

**Quadrennium Report of the International Association of Hydrological  
Sciences (IAHS)**  
**Rapport du Quadrennium de l'Association Internationale des Sciences  
Hydrologiques (AISH)**

The main activities involving IAHS as a whole have been the IUGG General Assembly (**Sapporo, Japan, 2003**), the IAHS Scientific Assembly (**Foz do Iguaçú, Brazil, 2005**) and preparations for the *Perugia* IUGG General Assembly.

In *Sapporo*, in the framework of the *IUGG General Assembly*, IAHS has been the lead Organization for nine symposia and eighth workshops and co-convened 15 events together with other IUGG Associations. IAHS also contributed to the Union Symposium “*State of the Planet*”. The IAHS Bureau met two times and the nine IAHS Commissions held their Assemblies. More than twenty countries participated to the election of the new IAHS Officers. **Arthur Askew** from Australia is the New President-elect and **Pierre Hubert** (France) was elected as Secretary General. **Louise Heathwaite** (UK), **Xia Jun** (China) and **Chris Leibundgut** (Germany) are the new Vice-Presidents. 45 Officers of the Commissions, including seven women have also been elected.

The **VIIth IAHS Scientific Assembly** was held in *Foz do Iguaçú (Brazil)* from 3 to 9 April 2005: the IAHS Assembly in be convened in South America. The Assembly attracted 459 participants from 56 countries. The venue offered by our Brazilian colleagues was perfect from all points of view. On the scientific side seven symposia and seven workshops were held under the overall theme of “**Freshwater : Sustainability within Uncertainty**”. At the beginning of the Assembly, **Kuni Takeuchi** handed over the presidency to **Arthur Askew** who had been elected two years before in Sapporo.

During the past four years, the IAHS Bureau has met in *Sapporo*, Japan (2003), *Paris*, France (2004), *Foz do Iguaçú*, Brazil (2005) and again *Paris*, France (2006). It has been decided to hold the IAHS VIIth Scientific Assembly in *Hyderabad* (Andra Pradesh, India) in September 2007. It will be an event jointly organized with the IAH (International Association of Hydrogeologists). First inputs for the scientific programme of this Assembly have been requested from Indian scientific bodies and from IAHS Commissions.

An important decision for IAHS has been the approval of the movement to transform the IAHS International Commission on Snow and Ice (ICSI), first into a Union Commission for Cryospheric Sciences (decided in *Boulder*, September 2004), then into a full International Association of Cryospheric Sciences within IUGG, planned to be formally established in *Perugia* in July 2007. This transformation gives a happy end to a long standing problem within IAHS. A new IAHS International Commission on Snow and Ice Hydrology (ICSIH) was created in *Foz do Iguaçú* in 2005 to deal with purely hydrological snow and ice matters, in full cooperation with the new Cryospheric IUGG Body.

The *Hydrology 2020* Working Group, launched in *Maastricht* (2001), and led by *Taikan Oki*, reported on progress with their work in *Sapporo* (2003) and in *Foz do Iguacu* (2005). The final outcome of their work was published a Red Book (IAHS Publ. 300) in early 2006 and officially presented both during a symposium dedicated to the subject and held in *Delft*, The Netherlands (June 2006) and during a special session organized during the UNESCO-IHP Council in *Paris* (July 2006).

The *PUB* (Prediction in Ungauged Basins) Working Group has been officially launched during a Meeting held in *Brasilia*, Brazil in November 2002 after a preparatory Meeting held in *Kofu* (Japan) in March of the same year. The development of the initiative was approved during the *Sapporo* Assembly and its “*Science and Implementation Plan*” was finalized and published in the 2003 December issue of *Hydrological Sciences Journal*. A first regional meeting was held in *Paris* (November 2003) and an Australian-Japanese meeting was convened in *Perth* (Australia) in February 2004, followed by many others, including **Predicting Ungaged Streamflow in the Mackenzie River Basin, Today's Techniques & Tomorrow's Solutions** (*Yellow Knife*, Canada, March 2004), **Modelling Hydrological Responses in Ungauged Catchments** (*Osnabrück*, Germany, June 2004), **International IAHS-PUB Workshop on Uncertainty Analysis in Environmental Modeling** (*Menaggio*, Italy, July 2004), **PUB Session on Methodology of Trans-regional Application of Hydrological Models** (*Colombo*, Sri Lanka, November 2004). First led by *Murugesu Sivapalan*, the PUB Working Group has been led by *Jeff Mc Donnell* since the *Foz do Iguacu* Assembly. A Permanent Secretariat has been created, managed by *Saman Weerakoon* and *Vladimir Smatkhin*, hosted by the International Water Management Institute in Colombo (Sri Lanka). This Secretariat manages the PUB Web Site and publishes a regular Newsletter.

The International Hydrology Prize, awarded annually on an individual basis in recognition of an outstanding contribution to the science (a joint IAHS-UNESCO-WMO initiative) has been awarded to **Dr Alan Gustard** (UK) in 2003, **Dr John Rodda** (UK) in 2004, **Prof. Gert A. Schultz** (Germany) in 2005 and **Prof. W.J. Shuttleworth** (USA) in 2006.

The IAHS Tison Award was established in 1982 and aims to promote excellence in research by young hydrologists. The Award is granted for an outstanding paper published by IAHS. In 2003 it has been awarded to **Drs Y. Agata, S. Kanae, T. Oki, T. Saruhashi and D. Yang** (Japan), in 2004 to **Dr F. Chiew** (Australia), in 2005 to **Dr F. Sheng Yue** (China) and in 2006 to **Dr Özgür Kişi** (Turkey / *Turquie*)

Publication is an important sector of activity for IAHS. This is undertaken within the framework of IAHS Press, located in Wallingford (UK) with the generous support of the Centre for Ecology and Hydrology and managed by *Cate Gardner*. IAHS Press publishes the *Hydrological Sciences Journal* with four issues a year and now about 12 papers per issue. The Journal is directed by *Z.W. Kundzewicz* (IAHS Editor) assisted since 2006 by *D. Koutsoyannis*. We are pleased to report that the Journal's Impact Factor has increased steadily to reach 1.6, on a par with the best water-related journals. In the

2003-2006 period IAHS Press also published 32 Red Books which give a general and synthetic view of the IAHS' scientific activity:

**Calibration and Reliability in Groundwater Modelling: A Few Steps Closer to Reality**, Edited by *K. Kovar & Z. Hrkal*, IAHS Publication 277.

**Hydrology in Mediterranean and Semiarid Regions**, Edited by *Eric Servat, Wajdi Najem, Christian Leduc & Ahmed Shakeel*, IAHS Publication 278.

**Erosion Prediction in Ungauged Basins (PUBs): Integrating Methods and Techniques**, Edited by *Dirk H. de Boer, Wojciech Froehlich, Takahisa Mizuyama & Alain Pietroniro*, IAHS Publication 279.

**Water Resources Systems Global Change, Risk Assessment and Water Management**, Edited by *Stewart Franks, Günter Blöschl, Michio Kumagai, Katumi Musiake & Dan Rosbjerg*, IAHS Publications 280 & 281.

**Weather Radar Information and Distributed Hydrological Modelling**, Edited by *Yasuto Tachikawa, Baxter E. Vieux, Konstantine P. Georgakakos & Eiichi Nakakita*, IAHS Publ. 282.

**Erosion and Sediment Transport Measurement in Rivers: Technological and Methodological Advances**, Edited by *J. Bogen, T. Fergus & D. E. Walling*, IAHS Publication 283.

**World Catalogue of Maximum Observed Floods / Répertoire mondial des crues maximales observées**, Compiled by *Reg Herschy*, IAHS Publication 284.

**Wastewater Re-use and Groundwater Quality**, Edited by *Joop Steenvoorden & Theodore Endreny*, IAHS Publication 285

**The Basis of Civilization – Water Science ?** Edited by *John C. Rodda & Lucio Ubertini*, IAHS Publ. 286

**Scales in Hydrology and Water Management / Echelles en hydrologie et gestion de l'eau**, Edited by *Ioulia Tchiguirinskaia, Mike Bonell & Pierre Hubert*, IAHS Publ. 287

**Sediment Transfer Through The Fluvial System**, Edited by *Valentin Golosov, Vladimir Belyaev & Des E. Walling*, IAHS Publ. 288.

**GIS and Remote Sensing in Hydrology, Water Resources and Environment**, Edited by *Yangbo Chen, Kaoru Takara, Ian D. Cluckie, & F. Hilaire De Smedt*, IAHS Publ. 289

**Northern Research Basins Water Balance**, Edited by *Douglas L. Kane & Daqing Yang*, IAHS Publ. 290

**Sediment Budgets 1**, *Edited by Des E. Walling & Arthur J. Horowitz*, IAHS Publ. 291.

**Sediment Budgets 2**, *Edited by Arthur J. Horowitz & Des E. Walling*, IAHS Publ. 292.

**Sustainable Water Management Solutions for Large Cities**, *Edited by Dragan A. Savic, Miguel A. Mariño, Hubert H. G. Savenije & Juan Carlos Bertoni*, IAHS Publ. 293.

**Dynamics and Biogeochemistry of River Corridors and Wetlands**, *Edited by Louise Heathwaite, Bruce Webb, Don Rosenberry, David Weaver & Masaki Hayashi*, IAHS Publ. 294.

**Regional Hydrological Impacts of Climatic Change : Impact Assessment and Decision Making**, *Edited by Thorsten Wagener, Stewart Franks, Hoshin V. Gupta, Eva Bøgh, Luis Bastidas, Carlos Nobre & Carlos de Oliveira Galvão*, IAHS Publ. 295.

**Regional Hydrological Impacts of Climatic Change : Hydroclimatic Variability**, *Edited by Stewart Franks, Thorsten Wagener, Eva Bøgh, Hoshin V. Gupta, Luis Bastidas, Carlos Nobre & Carlos de Oliveira Galvão*, IAHS Publ. 296.

**Bringing Groundwater Quality Research to the Watershed Scale**, *Edited by Neil R. Thomson*, IAHS Publ. 297.

**Permeable Reactive Barriers**, *Edited by Genevieve A. Boshoff & Brian D. Bone*, IAHS Publ. 298.

**Geomorphological Processes and Human Impacts in River Basins**, *Edited by Ramon J. Batalla & Celso Garcia*, IAHS Publ. 299.

**Hydrology 2020 : An Integrating Science to Meet World Water Challenges**, *Edited by Taikan Oki, Caterina Valeo & Kate Heal*, IAHS Publ. 300.

**Predictions in Ungauged Basins: International Perspectives on the State of the Art and Pathways Forward**, *Edited by Stewart Franks, Murugesu Sivapalan, Kuniyoshi Takeuchi & Yasuto Tachikawa*, IAHS Publ. 301.

**Sustainability of Groundwater Resources and its Indicators**, *Edited by Bruce W. Webb, Ricardo Hirata, Eduardo Kruse & Jaroslav Vrba*, IAHS Publ. 302.

**Predictions in Ungauged Basins: Promises and Progress**, *Edited by Murugesu Sivapalan, Thorsten Wagener, Stefan Uhlenbrook, Erwin Zehe, Venkat Lakshmi, Xu Liang, Yasuto Tachikawa & Praveen Kumar*, IAHS Publication 303

**Calibration and Reliability in Groundwater Modelling : From Uncertainty to Decision Making**, Edited by *M. F.P. Bierkens, J.C. Gehrels & K. Kovar*, IAHS Publication 304.

**Frontiers in Flood Research / Le point de la recherche sur les crues**, A joint IAHS / IHP-UNESCO publication, Edited by *Ioulia Tchiguirinskaia, Khin Ni Ni Thein & Pierre Hubert*, IAHS Publ. 305.

**Sediment Dynamics and the Hydromorphology of Fluvial Systems**, Edited by *John S. Rowan, Robert W. Duck & Alan Werritty*, IAHS Publ. 306.

**Large Sample Basin Experiments for Hydrological Model Parameterization: Results of the Model Parameter Experiment – MOPEX**, Edited by *Vazken Andréassian, Alan Hall, Nanée Chahinian & John Schaake*, IAHS Publ. 307.

**Climate Variability and Change : Hydrological Impacts**, Edited by *Siegfried Demuth, Alan Gustard, Eduardo Planos, Fred Scatena & Eric Servat*, IAHS Publ. 308

In addition, IAHS Press regularly compiles and distributes the *IAHS Newsletter* (four issues per year) and has also published **Hydrology: A Question of Balance**, by *J.V. Sutcliffe*, (IAHS Special Publication no. 7) in the “*Blue Books*” Series. A New Series “*Benchmark Papers in Hydrology*”, directed by *Jeff Mc Donnell*, has been launched, the first title of this series published in 2006 being “**Streamflow Generation Processes**” edited by *K.J. Beven*. An important effort has been undertaken to make freely available on line all “old” IAHS Publications, namely those that are more five years old. This effort has been first concentrated on the Red Books and 94 Red Books are presently available on line, representing more than 35,000 pages of hydrological literature. The effort has been extended in 2006 to the *Hydrological Sciences Journal*. At the present time 20 volumes (1956-1975) are available on line.

The *IAHS TFDC* (Task Force for Developing Countries) continued its action and distributed free of charge all IAHS publications (*Hydrological Science Journal* and the Red Books) to more than 60 selected universities and research institutions in Africa, Asia, South-America and Eastern Europe.

Our close and traditional cooperation with different agencies of the UN System has been continued during the last four years. We participate in the work of the *UNESCO-WMO* Standing Group on the International Glossary of Hydrology and the Steering Committee of the *UNESCO-WMO World Climate Program - Water*. We have been involved in the definition and implementation of the new *International Flood Initiative* led by *UNESCO and WMO* and have been invited to contribute to the 2005-2015 UN International Decade “*Water for Life*”. *UNESCO, WMO and IAEA* generously supported the attendance of participants from developing countries in the IAHS General Assembly of *Sapporo* and the IAHS Scientific Assembly of *Foz do Iguaçu*.

An IAHS representative or delegation has been invited to and attended the different meetings of the *UNESCO International Hydrological Programme* : IHP Bureau (*Paris*, 2003), IHP Council (*Paris*, September 2004), IHP Bureau (*Paris*, 2005), IHP Bureau (*Delft*, 2006), IHP Council (*Paris*, July 2006). *IAHS* and *UNESCO* also jointly organized two sessions of the traditional Kovacs Colloquium :

7<sup>th</sup> Kovacs Colloquium (*Paris*, September 2004) “**Scales in Hydrology and Water Management, Echelles en hydrologie et gestion de l’eau**” (Red Book 287)

6<sup>th</sup> Kovacs Colloquium (*Paris*, 30 June – 1 July 2006) “**Frontiers in Flood Research / Le point de la recherche sur les crues**” (Red Book 305)

An IAHS representative or delegation has also been invited to and attended major *WMO* events such as sessions of WMO Congress (*Geneva*, 2003), the Commission of Hydrology (*Geneva*, November 2004), the CHy Advisory Working Group and the WMO Executive Council (*Geneva* 2005), the CHy Advisory Working Group (*Melbourne*, 2006) and WMO Executive Council (*Geneva*, 2006). IAHS also contributed to the new edition of the WMO “Guide to Hydrological Practices”. There are preliminary plans to hold a joint IAHS-WMO conference on “Advances in Hydrometry” in *Manaus* (Brazil) in early 2008.

We would like also to record our membership to the World Water Council Board of Governors and our contributions to the 2003 *Kyoto* World Water Forum and to the 2006 *Mexico* World Water Forum.

P. Hubert  
IAHS Secretary General

Information about all IAHS activities is available on the WEB at <http://iahs.info>