



**8<sup>th</sup> International Symposium on  
Integrated Water Resources Management  
IAHS-ICWRS, Beijing, 2018**



**Innovative Water Resources Management in a Changing Environment –  
Understanding and Balancing Interactions between Humankind and Nature**

# **CONFERENCE BROCHURE**

## **Organized by**

International Association of Hydrological Sciences (IAHS)  
International Commission on Water Resources Systems (ICWRS)

## **Co-organized with**

Chinese National Committee for IAHS  
College of Water Sciences, Beijing Normal University  
Beijing Key Laboratory of Urban Hydrological Cycle and Sponge City Technology



**北京师范大学**  
**BEIJING NORMAL UNIVERSITY**



June 13~15, 2018

Beijing, China

## **1. Object and Themes**

The 8<sup>th</sup> International Symposium on Integrated Water Resources Management (IWRM2018), “Innovative water resources management in a changing environment – understanding and balancing interactions between humankind and nature” will bring together experts and scholars from different countries and regions to present their researches, and discuss related issues of innovative water resources management. This symposium, the eighth event of the series of IWRM conferences organized by IAHS-ICWRS (International Commission on Water Resources Systems, International Association of Hydrological Sciences), is focused on the innovative and integrated management of water resources.

Over centuries, various kinds of water resources systems have been developed to support efficient uses of water resources for humankind worldwide. Such systems were mainly used to supply water for irrigation, industry and domestic uses. The history of water resources systems is part of the history of humankind itself. The history of water resources systems is part of the history of IAHS. Efficient adaptation requires gaining a forward vision on future water demands and water availability as well as an improved understanding of the fragility of water resources and water related ecosystems. A deep understanding of the two-way interaction between nature and humankind is needed to develop such vision.

This fact requires innovative approaches in:

- 1) Assessments of available water resources at regional and basin scales
- 2) Ecological baseflow/Environmental runoff requirements to ensure a good ecological quality of rivers and lakes
- 3) Spatiotemporal distribution of water resources availability
- 4) Requirements for water of a healthy society
- 5) Water resources management under changing environment

## **2. Topics**

The topics of the symposium include, but not limited to:

- 1) Assessment of available water resources at regional and basin scales
- 2) Ecological baseflow/Environmental flow to keep the health of rivers and lakes
- 3) Spatiotemporal distribution of water resources availability
- 4) Water needs for the healthy society
- 5) Impact of climate change and human activities on water resources
- 6) Water resources allocation and management models
- 7) Interactions between water resources and ecosystem

- 8) Socio-hydrology as the basis of water resources management
- 9) Risk analysis for water resources systems, and
- 10) Related issues

### **3. Scientific Committee**

#### **Chairman:**

Changming Liu, Academician, Chinese Academy of Sciences, Beijing Normal University

#### **Members: (alphabetical order)**

Adrian Collins – UK  
Alberto Montanari – Italy  
Alberto Viglione - Austria  
Andreas Schumann – Germany  
Barry Croke – Australia  
Christophe Cudennec – France  
Dan Rosbjerg – Denmark  
Dawen Yang - China  
Fanghua Hao - China  
Gil Mahe - France  
Giuliano di Baldassarre – Sweden  
Günter Blöschl – Austria  
Hao Wang - China  
Hubert Savenije – The Netherlands  
Jianyun Zhang –China  
Jun Xia – China  
Junguo Liu - China  
Liliang Ren - China  
Magdalena Rogger - Austria  
Murugesu Sivapalan – USA  
Pierre Hubert – France  
Shenglian Guo - China  
Wouter Buyaert – UK  
Xiaohong Chen - China  
Yangbo Chen – China  
Zhiyu Liu – China

#### **4. Local Organizing Committee**

**Chairman:**

Dr. Zongxue Xu

Distinguished Professor, College of Water Sciences, Beijing Normal University

Director, Beijing Key Laboratory of Urban Hydrological Cycle and Sponge City Technology

**Secretary General**

Dr. Dingzhi Peng, Associate Professor, College of Water Sciences, Beijing Normal University

**Members:**

Dr. Bo Pang, Associate Professor, College of Water Sciences, Beijing Normal University

Dr. Wenchao Sun, Associate Professor, College of Water Sciences, Beijing Normal University

Dr. Depeng Zuo, Associate Professor, College of Water Sciences, Beijing Normal University

## 5. Time and Location

**Time:** June 13~15, 2018

**Location:** 3<sup>rd</sup> Floor, Jingshi Hotel, Beijing Normal University

Time		Location	Content
June 12	14:00~20:00	Lobby, Jingshi Hotel	Registration
June 13	9:00~9:30	Meeting Room 6	Opening Ceremony
	9:30~11:30		Loucks Lecture
	11:30~12:00	Jingshi Square	Group photo
	13:30~15:30	Meeting Room 6	Keynote Speech (Main Session)
	16:00~17:50	SP1: Meeting Room 6 SP2: Meeting Room 1 SP3: Meeting Room 5	Parallel Session
June 14	8:30~10:00	SP1: Meeting room 6 SP2: Meeting room 1 SP3: Meeting room 5	Parallel Session
	10:30~11:50		
	14:00~15:20		
	16:00~17:40		
June 15	8:30~10:20	SP1: Meeting room 6 SP2: Meeting room 1 SP3: Meeting room 5	Parallel Session
	10:30~11:30	Meeting Room 6	Closing Ceremony
	13:30	Lobby, Jingshi Hotel	Field Trip

SP1: Water resources management under changing environment

SP2: Socio-hydrology as the basis of water resources management

SP3: Assessment of available water resources at regional and basin scales

## 6. Oral Program

13 June, Wednesday. Meeting Room 6, 3 <sup>rd</sup> Floor, Jingshi Hotel	
OPENING (Chairperson: Zongxue Xu)	
9:00~9:30	Addressed by <b>Fanghua Hao</b> , Vice President, Beijing Normal University Addressed by <b>Zhiyu Liu</b> , Secretary-general, Chinese National Committee for IAHS Addressed by <b>Andreas Schumann</b> , President, IAHS-ICWRS
LOUCKS LECTURE (Chairperson: Zongxue Xu)	
9:30~10:10	Integrated water resources management in China: Case study for the South-North Water Transfer Project <b>Changming Liu</b> , Beijing Normal University
10:10~10:50	How to control overpumping of aquifers? <b>Kinzelbach Wolfgang</b> , ETH Zurich
10:50~11:30	Trans disciplinary approach for scientific knowledge-based decision making in water-related disaster management <b>Kuniyoshi Takeuchi</b> , University of Yamanashi
11:30~12:00	Group photo (Jingshi Square)
KEYNOTE SPEECH (Chairperson: Zhiyu Liu)	
13:30~14:10	Optimal adaptation to extreme rainfalls under climate change <b>Dan Rosbjerg</b> , Danmarks Tekniske Universitet
14:10~14:50	Developing strategy of eco-hydrology in China <b>Jun Xia</b> , Wuhan University
14:50~15:30	Spatial aspects within water management systems <b>Andreas Schumann</b> , Ruhr-Universität Bochum
Coffee Break	
Parallel Sessions (Meeting Room 1, 5 and 6, 3 <sup>rd</sup> Floor, Jingshi Hotel)	
Session 1 (Meeting Room 6, 3 <sup>rd</sup> Floor, Jingshi Hotel)	
PRESENTATIONS (Chairperson: Andreas Schumann/Qingyun Duan)	
16:00~16:30	Effects of low impact development practices on urban flooding under different rainfall intensities <b>Xiaohong Chen</b> , Sun Yat-sen University ( <b>Invited</b> )
16:30~16:50	Guidelines for rainwater harvesting system design for the City of Johannesburg, South Africa <b>John Ndiritu</b> , <b>Adesola Ilemobade</b> , <b>Paulo Kagoda</b>
16:50~17:10	Resource conservation and pollution reduction in the context of global food trade and agricultural intensification <b>Wenfeng Liu</b> , <b>Hong Yang</b>
17:10~17:30	IWRM in a transnational setting – three case studies from the eastern periphery of the European Union <b>Thomas Pluntke</b> , <b>Sergey Chalov</b> , <b>Yuri Nabyvanets</b> , <b>Daniel Karthe</b> , <b>Björn Helm</b> , <b>Christian Bernhofer</b>
17:30~17:50	Consumption-based accounting of global grey water footprint <b>Xu Zhao</b> , <b>Yiping Li</b> , <b>Martin Tillotson</b>

<b>Session 2</b> (Meeting Room 1, 3 <sup>rd</sup> Floor, Jingshi Hotel)	
<b>PRESENTATIONS (Chairperson: Barry Croke/Junguo Liu)</b>	
16:00~16:30	The value of hydrologic sciences and technology operational application and services in China <b>Zhiyu Liu</b> , Bureau of Hydrology, Ministry of Water Resources ( <b>Invited</b> )
16:30~16:50	What is the urban water-energy-food nexus? An explanation of the concept and case study examples from Europe and China <b>Davy Vanham, Bernd Gawlik, Giovanni Bidoglio</b>
16:50~17:10	Socio-hydrological implications of water management in dry zone of Sri Lanka <b>Isurun Gamage, Chandra Jayasena</b>
17:10~17:30	Flood risk in the Savinja River catchment, Slovenia (Europe) <b>Nejc Bezak, Andrej Vidmar, Mojca Šraj, Simon Rusjan, Klaudija Sapač, Andrej Kryžanowski, Mitja Brilly</b>
17:30~17:50	Estimation of irrigation water demand and economic values of water in Northern China <b>Tianhe Sun, Jinxia Wang, Qiuqiong Huang</b>
<b>Session 3</b> (Meeting Room 5, 3 <sup>rd</sup> Floor, Jingshi Hotel)	
<b>PRESENTATIONS (Chairperson: Inom Normatov/Dawen Yang)</b>	
16:00~16:30	Change in frozen soils and its effect on regional hydrology in the Tibetan Plateau <b>Dawen Yang</b> , Tsinghua University ( <b>Invited</b> )
16:30~16:50	Development of an integrated model for the Campaspe catchment: a tool to help improve understanding of the interaction between society, policy, farming decision, ecology, hydrology and climate <b>Takuya Iwanaga, Baihua Fu, Jenifer Ticehurst, Wendy Merritt, Daniel Partington, Barry Croke, Anthony Jakeman</b>
16:50~17:10	Hydrological regionalization based on available hydrological information for daily runoff prediction <b>Qiaoling Li, Zhijia Li, Yuelong Zhu, Yuanqian Deng, Ke Zhang, Cheng Yao</b>
17:10~17:30	Analysis of typhoon Hato's rainfall process and features based on PERSIANN estimated precipitation <b>Jiayang Zhang, Yangbo Chen</b>
17:30~17:50	Evaluation of the effect of land use change on hydrologic alteration by XAJ-CN model <b>Kairong Lin</b>
<b>14 June, Thursday</b>	
<b>Session 1</b> (Meeting Room 6, 3 <sup>rd</sup> Floor, Jingshi Hotel)	
<b>PRESENTATIONS (Chairperson: Hiroshi Ishidaira/Dingzhi Peng)</b>	
8:30~9:00	The Pamir Mountains climatic zones in conditions of modern global climate change and their contribution to the water resources of the Transboundary Pyanj River <b>Inom Normatov</b> , Tajik National University ( <b>Invited</b> )
9:00~9:20	Environment impact of leachate pollution on groundwater sources in Ikere Metropolis, Ekiti State, Nigeria <b>Bolaji Edward</b>
9:20~9:40	Effect of reservoir zones and hedging factor dynamism on reservoir adaptive capacity for climate change impacts <b>Adebayo Adelaye</b>

9:40~10:00	A compromise, stochastic programming model framework for real-time multi-objective flood control operation of a multi-reservoir system <b>Bin Xu, Ping-An Zhong</b>
<b>Coffee Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Marcos Villacís/Lei Cheng)</b>	
10:30~10:50	Changes in low flow regime of the Yarlung Zangbo River Basin during the past two-third century <b>Zhicheng Xu, Lei Cheng, Pan Liu, Fapeng Li, Depeng Zuo</b>
10:50~11:10	Potential adaptation measures to tackle climate change impacts on the water sector in arid climate: Perspectives from Oman <b>Mushtaque Ahmed</b>
11:10~11:30	Stability and tilting of regional water cycle over Tarim basin <b>Hongquan Zhang, Zhuguo Ma</b>
11:30~11:50	Assessment of land use, climate variability and climate change in water resources from Andean basins: the example of Quito <b>Marcos Villacís, Andrés Fernández, Jean Christophe Pouget, Thomas Condom, Marisa Escobar, Marlon Calispa, David Purkey</b>
<b>Lunch Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Lal Muthuwatte/Depeng Zuo)</b>	
14:00~14:20	Impact of urbanization on flood of Shigu creek in Dongguan city <b>Luying Pan, Yangbo Chen</b>
14:20~14:40	Assess the impact of climate change on the hydrological regime using hydrological model in Jhelum catchment, Kashmir Himalaya <b>Avtar Singh Jasrotia, Deepika Baru, Ajay kumar</b>
14:40~15:00	Characteristics of vegetation cover changes in Qingliu River catchment and its correlation with hydrometeorologic factors on different scales <b>Qinli Yang, Shasha Luo, Yaoyao Lan, Junming Shao, Guoqing Wang</b>
15:00~15:20	Understanding the impacts of climate change in the Tana River basin, Kenya <b>Lal Muthuwatte, Aditya Sood, Matthew McCartney, Nishchitha Sandeepana Silva</b>
<b>Coffee Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Oxana Nikitina/Litang Hu)</b>	
16:00~16:20	Dynamic spatiotemporal change of the precipitation in Pearl River Basin from 1960 to 2016 <b>Tao Zhang, Yangbo Chen</b>
16:20~16:40	Centralized versus distributed reservoirs: an investigation of their implications on environmental flows and sustainable water resources management <b>Nishadi Eriyagama, Vladimir Smakhtin, Lakshika Udamulla</b>
16:40~17:00	Application of remote sensing data for measuring freshwater ecosystems changes below the Zeya dam in the Russian Far East <b>Oxana Nikitina, Kirill Bazarov, Evgeny Egidarev</b>
17:00~17:20	Evaluation of blue and green water resources in the upper Yellow River basin of China <b>Xiaoxi Gao, Depeng Zuo, Zongxue Xu, Siyang Cai, Xianming Han</b>
<b>Session 2 (Meeting Room 1, 3<sup>rd</sup> Floor, Jingshi Hotel)</b>	
<b>PRESENTATIONS (Chairperson: Mohd Yawar Ali Khan/Ke Zhang)</b>	



8:30~9:00	Impacts of climate change, land-use and CO <sub>2</sub> emissions on Amazonian hydrological processes in 21st century: Multi-model projections <b>Ke Zhang</b> , Hohai University ( <b>Invited</b> )
9:00~9:20	Understanding the potential sources and environmental impacts of dissolved and suspended organic carbon in the diversified Ramganga River, Ganges Basin, India <b>Mohd Yawar Ali Khan, Fuqiang Tian</b>
9:20~9:40	How does climatic factors influence the timeliness of groundwater irrigation at the household level in the North China Plain? <b>Lijuan Zhang, Jinxia Wang, Guangsheng Zhang, Qiuqiong Huang</b>
9:40~10:00	Assessment of freshwater ecosystem services in the Beas and Sutlej River Basins, Himalayas region, India <b>Sikhululekile Ncube, Lindsay Beevers, Adebayo Johnson Adeloye</b>
<b>Coffee Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Davy Vanham/Jinxia Wang)</b>	
10:30~10:50	Spatiotemporal variability and assessment of drought in the Wei River basin of China <b>Siyang Cai, Depeng Zuo, Zongxue Xu, Xianming Han, Xiaoxi Gao</b>
10:50~11:10	Physical water scarcity metrics for monitoring progress towards SDG target 6.4: An evaluation of indicator 6.4.2 “Level of water stress” <b>Davy Vanham, Arjen Y Hoekstra, Yoshihide Wada, Faycal Bouraoui, Ad de Roo, Mesfin M Mekonnen, Wouter van de Bund, Okke Batelaan, Paul Pavelic, Wim Bastiaanssen, Matti Kummu, Johan Rockström, Junguo Liu, Berny Bisselink, Paolo Ronco, Alberto Pistocchi, Giovanni Bidoglio</b>
11:10~11:30	Pre-Feasibility Investigation for Mining Water Supply from Balgasyn Ulaan Nuur Basin, South Gobi, Mongolia <b>Mei Wang, Andrew Paffard</b>
11:30~11:50	Methodology to explore the emergence behaviour of the interactions between water resources and ecosystem under a pluralistic approach <b>Glenda Garcia-Santos, Marianna de Brito, Britta Höllermann, Linda Taft, Adrian Amoradie, Mariele Evers</b>
<b>Lunch Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Kamshat Tussupova/Baolin Su)</b>	
14:00~14:20	Village-level supply reliability of surface water irrigation in rural China: Effects of climate change <b>Yanrong Li, Jinxia Wang</b>
14:20~14:40	Water policy in the countries in transition and international cooperation <b>Andrej Vidmar</b>
14:40~15:00	Analysis of vegetation condition and its relationship with meteorological variables in the Yarlung Zangbo River basin of China <b>Xianming Han, Depeng Zuo, Zongxue Xu, Siyang Cai, Xiaoxi Gao</b>
15:00~15:20	Assessing access to drinking water and sanitation and willingness to pay for the piped water services in rural Kazakhstan: A social survey study <b>Kamshat Tussupova, Linus Zhang</b>
<b>Coffee Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Basma Al-Shidhani/Junguo Liu)</b>	

16:00~16:20	Analysis of changes in NDVI-based vegetation greening in Yarlung Zangbo River basin <b>Yuanyuan Wang, Wenchao Sun, Zongxue Xu</b>
16:20~16:40	Produced water from a waste by product to a valuable resource <b>Basma Al-Shidhani</b>
16:40~17:00	Quantifying the impact of climate change on crop water requirement in the arid Tarim River Basin <b>Gonghuan Fang, Yaning Chen, Zhi Li</b>
17:00~17:20	Sources and behaviors of perchlorates ions (ClO <sub>4</sub> <sup>-</sup> ) in chalk aquifer of Champagne-Ardenne, France: preliminary results <b>Feifei Cao, Jessy Jaunat, Patrick Ollivier, Benjamin Cancès, Alain Devos, Xavier Morvan, Daniel Hubé, Pierre Pannet, Nicolas Devau, Vincent Barbin</b>
17:20~17:40	Impact of uncertainty about the length of dry epochs on quantifying and managing urban water supply risk <b>Lanying Zhang, George Kuczera, Anthony S Kiem, Garry Willgoose</b>
<b>Session 3</b> (Meeting Room 5, 3 <sup>rd</sup> Floor, Jingshi Hotel)	
<b>PRESENTATIONS (Chairperson: Stevan Prohaska/Wenchao Sun)</b>	
8:30~9:00	Assessing green and blue water under changing environment: Understanding interactions and making balance between humankind and nature <b>Junguo Liu</b> , Southern University of Science and Technology ( <b>Invited</b> )
9:00~9:20	Study on flood oriented utilization of cascade reservoirs based on time-varying design flood of inflow <b>Jiqing Li, Jing Huang</b>
9:20~9:40	A new approach in design flood estimation at hydrologic gauging stations <b>Stevan Prohaska, Aleksandra Ilić</b>
9:40~10:00	Detecting drought-induced changes in catchment hydrological behaviors by combining data assimilation technique with process-based model <b>Yanghe Liu, Pan Liu, Lu Zhang, Lei Cheng</b>
<b>Coffee Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Jens Moedinger/Pan Liu)</b>	
10:30~10:50	Development of a system operation model for the Mahaweli river basin, Sri Lanka <b>Jens Moedinger, Berhon Dibrani, Beau Freeman</b>
10:50~11:10	Reservoirs operation and water resources utilization coordination in Hongshuihe basin <b>Chonghao Li, Kaige Chi, Bo Pang</b>
11:10~11:30	Estimation of evapotranspiration using satellite data and hydrological model of Chenab catchment, North Western Himalaya <b>Avtar Singh Jasrotia, Kuljit Kour, Ajay Kumar</b>
11:30~11:50	Investigating the influences of different wind functions on estimated evaporation using generalized nonlinear complementary principle <b>Qu Li, Lei Cheng, Pan Liu, Lu Zhang</b>
<b>Lunch Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Olga N Nasonova/Hongquan Zhang)</b>	
14:00~14:20	Framework for quantifying flow and sediment yield to diagnose and solve the aggradation problem of an ungauged catchment <b>Sagar Tamang, Wenjun Song, Xing Fang, Jose Vasconcelos</b>

14:20~14:40	Assessment of trends in extreme precipitation events in Yarlung Zangbo River basin for 1958 to 2010 <b>Jiao Fan, Wenchao Sun, Zongxue Xu</b>
14:40~15:00	Climate change impact on streamflow in large-scale river basins: projections and their uncertainties sourced from GCMs and RCP scenarios <b>Olga N Nasonova, Yeugeny M Gusev, Evgeny E Kovalev, Georgy V Ayzel</b>
15:00~15:20	Impact of changes in land use and climate in Beiyunhe Watershed based on SWAT Model and CMADS datasets <b>Shuang Zhao, Shiliang Liu, Yueqiu Zhang, Xiaoyun Hou, Fangyan Cheng, Xue Wu, Jingwei Xu</b>
<b>Coffee Break &amp; Poster Authors in Attendance</b>	
<b>PRESENTATIONS (Chairperson: Georgy Ayzel/Xusheng Wang)</b>	
16:00~16:20	An assessment of temporal effect on extreme rainfall estimates <b>Samiran Das, Dehua Zhu, Cheng Chi-Han</b>
16:20~16:40	The possibility of calibrating SWAT hydrological model using streamflow data of a short period <b>Wenchao Sun, Yuanyuan Wang, Jingshan Yu</b>
16:40~17:00	Estimating lake-water evaporation from data of large-aperture scintillometer in the Badain Jaran Desert, China, with two comparable methods <b>Pengfei Han, Xusheng Wang, Xiaomei Jin, Bill X Hu</b>
17:00~17:20	Coupling physically-based and data-driven models for assessing freshwater inflow into the Small Aral Sea <b>Georgy Ayzel, Alexander Izhitskiy</b>
<b>15 June, Friday</b>	
<b>Session 1 (Meeting Room 6, 3<sup>rd</sup> Floor, Jingshi Hotel)</b>	
<b>PRESENTATIONS (Chairperson: Linda Taft/Xing Fang)</b>	
8:30~8:50	With thawing-freezing process, runoff generation in the sources area of the Yellow River on northeastern Qinghai-Tibet Plateau <b>Xiaoling Wu</b>
8:50~9:10	Global floods and their connections with the El Niño-Southern Oscillation during the TRMM/GPM era <b>Huan Wu, Yan Yan, Guojun Gu</b>
9:10~9:30	Multi-scale fluctuation of precipitation in Beijing revealed by ESMD analysis <b>Jiqing Li, Zhipeng Duan</b>
9:30~9:50	An analysis of extreme hydro-meteorological events with climate big data <b>Xun Sun, Upmanu Lall</b>
9:50~10:10	Patterns of (de-) coupling processes between natural and human water-systems in South India <b>Linda Taft</b>
10:10-10:30	<b>Coffee Break</b>
10:30-11:30	<b>Closing Ceremony (Meeting Room 6, 3<sup>rd</sup> Floor, Jingshi Hotel)</b>
	Chairperson: <b>Alberto Viglione</b> , Secretary, IAHS-ICWRS Addressed by <b>Andreas Schumann</b> , President, IAHS-ICWRS Addressed by <b>Barry Croke</b> , Vice President, IAHS-ICWRS Addressed by <b>Zongxue Xu</b> , Vice President, IAHS-ICWRS

<b>Session 2</b> (Meeting Room 1, 3 <sup>rd</sup> Floor, Jingshi Hotel)	
<b>PRESENTATIONS (Chairperson: Flavie Cernesson/Bo Pang)</b>	
8:30~9:00	Assessment of climate change impact on hydrological environment by necessary storage signature of hydrological variability: An introduction <b>Kuniyoshi Takeuchi</b> , University of Yamanashi <b>(Invited)</b>
9:00~9:20	Detecting trend on water quality bioindicator series – how to deal with short incomplete time series? Methodological and operational issues <b>Flavie Cernesson, Marie-George Tournoud, Nathalie Lalande</b>
9:20~9:40	Developing a new methodology to define national droughts <b>Parmeshwar Udmale, Yutaka Ichikawa</b>
9:40~10:00	Sharing Compensation Benefits of Cascade Hydropower Stations Based on Shapely and Critic Value Method <b>Jiqing Li, Xiong Yang</b>
10:00~10:20	Horizontal insulating barriers as a way to protect groundwater <b>Renata Cicha-Szot, Krzysztof Labus, Sławomir Falkowicz, Norbert Madetko</b>
10:20~10:30	<b>Coffee Break</b>
10:30~11:30	<b>Closing Ceremony</b> (Meeting Room 6, 3 <sup>rd</sup> Floor, Jingshi Hotel)
	Chairperson: <b>Alberto Viglione</b> , Secretary, IAHS-ICWRS Addressed by <b>Andreas Schumann</b> , President, IAHS-ICWRS Addressed by <b>Barry Croke</b> , Vice President, IAHS-ICWRS Addressed by <b>Zongxue Xu</b> , Vice President, IAHS-ICWRS
<b>Session 3</b> (Meeting Room 5, 3 <sup>rd</sup> Floor, Jingshi Hotel)	
<b>PRESENTATIONS (Chairperson: Alberto Viglione/Baolin Su)</b>	
8:30~9:00	A Socio-hydrological flood model for the Elbe <b>Alberto Viglione</b> , Vienna University of Technology <b>(Invited)</b>
9:00~9:20	Identification of driving factors of cloud water interception estimates in the canopy vegetation using a canopy water budget approach: A case-study in the Galapagos Islands <b>Christian Domínguez, Paola Echeverría, Marcos Villacís, Sophie Violette</b>
9:20~9:40	Assessing the satellites and radar rainfall estimates for flood forecasting in the context of hydrological modelling <b>Dehua Zhu, Abro Mohammad Ilyas, Ming Wei</b>
9:40~10:00	The potentials of Oyan dam/reservoir: A spatio-temporal assessment <b>Amidu Owolabi Ayeni, Lawrence E Ojifo</b>
10:00~10:20	A new method for indirectly estimating infiltration of paddy fields in situ <b>Xu Yunqiang, Su Baolin, Wang Hongqi, He Jingyi</b>
10:20~10:30	<b>Coffee Break</b>
10:30~11:30	<b>Closing Ceremony</b> (Meeting Room 6, 3 <sup>rd</sup> Floor, Jingshi Hotel)

Chairperson: **Alberto Viglione**, Secretary, IAHS-ICWRS  
 Addressed by **Andreas Schumann**, President, IAHS-ICWRS  
 Addressed by **Barry Croke**, Vice President, IAHS-ICWRS  
 Addressed by **Zongxue Xu**, Vice President, IAHS-ICWRS

## 7. Poster Program

14 June, Thursday, Lobby/Meeting Room 6, 3 <sup>rd</sup> Floor, Jingshi Hotel	
8:30~13:00	
P1	Study of fuzzy pattern recognition for reasonable allocation of regional water resources based on the entropy coupling model using the Fuzzy Analytic Hierarchy Process (FAHP) <b>Shaowei Ning, Juliang Jin, Jie Wang, Chengguo Wu</b>
P2	Response of streamflow to climate change in a sub-basin of the source region of the Yellow River based on a tank model <b>Pan Wu, Xu-sheng Wang, Sihai Liang</b>
P3	Diagnosis and analysis on the evaporation paradox in the Jinsha River basin, China <b>Xiaowan Liu, Zongxue Xu, Dingzhi Peng</b>
P4	Analysis of spring flow change in the Jinan City under influences of recent human activities <b>Xiaomeng Liu, Litang Hu, Kangning Sun</b>
P5	Preliminary research on quantitative model of water resources carrying capacity based on water resources balance sheet <b>Yanqiu Wang, Xiaorong Huang, Linyun Gao, Biying Guo, Kai Ma</b>
P6	Discussion on water resources value accounting and its application <b>Biying Guo, Xiaorong Huang, Kai Ma, Linyun Gao, Yanqiu Wang</b>
P7	Entropy and multi-objective method based optimization for hydrometric network <b>Heshu Li, Dong Wang, Yuankun Wang</b>
P8	Integrated design method for multivariable hydrometric network based on coupled information entropy and copula theory <b>Wenqi Wang, Dong Wang, Yuankun Wang</b>
P9	Analysis of the spatial-temporal change of the vegetation index in the upper reach of Hanjiang River Basin in 2000-2016 <b>Jinkai Luan, Dengfeng Liu, Lianpeng Zhang, Qiang Huang, Jiuliang Feng, Mu Lin, Guobao Li</b>
P10	Impact of possible climate changes on river runoff under different natural conditions <b>Yeugeny Gusev, Olga Nasonova, Evgeny Kovalev, Georgii Ayzel</b>
P11	Irrigation and crop production under climate change and influence on energy use and GHG emission in Northeast China <b>Tingting Yan, Jinxia Wang, Jikun Huang, Wei Xie, Tingju Zhu</b>
P12	Assessing the runoff sensitivities to precipitation and temperature changes under global climate change scenarios <b>Lei Chen, Jianxia Chang, Yuelu Zhu</b>
P13	Continental and marine surficial water – groundwater interactions: the case of the southern coastland of Venice (Italy) <b>Luigi Tosi, Cristina Da Lio, Pietro Teatini, Antonio Menghini, Andrea Viezzoli</b>

P14	Connections between meteorological and hydrological droughts in semi-arid basins of the middle Yellow River <b>Binquan Li, Zhongmin Liang</b>
<b>13:00~18:00</b>	
P15	Modeling the ability of source control measures to reduce inundation in a community-scale urban drainage system <b>Chao Mei, Jiahong Liu, Hao Wang, Chengyao Xiang, Jinjun Zhou</b>
P16	Predicting future land cover change and its impact on streamflow and sediment load into Son La Reservoir in a trans-boundary river basin <b>Jie Wang, Shaowei Ning, Hao Wang, Ishidaira Hiroshi</b>
P17	Land use/cover change in the upper reaches of Minjiang River and its response to hydrological characteristics <b>Kai Ma, Xiaorong Huang, Biying Guo, Yanqiu Wang, Linyun Gao</b>
P18	An improved PSO-RBF model for runoff prediction in Karst area, South China <b>Zhangjun Cao, Dong Wang</b>
P19	Temporal and spatial variation of hydrological condition in the Ziwu River Basin of Hanjiang River in China <b>Li zi-yan, Liu deng-feng, Huang qiang, Bai tao, Zhou shuai, Lin mu</b>
P20	Study on the influence on water ecosystem by a lake inflow filtration system <b>Sushu Wu, Xiaodong Hu</b>
P21	Quantitative analysis on sensitive factors of runoff change in Fenhe watershed based on integration approach <b>Deng Wang, Shengqi Jian, Zening Wu, Zhaoxi Zhang, Caihong Hu</b>
P22	Parameters estimation for heterogeneous distribution based on cross entropy method <b>Mingzhe Zhao, Yimin Wang, Jianxia Chang</b>
P23	The application of Mike Urban model in drainage and waterlogging in Lincheng county <b>Qinghua Luan, Kun Zhang</b>
P24	Optimizing the joint operation of multi-reservoir system with a parallel dynamic programming algorithm in a high-performance computing system <b>Li Xiang, Wei Jiahua, Li Tiejian, Wang Guangqian, Yeh W G William</b>

## 8. Meals

Date	Meal	Time	Place
12 June	Dinner	17:00	Jianweixuan Restaurant, 1 <sup>st</sup> Floor, Jingshi Hotel
13 June	Lunch	12:00	Multifunctional Hall B, 2 <sup>nd</sup> Floor, Jingshi Hotel
	Banquet	18:00	
14 June	Lunch	12:00	Multifunctional Hall A, 2 <sup>nd</sup> Floor, Jingshi Hotel
	Dinner	18:00	Jianweixuan Restaurant, 1 <sup>st</sup> Floor, Jingshi Hotel

15 June	Lunch	12:00	Jianweixuan Restaurant, 1 <sup>st</sup> Floor, Jingshi Hotel
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## 9. Field Trip

Delegates who want to visit the Olympic Village or South-North Water Transfer Project must register before the symposium, and will depart at 13:30 on 15 June at the lobby, 1<sup>st</sup> Floor, Jingshi Hotel.

## 10. Contact

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# 北京师范大学平面简图

## Beijing Normal University Campus Map

