi-home.info)

### **Coastal Sediments'11 (USA, May 2-6, 2011)**

**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, shallow-water 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/>

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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 dam-break 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: [http://www.shf.asso.fr/upload/manifestation\\_programme112.pdf](http://www.shf.asso.fr/upload/manifestation_programme112.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](mailto:shf@shf.asso.fr)

**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)
- Deltas in Times of Climate Change (The Netherlands, Sep. 29-Oct. 1, 2010)
- A conference of the World Organisation of Dredging Associations (Beijing, China, 9-14 Sept. 2010)
- River Flow 2010 (Germany, Sep. 8-10, 2010)
- 9th International Conference on Hydroinformatics (Tianjin, China, Sept. 7-11, 2010)
- 11th International Symposium on River Sedimentation (Stellenbosch, South Africa, 6-9, Sep. 2010)
- 13th Biennial ERB 2010 Conference on "Hydrological Responses of Small Basins to a Changing Environment" (Austria, Sep. 2-8, 2010)
- Ninth International Conference on Hydro-Science and Engineering (India, Aug. 2-5, 2010)
- 6th International Symposium on Environmental Hydraulics (Greece, 23-25 June 2010)
- International Symposium on Sediment Dynamics for a Changing Future (Poland, June 14-18, 2010)
- 20th IAHR International Symposium on Ice (Finland, June 14-18, 2010)
- River Restoration: Fluvial-Geomorphic and Ecological Tools (shortcourse, France, 7-11 June 2010)
- Third International Conference on Debris Flow (24 - 26 May 2010, Milano, Italy)
- 5th International Symposium on Gully Erosion (Poland, April 20-25, 2010)
- Integrated River Basin Management Conference (Lille, France, 15-17 March 2010)

More .....

[\(http://www.irtces.org/isi/\)](http://www.irtces.org/isi/)

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**Newsletter Layout 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 [manfred.sprefico@bafu.admin.ch](mailto:manfred.sprefico@bafu.admin.ch) or ISI technical Secretariat at [chliu@iwhr.com](mailto:chliu@iwhr.com)



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