



**Flow Regime from International Experimental and Network Data**

**FRIEND-Water2014: 7<sup>th</sup> Global FRIEND-Water  
Conference**

**Hanoi, Vietnam**

**24-28 February 2014**

**Hydrology in a Changing World:  
Environmental and Human Dimensions**

**First Circular**

**Organized by:**

UNESCO's International Hydrological Programme

German IHP/HWRP Hydrological Committee

IRD

Hydrosiences Montpellier

UNESCO Office, Jakarta, Regional Science Bureau for Asia and the Pacific,

UNESCO Office Hanoi,

Vietnam National Committee for IHP

Hanoi University

## **Background**

What is FRIEND - Water?

FRIEND-Water (Flow Regime from International Experimental and Network Data) is an international collaborative network of experts, which started 25 years ago, and that aims to generate new understanding about regional hydrology and multi-scale water cycle processes. FRIEND-Water is investigating long-term variations and changes in hydrological variables to better understand the climate, river basin and human controls on the spatial and temporal distribution of water. The science and training supported by the FRIEND-Water programme are critical for: water resources management, socio-economic development, safeguard the environment, and assessing the impact of global change, including climate change and human impact. As a cross-cutting theme of UNESCO's International Hydrology Program (IHP), FRIEND-Water contributes to research on: regional water resources, droughts, global change and the water cycle, and water education and capacity building. The FRIEND-Water programme complements and interacts with many national projects and international initiatives.

## **Scientific objectives**

People around the world face a non-stationary environment due to global change (e.g. climate change, land use change, urbanization). Impacts of hydrological processes change. More extreme events (drought, floods) are reported in many places around the world. Deterioration of wet terrestrial and aquatic ecosystems is hard to reverse under the increased pressure on land. Many reservoirs are filling up with sediment quicker than planned. This urges society to critically evaluate current water management practices and to prepare for implementation of change in the management of the water resources at different time horizons. Hydrological science generates vast bodies of new understanding about changes but faces challenges to share this knowledge with operational water management, stakeholders and policy-makers. On the other hand the latter groups have difficulties to raise and highlight their demands. The FRIEND-Water2014 Conference aims at sharing knowledge about change in hydrological processes (e.g. regimes, hydro-extremes), their impacts (e.g. ecological flows, erosion-sedimentation), and how this

knowledge can be streamlined to let water management and policy to adapt to it.

## **Conference topics**

- 1. Hydrological databases: how to cope with future questions**
- 2. Trends in hydrological regimes and extremes**
- 3. Changes in ecological flows and coastal ecohydrology**
- 4. Erosion and sediment transport processes and trends**
- 5. Regional observational-hydrological modelling frameworks**
- 6. Water resources and prospective scenarios**

To better understand the processes controlling the hydrological cycle it is necessary to have quality controlled, regularly updated hydrological data with adequate geographical coverage, as well as metadata and auxiliary information (e.g. climate, land use etc.). Databases are at risk, necessary updates are postponed, whereas data are more needed than ever to investigate hydrological change (topic 1).

Identification of trends in drought and floods in time series of observed hydrometeorological data, or changes in hydrological regimes, and assessment of future trends using simulated time series is paramount knowledge for exploration of possible future water cycles (topic 2).

Hydrological alteration has put the volume, timing, and quality of stream flows at risk. These environmental flows are required to sustain freshwater and estuarine ecosystems and the human livelihoods and well being that depend on these ecosystems (topic 3).

Global change (more densely-populated areas, more cultivated land, sparse vegetation, more intensive precipitation, higher temperatures) has degraded soils and increased erosion rates in vast areas. Improved knowledge on erosion, solid transport and sedimentation through observations and modelling, from the basin's slopes to the river mouth is a prerequisite to scope future land and water management at various scales that also considers the role of dams (e.g. impacts on the transport conditions, consequences downstream to the sea)(topic 4).

Attribution studies are required that associate altered regimes, extreme flows, states and their impacts (e.g. hydrohazards, erosion, sedimentation, ecological flows) with potential causes (e.g. climate variability & change, land use change, incl. urbanisation). These attribution studies call for innovative observational-modeling frameworks, particular at the regional and continental scales. Anthropogenic data (e.g. census data) need to be linked with the more conventional hydrological data and knowledge to investigate impacts of human activities. The attribution studies also face challenges how to deal with the uncertain

output from the climate models (probably downscaled and bias-corrected), and how this propagates into hydrological change (topic 5). The stabbing question of the future of water resources for human societies requires integration of climatic, environmental, demographic, socio-economic, public policies scenarios, which calls for projections jointly designed by social and natural sciences (topic 6).

Authors are invited to submit papers which demonstrate how knowledge and best practice have been progressed in one or more of the six conference topics. Sharing can stimulate dialogue at the interface between science, society and decision and policy makers. Examples of incorporating research results in decision making processes and water resource planning are also welcome. Papers are encouraged from a broad range of institutions including operational hydrological agencies, water users, policy specialists, research organisations and universities.

### **FRIEND Publications**

In addition to the conference proceedings published in cooperation with the International Association of Hydrological Sciences (IAHS Red Book Publication Series), a web based brief summary of the FRIEND programme facts per Regional FRIEND Groups, such as project groups, list of members per project group, meetings; list of publications will be available for the conference. IAHS Red Books papers are indexed by ISI and SCOPUS.

### **CALL for Papers**

Papers are invited which address one of the six topics of the conference. Participants intending to present a paper or poster are requested to complete the attached provisional registration form and send an extended abstract in English or French of 300 words to the conference secretariat. Abstracts must reach the conference secretariat by **15<sup>th</sup> of April 2013**. Authors should identify whether the paper is submitted for oral presentation or as a poster and state the topic number that the paper is submitted to. Papers will be selected following a review of submitted abstracts and will be pre-published in the IAHS conference publication series (Red Books). Papers may be submitted and presented in English.

## **Important Deadlines:**

**15<sup>th</sup> April 2013:** Receipt of abstracts by the Conference Secretariat

16<sup>th</sup> August 2013: Submission of papers to IAHS Press

## **Registration Fee**

To be decided

## **International Scientific Committee**

Trevor Daniell (Chairperson, Australia)

Siegfried Demuth (UNESCO Paris)

Henny van Lanen (FIGCC, The Netherlands)

Hafzullah Aksoy (Turkey)

Abou Amani (UNESCO Nairobi Office)

Giuseppe Arduino (UNESCO Jakarta Office)

Jean-Francois Boyer (France)

David Hannah (United Kingdom)

Yan Huang (China)

Bamory Kamagate (Ivory Coast)

Gregor Laaha (Austria)

Gil Mahé (France)

Sylvain Ouillon (Vietnam)

Eduardo Planos Rodriguez (Cuba)

Eric Servat (France)

Dran Thuc (Vietnam)

Donna Wilson (Norway)

## **Local Organising Committee**

Sylvain Ouillon (Vietnam)

Dran Thuc (Vietnam)

