



International Geographical Union
Union Géographique Internationale

Commission for
Water Sustainability



Newsletter No. 8

May 2007

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For continuous updates:

– see Commission website <http://water-sustainability.ph.unito.it>

1. New Vice-chair

Professor Ming-ko Woo (McMaster University, Canada) retired as Vice-chair of the Commission after nearly a decade of service, first for the Study Group on Extreme Hydrological Events and Environmental Change and since 2002 for the Commission for Water Sustainability. His clear advice and administrative acumen will be much missed, although he remains an active and valued member of the executive. His experience at the highest levels of international hydrology has been extremely valuable to the Commission, especially as President of the Hydrology Section of the Canadian Geophysical Union and as leader of the Canadian contribution to the Global Energy and Water Experiment (GEWEX) monitoring and modelling land surface processes and land-atmosphere interactions in the Mackenzie Basin (MAGS).

However, we are very pleased that Professor Kazuki Mori (Nihon University,

Japan) has taken his place. Kazuki is another long-term member who has been with us since the outset in 1998. He played a crucial role in facilitating the Commission's sessions at the World Water Forum in Kyoto in 2003 and he is currently working on the Commission's contribution to the next World Water Forum in Istanbul in 2009. Amongst his other roles, Professor Mori has been President of the Japanese Association of Hydrological Sciences since 2004. He received the Meritorious Prize of the Japanese Society of Groundwater Hydrology in 1994 and has been a valued member of the IGU team supporting the Groundwater Theme of the International Year of Planet Earth.

2. Meetings

2.1 The IGU Brisbane Regional Conference conference 2006

The Commission held its 2006 annual meeting in sessions at the IGU Regional Conference in Brisbane. We held 6 sessions, plus an AGM, over 2 days. Our sessions were over-subscribed and we had to request two extra sessions over and above the initial allocation. All sessions were well attended and a wide variety of aspects were covered in some 30 papers, ranging from identifying problems to presenting new analytical techniques and solutions, with papers by engineering hydrologists as well as geographers. Delegates from the USA, Canada, UK, China, India, Australia, Croatia, the Czech Republic, the Philippines, Brunei, Armenia, Japan, and Portugal pooled expertise.

It was agreed to seek publication of selected papers. Dr Ivars Reinholds of the Australian Department of Natural Resources, Wollongong, offered to be lead editor and the Springer journal *GeoJournal* accepted our proposal to produce a Special Issue on *Water sustainability issues in the Asia-Pacific region* (see Publications, section 4.1).

2.2 Commission annual conference, Asheville, North Carolina 2007

The conference will be held at the Crowne Plaza Resort, Asheville, NC, USA, between the 13th and 17th August 2007 on the theme of: ***SUSTAINING WATER AVAILABILITY: Different Societies, Similar Problems***. Professor Peter Robinson of the University of North Carolina Chapel Hill heads the organising team, with support from colleagues at the North Carolina State University and others. The associated field trips offer a rare opportunity to visit the world-renowned US Forest Service's Coweeta Research Station – where Hewlett first challenged Horton's ubiquitous theory of runoff – the Tennessee Valley Authority – that pion of early environmental engineering – and the Asheville National Climate Data Center. See the Commission website (Forthcoming Conferences) for details and application forms.

2.3 Future meetings

The 2008 Annual Conference of the Commission will take place as part of the International Geographical Union's Congress in Tunis. Outline planning is already underway and will include a special session devoted to the Groundwater Theme of the International Year of Planet Earth, which the Commission is participating in (see section 3.2). Professor Amarendra Sinha is also planning an international conference on groundwater to be held in Jaipur, India, during March 2008. Further details will be circulated as they become available.

3. Research and collaboration with other Unions

3.1 The International Council for Science Inter-Union Palaeohydrology Project

2006 saw the completion of the ICSU Inter-Union Palaeohydrology Project with the publication of a Special Issue of *Catena*, in which Commission members contributed two papers, along with a further short paper in *Hydrological Processes* (see section 4.1). The project was aimed at extending flood records back beyond the instrumental record as a means of improving the database for estimating future flood risk. Most collaborators were involved in establishing past flood events from geomorphological evidence, but members of our Commission took the novel approach of reconstructing flood series from meteorological data, using a methodology we had developed for predicting the impact of future climate change.

3.2 UN International Year of Planet Earth (2008-9)

The Commission continues to participate in preparations for the IYPE on the theme of Groundwater. The UN proclaimed the IYPE an official programme in December 2005. At the Brisbane conference in July 2006, Commission chair Tony Jones was appointed the IGU's key reference person for the Groundwater initiative in the UN IYPE, now termed a "Planet Earth Person" (PEP), and a first report was returned on the current research of geographical hydrologists working on groundwater. *We welcome brief reports of any research activities by corresponding members on groundwater to be included in our next Report – please send emails to jaj@aber.ac.uk.*

The IYPE is offering Research Grants for Groundwater studies. Please consult the website: <http://www.esfs.org/downloads.htm>. Our new Vice-chair, Kazuki Mori, is currently heading an application from the Commission for a Research Grant from the IYPE to study groundwater pollution in Eastern Europe in collaboration with Professor Dan Balteanu of the University of Bucharest.

Following on from our collaboration in the **ICSU GeoUnions Joint Science Programme** in 2003-5 preparing for IYPE, Chairman Tony Jones was appointed to the IYPE Science Implementation Team (SIT) for Groundwater. Early in 2007, he became Deputy Leader of the Groundwater SIT.

3.3 NATO Advanced Research Workshop, Security Through Science Programme

Executive Committee member, Professor Trahel Vardanian, and the Commission chairman, Professor Tony Jones, are co-directors in a proposal submitted to NATO to hold an Advanced Research Workshop in Armenia in October 2007. The Workshop is entitled: "*Natural Disasters and Water Security: Risk Assessment, Emergency Response, and Environmental Management*". The line-up of speakers includes a number of long-standing members of the Commission.

Objectives of the workshop:

- review risk analysis methods for prevention, characterization and communication of natural disasters and water security;
- develop recommendations for the implementation of risk-based emergency preparedness policies in the Caucasus and nearby countries.

The workshop includes the following themes:

- *Natural Disasters and Water Security: Risk Management and Assessment*
- *Natural Disasters and Water Security: Emergency Response, Tools for Mitigating Risk and Ensuring Security*
- *Natural Disasters Forecasting*
- *Case Studies in Natural Disaster Management and Water Security: Risk Assessment, Emergency Response, and Environmental Management*

Details can be viewed at the website: <http://aber.asc.uk/iges/nato> .

4. Publications

4.1 Publications 2006-7

Three Special Issues of international journals were published during 2006: two issues of the American journal *Physical Geography*, totalling 163 pages, were devoted to papers on the general theme of water sustainability commissioned after the Durban and Glasgow conferences. The first ever issue of the Royal Geographical Society's journal *Area* devoted to water resources was also published, based on papers from the Glasgow conference. This aimed to bring water issues to a wider audience including social scientists. Editing is nearing completion of a fourth Special Issue, the second to be published in *GeoJournal*, based on papers delivered at the Commission's annual conference in Argentina in 2005. A book has just been published in Argentina and is available by contacting the Secretary of the Commission, Professor Olga Scarpatti on olgascarpatti@yahoo.com.ar .

The Commission is also proud to have produced the first book in the new IGU Home of Geography Series devoted to a physical geography topic. The book comprises 16 specially commissioned chapters, ranging from the role of geographers in water resources and attempts to define water ethics to case studies on the impacts of changing physical and changing social environments, and new tools for future water management. The book is now available from Tony Jones (see website <http://water-sustainability.ph.unito.it/> and click on **Publications**, for details and application form). The website also has a list of previous publications, some of which are still available.

List of Commission Publications 2006-7

Gregory, K.J., G. Benito, R. Dikau, V. Golosov, E.C. Johnstone, J.A.A. Jones, M.G. Macklin, A.J. Parsons, D.G. Passmore, J. Poesen, R. Soja, L. Starkel, V.R. Thorndycraft, and D.E. Walling, 2006: Past hydrological events and global change. *Hydrological Processes* **20**(1), 199-204.

Gregory, K.J., G. Benito, R. Dikau, V. Golosov, J.A.A. Jones, M.G. Macklin, A.J. Parsons, D.G. Passmore, J. Poesen, L. Starkel, and D.E. Walling 2006: Past hydrological events related to understanding global change: an ICSU research project. *Catena* **66**(1-2), 2-13.

Jones, J.A.A. and G.E. Petts (eds) 2006: *Managing water resources in the British Isles in a changing environment*. Special Issue, *Area* **38**(1), 7-78. ISSN 0004-0894.

Mountain, N.C. and J.A.A. Jones 2006: Reconstructing extreme flows using an

airflow index-based stochastic weather generator and a hydrological simulation model. *Catena* **66**, 120-134.

Robinson, P.J., J.A.A. Jones and M-K Woo (eds) 2007: ***Managing water resources in a changing physical and social environment***. Home of Geography Series, International Geographical Union, Rome, 177pp. ISBN 978-88-88692-35-7.

Scarpatti, O.E. and J.A.A. Jones (eds) 2007: *Environmental change and rational water use*. Orientación Gráfica Editora S. R. L, Buenos Aires.

van der Walt, I.J., J.A.A. Jones and M-K. Woo (eds) 2006: ***Water Sustainability***. Special Issues, *Physical Geography* (Bellwether Press, USA) **27**(4), 283-347, and **27**(5), 379-446. ISSN 0272-3646.

4.2 Publications in press and preparation

Editing is nearly complete on the Special Issue of the Springer journal *GeoJournal* devoted to South American water management and *GeoJournal* have accepted our proposal for an Asia-Pacific issue based on papers delivered at Brisbane 2006. This will complete a trilogy of regional studies for *GeoJournal*, covering Africa, South America and the Asia-Pacific region (see below).

Despite recent delays, the Water Atlas is also on course for publication next year.

List of publications

Jones, J.A.A. in prep 2008: *World Atlas of Water Sustainability*. Hodder Arnold, London, 160pp. ISBN 0340762225.

Reinfelds, I. and J.A.A. Jones (eds) in prep: ***Water sustainability issues in the Asia-Pacific region***. Special Issue, *GeoJournal*.

Scarpatti, O.E. and J.A.A. Jones (eds) in prep: ***Water sustainability issues in Latin America***. Special Issue, *GeoJournal*.

(Earlier publication in the *GeoJournal* series:

Jones, J.A.A. and I.J. van der Walt (eds) 2004: ***Barriers and solutions to sustainable water resources in Africa***. Special Issue, *GeoJournal*, **61**(2), 105-214.)